REFUNDING ISSUE

In the opinion of Nixon Peabody LLP, Bond Counsel, under existing law and assuming compliance with the tax covenants described herein, and the accuracy of certain representations and certifications made by the Corporation described herein, interest on the Series 2017A Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, as amended (the "Code"). Bond Counsel is also of the opinion that such interest is not treated as a preference item in calculating the alternative minimum tax imposed under the Code with respect to individuals and corporations. Bond Counsel is further of the opinion that interest on the Series 2017A Bonds is exempt from personal income taxation imposed by the State of New York or any political subdivision thereof (including The City of New York). Interest on the Series 2017B Bonds is not excluded from gross income for federal income tax purposes under the Code and is not exempt from personal income taxes imposed by the State of New York or any political subdivision thereof (including The City of New York). See "TAX MATTERS" herein regarding certain other tax considerations.

$2,141,760,000
HUDSON YARDS INFRASTRUCTURE CORPORATION
SECOND INDENTURE REVENUE BONDS

$2,108,465,000 Fiscal 2017 Series A (Tax-Exempt)	$33,295,000 Fiscal 2017 Series B (Taxable)

Dated: Date of Delivery **Due: As shown on the inside cover page**

The Second Indenture Revenue Bonds, Fiscal 2017 Series A (Tax-Exempt) (the "Series 2017A Bonds") and the Second Indenture Revenue Bonds, Fiscal 2017 Series B (Taxable) (the "Series 2017B Bonds" and, together with the Series 2017A Bonds, the "Series 2017 Bonds"), are being issued by Hudson Yards Infrastructure Corporation (the "Corporation"), a local development corporation organized by The City of New York (the "City") under the Not-For-Profit Corporation Law of the State of New York (the "State") that is separate and apart from the City, pursuant to a Second Trust Indenture dated as of May 1, 2017 (the "Second Indenture"), by and between the Corporation and U.S. Bank National Association, New York, New York, as trustee (the "Second Indenture Trustee").

The Corporation previously issued $2,000,000,000 aggregate principal amount Hudson Yards Senior Revenue Bonds, Fiscal 2007 Series A (the "Series 2007A Bonds"), and $1,000,000,000 aggregate principal amount Hudson Yards Senior Revenue Bonds, Fiscal 2012 Series A (the "Series 2012A Bonds" and, together with the Series 2007A Bonds, the "First Indenture Bonds") under a trust indenture, dated as of December 1, 2006, as amended and restated through October 1, 2011 (the "First Indenture"), by and between the Corporation and U.S. Bank National Association, as trustee (the "First Indenture Trustee").

The First Indenture Bonds were issued to encourage development within the Hudson Yards Financing District (as defined herein) by financing the cost of the extension of the No. 7 subway line and creation of a public park. As a result of such infrastructure improvements and development incentives, described herein, significant new office, residential, and hotel development has occurred and is continuing to occur in the Hudson Yards Financing District.

The Series 2017 Bonds are the first series of bonds issued under the Second Indenture. The proceeds of the Series 2017 Bonds will be used, with other available funds, to refund all of the Series 2007A Bonds and $391,000,000 aggregate principal amount of the Series 2012A Bonds. The Series 2017 Bonds are subordinate to the First Indenture Bonds with respect to the right of payment from and priority of lien on the Revenues (as defined herein). Revenues (except certain Interest Support Payments (as defined herein) from the City) will be applied to fund obligations under the First Indenture before such Revenues are available to fund obligations under the Second Indenture, including the Series 2017 Bonds. Additional Bonds (as defined herein) may be issued under the Second Indenture from time to time on a parity with the Series 2017 Bonds upon meeting certain requirements under the Second Indenture, as described herein. Upon the issuance of the Series 2017 Bonds, no Additional Bonds may be issued under the First Indenture.

Interest on the Series 2017 Bonds will be payable on February 15 and August 15 of each year, beginning August 15, 2017. The Series 2017 Bonds can be purchased in principal amounts of $5,000 or any integral multiple thereof. Other terms of the Series 2017 Bonds, including redemption provisions, are described herein. The Series 2017 Bonds will be issued as registered bonds and DTC will act as securities depository for the Series 2017 Bonds.

INVESTORS SHOULD READ THIS ENTIRE OFFICIAL STATEMENT TO OBTAIN INFORMATION ESSENTIAL TO MAKING AN INFORMED INVESTMENT DECISION INCLUDING "SECTION IX: RISK FACTORS" IN THIS OFFICIAL STATEMENT. THE SERIES 2017 BONDS ARE NOT A DEBT OF THE CITY, AND THE CITY HAS NO OBLIGATION TO PAY PRINCIPAL OF OR, ABSENT AN APPROPRIATION THEREFOR AS DESCRIBED HEREIN, INTEREST ON, THE SERIES 2017 BONDS. THE CORPORATION HAS NO TAXING POWER.

The Series 2017A Bonds are offered when, as and if issued and accepted by the Underwriters. The Series 2017B Bonds are being sold by public letting on the basis of electronic competitive bids in accordance with the Notice of Sale, dated May 10, 2017. The issuance of the Series 2017 Bonds is subject to the approval of legality by Nixon Peabody LLP, New York, New York, Bond Counsel. Certain legal matters with respect to the Corporation and the City will be passed upon by the City's Corporation Counsel, and certain legal matters with respect to the City's disclosure in Appendix D to this Official Statement will be passed upon by Orrick, Herrington & Sutcliffe LLP, New York, New York, Special Disclosure Counsel to the City and the Corporation. Certain legal matters will be passed upon for the Underwriters of the Series 2017A Bonds and the Original Purchaser of the Series 2017B Bonds by Norton Rose Fulbright US LLP, New York, New York, and D. Seaton and Associates, P.A., P.C., New York, New York. It is expected that the Series 2017 Bonds will be available for delivery to DTC on or about May 30, 2017.

Goldman Sachs & Co. LLC **Ramirez & Co., Inc.** **J.P. Morgan** **Loop Capital Markets**

BofA Merrill Lynch	**Barclays**	**Citigroup**
Jefferies	**Raymond James**	**RBC Capital Markets**
Siebert Cisneros Shank & Co., L.L.C.	**Wells Fargo Securities**	

Academy Securities Inc.	**Blaylock Van, LLC**	**BNY Mellon Capital Markets, LLC**
Cabrera Capital Markets	**Drexel Hamilton, LLC**	**Fidelity Capital Markets**
FTN Financial Capital Markets	**Hilltop Securities Inc.**	**Janney Montgomery Scott**
Mesirow Financial, Inc.	**Mischler Financial Group**	**Morgan Stanley**
Oppenheimer & Co.	**PNC Capital Markets LLC**	**Rice Financial Products Company**
Roosevelt & Cross Incorporated	**Stern Brothers & Co.**	**Stifel, Nicolaus & Company, Incorporated**
TD Securities	**U.S. Bancorp Investments, Inc.**	**The Williams Capital Group, L.P.**

May 24, 2017

$2,141,760,000
HUDSON YARDS INFRASTRUCTURE CORPORATION
SECOND INDENTURE REVENUE BONDS

$2,108,465,000
Fiscal 2017 Series A (Tax-Exempt)

Due February 15,	Principal Amount	Interest Rate	Price or Yield	CUSIP[1] (Base CUSIP 44420R)
2022	$ 7,425,000	3 %	1.28%	AB6
2022	35,265,000	5	1.28	AC4
2023	8,200,000	4	1.46	AE0
2023	36,475,000	5	1.46	AD2
2024	7,730,000	4	1.65	AG5
2024	39,095,000	5	1.65	AF7
2025	4,095,000	4	1.84	AH3
2025	44,995,000	5	1.84	AJ9
2026	630,000	4	2.04	AL4
2026	50,875,000	5	2.04	AK6
2027	1,490,000	4	2.17	AN0
2027	52,585,000	5	2.17	AM2
2028	56,760,000	5	2.33[2]	AP5
2029	59,600,000	5	2.44[2]	AQ3
2030	62,580,000	5	2.57[2]	AR1
2031	65,710,000	5	2.68[2]	AS9
2032	3,510,000	3	100	AU4
2032	65,485,000	5	2.74[2]	AT7
2033	72,375,000	5	2.81[2]	AV2
2034	75,995,000	5	2.87[2]	AW0
2035	79,795,000	5	2.92[2]	AX8
2036	34,140,000	4	3.25[2]	AZ3
2036	49,640,000	5	2.96[2]	AY6
2037	87,630,000	5	2.98[2]	BA7
2038	18,770,000	3½	100	BB5
2038	39,950,000	5	3.05[2]	BC3
2039	95,955,000	5	3.07[2]	BD1
2045	126,150,000	5	3.13[2]	BG4

$317,625,000 5% Term Bonds due February 15, 2042, Yield 3.10%[2], CUSIP No.[1] 44420RBE9

$237,935,000 4% Term Bonds due February 15, 2044, Yield 3.43%[2], CUSIP No.[1] 44420RBF6

$270,000,000 4% Term Bonds due February 15, 2047[3], Price 105.301%, CUSIP No.[1] 44420RBH2

$33,295,000
Fiscal 2017 Series B (Taxable)

3⅞% due February 15, 2038, Price 100%, CUSIP No.[1] 44420RAA8

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(1) Copyright, American Bankers Association. CUSIP data herein are provided by S&P Global Ratings, CUSIP Service Bureau, a division of The McGraw-Hill Companies, Inc. The CUSIP numbers listed above are being provided solely for the convenience of Bondholders only at the time of issuance of the Series 2017 Bonds and the Corporation makes no representation with respect to such numbers nor undertakes any responsibility for their accuracy now or at any time in the future. The CUSIP number for a specific maturity is subject to being changed after the issuance of the Series 2017 Bonds as a result of various subsequent actions including, but not limited to, a refunding in whole or in part of such maturity or as a result of the procurement of secondary market portfolio insurance or other similar enhancement by investors that is applicable to all or a portion of certain maturities of the Series 2017 Bonds.

(2) Priced to first optional par call on February 15, 2027.

(3) Citigroup Global Markets, Inc. did not act as an underwriter with respect to this maturity.

No dealer, broker, salesperson or other person has been authorized by the Corporation, the City, the Underwriters or the Original Purchaser to give any information or to make any representations in connection with the Series 2017 Bonds or the matters described herein, other than those contained in this Official Statement, and, if given or made, such other information or representations must not be relied upon as having been authorized by the Corporation, the City, the Underwriters or the Original Purchaser. This Official Statement does not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of the Series 2017 Bonds, by any person in any jurisdiction in which it is unlawful for such person to make such offer, solicitation or sale. The information and expressions of opinion contained herein are subject to change without notice, and neither the delivery of this Official Statement, nor any sale made hereunder, shall, under any circumstances, create any implication that there has been no change in the matters described herein since the date hereof. This Official Statement is submitted in connection with the sale of the Series 2017 Bonds referred to herein and may not be reproduced or used, in whole or in part, for any other purpose. The Underwriters and the Original Purchaser may offer and sell Series 2017 Bonds to certain dealers and others at prices lower than the offering prices stated on the inside cover page hereof. The offering prices may be changed from time to time by the Underwriters and the Original Purchaser. No representations are made or implied by the Corporation, the Underwriters or the Original Purchaser as to any offering of any derivative instruments.

The factors affecting the Corporation are complex. This Official Statement should be considered in its entirety and no one factor considered less important than any other by reason of its location herein. Where agreements, reports or other documents are referred to herein, reference should be made to such agreements, reports or other documents for more complete information regarding the rights and obligations of parties thereto, facts and opinions contained therein and the subject matter thereof. Any electronic reproduction of this Official Statement may contain computer-generated errors or other deviations from the printed Official Statement. In any such case, the printed version controls.

This Official Statement contains forecasts, projections and estimates that are based on expectations and assumptions which existed at the time such forecasts, projections and estimates were prepared. In light of the important factors that may materially affect economic conditions in the City, the inclusion in this Official Statement of such forecasts, projections and estimates should not be regarded as a representation by the Corporation, its independent auditors, the City, Hudson Yards Development Corporation, Cushman & Wakefield, Inc., Moody's Analytics, Inc., the Underwriters or the Original Purchaser that such forecasts, projections and estimates will occur. Such forecasts, projections and estimates are not intended as representations of fact or guarantees of results. If and when included in this Official Statement the words "expects," "forecasts," "projects," "intends," "anticipates," "estimates" and analogous expressions are intended to identify forward-looking statements and any such statements inherently are subject to a variety of risks and uncertainties that could cause actual results to differ materially from those projected. Such risks and uncertainties include, among others, general economic and business conditions, changes in political, social and economic conditions, regulatory initiatives and compliance with governmental regulations, litigation and various other events, conditions and circumstances, many of which are beyond the control of the Corporation. These forward-looking statements speak only as of the date they were prepared. The Corporation disclaims any obligation or undertaking to release publicly any updates or revisions to any forward-looking statement contained herein (except as required by law) to reflect any change in the Corporation's expectations with regard thereto or any change in events, conditions or circumstances on which any such statement is based.

This Official Statement is intended to reflect facts and circumstances on the date of this Official Statement or on such other date or at such other time as identified herein. No assurance can be given that such information will not have changed or be incomplete at a later date. Consequently, there should be no reliance on this Official Statement at times subsequent to the issuance of the Series 2017 Bonds described herein on the assumption that such facts or circumstances are unchanged.

Marks Paneth LLP, the Corporation's independent auditor, has not reviewed, commented on or approved, and is not associated with, this Official Statement. The report of Marks Paneth LLP relating to the Corporation's financial statements for the Fiscal Years ended June 30, 2016 and 2015, which is a matter of public record, is included in this Official Statement. However, Marks Paneth LLP has not performed any

procedures on any financial statements or other financial information of the Corporation, including without limitation any of the information contained in this Official Statement, since the date of such report and has not been asked to consent to the inclusion of its report in this Official Statement.

References to website addresses presented herein are for informational purposes only and may be in the form of a hyperlink solely for the reader's convenience. Unless specified otherwise, such websites and the information or links contained therein are not incorporated into, and are not part of, this Official Statement for purposes of Rule 15c2-12 adopted by the United States Securities and Exchange Commission under the Securities Exchange Act of 1934.

IN CONNECTION WITH THIS OFFERING, THE UNDERWRITERS AND THE ORIGINAL PURCHASER MAY OVER-ALLOT OR EFFECT TRANSACTIONS WHICH STABILIZE OR MAINTAIN MARKET PRICES OF THE SERIES 2017 BONDS AT LEVELS ABOVE THOSE WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME.

THESE SECURITIES HAVE NOT BEEN RECOMMENDED BY ANY FEDERAL OR STATE SECURITIES COMMISSION OR REGULATORY AUTHORITY. FURTHERMORE, THE FOREGOING AUTHORITIES HAVE NOT CONFIRMED THE ACCURACY OR DETERMINED THE ADEQUACY OF THIS DOCUMENT. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE. IN MAKING AN INVESTMENT DECISION, INVESTORS MUST RELY ON THEIR OWN EXAMINATION OF THIS OFFICIAL STATEMENT AND THE TERMS OF THE OFFERING, INCLUDING THE MERITS AND RISKS INVOLVED.

TABLE OF CONTENTS

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PROJECT AREA MAP

Set forth below is a map showing the boundaries of the Hudson Yards Financing District outlined in red.

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SUMMARY STATEMENT

This Summary Statement is subject in all respects to more complete information contained in this Official Statement and should not be considered a complete statement of the facts material to making an investment decision. The offering of the Series 2017 Bonds to potential investors is made only by means of the entire Official Statement. Capitalized terms used in this Summary Statement and not otherwise defined shall have the meanings given such terms in the Second Indenture. See "APPENDIX A: CERTAIN DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE SECOND INDENTURE – Definitions of Certain Terms."

Overview .... The Hudson Yards Infrastructure Corporation (the "Corporation") is issuing $2,141,760,000 aggregate principal amount of its Second Indenture Revenue Bonds, pursuant to the Second Trust Indenture, dated as of May 1, 2017 (the "Second Indenture"), by and between the Corporation and U.S. Bank National Association, New York, New York, as trustee (the "Second Indenture Trustee"), as follows:

$2,108,465,000 Fiscal 2017 Series A (Tax-Exempt) (the "Series 2017A Bonds"); and

$33,295,000 Fiscal 2017 Series B (Taxable) (the "Series 2017B Bonds" and, together with the Series 2017A Bonds, the "Series 2017 Bonds").

The Corporation previously issued $2,000,000,000 aggregate principal amount of its Hudson Yards Senior Revenue Bonds, Fiscal 2007 Series A (the "Series 2007A Bonds"), and $1,000,000,000 aggregate principal amount of its Hudson Yards Senior Revenue Bonds, Fiscal 2012 Series A (the "Series 2012A Bonds" and, together with the Series 2007A Bonds, the "First Indenture Bonds") under a trust indenture, dated as of December 1, 2006, as amended and restated through October 1, 2011 (the "First Indenture"), by and between the Corporation and U.S. Bank National Association, as trustee (the "First Indenture Trustee").

The First Indenture Bonds were issued to encourage development within the Hudson Yards Financing District (as defined herein) by financing the cost of the extension of the No. 7 subway line and creation of a public park.

Proceeds of the Series 2017 Bonds will be applied, with other available funds, to refund all of the Series 2007A Bonds and $391,000,000 aggregate principal amount of the Series 2012A Bonds, as more fully described herein. See "SECTION III: PLAN OF FINANCE. The Series 2017 Bonds are subordinate to the First Indenture Bonds with respect to the right of payment from and priority of lien on the Revenues. Revenues (except certain Interest Support Payments, as defined below, from The City of New York (the "City")) will be applied to fund obligations under the First Indenture before such Revenues are available to fund obligations under the Second Indenture, including the Series 2017 Bonds. Additional bonds (as described below) may be issued under the Second Indenture from time to time on a parity with the Series 2017 Bonds upon meeting certain requirements under the Second Indenture, as described herein. Upon the issuance of the Series 2017 Bonds, no additional bonds may be issued under the First Indenture.

	It is expected that as of the date of issuance of the Series 2017 Bonds, the remaining unrefunded $609,000,000 aggregate principal amount of outstanding Series 2012A Bonds will be amortized on a substantially level debt service basis to maturity in 2047 through annual Sinking Fund Installments, as described in Appendix H.
The Project	The "Hudson Yards Financing District," or the "Project Area," describes the approximately 45 square block area generally bounded by West 43rd Street on the north, West 29th and 30th Streets on the south, Seventh and Eighth Avenues on the east, and Eleventh and Twelfth Avenues on the west, which is outlined in red on the map preceding this Summary Statement and is more specifically described in Appendix C to this Official Statement. The Corporation derives its Revenues (other than Interest Support Payments, as herein defined) from the Project Area. The Project consists of (a) the design and construction of an extension of the No. 7 subway line from Times Square to a new terminal station in the Project Area (the "Subway Extension"), which began operations in September 2015, (b) the construction of a three-block park and boulevard (the "Hudson Park and Boulevard"), which opened in August 2015, and (c) the acquisition of certain transferable development rights (the "ERY Transferable Development Rights") associated with by the Eastern Railyard ("ERY"). The implementation of the Project was managed by the Hudson Yards Development Corporation ("HYDC"), a City-controlled local development corporation. The costs of the Project are expected to exceed remaining bond proceeds of the Corporation by approximately $96 million. Such costs are attributable to the Subway Extension and other related construction costs overseen by the MTA (approximately $32 million) and the Hudson Park and Boulevard overseen by the City (approximately $64 million). Such amounts are expected to be needed over the next two years. The amounts may be financed by the issuance of additional Second Indenture Bonds by the Corporation, which, if issued as Supported Bonds, is subject to approval of the City Council. Such amounts may also be financed by the City, subject to the City budget process. Under the Second Indenture, the Corporation may issue additional Second Indenture Bonds as "Completion Bonds," with a principal amount not to exceed $150 million in the aggregate for the purpose of paying unfunded costs of the Project. See "SECTION V: SECURITY AND SOURCES OF PAYMENT OF BONDS – Additional Bonds."
Securities Offered	The Corporation expects to issue the Series 2017 Bonds as serial and term bonds due and bearing interest as provided in the inside cover page of this Official Statement. Interest on the Series 2017 Bonds is payable on February 15 and August 15 of each year, beginning August 15, 2017.

Optional Redemption of the Series 2017 Bonds	The Series 2017 Bonds are subject to redemption on or after February 15, 2027, at a redemption price equal to 100% of the principal amount of Series 2017 Bonds to be redeemed, plus accrued interest, if any, to the redemption date, as described herein. The Series 2017B Bonds are also subject to make-whole optional redemption at the option of the Corporation, in whole or in part, on any date prior to February 15, 2027, as described herein. See "SECTION IV: THE SERIES 2017 BONDS – Redemption of the Series 2017 Bonds."
Mandatory Redemption of the Series 2017A Bonds from Sinking Fund Installments	The Series 2017A Bonds maturing on February 15, 2042, February 15, 2044, and February 15, 2047 are subject to mandatory redemption from sinking fund installments prior to maturity as described herein. See "SECTION IV: THE SERIES 2017 BONDS – Redemption of the Series 2017 Bonds."
Security and Sources of Payment for the Series 2017 Bonds	The Series 2017 Bonds are special obligations of the Corporation secured by and payable solely from the Revenues as described herein in accordance with the Second Indenture. The Series 2017 Bonds are subordinate to the First Indenture Bonds with respect to the right of payment from and priority of lien on the Revenues. Revenues (except certain Interest Support Payments from the City, as described below), will be applied to fund obligations under the First Indenture before such Revenues are available to fund obligations under the Second Indenture, including the Series 2017 Bonds. See "SECTION V: SECURITY AND SOURCES OF PAYMENT OF BONDS." The Corporation's Revenues, except for Interest Support Payments, are generated from private properties in the Project Area. Most Revenues are paid directly to the Corporation by property owners, except for Interest Support Payments and Tax Equivalency Payments (as defined below), which are paid by the City, subject to annual appropriation, pursuant to the Support and Development Agreement, as amended and restated on May 1, 2017 (the "Support and Development Agreement"), by and among the Corporation, the City and HYDC. The Corporation does not expect to need Interest Support Payments in the future.
Recurring Revenues	The following Revenues of the Corporation are recurring revenues with respect to properties in the Project Area (the "Recurring Revenues"): (i) payments in lieu of real property taxes ("PILOT Payments") paid by property owners to the Corporation pursuant to agreements between property owners and (x) the New York City Industrial Development Agency ("IDA"), (y) with respect to the ERY and the WRY (also known as the Western Rail Yards, as defined herein), the Metropolitan Transportation Authority ("MTA"), and (z) certain other governmental entities; and (ii) payments by the City equal to real property taxes or payments in lieu of taxes received by the City on New Development (as defined herein, which includes substantial rehabilitation of existing buildings) in the Project Area ("Tax Equivalency Payments" or "TEP"), which are subject to annual appropriation by the City.

Non-Recurring Revenues	The following Revenues of the Corporation are non-recurring revenues to be paid directly to the Corporation (the "Non-Recurring Revenues"): (i) payments in lieu of mortgage recording taxes made pursuant to agreements between owners of property in the Project Area and the IDA; (ii) payments from the sale by the Corporation of its interest in the ERY Transferable Development Rights; and (iii) payments by property owners pursuant to density bonus programs offered by the City for development in the Project Area.
Support and Development Agreement	The Support and Development Agreement obligates the City, subject to annual appropriation, to make Interest Support Payments and Tax Equivalency Payments to the Corporation. Pursuant to the Support and Development Agreement, the Mayor of the City has agreed to submit to the City Council for each Fiscal Year an appropriation for the amount necessary to permit the City to pay Interest Support Payments and Tax Equivalency Payments in the succeeding Fiscal Year. **INTEREST SUPPORT PAYMENTS AND TAX EQUIVALENCY PAYMENTS ARE SUBJECT TO ANNUAL APPROPRIATION BY THE CITY AND TO THE AVAILABILITY OF MONEY FOR SUCH PAYMENTS. THE SUPPORT AND DEVELOPMENT AGREEMENT AND THE CITY'S OBLIGATION TO MAKE SUCH PAYMENTS DO NOT CONSTITUTE DEBT OF THE CITY UNDER OR WITHIN THE MEANING OF THE STATE OF NEW YORK (THE "STATE") CONSTITUTION OR THE LOCAL FINANCE LAW OF THE STATE. THE CITY IS NOT LEGALLY REQUIRED TO MAKE ANNUAL APPROPRIATIONS FOR SUCH PAYMENTS.**
Interest Support Payments	The City agreed to make Interest Support Payments in connection with the First Indenture Bonds and refundings thereof, including the Series 2017 Bonds, and, if authorized by the City Council, up to $500 million aggregate principal amount of additional Supported Bonds (defined below). Interest Support Payments are also authorized to be made in connection with bonds issued to refund any bonds for which Interest Support Payments are to be made. All bonds for which Interest Support Payments are authorized to be made are hereafter referred to as the "Supported Bonds." The Support and Development Agreement obligates the City, subject to annual appropriation, to make Interest Support Payments to the Corporation as long as Supported Bonds are outstanding, if the Corporation receives insufficient Revenues to pay debt service, when due on outstanding First Indenture Bonds and Second Indenture Bonds. However, in no event may any Interest Support Payments exceed the Interest due on outstanding Supported Bonds payable on the next succeeding Interest Payment Date. The Mayor of the City has agreed to include in the expense budget submitted to the City Council for the succeeding Fiscal Year of the City an amount sufficient to make the Interest Support Payments projected to be made during such Fiscal Year. The Support and Development Agreement provides that Interest Support Payments with respect to the Series 2017 Bonds may only be made after the payment in full of any Interest Support Payments with

	respect to the First Indenture Bonds. The Interest Support Payments will be paid separately to the First Indenture Trustee and to the Second Indenture Trustee.
Tax Equivalency Payments	Pursuant to the Support and Development Agreement, the Mayor of the City has agreed to submit to the City Council for each Fiscal Year an appropriation for the amount necessary to permit the City to pay Tax Equivalency Payments in the succeeding Fiscal Year. Such payment is to be made each year in two installments, occurring not later than the first day of August and the first day of February of each Fiscal Year, subject to adjustments described in the Support and Development Agreement.
Additional Bonds	Following the issuance of the Series 2017 Bonds, no additional First Indenture Bonds may be issued (nor any Hedge Agreements or Parity Reimbursement Obligations relating thereto). Under the Second Indenture, the Corporation may issue additional Second Indenture Bonds as "Completion Bonds," with a principal amount not to exceed $150 million in the aggregate, for the purpose of paying unfunded costs of the Project, which could be Supported Bonds or Unsupported Bonds as described below. If authorized by the City Council, the Corporation may issue additional Supported Bonds under the Second Indenture in an amount up to $500 million aggregate principal amount for such completion costs and/or future improvements to, or expansion of, the Subway Extension and the Hudson Park and Boulevard. Other Second Indenture Bonds for which Interest Support Payments will not be made (the "Unsupported Bonds"), may be issued without limitation as to amount for such completion costs and/or such improvements and expansion costs upon compliance with the tests described below, as applicable. Except for Completion Bonds, additional Second Indenture Bonds may only be issued if (i) the amount of the Net Recurring Revenues for the immediately preceding Fiscal Year for which audited financial statements of the Corporation are available is at least equal to 125% of the Maximum Annual Debt Service on First Indenture Bonds and Second Indenture Bonds Outstanding, in each case excluding Funded Bonds, after giving effect to the Second Indenture Bonds then to be issued (the "Debt Service Coverage Test"), or (ii) such bonds are issued for the refunding of First Indenture Bonds or Second Indenture Bonds and Maximum Annual Debt Service on all Second Indenture Bonds and First Indenture Bonds Outstanding, in each case excluding Funded Bonds (as defined herein), after giving effect to the issuance of such refunding bonds is not greater than Maximum Annual Debt Service on all Second Indenture Bonds and First Indenture Bonds immediately preceding issuance of the refunding bonds (the "Refunding Test"). See "SECTION V: SECURITY AND SOURCES OF PAYMENT OF BONDS – Additional Bonds."

Hudson Yards Demand and Development Report	In connection with the Series 2017 Bonds, the Corporation retained Cushman & Wakefield, Inc. ("C&W") to prepare a demand and development study ("C&W 2017 Report"). The C&W 2017 Report is included herein as Appendix E. As a result of the Project and development incentives, described herein, significant new office, residential, and hotel development has occurred and is continuing to occur in the Hudson Yards Financing District. The C&W 2017 Report states that as of June 30, 2016, 21 new or rehabilitated residential properties have been completed, resulting in approximately 7,850 units of rental and condominium residences brought to market. With respect to hotel development, 19 new hotel properties have been completed, adding approximately 4,200 rooms for hotel use. The C&W 2017 Report states that new office development, consisting of one completed building and three under construction, is expected to add a total of approximately 7.8 million square feet of office space to the Project Area. In addition, along with ancillary retail spaces in office and residential buildings, a retail and restaurant complex is under construction. Based on the assumptions and limitations stated therein, the C&W 2017 Report concludes that estimates by the City's Office of Management and Budget ("OMB") and the Corporation of Revenues projected to be received by the Corporation from office, residential, hotel and retail development aggregating approximately $28.0 billion during the period beginning July 1, 2017 and ending June 30, 2047 (the "Forecast Period") are reasonable, as described below.
Projected Revenues	The Corporation's projected Revenues from development in the Project Area during the Forecast Period were provided by OMB. Generally, OMB projects that the Corporation's primary source of Revenues will come from Recurring Revenues (i.e., PILOT Payments and TEP). See "SECTION VIII: PROJECTED REVENUES." During the Forecast Period, Recurring Revenues from Existing Development (as defined herein) are projected to generate a total of approximately $14.2 billion, 45.0% of which is expected to be generated from office development, 43.6% of which is expected to be generated from residential development, and 11.4% of which is expected to be generated from hotel development. Together Recurring Revenues from Existing Development and Future Development (as defined herein) are projected to generate a total of approximately $26.9 billion, 48.5% of which is expected to be generated from office development, 36.7% of which is expected to be generated from residential development, and 14.8% of which is expected to be generated from hotel development, during Fiscal Years 2017 through 2047. Total Revenues generated by the Project Area during the Forecast Period are projected to be approximately $28.0 billion, of which 96.1%, is expected to come from Recurring Revenues and 3.9% is expected to come from Non-Recurring Revenues. See Exhibit 1-2a of the C&W 2017 Report.

Risk Factors	Investment in the Series 2017 Bonds involves certain risks. Investors should read this entire Official Statement to obtain information essential to making an informed investment decision including "SECTION IX: RISK FACTORS."
The Corporation	The Corporation is a local development corporation organized by the City under the Not-for-Profit Corporation Law of the State. The Corporation is an instrumentality of, but separate, distinct and apart from, the City.
Tax Matters	In the opinion of Nixon Peabody LLP, Bond Counsel, under existing law and assuming compliance with the tax covenants described herein, and the accuracy of certain representations and certifications made by the Corporation described herein, interest on the Series 2017A Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, as amended. Bond Counsel is also of the opinion that such interest is not treated as a preference item in calculating the federal alternative minimum tax imposed under the Code with respect to individuals and corporations. Interest on the Series 2017A Bonds is, however, included in the adjusted current earnings of certain corporations for purposes of computing the alternative minimum tax imposed on such corporations. Bond Counsel is further of the opinion that interest on the Series 2017A Bonds is exempt from personal income taxes of the State of New York and its political subdivisions (including the City). See "SECTION XII: TAX MATTERS – SERIES 2017A BONDS." Interest on the Series 2017B Bonds is not excluded from gross income for federal income tax purposes and is not exempt from personal income taxes of the State of New York and its political subdivisions (including the City). See "SECTION XIII: TAX MATTERS – SERIES 2017B BONDS."
Ratings	The Series 2017 Bonds are rated "Aa3" by Moody's Investors Service, "A+" by S&P Global Ratings and "A+" by Fitch, Inc. "See SECTION XVII: RATINGS."
Trustee	U.S. Bank National Association, New York, New York, is serving as trustee under the First Indenture and the Second Indenture.
Corporation Contact	Jason Goh, Director of Investor Relations Phone Number: (212) 788-5864 Email: gohj@omb.nyc.gov

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OFFICIAL STATEMENT
OF
HUDSON YARDS INFRASTRUCTURE CORPORATION
RELATING TO
$2,141,760,000
SECOND INDENTURE REVENUE BONDS

$2,108,465,000 Fiscal 2017 Series A (Tax-Exempt)	**$33,295,000 Fiscal 2017 Series B (Taxable)**

SECTION I: INTRODUCTION

This Official Statement (which includes the inside cover page, summary statement and appendices hereto) sets forth certain information concerning the Hudson Yards Infrastructure Corporation (the "Corporation") in connection with the sale of $2,141,760,000 aggregate principal amount of the Corporation's Second Indenture Revenue Bonds, consisting of $2,108,465,000 Fiscal 2017 Series A (Tax-Exempt) (the "Series 2017A Bonds") and $33,295,000 Fiscal 2017 Series B (Taxable) (the "Series 2017B Bonds" and, together with the Series 2017A Bonds, the "Series 2017 Bonds"), pursuant to the Second Trust Indenture dated as of May 1, 2017 (the "Second Indenture") by and between the Corporation and U.S. Bank National Association, New York, New York, in its capacity as trustee under the Second Indenture (the "Second Indenture Trustee"). A summary of certain provisions of the Second Indenture, together with certain defined terms used therein and in this Official Statement, is contained in Appendix A hereto. Capitalized terms not otherwise defined in this Official Statement have the meanings set forth in Appendix A.

The Corporation previously issued $2,000,000,000 aggregate principal amount of its Hudson Yards Senior Revenue Bonds, Fiscal 2007 Series A (the "Series 2007A Bonds"), and $1,000,000,000 aggregate principal amount of its Hudson Yards Senior Revenue Bonds, Fiscal 2012 Series A (the "Series 2012A Bonds" and, together with the Series 2007A Bonds, the "First Indenture Bonds") under a trust indenture, dated as of December 1, 2006, as amended and restated through October 1, 2011 (the "First Indenture" and, together with the Second Indenture, the "Indentures"), by and between the Corporation and U.S. Bank National Association, in its capacity as trustee under the First Indenture (the "First Indenture Trustee").

The First Indenture Bonds were issued to encourage development within the Hudson Yards Financing District (as defined herein) by financing the cost of the extension of the No. 7 subway line, which began operations in September 2015, and creation of a public park, which opened in August 2015.

Proceeds of the Series 2017 Bonds will be applied, with other available funds, to refund all of the Series 2007A Bonds and $391,000,000 aggregate principal amount of the Series 2012A Bonds as more particularly described herein. See "SECTION III: PLAN OF FINANCE." The Series 2017 Bonds are subordinate to the First Indenture Bonds with respect to the right of payment from and priority of lien on the Revenues. Revenues (except certain Interest Support Payments (as defined herein) from The City of New York (the "City")) will be applied to fund obligations under the First Indenture before such revenues are available to fund obligations under the Second Indenture, including the Series 2017 Bonds. Additional bonds may be issued under the Second Indenture from time to time on a parity with the Series 2017 Bonds upon meeting certain requirements under the Second Indenture, as described herein (the "Additional Bonds"). Upon the issuance of the Series 2017 Bonds, the Corporation will covenant that no additional bonds may be issued under the First Indenture. See "SECTION V: SECURITY AND SOURCES OF PAYMENT OF BONDS."

The "Hudson Yards Financing District," or the "Project Area," describes the approximately 45 square block area generally bounded by West 43rd Street on the north, West 29th and 30th Streets on the south, Seventh and Eighth Avenues on the east, and Eleventh and Twelfth Avenues on the west, as is more specifically described in Appendix C to this Official Statement, from which the Corporation derives its Revenues (other than Interest Support Payments).

Since a 2005 rezoning affecting the Project Area and the funding of the Project (as defined herein), the landscape and skyline of the Project Area has been transformed. The Project Area now contains modern office, residential, hotel, and retail properties, along with a park.

The C&W 2017 Report states that as of June 30, 2016, 21 new or rehabilitated residential properties have been completed, resulting in approximately 7,850 units of rental and condominium residences brought to market. With respect to hotel development, 19 new hotel properties have been completed, adding approximately 4,200 rooms for hotel use. New office development, with one building completed and three under construction, has successfully attracted a diversity of companies to the Project Area. In addition to ancillary retail spaces constructed in office and residential buildings, a retail and restaurant complex is under construction.

SECTION II: THE PROJECT

Project Overview

The proceeds of the First Indenture Bonds financed: (a) the design and construction of an extension of the No. 7 subway line to a new terminal station in the Project Area (the “Subway Extension”); (b) the construction of a three-block park and boulevard (the “Hudson Park and Boulevard”); and (c) the acquisition of certain transferable development rights associated with the Eastern Railyard (“ERY”) (the “ERY Transferable Development Rights”), which were subsequently made available to property owners for purchase to permit increasing the density of properties undergoing construction within the Project Area (collectively, the “Project”). The Project has fostered the development of the Project Area to create a pedestrian-friendly, mass transit-oriented mixed-use district, accommodating an expansion of the Midtown central business district, as well as job growth, hospitality space and new housing for the City's growing population. See “SECTION VI: HUDSON YARDS DEMAND AND DEVELOPMENT REPORT.”

Exhibit 2-1: View of the No. 7 Subway Station Entrance at West 34th Street

The No. 7 subway line, originally terminating in Times Square, now extends to West 34th Street and Eleventh Avenue. This station was opened to passengers in September 2015, making the Project Area more accessible to all subway lines in Manhattan. A second entrance to the station is under construction and is expected to open for service in 2018.

Exhibit 2-2: View inside Hudson Park and Boulevard

The Hudson Park and Boulevard, located between West 33rd and West 36th Streets, opened in August 2015. The park provides open space for the Project Area's residents, workers and visitors, and is bordered by a pedestrian-friendly boulevard. The Hudson Park and Boulevard contains grassy areas, patios, fountains, a playground and paved areas for public events. The Hudson Park and Boulevard may be expanded to include one or more of the three blocks north of 36th Street at a later date.

The costs of the Project are expected to exceed remaining bond proceeds of the Corporation by approximately $96 million. Such costs are attributable to the Subway Extension and other related construction costs overseen by the MTA (approximately $32 million) and the Hudson Park and Boulevard overseen by the City (approximately $64 million). Such amounts are expected to be needed over the next two years. The amounts may be financed by the issuance of additional Second Indenture Bonds by the Corporation, which, if issued as Supported Bonds, is subject to approval of the City Council. Such amounts may also be financed by the City, subject to the City budget process. Under the Second Indenture, the Corporation may issue additional Second Indenture Bonds as "Completion Bonds," with a principal amount not to exceed $150 million in the aggregate for the purpose of paying unfunded costs of the Project. See "SECTION V: SECURITY AND SOURCES OF PAYMENT OF BONDS – Additional Bonds."

Pursuant to the City-MTA Railyards Agreement dated as of September 28, 2006, as amended May 25, 2010 (the "City-MTA Railyards Agreement"), among the Metropolitan Transportation Authority ("MTA"), Triborough Bridge and Tunnel Authority ("TBTA"), The Long Island Railroad Company and the City, the Corporation purchased from TBTA, with proceeds of the Series 2007A Bonds, an interest in 4.56 million square feet of ERY Transferable Development Rights. Pursuant to the City-MTA Railyards Agreement, the Corporation has the right to a portion of the proceeds from the sale of ERY Transferable Development Rights. See "SECTION V: SECURITY

AND SOURCES OF PAYMENT OF BONDS – Non-Recurring Revenues – *ERY Transferable Development Rights*." As of April 30, 2017, the remaining value of the ERY Transferable Development Rights to which the Corporation is entitled is $103.2 million.

Hudson Yards Development Corporation

The City created the Hudson Yards Development Corporation ("HYDC"), a local development corporation organized under Section 1411 of the Not-For-Profit Corporation Law of the State of New York (the "State"), to manage the implementation of the Project. As provided in the Support and Development Agreement, as amended and restated as of May 1, 2017 (the "Support and Development Agreement"), by and between the Corporation, the City and HYDC, the Corporation is responsible for paying HYDC's expenses but is not responsible for any liabilities of HYDC except as set forth in the Support and Development Agreement. The Corporation and HYDC are separate legal entities.

SECTION III: PLAN OF FINANCE

Use of Proceeds of Series 2017 Bonds

The proceeds of the Series 2017 Bonds will be used to redeem the First Indenture Bonds identified below by providing, with other Corporation funds, for the payment of the redemption price of and interest on such bonds shown below in Exhibit 3-1. The proceeds of the Series 2017 Bonds will also be used to pay certain costs of issuance. The proceeds of the Series 2017B Bonds will be used to redeem the portion of the First Indenture Bonds allocable to the portion of the Project that is used for a private business use.

The estimated sources and uses of funds are as follows:

Sources of Funds	
Principal Amount of Series 2017 Bonds	$2,141,760,000.00
Original Issue Premium	308,520,603.45
Other Available Funds	51,866,974.54
Total Sources	$2,502,147,577.99

Uses of Funds	
Refunding of First Indenture Bonds	$2,489,416,179.04
Costs of Issuance	2,910,602.63
Underwriters' Discount	9,820,796.32
Total Uses	$2,502,147,577.99

Refunding of Certain First Indenture Bonds

In 2006 and 2011, respectively, the Corporation issued two series of First Indenture Bonds, the Series 2007A Bonds in an aggregate principal amount of $2,000,000,000 and the Series 2012A Bonds in an aggregate principal amount of $1,000,000,000, both of which are currently outstanding in the full aggregate principal amount of $3,000,000,000. The First Indenture Bonds were issued as Term Bonds maturing on February 15, 2047.

The Corporation is now issuing the Series 2017 Bonds under the Second Indenture, to refund $2,391,000,000 aggregate principal amount of the First Indenture Bonds, consisting of all of the Series 2007A Bonds and $391,000,000 of the Series 2012A Bonds, as further identified below. The Series 2007A Bonds will be redeemed on May 30, 2017 or June 30, 2017 as shown below. Citibank, N.A. ("Citibank") will tender $290,000,000 of Series 2007A Bonds for purchase and cancellation by the Corporation on May 30, 2017, pursuant to a Tender Agreement between Citibank and the Corporation dated May 24, 2017 (the "Tender Agreement"). The portion of the Series 2012A Bonds to be refunded will be defeased in accordance with the First Indenture and redeemed on February 15, 2021.

Exhibit 3-1: Bonds to be Refunded

Series	Maturity Date	Outstanding Principal	Principal Amount to be Refunded	Interest Rate	Original CUSIP[1]	Redemption Date
2007A	2/15/2047	$500,000,000	$500,000,000	4.50%	44420P AA2	6/30/2017
2007A	2/15/2047	700,000,000	700,000,000	5.00%	44420P AB0	6/30/2017[2]
2007A	2/15/2047	800,000,000	800,000,000	5.00%	44420P AC8	6/30/2017
2012A	2/15/2047	650,000,000	391,000,000	5.75%	44420P DG6[3]	2/15/2021
			$2,391,000,000			

(1) The CUSIP numbers listed above are being provided solely for the convenience of Bondholders and the Corporation makes no representation with respect to such numbers nor undertakes any responsibility for their accuracy now or at any time in the future.

(2) $290,000,000 of such bonds are to be redeemed pursuant to the Tender Agreement described above on 5/30/2017.

(3) Upon the issuance of the Series 2017 Bonds, the CUSIP for the unrefunded portion of this bond will be 44420P DL5 and the CUSIP for the prerefunded portion will be 44420P DK7.

Impact of Refunding on Unrefunded Series 2012A Bonds Post-Closing

Conversion

The First Indenture provided for the conversion of First Indenture Bonds from (a) bonds without scheduled amortization prior to maturity to (b) bonds amortizing annually through mandatory sinking fund installments on a substantially level debt service basis to maturity (the "Conversion"). Upon the issuance of the Series 2017 Bonds, the requirements for Conversion of the Series 2012A Bonds not refunded by the Series 2017 Bonds will be satisfied, resulting in the Conversion of $609,000,000 aggregate principal amount of unrefunded Series 2012A Bonds. As required by the First Indenture, the Corporation will establish a schedule of redemption for each unrefunded Series 2012A Bond to be made from mandatory sinking fund installments beginning February 15, 2018, on a substantially level debt service basis to maturity in 2047 as described in Appendix H. See "*Defeasance or Purchase of Unrefunded Series 2012A Bonds Post-Closing"* below.

To effect the Conversion of the unrefunded Series 2012A Bonds, as of the date of the issuance of the Series 2017 Bonds, the Corporation will certify to the First Indenture Trustee that the audited financial statements of the Corporation for Fiscal Years 2015 and 2016 show that the Corporation received Net Recurring Revenues (defined below) for Fiscal Years 2015 and 2016 in an amount not less than 125% of Maximum Annual Debt Service (defined below) on the unrefunded Series 2012A Bonds after giving effect to the Conversion.

"Net Recurring Revenues" means, as of any particular date of calculation, when used in connection with any prior Fiscal Year, the amount of PILOT Payments and Tax Equivalency Payments paid during such prior Fiscal Year, less the actual Corporation Expenses for such Fiscal Year (as such actual Corporation Expenses were less than the cap provided for in the First Indenture).

"Maximum Annual Debt Service" means, as of any particular date of calculation and with respect to any Outstanding First Indenture Bonds, an amount equal to the greatest amount required in the then current or any future Fiscal Year to pay the principal and Sinking Fund Installments of and interest on such First Indenture Bonds payable during such Fiscal Year as calculated in accordance with the First Indenture.

Defeasance or Purchase of Unrefunded Series 2012A Bonds Post-Closing

Upon satisfaction of the requirements for Conversion the Corporation will establish a schedule of annual redemptions through mandatory sinking fund installments for all unrefunded Series 2012A Bonds as shown in Appendix H, the first of which will be payable on February 15, 2018. It is the Corporation's intention to defease or purchase in each of 2018, 2019 and 2020 a portion of the principal of the unrefunded Series 2012A Bonds equal to the sinking fund installment due in each such year. Money in the debt service fund under the First Indenture that would otherwise be used for the payment of the sinking fund installment and interest in any such fiscal year, will be applied, together with other money available to the Corporation, to such defeasance or purchase, and the principal amount defeased or purchased each year will be applied as a full credit against and in elimination of the sinking fund installment that otherwise would have been due on February 15 of such year. The defeased Series 2012A Bonds will be redeemed on February 15, 2021, the first date on which they may be redeemed at the option of the Corporation, at a redemption price equal to the principal amount to be redeemed, plus accrued interest to the date of redemption. Series 2012A Bonds so purchased will be delivered to the First Indenture Trustee for cancellation.

No Additional First Indenture Bonds

The Corporation will covenant in the Second Indenture that, upon the issuance of the Series 2017 Bonds, no First Indenture Bonds may be issued in the future (or any Hedge Agreements or Liquidity Facilities relating thereto). The unrefunded Series 2012A Bonds will be the only bonds senior to the Series 2017 Bonds and any future Second Indenture Bonds in right of payment from and priority of lien on the Revenues.

SECTION IV: THE SERIES 2017 BONDS

General

The Series 2017 Bonds will be issued as Second Indenture Bonds, dated their date of delivery and will bear interest as described on the inside cover of this Official Statement. The Series 2017 Bonds are subject to optional and mandatory redemption prior to maturity as described under "Redemption of the Series 2017 Bonds."

Principal of, redemption premium, if any, and interest on, the Series 2017 Bonds will be payable in lawful money of the United States of America. The Series 2017 Bonds will be issued only as fully registered bonds without coupons in denominations of $5,000 or any integral multiple thereof. Interest on the Series 2017 Bonds will be computed on the basis of a 360-day year of twelve 30-day months.

Interest on the Series 2017 Bonds will be payable to the registered owner thereof as shown on the registration books kept by the Second Indenture Trustee at the close of business on the Record Date which will be the last day (whether or not a Business Day) of the calendar month next preceding an interest payment date.

Redemption of the Series 2017 Bonds

Optional Redemption of the Series 2017A Bonds

The Series 2017A Bonds maturing on or before February 15, 2027 are not subject to optional redemption prior to their stated maturity dates. The Series 2017A Bonds maturing after February 15, 2027 are subject to redemption prior to maturity at the option of the Corporation, in whole or in part, on any date on or after February 15, 2027, upon 30 days' notice, at a redemption price equal to 100% of the principal amount of the Series 2017A Bonds to be redeemed plus accrued interest to their redemption date. Any Series 2017A Bond that is defeased to maturity will remain subject to optional redemption by the Corporation.

Mandatory Redemption of the Series 2017A Bonds from Sinking Fund Installments

The Series 2017A Bonds maturing February 15, 2042, February 15, 2044, and February 15, 2047 are term bonds subject to mandatory redemption from Sinking Fund Installments at a redemption price equal to 100% of the principal amount thereof, plus accrued interest, without premium, on the dates and in the amounts set forth below:

	Sinking Fund Installments		
February 15,	**2042 Maturity**	**2044 Maturity**	**2047 Maturity**
2040	$100,755,000		
2041	105,790,000		
2042	111,080,000*		
2043		$116,635,000	
2044		121,300,000*	
2046			$132,350,000
2047			137,650,000*

*Stated maturity.

The Corporation may apply or credit against any annual amount subject to mandatory redemption, the principal amount of any Series 2017A Bonds of the same maturity that have been defeased, purchased or redeemed and not previously so applied or credited. See "Selection of Series 2017 Bonds to be Redeemed" and "—Notice of Redemption" below for information on the manner of selection of the Series 2017A Bonds to be redeemed as described under this subheading "Mandatory Redemption of the Series 2017A Bonds from Sinking Fund Installments."

Optional Redemption of the Series 2017B Bonds

The Series 2017B Bonds are subject to redemption prior to maturity at the option of the Corporation, in whole or in part, on any date on or after February 15, 2027, upon 30 days' notice, at a redemption price equal to 100% of the principal amount of the Series 2017B Bonds to be redeemed plus accrued interest to their redemption date. Any Series 2017B Bond that is defeased to maturity will remain subject to optional redemption by the Corporation.

Make Whole Optional Redemption of the Series 2017B Bonds

The Series 2017B Bonds are also subject to redemption at the option of the Corporation, in whole or in part on any date prior to February 15, 2027 at a make-whole price equal to the greater of:

(1) the issue price set forth on the inside cover page hereof (but not less than 100%) of the principal amount of such Series 2017B Bonds to be redeemed; or

(2) the sum of the present value of the remaining scheduled payments of principal and interest to the maturity date of such Series 2017B Bonds to be redeemed, not including any portion of those payments of interest accrued and unpaid as of the date on which such Series 2017B Bonds are to be redeemed, discounted to the date on which such Series 2017B Bonds are to be redeemed on a semi-annual basis, assuming a 360-day year consisting of twelve 30-day months, at the Treasury Rate (described below) plus 30 basis points;

plus, in each case, accrued interest on such Series 2017B Bonds to be redeemed to the redemption date.

"Treasury Rate" means, with respect to any redemption for a particular Series 2017B Bond, the yield to maturity as of such redemption of United States Treasury securities with a constant maturity (as compiled and published in the Federal Reserve Statistical Release H.15 (519) that has become publicly available at least two Business Days, but not more than 45 calendar days, prior to the redemption (excluding inflation indexed securities) (or, if such Statistical Release is no longer published, any publicly available source of similar market data)) most nearly equal to the period from the redemption to the maturity date of the Series 2017B Bond to be redeemed.

Additionally, any Series 2017B Bond that is defeased to maturity will remain subject to make-whole or optional redemption by the Corporation.

Selection of Series 2017 Bonds to be Redeemed

In the event less than all of the Series 2017 Bonds of like Series, maturity, interest rate and yield are to be redeemed prior to maturity either at the option of the Corporation or through mandatory Sinking Fund Installments, the Second Indenture Trustee is to select by lot the particular Series 2017 Bonds of such Series, maturity, interest rate and yield to be redeemed, using such method of selection as it deems proper in its discretion.

Notice of Redemption

The Second Indenture Trustee, not less than 30 days or more than 60 days prior to the redemption date, will give notice by first-class mail, postage prepaid, to the registered owners of Series 2017 Bonds to be redeemed, at their last addresses as the same appear on the bond registration books of the Second Indenture Trustee. So long as Cede & Co., as nominee of DTC, is the registered owner of the Series 2017 Bonds, notice of redemption is to be sent to DTC. No assurance can be given by the Corporation that DTC and DTC participants will promptly transmit notices of redemption to Beneficial Owners.

Conditional Redemption Process

If the Second Indenture Trustee gives an unconditional notice of redemption, then on the redemption date the Series 2017 Bonds called for redemption will become due and payable. If the Second Indenture Trustee gives a conditional notice of redemption and holds money to pay the redemption price of the affected Series 2017 Bonds, and any other conditions included in such notice have been satisfied, then on the redemption date the Series 2017 Bonds called for redemption will become due and payable. In either case, after the redemption date, no interest will accrue on those Series 2017 Bonds, and an owner's only right will be to receive payment of the redemption price upon surrender of those Series 2017 Bonds.

Book-Entry Only System

DTC, as an automated clearinghouse for securities transactions, will act as securities depository for the Series 2017 Bonds. Purchasers of beneficial ownership interests in the Series 2017 Bonds will not receive certificates representing their interests in the Series 2017 Bonds purchased. The Series 2017 Bonds will be issued as fully-registered securities registered in the name of Cede & Co. (DTC's partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully-registered bond certificate will be issued for each series and maturity of the Series 2017 Bonds, each in the aggregate principal amount of such maturity, and will be deposited with DTC. If, however, the aggregate principal amount of any such maturity exceeds $500 million, one bond certificate will be issued with respect to each $500 million of principal amount of such maturity and an additional bond certificate will be issued with respect to any remaining principal amount of such maturity.

DTC is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code and a "clearing agency" registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity, corporate and municipal debt issues, and money market instruments from over 100 countries that DTC's participants ("Direct Participants") deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions, in deposited securities through electronic computerized book-entry transfers and pledges between Direct Participants' accounts, thereby eliminating the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation ("DTCC"). DTCC is the holding company for DTC National Securities Clearing Corporation and Fixed Income Securities Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to both U.S. and non-U.S. securities brokers and dealers, banks, trust companies and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly ("Indirect Participants"). The DTC rules applicable to its Participants are on file with the Securities and Exchange Commission.

Purchases of the Series 2017 Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the Series 2017 Bonds on DTC's records. The ownership interest of each actual purchaser of each Series 2017 Bond (a "Beneficial Owner") is in turn to be recorded on the Direct and Indirect Participants' records. Beneficial Owners will not receive written confirmation from DTC of their purchase, but Beneficial Owners are expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the Series 2017 Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive bond certificates representing their ownership interests in the Series 2017 Bonds, except in the event that use of the book-entry system for the Series 2017 Bonds is discontinued.

To facilitate subsequent transfers, all Series 2017 Bonds deposited by Direct Participants with DTC are registered in the name of Cede & Co. or such other name as may be requested by an authorized representative of DTC. The deposit of the Series 2017 Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee effect no change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the Series 2017 Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such Series 2017 Bonds are credited, which may or may not be the Beneficial Owners. The Direct Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time.

Redemption notices will be sent to Cede & Co. If less than all of the Series 2017 Bonds within a maturity are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such maturity to be redeemed.

Neither DTC nor Cede & Co. (nor such other DTC nominee) will consent or vote with respect to the Series 2017 Bonds unless authorized by a Direct Participant in accordance with DTC's procedures. Under its usual procedures, DTC mails an omnibus proxy (the "Omnibus Proxy") to the Corporation as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the Series 2017 Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Payment of redemption proceeds and principal and interest on the Series 2017 Bonds will be made to Cede & Co. or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from the Corporation or the Second Indenture Trustee on the payment date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC, the Second Indenture Trustee or the Corporation, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of redemption proceeds and principal and interest payments to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the Corporation or the Second Indenture Trustee, disbursement of such payments to the Direct Participants is the responsibility of DTC, and disbursement of such payments to the Beneficial Owners is the responsibility of Direct and Indirect Participants.

The Corporation and the Second Indenture Trustee may treat DTC (or its nominee) as the sole and exclusive registered owner of the Series 2017 Bonds registered in its name for the purpose of payment of the principal of or interest on the Series 2017 Bonds, giving any notice permitted or required to be given to registered owners under the Second Indenture registering the transfer of the Series 2017 Bonds, or other action to be taken by registered owners and for all other purposes whatsoever. The Corporation and the Second Indenture Trustee do not have any responsibility or obligation to any Participant, any person claiming a beneficial ownership interest in the Series 2017 Bonds under or through DTC or any Participant, or any other person which is not shown on the registration books of the Corporation (kept by the Second Indenture Trustee) as being a registered owner, with respect to: the accuracy of any records maintained by DTC or any Participant; the payment by DTC or any Participant of any amount in respect of the principal of or interest on the Series 2017 Bonds; any notice which is permitted or required to be given to registered owners thereunder or under the conditions to transfers or exchanges adopted by the Corporation; or other action taken by DTC as a registered owner. Interest and principal will be paid by the Second Indenture Trustee to DTC, or its nominee. Disbursement of such payments to the Participants is the responsibility of DTC and disbursement of such payments to the Beneficial Owners is the responsibility of the Participants or the Indirect Participants.

No assurance can be given by the Corporation that DTC will make prompt transfer of payments to the Participants or that Participants will make prompt transfer or payments to Beneficial Owners. The Corporation is not responsible or liable for payment by DTC or Participants, or for sending transaction statements, or for maintaining, supervising or reviewing records maintained by DTC or Participants.

SO LONG AS CEDE & CO., AS NOMINEE OF DTC, IS THE REGISTERED OWNER OF ALL OF THE SERIES 2017 BONDS, REFERENCES HEREIN TO THE OWNERS, HOLDERS OR BONDHOLDERS OF THE SERIES 2017 BONDS (OTHER THAN UNDER "SECTION XII: TAX MATTERS – SERIES 2017A BONDS" AND "SECTION XIII: TAX MATTERS – SERIES 2017B BONDS" HEREIN) MEANS CEDE & CO.

For every transfer and exchange of beneficial ownership of the Series 2017 Bonds, a Beneficial Owner may be charged a sum sufficient to cover any tax, fee or other governmental charge that may be imposed in relation thereto.

DTC may discontinue providing its service with respect to the Series 2017 Bonds at any time by giving reasonable notice to the Corporation or the Second Indenture Trustee and discharging its responsibilities with respect thereto under applicable law, or the Corporation may terminate its participation in the system of book-entry transfer through DTC at any time by giving notice to DTC. In either event the Corporation may retain another securities depository for the Series 2017 Bonds as appropriate or may direct the Second Indenture Trustee to deliver bond certificates in accordance with instructions from DTC or its successor. If the Corporation directs the Second Indenture Trustee to deliver such bond certificates, such Series 2017 Bonds may thereafter be exchanged for denominations and of the same maturity as set forth in the Second Indenture, upon surrender thereof at the principal corporate trust office of the Second Indenture Trustee, who will then be responsible for maintaining the registration books of the Corporation. The record date for payment of interest on the Series 2017 Bonds is the last day (whether or not a Business Day) of the calendar month next preceding an interest payment date.

The information under this subheading "*Book-Entry Only System*" concerning DTC and DTC's book-entry system has been obtained from sources that the Corporation believes to be reliable, but the Corporation takes no responsibility for the accuracy thereof.

Unless otherwise noted, certain of the information contained under this subheading "*Book-Entry Only System*" has been extracted from information furnished by DTC. The Corporation does not make any representation as to the completeness or the accuracy of such information or as to the absence of material adverse changes in such information subsequent to the date hereof.

Other Information

For additional information regarding the Series 2017 Bonds and the Second Indenture including the events of default under the Second Indenture and the remedies of the Bondholders thereunder, see "APPENDIX A: CERTAIN DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE SECOND INDENTURE."

SECTION V: SECURITY AND SOURCES OF PAYMENT OF BONDS

General

The Series 2017 Bonds are special obligations of the Corporation secured by and payable solely from the Revenues as described herein in accordance with the Second Indenture. All Second Indenture Bonds, including the Series 2017 Bonds, are payable from the Corporation's Revenues subject to prior application of the Revenues to the Corporation's expenses and the payment of principal and interest on the First Indenture Bonds in accordance with the provisions of the First Indenture. The rights to receive all Revenues described below have been pledged and assigned to the Second Indenture Trustee, subject to the prior rights of the First Indenture Trustee.

The Corporation receives two types of Revenues: Recurring Revenues and Non-Recurring Revenues (each as described below).

"Recurring Revenues" consist of the following:

(i) Payments in lieu of real property taxes ("PILOT Payments") made pursuant to agreements with property owners in the Project Area ("PILOT Agreements"). PILOT Payments consist primarily of payments made pursuant to PILOT Agreements ("IDA PILOT Agreements") between property owners and the New York City Industrial Development Agency ("IDA PILOT Payments"). In addition, PILOT Payments include payments made pursuant to PILOT Agreements between property owners and the Metropolitan Transportation Authority ("MTA") with respect to the ERY and WRY (as defined herein), which are paid directly by property owners to the Corporation ("Railyard PILOT Payments"). In addition, PILOT Payments include payments that may be received by the Corporation from certain other governmental entities that enter into PILOT Agreements; and

(ii) Payments by the City, subject to annual appropriation, equal to real property taxes and payments in lieu of real property taxes received by the City from owners of New Development (as defined herein) in the Project Area that do not otherwise enter into a PILOT Agreement as described above ("Tax Equivalency Payments" or "TEP").

"Non-Recurring Revenues" consist of the following:

(i) Payments by property owners pursuant to certain density bonus programs offered by the City for development in the Project Area ("DIB Payments");

(ii) Certain payments from the sale of the ERY Transferable Development Rights that were purchased from the TBTA by the Corporation; and

(iii) Payments in lieu of mortgage recording taxes ("PILOMRT Payments") made pursuant to agreements between property owners in the Project Area and the IDA.

In addition, the Corporation may also receive, as Revenues, Interest Support Payments from the City, subject to annual appropriation, to enable the Corporation to pay debt service on First Indenture Bonds and Second Indenture Bonds but not in excess of the interest payable on any interest payment date on Supported Bonds in the event other Revenues are insufficient to pay such debt service. The Corporation does not expect to need Interest Support Payments in the future.

THE CORPORATION HAS NO TAXING POWERS. BONDS ISSUED BY THE CORPORATION ("HYIC BONDS") ARE NOT A DEBT OF THE CITY AND, EXCEPT AS EXPRESSLY STATED HEREIN, THE CITY HAS NO OBLIGATION TO PAY OR PROVIDE FOR ANY OF THE DEBT SERVICE ON THE HYIC BONDS.

TAX EQUIVALENCY PAYMENTS ARE SUBJECT TO ANNUAL APPROPRIATION BY THE CITY AND TO THE AVAILABILITY OF MONEY FOR SUCH PAYMENTS. THE SUPPORT AND DEVELOPMENT AGREEMENT AND THE CITY'S OBLIGATION TO MAKE SUCH PAYMENTS DO NOT CONSTITUTE DEBT OF THE CITY UNDER OR WITHIN THE MEANING OF THE STATE CONSTITUTION OR THE LOCAL FINANCE LAW OF THE STATE. THE CITY IS NOT LEGALLY

REQUIRED TO MAKE ANNUAL APPROPRIATIONS FOR SUCH PAYMENTS. THE ABILITY OF THE CITY TO MAKE TAX EQUIVALENCY PAYMENTS UNDER THE SUPPORT AND DEVELOPMENT AGREEMENT MAY DEPEND ON THE FINANCIAL CONDITION OF THE CITY. SEE APPENDIX D FOR INFORMATION ABOUT THE CITY.

Recurring Revenues

Payments in Lieu of Real Property Taxes.

General. Privately-owned commercial developments in the City on privately-owned sites are subject to City property taxes. Under certain circumstances, privately-owned commercial developments can be granted discretionary real property tax exemption benefits by the IDA under its statutory authority, provided that the IDA takes leasehold title to the privately-owned site. Other governmental entities, such as the MTA, may own sites which by virtue of their ownership and use are exempt from City real property taxes. In those cases, the IDA or other governmental entities may enter into a payment in lieu of real property taxes arrangement with the owner of the commercial development. Such arrangements are generally known as PILOT agreements.

Project Area UTEP. As an inducement to commercial development in the Project Area and to encourage job growth and the economic well-being of the City, the IDA adopted a Uniform Tax Exemption Policy for the Project Area, except for the western portion of the railyard located between West 30th and West 33rd Streets from 11th to 12th Avenues (the "WRY" or "Western Rail Yard") and the full block located between West 33rd Street and West 34th Street at Eleventh Avenue (the "Javits Marshaling Yard"), in August 2006, which was amended and restated on August 3, 2010, and then further amended on November 9, 2010 (the "Project Area UTEP") that includes a schedule (set forth as Exhibit 3-30 in Section 3 of the C&W 2017 Report) for IDA PILOT Payments for property owners that enter into IDA PILOT Agreements.

The schedule provides a discount (which varies depending on the location of the property in specified zones in the Project Area and the square footage of property provided such benefits previously within each zone) from the real property taxes that would otherwise be due for 19 years after the completion of construction of a project. Such IDA PILOT Payments are subject to an annual rate of increase equal to 3% over the prior year's payment in years five through fifteen after completion of construction and then a phase out of the discount in the last four years with payments equal to the greater of a 3% increase over the prior year's amount and a set discount which decreases in each year (provided that each year's PILOT Payment may never exceed actual taxes for any tax year). Beginning with the twentieth year after the completion of construction of a project, the amount payable is equal to 100% of the amount of real property taxes due to the City without any discount.

IDA PILOT Agreements for the Project Area currently are and are expected to continue to last for 29 years with automatic annual one-year extensions, unless IDA provides notice of termination within 60 days preceding the expiration of the then current term; provided, however, that such IDA PILOT Agreements automatically terminate within 60 days after the repayment in full or defeasance of all HYIC Bonds for which an assignment of PILOT Payments payable under the PILOT Agreement is used to repay the bondholders. Developers entering into IDA PILOT Agreements may also receive an exemption of up to 100% of sales taxes due on construction materials and tenant improvement materials. Developers are expected to participate in the IDA PILOT Payment program because the IDA PILOT Payments during the first 19 years after the completion of construction of a project will be lower than the otherwise applicable real estate taxes on their projects.

IDA PILOT Payments. The Corporation, the IDA and the City entered into the IDA Amended and Restated PILOT Assignment and Agreement dated as of December 1, 2006, as amended and restated as of May 1, 2017 (the "IDA Assignment Agreement") pursuant to which the IDA has assigned the IDA PILOT Payments to the Corporation and the City has agreed to such assignment. In accordance with the IDA Assignment Agreement, IDA PILOT Payments will be made to the First Indenture Trustee, while First Indenture Bonds are outstanding, and to then to the Second Indenture Trustee. The IDA and the City have each agreed in the IDA Assignment Agreement that if any such payments are received by the IDA or the City, they will be promptly paid to the First Indenture Trustee, while First Indenture Bonds are outstanding and then to the Second Indenture Trustee. The IDA has also agreed in the IDA Assignment Agreement not to directly or indirectly rescind, amend, modify or deviate from the Project Area UTEP in any respect without the prior written consent of the Corporation except that the IDA may, without the consent of the Corporation, amend or modify the Project Area UTEP if (1) as a result of a change in State law, the Project Area UTEP is no longer consistent therewith, (2) such amendment or modification is required in order for the Project Area UTEP to conform to the applicable State laws, (3) the IDA, not less than 30 days prior to it taking any action to amend or modify the Project Area UTEP, delivered to the Corporation a copy of the proposed amendment or modification of the Project Area UTEP and (4) the IDA certified to the Corporation, in writing, that such amendment or modification is solely required in order for the Project Area UTEP to conform to the applicable State law.

The City has agreed in the IDA Assignment Agreement not to take any action that would limit or alter the rights vested in the Corporation under the IDA Assignment Agreement, any IDA PILOT Agreement, PILOT Mortgage (defined below) or instrument of assignment executed pursuant to the IDA Assignment Agreement or in or to the IDA PILOT Payments or that would in any way impair the rights and remedies of the holders of or the security for the HYIC Bonds. The Corporation covenants in the Indentures not to consent or acquiesce in any amendment to or deviation from the Project Area UTEP unless the Corporation delivers a written certification to the Second Indenture Trustee that the proposed amendment or deviation will facilitate the further commercial development of the Project Area or such amendment or deviation is consented to by holders of not less than a majority in aggregate principal amount of the Outstanding HYIC Bonds affected by any such amendment as specified in the Indentures. The IDA Assignment Agreement terminates when all principal and interest has been paid on the HYIC Bonds.

Each property owner that enters into an IDA PILOT Agreement with the IDA will secure its payment obligations under such agreement by first mortgages (collectively, the “PILOT Mortgage”) to the IDA. The IDA will assign each IDA PILOT Agreement and each PILOT Mortgage to the Corporation which will assign such obligations to the Second Indenture Trustee on a subordinate basis to the assignment to the First Indenture Trustee. Upon a failure of a property owner to make the IDA PILOT Payment in accordance with the IDA PILOT Agreement, the Second Indenture Trustee (on a subordinate basis to the rights of the First Indenture Trustee) may exercise the rights and remedies set forth in the corresponding PILOT Mortgage, which include the right to institute proceedings to foreclose the lien of a PILOT Mortgage. Failure of a property owner to make IDA PILOT Payments could result in loss of the property owner’s interest in the property. Proceeds from the foreclosure of the lien of a PILOT Mortgage will first be applied to payment of amounts due with respect to First Indenture Bonds prior to the application of any such remaining proceeds to pay amounts due with respect to Second Indenture Bonds.

<u>Railyard PILOT Payments</u>. The MTA has agreed in the City-MTA Railyards Agreement that, if it leases the ERY or the WRY for development, such leases will require the developer to pay Railyard PILOT Payments on UTEP Eligible Commercial Projects in amounts no less than the PILOT amounts payable according to the Project Area UTEP, and Railyard PILOT Payments for other development equal to full real property taxes in the amounts that would have been levied by the City if the ERY or the WRY were privately owned. The MTA has further agreed that it shall direct payment to, or pay over to the Corporation (or to the City upon the Corporation’s direction) all such Railyard PILOT Payments. The Corporation has covenanted in the Second Indenture that as long as any Second Indenture Bonds are Outstanding, it will not consent to the payment of any Railyard PILOT Payments to any person other than the Corporation.

<u>Other PILOT Payments</u>. In addition to the IDA and the MTA, with respect to the ERY and WRY, certain other governmental entities may own and utilize real property in the Project Area which may therefore not be subject to real property taxation by the City. Under such circumstances, the governmental entity may enter into PILOT Agreements with developers in the Project Area which result in the reduction, or other agreements that result in the elimination of, real property taxes that would have otherwise been payable to the City. The Corporation expects, based on previous experience that such governmental entities will pay to the Corporation, directly or through assignment by the City, the amount received pursuant to any such PILOT Agreements. However, there can be no assurance that such payments will take place. The Support and Development Agreement provides that any PILOT Payments made by other governmental entities to the City as the result of development in the Project Area will be treated as Tax Receipts in the calculation of Tax Equivalency Payments to be made by the City as described below.

Tax Equivalency Payments

The Support and Development Agreement also obligates the City to pay to the Corporation, subject to annual appropriation, an amount equal to the amount of real property taxes and payments in lieu of real property taxes collected by the City on New Development (as defined below, which includes substantial rehabilitation of existing buildings) in the Project Area. Property taxes collected before the building receives a certificate of occupancy are not included in Tax Equivalency Payments. Although Tax Equivalency Payments are expected to be generated primarily from residential and hotel development, such payments will also be generated from commercial developments that are not eligible to enter into PILOT Agreements or that have elected not to enter into PILOT Agreements and from any payments in lieu of real property taxes received by the City pursuant to agreements between developers of New Developments in the Project Area and governmental bodies other than the IDA or, with respect to the ERY and WRY, MTA.

Tax Equivalency Payments are to be made each year in two installments, occurring not later than the first day of August and the first day of February of each Fiscal Year, subject to adjustment as provided in the next sentence, each semiannual payment in an amount equal to 50% of (1) the *ad valorem* real property taxes levied by the City on New Developments in the Project Area not subject to a PILOT Agreement that are payable during such Fiscal Year, and (2) the PILOT Payments projected by the City to be received during such Fiscal Year. The amount payable by the City on each such date is to be adjusted to reflect the amount, if any, by which the Tax Receipts (as defined below) collected during the six-month period that commenced on the earlier of the January 1st or July 1st immediately preceding such payment date either exceeded or was less than the amount payable on such payment date. In resolutions adopted January 19, 2005, October 27, 2005, October 11, 2006 and December 21, 2009, the City Council recognized the importance to the City of the redevelopment of the Project Area and supported an undertaking by the City, subject to appropriation, to make the Tax Equivalency Payments. A summary of the Support and Development Agreement is attached hereto as Appendix B.

For purposes hereof, the terms listed below have the following meanings:

New Development means the construction of a building or other improvement within the Project Area for residential, commercial or other use or uses, or the Substantial Rehabilitation of an existing building or improvement within the Project Area, in each case evidenced by the issuance of a temporary or permanent certificate of occupancy on or after January 19, 2005.

Substantial Rehabilitation means any one or a combination of (1) work necessary to bring a building into compliance with all applicable laws and regulations, including but not limited to the installation, replacement or repair of heating, plumbing, electrical and related systems and the elimination of hazardous violations in the building in accordance with state and local laws and regulations, (2) reconstruction or work to improve the habitability or prolong the useful life of a structure or (3) an addition to an existing building that substantially increases the square footage or floor area thereof which, in each case, results in at least a 20% increase over the prior year's assessed value of the building or structure.

Tax Receipts means all *ad valorem* real property taxes and PILOT Payments collected by the City in respect of New Developments, including any amounts collected (1) as a consequence or result of enforcement proceedings, (2) as interest or penalties for the failure to make timely payment to the City of the *ad valorem* real property taxes levied against such New Development, (3) as the proceeds of any sale of tax liens related to a New Development, and (4) as a consequence or result of the enforcement of a PILOT Agreement, including the foreclose of any mortgage securing the same.

The Support and Development Agreement obligates the City to retain in its possession for a reasonable period of years records of all Tax Receipts collected during a Fiscal Year sufficient to identify each New Development, not subject to a PILOT Agreement, the *ad valorem* real property taxes levied against each such New Development during such Fiscal Year and the Tax Receipts collected during such Fiscal Year in connection with each such New Development, which records are to be subject at all reasonable times during normal business hours to the inspection of the Corporation, the Second Indenture Trustee and their respective agents and representatives. At the written request of the Corporation or the Second Indenture Trustee, copies of such records shall be delivered to the Corporation and the Second Indenture Trustee.

The City has established procedures that allow it to identify New Developments and to identify payments of real property taxes by the owners of New Developments or the proceeds of the sale of tax liens if such taxes are not paid. Pursuant to the Support and Development Agreement, the Mayor of the City has agreed to submit to the City Council for each Fiscal Year an appropriation for the amount necessary to permit the City to pay the Tax Equivalency Payment in the succeeding Fiscal Year. The City has no obligation to appropriate funds to make Tax Equivalency Payments and the City's agreement to make such payments is not debt of the City.

Property Taxes

IDA PILOT Payments and Tax Equivalency Payments are based on otherwise applicable real property taxes levied by the City following classification and assessment of the real property subject to such levy. However, as described previously, IDA PILOT Payments are based on a schedule of discounted real property taxes (which varies depending on the location of the property in specified zones in the Project Area and the square footage of property provided such benefits previously within each zone).

State law provides for the classification of all real property in the City into one of four statutory classes. Class 1 primarily includes one-, two- and three-family homes; class 2 includes certain other residential property not included in class 1; class 3 includes most utility real property; and class 4 includes all other real property. The majority of new development in the Project Area will be classified as either Class 2 or Class 4 properties.

All properties are assessed each year and a tentative tax roll of tax values for each property is produced in mid-January to be applied to the new Fiscal Year beginning July 1. Tax payers are allowed to dispute their assessment by initiating an appeal with the City's Tax Commission. Adjustments are then reflected in the final tax roll which is published in May of each year.

Property taxes are assessed at a ratio to full market value. For Class 2 and Class 4 properties, the assessment ratio has held stable at approximately 45% since the mid-1990's.

Increases in assessments due to market conditions for properties in large Class 2 and Class 4, are phased in over a five-year time period at 20% per year. This phase-in period results in an interim assessment referred to as the transitional assessment. The lower of the actual or transitional assessed value is then used to determine the billable assessed value to compute taxes. Changes in assessments due to physical improvements are immediately recognized.

In periods of market downturns and declining assessments, billable assessed value will be based on the lower of the actual or transitional value. This may result in lower billable assessments, however in some instances billable assessed values can continue to rise as a result of prior year assessment increases. In market upturns billable assessments will typically lag increases in the actual assessed value.

Buildings under construction, which are a significant portion of the Project Area, are assessed based on the percentage completed. During the construction period, a tentative assessment is made, using the income and expense approach typically used in assessments. During the construction period, the tentative or progress assessment for new buildings is not reflected in the final tax roll, for a maximum of one or three years depending on property type and tax characteristics, but serves merely as a progress assessment. After the construction period ends, properties are fully assessed based on the income approach. Demolition and alterations and changes in taxable status are not subject to the phase-in and are immediately assessed at market value.

Class 2 and Class 4 properties are generally assessed as income-producing properties. All properties having assessed values greater than $40,000 are required to file RPIE (Real Property Income and Expense Statement) with the New York City Department of Finance ("NYCDOF"). Assessments are made for both buildings and the underlying land.

Reported revenues and expenses are compared to the averages for similar properties. Physical characteristics, amenities offered, and geographic locations are all factors considered in determining comparable properties for comparison purposes. Assessors examine deviations in reported income and expenses from averages in comparable buildings and markets and have the discretion to make adjustments. For example, reported income in Class 4 properties with vacancy rates exceeding 50% of the market average are adjusted upwards, treating "excess" vacant space as occupied at market rates.

Assessors also compare rent levels and income in comparable buildings to determine whether rents accurately reflect current market conditions. A marked-to-market approach is used in assessing rental income. Properties that have higher rental incomes because of leases stipulated in more favorable times and that can expect rental rates to fall on renewal are assessed at lower values.

The NYCDOF market value is then determined by dividing net operating income by a capitalization rate. Capitalization rates are determined through a formula that takes into account the cost and composition of capital by looking at the following factors: mortgage to equity ratios, interest rates, mortgage terms, equity returns and the holding period. Classes 2 and 4, which are expected to represent most of the properties developed within the Project Area, have experienced average assessed value growth of 5.7% for Class 2 and 5.2% for Class 4 from 1985 to 2017.

For a description of certain litigation challenging the City's real property tax system and valuation methodology, see "APPENDIX D: THE CITY OF NEW YORK: SECTION IX: OTHER INFORMATION – Litigation - *Taxes.*"

421-a Tax Exemption Program

The 421-a tax exemption (the "421-a Program"), established pursuant to Section 421-a of the New York State Real Property Tax Law, authorized the City and other local governments throughout the State to promote multi-family residential construction by providing various percentage levels and time periods of exemption on the increase in assessed value created by such improvements under certain conditions. The 421-a Program has been available in different formats in the City since the early 1970's. The 421-a Program, which expired on January 1, 2016, was recently renewed retroactive to that date and renamed the Affordable New York Housing Program. Under the Affordable New York Housing Program, which is to expire in 2022, developers of new residential rental projects with 300 units or more in certain areas of Manhattan (including the Project Area), Brooklyn and Queens, that create a specific number of rental units to remain affordable for 40 years, and pay construction workers average wage and benefits above a certain threshold, would be eligible for a full property tax exemption on the improvements to the property for 35 years. All other qualifying residential rental projects that provide the required levels of affordability would be eligible for a 25 year 100 percent exemption on the improvements, followed by 10 additional years of exemption at a rate tied to the level of affordability. Condominium developments are not eligible for the benefits of the Affordable New York Housing Program in Manhattan. Residential developments that commenced construction before January 1, 2016 and did not receive benefits prior to June 15, 2015 may elect to participate in the Affordable New York Housing Program.

Non-Recurring Revenues

District Improvement Fund Bonus Payments

As authorized in the Project Area Zoning Regulations, commercial and residential developments in certain portions of the Project Area are eligible to increase their density in exchange for DIB Payments. The Project Area Zoning Regulations establish as-of-right base floor area ratios ("FAR") in the Project Area for development, generally 6.5 for residential development and 10 for commercial development. Developments in certain portions of the Project Area may increase their FAR, up to an amount specified in the Project Area Zoning Regulations, in exchange for DIB Payments. See the C&W 2017 Report attached hereto as Appendix E for a discussion of FAR.

In the case of lots zoned for residential use, acquisition of additional density in exchange for DIB Payments (the "DIB Program") also requires participation in the Inclusionary Housing Bonus ("IHB") program, which requires that DIB Program square footage be applied for in a fixed ratio, on a *pari passu* basis, with IHB square footage. In a situation where the base residential zoning is 6.5 FAR and the maximum residential FAR is 12, there would be two bonus tiers. In the first tier, from 6.5 FAR to 9 FAR, 5/11ths of the bonus would be achieved through the DIB Program and 6/11ths would be achieved through participation in the IHB program, resulting in a requirement that 10-15% of the total residential square footage on the zoning lot meet affordable housing guidelines set by the City's Department of Housing Preservation and Development. In the second tier from 9 FAR to 12 FAR, 5/11ths of the bonus would be achieved through the DIB Program and 6/11ths through participation in the IHB program, resulting in an additional 10-15% of the total residential square footage on the zoning lot meeting affordable housing guidelines. Therefore, if application of the DIB/IHB programs causes the zoning lot to achieve more than 9 FAR, 20-30% of the total residential square footage on the zoning lot must meet affordable housing guidelines.

The amount per square foot of the DIB Payment required by the Project Area Zoning Regulations is currently $126.75 per zoning square feet of bonus received. The Chair of the City Planning Commission is required to adjust the amount of DIB Payment per square foot on August 1 of each year based on changes in the Consumer Price Index established by the U.S. Bureau of Labor Statistics.

The Corporation and the City have entered into the Amended and Restated DIB Assignment Agreement, dated as of December 1, 2006, as amended and restated as of May 1, 2017 (the "DIB Assignment Agreement") pursuant to which and in accordance with the Project Area Zoning Regulations adopted by the City Council, the City has assigned to the Corporation the DIB Payments. The Project Area Zoning Regulations direct that the DIB Payments be paid directly to the Corporation. The City has agreed in the DIB Assignment Agreement that the City will not take any action that would limit or alter the rights vested in the Corporation under the Project Area Zoning Regulations or the DIB Assignment Agreement or in and to the DIB Payments and that the City will not take any action that would in any way impair the rights and remedies of the holders or the security for the HYIC Bonds.

The Project Area Zoning Regulations also provide an incentive mechanism that encourages property owners in the Project Area to convey to the City privately-owned property, for the future expansion of the Hudson Boulevard and Park three blocks north of 36th Street, or to fund construction of portions of the expansion of the Hudson Boulevard and Park in lieu of DIB Payments.

ERY Transferable Development Rights

Pursuant to the City-MTA Railyards Agreement, the Corporation purchased from the TBTA for \$200 million (paid with proceeds of First Indenture Bonds) a \$200 million interest in 4.56 million square feet of ERY Transferable Development Rights, which development rights can be sold to owners of certain other properties in the Project Area for the purpose of increasing the density of new development at such properties. Pursuant to the City-MTA Railyards Agreement, the Corporation has the right to all proceeds from the sale of ERY Transferable Development Rights until it has received an amount equal to \$200 million (*i.e.*, the proceeds of the First Indenture Bonds used to purchase the ERY Transferable Development Rights) plus the amount of interest paid by the Corporation on such First Indenture Bonds (and the portion of Series 2017 Bonds issued to refund such First Indenture Bonds). The MTA has the right to all additional proceeds realized from the sale of ERY Transferable Development Rights.

HYIC adopted a pricing policy for the sale of ERY Transferable Development Rights (the “ERY TDR Pricing Policy”), which policy, as has been and may be amended from time to time, is to remain in effect until the MTA has elected to assume control of dispositions of ERY Transferable Rights pursuant to the City-MTA Railyards Agreement. Pursuant to the ERY TDR Pricing Policy, the price per square foot of ERY Transferable Development Rights is currently equal to 65% (or such other percentage as later established by HYDC with the consent of the Corporation) of the final appraised value per square foot of zoning floor area of the fee of the receiving parcel, which price will not require MTA approval provided that such price meets a certain minimum threshold price as set forth in the ERY TDR Pricing Policy.

To date, HYDC has completed five ERY Transferable Development Rights transactions totaling approximately 839,000 square feet and yielding proceeds to the Corporation of approximately \$189.7 million. As of April 30, 2017, the remaining value of the ERY Transferable Development Rights to which the Corporation is entitled is \$103.2 million.

Payments In Lieu of Mortgage Recording Taxes

The Project Area UTEP provides an IDA exemption, to the extent permitted by law, from the mortgage recording tax with respect to any mortgage securing construction or permanent financing for UTEP Eligible Commercial Projects in the Project Area. However, the Project Area UTEP requires the recipient of such exemption to make a payment in lieu of the mortgage recording tax (“PILOMRT”) in an amount equal to 100% of the exempted amount of the mortgage recording tax. In addition, pursuant to the City-MTA Railyards Agreement, the City and the MTA have agreed that with respect to PILOMRTs in any and all leasehold dispositions of development sites within the ERY or WRY, the MTA shall require PILOMRT to be paid in an amount equal to 100% of the mortgage recording taxes that would otherwise be payable under the law existing at the time of the recording of the mortgage.

Pursuant to the City-MTA Railyards Agreement, the City agreed that the MTA will retain the portion of the PILOMRT it is entitled to under existing mortgage recording tax laws, and the remaining PILOMRT will be paid, and is assigned, to the Corporation, until such time the Corporation directs that such PILOMRT payment be made to the City. Pursuant to the IDA Assignment Agreement, the IDA and the City assigned to the Corporation their respective interests in the portion of the PILOMRT that the City is entitled to receive (i.e., excluding that portion of the PILOMRT granted to or retained by the MTA pursuant to the City-MTA Railyards Agreement). The IDA and the City have each agreed in the IDA Assignment Agreement that any such PILOMRT resulting from an IDA exemption received by the IDA or the City will be promptly paid to the Corporation or the Second Indenture Trustee (and while First Indenture Bonds are outstanding, to the First Indenture Trustee).

Pursuant to current State law, the mortgage recording tax applicable to a mortgage on commercial real estate in the Project Area is calculated at the rate of $2.80 for each $100, or major fraction thereof, of the principal amount of the mortgage where the mortgage is $500,000 or more. Commencing July 1, 2017, the IDA will no longer have statutory authority to exempt the portion of the mortgage recording tax imposed by State Tax Law Section 253(2). After such date, for any mortgage of $500,000 or more for which the IDA provides an exemption, the PILOMRT will be reduced from $2.80 to $2.50 for each $100, or major fraction thereof, of the principal amount of such mortgage. Accordingly, commencing July 1, 2017, with respect to UTEP Eligible Commercial Projects in the ERY for which the IDA is providing an exemption, the MTA will receive approximately 25% of the $2.50 for each $100, or major fraction thereof, of PILOMRTs made, reflecting the amount of the exempted mortgage recording tax which the MTA or its affiliates would generally receive under State law, and for the remaining PILOMRT, approximately $1.875 per $100, or major fraction thereof, will be promptly paid to the Corporation or the Second Indenture Trustee (and while First Indenture Bonds are outstanding, to the First Indenture Trustee).

For all leasehold dispositions of development sites within the ERY or WRY for which the MTA is providing a mortgage recording tax exemption, the MTA will retain such portion of the PILOMRT equal to the percentage of mortgage recording tax which the MTA and its affiliates generally receive under State law, which is currently approximately 33% of the $2.80 for each $100, or major fraction thereof, of the principal amount of the mortgage, and for the remaining PILOMRT, approximately $1.875 per $100, or major fraction thereof, will be promptly paid to the Corporation or at the Corporation's direction, to the City.

Interest Support Payments

The Corporation expects to generate sufficient Revenues from development in the Project Area to pay the principal and interest when due on the HYIC Bonds. In the event such Revenues are not sufficient to pay debt service on both the Series 2012A Bonds and the Series 2017 Bonds on any interest payment date and to fund the then unfunded Corporation Expenses for the then current Fiscal Year (the "Debt Service Deficiency"), the Corporation expects that it will receive from the City Interest Support Payments in an amount equal to the lesser of such Debt Service Deficiency and the interest payable on such interest payment date on all outstanding Supported Bonds, (other than Funded Bonds (as defined in Appendix A herein)) whether issued under either the First Indenture or the Second Indenture. In no event, however, will Interest Support Payments in connection with any interest payment date exceed the interest payable on all then outstanding Supported Bonds (other than Funded Bonds). The commitment of the City to make such Interest Support Payments continues as long as any Supported Bonds are outstanding.

Interest Support Payments made in connection with First Indenture Bonds will be paid directly to the First Indenture Trustee, and Interest Support Payments made in connection with Second Indenture Bonds will be made directly to the Second Indenture Trustee. Interest Support Payments made to the Second Indenture Trustee will be deposited in the Supported Bond Interest Subaccount of the Debt Service Account, up to the lesser of the Debt Service Deficiency and the interest payable on the Second Indenture Bonds that are Supported Bonds on such interest payment date. The balance of such Interest Support Payments, if any, will be deposited in the Debt Service Account up to the amount sufficient, together with all other money in the Debt Service Account (including the Supported Bonds Interest Subaccount), to pay the debt service due on the Outstanding Second Indenture Bonds (other than Funded Bonds) on the next succeeding Interest Payment Date.

The Support and Development Agreement obligates the City, subject to annual appropriation, to pay Interest Support Payments to the Corporation not later than four business days prior to each interest payment date on Supported Bonds, including the First Indenture Bonds and the Series 2017 Bonds. It also requires the Mayor of the City to include in the expense budget submitted each Fiscal Year to the City Council for the succeeding Fiscal Year an amount, taking into account expected Revenues of the Corporation, sufficient to make the Interest Support Payments project to be required to be made in such subsequent Fiscal Year. No Interest Support Payments were required in Fiscal Years 2016 and 2017. The Corporation does not expect such payments will be required in future Fiscal Years.

INTEREST SUPPORT PAYMENTS ARE SUBJECT TO ANNUAL APPROPRIATION BY THE CITY AND TO THE AVAILABILITY OF MONEY FOR SUCH PAYMENTS. THE SUPPORT AND DEVELOPMENT AGREEMENT AND THE CITY'S OBLIGATION TO MAKE SUCH PAYMENTS DO

NOT CONSTITUTE DEBT OF THE CITY UNDER OR WITHIN THE MEANING OF THE STATE CONSTITUTION OR THE LOCAL FINANCE LAW OF THE STATE. THE CITY IS NOT LEGALLY REQUIRED TO MAKE ANNUAL APPROPRIATIONS FOR SUCH PAYMENTS. THE ABILITY OF THE CITY TO MAKE INTEREST SUPPORT PAYMENTS UNDER THE SUPPORT AND DEVELOPMENT AGREEMENT MAY DEPEND ON THE FINANCIAL CONDITION OF THE CITY. SEE APPENDIX D FOR INFORMATION ABOUT THE CITY.

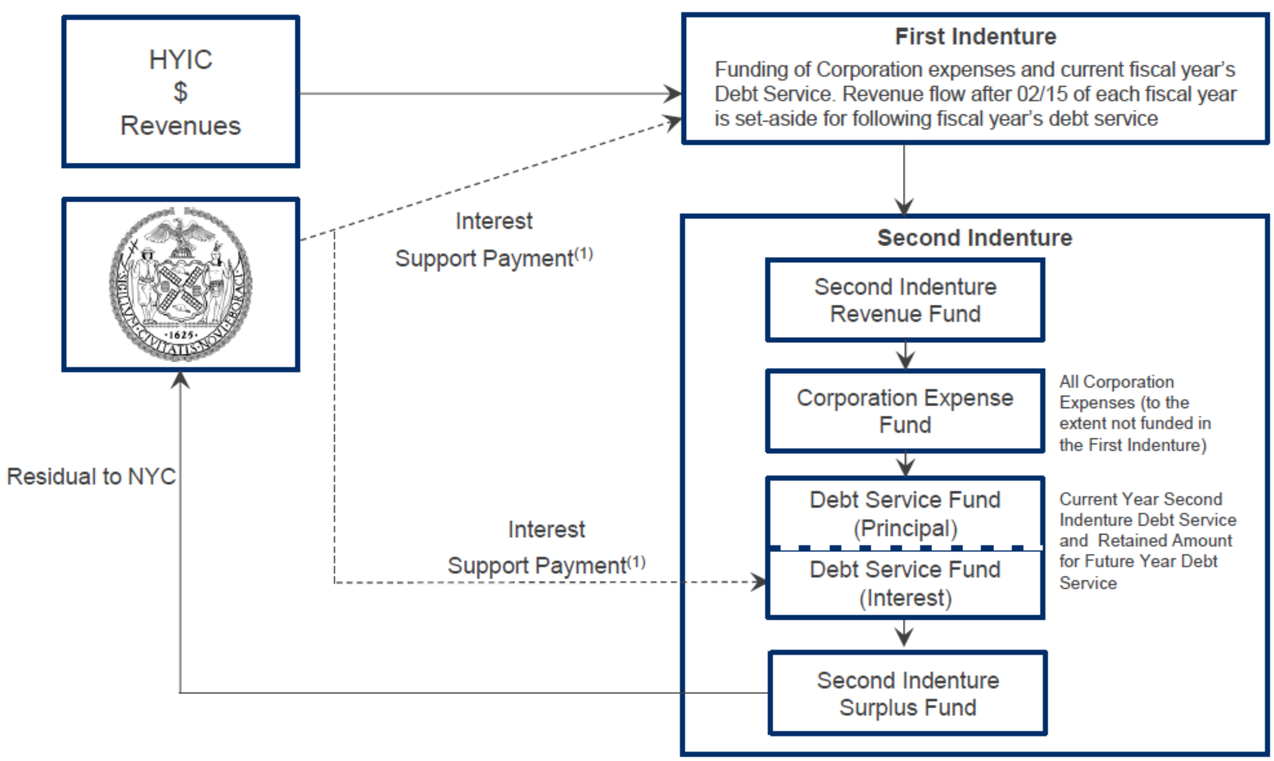
If on any interest payment date the debt service on all outstanding HYIC bonds payable on such interest payment date, together with the then unfunded Corporation Expenses for the then current Fiscal Year, exceeds the Revenues available to pay such debt service and Corporation Expenses by an amount that is greater than the interest payable on the Supported Bonds, a Payment Default may occur.

Funds and Accounts

The Second Indenture has created specific funds and separate accounts within the funds to be held and maintained by the Second Indenture Trustee as security for the payment of the principal and Redemption Price of and interest on the Corporation's Second Indenture Bonds, including the Series 2017 Bonds. These funds include: (i) the Revenue Fund; (ii) the Construction Fund; and (iii) the Debt Service Fund. Except as provided in the Second Indenture, all money at any time deposited in any of such funds will be held in trust for the benefit of the holders of the Corporation's Second Indenture Bonds, including the Series 2017 Bonds, but will nevertheless be disbursed, allocated and applied solely for the uses and purposes as described under the Second Indenture. The Surplus Fund and the Corporation Expense Fund created under the Second Indenture are not pledged as security for the payment of the Second Indenture Bonds.

Application of Revenues

Set forth below is a chart showing the flow of funds for Revenues received by the Corporation unless a Payment Default has occurred:



(1) As per the Support and Development Agreement among the City, HYIC and HYDC, if necessary

First Indenture

Revenues received by the Corporation during a Fiscal Year, absent a Payment Default under the First Indenture, will be applied by the First Indenture Trustee to fund the current Fiscal Year Corporation Expenses and Debt Service. In addition, any Revenues received by the Corporation after February 15 of each Fiscal Year will be set aside for the payment of the following Fiscal Year's Debt Service on First Indenture Bonds. Revenues received by the Corporation in excess of such amounts will be deposited into the Surplus Fund established under the First Indenture (the "First Indenture Surplus Fund"). Money in the First Indenture Surplus Fund will be transferred to the Second Indenture Trustee pursuant to irrevocable instructions from the Corporation to the First Indenture Trustee as more particularly described below. The Corporation has covenanted in the Second Indenture not to amend, rescind or otherwise waive compliance with the provisions of such instruction in any manner that adversely affects in any material respect the ability of the Corporation to pay Debt Service on the Outstanding Second Indenture Bonds as due and payable.

Revenues received by the Corporation during a Fiscal Year after the occurrence of a Payment Default under the First Indenture will be applied by the First Indenture Trustee to pay Corporation Expenses and interest payable on the First Indenture Bonds on each Interest Payment Date. All remaining Revenues will be applied to redeem First Indenture Bonds on each February 15 until such First Indenture Bonds are paid in full. Accordingly, no Revenues (other than Interest Support Payments with respect to the Series 2017 Bonds) would be available to pay debt service or to redeem Second Indenture Bonds until First Indenture Bonds are no longer outstanding. However, during a Payment Default under either the First Indenture or the Second Indenture, Interest Support Payments will continue to be payable by the City, subject to annual appropriation, in the amount necessary to pay interest on the Second Indenture Supported Bonds.

Second Indenture

Pursuant to the Second Indenture, the Corporation is required to provide irrevocable instructions upon the issuance of the Series 2017 Bonds to the First Indenture Trustee to transfer, during each Fiscal Year, money in the First Indenture Surplus Fund not required to be retained therein by the provisions of the First Indenture, as deposited therein, to the Second Indenture Trustee for deposit to the Second Indenture Revenue Fund established under the Second Indenture.

The Revenues (other than Interest Support Payments that are to be deposited as hereinafter provided below) received during a Fiscal Year will, if no Payment Default has occurred, be applied by the Second Indenture Trustee to the funds and accounts established under the Second Indenture in the following order of priority:

First: To the extent not funded under the First Indenture, to the Corporation Expense Fund, the amount required to make the amount deposited therein during such Fiscal Year equal to the amount of Corporation Expenses certified by the Corporation for such Fiscal Year;

Second: To the Debt Service Account of the Debt Service Fund, the amount required (i) to pay the Debt Service remaining to be paid during the then current Fiscal Year on Outstanding Bonds, (ii) to pay Hedge Agreement Payments and principal of and interest on any Parity Reimbursement Obligations as the same is due and payable during such Fiscal Year, and (iii) to maintain in the Debt Service Account the Future Year Debt Service Requirement; and

Third: To the Surplus Fund, the balance of such Revenues for application to any corporate purpose of the Corporation, including, but not limited to, Termination Payments, and payments to the City at such times and in such amounts as may be set forth in the written direction of the Corporation.

For purposes of the foregoing, a Funded Bond is not considered to be an Outstanding Second Indenture Bond as long as it remains a Funded Bond.

Interest Support Payments, up to the lesser of the interest payable on Outstanding Supported Bonds (other than Funded Bonds) on the next succeeding Interest Payment Date and the Debt Service Deficiency on the day of such deposit, will be deposited in the Supported Bond Interest Subaccount of the Debt Service Account. The balance of such Interest Support Payments, if any, will be deposited directly in the Debt Service Account up to the amount sufficient, together with the other money then therein, to pay the Debt Service payable on Outstanding Bonds (other than Funded Bonds) on the next succeeding Interest Payment Date.

The Second Indenture Trustee is required to pay from the Debt Service Account the following amounts and in the following order of priority:

> First: the principal and Sinking Fund Installments of all Outstanding Second Indenture Bonds (other than Funded Bonds) and the principal of any Parity Reimbursement Obligations related to Second Indenture Bonds, in each case as the same is due and payable;
>
> Second: the interest on Outstanding Second Indenture Bonds (other than Funded Bonds) that are Supported Bonds, including from money on deposit in the Supported Bond Interest Subaccount; and
>
> Third: the interest on Outstanding Second Indenture Bonds that are not Supported Bonds or Funded Bonds, the interest on Parity Reimbursement Obligations relating to Second Indenture Bonds, and Hedge Agreement Payments, *pro rata*, as the same become due and payable.

Future Year Debt Service Requirement. The Future Year Debt Service Requirement will be determined by the Corporation and certified to the Second Indenture Trustee not later than June 30th of each Fiscal Year as the amount required to be retained in the Debt Service Account during the next succeeding Fiscal Year for the payment of Debt Service on Outstanding Second Indenture Bonds (other than Funded Bonds) payable in the second succeeding Fiscal Year. Such amount is to be determined by the Corporation as follows: (a) projected Debt Service on such Second Indenture Bonds in the second succeeding Fiscal Year, less (b) the amount projected to be available in the Debt Service Account as of July 1 of the second succeeding Fiscal Year, less (c) Recurring Revenues projected to be received by the Corporation during the second succeeding Fiscal Year available for Debt Service on such Second Indenture Bonds; taking into account in each case, the projected receipt dates for the revenues and payment dates for the obligations.

The Corporation may at any time and from time to time during the Fiscal Year next succeeding such certification amend such determination and recertify to the Second Indenture Trustee the Future Year Debt Service Requirement.

The Revenues received on and after a Payment Default are to be applied by the Second Indenture Trustee in the following order of priority:

> First: Interest Support Payments received by the Second Indenture Trustee will, up to the amount of interest coming due during the then current Fiscal Year on Outstanding Second Indenture Bonds that are Supported Bonds, be deposited in the Supported Bond Interest Subaccount and applied to pay the interest on Outstanding Second Indenture Bonds that are Supported Bonds;
>
> Second: To the extent not funded under the First Indenture, to the Corporation Expense Fund, the amount required to make the amount deposited therein during such Fiscal Year equal to the Corporation Expenses for such Fiscal Year; and
>
> Third: To the Redemption Account, the balance of such Revenues for application in the following priority (i) *first*, to the payment to the registered owners of the Outstanding Second Indenture Bonds, interest on all arrears in payment of the principal of or interest on Outstanding Second Indenture Bonds at the respective rates of interest specified in such Second Indenture Bond, *pro rata* based upon the amount of principal and interest payable to each such registered owner, (ii) *second*, on each Interest Payment Date, to the interest due and past due on such Interest Payment Date on all Outstanding Second Indenture Bonds (including interest on Second Indenture Bonds that are Supported Bonds not paid from money in the Supported Bond Interest Subaccount), *pro rata* based upon the amount of interest payable to each person entitled thereto and (iii) *third*, to redeem Outstanding Second Indenture Bonds on February 15th of each Fiscal Year, at a Redemption Price equal to 100% of the principal amount of the Second Indenture Bonds to be redeemed, *pro rata* based upon the principal amount of each Outstanding Second Indenture Bonds.

Events of Default

The Second Indenture specifies certain events which, if they occur, will result in an event of default and provides certain remedies in case of an event of default which are discussed below. An event of default will exist under the Second Indenture if:

(a) payment of the principal or Sinking Fund Installment of or interest on any Second Indenture Bond is not made by the Corporation when the same is due and payable; or

(b) with respect to a Tax-Exempt Bond, there has been a Determination of Taxability, as defined in the Second Indenture; or

(c) an event of default under and within the meaning of the First Indenture has occurred; or

(d) the Corporation defaults in the due and punctual performance of any other of the covenants, conditions, agreements and provisions contained in the Second Indenture or in the Second Indenture Bonds or in any Supplemental Indenture on the part of the Corporation to be performed and such default continues for 30 days after written notice specifying such default and requiring same to be remedied has been given to the Corporation by the Second Indenture Trustee, which may give such notice in its discretion and must give such notice at the written request of the Holders of not less than 25% in principal amount of the Outstanding Second Indenture Bonds, unless, if such default is not capable of being cured within 30 days, the Corporation has commenced to cure such default within said 30 days and diligently prosecutes the cure thereof; or

(e) the Corporation (1) is generally not paying its debts as they become due, (2) commences a voluntary case or other proceeding seeking liquidation, reorganization, dissolution, rehabilitation or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law now or hereafter in effect or seeking the appointment of a trustee, receiver, liquidator, custodian or other similar official of it or any substantial part of its property, or consents to any such relief or to the appointment of or taking possession by any such official in an involuntary case or other proceeding commenced against it, (3) makes a general assignment for the benefit of its creditors, (4) declares a moratorium or (5) takes any corporate action to authorize any of the foregoing; or

(f) a trustee in bankruptcy, custodian or receiver for the Corporation or any substantial part of its property has been appointed and the same has not been discharged within 60 days after such appointment.

Upon the happening and continuance of any event of default specified in the provisions of the Second Indenture described above, other than a Payment Default, then and in every such case, the Second Indenture Trustee may proceed, and upon the written request of the Holders of not less than a majority in principal amount of the Outstanding Second Indenture Bonds or, in the case of a happening and continuance of an event of default specified in paragraph (b) above, upon the written request of the Holders of not less than a majority in principal amount of the Outstanding Second Indenture Bonds of the Series affected thereby, must proceed (subject to the provisions of the Second Indenture), to protect and enforce its rights and the rights of the Bondholders under the Second Indenture or under any Supplemental Indenture or under the laws of the State by such suits, actions or special proceedings in equity or at law, either for the specific performance of any covenant contained in the Second Indenture or under any Supplemental Indenture or in aid or execution of any power therein granted, or for an accounting against the Corporation as if the Corporation were the trustee of an express trust, or for the enforcement of any proper legal or equitable remedy as the Second Indenture Trustee deems most effectual to protect and enforce such rights, including the enforcement of its rights and remedies, as assignee, under any Agreement assigned to it.

In the enforcement of any remedy under the Second Indenture and under each Supplemental Indenture, the Second Indenture Trustee is entitled to sue for, enforce payment of, and receive any and all amounts then, or during any default becoming, and at any time remaining, due from the Corporation for principal or interest or otherwise under any of the provisions of the Second Indenture or of any Supplemental Indenture or of the Second Indenture Bonds, with interest on overdue payments of the principal of or interest on the Second Indenture Bonds at the rate or rates of interest specified in such Second Indenture Bonds, together with any and all costs and expenses of collection and of all proceedings under the Second Indenture and under any Supplemental Indenture and under such Second Indenture Bonds, without prejudice to any other right or remedy of the Second Indenture Trustee or of the Holders of such Second Indenture Bonds, and to recover and enforce judgment or decree against the Corporation but solely as provided in the Second Indenture, in any Supplemental Indenture and in such Second Indenture Bonds, for any portion of such amounts remaining unpaid, with interest, costs and expenses, and to collect in any manner provided by law, the money adjudged or decreed to be payable.

In no event, however, may the Second Indenture Trustee or any Bondholder declare the principal of any Second Indenture Bond or the interest thereon immediately due and payable other than in accordance with its terms.

In any calculation of the principal amount of Outstanding Second Indenture Bonds for any purpose required or permitted with respect to the foregoing, no Funded Bond shall be considered to be Outstanding and no Holder of a Funded Bond may exercise any right to give any consent or direction required or permitted with respect to the foregoing.

Additional Bonds

Following the issuance of the Series 2017 Bonds, no additional First Indenture Bonds may be issued (nor any Hedge Agreements or Parity Reimbursement Obligations relating thereto).

As described herein, the costs of the Project are expected to exceed remaining bond proceeds of the Corporation by approximately $96 million, as further described in "SECTION II: THE PROJECT." Such amounts are expected to be needed over the next two years. Under the Second Indenture, the Corporation may issue additional Second Indenture Bonds as "Completion Bonds," with a principal amount not to exceed $150 million in the aggregate for the purpose of paying unfunded project costs for completion of the Subway Extension and the Hudson Park and Boulevard. The amounts may be financed by the issuance of additional Second Indenture Bonds by the Corporation, which, could be Supported Bonds, subject to approval of the City Council, or Unsupported Bonds. Such amounts may also be financed by the City, subject to the City budget process. See "APPENDIX A – CERTAIN DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE SECOND INDENTURE."

Additional Second Indenture Bonds may also be issued to finance future improvements to, or expansion of, the Subway Extension and the Hudson Park and Boulevard.

The Corporation may not issue additional Second Indenture Bonds supported by Interest Support Payments, other than the Series 2017 Bonds and any other Second Indenture Bonds that may be issued to refund outstanding Supported Bonds, unless the City is authorized by City Council resolution to pay, and the Support and Development Agreement provides for the payment of, Interest Support Payments on the principal amount of HYIC Bonds that would be supported by Interest Support Payments after issuance of such additional amount of HYIC Bonds. However, the aggregate amount of Supported Bonds issued, exclusive of the Series 2017 Bonds and future Second Indenture Bonds issued to refund Supported Bonds, may not exceed $500 million. Other Second Indenture Bonds, which may be bonds for which Interest Support Payment will not be made (the "Unsupported Bonds"), may be issued without limitation as to amount upon compliance with the tests described below, as applicable.

Except for Completion Bonds and certain refunding Second Indenture Bonds described in clause (b) of the next paragraph, additional Second Indenture Bonds may be issued if the amount of the Net Recurring Revenues for the immediately preceding Fiscal Year for which audited financial statements of the Corporation are available is at least equal to 125% of the Maximum Annual Debt Service on First Indenture Bonds and Second Indenture Bonds Outstanding, in each case exclusive of Funded Bonds, after giving effect to the Second Indenture Bonds then to be issued (the "Debt Service Coverage Test").

The Second Indenture also permits additional Second Indenture Bonds, to be issued for the refunding of First Indenture Bonds or Second Indenture Bonds if (a) such refunding bonds meet the requirements of the Debt Service Coverage Test, or (b) Maximum Annual Debt Service on all Second Indenture Bonds and First Indenture Bonds Outstanding, in each case exclusive of Funded Bonds, after giving effect to the issuance of such refunding bonds is not greater than Maximum Annual Debt Service on all Second Indenture Bonds and First Indenture Bonds immediately preceding issuance of the refunding bonds. See "APPENDIX A – CERTAIN DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE SECOND INDENTURE."

SECTION VI: HUDSON YARDS DEMAND AND DEVELOPMENT REPORT

The Corporation retained Cushman & Wakefield, Inc. ("C&W") to produce a Hudson Yards Demand and Development Report, attached hereto as Appendix E (the "C&W 2017 Report"), which studied development activity in the Project Area from 2006 through December 31, 2016 and forecasted real estate market fundamentals and development in the Project Area over a 31-year period (2017-2047) in order to permit the City's Office of Management and Budget ("OMB") to prepare a projection of real estate related revenues available to the Corporation during the period HYIC Bonds will be outstanding. In addition, C&W reviewed the reasonableness of OMB's projected real estate related revenues from the Project Area. Unless otherwise stated, the years described in this section are in calendar years. Generally, in the context of any completions forecast, the years described are Fiscal Years.

This section contains information from the C&W 2017 Report regarding development activity in the Project Area from 2006 through December 31, 2016 and C&W's real estate demand forecast from Fiscal Year 2017 through 2047 for the Project Area. This section is not a summary of the C&W 2017 Report and only select information pertaining to the development of the Project Area and real estate demand forecast has been included herein. Prospective investors should read the C&W 2017 Report in its entirety, paying specific attention to the respective assumptions and limitations described therein. The conclusions of the C&W 2017 Report are premised on numerous assumptions (including, without limitation, there being no change to the Project Area Zoning Regulations and no significant changes to City zoning to create new markets that would be competitive to the Project Area), limitations, reliances, and limiting conditions described throughout the C&W 2017 Report. In the event that assumptions or reliances upon which the C&W 2017 Report are premised prove to be incorrect, the Corporation may not receive the Revenues in the amounts or at the times expected. Additional risks exist which may cause the Revenues not to be realized in the amounts or at the times projected. See "SECTION IX: RISK FACTORS." Potential risks arising from unforeseen economic, political and fiscal policy changes or events are not accounted for in the real estate demand forecasts.

All the statements in this section, except as noted herein, were sourced from the C&W 2017 Report. In some instances, however, the appearance of the tables in this section may differ in appearance from the corresponding table in the C&W 2017 Report. Any statement in this section is qualified by reference to the entire C&W 2017 Report attached hereto.

THE INFORMATION CONTAINED IN THIS "SECTION VI: HUDSON YARDS DEMAND AND DEVELOPMENT REPORT" AND INFORMATION CONTAINED IN THE C&W 2017 REPORT WAS PROVIDED BY C&W AND HAS NOT BEEN INDEPENDENTLY VERIFIED BY THE CORPORATION.

C&W and its affiliates and alliance partners constitute one of the largest international real estate service providers with over 300 offices in 60 countries across the world. C&W represents clients in the buying, selling, financing, leasing, managing and valuing of assets, and provides strategic planning and research, portfolio analysis, site selection and space location, among other advisory services. From time to time, C&W and its affiliates may have provided and in the future may provide or seek to provide real estate related services to private entities developing in the Project Area, the Corporation, HYDC or the City.

In forecasting the future demand for real estate, C&W relied upon and assumed the correctness of a certain economic and demographic forecast for a 40-year period provided by Moody's Analytics, Inc. ("Moody's Analytics")[1] which is set forth in Chapter 2 of the C&W 2017 Report. Moody's Analytics forecast that the national and regional (including the City's) economies are projected to experience a recession every nine years, similar in length and magnitude to the average of the three most recent recessions in calendar years 1990-1991, 2001 and 2007-2009. Moody's Analytics expects that the first of these recessions will begin in the second half of calendar year 2019, with three subsequent recessions to begin in calendar years 2029, 2038 and 2048. Additional assumptions and limitations made by C&W and Moody's Analytics are described in the C&W 2017 Report. C&W also relied on historical tax revenue data provided by HYDC and the NYCDOF and the Corporation, to develop current market valuations and future property value growth.

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[1] Moody's Analytics is an independent provider of data, analysis, modeling, and forecasts on national and regional economies, financial markets and credit risk, and is an affiliate of Moody's Investors Service.

Overview

Since a 2005 rezoning affecting the Project Area, substantial real estate development activity has transformed the Project Area into a growing mixed-use district in the western portion of midtown Manhattan. The Project Area now contains office, residential, hotel, and retail properties, along with a park, all served by mass transportation. Major developers have invested and are actively investing in the Project Area, including The Related Companies ("Related"), Oxford Properties Group ("Oxford"), Brookfield Properties ("Brookfield"), Tishman Speyer, The Moinian Group ("Moinian"), and Extell.

As shown in Exhibit 6-1 below, from Fiscal Year 2005 through Fiscal Year 2016, approximately 11.3 million square feet ("msf") of new properties have been completed in the Project Area for office, residential, hotel, and retail uses. An additional 39.8 msf of new development is forecasted to be completed from Fiscal Year 2017 through Fiscal Year 2047 (the "Forecast Period").

Exhibit 6-1: Project Area Square Footage (msf) Completions and Forecast

	Completed (2006-2016)	Forecast (FY2017-2047)
Office	1.9	23.5
Residential*	7.6	12.1
Hotel	1.8	2.4
Retail	0.0	1.8
Total	11.3	39.8

* Excludes renovations and projects substantially completed at time of rezoning totaling 0.8 msf.

Source: Moody's Analytics, Cushman & Wakefield, Inc.; Smith Travel Research.

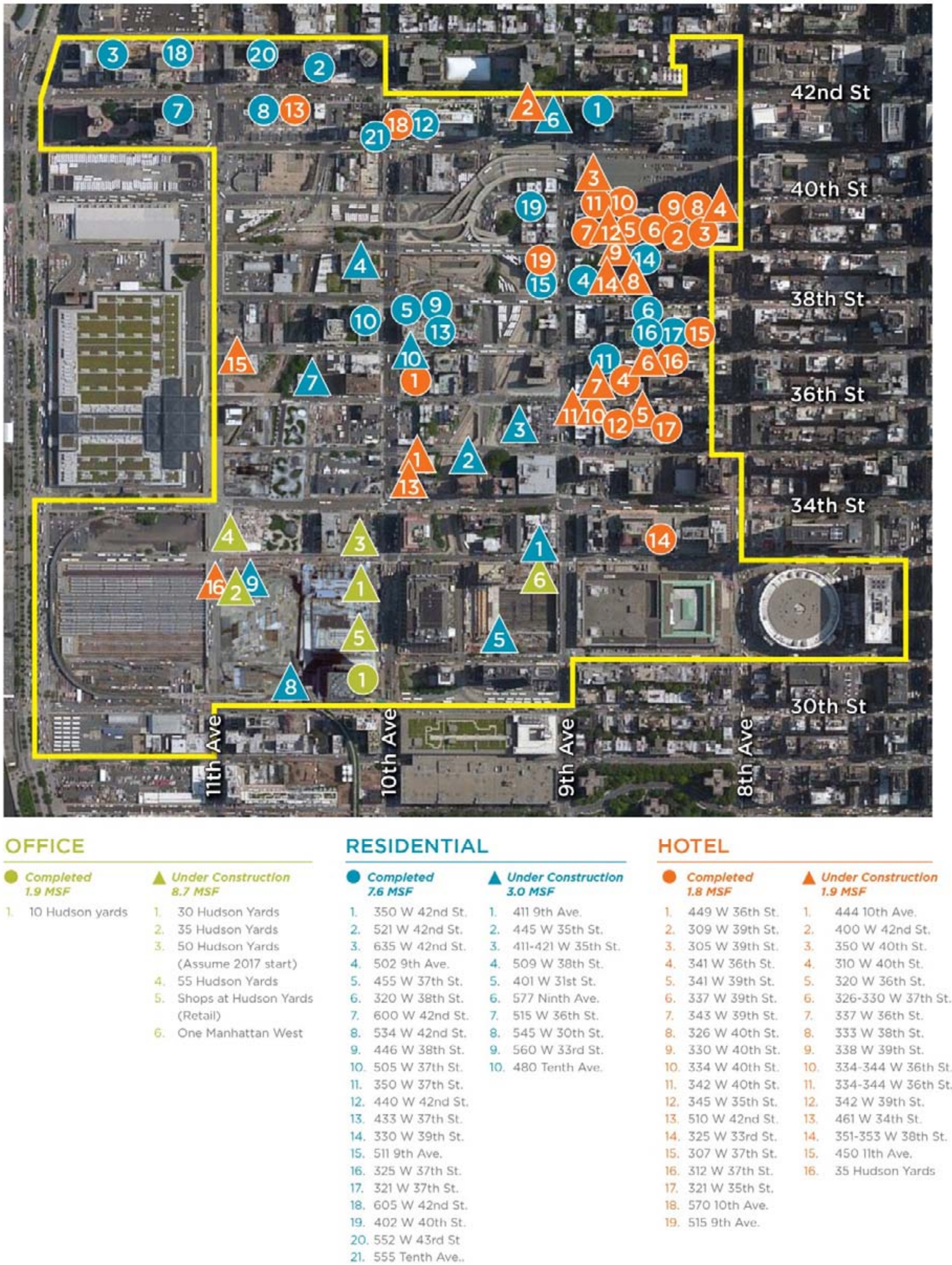
Note: Sums may not add up due to rounding.

The first completion of an office building in the Project Area took place in 2016 with the opening of 10 Hudson Yards, a 1.9 msf tower tenanted, among others, by Coach, Inc. and The Boston Consulting Group. Three additional office towers with approximately 5.9 msf are under construction with expected completions in 2019 and 2020. Residential development has seen 21 new or rehabilitated properties completed, totaling approximately 7.6 msf and resulting in approximately 7,850 units of rental and condominium residences brought to market. Hotel development had 19 new properties completed, totaling 1.8 msf and added approximately 4,200 rooms for hotel use. Retail construction in the Project Area has generally consisted of ancillary spaces within the new office, residential and hotel buildings, consistent with typical retail development in Manhattan. Moreover, substantial additional construction in the Project Area is underway, planned or expected.

Based on information provided to C&W by HYDC, the total development capacity of the district is approximately 52 msf. C&W has analyzed the large sites in the Project Area and determined that there is sufficient capacity to accommodate the office space demand forecast of approximately 23.5 msf, which includes properties under construction and future development. The residential housing demand forecast of approximately 12.1 msf and 9,138 units includes properties under construction and future development with the forecast period ending in Fiscal Year 2028. The forecast of residential completions is suspended after Fiscal Year 2028 due to the anticipated attainment of maximum residential zoning capacity in Project Area. Hotel demand forecast of approximately 2.4 msf and 4,888 rooms includes properties under construction and future hotel development with the forecast period ending in Fiscal Year 2039, when completions are expected to substantially reach the hotel development zoning capacity permissible under the Project Area Zoning Regulations.

Both completed and under construction properties in the Project Areas as of December 2016 are identified in Exhibit 6-2 below. C&W's map of Project Area development activity illustrates the 41 properties that been completed and an additional 32 properties that are under construction. It should be noted that in Exhibit 6-2 below, 50 Hudson Yards, while listed as under construction, due to BlackRock's intention to lease 850,000 sf of the building, is not expected to begin construction until late 2017. Additionally, the IDA has authorized the execution and delivery of an agreement providing for IDA PILOT Payments but such agreement has yet to be entered into. In this section and in SECTION VIII: PROJECTED REVENUES herein, projected revenues from 50 Hudson Yards have been categorized as future office development.

Exhibit 6-2: Map of Developments in the Project Area as of December 2016



Source: Cushman & Wakefield, Inc.

Notes: 1. As discussed on the prior page, 50 Hudson Yards (listed as No. 3 in the Office, Under Construction category) has not yet begun physical construction. See "Office Development – *Proposed Office Development*."

2. 35 Hudson Yards (also known as 560 West 33rd Street) is expected to be a mixed-use property comprised primarily of residential and hotel uses, along with a small amount of office, and is listed above in each of the categories as Under Construction.

Office Development

The Project Area has emerged as a new location for modern office skyscrapers in midtown Manhattan. New office development has attracted a diversity of tenants to the Project Area. Large media, fashion, technology, financial, and legal firms, as well as smaller tenants have moved into or signed leases for completed and under construction buildings in the Project Area. To date, approximately 7.8 msf[1] of office buildings are completed or under construction as shown in Exhibit 6-3 below.

In May 2016, the first large office tower, 10 Hudson Yards, with approximately 1.9 msf was completed. Three additional office buildings totaling approximately 5.9 msf are currently under construction and expected to be complete by 2020. An additional building, 50 Hudson Yards, is expected to start construction in 2017. As shown in Exhibit 6-3 below, 50 Hudson Yards at 2.6 msf is anticipated to be one of the largest office properties in the Project Area.

Exhibit 6-3: Project Area Office Development as of December 2016

Completed	**Office Area (sf)**	**Anticipated Completion Date**
10 Hudson Yards	1,892,842	Completed
<u>Under Construction</u>		
30 Hudson Yards	2,728,458	2019
55 Hudson Yards	1,269,852	2019
One Manhattan West	1,908,301	2020
Total Under Construction	5,906,611	
Total Completed and Under Construction	7,799,453	
<u>Future Development</u>		
50 Hudson Yards	2,623,294	2022
Total Office Buildings	10,422,747	

Source: Cushman & Wakefield, Inc.

Note: Exhibit 3-1 of the C&W 2017 Report shows 35 Hudson Yards in the table, which has been excluded herein since only a portion of the building will be used as office space. The building will primarily be a residential and hotel tower and will pay property taxes directly to the City resulting in Tax Equivalency Payments instead of PILOT Payments.

In addition to the under construction and future development projects described above in Exhibit 6-3, which shows an expected completion of approximately 8.5 msf of office space, C&W projects an additional 14.9 msf of office completions by Fiscal Year 2047, for a total projected 23.5 msf of office completions by Fiscal Year 2047. See "Office Completion Forecast."

Each of the properties above, except for 50 Hudson Yards, has entered into IDA PILOT Agreements, pursuant to which each office building, once completed, will make PILOT Payments directly to the Corporation instead of paying property taxes to the City. See "SECTION V: SECURITY AND SOURCES OF PAYMENT OF BONDS – Recurring Revenues." Additionally, The Shops and Restaurants at Hudson Yards ("The Shops and Restaurants"), a retail complex under construction adjacent to 30 Hudson Yards site, has entered into a separate IDA PILOT Agreement.[2] The Recurring Revenues from the PILOT Payments of the four properties and The Shops and Restaurants are discussed in "SECTION VIII: PROJECTED REVENUES - Projected Recurring Revenues from Existing Development."

[1] C&W 2017 Report shows 7.9 msf of new and under construction buildings, which includes 130,632 sf in 35 Hudson Yards.

[2] Source: Amended and Restated Agency Lease Agreement dated as of December 1, 2015, by and between the IDA and ERY Retail Podium LLC, relating to The Shops and Restaurants.

Completed Office Buildings

10 Hudson Yards. The building is also known as 501 West 30th Street and is located at the northwest corner of West 30th Street and Tenth Avenue. 10 Hudson Yards received a certificate of occupancy and officially opened in May 2016. The approximately 1.9 msf tower is 895 feet tall with 52 stories. The tower's tenants include Coach, Inc., L'Oréal USA, SAP, The Boston Consulting Group, VaynerMedia, Intersection and Sidewalk Labs. The building provides direct access to the High Line Park.

Office Buildings Under Construction

30 Hudson Yards. The building is also known as 500 West 33rd Street and is located at the southwest corner of 33rd Street and Tenth Avenue. Construction commenced in July 2015, and is anticipated to be complete by July 2019. At an intended height of approximately 1,270 feet, the 90-story tower is planned for commercial condominium units, of which approximately (1) 1.4 msf are to be owned and occupied by Time Warner Inc., (2) 343,000 sf are to be owned and occupied by KKR, (3) 500,000 sf are to be owned and occupied by Wells Fargo, (4) 259,000 sf are to be owned and occupied by affiliates of Related, (5) 45,000 sf are to be owned and occupied by affiliates of Oxford, and (6) the remainder is to be owned and operated by affiliates of Related and Oxford as an observation deck.

The Shops and Restaurants. This large-scale retail center containing approximately 1.0 msf, is adjacent to the office towers of 30 Hudson Yards and 10 Hudson Yards and will be anchored by Neiman Marcus, a Texas-based luxury specialty store. Approximately 60% of the space is leased to other retailers. The Shops and Restaurants is expected to be complete by 2019.

55 Hudson Yards. The 50-story office tower is currently under construction with an estimated completion date in 2019. Developed by Related and Oxford, this 1.3 msf tower is located at the northeast corner of West 33rd Street and Eleventh Avenue. The following major tenants have signed leases: Boies, Schiller & Flexner LLP, Milbank, Tweed, Hadley & McCloy, Point72, and MarketAxess.

One Manhattan West. The 67-story office tower is currently under construction with an estimated completion date in 2020. Developed by Brookfield Properties, this approximately 1.9 msf tower is located at the southwest corner of Ninth Avenue and West 33rd Street. Two major tenants have signed leases: Skadden, Arps, Slate, Meagher & Flom and the National Hockey League, representing 36% of the building's available office space. The tower will be part of a development called Manhattan West, which is expected to include One Manhattan West, Three Manhattan West (completed and known as The Eugene or 401 West 31st Street), a boutique hotel, a 2-acre public plaza, and 240,000 sf of retail and restaurants.

Future Office Development

An additional office tower project, 50 Hudson Yards, has been initiated by Related and Oxford. The development is not yet under construction and has an expected completion in 2022. The planned 62-story building, with over 2.6 msf is to be located at the northwest corner of West 33rd Street and Tenth Avenue spanning an entire city block. The IDA authorized the execution and delivery of an agreement providing for IDA PILOT Payments.[1] BlackRock has signed a letter of intent to occupy 850,000 sf in the building. The developers are expected to require a construction loan for the building's development.

Office Space Completion Forecast

C&W's forecast of office space demand is based on the demand for office space generated by the growth in office-using employment ("OUE"), as provided by Moody's Analytics, and the supply of office space in Manhattan as detailed in the C&W 2017 Report. See "APPENDIX E: CUSHMAN & WAKEFIELD, INC. 2017 REPORT." The pattern of construction completions in Exhibit 6-4 follows Moody's Analytics forecast of OUE, and the cyclical behavior typically associated with Manhattan's real estate markets. C&W concluded that the Project Area is

[1] Source: Minutes of the January 10, 2017 meeting of the Board of Directors of the NYCIDA.

positioned to capture demand for new development to arise from the projected growth in Manhattan's OUE because of both its location in Midtown, its new mass transit access, and expanding neighborhood presence. C&W's demand analysis assumes that the Project Area would capture 38% of Midtown's future office construction.

Manhattan's continued growth of OUE coupled with minimal existing development sites and few large new state-of-the-art office buildings are expected to further increase demand for office space in the Project Area. C&W projects approximately 23.5 msf in office space to be constructed in the Project Area from Fiscal Year 2017 to 2047, as illustrated in Exhibit 6-4, or an annual average of approximately 760,000 sf of new development per year. The forecast office space completions include approximately 5.9 msf of development currently under construction (30 and 55 Hudson Yards and One Manhattan West) and the 2.6 msf at 50 Hudson Yards.

Exhibit 6-4: Projected Annual Office Building Completion in the Project Area

Fiscal Year	Projected Office Completions (sf)
2017	-
2018	-
2019	3,998,310 (1)
2020	1,908,301 (2)
2021	730,780
2022	3,560,822
2023	-
2024	-
2025	-
2026	-
2027	1,449,337
2028	707,326
2029	322,097
2030	537,823
2031	776,072
2032	944,651
2033	-
2034	-
2035	-
2036	1,106,759
2037	1,405,892
2038	426,392
2039	638,362
2040	639,184
2041	1,292,668
2042	-
2043	-
2044	-
2045	-
2046	2,193,908
2047	819,028
Total	**23,457,711**

Source: Cushman & Wakefield, Inc.

Note: Shaded gray bars represent recessionary periods projected by Moody's Analytics. See Chapter II of Appendix E.

(1) Represents 30 Hudson Yards and 55 Hudson Yards.

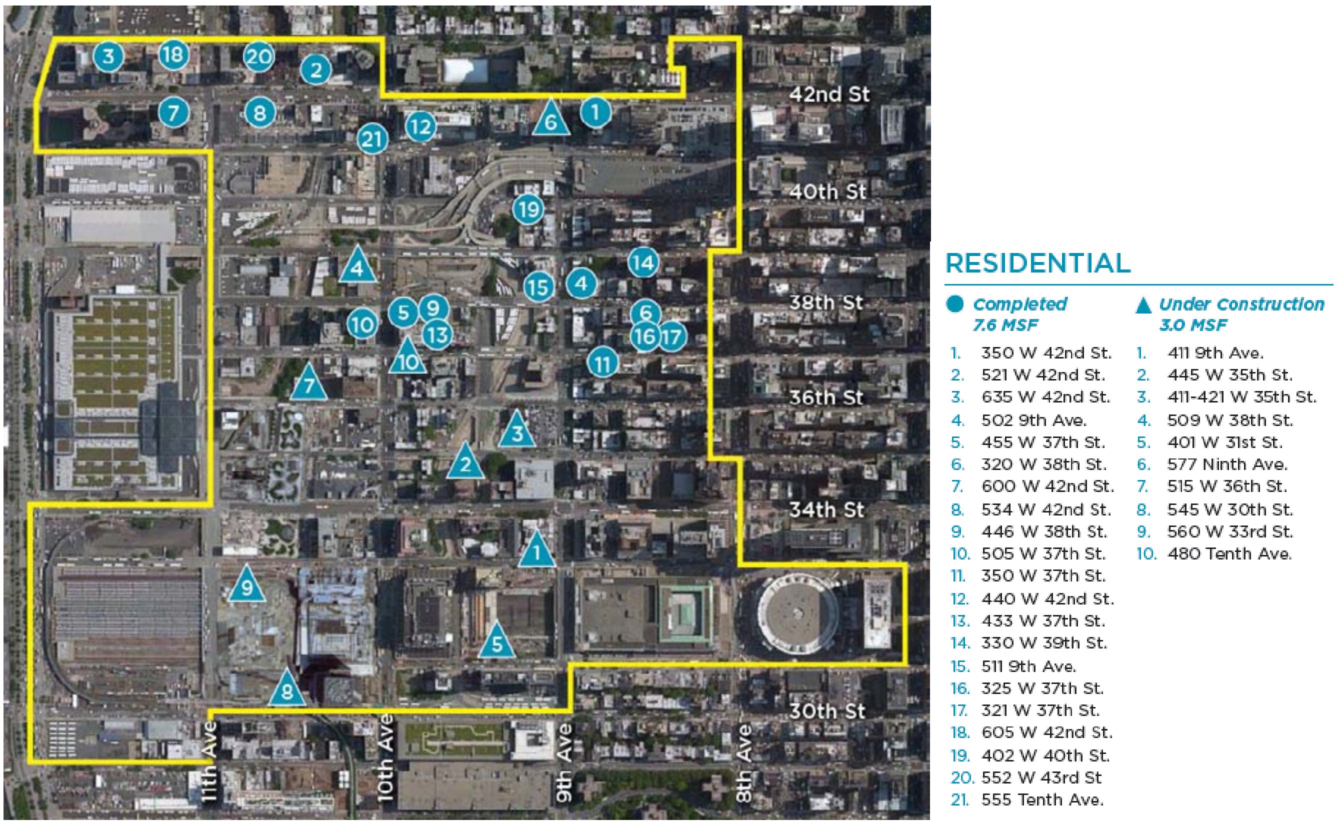
(2) Represents One Manhattan West.

Residential Development

Residential development was the first major new construction undertaken in the Project Area, even before the 2005 rezoning. Between 2005 and 2016, 21 new or renovated residential properties were completed in the Project Area, comprising approximately 7.6 msf and 7,853 units. Exhibit 6-5 below identifies the completed residential properties in the Project Area. An additional 10 properties, totaling over 3.0 msf and 2,317 units, are under construction and identified in Exhibit 6-5.

Tax revenues associated with residential property development will accrue to the Corporation in the form of Tax Equivalency Payments. The revenues from Tax Equivalency Payments are discussed in SECTION VIII: PROJECTED REVENUES.

Exhibit 6-5: Map of Residential Development Activity



Source: Hudson Yards Development Corporation, Cushman & Wakefield, Inc.

Notes: 1. 35 Hudson Yards (No. 9 in Under Construction above) is expected to be used primarily for residential and hotel purposes, and the respective square footage will be counted within each of the respective categories.

2. 401 West 31st Street, listed as under construction, was completed in March 2017.

3. In the Under Construction category above, 445 West 35th Street (No. 2), 411-421 West 35th Street (No. 3), and 401 West 31st Street (No. 5) are no longer under construction and are now complete.

Completed Residential Development

As shown below in Exhibit 6-6, of the 7,853 units completed, approximately 6,276 are rental units and 1,577 are condominium units. Completed projects range from a 57-story luxury high rise to renovations of townhouses. The final column in Exhibit 6-6 indicates the period of years (if any) associated with each property's 421-a tax exemption. See "SECTION V: SECURITY AND SOURCES OF PAYMENT OF BONDS."

Exhibit 6-6: Completed Project Area Residential Development (2003-2016 Third Quarter)

Developer/Owner	Building Name	Address	Use	Square Feet	Total Units	Completion Date (1)	Tax Exemption Periods
JD Carlisle	Olivia (2)	315 W. 33rd St.	Rental	582,270	346	2003	N/A - expired
Equity Residential/Dermot	Hudson Crossings (2)	400 W. 37th St.	Rental	214,594	261	2004	421-a 20 Yrs
Extell	Orion	350 W. 42nd St.	Condo	508,695	555	2005	421-a 10 Yrs
Atlantic Development	Senior Living Options	521 W. 42nd St.	Affordable	94,132	73	2005	420c (3)
Dominique R. Singer		402 West 40th St.	Single Family	3,240	2	2006	N/A
Moinian Group	Atelier	635 W. 42nd St.	Condo	434,119	482	2006	421-a 10 Yrs
David Cohen	38Nine	502 9th Ave.	Condo	28,007	37	2008	421-a 10 Yrs
TF Cornerstone	455W37	455 W. 37th St.	Rental	440,709	399	2008	421-a 20 Yrs
Glenwood Management	Emerald Green	320 W. 38th St.	Rental	718,503	572	2009	421-a 20 Yrs
Silverstein Properties	Silver Towers	600 W. 42nd St.	Rental	1,049,441	1,362	2009	421-a 20 Yrs
Shao Lin Operating LLC	Deuce	534 W. 42nd St.	Condo	8,923	8	2009	421-a 10 Yrs
446 W. 38th Ltd.		446 West 38th St.	Rental	12,400	7	2009	N/A
43rd Partners Group LLC		552 W 43rd St.	Condo	12,030	9	2010	N/A
TF Cornerstone	505W37	505 W. 37th St.	Rental	807,316	839	2010	421-a 20 Yrs
Lalezarian Developers	Townsend	350 W. 37th St.	Rental	170,978	210	2010	421-a 20 Yrs
Related Companies	MiMA	440 W. 42nd St.	Rental/ Condo	1,147,432	972	2011	421-a 10 Yrs & 20 Yrs
Joy Construction/EQR	The Mantena	433 W. 37th St.	Rental	97,646	99	2012	421-a 10 Yrs
Glenwood Management	Crystal Green	330 West 39th St.	Rental	218,725	237	2013	421-a 20 Yrs
Assa	Galerie 515	511 9th Ave.	Rental	144,243	113	2014	421-a 10 Yrs
325 West 37th Street		325 West 37th St.	Rental	48,843	14	2015	N/A
Elk Investors	Sienna 37	321 W. 37th St.	Rental	82,354	78	2015	N/A
Moinian	SKY Rental	605 West 42nd St.	Rental	888,123	1,185	2016	421-a 20 Yrs
Extell Development	555 Tenth Avenue	555 Tenth Ave. (4)	Rental	700,000	600	2016	421-a 20 Yrs (5)
Total				**7,615,859**	**7,853**		

Source: Cushman & Wakefield, Inc.

(1) Refers to substantial construction completion.

(2) Projects that were substantially completed prior to January 19, 2005 (date of zoning adoption affecting the Project Area), but which had not obtained a Final Certificate of Occupancy as of that date, and have their real property tax payments directed to Corporation in the form of Tax Equivalency Payments.

(3) 420-c refers to a State tax exemption program for low-income housing developed by not-for-profit corporations.

(4) 555 Tenth Avenue, completed in September 2016, is not captured in the Existing Residential Revenues, which only include buildings with certificates of occupancy as of June 30, 2016.

(5) For 555 Tenth Avenue, OMB expects that the building will receive a 421-a tax exemption.

Residential Buildings Under Construction

Ten new properties, totaling approximately 3.0 msf and approximately 2,317 units, are under construction and are scheduled for completion between 2017 and 2020. The two largest residential properties under construction in the Project Area are 15 Hudson Yards (also known as 545 West 30th Street) being developed by Related with 391 condominium and rental units in a 980,274 sf building, and 3 Manhattan West (Eugene or 401 West 31st Street)[1] developed by Brookfield with 844 rental units in a 586,322 sf building.

Exhibit 6-7: Residential Development Under Construction

Developer/Owner	Building Name	Address	Use	Square Feet	Total Units	Completion Date (1)
James Papionnou	Skylight House	411 9th Avenue	Rental	12,837	12	2017
Joy Construction / Maddd Equities		445 West 35th Street(2)	Rental (TBD)	121,859	125	2017
Joy Construction / Maddd Equities		411-421 West 35th Street(2)	Rental (TBD)	191,702	186	2017
Shorenstein / Imperial		509 West 38th Street	Rental	243,689	225	2017
Brookfield	3 Manhattan West	401 West 31st Street(2)	Rental	586,322	844	2017
Friedman Group / Landis Group	Pod Times Square	577 Ninth Avenue	Rental/Hotel	218,872	48	2017
Lalezarian		515 West 36th Street	Rental	247,215	251	2018
Related	15 Hudson Yards	545 West 30th Street	Condo/Rental	980,274	391	2018
Related	35 Hudson Yards	560 West 33rd Street	Condo/Hotel/Office	413,990	137	2019
Clinton Housing Development		480 Tenth Avenue	Affordable	N/A	98	2020
Subtotal				**3,016,760**	**2,317**	

Source: Cushman & Wakefield, Inc.

(1) Refers to substantial construction completion.

(2) As of the date of this Official Statement, these buildings are no longer under construction and are now complete.

Future Residential Construction Forecast

The C&W 2017 Report notes that overall housing demand has been strong in New York City for decades and over the past five years, Manhattan's rental market continues to maintain low vacancy rates and increasingly high rental rates.

For the purposes of estimating future housing demand in Manhattan, the C&W 2017 Report uses the aggregate ratio of housing completions to household formation as the key demand factor in the forecast, with a ratio of completions to change in households of 1.6. This reflects the approximate midpoint between the Manhattan ratio of completions to change in households from the entire historic period 1971-2015 and the ratio from the more recent years of 2001-2015. C&W projects that as the demand for housing in Manhattan increases during the forecast period, the Project Area is expected to capture an 8.0% share of Manhattan's future housing demand for the first five years of the forecast followed by a 12.0% share of the overall demand for the remainder of the forecast.

Residential construction completions are forecast to total approximately 12.1 msf or 9,138 units from 2017 through 2028. C&W has incorporated the 10 residential properties under construction identified in Exhibit 6-7 into its demand forecast for Fiscal Years 2017 and 2018. The forecast of completions is suspended after Fiscal Year 2028 due to the anticipated attainment of maximum residential zoning capacity in Project Area.

C&W projects that rental residences account for two-thirds of the total forecast Future Residential Development units and condominium residences would account for the remaining one-third. C&W's housing completions forecast assumes that a new 421-a program would be enacted and available to developers of residential rental properties (Class 2) in the Project Area, and that eligible projects will qualify for a 100% exemption for 25 years and then a 25% exemption for the next 10 years for a total benefit period of 35 years. Subsequent to the release of the C&W 2017 Report, the 421-a program was renewed retroactively to January 1, 2016 and renamed the Affordable New York Housing Program. See "SECTION V: SECURITY AND SOURCES OF PAYMENT OF

[1] As of the date of this Official Statement, 3 Manhattan West is no longer under construction and opened in March 2017.

BONDS – Recurring Revenues – 421-a Tax Exemption Program." C&W's 421-a program assumptions are consistent with the tax exemption options available to developers under the new Affordable New York Housing Program. Residential condominium properties are assumed to be ineligible for 421-a Program benefits.

Exhibit 6-9: Expected Housing Demand and Completions (FY 2017-2047) in the Project Area

Fiscal Year	Units Demand	Units Supply	Estimated Square Feet Completed
2017	637	1,440	1,375,281
2018	594	642	1,227,489
2019	568	637	860,466
2020	448	594	801,890
2021	399	568	767,401
2022	746	448	604,821
2023	808	399	538,512
2024	976	746	1,007,010
2025	943	808	1,091,113
2026	936	976	1,317,594
2027	831	943	1,273,631
2028	686	936	1,263,740
2029-2047	0	0	0
Total	**8,574**	**9,138**	**12,128,949**

Source: Moody's Analytics, 2014 Housing Supply Report, New York City Rent Guidelines Board, Cushman & Wakefield, Inc.

Notes: 1. Shaded gray bars represent recessionary periods projected by Moody's Analytics. See Chapter II of Appendix E.
2. 2017 and 2018 completions comprise of projects that are under construction. See Exhibit 6-7 herein.

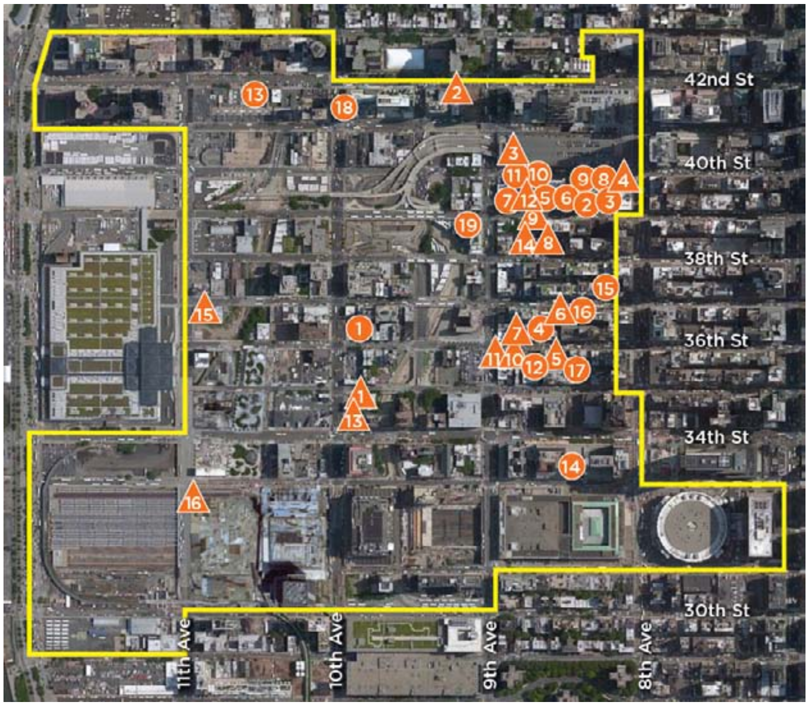
Hotel Development

The Project Area has grown as a hotel submarket extension of the larger Midtown hotel base. From 2006 to 2016, the Project Area added 4,212 hotel rooms, or 1.7 msf. The completion of 10 Hudson Yards, the continued leasing and construction of other office projects, the completion of the High Line and the expansion/renovation of the Javits Convention Center have also helped support demand for hotel rooms.

Tax revenues associated with hotel property development will accrue to the Corporation in the form of Tax Equivalency Payments. The revenues from Tax Equivalency Payments are discussed in SECTION VIII: PROJECTED REVENUES.

Exhibit 6-10 below illustrates the 19 hotel properties completed and 16 hotel properties that are under construction in the Project Area.

Exhibit 6-10: Map of Hotel Development Activity (2006-2016)



HOTEL

Completed 1.8 MSF	Under Construction 1.9 MSF
1. 449 W 36th St.	1. 444 10th Ave.
2. 309 W 39th St.	2. 400 W 42nd St.
3. 305 W 39th St.	3. 350 W 40th St.
4. 341 W 36th St.	4. 310 W 40th St.
5. 341 W 39th St.	5. 320 W 36th St.
6. 337 W 39th St.	6. 326-330 W 37th St.
7. 343 W 39th St.	7. 337 W 36th St.
8. 326 W 40th St.	8. 333 W 38th St.
9. 330 W 40th St.	9. 338 W 39th St.
10. 334 W 40th St.	10. 334-344 W 36th St.
11. 342 W 40th St.	11. 334-344 W 36th St.
12. 345 W 35th St.	12. 342 W 39th St.
13. 510 W 42nd St.	13. 461 W 34th St.
14. 325 W 33rd St.	14. 351-353 W 38th St.
15. 307 W 37th St.	15. 450 11th Ave.
16. 312 W 37th St.	16. 35 Hudson Yards
17. 321 W 35th St.	
18. 570 10th Ave.	
19. 515 9th Ave.	

Source: Hudson Yards Development Corporation, Cushman & Wakefield, Inc.

Note: 1. 35 Hudson Yards (No. 16 in Under Construction above) is expected to be used primarily for residential and hotel purposes, and the respective square footage will be counted within each of the respective categories.

2. In the Under Construction category, 444 10th Ave. (No. 1) and 350 West 40th Street (No. 3) are no longer under construction and are now complete.

Completed Hotels

Exhibit 6-11 below shows that between 2006 and 2016, 19 new hotels were completed within the Project Area. The completed hotels listed in Exhibit 6-11 generate Recurring Revenues for the Corporation in the form of Tax Equivalency Payments, which are annually appropriated by the City, and paid to the Corporation. See SECTION VIII: PROJECTED REVENUES.

Exhibit 6-11: Project Area Hotels Opened 2006 - 2016

	Name	Address	Size (sf)	No. Rooms	Completion Date (1)
1	GEM Hotel	449 W. 36th Street	16,667	40	2006
2	Element NY Times Square South	309 W. 39th Street	138,440	346	2006
3	Comfort Inn	305 W. 39th Street	30,000	79	2007
4	Wyndham Garden Hotel	341 W. 36th Street	81,000	224	2008
5	Candlewood Suites	341 W. 39th Street	85,706	188	2009
6	Hampton Inn	337 W. 39th Street	71,072	184	2009
7	Holiday Inn Express	343 W. 39th Street	74,128	210	2009
8	Four Points by Sheraton	326 W. 40th Street	98,738	248	2009
9	Fairfield Inn	330 W. 40th Street	97,942	244	2009
10	Staybridge Suites	334 W. 40th Street	131,921	310	2010
11	Distrikt Hotel	342 W. 40th Street	66,705	155	2010
12	Yotel New York @ Times Square	570 10th Avenue (2)	235,000	713	2011
13	Tryp by Wyndham	345 W. 35th Street	93,090	173	2012
14	The OUT NYC	510 W. 42nd Street	78,333	105	2012
15	Fairfield Inn & Suites	325 W. 33rd Street	120,639	239	2013
16	Courtyard by Marriott	307 W. 37th Street	102,824	224	2013
17	Homewood Suites	312 W. 37th Street	119,685	293	2014
18	Cassa Times Square Hotel & Residences	515 9th Avenue (2)	45,000	87	2014
19	EVEN Hotels Times Square South	321 W. 35th Street	63,363	150	2015
	Total		**1,750,253**	**4,212**	

(1) Refers to substantial construction completion.
(2) Hotel rooms noted for information purposes. Due to configuration of the buildings, revenue is accounted for under Existing Residential Revenue.

Hotels Under Construction

Exhibit 6-12 below shows that 16 new hotels are under construction in the Project Area, comprising approximately 1.9 msf and 4,888 rooms. The pipeline of hotels in 2017-2019 is strong, with 2,109 rooms planned for completion in 2017. This added supply is due to the maturing of the market, and will be a complement to the office and residential uses currently being added to the Project Area.

Exhibit 6-12: Hotels Under Construction in Project Area

	Name	Address	Size (sf)	No. Rooms	Completion Date (1)
1	Four Points by Sheraton Manhattan (2)	444 10th Avenue	70,000	111	2017
2	POD 42nd Street	400 W. 42nd Street	217,513	510	2017
3	DoubleTree New York Times Square West (2)	350 W. 40th Street	177,000	612	2017
4	Unnamed Hotel	310 W. 40th Street	143,500	287	2017
5	Crown Plaza	320 West 36th Street	100,000	251	2017
6	Hilton Garden Inn	326-330 W. 37th Street	125,000	250	2017
7	Comfort Inn New York	337 W. 36th Street	39,291	88	2017
8	La Quinta Inn & Suites Manhattan 38th Street	333 W. 38th Street	35,219	79	2018
9	Pestana CR7 New York	338 W. 39th Street	130,000	400	2018
10	Springhill Suites New York	334-344 W. 36th Street	102,803	280	2018
11	Fairfield Inn Midtown Manhattan	334-344 W. 36th Street	105,006	286	2018
12	Unnamed Hotel	342 W. 39th Street	56,550	174	2018
13	Courtyard New York Manhattan Midtown South	461 W. 34th Street	199,500	399	2018
14	Hyatt Place	351-353 W. 38th Street	125,000	500	2019
15	aloft Hotel New York Chelsea North	450 11th Avenue	100,000	438	2019
16	Equinox Hotel New York Hudson Yards	35 Hudson Yards	205,503	223	2019
	Total		**1,931,885**	**4,888**	

(1) Refers to substantial construction completion.
(2) As of the date of this Official Statement, these hotels have been completed.

Future Hotel Construction Forecast

The C&W 2017 Report notes that hotel demand has been very strong in New York City for years, particularly in Manhattan, and that in 2015, the City experienced a record high number of visitors. While overall demand for hotel rooms (or change in occupied rooms) is expected to grow, the current hotel room supply, even with many recent additions, is extremely tight. Hotel market conditions in Manhattan continue to experience positive growth. As of third quarter of 2016, Manhattan occupancy was 86.0%, and averaged 85.9% over the last five years. The C&W 2017 Report notes that the occupancy rate has remained higher than 80% for the past 12 years.

The C&W 2017 Report identified three demand sectors expected for hotel room demand: leisure travelers, comprising the greatest share of visitors to New York City (46.0 million in 2015); meeting, group and convention visitors attending events as the Jacob K. Javits Convention Center as well as Piers 92 and 94, major hotels and other venues (totaling approximately 28,124,807 room-nights in 2015); and, the presence of a vibrant office market, generating commercial room night demand.

The hotel completions forecast is based on an average annual growth rate in hotel room supply supported by the demand generators as projected in the C&W 2017 Report. The Project Area is expected to gain a share of the City's new hotel supply resulting in approximately 2.4 msf of new hotel construction over the forecast period or approximately 5,900 hotel rooms by the end of Fiscal Year 2039, when completions are expected to substantially reach the hotel development zoning capacity permissible under the Project Area Zoning Regulations. No new hotel completions are forecast from Fiscal Year 2040 through 2047.

Exhibit 6-13: Hotel Building Annual Completion Forecast in the Project Area

Fiscal Year	Completions (sf)
2017	872,304
2018	629,078
2019	430,503
2020	83,066
2021	62,621
2022	-
2023	-
2024	-
2025	21,083
2026	21,293
2027	21,506
2028	21,721
2029	21,939
2030	22,158
2031	22,380
2032	-
2033	-
2034	22,603
2035	22,829
2036	23,058
2037	23,288
2038	23,521
2039	23,756
2040 – 2047*	-
Total through 2047	**2,368,708**

Source: Cushman & Wakefield, Inc.

Note: Shaded gray bars represent recessionary periods projected by Moody's Analytics. See Chapter II of Appendix E.

* The C&W forecast was suspended at 2039 due to the maximum hotel development capacity in the Project Area.

C&W has incorporated the 16 hotel properties under construction, described in Exhibit 6-12 as totaling an estimated approximately 1.9 msf and 4,888 units, which are expected completions between fiscal years 2017 through 2019. 35 Hudson Yards, comprised primarily of residential and hotel uses, is included in both Future Residential Development and Future Hotel Development, with revenues allocated accordingly. Approximately 205,503 sf and 223 rooms for 35 Hudson Yards is included in the forecast for Future Hotel Development.

Retail Development

The City's retail market, in addition to having a large resident customer base, is also supported by the high annual number of visitors to New York City. Popular visitor activities include shopping and dining. The demand for retail space in the Project Area will be generated from the new office employees and related business travelers, residents, visitors to the Javits Convention Center, the High Line, the new Whitney Museum, as well as other "inflow" leisure visitors and residents to the Project Area from other areas in Manhattan and the region.

Retail development in the Project Area is expected to be primarily located at street-level in new commercial and residential buildings, specifically supporting residents and employees in addition to visitors. The exception to the typical retail location at the base of residential and commercial buildings is the 1.0 msf of The Shops and Restaurants currently under construction, known as The Shops and Restaurants, with Neiman Marcus as the anchor tenant. As shown in Exhibit 6-14 below, the C&W 2017 Report projects 1.8 msf of retail space completions from Fiscal Year 2017 through 2047. The total square footage of retail completions between 2017 and 2047 has been forecast as a fixed percentage of office and residential completions. Since the assessment of retail space within office and residential buildings is determined by the dominant use of the building, the applicable PILOT Payments or Tax Equivalency Payments from office and residential development are applied to the retail portion within each to obtain the forecast total retail revenues. C&W's retail completion forecast does not include retail located in hotels.

Exhibit 6- 14: Retail Completion Forecast, 2017-2047

Fiscal Year	Completions (sf)
2017	-
2018	-
2019	1,028,395
2020	26,462
2021	49,440
2022	50,898
2023	17,771
2024	33,231
2025	36,007
2026	43,481
2027	89,858
2028	65,045
2029	10,629
2030	17,748
2031	25,610
2032	31,173
2033	-
2034	-
2035	-
2036	36,523
2037	46,394
2038	14,071
2039	21,066
2040	21,093
2041	42,658
2042	-
2043	-
2044	-
2045	-
2046	72,399
2047	27,028
Total	**1,806,980**

Source: Cushman & Wakefield, Inc.
Note: Shaded gray bars represent recessionary periods projected by Moody's Analytics. See Chapter II of Appendix E.

Non-Recurring Revenues Forecast

The Corporation receives Non-Recurring Revenues from DIB Payments, PILOMRT Payments and from the sale of ERY Transferable Development Rights. C&W real estate demand forecasts have provided support for the estimated remaining utilization of such sources of revenues during the Forecast Period. See Chapter 7 of "APPENDIX E: CUSHMAN & WAKEFIELD, INC. 2017 REPORT" and "SECTION VIII: PROJECTED REVENUES – Projected Non-Recurring Revenues."

Complementary Projects

A number of projects that do not create Revenue for the Corporation within or in proximity to the Project Area are in various stages of planning, development or construction and should add to the attractiveness of the Project Area for investment, including, but not limited to, The Shed, renovation of the Farley building including creation of Moynihan Station, additional extension and renovation of the Jacob K. Javits Convention Center, an extension of the High Line Park, and expansion of the Port Authority Bus Terminal. See "APPENDIX E: CUSHMAN & WAKEFIELD, INC. 2017 REPORT."

SECTION VII: HISTORICAL REVENUES

This section contains unaudited cash flows provided by the Corporation regarding the Corporation's Revenues received during: (i) the period from July 1, 2005 through June 30, 2016 ("FY 2006-2016") and (ii) the period from July 1, 2016 through April 30, 2017 ("July 1, 2016 through April 30, 2017"). This information is presented on a cash basis and differs from the Corporation's financial statements that are presented on an accrual basis. See "Appendix F: Financial Statements of the Corporation." All years described in this section are Fiscal Years, unless otherwise stated.

FY 2006-2016

During FY 2006-2016, the Corporation received approximately $274.4 million in Recurring Revenues, $566.5 million in Non-Recurring Revenues, and $358.8 million in Interest Support Payments. Exhibit 7-1 below sets forth for FY 2006-2016, the unaudited cash receipts and disbursements for the Corporation's operations, excluding the proceeds of the Series 2007A Bonds and Series 2012 Bonds. Exhibit 7-1 shows the Corporation's Revenues in categories, including, Recurring Revenues, Non-Recurring Revenues, and Other Revenues.

Recurring Revenues

During FY 2006-2016, Recurring Revenues totaled approximately $274.4 million, increasing steadily from a low of $8.8 million in 2008 to approximately $66.7 million in 2016. This increase was primarily due to the substantial completion or completion of 22 residential properties and 17 hotel properties, which have generated Tax Equivalency Payments totaling $259.8 million for the Corporation. See "Exhibit 8-1: Existing Development" which identifies the properties currently generating Recurring Revenues.

Revenues received as PILOT Payments were first received in Fiscal Year 2014 and increased every year to Fiscal Year 2016, totaling $14.5 million. The PILOT Payments were paid by owners of 10 Hudson Yards, 30 Hudson Yards, 55 Hudson Yards, One Manhattan West and The Shops and Restaurants to the Corporation, pursuant to the respective IDA PILOT Agreements.

Non-Recurring Revenues

Non-Recurring Revenues during FY 2006-2016 totaled approximately $566.5 million with the majority of such Non-Recurring Revenues received in 2015 and 2016 (approximately $451 million). Each source of the Corporation's Non-Recurring Revenues (ERY TDRs, DIB Payments and PILOMRT Payments) represents payments by developers purchasing additional developable square footage (ERY TDRs and DIB) or financing construction activities (PILOMRT). As such, the receipt of Non-Recurring Revenues is an indicator that future development will occur, resulting in the probable future receipt of additional Recurring Revenues.

The largest source of Non-Recurring Revenues for FY 2006-2016 has been DIB Payments, totaling approximately $340.9 million. DIB Payments reflect the aggregate purchase by developers of additional commercial and residential density bonus development rights through the District Improvement Bonus program. Developers have generally utilized full DIB available to their sites and, as of December 2016, have purchased a total of approximately 2.9 msf of DIB rights. See Chapter 7 of the C&W 2017 Report.

The second largest source of Non-Recurring Revenues for FY 2006-2016 has been the Corporation's sale of its ERY Transferable Development Rights in 2015 and 2016, totaling approximately $189.7 million.

The Corporation received PILOMRT Payments in 2013, 2014, and 2016 totaling approximately $35.8 million, from property owners of 10 Hudson Yards, 30 Hudson Yards, The Shops and Restaurants, and One Manhattan West, pursuant to the respective IDA PILOT Agreements.

Other Revenues

During FY 2006-2016, the Corporation received approximately $616.8 million in Other Revenues that consisted of $258.0 million interest received primarily from the investment of bonds proceeds between 2007 and 2011 and approximately $358.8 million received from the City as Interest Support Payments or Prepayments. The Corporation did not receive an Interest Support Payment from the City in Fiscal Year 2016 because other revenues were sufficient to pay interest on the First Indenture Bonds and the Corporation's operating expenses. As indicated previously, the Corporation does not expect to need Interest Support Payments in the future.

Upon delivery of the Series 2007A Bonds, the Corporation entered into fixed rate repurchase agreements for the net proceeds that matured in March 2011. Interest receipts reflect earnings on the declining balance of such proceeds through the maturity date of the repurchase agreements and short-term U.S. government obligation interest rates thereafter. In certain years, the interest receipts increased the Corporation's revenues and Interest Support Payments from the City were not needed.

July 1, 2016 through April 30, 2017

During July 1, 2016 through April 30, 2017, the Corporation received approximately $75.9 million in Recurring Revenues and $43.6 million in Non-Recurring Revenues, which revenues are not reflected on Exhibit 7-1. The Recurring Revenues received were from (i) Tax Equivalency Payments in the amount of approximately $70.5 million, representing the semi-annual payment paid by the City in August 2016 and February 2017 and (ii) semiannual PILOT Payments in the amount of approximately $5.4 million, received in December 2016.

The Non-Recurring Revenues received were from (i) PILOMRT Payments in the amount of approximately $22.9 million, which represented additional PILOMRT Payments from the developers of 10 Hudson Yards and The Shops and Restaurants and (ii) DIB Payments in the amount of approximately $20.7 million.

The Corporation received investment earnings of approximately $1.6 million during this period. As shown in Exhibit 7-1, the Corporation had approximately $325.1 million in cash at the beginning of Fiscal Year 2017.

Interest Support Payments from the City were not needed in Fiscal Year 2017.

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Exhibit 7-1

HUDSON YARDS INFRASTRUCTURE CORPORATION

Historic Summary of Cash Flows for Nonbond Proceeds[1] Accounts - UNAUDITED

(Amounts in thousands)

	Fiscal Year Ended June 30											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
CASH RECEIPTS												
Recurring Revenues												
Payments in Lieu of Real Estate Taxes	-	-	-	-	-	-	-	-	$1,950	$4,577	$7,994	$14,521
Tax Equivalency Payments (from NYC)	-	-	8,800	5,731	13,318	25,938	27,679	32,647	38,554	48,563	58,656	259,886
Total Recurring Revenues	-	-	**$8,800**	**$5,731**	**$13,318**	**$25,938**	**$27,679**	**$32,647**	**$40,504**	**$53,140**	**$66,650**	**$274,407**
Non-Recurring Revenues												
District Improvement Bonus	$11,120	$52,330	$12,538	$4,488	-	$4,635	$2,951	$3,261	$10,827	$193,652	$45,183	$340,985
Payments in Lieu of Mortgage Recording Tax	-	-	-	-	-	-	-	8,661	4,688	-	22,496	35,845
ERY Transferable Development Rights	-	-	-	-	-	-	-	-	-	90,547	99,154	189,701
Total Non-Recurring Revenues	**$11,120**	**$52,330**	**$12,538**	**$4,488**	-	**$4,635**	**$2,951**	**$11,922**	**$15,515**	**$284,199**	**$166,833**	**$566,531**
Other Revenues												
Interest Support Payments and Prepayments (from NYC)[3]	-	-	-	$15,000	-	$42,667	$234,942	-	$38,130	$28,047	-	$358,786
Interest Receipts	59	12,878	90,111	70,368	46,728	30,676	1,050	2,087	1,042	705	2,346	258,050
Total Other Revenues	**$59**	**$12,878**	**$90,111**	**$85,368**	**$46,728**	**$73,343**	**$235,992**	**$2,087**	**$39,172**	**$28,752**	**$2,346**	**$616,836**
Miscellaneous[4]	-	-	-	-	-	-	-	5,511	11,381	4,681	29	21,602
TOTAL CASH RECEIPTS	**$11,179**	**$65,208**	**$111,449**	**$95,587**	**$60,046**	**$103,916**	**$266,622**	**$52,167**	**$106,572**	**$370,772**	**$235,858**	**$1,479,376**
CASH DISBURSEMENTS												
Operating	$1,500	$2,931	$594	$617	$4,844	$843	$9,521	$459	$426	$525	$500	$22,760
Debt Service	-	-	112,125	97,500	97,500	97,500	114,342	153,125	153,125	153,125	153,125	1,131,467
TOTAL CASH DISBURSEMNTS	**$1,500**	**$2,931**	**$112,719**	**$98,117**	**$102,344**	**$98,343**	**$123,863**	**$153,584**	**$153,551**	**$153,650**	**$153,625**	**$1,154,227**
NET RECEIPTS/DISBURSEMENTS	**$9,679**	**$62,277**	**($1,270)**	**($2,530)**	**($42,298)**	**$5,573**	**$142,759**	**($101,417)**	**($46,979)**	**$217,122**	**$82,233**	**$325,149**
Cash & Investments[2] -- Beginning Balance	-	9,679	71,956	70,686	68,156	25,858	31,431	174,190	72,773	25,794	242,916	
Cash & Investments[2] -- Ending Balance	**$9,679**	**$71,956**	**$70,686**	**$68,156**	**$25,858**	**$31,431**	**$174,190**	**$72,773**	**$25,794**	**$242,916**	**$325,149**	

[1] This summary excludes bond issuance and all project costs paid out of bond proceeds.

[2] Cash and investments, which are included at cost on the summary of cash flows, do not include bond proceeds.

[3] Includes grants of $15 million in 2009 and $156 million in 2012, which were used to prepay subsequent year debt service.

[4] Includes miscellaneous application or document fees associated with PILOMRT and ERY Transferable Development Rights. Miscellaneous receipts are not considered Revenues under the Indentures and are not pledged to the holders of HYIC Bonds.

SECTION VIII: PROJECTED REVENUES

General

This section contains information provided by OMB regarding the Corporation's projected Revenues from development in the Project Area during the Forecast Period (July 1, 2016 through June 30, 2047). Generally, during the Forecast Period, OMB projects that the Corporation's primary source of Revenues will come from Recurring Revenues (i.e., PILOT Payments and TEP). The analysis provided in this Section for projected Recurring Revenues includes separate analyses for Existing Development and Future Development as such terms are defined below. All years described in this section are Fiscal Years, unless otherwise stated.

Existing Development means all properties identified in Exhibit 8-1 below, which include:

(i) completed and under construction office properties ("Existing Office Development"), and The Shops and Restaurants;

(ii) completed residential properties ("Existing Residential Development"); and

(iii) completed hotel properties (and includes other rehabilitated non-hotel commercial properties generating Tax Equivalency Payments, referred to as "Other Commercial TEP Properties") Existing Hotel Development").

Within each category above, retail development associated with identified properties is included in the Revenues projection. All properties defined as Existing Development are paying PILOT Payments or generating Tax Equivalency Payments as of July 1, 2016.

Future Development means C&W's forecast completions in square feet (excluding expected square feet of properties identified in Exhibit 8-1 below) relating to:

(i) future office development ("Future Office Development") and associated forecast retail development;

(ii) under construction or future residential development ("Future Residential Development") and associated forecast retail development; and

(iii) under construction or future hotel development ("Future Hotel Development") and does not include forecast retail development.

In developing OMB's projection of Revenues from PILOT Payments and Tax Equivalency Payments contained herein, it relied on a number of variables and assumptions, including certain information contained in the C&W 2017 Report. OMB's projection of Revenue from Existing Development incorporates current NYCDOF real property tax liability modified by any applicable tax exemption schedule and includes an assumption of future value growth. OMB's projection of Revenues from Future Development was developed using forecasts contained in the C&W 2017 Report including completion forecasts, estimates of current assessed values, estimated tax exemption schedules, and projected future growth in property value. In projecting Recurring Revenues from Existing Development and Future Development, the City's real property tax rates were assumed to remain unchanged at the Fiscal Year 2017 rates.

The forecasts contained herein are inherently subject to a variety of risks and uncertainties that may cause actual results to differ materially from those projected. See "SECTION IX: RISK FACTORS."

Since the assessment of retail space within office and residential buildings is determined by the dominant use of the building, the applicable PILOT Payments or Tax Equivalency Payments from office and residential developments are applied to the retail portion within each building to obtain the forecast total retail revenues. The

C&W 2017 Report includes the retail revenue projections broken out from the office and residential developments. As a result the retail revenues projected in this section are incorporated in the office or residential revenues.

Reasonableness of Projected Revenues

C&W reviewed the City's projected Revenues in the C&W 2017 Report, and concluded that based on the assumptions and limitations contained in the C&W 2017 Report, OMB's tax revenue projections of Revenues are reasonable. The projected Revenues are contingent on the realization of all the economic and real estate assumptions, analyses, existing zoning, and are subject to limiting conditions that are detailed in the C&W 2017 Report and in Chapter 1B Limiting Conditions therein. One of the limitations of the C&W 2017 Report is that their conclusions are based on the analysis of data provided to C&W by Moody's Analytics and the City, which is assumed to be correct. See "SECTION IX: RISK FACTORS."

Projected Recurring Revenues from Existing Development

Existing Development, as identified in Exhibit 8-1 below, include four completed and under construction office properties, 22 completed residential properties and 17 completed hotel properties, along with six Other Commercial TEP Properties. The projected Recurring Revenues from Existing Development are generated from PILOT Payments paid directly to the Corporation from completed and under construction office properties and Tax Equivalency Payments, which are annually appropriated by the City, from completed residential and hotel properties. In addition, projected revenues for retail associated with the properties listed in Exhibit 8-1 are included in such properties' respective category. Residential and hotel properties which are under construction are not included in Existing Development because, until they are substantially complete and receive a certificate of occupancy, the property taxes paid by such properties are not included in the City's Tax Equivalency Payments.

Exhibit 8-1: Existing Development

	Completed & Under Construction Office Properties		Completed Residential Properties(5)			Completed Hotel Properties (4)	
	Building		Name	Building		Name	Building
1	10 Hudson Yards	1	Orion	350 W. 42nd St.	1	GEM Hotel	449 W. 36th St.
2	30 Hudson Yards	2	Senior Living Options	521 W. 42nd St.	2	Element NY Times Square South	309 W. 39th St.
3	55 Hudson Yards	3	Atelier	635 W. 42nd St.	3	Comfort Inn	305 W. 39th St.
4	One Manhattan West	4	38Nine	502 9th Ave.	4	Wyndham Garden Hotel	341 W. 36th St.
5	The Shops and Restaurants (Retail)	5	455W37	455 W. 37th St.	5	Candlewood Suites	341 W. 39th St.
		6	Emerald Green	320 W. 38th St.	6	Hampton Inn	337 W. 39th St.
		7	Silver Towers	600 W. 42nd St.	7	Holiday Inn Express	343 W. 39th St.
		8	Deuce	534 W. 42nd St.	8	Four Points by Sheraton	326 W. 40th St.
		9	(Unnamed)	446 W. 38th St.	9	Fairfield Inn	330 W. 40th St.
		10	505W37	505 W. 37th St.	10	Staybridge Suites	334 W. 40th St.
		11	Townsend	350 W. 37th St.	11	Distrikt Hotel	342 W. 40th St.
		12	MiMA/Yotel New York(2)	440 W. 42nd St.	12	Tryp by Wyndham	345 W. 35th St.
		13	The Mantena	433 W. 37th St.	13	The OUT NYC	510 W. 42nd St.
		14	Crystal Green	330 W. 39th St.	14	Fairfield Inn & Suites	325 W. 33rd St.
		15	Galerie 515 (3)	511 9th Ave.	15	Courtyard by Marriott	307 W. 37th St.
		16	(Unnamed)	325 W. 37th St.	16	Homewood Suites	312 W. 37th St.
		17	Sienna 37	321 W. 37th St.	17	EVEN Hotels Times Square South	321 W. 35th St.
		18	SKY Rental	605 W. 42nd St.			
		19	Dominique R. Singer	402 W. 40th St.		Other Commercial TEP Properties: 424 W 33 Street, 521-523 W 37 Street, 405 W 39 Street, 505-507 W 38 Street, 501-519 10th Avenue, and 536 W 39 Street	
		20	43rd Partners Group LLC	552 W. 43rd St.			
		21	JD Carlisle	315 W. 33rd St. (1)			
		22	Equity Residential/Dermot	400 W. 37th St. (1)			

Source: NYC Office of Management and Budget

(1) 315 W. 33rd St. and 400 W. 37th St. were substantially complete at the time of rezoning in 2005.

(2) MiMA/Yotel has a hotel component, however, revenue is accounted for under Existing Residential Development.

(3) Galerie 515/Cassa Times Square Hotel & Residences has a hotel component, however, revenue is accounted for under Existing Residential Development.

(4) The properties listed in Exhibit 8-1 above differ from the properties listed in Exhibit 6-11, titled Projected Area Hotels Opened 2006 – 2016, because revenues from the Yotel New York and Cassa Times Square Hotel described in footnotes (2) and (3) above are accounted for under Existing Residential Development.

(5) Does not include the Extell Development (555 Tenth Avenue), which was included in Exhibit 6-6, because this development did not receive its certificate of occupancy until after July 1, 2016. As such, revenues from the Extell Development were not included in the Projected Recurring Revenues from Existing Development.

As shown in Exhibit 8-2, the Existing Development in the Project Area is projected to generate approximately $84.8 million in 2017, $200.9 million in 2021, $355.4 million in 2030, $707.2 million in 2040, and $908.3 million annually by 2047. During the Forecast Period and over the life of the Series 2017 Bonds, Existing Development is projected to generate a total of $14.2 billion, 45.0% of which is expected to be generated from Existing Office Development, 43.6% of which is expected to be generated from Existing Residential Development, and 11.4% of which is expected to be generated from Existing Hotel Development.

Exhibit 8-2: Projected Recurring Revenue From Existing Development

Fiscal Year	Office (1)	Residential (1)	Hotel (1)	Total
2017	$ 10,946,590	$ 38,580,304	$35,240,118	$ 84,767,012
2018	28,652,071	39,280,934	36,121,121	104,054,126
2019	40,628,423	45,409,277	37,024,149	123,061,850
2020	93,829,199	47,228,328	37,949,753	179,007,280
2021	111,855,277	50,110,717	38,898,497	200,864,491
2022	115,658,467	52,016,072	39,870,959	207,545,499
2023	119,591,417	56,591,600	40,867,733	217,050,751
2024	123,564,703	70,271,815	41,889,427	235,725,945
2025	127,271,644	78,132,026	42,936,662	248,340,333
2026	131,089,794	93,796,369	44,010,079	268,896,241
2027	135,022,487	103,704,007	45,110,331	283,836,825
2028	139,073,162	121,601,081	46,238,089	306,912,332
2029	143,245,357	138,668,922	47,394,041	329,308,320
2030	147,542,718	159,284,447	48,578,892	355,406,058
2031	151,968,999	178,988,749	49,793,365	380,751,113
2032	156,528,069	202,638,670	51,038,199	410,204,938
2033	167,633,180	223,150,879	52,314,154	443,098,213
2034	177,513,880	232,044,052	53,622,008	463,179,940
2035	191,877,418	250,173,079	54,962,558	497,013,055
2036	225,263,477	260,164,072	56,336,622	541,764,171
2037	254,272,400	278,168,651	57,745,037	590,186,088
2038	279,692,626	289,295,398	59,188,663	628,176,686
2039	306,576,155	300,867,213	60,668,380	668,111,749
2040	332,158,166	312,901,902	62,185,089	707,245,157
2041	343,783,702	325,417,978	63,739,717	732,941,396
2042	355,816,131	338,434,697	65,333,209	759,584,038
2043	368,269,696	351,972,085	66,966,540	787,208,320
2044	381,159,135	366,050,968	68,640,703	815,850,807
2045	394,499,705	380,693,007	70,356,721	845,549,433
2046	408,307,194	395,920,728	72,115,639	876,343,561
2047	422,597,946	411,757,557	73,918,530	908,274,033
Total	**$6,385,889,189**	**$6,193,315,587**	**$1,621,054,985**	**$14,200,259,761**

Source: NYC Office of Management and Budget

(1) Retail revenues are included in all three revenue categories

Note: This table shows the forecasted revenues for the four office developments (inclusive of the 1.0 msf retail complex, The Shops and Restaurants at Hudson Yards) completed or under construction as of December 2016.

Projected Revenues from Existing Office Development

Existing Office Development is forecasted to generate approximately $10.9 million in 2017 rising to approximately $111.9 million in 2021 and $422.6 million annually by 2047. During the Forecast Period, 10 Hudson Yards, 30 Hudson Yards, 55 Hudson Yards, and One Manhattan West (together with The Shops and Restaurants) combined are projected to generate a total of $6.4 billion in PILOT Payments, which accounts for 45.0% of the total $14.2 billion projected Recurring Revenues from Existing Development.

Projected Revenues from Existing Residential Development

Existing Residential Development is forecasted to generate approximately $38.6 million in 2017 rising to approximately $50.1 million in 2021, $159.3 million in 2030, $312.9 million in 2040 and $411.8 million annually by 2047. During the Forecast Period, the 22 completed residential properties identified in Exhibit 8-1 are projected to generate a total of $6.2 billion in Tax Equivalency Payments, which accounts for 43.6% of the total $14.2 billion projected Recurring Revenues from Existing Development.

Many of the completed residential properties have received tax exemption benefits through the 421-a Program for periods of ten or twenty years from their completion date. Beginning in 2016, some of the completed properties began phasing out of the 421-a Program. As these residential properties begin phasing out of the 421-a Program, the property owners will be required to pay real property taxes based on the assessed value of the improvements made to the property rather than on just the value of the land.

The projected Recurring Revenues from Existing Residential Development do not include projected revenues from residential properties currently under construction and described in "SECTION VI: HUDSON YARDS DEMAND AND DEVELOPMENT REPORT – Residential Development – *Residential Buildings Under Construction*" because, until such properties are substantially complete and receive a certificate of occupancy, the City will not include real property taxes received from those properties in its Tax Equivalency Payments to the Corporation.

Projected Revenues from Existing Hotel Development

Existing Hotel Development are forecast to generate approximately $35.2 million in 2017 rising to approximately $38.9 million in 2021 and $73.9 million annually by 2047. During the Forecast Period, the 17 completed hotel properties identified in Exhibit 8-1, along with six Other Commercial TEP Properties, are projected to generate a total $1.6 billion in Tax Equivalency Payments, which accounts for 11.4% of the total $14.2 billion projected Recurring Revenues from Existing Development.

The Other Commercial TEP Properties are small non-hotel commercial properties in the Project Area that currently pay and are expected to continue to pay Tax Equivalency Payments during the Forecast Period, and were included in the Existing Hotel Development for convenience of this analysis. Other Commercial TEP Properties generated approximately $1.5 million in revenues in fiscal year 2016.

The projected Recurring Revenues from Existing Hotel Development do not include projected revenues from hotel properties currently under construction and described in "SECTION VI: HUDSON YARDS DEMAND AND DEVELOPMENT REPORT – Hotel Development – *Hotels Under Construction*" because such properties do not begin paying Tax Equivalency Payments until they are substantially complete and receive a certificate of occupancy.

Projected Recurring Revenues from Future Development

As shown in Exhibit 8-3 below, Future Development in the Project Area is projected to generate approximately $5.9 million beginning in 2018, $77.8 million in 2021, $317.4 million in 2030, $634.2 million in 2040 and $1 billion annually by 2047. During the Forecast Period and over the life of the Series 2017 Bonds, Future Development is projected to generate a total of $12.7 billion, 52.5% of which is expected to be generated from Future Office Development, 29.0% of which is expected to be generated from Future Residential Development, and 18.5% of which is expected to be generated from Future Hotel Development.

Exhibit 8-3: Projected Recurring Revenue From Future Development

Fiscal Year	Office [1]	Residential [1]	Hotel[2]	Total
2017	$0	$0	$0	$0
2018	0	5,973,705	0	5,973,705
2019	0	12,438,946	22,352,566	34,791,513
2020	0	18,924,973	39,434,342	58,359,315
2021	0	25,821,619	52,010,201	77,831,820
2022	0	31,884,682	55,602,673	87,487,355
2023	11,801,051	37,714,781	58,763,980	108,279,812
2024	70,858,193	48,035,021	60,233,080	179,126,293
2025	73,338,229	59,715,008	61,738,907	194,792,144
2026	75,905,067	74,362,666	63,282,379	213,550,113
2027	78,496,325	90,012,611	65,522,662	234,031,597
2028	80,851,214	106,539,688	67,842,154	255,233,056
2029	111,570,098	110,793,685	70,243,653	292,607,436
2030	129,602,006	115,079,666	72,730,057	317,411,729
2031	141,010,675	119,254,981	75,304,364	335,570,020
2032	158,200,333	123,601,655	77,969,681	359,771,668
2033	181,534,653	128,021,761	80,729,220	390,285,634
2034	210,369,835	132,617,638	82,747,450	425,734,923
2035	216,960,160	137,385,596	84,816,137	439,161,893
2036	223,687,587	142,617,262	87,817,868	454,122,717
2037	230,522,435	148,279,149	90,925,709	469,727,293
2038	271,449,514	154,096,697	94,143,408	519,689,619
2039	334,925,935	160,046,752	97,474,846	592,447,532
2040	367,430,666	165,863,283	100,924,038	634,217,987
2041	409,380,593	172,095,441	104,495,145	685,971,179
2042	453,560,614	178,465,141	107,107,523	739,133,278
2043	521,772,715	196,601,179	109,785,211	828,159,106
2044	544,627,659	216,186,715	112,529,842	873,344,216
2045	568,785,243	236,207,612	115,343,088	920,335,943
2046	593,863,152	258,422,815	118,226,665	970,512,632
2047	621,358,353	278,894,603	121,182,332	1,021,435,287
Total	**$6,681,862,307**	**$3,685,955,328**	**$2,351,279,181**	**$12,719,096,816**

Source: NYC Office of Management and Budget

(1) Retail revenues are included in the projected revenues.

(2) Retail revenues are not included in the projected revenues.

Projected Revenues from Future Office Development

Future Office Development is forecasted to generate approximately $11.8 million beginning in 2023 rising to approximately $129.6 million in 2030 and $621.4 million annually by 2047. During the Forecast Period, the approximately 17.5 msf of office building completions projected in fiscal years 2021 through 2047 by C&W are expected to generate a total of $6.7 billion in PILOT Payments, which accounts for 52.5% of the total $12.7 billion projected Recurring Revenues from Future Development.

The Future Office Development projections in Exhibit 8-4 includes PILOT Payments expected to be generated by the construction of 50 Hudson Yards, which is expected to be approximately $1.9 billion and account for 28.7% of the total projected $6.7 billion from Future Office Development during the Forecast Period.

The revenue projections for Future Office Development assume that new buildings properties will pay PILOT Payments. The PILOT payments provide a discount to full property taxes, and are set by the IDA pursuant to the Project Area UTEP. As structured, PILOT payments will extend for a 15-year period following construction and then are subject to phase-out to the equivalent of full taxes over the ensuing five-year period. In order to qualify for the PILOT program, commercial projects must equal or exceed 90% of the maximum zoning floor area applicable to a development site (including available bonus floor area) as set forth in the Hudson Yards Special District Zoning Resolution. Projects smaller than 1.0 million zoning square feet will not be considered as eligible. Given the projected demand and tax advantage offered by the IDA PILOT Agreements, developers to date have utilized the maximum zoning FAR, and it is assumed they will continue to do so. The IDA retains discretion to qualify a project that does not meet the size and density requirement for PILOT payments.

Following the expiration of the IDA PILOT Agreements, each office property will be subject to the full amount of real property taxes on Class 4 properties.

The assumption used in the revenue model of forecast growth rate in PILOT Payments of 3.5% per year over the forecast period is based on analysis presented in the C&W 2017 Report, which concluded that average growth rate in billable assessed value for Class 4 properties from 1985 through 2017 was 5.2%. Various factors could cause growth in any given year to deviate from this long-term trend.

Projected Revenues from Future Residential Development

Future Residential Development is forecasted to generate approximately $6.0 million in 2018 rising to approximately $25.8 million in 2021, $115.1 million in 2030 and $278.9 million annually by 2047. During the Forecast Period, the 12.1 msf and 9,138 units of forecasted residential building completions projected by C&W generate a total $3.7 billion in Tax Equivalency Payments, which accounts for 29.0% of the total $12.7 billion projected Recurring Revenues from Future Development.

The assumption used in the revenue model of forecast growth rate in a values and assessments of 4.0% per year over the forecast period is based upon analysis presented in the C&W 2017 Report, which concluded that the average growth rate in billable assessed value for Class 2 properties from 1985 to 2017 was 5.7%. Various factors could cause growth in any given year to deviate from this long-term trend.

OMB projects that rental residences would account for two-thirds of the total forecasted Future Residential Development units and condominium would account for the remaining one-third. OMB's projected Recurring Revenues from Future Residential Development assumes that a 421-a Program or similar program will be available to developers of residential rental properties (Class 2) in the Project Area during the Forecast Period, and eligible projects will qualify for a 100% exemption for 25 years and then a 25% exemption for the next 10 years for a total benefit period of 35 years. Such assumptions are consistent with the tax exemption options available to developers under the new Affordable New York Housing Program. See "SECTION V: SECURITY AND SOURCES OF PAYMENT OF BONDS – Recurring Revenues – *421-a Tax Exemption Program*." With respect to condominium properties, the revenues do not assume any incentives are offered under a 421-a Program.

Projected Revenues from Future Hotel Development

Future Hotel Development is forecasted to generate approximately $22.4 million in 2019 rising to approximately $72.7 million in 2030 and $121.2 million annually by 2047. During the Forecast Period, the 2.4 msf and over 5,900 rooms of forecast hotel building completions projected by C&W generate a total $2.4 billion in Tax Equivalency Payments, which accounts for 18.5% of the total $12.7 billion projected Recurring Revenues from Future Development.

To project the revenues over the forecast period, the revenue model assumes constant growth rates for taxes from 2017 through 2047. These taxes are assumed to grow at 2.5% annual growth rate, lower than the historic average (5.2%) for Class 4 properties, based on analysis provided by C&W. This level of growth considers the significant increase in real estate taxes for hotel properties between 2011 and 2016. The growth rate is considered to provide a sufficient margin to compensate for downturns during the forecast period.

Projected Recurring Revenues from Existing Development and Future Development

As shown in Exhibit 8-4 below, Existing Development and Future Development ("Existing and Future Development") in the Project Area are projected to generate approximately $84.8 million in 2017 rising to approximately $278.7 million in 2021, $672.8 million in 2030, $1.3 billion in 2040 and $1.9 billion annually by 2047. During the Forecast Period and over the life of the Series 2017 Bonds, the Existing and Future Development are projected to generate a total of $26.9 billion, 48.5% of which is expected to be generated from Office Development, 36.7% of which is expected to be generated from Residential Development, and 14.8% of which is generated from Hotel Development.

Exhibit 8-4: Projected Recurring Revenue From Existing and Future Development

Fiscal Year	Office (1)	Residential (1)	Hotel (1)	Total
2017	$ 10,946,590	$ 38,580,304	$ 35,240,118	$ 84,767,012
2018	28,652,071	45,254,638	36,121,121	110,027,831
2019	40,628,423	57,848,224	59,376,716	157,853,363
2020	93,829,199	66,153,301	77,384,095	237,366,595
2021	111,855,277	75,932,336	90,908,698	278,696,311
2022	115,658,467	83,900,755	95,473,632	295,032,854
2023	131,392,469	94,306,381	99,631,713	325,330,563
2024	194,422,896	118,306,835	102,122,506	414,852,238
2025	200,609,874	137,847,034	104,675,569	443,132,477
2026	206,994,861	168,159,035	107,292,458	482,446,354
2027	213,518,812	193,716,618	110,632,993	517,868,422
2028	219,924,376	228,140,769	114,080,243	562,145,388
2029	254,815,455	249,462,607	117,637,694	621,915,756
2030	277,144,724	274,364,113	121,308,949	672,817,787
2031	292,979,674	298,243,730	125,097,729	716,321,133
2032	314,728,402	326,240,325	129,007,879	769,976,606
2033	349,167,832	351,172,641	133,043,374	833,383,846
2034	387,883,715	364,661,690	136,369,458	888,914,863
2035	408,837,579	387,558,676	139,778,695	936,174,949
2036	448,951,064	402,781,334	144,154,490	995,886,887
2037	484,794,835	426,447,800	148,670,746	1,059,913,381
2038	551,142,140	443,392,094	153,332,072	1,147,866,306
2039	641,502,091	460,913,965	158,143,225	1,260,559,281
2040	699,588,832	478,765,185	163,109,127	1,341,463,144
2041	753,164,294	497,513,420	168,234,861	1,418,912,575
2042	809,376,745	516,899,838	172,440,733	1,498,717,316
2043	890,042,411	548,573,264	176,751,751	1,615,367,427
2044	925,786,794	582,237,684	181,170,545	1,689,195,023
2045	963,284,948	616,900,619	185,699,809	1,765,885,376
2046	1,002,170,347	654,343,542	190,342,304	1,846,856,193
2047	1,043,956,299	690,652,159	195,100,861	1,929,709,320
Total	**$13,067,751,495**	**$9,879,270,915**	**$3,972,334,166**	**$26,919,356,576**

Source: NYC Office of Management and Budget

(1) Retail revenues are included in all three revenue categories.

Projected Non-Recurring Revenues

During the Forecast Period and over the life of the Series 2017 Bonds, the projected Non-Recurring Revenues are expected to generate approximately $1.0 billion, 65.0% of which is expected to be generated from DIB Payments, 25.4% of which is expected to be generated from PILOMRT, and 9.6% of which is expected to be generated from ERY Transferable Development Rights. Non-Recurring Revenues are projected to be 3.9% of the total projected Revenues for the Forecast Period.

Based on the estimated total DIB available in 2006 provided by HYDC, C&W calculated the estimated amount of remaining DIB available to be 4,548,544 msf and forecasted the DIB annual utilization in zoning square feet. See "APPENDIX E: Cushman & Wakefield, Inc. 2017 Report." The DIB revenues in 2018 include DIB associated with the construction of 50 Hudson Yards. C&W calculated the resulting estimated DIB revenues by multiplying the estimated annual DIB zoning square footage by the inflated DIB pricing amount in such year. In total, DIB revenues are forecast to be $703,654,237 through 2047 or 2.5% of the total projected Revenues.

In total, PILOMRT Payments are forecast to be $274,431,512 through 2047 or 1.0% of the total projected Revenues. OMB estimated mortgage-recording tax by multiplying the projected square footage of commercial office and retail development for eligible projects by the expected cost of construction and the 2.5% tax rate. Based on an analysis of the development budgets of recent large Class A office buildings in Manhattan, total development costs, inclusive of hard costs for labor and materials, soft costs and land acquisition costs, were estimated at $1,000 per sf as of 2016. These costs are projected to grow at a 3.0% annual rate over the forecast period. C&W compared this rate to the average growth rate in construction costs for New York City as measured by the Engineering News Record (ENR) Building Construction Index over the 32-year period from 1985 to 2016. The ENR growth rate of 3.4% is higher than the 3.0% forecast rate used in the revenue analysis.

OMB has assumed the projected Non-Recurring Revenues do not include ERY Transferable Development Rights as revenue for the Corporation beyond a receipt in 2018 from the owners of 50 Hudson Yards equal to the remaining balance the Corporation is entitled to receive.

SECTION IX: RISK FACTORS

Certain factors that could, singly or in combination, affect Revenues and the ability of the Corporation to pay debt service on Series 2017 Bonds are described below. These described risks and uncertainties are not intended to be, nor can they be, a complete description of the risks and uncertainties involved in the purchase and ownership of the Series 2017 Bonds. Additional risks and uncertainties not described herein, not presently known, or not currently believed to be material, might also ultimately affect payment of the Series 2017 Bonds. This section should be read in conjunction with the rest of this Official Statement, including the Appendices hereto.

The Corporation has no significant assets other than the Corporation's right to receive the Revenues and the Corporation's limited interest in the ERY Transferable Development Rights. Future Revenues are dependent upon payments generated by current and future development in the Project Area. Revenues also include Interest Support Payments from the City to the Corporation, subject to annual appropriation, in respect of interest on the Supported Bonds (including the First Indenture Bonds and the Series 2017 Bonds) if the Corporation has not received enough other Revenues to make interest payments on the Supported Bonds. Such Interest Support Payments are limited in amount to the amount of interest coming due on Supported Bonds.

The Series 2017 Bonds are Subordinate to the First Indenture Bonds

The rights of the holders of the Second Indenture Bonds are subordinate in right, payment from and priority of lien on the Revenues to the rights of the holders of the unrefunded Series 2012A Bonds. Accordingly, before any Revenues (other than Interest Support Payments made solely for the Second Indenture Bonds) will be available for payment of debt service on the Second Indenture Bonds, all such Revenues received in a Fiscal Year will be applied to fund the Corporation Expenses and debt service on the First Indenture Bonds payable in such Fiscal Year and, as more fully described herein, debt service due on the First Indenture Bonds payable in the subsequent Fiscal Year. See "SECTION V: SECURITY AND SOURCES OF PAYMENT OF BONDS – Application of Revenues and - Events of Default."

Development May Not Occur as Projected in the C&W 2017 Report

In developing the forecast for future real estate demand and building completions over the Forecast Period contained in the C&W 2017 Report, C&W relied on a number of variables and assumptions, including the economic and demographic forecasts provided by Moody's Analytics, as further described in the C&W 2017 Report attached hereto as Appendix E. C&W also relied on historical tax revenue data provided by the NYCDOF to develop current market valuations and future property value growth. The C&W 2017 Report relies on numerous assumptions and limitations (including particularly those described therein under the heading "Limiting Conditions" in Chapter 1.B thereof), including assumptions of economic growth and demographic changes by Moody's Analytics some or all of which may prove to be incorrect. If any assumptions prove to be incorrect, the development projected in the C&W 2017 Report may not occur as projected. Each prospective investor should read the C&W 2017 Report in its entirety and reach his or her own conclusion regarding the reasonableness of the assumptions on which they are based.

Actual Revenues May be Different Than Projected by OMB

OMB's Revenue projections are based on assumptions that may not be realized including the projected development in the C&W 2017 Report. In developing its projection of Revenues from PILOT Payments and Tax Equivalency Payments contained herein, OMB relied on a number of variables and assumptions, including certain information contained in the C&W 2017 Report. OMB's projection of Revenue from Existing Development incorporates current NYCDOF tax liability including the appropriate tax exemption schedule and an assumption of future assessed value. OMB's projection of Revenues from Future Development were developed using forecasts contained in the C&W 2017 Report including completion forecasts, estimates of current assessed values, estimated tax exemption schedules, and projected future growth in property value.

Projected Revenues From Future Development May Not be Realized

Although the C&W 2017 Report indicates that existing development and development underway in the Project Area are projected to produce Revenues sufficient, when combined with other available funds, to pay debt service on the First Indenture Bonds and the Series 2017 Bonds over the period they are outstanding, projected Revenues from expected future development which is not yet underway comprise a substantial portion of total projected Revenues over the life of the Series 2017 Bonds.

The extent and timing of future development in the Project Area is dependent on, among other factors, general economic conditions, the willingness of developers to undertake development of the sites available in the Project Area, the availability of construction financing and real estate market conditions nationally, locally and in the Project Area. In the event development in the Project Area does not proceed, as quickly as described in the C&W 2017 Report, Revenues may be less than projected.

The ability of owners of developed properties to continually make the PILOT Payments, pay real estate taxes, make PILOMRT Payments, or pay for ERY Transferable Development Rights and other density bonus rights in connection with the development of parcels in the Project Area is subject to contingencies outside the control of the Corporation. Owners of developed properties are frequently entities specifically created to limit liabilities of related persons or entities, whose ability to pay are dependent upon cash flow generated from such properties.

PILOT Payments and TEP Revenues are Proportionate to Assessed Values and Tax Rates

A substantial component of the Corporation's Revenues consists of PILOT and TEP Revenues. The calculation of PILOT and TEP Revenues are generally based upon the (i) the billable assessed value of the properties in the Project Area, as determined by the City, (ii) any tax exemption provided for such properties and (iii) the real property tax rate levied by the City. Each of the foregoing components is subject to change. For example, the assessed valuation for any building in the Project Area may be reduced as a result of administrative appeals or court challenges prosecuted or appealed by property owners or major space tenants. There also may be reductions in City tax rates. These or other changes may reduce PILOT or TEP payments by property owners in the Project Area and accordingly reduce Revenues.

The City's Real Property Tax System is Subject to Change, Which Could Affect Revenues

The City's real property tax system and valuation methodology are subject to change as a result of State or local legislation, litigation or for other reasons. Any such changes could result in changes to the Revenues projected herein. For a description of a pending legal challenge to the City's real property tax system and valuation methodology see "APPENDIX D: THE CITY OF NEW YORK: SECTION IX: OTHER INFORMATION – Litigation - *Taxes*."

The Project Area is Compact and Subject to Localized Physical and Economic Risks

Events which cause slower or reduced development within, or impair the usefulness of, the Project Area, such as a major accident, a criminal or terrorist act or an act of war physically or economically affecting the Project Area or the City, or long term incremental changes to the environment or the climate, may cause Revenues to be less than projected. Potential hazards and risks related to climate change for the City and specifically Manhattan include, among other things, rising sea levels, severe coastal flooding and erosion hazards, and more intense storms. For example, in 2012, Superstorm Sandy struck the New York region, causing infrastructure damage and economic losses to areas of Manhattan adjacent to the Hudson River. A portion of the Project Area is located in close proximity to the Hudson River. The Corporation is unable to predict the impact of climate change, severe weather events, and sea-level rises to properties in the Project Area and related infrastructure therein.

The City Cannot be Legally Compelled to Appropriate Interest Support Payments or Tax Equivalency Payments

The City has agreed in the Support and Development Agreement to make Interest Support Payments to the Corporation to pay interest on Supported Bonds, including the First Indenture Bonds and the Series 2017 Bonds (and, if implemented by City Council resolution, up to an additional $500 million of HYIC Bonds) to the extent that the Corporation does not have sufficient other Revenues to make such payments. The City has also agreed to make Tax Equivalency Payments to the Corporation. Interest Support Payments and Tax Equivalency Payments are subject to annual appropriation by the City.

The City cannot be legally compelled to appropriate any such payments. There can be no assurance that such amounts will be appropriated and, if an appropriation is not made, the City cannot make such payments. The City's obligation to make Interest Support Payments and the City's obligation to make Tax Equivalency Payments do not constitute debt of the City under or within the meaning of the State Constitution or the Local Finance Law of the State. A decision to appropriate the Interest Support Payments and to make Tax Equivalency Payments may depend on the financial condition of the City at the times payments are required and the relative importance of competing City needs at such times. See Appendix D to this Official Statement for information about the City.

Some Development in the Project Area May Not Produce Revenues

The assumptions on which projections of Recurring Revenues were based include the assumption that owners of commercial sites in the Project Area will continue to either (i) enter into IDA PILOT Agreements, or PILOT agreements with the MTA (relating to the ERY and the WRY), or (ii) pay real property taxes to the City. The projections of Non-Recurring Revenues were based on the assumption that owners of commercial sites in the Project Area will make certain amounts of DIB Payments and payments for the purchase of ERY Transferable Development Rights in exchange for the right to increase the density of their New Development in the Project Area.

In addition to the IDA, the New York State Urban Development Corporation ("UDC", and sometimes referred to herein as the Empire State Development Corporation or "ESDC") and its subsidiaries, have statutory powers that may be used in the Project Area, which give UDC and its subsidiaries the power to enter into agreements with developers in the Project Area to reduce or eliminate real property taxes otherwise payable to the City without a PILOT Agreement with the IDA and to build larger buildings without making DIB Payments or other payments for the transfer of development rights.

Real property taxes are not payable on property owned and used by the State, ESDC (including its subsidiaries), MTA, or The Port Authority of New York and New Jersey (the "Port Authority"). The State may from time to time create additional entities whose property is exempt from real property taxation. Commercial and residential developments on such property within the Project Area would not result in real property tax revenues to the City or PILOT revenues to the Corporation, unless the State, ESDC (or a subsidiary), MTA (or other additional exempt entity) or the Port Authority agrees to require PILOT Payments be made to the City or the Corporation (which PILOT Payments, if made to the City, would be included in the City's calculation of Tax Equivalency Payments payable to the Corporation), such as in the City-MTA Railyards Agreement.

Although the City-MTA Railyards Agreement provides that the Corporation will receive PILOT Payments from development on both the ERY and the WRY, and, to date all of the developments on the railyards have entered into PILOT Agreements consistent with their Railyards Agreements, development on other State-owned or tax-exempt property in the Project Area could fill some of the demand projected by C&W for commercial and residential developments within the Project Area without resulting in Revenues to the Corporation. The Corporation expects, based on the City's previous experience when PILOT Agreements have been entered into, that the governmental agency entering into the PILOT Agreement will compensate the City pursuant to an assignment of payments in lieu of real property taxes which will be assigned to the Corporation or paid to the Corporation as Tax Equivalency Payments, but there can be no assurance that compensation for such lost real property taxes will take place. The C&W 2017 Report does not include sites presently owned by ESDC (or a subsidiary), MTA or the Port Authority.

Property owned or in some cases used by not-for-profit or other tax-exempt entities can also be exempt from real property taxation.

Foreclosure of PILOT Mortgages Securing PILOT Payments May Be a Time-Consuming, Complex Process From Which Adequate Proceeds May Not Be Realized

Each property owner that enters into an IDA PILOT Agreement with the IDA will secure its payment obligations under such agreement by granting PILOT Mortgages to the IDA, which PILOT Mortgages will be assigned by the IDA to the Corporation, and by the Corporation to the Second Indenture Trustee on a subordinate basis to the assignment by the Corporation to the First Indenture Trustee. If the property owner defaults under the IDA PILOT Agreement, the Second Indenture Trustee, subject to the prior rights of the First Indenture Trustee, could attempt to collect of amounts due by seeking to foreclose the PILOT Mortgage. In New York, foreclosure of a mortgage requires judicial action and requires careful compliance with a number of procedural requirements. It is subject to most of the delays, uncertainties and expenses of other lawsuits and sometimes requires several years to complete. The property owner would have the opportunity to raise defenses and to assert counterclaims which can significantly increase the time and cost of completing a foreclosure. Other parties with liens, judgments or other interests in the property may also seek to prevent or delay a foreclosure action. New York law restricts the right of a mortgagee to simultaneously bring a foreclosure action and an action to recover the mortgage debt. Upon completion of a foreclosure action, a foreclosure sale might not net an amount equal to the amount unpaid.

A foreclosure action can be stayed at any time if the property owner or any other party with an interest in the property files for bankruptcy. Any such stay would likely increase the cost and time required to foreclose. Under certain circumstances, moreover, the bankruptcy court could modify the terms of a PILOT Mortgage.

Bankruptcy or Insolvency of the Corporation May Affect Rights, Remedies and Revenues

The enforceability of the rights and remedies of the owners of the Series 2017 Bonds under the Series 2017 Bonds and the Second Indenture, and of claims against other persons, are subject to bankruptcy, insolvency, reorganization, moratorium and other similar laws affecting creditors' rights heretofore or hereafter enacted, and to the exercise of judicial discretion in appropriate cases. The Corporation would not be subject to an involuntary petition or case under section 303 of the U.S. Federal Bankruptcy Code unless it were determined to be a moneyed, business or commercial corporation within the meaning of the Federal Bankruptcy Code. The Corporation has no secured creditors other than the owners of HYIC Bonds.

Bankruptcy or Insolvency of the Property Owner or Tenant May Affect Revenues

Generally under the U.S. Federal Bankruptcy Code, individuals and business entities in financial distress may settle debts through a liquidation of assets or may provide for the settlement of claims through either a plan of reorganization or a plan of adjustment of the debtor's financial affairs. Bankruptcy courts are courts of equitable jurisdiction and, as such, have the judicial discretion to examine a broad range of issues affecting the debtor. If a debtor owning or occupying space within the Project Area obtains relief from the bankruptcy court, PILOT payments or TEP payments could be delayed or reduced.

Judicial or Administrative Actions or Investigations May Commence

The status of legal proceedings concerning the Corporation is described in "Section XVII: LITIGATION." There can be no assurance that judicial or administrative actions or investigations challenging the issuance of the Series 2017 Bonds or any of the other activities or transactions contemplated by this Official Statement will not be filed or commenced in the future or, if they are filed or commenced, that they will not adversely affect the ability of the Corporation to pay debt service on the Series 2017 Bonds.

Economic Circumstances are Unpredictable

General economic circumstances are inherently unpredictable. Poor economic circumstances could adversely affect the financial condition of occupants of the Project Area and, consequently, the ability of property owners to make required PILOT payments or property tax payments. Neither the Corporation nor C&W has reviewed the financial position or analyzed the creditworthiness of any property owner or tenant in the Project Area. The Corporation is unable to predict how any property owner or tenant will be affected by economic factors.

General economic circumstances could also have an effect on City tax policy and assessments as they relate to real property in the Project Area, which could adversely affect Revenues.

Security for the Series 2017 Bonds Could Become Diluted

No First Indenture Bonds may be issued after delivery of the Series 2017 Bonds. The Second Indenture permits the Corporation to issue additional Second Indenture Bonds payable from the Revenues on a parity with the Series 2017 Bonds, as described herein. The issuance by the Corporation of additional Second Indenture Bonds payable from the Revenues on a parity with the Series 2017 Bonds would dilute the security for the Series 2017 Bonds by increasing the aggregate debt service payable by the Corporation and decreasing the projected debt service coverage for the Series 2017 Bonds. See "SECTION V: SECURITY AND SOURCES OF PAYMENT OF BONDS — Additional Bonds."

Remediation of Hazardous Substances and Environmental Compliance Could be Required

The presence of hazardous substances in the Project Area at levels requiring remediation could increase the costs of construction and could cause delays of development in the Project Area.

Regulations governing, among other things, air pollution, noise abatement and control, hazardous waste, solid waste and water quality are stringent and may become more stringent in the future, possibly requiring additional compliance and resulting in additional costs or delays in the further development of the Project Area.

Zoning or Development Incentives Could Change in the Project Area or Competing Areas

The Project Area Zoning Regulations are intended to encourage new medium to large scale commercial, residential, hotel and retail development in the Project Area and were approved by the New York City Planning Commission (the "Planning Commission") and adopted by the City Council in 2005 and 2009. The Planning Commission, the majority of the commissioners of which are Mayoral appointees, and the City Council, could enact changes in the Project Area Zoning Regulations in the future that reduce available density bonuses, reduce the amount of DIB Payments, or make the cost of such payments prohibitive for developers, or make other changes to the zoning regulations that would discourage development in the Project Area.

Changes in State law could have similar effects. For example, although the IDA has agreed not to modify the Project Area UTEP without the prior consent of the Corporation except to comply with State law, changes in State law could require a reduction of the incentives provided by the Project Area UTEP. In addition, the 421-a Program, which provides certain incentives to develop residential housing, expired in January 2016. As described herein, a similar incentive program called the Affordable New York Housing Program has replaced the 421-a Program and is set to expire in 2022. There can be no assurance that the Affordable New York Housing Program will be extended or renewed or, if so extended, what incentives might then be included. The C&W 2017 Report assumes there will be a 421-a Program or similar incentive program in place during the forecast period. Changes to Affordable New York Housing Program may have the effect of reducing the incentives for residential development and, consequently, Revenues. See "SECTION V: SECURITY AND SOURCES OF PAYMENT OF BONDS – Recurring Revenues – *421-a Tax Exemption Program*."

The Planning Commission and the City Council could also make zoning changes elsewhere in the City which reduce the relative attractiveness of development in the Project Area. Projected development in the Project Area has been analyzed in the C&W 2017 Report based on assumptions and limitations regarding the likelihood of development in other areas of the New York City metropolitan region (the "Region") that will compete with the Project Area for development. If such assumptions prove incorrect, it is possible that more development could occur in other areas of the Region that would diminish the demand for development in the Project Area and negatively affect Revenues. Policy decisions by the City or the State or by neighboring states to encourage development in other areas could slow or reduce development in the Project Area. See the C&W 2017 Report attached hereto as Appendix E for a brief description of certain competing development activities.

Development of an Efficient Secondary Market for the Series 2017 Bonds May Not Occur.

Unless an efficient secondary market for the Series 2017 Bonds develops, reselling the Series 2017 Bonds when needed or desired may be difficult or costly. There can be no assurance that any secondary market for the Series 2017 Bonds will develop, or if a secondary market does develop, that it will provide Bondholders with liquidity or that it will continue for the life of the Series 2017 Bonds. Consequently, any purchaser of the Series 2017 Bonds must be prepared to hold such securities until the maturity or redemption of such securities.

SECTION X: SERIES 2017 DEBT SERVICE AND COVERAGE TABLES

The tables below set forth the debt service requirements and the projected debt service coverage for the Series 2017 Bonds and the unrefunded Series 2012A Bonds.

Exhibit 10-1 sets forth the gross debt service to be paid on the unrefunded Series 2012A Bonds and the Series 2017 Bonds on a cash basis within each fiscal year. Completion Bonds totaling $150 million bearing 5% coupons are assumed to be issued in August of 2018. See "SECTION V: SECURITY AND SOURCES OF PAYMENT OF BONDS – Additional Bonds." The debt service for the unrefunded Series 2012A Bonds reflects the amortization of such bonds beginning on February 15, 2018 as a result of the Conversion of the Series 2012A Bonds under the First Indenture. See "SECTION III: PLAN OF FINANCE – Impact of Refunding of Unrefunded Series 2012A Bonds Post-Closing – Conversion, " and the amortization of the specific Series 2012A Bonds detailed in Appendix H. Debt service in fiscal year 2018 will be paid from amounts retained in the Debt Service Fund for the respective Indenture at closing.

Exhibit 10-1: Debt Service for the Unrefunded Series 2012A Bonds, Series 2017 Bonds and Completion Bonds

Fiscal Year Ending June 30	Series 2012A Bonds Principal	Series 2012A Bonds Interest	Series 2012A Bonds Debt Service	Series 2017 Bonds Principal	Series 2017 Bonds Interest	Series 2017 Bonds Debt Service	Completion Bonds** Debt Service	2012A, 2017 and Completion Bonds Debt Service
2018	$8,495,000	$33,142,500	$41,637,500 *		$71,237,778	$71,237,778 *		$112,875,278 *
2019	8,955,000	32,680,213	41,635,213		100,570,981	100,570,981	$3,750,000	145,956,194
2020	9,440,000	32,192,888	41,632,888		100,570,981	100,570,981	7,500,000	149,703,869
2021	9,955,000	31,679,150	41,634,150		100,570,981	100,570,981	7,500,000	149,705,131
2022	10,500,000	31,137,375	41,637,375	$42,690,000	100,570,981	143,260,981	7,500,000	192,398,356
2023	11,070,000	30,565,925	41,635,925	44,675,000	98,584,981	143,259,981	7,500,000	192,395,906
2024	11,670,000	29,963,475	41,633,475	46,825,000	96,433,231	143,258,231	10,435,000	195,326,706
2025	12,305,000	29,328,400	41,633,400	49,090,000	94,169,281	143,259,281	10,433,250	195,325,931
2026	12,975,000	28,658,738	41,633,738	51,505,000	91,755,731	143,260,731	10,434,250	195,328,719
2027	13,680,000	27,952,638	41,632,638	54,075,000	89,186,781	143,261,781	10,432,500	195,326,919
2028	14,425,000	27,208,175	41,633,175	56,760,000	86,497,931	143,257,931	10,432,750	195,323,856
2029	15,210,000	26,423,113	41,633,113	59,600,000	83,659,931	143,259,931	10,434,500	195,327,544
2030	16,040,000	25,595,388	41,635,388	62,580,000	80,679,931	143,259,931	10,437,250	195,332,569
2031	16,915,000	24,722,488	41,637,488	65,710,000	77,550,931	143,260,931	10,435,500	195,333,919
2032	17,835,000	23,801,938	41,636,938	68,995,000	74,265,431	143,260,431	10,434,000	195,331,369
2033	18,805,000	22,831,338	41,636,338	72,375,000	70,885,881	143,260,881	10,437,250	195,334,469
2034	19,825,000	21,807,938	41,632,938	75,995,000	67,267,131	143,262,131	10,434,500	195,329,569
2035	20,905,000	20,729,075	41,634,075	79,795,000	63,467,381	143,262,381	10,435,500	195,331,956
2036	22,045,000	19,591,375	41,636,375	83,780,000	59,477,631	143,257,631	10,434,500	195,328,506
2037	23,245,000	18,391,663	41,636,663	87,630,000	55,630,031	143,260,031	10,436,000	195,332,694
2038	24,510,000	17,126,613	41,636,613	92,015,000	51,248,531	143,263,531	10,434,250	195,334,394
2039	25,845,000	15,792,775	41,637,775	95,955,000	47,303,900	143,258,900	10,433,750	195,330,425
2040	27,250,000	14,386,238	41,636,238	100,755,000	42,506,150	143,261,150	10,433,750	195,331,138
2041	28,730,000	12,903,263	41,633,263	105,790,000	37,468,400	143,258,400	10,433,500	195,325,163
2042	30,295,000	11,339,725	41,634,725	111,080,000	32,178,900	143,258,900	10,437,250	195,330,875
2043	31,945,000	9,691,063	41,636,063	116,635,000	26,624,900	143,259,900	10,434,000	195,329,963
2044	33,680,000	7,952,550	41,632,550	121,300,000	21,959,500	143,259,500	10,433,250	195,325,300
2045	35,515,000	6,119,638	41,634,638	126,150,000	17,107,500	143,257,500	10,434,000	195,326,138
2046	37,450,000	4,186,900	41,636,900	132,350,000	10,800,000	143,150,000	10,435,250	195,222,150
2047	39,485,000	2,148,838	41,633,838	137,650,000	5,506,000	143,156,000	10,436,000	195,225,838
Totals	$609,000,000	$640,051,388	$1,249,051,388	$2,141,760,000	$1,955,737,703	$4,097,497,703	$284,181,750	$5,630,730,841

* Debt service in FY 2018 to be paid from amounts retained in the Debt Service Fund for the respective Indenture at closing.
**$150 million of Completion Bonds bearing 5% coupons are assumed to be issued in August of 2018 and to mature in fiscal year 2049.
See "SECTION V: SECURITY AND SOURCES OF PAYMENT OF BONDS – Additional Bonds."

Exhibit 10-2 sets forth the coverage of the debt service shown in Exhibit 10-1 provided by the Projected Recurring Revenue from Existing Development, as detailed in Exhibit 1-2 of the C&W 2017 Report in Appendix E, less the projected Operating Expenses of the Corporation. The projected Operating Expenses of the Corporation are based upon the Corporation's estimate of its operating expenses for FY 2017, inflated at 3% per year each year thereafter. Debt service in FY 2018 will be paid from amounts retained in the Debt Service Fund for the respective Indenture at closing.

Exhibit 10-2: Debt Service Coverage Based Upon Projected Recurring Revenues from Existing Development

Fiscal Year Ending June 30	Projected Recurring Revenues*	Projected Operating Expenses	Net Recurring Revenues	2012A, 2017 and Completion Bonds Debt Service	Coverage	
2018	$104,054,126	($785,890)	$103,268,236	$112,875,278	1.00 x	**
2019	123,061,850	(809,467)	122,252,383	145,956,194	1.00 x	***
2020	179,007,280	(833,751)	178,173,529	149,703,869	1.19 x	***
2021	200,864,491	(858,763)	200,005,728	149,705,131	1.34 x	
2022	207,545,499	(884,526)	206,660,973	192,398,356	1.07 x	
2023	217,050,751	(911,062)	216,139,689	192,395,906	1.12 x	
2024	235,725,945	(938,394)	234,787,551	195,326,706	1.20 x	
2025	248,340,333	(966,546)	247,373,787	195,325,931	1.27 x	
2026	268,896,241	(995,542)	267,900,699	195,328,719	1.37 x	
2027	283,836,825	(1,025,408)	282,811,417	195,326,919	1.45 x	
2028	306,912,332	(1,056,170)	305,856,162	195,323,856	1.57 x	
2029	329,308,320	(1,087,856)	328,220,465	195,327,544	1.68 x	
2030	355,406,058	(1,120,491)	354,285,566	195,332,569	1.81 x	
2031	380,751,113	(1,154,106)	379,597,007	195,333,919	1.94 x	
2032	410,204,938	(1,188,729)	409,016,209	195,331,369	2.09 x	
2033	443,098,213	(1,224,391)	441,873,822	195,334,469	2.26 x	
2034	463,179,940	(1,261,123)	461,918,817	195,329,569	2.36 x	
2035	497,013,055	(1,298,956)	495,714,099	195,331,956	2.54 x	
2036	541,764,171	(1,337,925)	540,426,246	195,328,506	2.77 x	
2037	590,186,088	(1,378,063)	588,808,026	195,332,694	3.01 x	
2038	628,176,686	(1,419,405)	626,757,282	195,334,394	3.21 x	
2039	668,111,749	(1,461,987)	666,649,762	195,330,425	3.41 x	
2040	707,245,157	(1,505,847)	705,739,311	195,331,138	3.61 x	
2041	732,941,396	(1,551,022)	731,390,374	195,325,163	3.74 x	
2042	759,584,038	(1,597,553)	757,986,485	195,330,875	3.88 x	
2043	787,208,320	(1,645,479)	785,562,841	195,329,963	4.02 x	
2044	815,850,807	(1,694,844)	814,155,963	195,325,300	4.17 x	
2045	845,549,433	(1,745,689)	843,803,744	195,326,138	4.32 x	
2046	876,343,561	(1,798,059)	874,545,501	195,222,150	4.48 x	
2047	908,274,033	(1,852,001)	906,422,031	195,225,838	4.64 x	
Totals	$14,115,492,749	($37,389,043)	$14,078,103,705	$5,630,730,841		

* Projected Recurring Revenues from Existing Developments, as detailed in Exhibit 1-2 of C&W 2017 Report.

** Debt service in FY 2018 to be paid from amounts retained in the Debt Service Funds at closing.

*** Debt service in FY 2019 and FY 2020 to be paid from Net Recurring Revenues and amounts retained in the Debt Service Funds from the prior fiscal year.

Exhibit 10-3 sets forth the coverage of the debt service shown in Exhibit 10-1 provided by the Projected Net Recurring Revenues, which is equal to the Projected Recurring Revenue from Existing and Future Development, as detailed in Exhibit 1-2a of the C &W 2017 Report in Appendix E, less the projected Operating Expenses of the Corporation. The projected Operating Expenses of the Corporation are based upon the Corporation's estimate of its operating expenses for FY 2017, inflated at 3% per year each year thereafter.

Exhibit 10-3: Debt Service Coverage Based Upon Projected Recurring Revenues from Existing and Future Development

Fiscal Year Ending June 30	Projected Recurring Revenues*	Projected Operating Expenses	Net Recurring Revenues	2012A, 2017 and Completion Bonds Debt Service	Coverage	
2018	$110,027,831	($785,890)	$109,241,941	$112,875,278	1.00 x	**
2019	157,853,363	(809,467)	157,043,896	145,956,194	1.08 x	***
2020	237,366,595	(833,751)	236,532,844	149,703,869	1.58 x	***
2021	278,696,311	(858,763)	277,837,548	149,705,131	1.86 x	
2022	295,032,854	(884,526)	294,148,328	192,398,356	1.53 x	
2023	325,330,563	(911,062)	324,419,501	192,395,906	1.69 x	
2024	414,852,238	(938,394)	413,913,844	195,326,706	2.12 x	
2025	443,132,477	(966,546)	442,165,931	195,325,931	2.26 x	
2026	482,446,354	(995,542)	481,450,812	195,328,719	2.46 x	
2027	517,868,422	(1,025,408)	516,843,014	195,326,919	2.65 x	
2028	562,145,388	(1,056,170)	561,089,218	195,323,856	2.87 x	
2029	621,915,756	(1,087,856)	620,827,901	195,327,544	3.18 x	
2030	672,817,787	(1,120,491)	671,697,295	195,332,569	3.44 x	
2031	716,321,133	(1,154,106)	715,167,027	195,333,919	3.66 x	
2032	769,976,606	(1,188,729)	768,787,877	195,331,369	3.94 x	
2033	833,383,846	(1,224,391)	832,159,455	195,334,469	4.26 x	
2034	888,914,863	(1,261,123)	887,653,740	195,329,569	4.54 x	
2035	936,174,949	(1,298,956)	934,875,992	195,331,956	4.79 x	
2036	995,886,887	(1,337,925)	994,548,962	195,328,506	5.09 x	
2037	1,059,913,381	(1,378,063)	1,058,535,319	195,332,694	5.42 x	
2038	1,147,866,306	(1,419,405)	1,146,446,901	195,334,394	5.87 x	
2039	1,260,559,281	(1,461,987)	1,259,097,294	195,330,425	6.45 x	
2040	1,341,463,144	(1,505,847)	1,339,957,298	195,331,138	6.86 x	
2041	1,418,912,575	(1,551,022)	1,417,361,553	195,325,163	7.26 x	
2042	1,498,717,316	(1,597,553)	1,497,119,763	195,330,875	7.66 x	
2043	1,615,367,427	(1,645,479)	1,613,721,947	195,329,963	8.26 x	
2044	1,689,195,023	(1,694,844)	1,687,500,179	195,325,300	8.64 x	
2045	1,765,885,376	(1,745,689)	1,764,139,687	195,326,138	9.03 x	
2046	1,846,856,193	(1,798,059)	1,845,058,133	195,222,150	9.45 x	
2047	1,929,709,320	(1,852,001)	1,927,857,319	195,225,838	9.88 x	
Totals	$26,834,589,564	($37,389,043)	$26,797,200,521	$5,630,730,841		

* Projected Recurring Revenues as detailed in Exhibit 1-2a of C&W 2017 Report.

** Debt service in FY 2018 to be paid from amounts retained in the Debt Service Funds at closing.

***Debt service in FY 2019 and FY 2020 to be paid from Net Recurring Revenues and amounts retained in the Debt Service Funds from the prior fiscal year.

Exhibit 10-4 sets forth the coverage of the debt service shown in Exhibit 10-1 provided by the Total Projected Net Revenues, which is equal to the Projected Net Recurring Revenues, as shown in Exhibit 10-3, plus the Projected Non-Recurring Revenues, as detailed in Exhibit 1-2a of the C&W 2017 Report in Appendix E. Debt service in FY 2018 will be paid from amounts retained in the Debt Service Fund for the respective Indenture at closing.

Exhibit 10-4: Debt Service Coverage Based Upon Projected Recurring and Non-Recurring Revenues from Existing and Future Development

Fiscal Year Ending June 30	Net Recurring Revenues	Non-Recurring Revenues*	Net Aggregate Revenues	2012A, 2017 and Completion Bonds Debt Service	Coverage
2018	$109,241,941	$203,418,079	$312,660,020	$112,875,278	2.77 x
2019	157,043,896	77,316,435	234,360,331	145,956,194	1.61 x
2020	236,532,844	16,386,066	252,918,910	149,703,869	1.69 x
2021	277,837,548	14,165,355	292,002,903	149,705,131	1.95 x
2022	294,148,328	26,992,304	321,140,632	192,398,356	1.67 x
2023	324,419,501	30,359,756	354,779,256	192,395,906	1.84 x
2024	413,913,844	88,053,063	501,966,907	195,326,706	2.57 x
2025	442,165,931	63,531,956	505,697,888	195,325,931	2.59 x
2026	481,450,812	49,681,295	531,132,107	195,328,719	2.72 x
2027	516,843,014	21,247,269	538,090,283	195,326,919	2.75 x
2028	561,089,218	30,844,805	591,934,023	195,323,856	3.03 x
2029	620,827,901	38,375,848	659,203,748	195,327,544	3.37 x
2030	671,697,295	940,340	672,637,635	195,332,569	3.44 x
2031	715,167,027	-	715,167,027	195,333,919	3.66 x
2032	768,787,877	707,978	769,495,855	195,331,369	3.94 x
2033	832,159,455	48,322,821	880,482,276	195,334,469	4.51 x
2034	887,653,740	63,829,354	951,483,095	195,329,569	4.87 x
2035	934,875,992	21,613,034	956,489,027	195,331,956	4.90 x
2036	994,548,962	30,834,055	1,025,383,017	195,328,506	5.25 x
2037	1,058,535,319	31,501,855	1,090,037,173	195,332,694	5.58 x
2038	1,146,446,901	62,720,712	1,209,167,613	195,334,394	6.19 x
2039	1,259,097,294	1,524,291	1,260,621,585	195,330,425	6.45 x
2040	1,339,957,298	-	1,339,957,298	195,331,138	6.86 x
2041	1,417,361,553	-	1,417,361,553	195,325,163	7.26 x
2042	1,497,119,763	-	1,497,119,763	195,330,875	7.66 x
2043	1,613,721,947	117,892,810	1,731,614,758	195,329,963	8.87 x
2044	1,687,500,179	19,898,250	1,707,398,429	195,325,300	8.74 x
2045	1,764,139,687	-	1,764,139,687	195,326,138	9.03 x
2046	1,845,058,133	-	1,845,058,133	195,222,150	9.45 x
2047	1,927,857,319	-	1,927,857,319	195,225,838	9.88 x
Totals	$26,797,200,521	$1,060,157,729	$27,857,358,250	$5,630,730,841	

* Projected Non-Recurring Revenues as detailed in Exhibit 1-2a of C&W 2017 Report.

** Debt service in FY 2018 to be paid from amounts retained in the Debt Service Funds at closing.

***Debt service in FY 2019 and FY 2020 to be paid from Net Revenues and amounts retained in the Debt Service Funds from the prior fiscal year.

SECTION XI: THE CORPORATION

The Corporation is a local development corporation incorporated under the provisions of Section 1411 of the New York State Not-For-Profit Corporation Law. The Corporation is a non-stock, membership corporation governed by a board of directors. The members of the Corporation are the same as the directors of the Corporation as listed below. The Board of Directors of the Corporation is comprised of five directors serving *ex-officio*, a majority of whom serve at the pleasure of the Mayor, consisting of the Deputy Mayor for Economic Development (Alicia Glen), the Deputy Mayor for Operations (Anthony Shorris), the Director of Management and Budget (Dean Fuleihan), the City Comptroller (Scott Stringer) and the Speaker of the City Council (Melissa Mark-Viverito).

The following is a brief description of certain officers and staff members of the Corporation:

Alan L. Anders, President

Mr. Anders was appointed Treasurer on January 25, 2005 and was subsequently appointed President on October 12, 2006. Mr. Anders also serves as Deputy Director for Finance for the Office of Management and Budget of the City. Prior to joining the City in September 1990, Mr. Anders was a senior investment banker for J.P. Morgan Securities since 1977 and prior to that date was Executive Director of the Commission on Governmental Efficiency and Economy in Baltimore, Maryland. Mr. Anders is a graduate of the University of Pennsylvania and the University of Maryland Law School.

Prescott D. Ulrey, Secretary

Mr. Ulrey was appointed Assistant Secretary on January 25, 2005, and Secretary in September 2013. Mr. Ulrey is a graduate of the University of California at Berkeley, the Fletcher School of Law and Diplomacy at Tufts University and Columbia Law School. He also serves as General Counsel to the Office of Management and Budget of the City.

F. Jay Olson, Vice President and Treasurer

Mr. Olson was appointed Deputy Treasurer on January 25, 2005 and was subsequently appointed Vice President and Treasurer on October 12, 2006. He is a graduate of Northwestern University, the University of Texas at Austin and the John F. Kennedy School of Government at Harvard University. He also serves as Assistant Director at the Office of Management and Budget of the City.

Jeffrey M. Werner, Assistant Secretary

Mr. Werner was appointed Assistant Secretary on January 25, 2005. Mr. Werner is a graduate of Bowdoin College and Columbia University Law School. He also serves as Deputy General Counsel to the Office of Management and Budget of the City.

Robert Balducci, Comptroller

Mr. Balducci was appointed Deputy Comptroller in March 2011, and Comptroller in May 2014. He is a graduate of Baruch College of The City University of New York.

Kemraj Narine, Deputy Comptroller

Mr. Narine was appointed Assistant Comptroller in March 2011 and Deputy Comptroller in May 2014. He is a graduate of York College of The City University of New York.

Laura Tarbox, Assistant Treasurer

Ms. Tarbox was appointed Assistant Treasurer in May 2014. She is a graduate of Cornell University. She also serves as Unit Head at the Office of Management and Budget of the City.

SECTION XII: TAX MATTERS - SERIES 2017A BONDS

Federal Income Taxes

The Internal Revenue Code of 1986, as amended (the "Code"), imposes certain requirements that must be met subsequent to the issuance and delivery of the Series 2017A Bonds for interest thereon to be and remain excluded from gross income for federal income tax purposes. Noncompliance with such requirements could cause the interest on the Series 2017A Bonds to be included in gross income for federal income tax purposes retroactive to the date of issue of the Series 2017A Bonds. Pursuant to the Second Indenture and the Tax Certificate for the Series 2017A Bonds, the Corporation has covenanted to comply with the applicable requirements of the Code in order to maintain the exclusion of the interest on the Series 2017A Bonds from gross income for federal income tax purposes pursuant to Section 103 of the Code. In addition, the Corporation has made certain representations and certifications in the Second Indenture and the Tax Certificate for the Series 2017A Bonds. Bond Counsel will not independently verify the accuracy of those representations and certifications.

In the opinion of Nixon Peabody LLP, Bond Counsel, under existing law and assuming compliance with the aforementioned covenant, and the accuracy of certain representations and certifications made by the Corporation described above, interest on the Series 2017A Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Code. Bond Counsel is also of the opinion that such interest is not treated as a preference item in calculating the alternative minimum tax imposed under the Code with respect to individuals and corporations. Interest on the Series 2017A Bonds is, however, included in the adjusted current earnings of certain corporations for purposes of computing the alternative minimum tax imposed on such corporations.

State Taxes

Bond Counsel is also of the opinion that interest on the Series 2017A Bonds is exempt from personal income taxation imposed by the State of New York or any political subdivision thereof, including The City of New York, assuming compliance with the tax covenants and the accuracy of the representations and certifications described under the heading "Federal Income Taxes." Bond Counsel expresses no opinion as to other New York State or local tax consequences arising with respect to the Series 2017A Bonds nor as to the taxability of the Series 2017A Bonds or the income therefrom under the laws of any state other than the State of New York.

Original Issue Premium

Series 2017A Bonds sold at prices in excess of their principal amounts are "Premium Bonds." An initial purchaser with an initial adjusted basis in a Premium Bond in excess of its principal amount will have amortizable bond premium which is not deductible from gross income for federal income tax purposes. The amount of amortizable bond premium for a taxable year is determined actuarially on a constant interest rate basis over the term of each Premium Bond based on the purchaser's yield to maturity (or, in the case of Premium Bonds callable prior to their maturity, over the period to the call date, based on the purchaser's yield to the call date and giving effect to any call premium). For purposes of determining gain or loss on the sale or other disposition of a Premium Bond, an initial purchaser who acquires such obligation with an amortizable bond premium is required to decrease such purchaser's adjusted basis in such Premium Bond annually by the amount of amortizable bond premium for the taxable year. The amortization of bond premium may be taken into account as a reduction in the amount of tax-exempt income for purposes of determining various other tax consequences of owning such Series 2017A Bonds. Owners of the Premium Bonds are advised that they should consult with their own advisors with respect to the state and local tax consequences of owning such Premium Bonds.

Ancillary Tax Matters

Ownership of the Series 2017A Bonds may result in other federal tax consequences to certain taxpayers, including, without limitation, certain S corporations, foreign corporations with branches in the United States, property and casualty insurance companies, individuals receiving Social Security or Railroad Retirement benefits, and individuals seeking to claim the earned income credit. Ownership of the Series 2017A Bonds may also result in other federal tax consequences to taxpayers who may be deemed to have incurred or continued indebtedness to purchase or to carry the Series 2017A Bonds. Prospective investors are advised to consult their own tax advisors regarding these rules.

Interest paid on tax-exempt obligations such as the Series 2017A Bonds is subject to information reporting to the Internal Revenue Service (the "IRS") in a manner similar to interest paid on taxable obligations. In addition, interest on the Series 2017A Bonds may be subject to backup withholding if such interest is paid to a registered owner that (a) fails to provide certain identifying information (such as the registered owner's taxpayer identification number) in the manner required by the IRS, or (b) has been identified by the IRS as being subject to backup withholding.

Bond Counsel is not rendering any opinion as to any federal tax matters other than those described in the opinion attached as Appendix G to this Official Statement. Prospective investors, particularly those who may be subject to special rules described above, are advised to consult their own tax advisors regarding the federal tax consequences of owning and disposing of the Series 2017A Bonds, as well as any tax consequences arising under the laws of any state or other taxing jurisdiction.

Changes in Law and Post Issuance Events

Legislative or administrative actions and court decisions, at either the federal or state level, could have an adverse impact on the potential benefits of the exclusion from gross income of the interest on the Series 2017A Bonds and for federal or state income tax purposes, and thus on the value or marketability of the Series 2017A Bonds. This could result from changes to federal or state income tax rates, changes in the structure of federal or state income taxes (including replacement with another type of tax), repeal of the exclusion of the interest on the Series 2017A Bonds from gross income for federal or state income tax purposes, or otherwise. In this regard, there have been various proposals in recent years that would limit the extent of the exclusion from gross income of interest on obligations of states and political subdivisions under Section 103 of the Code for taxpayers whose income exceeds certain thresholds. It is not possible to predict whether any legislative or administrative actions or court decisions having an adverse impact on the federal or state income tax treatment of holders of the Series 2017A Bonds may occur. Prospective purchasers of the Series 2017A Bonds should consult their own tax advisers regarding the impact of any change in law on the Series 2017A Bonds.

Bond Counsel has not undertaken to advise in the future whether any events after the date of issuance and delivery of the Series 2017A Bonds may affect the tax status of interest on the Series 2017A Bonds. Bond Counsel expresses no opinion as to any federal, state or local tax law consequences with respect to the Series 2017A Bonds, or the interest thereon, if any action is taken with respect to the Series 2017A Bonds or the proceeds thereof upon the advice or approval of other counsel.

The form of the approving opinion of Bond Counsel relating to the Series 2017A Bonds is attached to this Official Statement as APPENDIX G – "FORMS OF BOND COUNSEL OPINIONS."

SECTION XIII: TAX MATTERS – SERIES 2017B BONDS

In General

The following is a summary of certain anticipated United States federal income tax consequences of the purchase, ownership and disposition of the Series 2017B Bonds. The summary is based upon the provisions of the Code, the Treasury Regulations promulgated thereunder and the judicial and administrative rulings and decisions now in effect, all of which are subject to change. Such authorities may be repealed, revoked, or modified, possibly with retroactive effect, so as to result in United States federal income tax consequences different from those described below. The summary generally addresses Series 2017B Bonds held as capital assets within the meaning of Section 1221 of the Code and does not purport to address all aspects of federal income taxation that may affect particular investors in light of their individual circumstances or certain types of investors subject to special treatment under the federal income tax laws, including but not limited to financial institutions, insurance companies, dealers in securities or currencies, persons holding such Series 2017B Bonds as a hedge against currency risks or as a position in a "straddle," "hedge," "constructive sale transaction" or "conversion transaction" for tax purposes, or persons whose functional currency is not the United States dollar. It also does not deal with holders other than original purchasers that acquire Series 2017B Bonds at their initial issue price except where otherwise specifically noted. Potential purchasers of the Series 2017B Bonds should consult their own tax advisors in determining the federal, state, local, foreign and other tax consequences to them of the purchase, holding and disposition of the Series 2017B Bonds.

The Corporation has not sought and will not seek any rulings from the IRS with respect to any matter discussed herein. No assurance can be given that the IRS would not assert, or that a court would not sustain, a position contrary to any of the tax characterizations and tax consequences set forth below.

The form of the approving opinion of Bond Counsel relating to the Series 2017B Bonds is attached to this Official Statement as APPENDIX G – "FORMS OF BOND COUNSEL OPINIONS."

U.S. Holders

As used herein, the term ''U.S. Holder'' means a beneficial owner of Series 2017B Bonds that is (a) an individual citizen or resident of the United States for federal income tax purposes, (b) a corporation, including an entity treated as a corporation for federal income tax purposes, created or organized in or under the laws of the United States or any State thereof (including the District of Columbia), (c) an estate whose income is subject to federal income taxation regardless of its source, or (d) a trust if a court within the United States can exercise primary supervision over the administration of the trust and one or more U.S. persons have the authority to control all substantial decisions of the trust. Notwithstanding clause (d) of the preceding sentence, to the extent provided in Treasury regulations, certain trusts in existence on August 20, 1996, and treated as United States persons prior to that date that elect to continue to be treated as United States persons also will be U.S. Holders. In addition, if a partnership (or other entity or arrangement treated as a partnership for federal income tax purposes) holds Series 2017B Bonds, the tax treatment of a partner in the partnership generally will depend upon the status of the partner and the activities of the partnership. If a U.S. Holder is a partner in a partnership (or other entity or arrangement treated as a partnership for federal income tax purposes) that holds Series 2017B Bonds, the U.S. Holder is urged to consult its own tax advisor regarding the specific tax consequences of the purchase, ownership and dispositions of the Series 2017B Bonds.

Federal Taxation of Interest Generally

Interest on the Series 2017B Bonds is not excluded from gross income for federal income tax purposes under Code section 103 and so will be fully subject to federal income taxation. Purchasers (other than those who purchase Series 2017B Bonds in the initial offering at their principal amounts) will be subject to federal income tax accounting rules affecting the timing and/or characterization of payments received with respect to such Series 2017B Bonds. In general, interest paid on the Series 2017B Bonds and recovery of any accrued original issue discount and market discount will be treated as ordinary income to a Bondholder, and after adjustment for the foregoing, principal payments will be treated as a return of capital to the extent of the U.S. Holder's adjusted tax basis in the Series 2017B Bonds and capital gain to the extent of any excess received over such basis.

State Taxes

Interest on the Series 2017B Bonds is not exempt from personal income taxes of the State of New York and its political subdivisions, including The City of New York. Bond Counsel expresses no opinion as to other state or local tax law consequences arising with respect to the Series 2017B Bonds nor as to the taxability of the Series 2017B Bonds or the income derived therefrom under the laws of any state other than the State of New York.

Market Discount

Any owner who purchases a Series 2017B Bond at a price which includes market discount (i.e., at a purchase price that is less than its adjusted issue price in the hands of an original owner) in excess of a prescribed de minimis amount will be required to recharacterize all or a portion of the gain as ordinary income upon receipt of each scheduled or unscheduled principal payment or upon other disposition. In particular, such owner will generally be required either (a) to allocate each such principal payment to accrued market discount not previously included in income and to recognize ordinary income to that extent and to treat any gain upon sale or other disposition of such a Series 2017B Bond as ordinary income to the extent of any remaining accrued market discount or (b) to elect to include such market discount in income currently as it accrues on all market discount instruments acquired by such owner on or after the first day of the taxable year to which such election applies.

The Code authorizes the Treasury Department to issue regulations providing for the method for accruing market discount on debt instruments the principal of which is payable in more than one installment. Until such time as regulations are issued by the Treasury Department, certain rules described in the legislative history of the Tax Reform Act of 1986 will apply. Under those rules, market discount will be included in income either (a) on a constant interest basis or (b) in proportion to the accrual of stated interest.

An owner of a Series 2017B Bond who acquires such Series 2017B Bond at a market discount also may be required to defer, until the maturity date of such Series 2017B Bonds or the earlier disposition in a taxable transaction, the deduction of a portion of the amount of interest that the owner paid or accrued during the taxable year on indebtedness incurred or maintained to purchase or carry a Series 2017B Bond in excess of the aggregate amount of interest (including original issue discount) includable in such owner's gross income for the taxable year with respect to such Series 2017B Bond. The amount of such net interest expense deferred in a taxable year may not exceed the amount of market discount accrued on the Series 2017B Bond for the days during the taxable year on which the owner held the Series 2017B Bond and, in general, would be deductible when such market discount is includable in income. The amount of any remaining deferred deduction is to be taken into account in the taxable year in which the Series 2017B Bond matures or is disposed of in a taxable transaction. In the case of a disposition in which gain or loss is not recognized in whole or in part, any remaining deferred deduction will be allowed to the extent gain is recognized on the disposition. This deferral rule does not apply if the Bondholder elects to include such market discount in income currently as described above.

Bond Premium

A purchaser of a Series 2017B Bond who purchases such Series 2017B Bond at a cost greater than its remaining redemption amount will have amortizable bond premium. If the holder elects to amortize this premium under Section 171 of the Code (which election will apply to all Series 2017B Bonds held by the holder on the first day of the taxable year to which the election applies and to all Series 2017B Bonds thereafter acquired by the holder), such a holder must amortize the premium using constant yield principles based on the holder's yield to maturity. Amortizable bond premium is generally treated as an offset to interest income, and a reduction in basis is required for amortizable bond premium that is applied to reduce interest payments. Purchasers of any Series 2017B Bonds who acquire such Series 2017B Bonds at a premium should consult with their own tax advisors with respect to state and local tax consequences of owning such Series 2017B Bonds.

Surtax on Unearned Income

Recently enacted legislation generally imposes a tax of 3.8% on the "net investment income" of certain individuals, trusts and estates for taxable years beginning after December 31, 2012. Among other items, net investment income generally includes gross income from interest and net gain attributable to the disposition of certain property, less certain deductions. U.S. Holders should consult their own tax advisors regarding the possible implications of this legislation in their particular circumstances.

Sale or Redemption of Bonds

A Bondholder's adjusted tax basis for a Series 2017B Bond is the price such owner pays for the Series 2017B Bond plus the amount of original issue discount and market discount previously included in income and reduced on account of any payments received on such Series 2017B Bond other than "qualified stated interest" and any amortized bond premium. Gain or loss recognized on a sale, exchange or redemption of a Bond, measured by the difference between the amount realized and the Bondholder's tax basis as so adjusted, will generally give rise to capital gain or loss if the Series 2017B Bond is held as a capital asset (except in the case of Series 2017B Bonds acquired at a market discount, in which case a portion of the gain will be characterized as interest and therefore ordinary income).

If the terms of the Series 2017B Bonds are materially modified, in certain circumstances, a new debt obligation would be deemed created and exchanged for the prior obligation in a taxable transaction. Among the modifications which may be treated as material are those which related to the redemption provisions and, in the case of a nonrecourse obligation, those which involve the substitution of collateral. The defeasance of the Series 2017B Bonds may also result in a deemed sale or exchange of such Series 2017B Bonds under certain circumstances.

EACH POTENTIAL HOLDER OF TAXABLE BONDS SHOULD CONSULT ITS OWN TAX ADVISOR CONCERNING (1) THE TREATMENT OF GAIN OR LOSS ON SALE OR REDEMPTION OF THE TAXABLE BONDS, AND (2) THE CIRCUMSTANCES IN WHICH TAXABLE BONDS WOULD BE DEEMED REISSUED AND THE LIKELY EFFECTS, IF ANY, OF SUCH REISSUANCE.

Non-U.S. Holders

The following is a general discussion of certain United States federal income tax consequences resulting from the beneficial ownership of Series 2017B Bonds by a person other than a U.S. Holder, a former United States citizen or resident, or a partnership or entity treated as a partnership for United States federal income tax purposes (a "Non-U.S. Holder").

Subject to the discussion of backup withholding and the Foreign Account Tax Compliance Act ("FATCA"), payments of principal by the Corporation or any of its agents (acting in its capacity as agent) to any Non-U.S. Holder will not be subject to federal withholding tax. In the case of payments of interest to any Non-U.S. Holder, however, federal withholding tax will apply unless the Non-U.S. Holder (1) does not own (actually or constructively) 10-percent or more of the voting equity interests of the Corporation, (2) is not a controlled foreign corporation for United States tax purposes that is related to the Corporation (directly or indirectly) through stock ownership, and (3) is not a bank receiving interest in the manner described in Section 881(c)(3)(A) of the Code. In addition, either (1) the Non-U.S. Holder must certify on the applicable IRS FormW-8 (series) (or successor form) to the Corporation, its agents or paying agents or a broker under penalties of perjury that it is not a U.S. person and must provide its name and address, or (2) a securities clearing organization, bank or other financial institution, that holds customers' securities in the ordinary course of its trade or business and that also holds the Series 2017B Bonds must certify to the Corporation or its agent under penalties of perjury that such statement on the applicable IRS Form W-8 (series) (or successor form) has been received from the Non-U.S. Holder by it or by another financial institution and must furnish the interest payor with a copy.

Interest payments may also be exempt from federal withholding tax depending on the terms of an existing Federal Income Tax Treaty, if any, in force between the U.S. and the resident country of the Non-U.S. Holder. The U.S. has entered into an income tax treaty with a limited number of countries. In addition, the terms of each treaty differ in their treatment of interest and original issue discount payments. Non-U.S. Holders are urged to consult their own tax advisor regarding the specific tax consequences of the receipt of interest payments, including original issue discount. A Non-U.S. Holder that does not qualify for exemption from withholding as described above must provide the Corporation or its agent with documentation as to his, her, or its identity to avoid the U.S. backup withholding tax on the amount allocable to a Non-U.S. Holder. The documentation may require that the Non-U.S. Holder provide a U.S. tax identification number.

If a Non-U.S. Holder is engaged in a trade or business in the United States and interest on a Series 2017B Bond held by such holder is effectively connected with the conduct of such trade or business, the Non-U.S. Holder, although exempt from the withholding tax discussed above (provided that such holder timely furnishes the required certification to claim such exemption), may be subject to United States federal income tax on such interest in the same manner as if it were a U.S. Holder. In addition, if the Non-U.S. Holder is a foreign corporation, it may be subject to a branch profits tax equal to 30% (subject to a reduced rate under an applicable treaty) of its effectively connected earnings and profits for the taxable year, subject to certain adjustments. For purposes of the branch profits tax, interest on a Series 2017B Bond will be included in the earnings and profits of the holder if the interest is effectively connected with the conduct by the holder of a trade or business in the United States. Such a holder must provide the payor with a properly executed IRS Form W-8ECI (or successor form) to claim an exemption from United States federal withholding tax.

Generally, any capital gain realized on the sale, exchange, retirement or other disposition of a Series 2017B Bond by a Non-U.S. Holder will not be subject to United States federal income or withholding taxes if (1) the gain is not effectively connected with a United States trade or business of the Non-U.S. Holder, and (2) in the case of an individual, the Non-U.S. Holder is not present in the United States for 183 days or more in the taxable year of the sale, exchange, retirement or other disposition, and certain other conditions are met.

For newly issued or reissued obligations, such as the Series 2017B Bonds, FATCA imposes U.S. withholding tax on interest payments and, for dispositions after December 31, 2018 (see IRS Notice 2015-66), gross proceeds of the sale of the Series 2017B Bonds paid to certain foreign financial institutions (which is broadly defined for this purpose to generally include non-U.S. investment funds) and certain other non-U.S. entities if certain disclosure and due diligence requirements related to U.S. accounts or ownership are not satisfied, unless an exemption applies. An intergovernmental agreement between the United States and an applicable non-U.S. country may modify these requirements. In any event, Bondholders or beneficial owners of the Series 2017B Bonds shall have no recourse against the Corporation, nor will the Corporation be obligated to pay any additional amounts to "gross up" payments to such persons, as a result of any withholding or deduction for, or on account of, any present or future taxes, duties, assessments or government charges with respect to payments in respect of the Series 2017B Bonds.

Non-U.S. Holders should consult their own tax advisors with respect to the possible applicability of federal withholding and other taxes upon income realized in respect of the Series 2017B Bonds.

Information Reporting and Backup Withholding

For each calendar year in which the Series 2017B Bonds are outstanding, the Corporation, its agents or paying agents or a broker is required to provide the IRS with certain information, including a holder's name, address and taxpayer identification number (either the holder's Social Security number or its employer identification number, as the case may be), the aggregate amount of principal and interest paid to that holder during the calendar year and the amount of tax withheld, if any. This obligation, however, does not apply with respect to certain U.S. Holders, including corporations, tax-exempt organizations, qualified pension and profit sharing trusts, and individual retirement accounts and annuities.

If a U.S. Holder subject to the reporting requirements described above fails to supply its correct taxpayer identification number in the manner required by applicable law or under-reports its tax liability, the Corporation, its agents or paying agents or a broker may be required to make "backup" withholding of tax on each payment of interest or principal on the Series 2017B Bonds. This backup withholding is not an additional tax and may be credited against the U.S. Holder's federal income tax liability, provided that the U.S. Holder furnishes the required information to the IRS.

Under current Treasury Regulations, backup withholding and information reporting will not apply to payments of interest made by the Corporation, its agents (in their capacity as such) or paying agents or a broker to a Non-U.S. Holder if such holder has provided the required certification that it is not a U.S. person (as set forth in the second paragraph under "—Non-U.S. Holders" above), or has otherwise established an exemption (provided that neither the Corporation nor its agent has actual knowledge that the holder is a U.S. person or that the conditions of an exemption are not in fact satisfied).

Payments of the proceeds from the sale of a Series 2017B Bond to or through a foreign office of a broker generally will not be subject to information reporting or backup withholding. However, information reporting (but not backup withholding) may apply to those payments if the broker is one of the following:

- a U.S. person;
- a controlled foreign corporation for U.S. tax purposes;

- a foreign person 50-percent or more of whose gross income from all sources for the three-year period ending with the close of its taxable year preceding the payment was effectively connected with a United States trade or business; or

- a foreign partnership with certain connections to the United States.

Payment of the proceeds from a sale of a Series 2017B Bond to or through the United States office of a broker is subject to information reporting and backup withholding unless the holder or beneficial owner certifies as to its taxpayer identification number or otherwise establishes an exemption from information reporting and backup withholding.

The preceding federal income tax discussion is included for general information only and may not be applicable depending upon a holder's particular situation. Holders should consult their tax advisors with respect to the tax consequences to them of the purchase, ownership and disposition of the Series 2017B Bonds, including the tax consequences under federal, state, local, foreign and other tax laws and the possible effects of changes in those tax laws.

IN ALL EVENTS, ALL INVESTORS SHOULD CONSULT THEIR OWN TAX ADVISORS IN DETERMINING THE FEDERAL, STATE, LOCAL, FOREIGN AND OTHER TAX CONSEQUENCES TO THEM OF THE PURCHASE, OWNERSHIP AND DISPOSITION OF THE TAXABLE BONDS.

SECTION XIV: CONSIDERATIONS FOR ERISA AND OTHER U.S. BENEFIT PLAN INVESTORS

The Employee Retirement Income Security Act of 1974, as amended ("ERISA"), imposes certain fiduciary obligations and prohibited transaction restrictions on employee pension and welfare benefit plans subject to Title I of ERISA ("ERISA Plans"). Section 4975 of the Code imposes essentially the same prohibited transaction restrictions on tax-qualified retirement plans described in Section 401(a) and 403(a) of the Code, which are exempt from tax under Section 501(a) of the Code, other than governmental and church plans as defined herein ("Qualified Retirement Plans"), and on Individual Retirement Accounts ("IRAs") described in Section 408(b) of the Code (collectively, "Tax-Favored Plans"). Certain employee benefit plans such as governmental plans (as defined in Section 3(32) of ERISA), and, if no election has been made under Section 410(d) of the Code, church plans (as defined in Section 3(33) of ERISA), are not subject to ERISA requirements. Additionally, such governmental and non-electing church plans are not subject to the requirements of Section 4975 of the Code. Accordingly, assets of such plans may be invested in the Series 2017 Bonds without regard to the ERISA and Code considerations described below, subject to the provisions of applicable federal and state law.

In addition to the imposition of general fiduciary obligations, including those of investment prudence and diversification and the requirement that a plan's investment be made in accordance with the documents governing the plan, Section 406 of ERISA and Section 4975 of the Code prohibit a broad range of transactions involving assets of ERISA Plans and Tax-Favored Plans and entities whose underlying assets include plan assets by reason of ERISA Plans or Tax-Favored Plans investing in such entities (collectively, "Benefit Plans") and persons who have certain specified relationships to the Benefit Plans ("Parties In Interest" or "Disqualified Persons"), unless a statutory or administrative exemption is available. The definitions of "Party in Interest" and "Disqualified Person" are expansive. While other entities may be encompassed by these definitions, they include, most notably: (1) fiduciary with respect to a plan; (2) a person providing services to a plan; and (3) an employer or employee organization any of whose employees or members are covered by the plan. Certain Parties in Interest (or Disqualified Persons) that participate in a prohibited transaction may be subject to a penalty (or an excise tax) imposed pursuant to Section 502(i) of ERISA (or Section 4975 of the Code) unless a statutory or administrative exemption is available.

Certain transactions involving the purchase, holding or transfer of the Series 2017 Bonds might be deemed to constitute prohibited transactions under ERISA and Section 4975 of the Code if assets of the Corporation were deemed to be assets of a Benefit Plan. Under final regulations issued by the United States Department of Labor (the "Plan Assets Regulation"), the assets of the Corporation would be treated as plan assets of a Benefit Plan for the purposes of ERISA and Section 4975 of the Code only if the Benefit Plan acquires an "equity interest" in the Corporation and none of the exceptions contained in the Plan Assets Regulation is applicable. An equity interest is defined under the Plan Assets Regulation as an interest in an entity other than an instrument which is treated as indebtedness under applicable local law and which has no substantial equity features. Although there can be no assurances in this regard, it appears that the Series 2017 Bonds should be treated as debt without substantial equity features for purposes of the Plan Assets Regulation. This determination is based upon the traditional debt features of the Series 2017 Bonds, including the reasonable expectation of purchasers of Series 2017 Bonds that the Series 2017 Bonds will be repaid when due, traditional default remedies, as well as the absence of conversion rights, warrants and other typical equity features. The debt treatment of the Series 2017 Bonds for ERISA purposes could change subsequent to issuance of the Series 2017 Bonds. In the event of a withdrawal or downgrade to below investment grade of the rating of the Series 2017 Bonds or a characterization of the Series 2017 Bonds as other than indebtedness under applicable local law, the subsequent purchase of the Series 2017 Bonds or any interest therein by a Benefit Plan Investor is prohibited.

However without regard to whether the Series 2017 Bonds are treated as an equity interest for such purposes, though, the acquisition or holding of Series 2017 Bonds by or on behalf of a Benefit Plan could be considered to give rise to a prohibited transaction if the Corporation or the Issuing and Trustee, or any of their respective affiliates, is or becomes a Party in Interest or a Disqualified Person with respect to such Benefit Plan.

Most notably, ERISA and the Code generally prohibit the lending of money or other extension of credit between an ERISA Plan or Tax-Favored Plan and a Party in Interest or a Disqualified Person, and the acquisition of any of the Series 2017 Bonds by a Benefit Plan would involve the lending of money or extension of credit by the

Benefit Plan. In such a case, however, certain exemptions from the prohibited transaction rules could be applicable depending on the type and circumstances of the plan fiduciary making the decision to acquire a Series 2017 Bond. Included among these exemptions are: Prohibited Transaction Class Exemption ("PTCE") 96-23, regarding transactions effected by certain "in-house asset managers"; PTCE 90-1, regarding investments by insurance company pooled separate accounts; PTCE 95-60, regarding transactions effected by "insurance company general accounts"; PTCE 91-38, regarding investments by bank collective investment funds; and PTCE 84-14, regarding transactions effected by "qualified professional asset managers." Further, the statutory exemption in Section 408(b)(17) of ERISA and Section 4975(d)(20) of the Code provides for an exemption for transactions involving "adequate consideration" with persons who are Parties in Interest or Disqualified Persons solely by reason of their (or their affiliate's) status as a service provider to the Benefit Plan involved and none of whom is a fiduciary with respect to the Benefit Plan assets involved (or an affiliate of such a fiduciary). There can be no assurance that any class or other exemption will be available with respect to any particular transaction involving the Series 2017 Bonds, or that, if available, the exemption would cover all possible prohibited transactions.

By acquiring a Series 2017 Bond (or interest therein), each purchaser and transferee (and if the purchaser or transferee is a Plan, its fiduciary) is deemed to represent and warrant that either (i) it is not acquiring the Series 2017 Bond (or interest therein) with the assets of a Benefit Plan Investor, governmental plan or church plan; or (ii) the acquisition and holding of the Series 2017 Bond (or interest therein) will not give rise to a nonexempt prohibited transaction under Section 406 of ERISA or Section 4975 of the Code. Benefit Plan Investors may not purchase the Series 2017 Bonds at any time that the ratings on the Series 2017 Bonds are below investment grade or the Series 2017 Bonds have been characterized as other than indebtedness for applicable local law purposes. A purchaser or transferee who acquires Series 2017 Bonds with assets of a Benefit Plan Investor represents that such purchaser or transferee has considered the fiduciary requirements of ERISA or other similar laws and has consulted with counsel with regard to the purchase or transfer.

Any ERISA Plan fiduciary considering whether to purchase the Series 2017 Bonds on behalf of an ERISA Plan should consult with its counsel regarding the applicability of the fiduciary responsibility and prohibited transaction provisions of ERISA and Section 4975 of the Code to such in investment and the availability of any of the exemptions referred to above. Persons responsible for investing the assets of Tax-Favored Plans that are not ERISA Plans should seek similar counsel with respect to the prohibited transaction provisions of the Code and the applicability of any similar state or federal law.

SECTION XV: UNDERWRITING

The Series 2017A Bonds are being purchased for reoffering by the Underwriters for whom Goldman Sachs & Co. LLC, Samuel A. Ramirez & Co., Inc., J.P. Morgan Securities LLC, and Loop Capital Markets LLC are acting as joint lead managers. The Underwriters will purchase the Series 2017A Bonds from the Corporation at an aggregate underwriters' discount of $9,714,252.32. The Underwriters will be obligated to purchase all the Series 2017A Bonds if any such Series 2017A Bonds are purchased.

The Series 2017B Bonds are being purchased for reoffering by Wells Fargo Bank, N.A., as the Original Purchaser of such bonds. The Original Purchaser will purchase the Series 2017B Bonds from the Corporation at an aggregate underwriter's discount of $106,544.00.

The Series 2017 Bonds may be offered and sold to certain dealers (including the Underwriters and the Original Purchaser) at prices lower than such public offering prices, and such public offering prices may be changed from time to time by the Underwriters and the Original Purchaser.

In addition, certain of the Underwriters and the Original Purchaser may have entered into distribution agreements with other broker-dealers (that have not been designated by the Corporation as Underwriters or Original Purchaser) for the distribution of the Series 2017 Bonds at the original issue prices. Such agreements generally provide that the relevant Underwriter or Original Purchaser will share a portion of its underwriting compensation with such broker-dealers.

The Underwriters, the Original Purchaser and their respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, principal investment, hedging, financing and brokerage activities. Certain of the Underwriters, the Original Purchaser and their respective affiliates have, from time to time, performed, and may in the future perform, various investment banking services for the Corporation for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the Underwriters, the Original Purchaser and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (which may include bank loans and/or credit default swaps) for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investment and securities activities may involve securities and instruments of the Corporation.

SECTION XVI: VERIFICATION

The accuracy of (i) the mathematical computations of the adequacy of the maturing principal of and interest earned on the government obligations to be held in escrow to provide for the payment of the principal of and interest and redemption premium, if any, on the bonds to be refunded identified in "SECTION III: PLAN OF FINANCE" herein and (ii) certain mathematical computations supporting the conclusion that the Series 2017A Bonds are not "arbitrage bonds" under the Code will be verified by Samuel Klein & Company, Certified Public Accountants, as verification agent.

SECTION XVII: RATINGS

The Series 2017 Bonds are rated "Aa3" by Moody's Investors Service, "A+" by S&P Global Ratings and "A+" by Fitch, Inc.

Each such rating above reflects only the view of the rating agency issuing such rating and is not a recommendation by such rating agency to purchase, sell or hold the obligations rated or as to the market price or suitability of such obligations for a particular investor. Generally, a rating agency bases its ratings and outlook (if any) on the information and material furnished to it and on investigations, studies and assumptions of its own. An explanation of the significance of any ratings may be obtained only from the rating agency furnishing the same.

There is no assurance that such ratings will be in effect for any given period of time or that they will not be revised upward or downward or withdrawn entirely by such rating agencies if, in the judgment of such agencies, circumstances so warrant. Any such downward revision or withdrawal of any ratings may have an adverse effect on the market price of the Series 2017 Bonds.

SECTION XVIII: LITIGATION

There is not now pending any material litigation (i) restraining or enjoining the issuance or delivery of the Series 2017 Bonds or questioning or affecting the validity of the Series 2017 Bonds or the proceedings and authority under which they are issued; (ii) contesting the creation, organization or existence of the Corporation, or the title of the directors or officers of the Corporation to their respective offices; or (iii) questioning the right of the Corporation to enter into the Second Indenture and to pledge the funds and other money and securities purported to be pledged by the Second Indenture in the manner and to the extent provided in the Second Indenture.

SECTION XIX: LEGAL MATTERS

All legal matters incident to the authorization, issuance and delivery of the Series 2017 Bonds are subject to the approval of Nixon Peabody LLP, New York, New York, Bond Counsel to the Corporation. Forms of the opinions of Bond Counsel are attached hereto as Appendix G. Certain legal matters are subject to the approval of the New York City Corporation Counsel, counsel to the Corporation and the City; Orrick Herrington & Sutcliffe LLP, New York, New York, Special Disclosure Counsel to the City and the Corporation; and Norton Rose Fulbright US LLP, New York, New York, and D. Seaton and Associates, P.A., P.C., New York, New York, co-counsel to the Underwriters and the Original Purchaser.

SECTION XX: CONTINUING DISCLOSURE

To the extent that (i) Rule 15c2-12 (the "Rule") of the Securities and Exchange Commission ("SEC") promulgated under the Securities Exchange Act of 1934, as amended (the "1934 Act"), requires the Underwriters and the Original Purchaser to determine, as a condition to purchasing the Series 2017 Bonds, that the parties to the hereinafter defined Continuing Disclosure Agreements will covenant to the effect of the provisions hereinafter summarized, and (ii) the Rule as so applied is authorized by a Federal law that as so construed is within the powers of Congress, the Corporation, the City and the Second Indenture Trustee will enter into a written agreement to provide continuing disclosure (the "City Continuing Disclosure Agreement"), and the Corporation and the Second Indenture Trustee will enter into a written agreement to provide continuing disclosure (the "HYIC Continuing Disclosure Agreement" referred to herein, collectively, as the "Continuing Disclosure Agreements" and, individually, as a "Continuing Disclosure Agreement"), each for the benefit of the holders of the Series 2017 Bonds.

Under the City Continuing Disclosure Agreement, the City will undertake for the benefit of the holders of the Series 2017 Bonds to provide within 185 days after the end of each Fiscal Year, to the Electronic Municipal Market Access system ("EMMA") (www.emma.msrb.org) established by the Municipal Securities Rulemaking Board (the "MSRB"), core financial information and operating data for the prior Fiscal Year, including (i) the City's audited general purpose financial statements, prepared in accordance with generally accepted accounting principles in effect from time to time and (ii) material historical quantitative data on the City's revenues, expenditures, financial operations and indebtedness generally of the type found in Sections IV, V and VIII and under the captions "2012-2016 Summary of Operations" in SECTION V and "Pension Systems" in Section IX of Appendix D to this Official Statement. The City may use the City's Official Statement relating to its General Obligation bonds when available to satisfy this requirement.

Under the HYIC Continuing Disclosure Agreement, the Corporation has undertaken for the benefit of the holders of the Series 2017 Bonds to provide:

(a) by November 30, 2017 and by November 30 of each subsequent Fiscal Year, to EMMA, core financial information for the prior Fiscal Year including (i) its audited financial statements prepared in accordance with generally accepted accounting principles stating the amount of each type of Revenue (*e.g.*, Interest Support Payments, Tax Equivalency Payments, PILOT Payments, PILOMRT Payments, DIB Payments and payments for

ERY Transferable Development Rights), received by the Corporation for such year, (ii) information as to each PILOT Agreement assigned to the Corporation during such year, including identification of the property covered and a schedule or description of amounts payable during the term of such agreement, and (iii) information updating that set forth in "SECTION VII: HISTORICAL REVENUES," with TEP in Exhibit 7-1 broken out by property type (i.e., Existing Office Development, Existing Residential Development, and Existing Hotel Development); and

(b) in a timely manner not in excess of 10 Business Days after its occurrence, to EMMA, notice of any of the following events with respect to the Series 2017 Bonds: (1) principal and interest payment delinquencies; (2) non-payment related defaults, if material; (3) unscheduled draws on debt service reserves reflecting financial difficulties; (4) unscheduled draws on credit enhancements reflecting financial difficulties; (5) substitution of credit or liquidity providers, or their failure to perform; (6) adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of the Series 2017 Bonds, or other material events affecting the tax status of the Series 2017 Bonds; (7) modifications to rights of the holders of the Series 2017 Bonds, if material; (8) bond calls, if material, and tender offers; (9) defeasances; (10) release, substitution, or sale of property securing repayment of the Series 2017 Bonds, if material; (11) rating changes; (12) bankruptcy, insolvency, receivership or similar event of the Corporation or the City (such event being considered to occur when any of the following occur: the appointment of a receiver, fiscal agent or similar officer for the Corporation or the City in a proceeding under the U.S. Bankruptcy Code or in any other proceeding under state or federal law in which a court or governmental authority has assumed jurisdiction over substantially all of the assets or business of the Corporation or the City, or if such jurisdiction has been assumed by leaving the existing governing body and officials or officers in possession but subject to the supervision and orders of a court or governmental authority, or the entry of an order confirming a plan of reorganization, arrangement or liquidation by a court or governmental authority having supervision or jurisdiction over substantially all of the assets or business of the Corporation or the City); (13) the consummation of a merger, consolidation, or acquisition involving the Corporation or the City or the sale of all or substantially all of the assets of the Corporation or the City, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material; (14) appointment of a successor or additional trustee of the change of name of a trustee, if material; and (15) failure of the Corporation to comply with clause (a) above. The Corporation will not undertake to provide any notice with respect to credit enhancement if the credit enhancement is added after the primary offering of the Series 2017 Bonds, the Corporation does not apply for or participate in obtaining the enhancement and the enhancement is not described in this Official Statement.

No Bondholder may institute any suit, action or proceeding at law or in equity ("Proceeding") for the enforcement of either Continuing Disclosure Agreement or for any remedy for breach thereof, unless such Bondholder shall have filed with the City or the Corporation, as the case may be, evidence of ownership and a written notice of and request to cure such breach, and the City or the Corporation, as the case may be, shall have refused to comply within a reasonable time. All Proceedings shall be instituted only as specified herein, in the Federal or State courts located in the Borough of Manhattan, State and City of New York, and for the equal benefit of all holders of the outstanding bonds benefited by the same or a substantially similar covenant, and no remedy shall be sought or granted other than specific performance of the covenant at issue.

An amendment to the City Continuing Disclosure Agreement may only take effect if:

(a) the amendment is made in connection with a change in circumstances that arises from a change in legal requirements, change in law, or change in the identity, nature, or status of the City, or type of business conducted; the City Continuing Disclosure Agreement, as amended, would have complied with the requirements of the Rule at the time of award of the Series 2017 Bonds, after taking into account any amendments or interpretations of the Rule, as well as any change in circumstances; and the amendment does not materially impair the interests of Bondholders, as determined by parties unaffiliated with the City (such as, but without limitation, the City's financial advisor or bond counsel) and the annual financial information containing (if applicable) the amended operating data or financial information will explain, in narrative form, the reasons for the amendment and the "impact" (as that word is used in the letter from the SEC staff to the National Association of Bond Lawyers dated June 23, 1995) of the change in the type of operating data or financial information being provided; or

(b) all or any part of the Rule, as interpreted by the staff of the SEC at the date of issuance of the Series 2017 Bonds, ceases to be in effect for any reason, and the City elects that the City Continuing Disclosure Agreement shall be deemed terminated or amended (as the case may be) accordingly.

An amendment to the HYIC Continuing Disclosure Agreement may only take effect if:

(a) the amendment is made in connection with a change in circumstances that arises from a change in legal requirements, change in law, or change in the identity, nature, or status of HYIC, or type of business conducted; the HYIC Continuing Disclosure Agreement, as amended, would have complied with the requirements of the Rule at the time of award of the Series 2017 Bonds, after taking into account any amendments or interpretations of the Rule, as well as any change in circumstances; and the amendment does not materially impair the interests of Bondholders, as determined by parties unaffiliated with the Corporation (such as, but without limitation, the Corporation's financial advisor or bond counsel) and the annual financial information containing (if applicable) the amended operating data or financial information will explain, in narrative form, the reasons for the amendment and the "impact" (as that word is used in the letter from the SEC staff to the National Association of Bond Lawyers dated June 23, 1995) of the change in the type of operating data or financial information being provided; or

(b) all or any part of the Rule, as interpreted by the staff of the SEC at the date of issuance of the Series 2017 Bonds, ceases to be in effect for any reason, and the Corporation elects that the HYIC Continuing Disclosure Agreement shall be deemed terminated or amended (as the case may be) accordingly.

For purposes of the City Continuing Disclosure Agreement or the HYIC Continuing Disclosure Agreement, a beneficial owner of a security includes any person who, directly or indirectly, through any contract, arrangement, understanding, relationship, or otherwise has or shares investment power which includes the power to dispose, or to direct the disposition of, such security, subject to certain exceptions as set forth in the City Continuing Disclosure Agreement or the HYIC Continuing Disclosure Agreement, as applicable. Any assertion of beneficial ownership must be filed, with full documentary support, as part of the written request described above.

Failure of any party to perform its obligations under the City Continuing Disclosure Agreement or the HYIC Continuing Disclosure Agreement shall not constitute an "event of default" under the Second Indenture or any other agreement executed and delivered in connection with the issuance of the Series 2017 Bonds. In addition, if all or a portion of the Rule ceases to be in effect for any reason, then the information required to be provided under the City Continuing Disclosure Agreement or the HYIC Continuing Disclosure Agreement, insofar as the provision of the Rule no longer in effect required the provision of such information, will no longer be required to be provided.

Compliance with Prior Continuing Disclosure Undertakings

On January 17, 2013, Moody's Investors Service downgraded its rating of Assured Guaranty ("Assured"), resulting in a subsequent downgrade of the Series 2012A Bonds insured by Assured. On March 18, 2014, S&P upgraded its rating on Assured, resulting in a subsequent upgrade of the Series 2012A Bonds insured by Assured. On March 18, 2014, S&P upgraded its rating on MBIA, which resulted in an upgrade to the Series 2007A Bonds insured by MBIA. The Corporation failed to post notice of these rating changes. Additionally, the Corporation's annual core financial information filing for Fiscal Year 2016 was timely filed, but lacked a required update to the section titled "Summary of Historical Cash Flows." This update was subsequently filed 8 business days late on December 12, 2016. The Corporation has undertaken policies and procedures to ensure such failures do not occur in the future.

SECTION XXI: FINANCIAL ADVISOR

The Corporation has retained Public Resources Advisory Group to act as financial advisor with respect to the issuance of the Series 2017 Bonds.

SECTION XXII: FINANCIAL STATEMENTS

The audited financial statements for the Fiscal Years of the Corporation ended June 30, 2016 and 2015, are attached hereto as Appendix F. Marks Paneth LLP, the Corporation's independent auditor, has not reviewed, commented on or approved, and is not associated with, this Official Statement. The report of Marks Paneth LLP relating to the Corporation's financial statements for the Fiscal Years ended June 30, 2016 and 2015, which is a matter of public record, is included in this Official Statement. However, Marks Paneth LLP has not performed any procedures on any financial statements or other financial information of the Corporation, including without limitation any of the information contained in this Official Statement, since the date of such report and has not been asked to consent to the inclusion of its report in this Official Statement.

SECTION XXIII: MISCELLANEOUS

The references herein to the Indentures, the Support and Development Agreement, the Continuing Disclosure Agreements, the IDA Assignment Agreement, the DIB Assignment Agreement, and the City-MTA Railyards Agreement (collectively, the "Project Documents") are summaries of certain provisions thereof. Such summaries do not purport to be complete and reference is made to the Project Documents for full and complete statements of such provisions. Copies of the Project Documents are available at the offices of the Second Indenture Trustee.

Neither this Official Statement nor any statement which may have been made orally or in writing shall be construed as a contract or as a part of a contract with the original purchasers or any holders of the Series 2017 Bonds.

The delivery of this Official Statement has been duly authorized by the Corporation.

HUDSON YARDS INFRASTRUCTURE CORPORATION

APPENDIX A

CERTAIN DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE SECOND INDENTURE

Definitions of Certain Terms

"**Accreted Value**" means with respect to any Capital Appreciation Bond (i) as of any Valuation Date, the amount set forth for such date in the Supplemental Indenture authorizing such Capital Appreciation Bond and (ii) as of any date other than a Valuation Date, the sum of (a) the Accreted Value on the immediately preceding Valuation Date and (b) the product of (1) a fraction, the numerator of which is the number of days having elapsed from the preceding Valuation Date and the denominator of which is the number of days from such preceding Valuation Date to the next succeeding Valuation Date, calculated based on the assumption that Accreted Value accrues during any semiannual period in equal daily amounts on the basis of a year of twelve (12) thirty-day months, and (2) the difference between the Accreted Values for such Valuation Dates.

"**Agreement**" means each of and singularly the IDA Assignment Agreement, the DIB Assignment Agreement, each PILOT Agreement, each PILOT Mortgage, the Support Agreement and the MTA Agreement.

"**Appreciated Value**" means with respect to any Deferred Income Bond (i) as of any Valuation Date, the amount set forth for such date in the Supplemental Indenture authorizing such Deferred Income Bond and (ii) as of any date other than a Valuation Date, the sum of (a) the Appreciated Value on the immediately preceding Valuation Date and (b) the product of (1) a fraction, the numerator of which is the number of days having elapsed from the preceding Valuation Date and the denominator of which is the number of days from such preceding Valuation Date to the next succeeding Valuation Date, calculated based on the assumption that Appreciated Value accrues during any semiannual period in equal daily amounts on the basis of a year of twelve (12) thirty-day months, and (2) the difference between the Appreciated Values for such Valuation Dates, and (iii) as of any date of calculation on and after the Interest Commencement Date, the Appreciated Value on the Interest Commencement Date.

"**Authorized Officer**" (i) in the case of the Corporation, the Chairman, the President, a Vice–President, the Treasurer, an Assistant Treasurer, the Comptroller, a Deputy Comptroller, the Secretary, and an Assistant Secretary, and when used with reference to any act or document also means any other person authorized by a resolution or the by–laws of the Corporation to perform such act or execute such document; (ii) in the case of the City, when used with reference to any act or document, means the person identified in the Second Indenture or in the Agreement as authorized to perform such act or execute such document, and in all other cases means the Mayor of the City, the Director of Management and Budget or an officer or employee of the City authorized in a written instrument signed by the Mayor or the Director of Management and Budget or by the Charter of the City or its Administrative Code to act on behalf of the Mayor or the Director of Management and Budget; and (iii) in the case of the Second Indenture Trustee, a Vice President, an Assistant Vice President, an Assistant Secretary, an Assistant Treasurer or any other corporate trust officer of the Second Indenture Trustee, and when used with reference to any act or document also means any other person authorized to perform any act or sign any document by or pursuant to a resolution of the Board of Directors of the Second Indenture Trustee or the by–laws of the Second Indenture Trustee.

"**Bond Counsel**" means Nixon Peabody LLP or an attorney or another law firm appointed by the Corporation having a national reputation in the law of public finance and whose opinions are generally accepted by purchasers of municipal bonds.

"**Bondholder**," "**Holder of Bonds**" **or** "**Holder**" or any similar term, when used with reference to a Second Indenture Bond or Second Indenture Bonds, means the registered owner of any Second Indenture Bond.

"**Book Entry Bond**" means a Second Indenture Bond authorized to be issued to, and issued to and registered in the name of, a Depository for the participants in such Depository.

"**Business Day**" means any day which is not a Saturday, Sunday, a day on which the Second Indenture Trustee or banking institutions chartered by the State or the United States of America are legally authorized to close in the City, or a day that is a legal holiday for the City; ***provided, however,*** that, with respect to Option Bonds or Variable Interest Rate Bonds of a Series, such term means any day which is not a Saturday, Sunday, a day on which the Second Indenture Trustee, the New York Stock Exchange, banking institutions chartered by the State or the United States of America or the issuer of a Credit Facility or Liquidity Facility for such Second Indenture Bonds are legally authorized to close in the City, or a day that is a legal holiday for the City.

"**Capital Appreciation Bond**" means any Second Indenture Bond as to which interest is compounded on each Valuation Date therefor and is payable only at the maturity or prior redemption thereof.

"**Capitalized Interest Account**" means the account within the Construction Fund so designated, created and established pursuant to the provisions of the Second Indenture described below under the heading "Establishment of Funds and Accounts".

"**City**" means The City of New York, a municipal corporation of the State, constituting a political subdivision thereof.

"**Code**" means the Internal Revenue Code of 1986, as amended, and the applicable regulations thereunder.

"**Completion Bonds**" means Second Indenture Bonds in a principal amount not to exceed $150,000,000 in the aggregate issued in one or more Series for the purpose of paying unfunded Project Costs for completion of the Subway Extension (exclusive of the costs associated with construction of an intermediate station at West 41st Street and Tenth Avenue) and the first phase of the Public Amenities.

"**Construction Fund**" means the fund so designated, created and established pursuant to the provisions of the Second Indenture described below under the heading "Establishment of Funds and Accounts".

"**Corporation**" means Hudson Yards Infrastructure Corporation, a local development corporation organized and existing under the Not-For-Profit Corporation Law of the State of New York, and its successors and assigns.

"**Corporation Expense Fund**" means the fund so designated, created and established pursuant to the provisions of the Second Indenture described below under the heading "Establishment of Funds and Accounts".

"**Corporation Expenses**" means for any Fiscal Year the amount set forth in a certificate of the Corporation prepared for such Fiscal Year in accordance with the provisions of the Second Indenture described below under the heading "Certificate of the Corporation as to Expenses" for all other costs, fees and expenses of the Corporation of any kind arising out of or incurred in connection with maintaining its corporate existence and in furtherance of its corporate purposes, powers or duties, including, without limitation:

(i) salaries;

(ii) insurance premiums, including but not limited to insurance premiums on financial guaranty insurance policies issued in connection with Second Indenture Bonds that are due during such Fiscal Year and that were due, but not paid, during a prior Fiscal Year, and interest, if any, payable on any unpaid premiums;

(iii) fees, charges expenses, regularly scheduled payments, indemnities and other similar charges payable to or for (a) Providers, (b) auditing, legal, financial and investment advisory and other professional and consulting services, (c) fiduciaries, paying agents, transfer agents and other agents, and (d) printing, advertisements and publication or other distribution of notices;

(iv) any and all other fees, charges and expenses required or permitted to be incurred by the Corporation or required to be paid by the Corporation;

(v) Tax Obligations; and

(vi) expenses of HYDC that are comparable to the foregoing, but only to the extent not paid or payable from any other source;

provided, however, that Corporation Expenses do not include the principal of or interest on any indebtedness of the Corporation or any Termination Payments.

"**Costs of Issuance**" means the items of expense incurred in connection with the authorization, sale and issuance of the Second Indenture Bonds, which items of expense shall include, but not be limited to, document printing and reproduction costs, filing and recording fees, costs of credit ratings, initial fees and charges of the Second Indenture Trustee or a Depository, legal fees and charges, professional consultants' fees, fees and charges for execution, transportation and safekeeping of Second Indenture Bonds, premiums, fees and charges for insurance on Second Indenture Bonds, commitment fees or similar charges of a Remarketing Agent or relating to a Credit Facility, a Liquidity Facility or a Hedge Agreement, and other costs, charges and fees in connection with the foregoing.

"**Costs of Issuance Account**" means the account within the Construction Fund so designated, created and established pursuant to the provisions of the Second Indenture described below under the heading "Establishment of Funds and Accounts".

"**Counterparty**" means any person with which the Corporation has entered into a Hedge Agreement, and such person's successors and assigns.

"**Credit Facility**" means an irrevocable letter of credit, surety bond, loan agreement, Standby Purchase Agreement or other agreement, facility or insurance or guaranty arrangement pursuant to which the Corporation or the Second Indenture Trustee is entitled to obtain money to pay the principal, purchase price or Redemption Price of Second Indenture Bonds due in accordance with their terms or tendered for purchase or redemption, plus accrued interest thereon to the date of payment, purchase or redemption thereof whether or not the Corporation is in default under the Second Indenture, which is issued or extended by:

(i) a bank, a trust company, a national banking association, an organization subject to registration with the Board of Governors of the Federal Reserve System under the Bank Holding Company Act of 1956 or any successor provisions of law;

(ii) a federal branch pursuant to the International Banking Act of 1978 or any successor provisions of law;

(iii) a domestic branch or agency of a foreign bank which branch or agency is duly licensed or authorized to do business under the laws of any state or territory of the United States of America;

(iv) a savings bank;

(v) a saving and loan association;

(vi) an insurance company or association chartered or organized under the laws of any state of the United States of America;

(vii) the Government National Mortgage Association or any successor thereto or the Federal National Mortgage Association or any successor thereto;

(viii) an entity affiliated with or which is a subsidiary of any entity described above or affiliated with or a subsidiary of any registered securities dealer; or

(ix) any other entity approved by the Corporation.

"**Debt Service**" means, when used in connection with any particular Outstanding Second Indenture Bonds or First Indenture Bonds, and for any period, the principal and Sinking Fund Installments of and interest on such Second Indenture Bonds or First Indenture Bonds payable during such period, including interest payable on Deferred Income Bonds from and after their respective Interest Commencement Dates exclusive of the principal and Sinking Fund Installments of or interest on Funded Bonds; ***provided, however,*** that if the interest at which a Variable Interest Rate Bond will bear interest at any time during such period is not known, the Second Indenture Trustee shall calculate such interest based upon a rate per annum certified to it by the Corporation as the rate the Corporation has assumed such Variable Interest Rate Bond will bear.

"**Debt Service Account**" means the account within the Debt Service Fund so designated, created and established pursuant to the provisions of the Second Indenture described below under the heading "Establishment of Funds and Accounts".

"**Debt Service Deficiency**" means, as of any particular date of calculation, the amount by which the money in the Debt Service Account available for the payment of Debt Service on Outstanding Second Indenture Bonds (exclusive of Funded Bonds) is less than the Debt Service payable on such Second Indenture Bonds on the next succeeding Interest Payment Date.

"**Debt Service Fund**" means the fund so designated, created and established pursuant to the provisions of the Second Indenture described below under the heading "Establishment of Funds and Accounts".

"**Defeasance Security**" means:

(i) a Government Obligation, including the interest component of REFCORP bonds for which the separation of principal and interest is made by request of the Federal Reserve Bank of New York in book-entry form, that is not subject to redemption prior to maturity other than at the option of the holder thereof or that has been irrevocably called for redemption on a stated future date; or

(ii) a Municipal Obligation (a) that is not subject to redemption prior to maturity other than at the option of the holder thereof or as to which irrevocable instructions have been given to the trustee of such Municipal Obligation by the obligor thereof to give due notice of redemption and to call such Municipal Obligation for redemption on the date or dates specified in such instructions and such Municipal Obligation is not otherwise subject to redemption prior to such specified date other than at the option of the holder thereof, (b) the timely payment of the principal or redemption price thereof and interest thereon is fully secured by a fund consisting only of cash or obligations described in clause (i) above, which fund may be applied only to the payment of such principal of and interest and redemption premium, if any, on such Municipal Obligation on the maturity date thereof or the redemption date specified in the irrevocable instructions referred to in clause (a) above, and (c) that at the time an investment therein is made is rated in the highest rating category by at least two Rating Services;

provided, however, that such term shall not mean any interest in a unit investment trust or mutual fund or in "CATS," "TIGRS" or "TRS".

"**Deferred Income Bond**" means any Second Indenture Bond as to which interest accruing thereon prior to the Interest Commencement Date therefor is compounded on each Valuation Date for such Deferred Income Bond, payable at maturity or earlier redemption, and interest accruing from and after the Interest Commencement Date is payable on the Interest Payment Dates therefor.

"**Depository**" means The Depository Trust Company, New York, New York, a limited purpose trust company organized under the laws of the State, or its nominee, or any other person, firm, association or corporation designated in the Supplemental Indenture authorizing a Series of Second Indenture Bonds to serve as securities depository for Second Indenture Bonds of such Series.

"**Determination of Taxability**" means, when used with respect to a Tax Exempt Bond, a final determination by any court of competent jurisdiction or a final determination by the Internal Revenue Service to which the Corporation shall consent or from which no timely appeal shall have been taken, in each case to the effect that interest on such Second Indenture Bond is includable in the gross income of the Holder thereof for purposes of federal income taxation.

"**DIB Assignment Agreement**" means the Amended and Restated DIB Assignment and Agreement, dated as of December 1, 2006, as amended and restated as of May 1, 2017, by and between the City and the Corporation, as from time to time amended or supplemented in accordance therewith and with the Second Indenture.

"**DIB Payments**" means payments of contributions to the Hudson Yards District Improvement Fund established pursuant to Section 93-31 of the City's zoning resolution, pursuant to which the Chairperson of the City Planning Commission has been authorized to make certain benefits available to the developers of certain buildings and improvements within the District, as a bonus.

"**Eligible Investments**" means:

(i) Defeasance Securities;

(ii) Government Obligations;

(iii) demand and time deposits in or certificates of deposit of, or bankers' acceptances issued by, any bank or trust company, savings and loan association or savings bank, payable on demand or on a specified date no more than three months after the date acquired as an investment under the Second Indenture, if such deposits or instruments are at the time an investment therein is made rated by at least two Rating Services "A–1+" if by S&P, "P–1" if by Moody's and "F1" if by Fitch;

(iv) Municipal Obligations that at the time an investment therein is made are rated at least in one of the two highest long term rating categories by at least two Rating Services, without regard to qualification of such rating by symbols such as "+" or "-" and numerical notation;

(v) commercial or finance company paper (including both non–interest bearing discount obligations and interest bearing obligations) payable on demand or on a specified date not more than two hundred seventy (270) days after the date acquired as an investment under the Second Indenture that is at the time an investment therein is made rated in the highest rating category by at least two Rating Services;

(vi) repurchase obligations with respect to any security described in clause (i) or (ii) above entered into with (a) a primary dealer, depository institution or trust company (acting as principal) that at the time an investment therein is made is rated by at least two Rating Services "A–1" if by S&P, "P–1" if by Moody's and "F1" if by Fitch (if payable on demand or on a specified date no more than three months after the date acquired as an investment under the Second Indenture) or in one of the two highest long term rating categories by at least two Rating Services, or (b) any financial institution or corporation, any insurance company, a registered broker/dealer or domestic commercial bank, in each case whose long term debt obligations are rated "investment grade" by at least two Rating Services; provided, however, that (1) a specific written agreement governs the transactions, (2) the securities that are the subject of the repurchase agreement are held free and clear of any lien, by the Second Indenture Trustee or an independent third party acting solely as the agent of the Second Indenture Trustee that is (A) a Federal Reserve Bank or (B) a member of the Federal Deposit Insurance Corporation that has combined surplus and undivided profits of not less than twenty–five million dollars ($25,000,000), and the Second Indenture Trustee shall have received written confirmation from such third party that it holds such securities, free and clear of any lien, as agent for the Second Indenture Trustee, and (3) the agreement provides that the securities that are the subject of the repurchase agreement are required to be repurchased either on demand or within one year after their date of purchase;

(vii) securities bearing interest or sold at a discount (in each case payable on demand or on a specified date no more than ninety (90) days after the date acquired as an investment hereunder) that are issued by any corporation incorporated under the laws of the United States of America or any state thereof and are rated by at least two Rating Services, “P–1” if by Moody’s, “A–1+” if by S&P and “F1” if by Fitch, at the time of such investment or contractual commitment providing for such investment; provided, however, that securities issued by any such corporation will not be Eligible Investment to the extent that investment therein would cause the then outstanding principal amount of securities issued by such corporation and held as investments under the Second Indenture to exceed twenty percent (20%) of the aggregate principal amount of all Eligible Investments then held under the Second Indenture;

(viii) units of taxable money market funds which are regulated investment companies and seek to maintain a constant net asset value per share and which at the time an investment therein is made are rated by at least two Rating Services, at least “Aa-mf” if by Moody’s, “AAm” if by S&P and “AAmmf” if by Fitch, including if so rated any such fund which the Second Indenture Trustee or an affiliate of the Second Indenture Trustee serves as an investment advisor, administrator, shareholder, servicing agent and/or custodian or sub–custodian, notwithstanding that (a) the Second Indenture Trustee or an affiliate of the Second Indenture Trustee charges and collects fees and expenses (not exceeding current income) from such funds for services rendered, (b) the Second Indenture Trustee charges and collects fees and expenses for services rendered pursuant to the Second Indenture and (c) services performed for such funds and pursuant to this Second Indenture may converge at any time (the Corporation specifically authorizes the Second Indenture Trustee or an affiliate of the Second Indenture Trustee to charge and collect all fees and expenses from such funds for services rendered to such funds, in addition to any fees and expenses the Second Indenture Trustee may charge and collect for services rendered pursuant to the Second Indenture);

(ix) investment agreements or guaranteed investment contracts with any financial institution or corporation, any insurance company, a registered broker/dealer or a domestic commercial bank whose senior long term debt obligations are rated, or guaranteed by a financial institution, whose senior long term debt obligations are rated, at the time such agreement or contract is entered into, in one of the two highest long term rating categories by at least two Rating Services, without regard to qualification of such rating by symbols such as “+” or “-” and numerical notation; provided, however, that in the event that such rating is suspended, withdrawn or reduced below the rating assigned to Outstanding Second Indenture Bonds without regard to any Credit Facility either (a) the Corporation has an option to terminate such agreement or contract or (b) such agreement or contract is required to be collateralized by securities described in clause (i) or (ii) above or by obligations of the Government National Mortgage Association or any successor thereto; provided, further, that (1) a specific written agreement governs the transactions, (2) the collateral securities, if any, are held free and clear of any lien, by the Second Indenture Trustee or by a trustee of an independent third party acting solely as the agent of the Second Indenture Trustee that is (A) a Federal Reserve Bank or (B) a member of the Federal Deposit Insurance Corporation that has combined surplus and undivided profits of not less than twenty-five million dollars ($25,000,000), and the Second Indenture Trustee shall have received written confirmation from such third party that it holds such securities, free and clear of any lien, as agent for the Second Indenture Trustee, (3) the agreement has a term of thirty days or less, or either the Second Indenture Trustee, if the Second Indenture Trustee holds the collateral, or a custodian of the collateral or a valuation agent selected by the Corporation, will value the collateral securities no less frequently than monthly, and will liquidate the collateral securities if any deficiency in the required collateral percentage is not restored within five Business Days of such valuation, and (4) the fair market value of the collateral securities in relation to the amount of the obligation, including principal and interest, is equal to at least one hundred two percent (102%); and

(x) other obligations or securities that either (i) under the applicable standards and guidelines of each Rating Service are investments in which money in a particular fund or account under the Second Indenture may be invested by the Corporation, or (ii) as to the investment therein for any fund or account the Corporation has received Rating Confirmation.

“**First Indenture**” means the Trust Indenture, dated as of December 1, 2006, as amended by a Second Supplemental Trust Indenture, dated as of February 1, 2008, and further amended and restated as of October 1, 2011, by and between the Corporation and the First Indenture Trustee, as from time to time amended and supplemented.

"**First Indenture Bonds**" means, as of any particular date of determination, all "Bonds," as such term is defined in the First Indenture, then Outstanding under the First Indenture.

"**First Indenture Requirements**" means, as of any particular date of calculation and when used in connection with any Fiscal Year, the sum of (i) the Debt Service payable on the First Indenture Bonds during such Fiscal Year and any amounts required to be reserved for the payment of Debt Service in a future Fiscal Year, plus (ii) Corporation Expenses for such Fiscal Year, plus (iii) any Hedge Agreement Payments or Parity Reimbursement Obligations due under the First Indenture payable during such Fiscal Year, in each case determined as required by Section 5.06 of the First Indenture.

"**First Indenture Surplus Fund**" means the Surplus Fund so designated, created and established pursuant to the First Indenture.

"**First Indenture Trustee**" means U.S. Bank National Association or any successor in interest or successor trustee appointed under the First Indenture.

"**Fiscal Year**" means a period of twelve (12) consecutive months beginning July 1st of a calendar year and ending on June 30th of the next succeeding calendar year or any other twelve month period as the Corporation may select as its fiscal year.

"**Fitch**" means Fitch, Inc. and its successors and assigns; ***provided, however,*** that references in the Second Indenture to Fitch shall be effective so long as Fitch is a Rating Service.

"**Funded Bond**" means as of any particular date of determination a Second Indenture Bond for which provision for payment has not been made in accordance with the Second Indenture and remains Outstanding, but for which:

> (i) the Second Indenture Trustee or another banking institution then holds, in trust, either money in an amount which shall be sufficient, or Eligible Investments the principal of and interest on which when due will provide money which, together with the money, if any, so held, shall be sufficient in the judgment of a firm of certified public accountants to pay when due the principal, Sinking Fund Installments, if any, or Redemption Price, if applicable, of and interest due and to become due on said Second Indenture Bond on or prior to the redemption date or maturity date thereof, as the case may be; and
>
> (ii) in case all or any portion of said Second Indenture Bond is to be redeemed on any date prior to its maturity, the Corporation shall have given the Second Indenture Trustee, in form satisfactory to it, irrevocable instructions to give as provided in the Second Indenture notice of redemption on said date of such Bond or portion thereof;

provided, **however**, that such Second Indenture Bond shall no longer be a Funded Bond if at any time the money and Eligible Investments are no longer sufficient to meet the aforesaid requirements.

"**Future Year Debt Service Requirement**" means the amount projected by the Corporation and certified to the Trustee pursuant to the Second Indenture described below under the heading "Future Year Debt Service Requirement" as the amount to be retained in the Debt Service Account during the next succeeding Fiscal Year for the payment of Debt Service on Outstanding Second Indenture Bonds (other than Funded Bonds) payable in the second succeeding Fiscal Year and determined as follows: (a) projected Debt Service on such Second Indenture Bonds in the second succeeding Fiscal Year, less (b) the amount projected to be available in the Debt Service Account as of July 1 of the second succeeding Fiscal Year, less (c) Recurring Revenues projected to be received by the Corporation during the second succeeding Fiscal Year available for Debt Service on such Second Indenture Bonds; taking into account in each case, the projected receipt dates for the revenues and payment dates for the obligations.

"**Government Obligation**" means:

(i) a direct obligation of, or an obligation the timely payment of the principal of and interest on which is guaranteed by, the United States of America, the Federal Housing Administration, the Federal Home Loan Mortgage Corporation, the Federal National Mortgage Association, the Federal Farm Credit System or a Federal Home Loan Bank; and

(ii) an obligation of the United States of America which has been stripped by the United States Department of the Treasury itself or by any Federal Reserve Bank (not including "CATS," "TIGRS" and "TRS" unless the Corporation obtains Rating Confirmation with respect thereto).

"**Hedge Agreement**" means any financial arrangement entered into by the Corporation with another person that (i) is executed in connection with Second Indenture Bonds and is an Interest Rate Exchange Agreement, an interest rate cap or collar or other exchange or rate protection transaction, or (ii) is an agreement for the forward purchase of securities for the investment of money of the Corporation in any fund or account established by the Second Indenture.

"**Hedge Agreement Payment**" means any periodic or regularly scheduled payment required to be made by the Corporation pursuant to a Hedge Agreement, but does not include a Termination Payment.

"**HYDC**" means Hudson Yards Development Corporation, a local development corporation created and existing pursuant to the Not-For-Profit Corporation Law of the State of New York, and its successors and assigns.

"**HYDC Expense Account**" means the account within the Construction Fund so designated, created and established pursuant to the provisions of the Second Indenture described below under the heading "Establishment of Funds and Accounts".

"**IDA Assignment Agreement**" means the Amended and Restated PILOT Assignment and Agreement, dated as of December 1, 2006, as amended and restated as of May 1, 2017, by and among the City, NYC IDA and the Corporation, as from time to time amended or supplemented in accordance therewith and with the Second Indenture.

"**Initial Bonds**" means the Second Indenture Bonds of the first Series authorized and issued under the Second Indenture.

"**Interest Commencement Date**" means, with respect to any particular Deferred Income Bond, the date prior to the maturity date thereof after which interest accruing thereon shall be payable on each Interest Payment Date succeeding such Interest Commencement Date.

"**Interest Deficiency Notice**" shall have the meaning given to such term in the Support Agreement.

"**Interest Payment Date**" means, when used in connection with any particular Second Indenture Bond, such date on which interest thereon is payable in accordance with the terms thereof.

"**Interest Payment Date**" means, when used in connection with any particular Second Indenture Bond, each date on which interest thereon is payable in accordance with the terms thereof.

"**Interest Rate Exchange Agreement**" means an agreement entered into by the Corporation in connection with the issuance of or which relates to any Second Indenture Bonds which provides that during the term of such agreement the Corporation is to pay to the Counterparty an amount based on the interest accruing at a fixed or variable rate per annum on a notional amount equal to the principal amount of such Second Indenture Bonds and that the Counterparty is to pay to the Corporation an amount based on the interest accruing on such notional amount at a fixed or variable rate, in each case computed according to a formula set forth in such agreement, or that one shall pay to the other any net amount due under such agreement.

"**Interest Support Payments**" means the payments required to be made by the City pursuant to Section 4.02(a)(ii) of the Support Agreement.

"**Liquidity Facility**" means a letter of credit, surety bond, loan agreement, Standby Purchase Agreement, line of credit or other agreement or arrangement pursuant to which money may be obtained upon the terms and conditions contained therein for the purchase or redemption of Option Bonds tendered for purchase or redemption in accordance with the terms of the Second Indenture and of the Supplemental Indenture authorizing such Second Indenture Bonds, which is issued or provided by:

(i) a bank, a trust company, a national banking association, an organization subject to registration with the Board of Governors of the Federal Reserve System under the Bank Holding Company Act of 1956 or any successor provisions of law;

(ii) a federal branch pursuant to the International Banking Act of 1978 or any successor provisions of law;

(iii) a domestic branch or agency of a foreign bank which branch or agency is duly licensed or authorized to do business under the laws of any state or territory of the United States of America;

(iv) a savings bank;

(v) a saving and loan association;

(vi) an insurance company or association chartered or organized under the laws of any state of the United States of America,

(vii) the Government National Mortgage Association or any successor thereto or the Federal National Mortgage Association or any successor thereto;

(viii) an entity affiliated with or which is a subsidiary of any entity described above or affiliated with or a subsidiary of any registered securities dealer; or

(ix) any other entity approved by the Corporation.

"**Maximum Annual Debt Service**" means, as of any particular date of calculation and with respect to any Outstanding Second Indenture Bonds, an amount equal to the greatest amount required in the then current or any future Fiscal Year to pay the Debt Service on such Second Indenture Bonds during such Fiscal Year; ***provided, however,*** that for purposes of this definition:

(i) the Accreted Value of a Capital Appreciation Bond and the Appreciated Value of a Deferred Income Bond becoming due at maturity or through a mandatory Sinking Fund Installment shall be included in the calculations of interest and principal payable during the Fiscal Year in which such Capital Appreciation Bond or Deferred Income Bond matures or in which such Sinking Fund Installment is due;

(ii) the principal of an Option Bond Outstanding during any Fiscal Year shall be included only in the years and in the respective principal amounts due on the dates on which Sinking Fund Installments are due and on the stated maturity date thereof;

(iii) it shall be assumed that a Variable Interest Rate Bond, prior to its conversion to bear interest at a fixed rate to its maturity, bears interest during any Fiscal Year at the lesser of:

(1) a fixed rate of interest determined in the sole judgment of an Authorized Officer of the Corporation, on a Business Day not more than five (5) days prior to the date of calculation as the fixed rate at which such Variable Interest Rate Bond would have had to bear to be marketed at par on such date as a fixed rate obligation; and

(2) if the Corporation has in connection with such Variable Interest Rate Bond entered into (A) an Interest Rate Exchange Agreement which provides that the Corporation is to pay to another person an amount determined based upon a fixed rate of interest on the Outstanding principal amount of the Variable Interest Rate Bonds to which such agreement relates and the Counterparty pays with respect to a like principal amount a variable rate expected to be reasonably equivalent to the variable rate of interest on such Second Indenture Bonds, or (B) a Hedge Agreement in the nature of an interest rate cap or collar, then either the interest fixed rate set forth in or determined in accordance with such Interest Rate Exchange Agreement or the maximum rate set forth in such Hedge Agreement, as applicable; and

(iv) the principal and Sinking Fund Installments of and interest on Funded Bonds shall be excluded from such calculation.

"**Maximum Interest Rate**" means, with respect to any particular Variable Interest Rate Bond, the numerical rate of interest, if any, established as the maximum rate at which such Variable Interest Rate Bond may bear interest at any time.

"**Minimum Interest Rate**" means, with respect to any particular Variable Interest Rate Bond, a numerical rate of interest, if any, established as the minimum rate at which such Variable Interest Rate Bond may bear interest at any time.

"**Moody's**" means Moody's Investors Service and its successors and assigns; ***provided, however,*** that references in the Second Indenture to Moody's shall be effective so long as Moody's is a Rating Service.

"**MTA**" means any of the Metropolitan Transportation Authority, the Triborough Bridge and Tunnel Authority and The Long Island Rail Road Company, and any of their successors or assigns.

"**MTA Agreement**" means the Rail Yards Agreement, dated as of September 28, 2006, among Metropolitan Transportation Authority, Triborough Bridge and Tunnel Authority, The Long Island Rail Road Company and the City.

"**Municipal Obligation**" means an obligation of any state or territory of the United States of America, any political subdivision of any state or territory of the United States of America, or any agency, authority, public benefit corporation or instrumentality of such state, territory or political subdivision.

"**Net Recurring Revenues**" means, as of any particular date of calculation and when used in connection with any Fiscal Year, the amount of PILOT Payments and Tax Equivalency Payments received by the Corporation during such Fiscal Year, ***less*** the Corporation Expenses for such Fiscal Year.

"**New Development**" means the construction of a building or other improvement within the Project Area for residential, commercial or other use or uses, or the "Substantial Rehabilitation," as such term is defined in the Support Agreement, of an existing building or improvement within the Project Area, in each case evidenced by the issuance of a temporary or permanent certificate of occupancy on or after January 19, 2005.

"**NYC IDA**" means New York City Industrial Development Agency, a corporate governmental agency constituting a body corporate and politic and a public benefit corporation of the State of New York, and its successors and assigns.

"**Opinion of Bond Counsel**" means, when used in reference to any act, an opinion to the effect that such act is authorized or permitted by the Second Indenture and will not adversely affect the exclusion of interest on any Tax Exempt Bond from the gross income of the Holder thereof for purposes of federal income taxation.

"**Option Bond**" means any Second Indenture Bond which by its terms may be tendered by and at the option of the owner thereof for purchase or redemption by the Corporation prior to the stated maturity thereof, or the maturity of which may be extended by and at the option of the owner thereof.

“**Outstanding**” means, as of any particular date of calculation, when used in reference to any First Indenture Bonds, First Indenture Bonds that are outstanding under and within the meaning of the First Indenture; and, when used in reference to any Second Indenture Bonds, all Second Indenture Bonds authenticated and delivered under the Second Indenture and under any applicable Supplemental Indenture and all Parity Reimbursement Obligations except:

(i) any Second Indenture Bond cancelled by the Second Indenture Trustee at or before such date;

(ii) any Second Indenture Bond deemed to have been paid in accordance with the provisions of the Second Indenture described below under the heading “Defeasance”;

(iii) any Second Indenture Bond paid pursuant to the Second Indenture or any Second Indenture Bond in lieu of or in substitution for which another Second Indenture Bond shall have been authenticated and delivered pursuant to the Second Indenture;

(iv) Option Bonds tendered or deemed tendered in accordance with the provisions of the Supplemental Indenture authorizing such Second Indenture Bonds on the applicable adjustment or conversion date, if interest thereon shall have been paid through such applicable date and the purchase price thereof shall have been paid or amounts are available for such payment as provided in the Second Indenture and in the Supplemental Indenture authorizing such Second Indenture Bonds;

(v) Parity Reimbursement Obligations arising out of a Credit Facility or Liquidity Facility if and to the extent that such Parity Reimbursement Obligations are evidenced by Second Indenture Bonds to which the Credit Facility or Liquidity Facility relates and such Second Indenture Bonds are registered in the name of the Provider thereof or its nominee; and

(vi) Funded Bonds, but only for such purposes as the provisions of the Second Indenture expressly provide that Funded Bonds shall not be considered to be Outstanding Second Indenture Bonds or that Funded Bonds are to be excluded from the calculation of Outstanding Second Indenture Bonds.

“**Parity Reimbursement Obligation**” means an obligation of the Corporation to pay or reimburse the Provider of a Credit Facility or Liquidity Facility for money advanced thereunder for the payment of the principal, Redemption Price or purchase price of Second Indenture Bonds, including interest on the money so advanced, whether or not such obligation is evidenced by a note, bond or other evidence of indebtedness, but which is secured by a security interest in, pledge of and lien on the Trust Estate on a parity with the lien created by the Second Indenture for the payment of the Second Indenture Bonds to which such Credit Facility or Liquidity Facility relates.

“**Payment Default**” means either (i) a “Payment Default” as defined in the First Indenture or (ii) an event of default described in clause (a) of the heading below entitled “Events of Default”.

“**PILOMRT Payments**” means payments in lieu of any mortgage recording taxes (i) made pursuant to a PILOT Agreement, (ii) made to the Corporation pursuant to the MTA Agreement or (iii) made to the Corporation on or after the date of issuance of the Initial Bonds in connection with New Developments in the Project Area by any of (A) the New York State Urban Development Corporation doing business as the Empire State Development Corporation, or any of its subsidiaries, and (B) The Port Authority of New York and New Jersey.

“**PILOT Agreement**” means, each and singularly, an agreement entered into on or after January 1, 2006 (i) by and between the NYC IDA and another party pursuant to Section 858(15) of the General Municipal Law, pursuant to which, *inter alia,* such person agrees to make payments to the NYC IDA in lieu of the payment of *ad valorem* real property taxes to the City in connection with property located in the Project Area, (ii) by and between the MTA and another person pursuant to which, *inter alia,* such person agrees to make payments in lieu of the payment of *ad valorem* real property taxes to the MTA or the City in connection with property located in the Project Area, which payments are payable to the Corporation pursuant to the MTA Agreement, and (iii) by and between New York State Urban Development Corporation, doing business as the Empire State Development Corporation, The Port Authority of the States of New York and New Jersey or any other governmental entity, or any of their subsidiaries, and another person pursuant to which, *inter alia,* such person agrees to make payments in lieu of the payment of *ad valorem* real property taxes to the governmental party thereto or the City in connection with property located in the Project Area, which payments are payable to the Corporation.

"**PILOT Payments**" means payments in lieu of *ad valorem* real property taxes made pursuant to a PILOT Agreement.

"**PILOT Mortgage**" means any mortgage given by a party to a PILOT Agreement to secure its obligations thereunder to make PILOT Payments.

"**Pledged Funds**" means the Revenue Fund, the Construction Fund, and the Debt Service Fund, each and every account and subaccount in any such fund, and any fund or account established pursuant to a Supplemental Indenture therein designated as a Pledged Fund.

"**Project**" means, individually, the Subway Extension, Public Amenities and any future improvements thereto, and the purchase of the TDRs, each as more particularly described in Exhibit B annexed to the Second Indenture.

"**Project Account**" means the account within the Construction Fund so designated, created and established pursuant to the provisions of the Second Indenture described below under the heading "Establishment of Funds and Accounts".

"**Project Area**" means the geographic area within the City in the Borough of Manhattan referred to as the "Hudson Yards Financing District" in Resolution Number 547 of 2006 of the City's City Council.

"**Project Cost Requisition**" means a requisition signed by an Authorized Officer of the Corporation and an appropriate officer of HYDC, substantially in the form annexed to the Second Indenture as Exhibit A, stating with respect to each payment to be made to any person, (i) the names of the payees, (ii) the purpose for which payment is to be made in terms sufficient for identification, (iii) the respective amount of each such payment and (iv) that such purpose constitutes a proper purpose for which money in the Construction Fund may be applied and has not been the basis of any previous withdrawal from the Construction Fund.

"**Project Costs**" means costs and expenses or the refinancing of costs and expenses incurred in connection with the Project, including, but not limited to, (i) costs and expenses of the acquisition of the title to or other interest in real property, including easements, rights–of–way and licenses, (ii) costs and expenses incurred for labor and materials and payments to contractors, builders and material men, for the acquisition, construction, reconstruction, rehabilitation, repair and improvement of the Project, (iii) the cost of surety bonds and insurance of all kinds, including premiums and other charges in connection with obtaining title insurance, that may be required or necessary prior to completion of the Project, which is not paid by a contractor or otherwise provided for, (iv) the costs and expenses for design, test borings, surveys, estimates, plans and specifications and preliminary investigations therefor, and for supervising the Project, (v) costs and expenses required for the acquisition and installation of equipment or machinery, (vi) all other costs which the City, HYDC or the Corporation shall be required to pay or cause to be paid for the acquisition, construction, reconstruction, rehabilitation, repair, improvement and equipping of the Project, (vii) any sums required to reimburse any person for advances made by them for any of the above items or for other costs incurred and for work done by them in connection with the Project, (viii) costs and expenses of HYDC, including but not limited to, in connection with the performance of its duties under the Support Agreement and its activities to facilitate other development of the Project Area, (xi) interest on Outstanding Second Indenture Bonds, and (xii) fees, expenses and liabilities of the Corporation incurred in connection with the Project, including but not limited to litigation expenses, judgments, settlements and compromises, and in connection with any other agreement of the City, HYDC or the Corporation ancillary to the Project.

"**Provider**" means the provider or issuer of a Credit Facility or a Liquidity Facility, and its successors and assigns.

"**Provider Payments**" means the amount, certified by a Provider to the Second Indenture Trustee, as payable to such Provider on account of amounts advanced by it under a Credit Facility or a Liquidity Facility, including interest on amounts advanced and fees and charges with respect thereto.

"**Public Amenities**" means the work or improvement so designated and more particularly defined in Exhibit B annexed to the Second Indenture.

"**Rating Confirmation**" means the written confirmation of each Rating Service to the effect that the rating assigned, without regard to any Credit Facility, to each of the Second Indenture Bonds rated by such Rating Service will remain unchanged and will not be withdrawn, suspended or reduced as a consequence of some act or occurrence.

"**Rating Service**" means as of any particular date of determination each of Fitch, Moody's and S&P, or their respective successors, which then has a rating on Outstanding Second Indenture Bonds assigned at the request of the Corporation.

"**Record Date**" means, when used in relation to the Second Indenture Bonds of a Series, the date specified as the record date for such Second Indenture Bonds in the Supplemental Indenture authorizing such Second Indenture Bonds.

"**Recurring Revenues**" means, as of any particular date of calculation and when used in connection with any Fiscal Year, the amount of PILOT Payments and Tax Equivalency Payments received by the Corporation during the Fiscal Year.

"**Redemption Account**" means the account within the Debt Service Fund so designated, created and established pursuant to the provisions of the Second Indenture described below under the heading "Establishment of Funds and Accounts".

"**Redemption Price**" when used with respect to a Second Indenture Bond means the principal amount of such Second Indenture Bond plus the applicable premium, if any, payable upon redemption prior to maturity thereof pursuant to the Second Indenture or to the applicable Supplemental Indenture.

"**Refunding Bond**" means any Second Indenture Bond issued pursuant to the Second Indenture to pay or provide for the payment of First Indenture Bonds or Second Indenture Bonds.

"**Remarketing Agent**" means the person appointed by or pursuant to a Supplemental Indenture authorizing the issuance of Option Bonds to remarket such Option Bonds tendered or deemed to have been tendered for purchase in accordance with such Supplemental Indenture.

"**Remarketing Agreement**" means, with respect to Option Bonds of a Series, an agreement between the Corporation and the Remarketing Agent relating to the remarketing of such Second Indenture Bonds.

"**Reserved Rights**" means, when used with respect to any Agreement to which the Corporation is a party or that has been assigned to it that is a part of the Trust Estate, any right or privilege thereunder to give notices, consents or approvals, to agree to amendments, modifications or supplements thereto, to enforce the obligations of any other party thereto, and any agreement by another party thereto to indemnify the Corporation or to hold it harmless, but in all such cases subject to the limitations or conditions expressly imposed thereon by the Second Indenture.

"**Revenue Fund**" means the fund so designated, created and established pursuant to the provisions of the Second Indenture described below under the heading "Establishment of Funds and Accounts".

"**Revenues**" means, when used in connection with any Fiscal Year, all amounts received by the Corporation during such Fiscal Year from (i) PILOT Payments, (ii) PILOMRT Payments, (iii) Tax Equivalency Payments, (iv) DIB Payments, (v) Interest Support Payments, (vi) the sale or other transfer of the TDRs or the air rights or development rights appurtenant to other real property located within the Project Area, in each case after deduction therefrom of the costs incurred in connection with such sale or transfer and any amounts required to be applied as a consequence of such sale or transfer to the purchase, redemption or defeasance of Second Indenture Bonds in order to maintain the tax–exempt status of interest on any Tax Exempt Bonds, (vii) rentals, if any, paid to the Corporation, (viii) Hedge Agreement Payments and Termination Payments received by the Corporation, and (ix) proceeds of (A) any foreclosure sale, (B) exercise of an owners right of redemption or (C) any other sale or disposition by the Corporation, in each case, of property subject to a PILOT Mortgage or that has been acquired by the Corporation upon or in lieu of the foreclosure of such PILOT Mortgage.

"**S&P**" means S&P Global Ratings and its successors and assigns; ***provided, however,*** that references in the Second Indenture to S&P shall be effective so long as S&P is a Rating Service.

"**Second Indenture**" means the Second Trust Indenture dated as of May 1, 2017, by and between the Corporation and the Second Indenture Trustee, as from time to time further amended or supplemented by Supplemental Indentures in accordance with the terms and provisions of the Second Indenture.

"**Second Indenture Bond**" means any bond of the Corporation authorized and issued pursuant to the Second Indenture and to a Supplemental Indenture, and, except as expressly limited by the Second Indenture or otherwise expressly provided in the Second Indenture, any Hedge Agreement Payments and Parity Reimbursement Obligations of the Corporation; ***provided, however,*** that Hedge Agreement Payment or a Parity Reimbursement Obligation shall not be considered a Second Indenture Bond for purposes of Article II ("Authorization and Issuance of the Second Indenture Bonds"), Article III ("General Terms and Provisions of Second Indenture Bonds"), Article IV ("Redemption of Second Indenture Bonds"), Article IX ("Supplemental Indentures"), Article X ("Amendments of Second Indenture"), Article XI ("Defaults and Remedies") and Article XII ("Defeasance") of the Second Indenture or for purposes of the right to receive Interest Support Payments.

"**Second Indenture Trustee**" means U.S. Bank National Association appointed as Trustee for the Second Indenture Bonds pursuant to the Second Indenture and having the duties, responsibilities and rights provided for in the Second Indenture, and its successor or successors and any other bank or trust company which may at any time be substituted in its place pursuant to the Second Indenture.

"**Series**" means all of the Second Indenture Bonds authenticated and delivered on original issuance and pursuant to the Second Indenture and to the Supplemental Indenture authorizing such Second Indenture Bonds as a separate Series of Second Indenture Bonds, and any Second Indenture Bonds thereafter authenticated and delivered in lieu of or in substitution for such Second Indenture Bonds pursuant to the Second Indenture, regardless of variations in maturity, interest rate, Sinking Fund Installments or other provisions.

"**Sinking Fund Installment**" means, when used in connection with any First Indenture Bonds, has the meaning given to such term in the First Indenture, and, when used in connection with any Second Indenture Bond means, as of any date of calculation, the amount of money required to be paid on a future date for the retirement of a Term Bond that matures after said future date, but does not include any amount payable by the Corporation by reason only of the maturity of such Term Bond.

"**Standby Purchase Agreement**" means an agreement by and between the Corporation and another person, pursuant to which such person is obligated to purchase an Option Bond tendered for purchase and not remarketed to another purchaser.

"**Substantial Completion**" means, (i) when used in connection with the Subway Extension or the Public Amenities, that HYDC has certified to the Corporation and the City that all of the following shall have occurred:

(a) copies of all temporary or permanent certificates of occupancy required in connection therewith, if any, have been delivered to HYDC;

(b) all work required by the plans and specifications and construction documents, including but not limited to required commissioning, has been completed, except for minor or insubstantial details or construction, decoration, mechanical adjustment (including without limitation testing or mechanical systems and associated commissioning work) or installation; ***provided, however,*** that, with respect to mechanical systems, an item is minor or insubstantial if it does not interfere with the ability of such system to meet the performance criteria set forth in the construction documents; and

(c) any work remaining to be done is of a nature as will not interfere with the normal use and occupancy for its intended purpose; and

(ii) when used in connection with the TDRs, that the Corporation has fully paid for the purchase price therefor as certified to the Second Indenture Trustee by the Corporation.

"**Subway Extension**" means the work or improvements so designated and more particularly described in Exhibit B annexed to the Second Indenture.

"**Supplemental Indenture**" means any Indenture of the Corporation amending or supplementing the Second Indenture or any prior Supplemental Indenture executed and becoming effective in accordance with the terms and provisions of the Second Indenture.

"**Support Agreement**" means the Amended and Restated Hudson Yards Support and Development Agreement, dated as of December 1, 2006, as amended and restated as of May 1, 2017, by and among the City, HYDC and the Corporation, as from time to time amended and supplemented in accordance therewith and with the Second Indenture.

"**Supported Bond**" means any Outstanding Second Indenture Bond, other than a Funded Bond, that, pursuant to the Support Agreement, the City is obligated to make Interest Support Payments in connection therewith.

"**Surplus Fund**" means the fund so designated, created and established pursuant to the provisions of the Second Indenture described below under the heading "Establishment of Funds and Accounts".

"**Tax Equivalency Payments**" means the payments required to be made by the City pursuant to Section 4.01 of the Support Agreement.

"**Tax Exempt Bond**" means any Second Indenture Bond as to which Bond Counsel has rendered an opinion to the effect that interest on it is excluded from gross income for purposes of federal income taxation.

"**Tax Obligations**" means for any Fiscal Year the amount required by the Code to be paid by the Corporation during such Fiscal Year to the United States of America as rebate payments, yield reduction payments, penalties and interest.

"**Term Bond**" means a Second Indenture Bond so designated and payable from Sinking Fund Installments.

"**Termination Payment**" means any payment required to be made upon and solely as a consequence of the termination of a Hedge Agreement.

"**TDRs**" means the transferable development rights appurtenant to the property within the Project Area designated as the "Eastern Rail Yards," as defined in the MTA Agreement, in which the Corporation is to purchase an interest pursuant to the MTA Agreement.

"**Trust Estate**" has the meaning given to such term in the granting clause of the Second Indenture.

"**UTEP-Hudson Yards**" has the meaning given to such term in the IDA Assignment Agreement.

"**Valuation Date**" means (i) with respect to any Capital Appreciation Bond, the date or dates set forth in the Supplemental Indenture authorizing such Second Indenture Bond on which specific Accreted Values are assigned to such Capital Appreciation Bond, and (ii) with respect to any Deferred Income Bond, the date or dates prior to the Interest Commencement Date set forth in the Supplemental Indenture authorizing such Second Indenture Bond on which specific Appreciated Values are assigned to such Deferred Income Bond.

"**Variable Interest Rate**" means the rate or rates of interest to be borne by a Second Indenture Bond which is or may be varied from time to time in accordance with the method of determining such interest rate or rates established for such Second Indenture Bond; ***provided, however,*** that such variable interest rate may be subject to a Maximum Interest Rate and a Minimum Interest Rate and that there may be an initial rate specified, in each case as provided in such Supplemental Indenture.

"**Variable Interest Rate Bond**" means any Second Indenture Bond that bears a Variable Interest Rate; ***provided, however,*** that from and after the date on which the interest rate on such Second Indenture Bond shall have been fixed for the remainder of the term thereof, such Second Indenture Bond shall no longer be a Variable Interest Rate Bond.

(Second Indenture Section 1.01)

Summary of Certain Provisions of the Second Indenture

The following is a summary of certain provisions of the Second Indenture. Such summary does not purport to be complete and reference is made to the Second Indenture for full and complete statements of such and all provisions.

Granting Clause

In order to secure the payment of the principal and Redemption Price of and interest on the Second Indenture Bonds and the performance and observance of all of the covenants and conditions contained in the Second Indenture or in the Second Indenture Bonds, the Corporation has executed and delivered the Second Indenture and has conveyed, granted, assigned, transferred, pledged, set over and confirmed and granted a security interest in, to the Second Indenture Trustee, its successor or successors and its or their assigns forever, with power of sale, all and singular, the following real and personal property (such property sometimes referred to as the "Trust Estate"):

(i) All right, title and interest of the Corporation in, to and under the IDA Assignment Agreement, the DIB Assignment Agreement, the PILOT Agreements now existing and hereafter entered into, the PILOT Mortgages now existing and hereafter entered into, the MTA Agreement and the Support Agreement, including, without limitation, the present and continuing right to make claim for, collect and receive the payments thereunder and the right to bring actions and proceedings for the enforcement thereof;

(ii) All right, title and interest of the Corporation in, to and under the Revenues, including, without limitation, the present and continuing right to make claim for, collect and receive the Revenues, and the right to bring actions and proceedings for the enforcement thereof;

(iii) Except as limited by the provision of the Second Indenture "Irrevocable Instructions as to First Indenture Surplus", all of the Corporation's right, title and interest in money and securities on deposit from time to time in the First Indenture Surplus Fund created pursuant to the First Indenture;

(iv) Except as otherwise expressly provided in the Second Indenture, all of the Corporation's right, title and interest in money and securities on deposit with the Second Indenture Trustee in the Pledged Funds; provided, however, that the priority in which such money and securities are applied to the repayment of the Second Indenture Bonds shall be as expressly specified in the Second Indenture;

(v) Any and all other property of every kind and nature from time to time hereafter, by delivery or by writing of any kind, conveyed, pledged, assigned or transferred to the Second Indenture Trustee as and for additional security under the Second Indenture by the Corporation or by any person on behalf of the Corporation, including without limitation the money and securities of the Corporation held by the Second Indenture Trustee as security for the Second Indenture Bonds; and

(vi) All proceeds of any of the foregoing;

(A) to have and to hold, all and singular, the properties and the rights and privileges hereby conveyed, assigned and pledged by the Corporation or intended so to be, unto the Second Indenture Trustee and its successors and assigns forever, in trust, nevertheless, with power of sale and for the benefit and security of each and every owner of the Second Indenture Bonds issued and to be issued under the Second Indenture, without preference, priority or distinction as to participation in the lien, benefit and protection of one Second Indenture Bond over or from the other Second Indenture Bonds, by reason of date or order of issuance or negotiation or maturity thereof, or for any other reason whatsoever, except as in the Second Indenture otherwise expressly provided, so that each of such Second Indenture Bonds shall have the same right, lien and privilege under the Second Indenture and shall be equally secured by the Second Indenture with the same effect as if the same shall have been made, issued and negotiated simultaneously with the delivery hereof and were expressed to mature on one and the same date;

(B) subject and subordinate to: (a) so long as no Payment Default shall have occurred and be continuing under the Second Indenture, the Reserved Rights of the Corporation; and (b) with respect to the components of the Trust Estate specified in clauses (i), (ii) and (iii) above, and the proceeds thereof, the pledge thereof and lien thereon made and created by the First Indenture.

If the Corporation or its successors or assigns shall well and truly pay or cause to be paid the principal of such Second Indenture Bonds with interest, according to the provisions set forth in the Second Indenture Bonds and each of them or shall provide for the payment of such Second Indenture Bonds by depositing or causing to be deposited with the Second Indenture Trustee the entire amount of funds or securities requisite for payment thereof, when and as authorized by the provisions of Second Indenture described below under the heading "Defeasance", and shall also pay or cause to be paid all other sums payable under the Second Indenture by the Corporation, then the presents and the estate and rights granted by the Second Indenture shall cease, determine and become void, and thereupon the Second Indenture Trustee, on payment of its lawful charges and disbursements then unpaid, on demand of the Corporation and upon the payment of the cost and expenses thereof, shall duly execute, acknowledge and deliver to the Corporation such instruments of satisfaction or release as may be specified by the Corporation as necessary or proper to discharge the Second Indenture, including, if appropriate, any required discharge of record, and if necessary shall grant, reassign and deliver to the Corporation, its successors or assigns, all and singular the property, rights, privileges and interest by it granted, conveyed and assigned, and all substitutes therefor, or any part thereof, not previously disposed of or released as under the Second Indenture provided; otherwise the Second Indenture shall be and remain in full force.

Authorization of Second Indenture Bonds

Second Indenture Bonds of the Corporation to be designated as "Hudson Yards Second Indenture Revenue Bonds" are authorized to be issued pursuant to the Second Indenture and the Second Indenture creates a continuing pledge and lien to secure the payment of the principal and Redemption Price of and interest on all Outstanding Second Indenture Bonds. The Second Indenture Bonds will be special obligations of the Corporation payable solely from the Trust Estate in the manner more particularly described in the Second Indenture. The aggregate principal amount of Second Indenture Bonds which may be executed, authenticated and delivered is not limited except as provided by the Second Indenture.

(Second Indenture Section 2.01)

Issuance of Second Indenture Bonds and Additional Bonds

The issuance of Second Indenture Bonds shall be authorized by a Supplemental Indenture. The Second Indenture Bonds will be executed by the Corporation and delivered to the Second Indenture Trustee. The Corporation shall, in addition to other requirements of the Second Indenture, deliver to the Second Indenture Trustee:

(a) a copy of the Second Indenture, including the Supplemental Indenture authorizing such Second Indenture Bonds, certified by an Authorized Officer of the Corporation;

(b) a copy of each of the IDA Assignment Agreement, the DIB Assignment Agreement, each PILOT Agreement and PILOT Mortgage theretofore assigned to the Corporation, the Support Agreement and the MTA Agreement, in each case certified by an Authorized Officer of the Corporation;

(c) if a Credit Facility or Liquidity Facility is to be provided in connection with the issuance of the Second Indenture Bonds of such Series, such Credit Facility or Liquidity Facility;

(d) if such Second Indenture Bonds are Supported Bonds, a certificate of an Authorized Officer of the Corporation to the effect that the issuance thereof complies with the provisions of the Second Indenture regarding limitations on Supported Bonds;

(e) except in the case of the Initial Bonds, Completion Bonds and Refunding Bonds, a certificate of an Authorized Officer of the Corporation (i) setting forth (A) the Net Recurring Revenues for the immediately preceding Fiscal Year for which audited financial statements of the Corporation are available, and (B) the Maximum Annual Debt Service (for Fiscal Years during which First Indenture Bonds or Second Indenture Bonds Outstanding before the date of issue are scheduled to remain Outstanding) calculated only with respect to First Indenture Bonds and Second Indenture Bonds Outstanding after giving effect to the issuance of the Second Indenture Bonds then to be issued, in each case excluding Funded Bonds, and (ii) a statement to the effect that the amount set forth in (A) is at least equal to one hundred twenty–five percent (125%) of the amount set forth in (B);

(f) A written order as to the delivery of the Second Indenture Bonds, signed by an Authorized Officer of the Corporation, describing the Second Indenture Bonds to be delivered, designating the purchaser or purchasers to whom such Second Indenture Bonds are to be delivered and stating the consideration for such Second Indenture Bonds;

(g) a certificate of an Authorized Officer of the Corporation to the effect that no default under any Agreement to which it is a party will exist after issuance of the Second Indenture Bonds then to be issued;

(h) a certificate of an Authorized Officer of the City to the effect that it is not in default under any Agreement to which it is a party;

(i) a certificate of an officer of the NYC IDA to the effect that it is not in default under the IDA Assignment Agreement; and

(j) an opinion of Bond Counsel to the effect that, in the opinion of Bond Counsel, the Second Indenture and the applicable Supplemental Indenture authorizing the Series of Second Indenture Bonds have been duly and lawfully authorized, executed and delivered by the Corporation; that the Second Indenture and the applicable Supplemental Indenture are in full force and effect and are valid and binding upon the Corporation and enforceable in accordance with their terms; that the Second Indenture creates the valid pledge and the valid lien upon the Revenues which it purports to create, subject only to the provisions of the First Indenture and the Second Indenture permitting the withdrawal, payment, setting apart or appropriation thereof for the purposes and on the terms and conditions set forth in the Second Indenture and each applicable Supplemental Indenture; and that the Corporation is duly authorized and entitled to issue such Series of Second Indenture Bonds and, upon the execution and delivery thereof and upon authentication by the Second Indenture Trustee, such Series of Second Indenture Bonds will be duly and validly issued and will constitute valid and binding special obligations of the Corporation entitled to the benefits of the Second Indenture; ***provided, however,*** that such opinion may be qualified to the extent that enforceability of rights and remedies may be limited by bankruptcy, insolvency, reorganization, moratorium or other laws affecting creditors' rights generally or as to the availability of any particular remedy.

(Second Indenture Section 2.02)

Refunding Bonds

A Series of Refunding Bonds may be authenticated and delivered pursuant to the Second Indenture only upon receipt by the Second Indenture Trustee of the documents required above under "Issuance of Second Indenture Bonds and Additional Bonds" and of:

(a) irrevocable instructions to the Second Indenture Trustee or the First Indenture Trustee, satisfactory to it, to give due notice of redemption of all Second Indenture Bonds or First Indenture Bonds to be refunded that are to be redeemed prior to their respective maturity dates on the redemption date specified in such instructions;

(b) either (i) money in an amount sufficient to effect payment of the principal or Redemption Price of the Second Indenture Bonds or First Indenture Bonds to be refunded, together with accrued interest on such Second Indenture Bonds or First Indenture Bonds to their respective maturity or redemption dates, which money shall be held by the Second Indenture Trustee or First Indenture Trustee, as applicable, in a separate account irrevocably in trust for and assigned to the respective Holders of the Second Indenture Bonds or First Indenture Bonds, as applicable, to be refunded, or (ii) Defeasance Securities in such principal amounts, of such maturities, bearing such interest and otherwise having such terms and qualifications as shall be necessary to comply with the defeasance provisions of the Second Indenture or the First Indenture, as applicable, and money required pursuant to said defeasance provisions, which Defeasance Securities and money shall be held in trust and used only as provided in the defeasance provisions of the Second Indenture or the First Indenture, as applicable; and

(c) a certificate of an Authorized Officer of the Corporation, together with supporting schedules, to the effect that the Maximum Annual Debt Service (for Fiscal Years during which First Indenture Bonds or Second Indenture Bonds Outstanding before the date of issue are scheduled to remain Outstanding) on all Second Indenture Bonds and First Indenture Bonds Outstanding (exclusive of Funded Bonds) after giving effect to the issuance of the Refunding Bonds is not greater than the Maximum Annual Debt Service on all Second Indenture Bonds and First Indenture Bonds (exclusive of Funded Bonds) immediately preceding issuance of the Refunding Bonds.

(Second Indenture Section 2.03)

Parity Reimbursement Obligations and Hedge Agreement Payments

In connection with a Series of Second Indenture Bonds, the Corporation may obtain or cause to be obtained one or more Credit Facilities, Liquidity Facilities or Hedge Agreements. In connection therewith the Corporation may enter into such agreements with the Provider of such Credit Facility or Liquidity Facility or the Counterparty to a Hedge Agreement providing for, *inter alia*: (i) the payment of fees and expenses to such Provider or Counterparty; (ii) the terms and conditions of such Credit Facility, Liquidity Facility or Hedge Agreement; (iii) the Series of Second Indenture Bonds to which it relates; and (iv) the security, if any, for the Corporation's obligations thereunder.

The Corporation may in an agreement with the Provider of such Credit Facility or Liquidity Facility or the Counterparty to a Hedge Agreement agree to directly reimburse the Provider for amounts paid by it pursuant to the Credit Facility or Liquidity Facility, together with interest thereon, or to make Hedge Agreement Payments to the Counterparty (collectively, the **"Reimbursement Obligation"**); ***provided, however***, that no Reimbursement Obligation under a Credit Facility or Liquidity Facility shall be created, for purposes of the Second Indenture, until amounts are paid under the Credit Facility or Liquidity Facility. Any obligation to reimburse the provider of a

Credit Facility or Liquidity Facility or to make Hedge Agreement Payments may be a Parity Reimbursement Obligation secured by a pledge of and a lien on the Trust Estate on a parity with the lien created under the Second Indenture for the Second Indenture Bonds to which they relate, ***except*** that, in the case of a Hedge Agreement, only the obligation to make Hedge Agreement Payments, but not Termination Payments, may be secured by a lien on the Trust Estate that is on a parity with the lien created by the Second Indenture. A Parity Reimbursement Obligation shall be deemed to be a part of the Series of Second Indenture Bonds to which the Credit Facility, Liquidity Facility or Hedge Agreement which gave rise to such Parity Reimbursement Obligation relates.

(Second Indenture Section 2.05)

Additional Obligations

The Corporation reserves the right to issue bonds, notes or any other obligations or otherwise incur indebtedness pursuant to other and separate indentures or agreements of the Corporation, so long as the same is not, except as provided in the Second Indenture, entitled to a charge, lien or right prior or equal to the charge or lien in the Trust Estate created by the Second Indenture.

(Second Indenture Section 2.06)

Authorization of Redemption

Second Indenture Bonds subject to redemption prior to maturity pursuant to the Second Indenture or to a Supplemental Indenture shall be redeemable, in accordance with the Second Indenture, at such times, at such Redemption Prices and upon such terms as may otherwise be specified in the Second Indenture or in the Supplemental Indenture authorizing such Series.

(Second Indenture Section 4.01)

Redemption at the Election of the Corporation

In the case of any redemption of Second Indenture Bonds other than mandatorily as provided in the provisions of the Second Indenture described below under the heading “Redemption Other than at Corporation’s Election” or as provided following a Payment Default as described below under the heading “Redemption Account", the Corporation shall give written notice to the Second Indenture Trustee of its election to redeem, of the Series and of the principal amounts of the Second Indenture Bonds of each maturity of such Series to be redeemed. Such notice shall be given not less than forty-five (45) days prior to the redemption date or such lesser number of days as the Second Indenture Trustee may approve. The Series, maturities and principal amounts thereof to be so redeemed shall be determined by the Corporation in its sole discretion, subject to any limitations with respect thereto contained in the Second Indenture or in the Supplemental Indenture authorizing such Series. The Corporation shall pay to the Second Indenture Trustee on or prior to the redemption date an amount which, in addition to other amounts available therefor held by the Second Indenture Trustee, is sufficient to redeem on the redemption date at the Redemption Price thereof, together with interest accrued and unpaid thereon to the redemption date, all of the Second Indenture Bonds to be so redeemed.

(Second Indenture Section 4.02)

Redemption Other Than at Corporation’s Election

Whenever by the terms of the Second Indenture Second Indenture Bonds are required to be redeemed pursuant to the provisions of the Second Indenture described below under the heading “Redemption Account” or through the application of mandatory Sinking Fund Installments or otherwise as provided in the Supplemental Indenture authorizing such Second Indenture Bonds, the Second Indenture Trustee shall select the particular Second

Indenture Bonds of the Series and maturities to be redeemed in the manner described below under the heading "Selection of Second Indenture Bonds to be Redeemed", give the notice of redemption and pay out of money available therefor the Redemption Price thereof in accordance with the terms of the Second Indenture.

(Second Indenture Section 4.03)

Selection of Second Indenture Bonds to be Redeemed

Unless otherwise provided in the Supplemental Indenture authorizing the issuance of Second Indenture Bonds of a Series, in the event of redemption of less than all of the Outstanding Second Indenture Bonds of like Series, maturity and tenor, the Second Indenture Trustee shall assign to each Outstanding Second Indenture Bond of the Series, maturity and tenor (exclusive of Funded Bonds) to be redeemed a distinctive number for each unit of the principal amount of such Second Indenture Bond equal to the lowest denomination in which the Second Indenture Bonds of such Series are authorized to be issued and shall select by lot, using such method of selection as it shall deem proper in its discretion, from the numbers assigned to such Second Indenture Bonds as many numbers as, at such unit amount equal to the lowest denomination in which the Second Indenture Bonds of such Series are authorized to be issued for each number, shall equal the principal amount of such Second Indenture Bonds to be redeemed. In making such selections the Second Indenture Trustee may draw the Second Indenture Bonds by lot (i) individually or (ii) by one or more groups, the grouping for the purpose of such drawing to be by serial numbers (or, in the case of Second Indenture Bonds of a denomination of more than the lowest denomination in which the Second Indenture Bonds of such Series are authorized to be issued, by the numbers assigned thereto as provided in this heading) which end in the same digit or in the same two digits. In case, upon any drawing by groups, the total principal amount of Second Indenture Bonds drawn shall exceed the amount to be redeemed, the excess may be deducted from any group or groups so drawn in such manner as the Second Indenture Trustee may determine. The Second Indenture Trustee may in its discretion assign numbers to aliquot portions of Second Indenture Bonds and select part of any Second Indenture Bond for redemption. The Second Indenture Bonds to be redeemed shall be the Second Indenture Bonds to which were assigned numbers so selected; ***provided, however,*** that only so much of the principal amount of each such Second Indenture Bond of a denomination of more than the lowest denomination in which the Second Indenture Bonds of such Series are authorized to be issued shall be redeemed as shall equal the lowest denomination in which the Second Indenture Bonds of such Series are authorized to be issued for each number assigned to it and so selected.

For purposes of this heading, the lowest denomination in which a Capital Appreciation Bond is authorized to be issued shall be the lowest Accreted Value authorized to be due at maturity on such Second Indenture Bonds, and the lowest denomination in which a Deferred Income Bond is authorized to be issued shall be the lowest Appreciated Value on the Interest Commencement Date authorized for such Second Indenture Bonds.

(Second Indenture Section 4.04)

Notice of Redemption

Whenever Second Indenture Bonds are to be redeemed, the Second Indenture Trustee shall give notice of the redemption of the Second Indenture Bonds in the name of the Corporation which notice shall specify: (i) the Second Indenture Bonds to be redeemed which shall be identified by the designation of the Second Indenture Bonds given in accordance with the provisions of the Second Indenture described above under the heading "Authorization of Second Indenture Bonds", the maturity dates and interest rates of the Second Indenture Bonds to be redeemed and the date such Second Indenture Bonds were issued; (ii) the numbers and other distinguishing marks of the Second Indenture Bonds to be redeemed, including CUSIP numbers; (iii) the redemption date; (iv) the Redemption Price; (v) with respect to each such Second Indenture Bond, the principal amount thereof to be redeemed; (vi) that, except in the case of Book Entry Bonds, such Second Indenture Bonds will be redeemed at the principal corporate trust office of the Second Indenture Trustee giving the address thereof and the telephone number of the Second Indenture Trustee to which inquiries may be directed; (vii) that no representation is made as to the correctness of the CUSIP number either as printed on the Second Indenture Bonds or as contained in such notice and that an error in a CUSIP number as printed on a Second Indenture Bond or as contained in such notice shall not affect the validity of the proceedings for redemption; and (viii) if the Corporation's obligation to redeem the Second Indenture Bonds is subject to conditions, a statement to that effect and of the conditions to such redemption. Such notice shall further state that, if on such date all conditions to redemption have been satisfied, there shall become due and payable on such date upon each Second Indenture Bond to be redeemed the Redemption Price thereof, together with interest accrued and unpaid thereon to the redemption date, and that, from and after such date, payment having been made or provided for, interest thereon shall cease to accrue. Such notice shall be given by mailing a copy of such notice not less than thirty (30) days nor more than sixty (60) days prior to the redemption date or, in the case of Variable Interest Rate Bonds or Option Bonds, such shorter period as shall be established by the Supplemental Indenture authorizing such Second Indenture Bonds. Such notice shall be sent by first class mail, postage prepaid, to the registered owners of the Second Indenture Bonds which are to be redeemed, at their last known addresses, if any, appearing on the registration books not more than ten (10) Business Days prior to the date such notice is given. Upon giving such notice, the Second Indenture Trustee shall promptly certify to the Corporation that it has mailed or caused to be mailed such notice to the Holders of the Second Indenture Bonds to be redeemed in the manner provided in the Second Indenture. Such certificate shall be conclusive evidence that such notice was given in the manner required by the Second Indenture. The failure of any Holder of a Second Indenture Bond to be redeemed to receive such notice shall not affect the validity of the proceedings for the redemption of the Second Indenture Bonds.

(Second Indenture Section 4.05)

Payment of Redeemed Second Indenture Bonds

Notice having been given by mail in the manner provided in the Second Indenture, the Second Indenture Bonds or portions thereof so called for redemption shall become due and payable on the redemption date so designated at the Redemption Price, plus interest accrued and unpaid to the redemption date, except in the case of book-entry Second Indenture Bonds, upon presentation and surrender of such Second Indenture Bonds, at the office or offices specified in such notice, and, in the case of Second Indenture Bonds presented by other than the registered owner, together with a written instrument of transfer duly executed by the registered owner or his duly authorized attorney, such Second Indenture Bonds, or portions thereof, shall be paid at the Redemption Price plus interest accrued and unpaid to the redemption date. If, on the redemption date, money for the redemption of all Second Indenture Bonds or portions thereof of any like Series, maturity and tenor to be redeemed, together with interest accrued and unpaid thereon to the redemption date, shall be held by the Second Indenture Trustee so as to be available therefor on such date and if notice of redemption shall have been mailed as aforesaid, then, from and after the redemption date, interest on the Second Indenture Bonds or portions thereof so called for redemption shall cease to accrue and such Second Indenture Bonds shall no longer be considered to be Outstanding under the Second Indenture. If such money shall not be so available on the redemption date, such Second Indenture Bonds or portions thereof shall continue to bear interest until paid at the same rate as they would have borne had they not been called for redemption.

(Second Indenture Section 4.06)

Pledge of Trust Estate

The Corporation, to secure the payment of the principal and Redemption Price of and interest on the Second Indenture Bonds and performance and observance of all of the covenants and conditions contained in the Second Indenture or in the Second Indenture Bonds, has by the Granting Clause of the Second Indenture conveyed, granted, assigned, transferred, pledged, set over and confirmed and granted a security interest in and does convey, grant, assign, transfer, pledge, set over and confirm and grant a security interest in, unto the Second Indenture Trustee, its successor or successors and its or their assigns forever, with power of sale, the Trust Estate. The Second Indenture Bonds shall be special obligations of the Corporation payable solely from and secured by a pledge of, lien on, security interest in, and trust imposed upon the Trust Estate as provided in the Second Indenture.

(Second Indenture Section 5.01)

Establishment of Funds and Accounts

The following funds and separate accounts within funds are established by the Second Indenture and shall be held and maintained by the Second Indenture Trustee:

- Revenue Fund;
- Construction Fund, consisting of:

  Project Account;
  Costs of Issuance Account;
  Capitalized Interest Account; and
  HYDC Expense Account;

- Debt Service Fund, consisting of:

  Debt Service Account;
  Supported Bond Interest Subaccount;
  Redemption Account;

- Corporation Expense Fund; and
- Surplus Fund.

All money at any time deposited in any fund, account or subaccount created and pledged by the Second Indenture or by any Supplemental Indenture or required thereby to be created shall be held in trust for the benefit of the Holders of Second Indenture Bonds, but shall nevertheless be disbursed, allocated and applied solely for the uses and purposes provided in the Second Indenture; ***provided, however,*** that the money derived from the remarketing of Option Bonds tendered or deemed to have been tendered for purchase or redemption in accordance with the Supplemental Indenture authorizing the issuance of such Second Indenture Bonds or derived from a Liquidity Facility or a Credit Facility relating to such Second Indenture Bonds, and any fund or account established by or pursuant to such Supplemental Indenture for the payment of the purchase price or Redemption Price of Option Bonds so tendered or deemed to have been tendered, shall not be held in trust for the benefit of the Holders of Second Indenture Bonds other than the Holders of such Option Bonds, and such money and each such fund and account are pledged by the Second Indenture for the payment of the purchase price or Redemption Price of such Option Bonds.

(Second Indenture Section 5.02)

Application of Second Indenture Bond Proceeds

Upon the receipt of proceeds from the sale of a Series of Second Indenture Bonds, the Corporation shall apply such proceeds as specified in the Second Indenture and in the Supplemental Indenture authorizing such Series.

Unless otherwise specified in the Supplemental Indenture authorizing the issuance of a Series of Second Indenture Bonds, the accrued interest, if any, received upon the delivery of such Series shall be deposited in the Debt Service Account of the Debt Service Fund.

(Second Indenture Section 5.03)

Construction Fund

(a) The Construction Fund may contain one or more other accounts and subaccounts as the Corporation may deem proper. There shall be established a separate account within the Capitalized Interest Account for each Series of Second Indenture Bonds for which proceeds are to be set aside for payment of Capitalized Interest thereon.

As soon as practicable after the delivery of each Series of Second Indenture Bonds, there shall be deposited into each account and subaccount within the Construction Fund the amount required to be deposited therein pursuant to the Supplemental Indenture authorizing such Series, except that Project Costs consisting of the purchase price for the TDRs payable pursuant to the MTA Agreement shall be paid in accordance with the direction of the Corporation directly to the person entitled thereto.

(b) Except as provided in paragraph (d) of this heading, payments from the Project Account or the Costs of Issuance Account shall be made by the Second Indenture Trustee in accordance with a Project Cost Requisition. Money in a subaccount within the Capitalized Interest Account shall, on the fourth Business Day next preceding an Interest Payment Date for the Second Indenture Bonds for which such subaccount has been established, be transferred by the Second Indenture Trustee to the Debt Service Account of the Debt Service Fund, in such amounts as may be required to pay when due the interest on such Second Indenture Bonds payable on such Interest Payment Date. Money in the HYDC Expense Account shall be paid by the Second Indenture Trustee to HYDC in accordance with the direction of the Corporation given or confirmed in writing.

(c) The income or interest earned on investments of money in the Construction Fund shall be held in the Construction Fund and applied in accordance with the provisions of the Second Indenture as described in this section.

(d) Money, if any, remaining (i) in the Costs of Issuance Account after all Costs of Issuance have been paid or provision has been made for their payment in accordance with the written direction of an Authorized Officer of the Corporation or (ii) in the Project Account, after Substantial Completion of a Project for which such subaccount has been established and provision in accordance with the direction of an Authorized Officer of the Corporation for the payment of any Project Costs then unpaid and for the payment of claims and the discharge of or security for liens arising out of construction of such Project, at the written direction of an Authorized Officer of the Corporation, may be applied:

Unless a Payment Default has occurred:

(i) to the Project Costs of any other project;

(ii) to the purchase or redemption of Outstanding Second Indenture Bonds;

(iii) to make provision for payment of Outstanding Second Indenture Bonds in accordance with the provisions of the Second Indenture described below under the heading "Defeasance"; or

(iv) as otherwise be set forth in such direction provided that prior to such application the Corporation shall have caused an Opinion of Bond Counsel to be delivered to the Second Indenture Trustee.

Notwithstanding any other provision of this heading, if a Payment Default has occurred, the money in each account and subaccount of the Construction Fund shall be transferred to the Redemption Account for application in accordance with the provisions of the Second Indenture described below under the heading "Redemption Account".

(Second Indenture Section 5.04)

Application of Revenues

All Revenues (other than Interest Support Payments made in connection with Outstanding Second Indenture Bonds, which shall be deposited as hereinafter provided in this Section) upon receipt shall be deposited in the Revenue Fund and immediately thereafter applied as provided in the Second Indenture:

Application Prior to a Payment Default. All Revenues (other than Interest Support Payments that are to be deposited as described below under "Application of Interest Support Payments") received during a Fiscal Year shall, if no Payment Default has occurred, be applied by the Second Indenture Trustee in the following order of priority:

First: To the extent not funded under the First Indenture, to the Corporation Expense Fund, the amount required to make the amount deposited therein during such Fiscal Year equal to the amount of Corporation Expenses certified by the Corporation for such Fiscal Year;

Second: To the Debt Service Account of the Debt Service Fund, the amount required (i) to pay the Debt Service remaining to be paid during the then current Fiscal Year on Outstanding Second Indenture Bonds, (ii) to pay Hedge Agreement Payments and principal of and interest on any Parity Reimbursement Obligations as the same is due and payable during such Fiscal Year, and (iii) to maintain in the Debt Service Account the Future Year Debt Service Requirement; and

Third: To the Surplus Fund, the balance of such Revenues.

Application of Interest Support Payments. Interest Support Payments, up to the lesser of the interest payable on Outstanding Supported Bonds (other than Funded Bonds) on the next succeeding Interest Payment Date and the Debt Service Deficiency on the day of such deposit, shall be deposited in the Supported Bond Interest Subaccount of the Debt Service Account. The balance of such Interest Support Payments, if any, shall be deposited directly in the Debt Service Account up to the amount sufficient, together with the other money then therein, to pay the Debt Service payable on Outstanding Second Indenture Bonds (other than Funded Bonds) on the next succeeding Interest Payment Date.

On and After a Payment Default. The Revenues received on and after a Payment Default shall be applied by the Second Indenture Trustee in the following order of priority:

First: Interest Support Payments received by the Second Indenture Trustee shall, up to the amount of interest coming due during the then current Fiscal Year on Outstanding Second Indenture Bonds that are Supported Bonds, be deposited in the Supported Bond Interest Subaccount;

Second: To the extent not funded under the First Indenture, to the Corporation Expense Fund, the amount required to make the amount deposited therein during such Fiscal Year equal to the Corporation Expenses for such Fiscal Year; and

Third: To the Redemption Account, the balance of such Revenues.

(Second Indenture Section 5.05)

Debt Service Fund

(a) The Second Indenture Trustee shall make the payments from each account of the Debt Service Fund as set forth below.

(i) **Debt Service Account.** Except as otherwise provided under the heading "Redemption Account" described below, the Second Indenture Trustee shall pay from the Debt Service Account the following amounts and in the following order of priority:

First, the principal and Sinking Fund Installments of all Outstanding Second Indenture Bonds (other than Funded Bonds) and the principal or any Parity Reimbursement Obligations related to Second Indenture Bonds, in each case as the same is due and payable;

Second, the interest on Outstanding Supported Bonds (exclusive of Funded Bonds), including from money on deposit in the Supported Bond Interest Subaccount; and

Third, the interest on Outstanding Second Indenture Bonds (other than Supported Bonds and Funded Bonds), the interest on Parity Reimbursement Obligations and Hedge Agreement Payments, *pro rata,* as the same become due and payable.

For purposes of subparagraph (i) above a Funded Bond shall not be considered to be an Outstanding Second Indenture Bond so long as it remains a Funded Bond.

(ii) Money in the Debt Service Account, other than in the Supported Bond Interest Subaccount, shall, upon a Payment Default, be transferred to the Redemption Account and applied in accordance with the provisions of the Second Indenture described below under the heading "Redemption Account".

(b) If at any time the amount on deposit in the Debt Service Account exceeds the sum of the Debt Service, Hedge Agreement Payments and interest on Parity Reimbursement Obligations remaining to be paid therefrom during the then current Fiscal Year plus the Future Year Debt Service Requirement payable in the next succeeding Fiscal Year, such excess may, at the direction of the Corporation, be withdrawn therefrom and deposited to the Surplus Fund.

(c) Notwithstanding the provisions of this Section, the Corporation may, at any time subsequent to the first day of any Fiscal Year, but in no event less than forty–five (45) days prior to the succeeding date on which a Sinking Fund Installment is scheduled to be due on Outstanding Second Indenture Bonds, direct the Second Indenture Trustee to purchase, with money on deposit in the Debt Service Account, as applicable, at a price not in excess of par plus interest accrued and unpaid to the date of such purchase, Second Indenture Bonds to be redeemed from such Sinking Fund Installment payable from such account; provided, however, that no money in the Debt Service Account shall be so applied unless after such purchase the amount in such account is at least equal to the principal and Sinking Fund Installments of and interest due and to become due on Outstanding Second Indenture Bonds payable from such account during the then current Fiscal Year. Any Second Indenture Bond so purchased or otherwise purchased and delivered to the Second Indenture Trustee shall be cancelled upon receipt thereof by the Second Indenture Trustee and evidence of such cancellation shall be given to the Corporation. The principal amount of each Second Indenture Bond so cancelled shall be credited against the applicable Sinking Fund Installment due on such date.

(d) Redemption Account. The Second Indenture Trustee shall pay from the Redemption Account the Redemption Price of all Outstanding Second Indenture Bonds (other than Funded Bonds) redeemed pursuant to the provisions of the Second Indenture described below under the heading "Redemption Account".

(Second Indenture Section 5.06)

Redemption Account

Subsequent to the occurrence of a Payment Default, money in each fund, account or subaccount established pursuant to the Second Indenture, other than the Supported Bond Interest Subaccount, shall be transferred to the Redemption Account and the money in the Redemption Account shall be applied in the following order of priority:

(i) First, to the payment to the registered owners of the Outstanding Second Indenture Bonds, interest on all arrears in payment of the principal of or interest on Outstanding Second Indenture Bonds at the respective rates of interest specified in such Second Indenture Bond, *pro rata* based upon the amount of principal and interest payable to each such registered owner;

(ii) Second, on each Interest Payment Date, to the interest due and past due on such Interest Payment Date on all Outstanding Second Indenture Bonds (including interest on Supported Bonds not paid from money in the Supported Bond Interest Subaccount), *pro rata* based upon the amount of interest payable to each person entitled thereto; and

(iii) Third, to redeem Outstanding Second Indenture Bonds on February 15th of each Fiscal Year, at a Redemption Price equal to one hundred percent (100%) of the principal amount of the Second

Indenture Bonds to be redeemed, *pro rata* based upon the principal amount of each Outstanding Second Indenture Bonds.

Unless otherwise provided in the Supplemental Indenture authorizing the issuance of Second Indenture Bonds of a Series, the particular Second Indenture Bonds of each Series and maturity to be so redeemed pursuant to this heading shall be selected, by lot, in accordance with the provisions of the Second Indenture described above under the heading "Selection of Second Indenture Bonds to be Redeemed".

For purposes of this section, a Funded Bond shall not be considered to be an Outstanding Second Indenture Bond so long as it remains a Funded Bond.

(Second Indenture Section 5.07)

Corporation Expense Fund

Money in the Corporation Expense Fund shall be used only for the payment of Corporation Expenses and shall be withdrawn by the Corporation at such times and in such amounts as the Corporation considers necessary to make such payments, including withdrawals of amounts for deposit to one or more accounts of the Corporation established for the convenience of the Corporation in effecting payment of Corporation Expenses.

Money in the Corporation Expense Fund on June 30th of a Fiscal Year shall, after provision for payment of any Corporation Expenses for such Fiscal Year due but then unpaid, may be withdrawn by the Second Indenture Trustee at the written direction of the Corporation and deposited to any one or more of the funds or accounts under the Second Indenture in the respective amounts set forth in such direction.

(Second Indenture Section 5.08)

Surplus Fund

Money in the Surplus Fund may be applied, free and clear of any lien or trust thereon, for any corporate purpose of the Corporation, including, but not limited to, payments to the City; ***provided, however,*** that prior to any such application the money in the Surplus Fund shall be applied to the payment of any Termination Payments then payable. Such payment shall be made by the Second Indenture Trustee at the times and in the amounts set forth in the written direction of the Corporation.

Notwithstanding the foregoing, subsequent to the occurrence of a Payment Default, money in the Surplus Fund shall be transferred to the Redemption Account and applied in accordance with the provisions of the Second Indenture described above under the heading "Redemption Account".

(Second Indenture Section 5.09)

Application of Money in Certain Funds for Retirement of Second Indenture Bonds

Notwithstanding any other provisions of the Second Indenture, if at any time the amounts held in the Debt Service Account of the Debt Service Fund are sufficient to pay the principal or Redemption Price of all Outstanding Second Indenture Bonds and the interest accrued and unpaid and to accrue on such Second Indenture Bonds (other than Funded Bonds) to the next date of redemption when all such Second Indenture Bonds are redeemable, or to make provision pursuant to the provisions of the Second Indenture described below under subparagraph (b) of the heading "Defeasance" for the payment of such Second Indenture Bonds at the maturity or redemption dates thereof, then, in each such case the Corporation may

(i) direct the Second Indenture Trustee to redeem such Second Indenture Bonds, whereupon the Second Indenture Trustee shall proceed to redeem or provide for the redemption of such Outstanding Second Indenture Bonds in the manner provided for redemption of such Second Indenture Bonds by the Second Indenture and by each Supplemental Indenture as provided in Article IV of the Second Indenture, or

(ii) give the Second Indenture Trustee irrevocable instructions in accordance with the provisions of the Second Indenture described below under subparagraph (b) of the heading "Defeasance" and make provision for the payment of such Second Indenture Bonds at the maturity or redemption dates thereof in accordance therewith.

(Second Indenture Section 5.10)

Transfer of Investments

Whenever money in any fund or account established under the Second Indenture is to be paid in accordance with the Second Indenture to another such fund or account, such payment may be made, in whole or in part, by transferring to such other fund or account investments held as part of the fund or account from which such payment is to be made, whose value, together with the money, if any, to be transferred, is at least equal to the amount of the payment then to be made; ***provided, however,*** that no such transfer of investments would result in a violation of any investment standard or guideline applicable to such fund.

(Second Indenture Section 5.11)

Investment of Funds and Accounts Held by the Second Indenture Trustee

Money held under the Second Indenture, if permitted by law, shall, as nearly as may be practicable, be invested by the Second Indenture Trustee in any Eligible Investments in accordance with the direction of an Authorized Officer of the Corporation given in writing, which direction shall specify the particular investment to be made. Each investment shall permit the money so deposited or invested to be available for use at the times at, and in the amounts in, which the Corporation reasonably believes such money will be required for the purposes of the Second Indenture. In computing the amount in any fund or account held by the Second Indenture Trustee under the Second Indenture, obligations purchased as an investment of money therein or held therein shall be valued at the market value thereof, plus accrued interest to the date of valuation.

(Second Indenture Section 6.01)

Payment of Principal and Interest

The Corporation shall pay or cause to be paid every Second Indenture Bond, including interest thereon, on the dates and at the places and in the manner provided in the Second Indenture Bonds according to the true intent and meaning thereof.

(Second Indenture Section 7.01)

Corporate Existence

The Corporation shall maintain its existence as a local development corporation under the New York Not-for-Profit Corporation Law and shall not amend its certificate of incorporation in any manner that would have the effect of expanding its corporate purposes or restricting the corporate action for which the affirmative vote of an independent director is required. The Corporation may amend its certificate of incorporation to expand its corporate purposes to act in the public interest through the financing of, and other assistance relating to, development and redevelopment activities outside of the Project Area, but within the geographic boundaries of the City, through the issuance of its bonds, notes, debentures or other evidences of indebtedness, provided that the bonds, notes, debentures or other evidences of indebtedness issued for any such capital improvements are not payable from or secured by the Revenues, Pledged Funds or any other assets of the Corporation constituting any part of the Trust Estate and that the holders of such bonds, notes, debentures or other evidences of indebtedness have no right or interest in or to the Revenues, Pledged Funds or other assets constituting a part of the Trust Estate.

(Second Indenture Section 7.05)

Accounts and Audits

The Corporation shall keep proper books of records and accounts (separate from all other records and accounts), which may be kept on behalf of the Corporation by the Second Indenture Trustee, in which complete and correct entries shall be made of its transactions relating to each Series of Second Indenture Bonds, which books and accounts, at reasonable hours and subject to the reasonable rules and regulations of the Corporation, shall be subject to the inspection of the Second Indenture Trustee, each Provider or of any Holder of a Second Indenture Bond or a representative of any of the foregoing duly authorized in writing. The Corporation shall cause such books and accounts to be audited annually after the end of its fiscal year by an independent certified public accounting firm selected by the Corporation. Annually within thirty (30) days after receipt by the Corporation of the report of such audit, a signed copy of such report shall be furnished to the Second Indenture Trustee, to each Provider and to the City. A copy of the most recently audited financial statements of the Corporation, together with a copy of the accountant's report thereon, shall, upon receipt of a written request therefor, and payment of any reasonable fee or charge made in connection therewith, be furnished to the registered owner of a Second Indenture Bond or any beneficial owner of a Book Entry Bond requesting the same.

(Second Indenture Section 7.06)

Creation of Liens

Except as permitted by the Second Indenture, the Corporation shall not create or cause to be created any lien or charge prior or equal to that of the Second Indenture Bonds on the Trust Estate; ***provided, however,*** that nothing contained in the Second Indenture shall prevent the Corporation from issuing bonds, notes or other obligations or otherwise incurring indebtedness so long as the charge or lien on the Trust Estate created to secure the same is not prior or equal to the charge or lien on the Trust Estate created by the Second Indenture.

(Second Indenture Section 7.07)

Notice of Default; Enforcement of Agreements

The Corporation as soon as practicable shall give written notice to the Second Indenture Trustee and to each Provider of the occurrence of a default under any of the Agreements. The Corporation, prior to the occurrence of a Payment Default, may and, at the direction of the Holders of a majority in principal amount of the Outstanding Second Indenture Bonds, shall take all legally available action to cause each party to an Agreement to perform fully its obligation thereunder in the manner and at the times provided in such Agreement.

(Second Indenture Section 7.08)

Offices for Payment and Registration of Second Indenture Bonds

The Corporation shall at all times maintain an office or agency in the State where Second Indenture Bonds may be presented for payment, which office or agency may be at or through the principal corporate trust office of the Second Indenture Trustee. The Corporation shall at all times maintain an office or agency in the State where Second Indenture Bonds may be presented for registration, transfer or exchange and the Second Indenture Trustee is appointed as its agent to maintain such office or agency for the registration, transfer or exchange of Second Indenture Bonds. The provisions of this heading shall be subject to the provisions of the Second Indenture.

(Second Indenture Section 7.10)

Amendment of Agreements

(a) Except as otherwise provided in the Second Indenture, an Agreement may not be amended, changed, modified or terminated, nor shall the Corporation consent or acquiesce in any amendment, change, modification or termination of an Agreement, nor may any provision thereof be waived by the Corporation, without the consent of the Holders of Outstanding Second Indenture Bonds as provided in the Second Indenture, if such amendment, change, modification, termination or waiver (i) reduces the amount payable on any date or delays the date on which such payment is to be made, (ii) waives or surrenders any right of the Corporation or its assignor, (iii) modifies the events which constitute events of default under such Agreement or diminishes, limits or conditions the rights of the Corporation or its assignor under, or remedies which upon the occurrence of a default may be exercised by, the Corporation or its assignor under such Agreement, or (iv) adversely affects the Holders of Outstanding Second Indenture Bonds in any material respect.

No such amendment, change, modification, termination or waiver shall take effect unless consented to in writing by (a) the Holders of at least a majority in principal amount of the Second Indenture Bonds then Outstanding, or (b) in case less than all of the several Series of Second Indenture Bonds then Outstanding are affected by the amendment, change, modification, termination or waiver, the Holders of not less than a majority in principal amount of the Second Indenture Bonds of the Series so affected and then Outstanding; ***provided, however,*** (i) Funded Bonds shall not be deemed to be Outstanding for purposes of any calculation of Outstanding Second Indenture Bonds under this heading and (ii) if such amendment, change, modification, termination or waiver will, by its terms, not take effect so long as any Second Indenture Bonds of any specified Series and maturity remain Outstanding, the consent of the Holders of such Second Indenture Bonds shall not be required and such Second Indenture Bonds shall not be deemed to be Outstanding for the purpose of any calculation of Outstanding Second Indenture Bonds under this heading.

(b) An Agreement may be amended, changed or modified or any provision thereof waived in any other respect without the consent of the Holders of Outstanding Second Indenture Bonds if such amendment, change or modification is in accordance with such Agreement or the same does not adversely affect the Holders of such Second Indenture Bonds in any material respect, except that no amendment, change, modification or alteration of an Agreement to cure any ambiguity or defect or inconsistent provision therein or to insert such provisions clarifying matters or questions arising thereunder as are necessary or shall be made unless such amendment, change, modification or waiver is not contrary to or inconsistent with the Agreement as theretofore in effect and unless consented to by the Second Indenture Trustee.

(c) No amendment, change, modification or termination of an Agreement or waiver of a provision thereof shall be made other than pursuant to a written instrument signed by the parties thereto. No such amendment, change, modification or waiver shall become effective unless there has been delivered to the Second Indenture Trustee an opinion of Bond Counsel to the effect that the same will not adversely affect the exclusion of interest on any Tax Exempt Bond from gross income for purposes of federal income taxation. A copy of each such amendment, change, modification, termination or waiver shall be filed with the Second Indenture Trustee.

(d) For the purposes of this heading, the purchasers of the Second Indenture Bonds of a Series, whether purchasing as underwriters upon their initial issuance, for resale upon a remarketing or reoffering of such Second Indenture Bonds, or otherwise, upon such purchase may consent to an amendment, change, modification, termination or waiver permitted by this heading with the same effect as a consent given by the Holder of such Second Indenture Bonds.

For the purposes of this heading, a Series shall be deemed to be adversely affected by an amendment, change, modification, alteration or waiver of any provision of an Agreement if the same adversely affects or diminishes the rights of the Holders of the Second Indenture Bonds of such Series in any material respect. The Second Indenture Trustee may in its discretion determine whether or not, in accordance with the foregoing provisions, Second Indenture Bonds of any particular Series would be adversely affected in any material respect by any amendment, change, modification, alteration or waiver, and any such determination shall be binding and conclusive on the Corporation and all Holders of Second Indenture Bonds.

For the purposes of this heading, the Second Indenture Trustee shall be entitled conclusively to rely upon an opinion of counsel, which counsel shall be satisfactory to the Second Indenture Trustee, with respect to whether any amendment, change, modification, alteration or waiver adversely affects the interests of any Holders of Second Indenture Bonds then Outstanding in any material respect.

(Second Indenture Section 7.11)

Amendment of UTEP

(a) Except as otherwise provided in the Second Indenture, the Corporation shall not consent to or acquiesce in any amendment to the UTEP–Hudson Yards or deviation therefrom pursuant to the IDA Assignment Agreement unless either (1) the Corporation delivers to the Second Indenture Trustee its written certification to the effect that in the reasonable judgment of the Corporation such amendment will facilitate the further commercial development of the Project Area or (2) such amendment is consented to in writing by (A) the Holders of at least a majority in principal amount of the Second Indenture Bonds then Outstanding, or (B) in case less than all of the several Series of Second Indenture Bonds then Outstanding are adversely affected by the amendment, change, modification, termination or waiver, the Holders of not less than a majority in principal amount of the Second Indenture Bonds of the Series so affected and then Outstanding; ***provided, however,*** that (i) Funded Bonds shall not be deemed to be Outstanding for purposes of any calculation of Outstanding Second Indenture Bonds under this heading and (ii) if such amendment, change, modification, termination or waiver will, by its terms, not take effect so long as any Second Indenture Bonds of any specified Series and maturity remain Outstanding, the consent of the Holders of such Second Indenture Bonds shall not be required and such Second Indenture Bonds shall not be deemed to be Outstanding for the purpose of any calculation of Outstanding Second Indenture Bonds under this heading.

(b) For the purposes of this heading, the purchasers of the Second Indenture Bonds of a Series, whether purchasing as underwriters upon their initial issuance, for resale upon a remarketing or reoffering of such Second Indenture Bonds, or otherwise, upon such purchase may consent to an amendment, change, modification, termination or waiver permitted by this heading with the same effect as a consent given by the Holder of such Second Indenture Bonds.

For the purposes of this heading, a Series shall be deemed to be adversely affected by an amendment of the UTEP–Hudson Yards or a deviation therefrom, if the same adversely affects or diminishes the rights of the Holders of the Second Indenture Bonds of such Series in any material respect. The Second Indenture Trustee may in its discretion determine whether or not, in accordance with the foregoing provisions, Second Indenture Bonds of any particular Series would be adversely affected in any material respect by any amendment or deviation and any such determination shall be binding and conclusive on the Corporation and all Holders of Second Indenture Bond.

For the purposes of this heading, the Second Indenture Trustee shall be entitled conclusively to rely upon an opinion of counsel, which counsel shall be satisfactory to the Second Indenture Trustee, with respect to whether any amendment, change, modification, alteration or waiver adversely affects the interests of any Holders of Second Indenture Bonds then Outstanding in any material respect.

(Second Indenture Section 7.12)

Certificate of the Corporation as to Expenses

At least sixty (60) days prior to the beginning of each Fiscal Year, the Corporation shall prepare a certificate stating the expected Corporation Expenses for such Fiscal Year. Such certificate shall set forth the Corporation Expenses projected to be payable during such Fiscal Year and during each month thereof. The certificate may be amended by the Corporation from time to time during the Fiscal Year. A copy of such certificate and any amendment thereto shall be promptly filed with the Second Indenture Trustee.

(Second Indenture Section 7.13)

Notice Regarding Interest Support Payments

The Corporation shall give each Fiscal Year, in accordance with Section 4.02 of the Support Agreement, not later than at the times specified in the Support Agreement (i) a Net Interest Obligation Notice, as such term is defined in the Support Agreement, and (ii) an Interest Deficiency Notice, each of which may be amended or modified as permitted by the Support Agreement.

(Second Indenture Section 7.14)

Irrevocable Instructions as to First Indenture Surplus

Upon the issuance of the Initial Bonds the Corporation shall give an irrevocable instruction to the First Indenture Trustee to transfer, during each Fiscal Year, money in the First Indenture Surplus Fund not required to be retained therein by the provisions of the First Indenture, as deposited therein, to the Second Indenture Trustee for deposit in the Revenue Fund. The Corporation shall not amend, rescind or otherwise waive compliance with the provisions of such irrevocable instructions in any manner that adversely affects in any material respect the ability of the Corporation to pay Debt Service on the Outstanding Second Indenture Bonds (other than Funded Bonds) as due and payable.

(Second Indenture Section 7.15)

Payment of Lawful Charges

The Corporation shall pay or take all legally available action to cause the City to pay all taxes and assessments or other municipal or governmental charges, if any, lawfully levied or assessed upon the Trust Estate, when the same shall become due.

(Second Indenture Section 7.16)

Assignment of PILOT Agreements and PILOT Mortgages

The Corporation promptly upon issuance and delivery of the Initial Bonds shall collaterally assign or cause to be so assigned to the Second Indenture Trustee each of the PILOT Agreements and related PILOT Mortgages existing on the date hereof, as more particularly identified in ***Schedule I*** to the Second Indenture, and record each such assignment or cause the same to be recorded in the land records of New York County, New York, which PILOT Agreements and PILOT Mortgages have heretofore been assigned to the Corporation and by the Corporation assigned to the First Indenture Trustee for the benefit of the holders of the First Indenture Bonds. Further, as soon as practicable after a PILOT Agreement and related PILOT Mortgage is entered into and assigned to the Corporation after the date hereof, the Corporation shall, either by a separate instrument or a joint instrument of assignment, collaterally assign or cause to be so assigned to the First Indenture Trustee and to the Second Indenture Trustee each such PILOT Agreement and related PILOT Mortgage, and cause the same to be recorded in the land records of New York County, New York. Each assignment made to the Second Indenture Trustee pursuant to this Section shall provide substantially that, so long as any First Indenture Bond remains Outstanding, the right of the Second Indenture Trustee in and to such PILOT Agreement and related PILOT Mortgage is made subject and subordinate to the rights of the First Indenture Bondholders to receive and apply in accordance to the First Indenture the PILOT Payments made pursuant to such PILOT Agreement and to the proceeds of any foreclosure or disposition of, or other realization upon, the related PILOT Mortgage.

(Second Indenture Section 7.17)

Limitations on Supported Bonds

The Corporation shall not issue any Second Indenture Bond that is a Supported Bond, other than the Initial Bonds and any Refunding Bond issued to pay or provide for the payment of Supported Bonds, unless the City is then authorized by appropriate resolution of its City Council, and the Support Agreement then obligates the City, to make Interest Support Payments with respect to the principal amount of all Supported Bonds that will be Outstanding after giving effect to the issuance of such Supported Bond, and provided that the aggregate principal amount of Supported Bonds issued, exclusive of the Initial Bonds and Refunding Bonds issued to pay or provide for the payment of Supported Bonds, does not exceed five hundred million dollars.

(Second Indenture Section 7.18)

Extension of PILOT Agreements

The Corporation shall, so long as Second Indenture Bonds remain Outstanding, request the NYC IDA to exercise any right to extend the term of each PILOT Agreement the NYC IDA may have under one or more PILOT Agreements between it and another party.

(Second Indenture Section 7.19)

MTA PILOT Payments

The Corporation shall not, so long as Second Indenture Bonds are Outstanding, consent to the payment of any PILOT Payments under the MTA Agreement to any person other than the Corporation.

(Second Indenture Section 7.20)

City's Failure to Appropriate

The Corporation shall give notice to the Second Indenture Trustee of a failure (i) by the Mayor to include in the expense budget submitted by the Mayor to the City Council in each fiscal year, the amount required by Section 4.06 of the Support Agreement to be included therein for the payment of Tax Equivalency Payments and Interest Support Payments to be made by the City during the City's next ensuing fiscal year, (ii) by the City duly to appropriate in its budget for a fiscal year upon its initial adoption an amount sufficient to pay the amount set forth by the Corporation in its "Net Interest Obligation Notice," as such term is defined in the Support Agreement, or duly to enact an increase in the appropriation in such budget within sixty (60) days after the Corporation submits an amendment to said Net Interest Obligation Notice increasing the amount set forth therein or (iii) by the City duly to appropriate in its budget for a fiscal year the amount the Mayor is required by Section 4.06 of the Support Agreement to include therein for payment of Tax Equivalency Payments to be made during such Fiscal Year. Such notice shall be given to the Second Indenture Trustee as soon as practicable after the Corporation obtains knowledge of any such failure.

(Second Indenture Section 7.21)

Future Year Debt Service Requirement

Not more than 30 days prior to the end, but not later than June 30th, of each Fiscal Year, the Corporation shall determine the Future Year Debt Service Requirement, and certify the same to the Second Indenture Trustee, which certification shall set forth the calculations on which such determination was made. The Corporation at any time and from time to time during the Fiscal Year next succeeding such certification shall amend such determination and recertify to the Second Indenture Trustee the Future Year Debt Service Requirement.

(Second Indenture Section 7.22)

Modification and Amendment of the Second Indenture without Consent

The Corporation may execute and deliver at any time or from time to time Supplemental Indentures for any one or more of the following purposes, and any such Supplemental Indenture shall become effective in accordance with its terms:

(a) to provide for the issuance of a Series of Second Indenture Bonds pursuant to the provisions of the Second Indenture and to prescribe the terms and conditions pursuant to which such Second Indenture Bonds may be issued, paid or redeemed;

(b) to add additional covenants and agreements of the Corporation for the purpose of further securing the payment of the Second Indenture Bonds, provided such additional covenants and agreements are not contrary to or inconsistent with the covenants and agreements of the Corporation contained in the Second Indenture;

(c) to prescribe further limitations and restrictions upon the issuance of Second Indenture Bonds and the incurring of indebtedness by the Corporation which are not contrary to or inconsistent with the limitations and restrictions thereon theretofore in effect;

(d) to surrender any right, power or privilege reserved to or conferred upon the Corporation by the terms of the Second Indenture, provided that the surrender of such right, power or privilege is not contrary to or inconsistent with the covenants and agreements of the Corporation contained in the Second Indenture;

(e) to confirm, as further assurance, any pledge under the Second Indenture, and the subjection to any lien, claim or pledge created or to be created by the provisions of the Second Indenture, of the Revenues, or any pledge of any other money, investments thereof or funds;

(f) to modify any of the provisions of the Second Indenture or of any previously adopted Supplemental Indenture in any other respects, provided that such modifications shall not be effective until after all Second Indenture Bonds of any Series of Second Indenture Bonds Outstanding as of the effective date of such Supplemental Indenture shall cease to be Outstanding, and all Second Indenture Bonds issued under such Second Indenture shall contain a specific reference to the modifications contained in such subsequent Supplemental Indenture; or

(g) with the consent of the Second Indenture Trustee, to cure any ambiguity or defect or inconsistent provision in the Second Indenture or to insert such provisions, clarifying matters or questions arising under the Second Indenture as are necessary or desirable, ***provided*** that any such modifications are not contrary to or inconsistent with the Second Indenture as theretofore in effect, or to modify any of the provisions of the Second Indenture or of any previous Supplemental Indenture in any other respect, provided that such modification shall not adversely affect the interests of the Bondholders in any material respect.

(Second Indenture Section 9.01)

Supplemental Indentures Effective with Consent of Bondholders

The provisions of the Second Indenture may also be modified or amended at any time or from time to time by a Supplemental Indenture, subject to the consent of the Bondholders in accordance with the provisions of the Second Indenture, such Supplemental Indenture to become effective upon the filing with the Second Indenture Trustee of a copy thereof certified by an Authorized Officer of the Corporation.

(Second Indenture Section 9.02)

General Provisions Relating to Supplemental Indentures

The Second Indenture shall not be modified or amended in any respect except in accordance with and subject to the provisions of the Second Indenture. Nothing contained in the Second Indenture shall affect or limit the rights or obligations of the Corporation to make, do, execute or deliver any Supplemental Indenture, act or other instrument pursuant to the provisions of the Second Indenture or the right or obligation of the Corporation to execute and deliver to the Second Indenture Trustee any instrument provided or permitted in the Second Indenture to be delivered to the Second Indenture Trustee.

A copy of every Supplemental Indenture, when filed with the Second Indenture Trustee, shall be accompanied by an opinion of Bond Counsel stating that such Supplemental Indenture has been duly and lawfully adopted in accordance with the provisions of the Second Indenture, is authorized or permitted by the Second Indenture and is valid and binding upon the Corporation and enforceable in accordance with its terms.

The Second Indenture Trustee is authorized to accept delivery of a certified copy of any Supplemental Indenture permitted or authorized pursuant to the provisions of the Second Indenture and to make all further agreements and stipulations which may be contained therein, and, in taking such action, the Second Indenture Trustee shall be fully protected in relying on the opinion of Bond Counsel that such Supplemental Indenture is authorized or permitted by the provisions of the Second Indenture.

No Supplemental Indenture changing, amending or modifying any of the rights or obligations of the Second Indenture Trustee shall become effective without the written consent of the Second Indenture Trustee.

The Corporation, as soon as practicable after a Supplemental Indenture changing, amending or modifying any provisions of the Second Indenture has become effective, shall give written notice thereof to each Rating Service.

(Second Indenture Section 9.03)

Powers of Amendment of the Second Indenture

Any modification or amendment of the Second Indenture and of the rights and obligations of the Corporation and of the Holders of the Second Indenture Bonds under the Second Indenture, in any particular, may be made by a Supplemental Indenture, with the written consent given as provided in the provisions of the Second Indenture described below under the heading "Consent of Bondholders", (i) of the Holders of at least a majority in principal amount of the Second Indenture Bonds Outstanding at the time such consent is given, or (ii) in case less than all of the several Series of Second Indenture Bonds then Outstanding are affected by the modification or amendment, of the Holders of at least a majority in principal amount of the Second Indenture Bonds of each Series so affected and Outstanding at the time such consent is given, exclusive of Funded Bonds; ***provided, however,*** that if such modification or amendment will, by its terms, not take effect so long as any Second Indenture Bonds of any specified like Series, maturity and tenor remain Outstanding, the consent of the Holders of such Second Indenture Bonds shall not be required and such Second Indenture Bonds shall not be deemed to be Outstanding for the purpose of any calculation of Outstanding Second Indenture Bonds under this heading. No such modification or amendment shall permit a change in the amount or date of any Sinking Fund Installment, the terms of redemption or maturity of the principal of any Outstanding Second Indenture Bond or of any installment of interest thereon or a reduction in the principal amount or the Redemption Price thereof or in the rate of interest thereon without the consent of the Holder of such Second Indenture Bond, or shall reduce the percentages or otherwise affect the classes of Second Indenture Bonds the consent of the Holders of which is required to effect any such modification or amendment. For the purposes of this heading, a Series of Second Indenture Bonds shall be deemed to be affected by a modification or amendment of the Second Indenture if the same adversely affects or diminishes the rights of the Holders of the Second Indenture Bonds of such Series in any material respect. The Second Indenture Trustee may in its discretion determine whether or not, in accordance with the foregoing provisions, the Second Indenture Bonds of any particular Series or maturity would be affected by any modification or amendment of the Second Indenture and any such determination shall be binding and conclusive on the Corporation and all Holders of Second Indenture Bonds.

(Second Indenture Section 10.01)

Consent of Bondholders

The Corporation may at any time execute and deliver a Supplemental Indenture making a modification or amendment permitted by the provisions of the Second Indenture described above under the heading "Powers of Amendment of the Second Indenture" to take effect when and as provided in this heading. A copy of such Supplemental Indenture (or brief summary thereof or reference thereto in form approved by the Second Indenture Trustee) together with a request to the Bondholders for their consent thereto in form satisfactory to the Second Indenture Trustee, shall promptly after execution and delivery thereof be mailed by the Corporation to the Bondholders (but failure to mail such copy and request to any particular Bondholder shall not affect the validity of the Supplemental Indenture when consented to as provided in this heading). Such Supplemental Indenture shall not be effective unless and until (i) there shall have been filed with the Second Indenture Trustee (a) the written consent of the Holders of the percentages of Outstanding Second Indenture Bonds specified in the provisions of the Second Indenture described above under the heading "Powers of Amendment of the Second Indenture" and (b) an opinion of Bond Counsel stating that such Supplemental Indenture has been duly and lawfully executed, delivered and filed by the Corporation in accordance with the provisions of the Second Indenture, is authorized or permitted by the Second Indenture, and is valid and binding upon the Corporation and enforceable in accordance with its terms, and (ii) a notice shall have been mailed as described in this heading. Each such consent shall be effective only if accompanied by proof of the holding or owning at the date of such consent, of the Second Indenture Bonds with respect to which such consent is given, which proof shall be such as is permitted by the Second Indenture. A certificate or certificates by the Second Indenture Trustee filed with the Second Indenture Trustee that it has examined such proof and that such proof is sufficient in accordance with the Second Indenture shall be conclusive proof that the consents have been given by the Holders of the Second Indenture Bonds described in the certificate or certificates of the Second Indenture Trustee. Any consent given by a Bondholder shall be binding upon the Bondholder giving such consent and, anything in the Second Indenture to the contrary notwithstanding, upon any subsequent Holder of such Second Indenture Bond and of any Second Indenture Bonds issued in exchange therefor (whether or not such subsequent Holder thereof has notice thereof), unless such consent is revoked in writing by the Bondholder giving such consent or a subsequent Holder thereof by filing such revocation with the Second Indenture Trustee, prior to the time when the written statement of the Second Indenture Trustee as described in this heading is filed. The fact that a consent has not been revoked may likewise be proved by a certificate of the Second Indenture Trustee filed with the Second Indenture Trustee to the effect that no revocation thereof is on file with the Second Indenture Trustee. At any time after the Holders of the required percentages of Second Indenture Bonds shall have filed their consents to the Supplemental Indenture, the Second Indenture Trustee shall make and file with the Corporation and the Second Indenture Trustee a written statement that such Holders of such required percentages of Second Indenture Bonds have filed such consents. Such written statement shall be conclusive that such consents have been so filed. At any time thereafter notice, stating in substance that the Supplemental Indenture (which may be referred to as a Supplemental Indenture adopted by the Corporation on a stated date, a copy of which is on file with the Second Indenture Trustee) has been consented to by the Holders of the required percentages of Second Indenture Bonds and will be effective as provided in this heading, shall be given to the Bondholders by the Corporation by mailing such notice to the Bondholders. The Corporation shall file with the Second Indenture Trustee proof of the mailing of such notice. A transcript, consisting of the papers required or permitted by this heading to be filed with the Second Indenture Trustee, shall be proof of the matters therein stated. Such Supplemental Indenture making such amendment or modification shall be deemed conclusively binding upon the Corporation, the Second Indenture Trustee, and the Holders of all Second Indenture Bonds upon the filing with the Second Indenture Trustee of proof of the mailing of such notice.

For the purposes of the Second Indenture, the purchasers of the Second Indenture Bonds of a Series, whether purchasing as underwriters, for resale or otherwise, upon such purchase from the Corporation, may consent to a modification or amendment permitted by the provisions of the Second Indenture described under the headings "Powers of Amendment of the Second Indenture" and "Modifications of the Second Indenture by Unanimous Consent" in the manner described in the Second Indenture, except that no proof of ownership shall be required, and with the same effect as a consent given by the Holder of such Second Indenture Bonds; ***provided, however,*** that, if such consent is given by a purchaser who is purchasing as an underwriter or for resale, the nature of the modification or amendment and the provisions for the purchaser consenting thereto shall be described in the official statement, prospectus, offering memorandum or other offering document prepared in connection with the primary offering of the Second Indenture Bonds of such Series by the Corporation.

(Second Indenture Section 10.02)

Modifications of the Second Indenture by Unanimous Consent

The terms and provisions of the Second Indenture and the rights and obligations of the Corporation and of the Holders of the Second Indenture Bonds may be modified or amended in any respect upon the execution, delivery and filing with the Second Indenture Trustee by the Corporation of a copy of a Supplemental Indenture certified by an Authorized Officer of the Corporation and the consent of the Holders of all of the Second Indenture Bonds then Outstanding, such consent to be given as provided in the provisions of the Second Indenture described under the heading "Consent of Bondholders".

(Second Indenture Section 10.03)

Events of Default

An event of default under the Second Indenture and under each Supplemental Indenture (herein called "event of default") shall exist if:

(a) payment of the principal or Sinking Fund Installment of or interest on any Second Indenture Bond shall not be made by the Corporation when the same shall become due and payable; or

(b) with respect to a Tax Exempt Bond, there has been a Determination of Taxability; or

(c) an event of default under and within the meaning of the First Indenture has occurred; or

(d) the Corporation shall default in the due and punctual performance of any other of the covenants, conditions, agreements and provisions contained in the Second Indenture or in the Second Indenture Bonds or in any Supplemental Indenture on the part of the Corporation to be performed and such default shall continue for thirty (30) days after written notice specifying such default and requiring same to be remedied shall have been given to the Corporation by the Second Indenture Trustee, which may give such notice in its discretion and shall give such notice at the written request of the Holders of not less than twenty-five per centum (25%) in principal amount of the Outstanding Second Indenture Bonds, unless, if such default is not capable of being cured within thirty (30) days, the Corporation has commenced to cure such default within said thirty (30) days and diligently prosecutes the cure thereof; or

(e) the Corporation shall (1) be generally not paying its debts as they become due, (2) commence a voluntary case or other proceeding seeking liquidation, reorganization, dissolution, rehabilitation or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law now or hereafter in effect or seeking the appointment of a trustee, receiver, liquidator, custodian or other similar official of it or any substantial part of its property, or consent to any such relief or to the appointment of or taking possession by any such official in an involuntary case or other proceeding commenced against it, (3) make a general assignment for the benefit of its creditors, (4) declare a moratorium or (5) take any corporate action to authorize any of the foregoing; or

(f) a trustee in bankruptcy, custodian or receiver for the Corporation or any substantial part of its property shall have been appointed and the same has not been discharged within sixty (60) days after such appointment.

(Second Indenture Section 11.01)

Mandatory Redemptions upon Payment Default

Upon the happening of a Payment Default the Outstanding Second Indenture Bonds (other than Funded Bonds) shall be subject to mandatory redemption in accordance with the provisions of the Second Indenture described under the heading "Redemption Account".

(Second Indenture Section 11.02)

Enforcement of Remedies; Limitations

Upon the happening and continuance of any event of default specified in the provisions of the Second Indenture described above under the heading "Events of Default", other than a Payment Default, then and in every such case, the Second Indenture Trustee may proceed, and upon the written request of the Holders of not less than a majority in principal amount of the Outstanding Second Indenture Bonds or, in the case of a happening and continuance of an event of default specified in the provisions of the Second Indenture described above in subparagraph (b) under the heading "Events of Default", upon the written request of the Holders of not less than a majority in principal amount of the Outstanding Second Indenture Bonds of the Series affected thereby, shall proceed (subject to the provisions of the Second Indenture), to protect and enforce its rights and the rights of the Bondholders under the Second Indenture or under any Supplemental Indenture or under the laws of the State by such suits, actions or special proceedings in equity or at law, either for the specific performance of any covenant contained under the Second Indenture or under any Supplemental Indenture or in aid or execution of any power granted in the Second Indenture or the Supplemental Indenture, or for an accounting against the Corporation as if the Corporation were the trustee of an express trust, or for the enforcement of any proper legal or equitable remedy as the Second Indenture Trustee shall deem most effectual to protect and enforce such rights, including the enforcement of its rights and remedies, as assignee, under any Agreement assigned to it.

In the enforcement of any remedy under the Second Indenture and under each Supplemental Indenture the Second Indenture Trustee shall be entitled to sue for, enforce payment of, and receive any and all amounts then, or during any default becoming, and at any time remaining, due from the Corporation for principal or interest or otherwise under any of the provisions of the Second Indenture or of any Supplemental Indenture or of the Second Indenture Bonds, with interest on overdue payments of the principal of or interest on the Second Indenture Bonds at the rate or rates of interest specified in such Second Indenture Bonds, together with any and all costs and expenses of collection and of all proceedings under the Second Indenture and under any Supplemental Indenture and under such Second Indenture Bonds, without prejudice to any other right or remedy of the Second Indenture Trustee or of the Holders of such Second Indenture Bonds, and to recover and enforce judgment or decree against the Corporation but solely as provided in the Second Indenture, in any Supplemental Indenture and in such Second Indenture Bonds, for any portion of such amounts remaining unpaid, with interest, costs and expenses, and to collect in any manner provided by law, the money adjudged or decreed to be payable.

In no event, however, may the Second Indenture Trustee or any Bondholder declare the principal of any Second Indenture Bond or the interest thereon immediately due and payable other than in accordance with its terms.

(Second Indenture Section 11.03)

Bondholders' Direction of Proceedings

Anything in the Second Indenture to the contrary notwithstanding, the Holders of a majority in principal amount of the Outstanding Second Indenture Bonds or, in the case of an event of default specified in the provisions of the Second Indenture described above in subparagraph (b) under the heading "Events of Default", the Holders of a majority in principal amount of the Outstanding Second Indenture Bonds of the Series affected thereby shall have the right by an instrument in writing executed and delivered to the Second Indenture Trustee, to direct the method and place of conducting all remedial proceedings to be taken by the Second Indenture Trustee under the Second Indenture and under each Supplemental Indenture, provided, such direction shall not be otherwise than in accordance with law and the provisions of the Second Indenture and of each Supplemental Indenture, and that the

Second Indenture Trustee shall have the right to decline to follow any such direction which in the opinion of the Second Indenture Trustee would be unjustly prejudicial to Bondholders not parties to such direction.

(Second Indenture Section 11.05)

Limitation of Rights of Individual Bondholders

No Holder of any of the Second Indenture Bonds shall have any right to institute any suit, action or proceeding in equity or at law for the execution of any trust under the Second Indenture, or for any other remedy under the Second Indenture unless such Holder previously shall have given to the Second Indenture Trustee written notice of the event of default on account of which such suit, action or proceeding is to be instituted, and unless also the Holders of not less than a majority in principal amount of the Outstanding Second Indenture Bonds or, in the case of an event of default specified in the provisions of the Second Indenture described above in subparagraph (b) under the heading "Events of Default", the Holders of not less than a majority in principal amount of the Outstanding Second Indenture Bonds of the Series affected thereby, shall have made written request to the Second Indenture Trustee after the right to exercise such powers or right of action, as the case may be, shall have accrued, and shall have afforded the Second Indenture Trustee a reasonable opportunity either to proceed to exercise the powers granted by the Second Indenture or to institute such action, suit or proceeding in its or their name, and unless, also, there shall have been offered to the Second Indenture Trustee reasonable security and indemnity against the costs, expenses, and liabilities to be incurred therein or thereby, and the Second Indenture Trustee shall have refused or neglected to comply with such request within a reasonable time.

(Second Indenture Section 11.06)

Remedies Not Exclusive

No remedy conferred in the Second Indenture upon or reserved to the Second Indenture Trustee or to the Bondholders is intended to be exclusive of any other remedy or remedies, and each and every such remedy shall be cumulative and shall be in addition to every other remedy given under the Second Indenture or now or hereafter existing at law or in equity or by statute; ***provided, however,*** that neither the Second Indenture Trustee nor any Bondholder may declare the principal of any Second Indenture Bond or the interest thereon immediately due and payable.

(Second Indenture Section 11.08)

Waiver and Non-Waiver of Default

No delay or omission of the Second Indenture Trustee or any Bondholder to exercise any right or power accruing upon any default shall impair any such right or power or shall be construed to be a waiver of any such default or acquiescence therein. Every power and remedy given by the Second Indenture to the Second Indenture Trustee and the Bondholders, respectively, may be exercised from time to time and as often as may be deemed expedient.

The Second Indenture Trustee may, and upon written request of the Holders of not less than a majority in principal amount of the Outstanding Second Indenture Bonds or, in the case of an event of default specified in the provisions of the Second Indenture described above in subparagraph (b) under the heading "Events of Default", the Holders of not less than a majority in principal amount of the Outstanding Second Indenture Bonds of the Series affected thereby, shall waive any default which in its opinion shall have been remedied before the entry of final judgment or decree in any suit, action or proceeding instituted by it under the provisions of the Second Indenture or before the completion of the enforcement of any other remedy under the Second Indenture; ***provided, however,*** that no such waiver shall extend to or affect any other existing or any subsequent default or defaults or impair any rights or remedies consequent thereon.

(Second Indenture Section 11.09)

Funded Bonds Excluded from Calculations

In any calculation of the principal amount of Outstanding Second Indenture Bonds for any purpose required or permitted by the provisions of the Second Indenture relating to Events of Default and remedies relating thereto, no Funded Bond shall be considered to be Outstanding and no Holder of a Funded Bond may exercise any right to give any consent or direction required or permitted by the provisions of the Second Indenture relating to Events of Default and remedies relating thereto.

Defeasance

If the Corporation shall pay or cause to be paid to the Holders of Second Indenture Bonds of a Series the principal or Redemption Price of and interest thereon, at the times and in the manner stipulated in the Second Indenture Bonds, in the Second Indenture, and in the applicable Supplemental Indenture, then the pledge of the Trust Estate and all other rights granted by the Second Indenture to such Second Indenture Bonds shall be discharged and satisfied.

Second Indenture Bonds for the payment or redemption of which money shall have been set aside and shall be held in trust by the Second Indenture Trustee (through deposit of money for such payment or redemption or otherwise at the maturity or redemption date thereof) shall be deemed to have been paid within the meaning and with the effect expressed in the above paragraph. All Outstanding Second Indenture Bonds of any Series or any maturity within a Series or a portion of a maturity within a Series shall prior to the maturity or redemption date thereof be deemed to have been paid within the meaning and with the effect expressed in the above paragraph if (i) in case any of said Second Indenture Bonds are to be redeemed on any date prior to their maturity, the Corporation shall have given to the Second Indenture Trustee, in form satisfactory to it, irrevocable instructions to give as provided in the Second Indenture notice of redemption on said date of such Second Indenture Bonds, (ii) there shall have been deposited with the Second Indenture Trustee either money in an amount which shall be sufficient, or Defeasance Securities the principal of and interest on which when due will provide money which, together with the money, if any, deposited with the Second Indenture Trustee at the same time, shall be sufficient in the judgment of a firm of independent certified public accountants to pay when due the principal, Sinking Fund Installments, if any, or Redemption Price, if applicable, and interest due and to become due on said Second Indenture Bonds on and prior to the redemption date or maturity date thereof, as the case may be, (iii) in the event said Second Indenture Bonds are not to be redeemed within the next succeeding sixty (60) days, the Corporation shall have given the Second Indenture Trustee, in form satisfactory to it, irrevocable instructions to give, as soon as practicable, by first class mail, postage prepaid, to the Holders of said Second Indenture Bonds at their last known addresses appearing on the registration books, a notice to the Holders of such Second Indenture Bonds that the deposit required by (ii) above has been made with the Second Indenture Trustee and that said Second Indenture Bonds are deemed to have been paid in accordance with this heading, and stating such maturity or redemption date upon which money is to be available for the payment of the principal, Sinking Fund Installments, if any, or Redemption Price, if applicable, of and interest on said Second Indenture Bonds, (iv) in the event said Second Indenture Bonds do not then bear interest at a stated rate per annum to their respective maturity dates or are subject to mandatory or optional tender, the Corporation shall have delivered Rating Confirmations to the Second Indenture Trustee, and (v) the Corporation shall have delivered to the Trustee an opinion of Bond Counsel to the effect that said Second Indenture Bonds having been deemed to have been paid as provided in this heading would not (A) cause said Second Indenture Bonds to be considered to have been “reissued” for purposes of Section 1001 of the Code and (B) adversely affect the exclusion of interest any Tax Exempt Bond from gross income for purposes of federal income taxation.

The Corporation shall give written notice to the Second Indenture Trustee of its selection of the Series and maturity payment of which shall be made in accordance with this heading. The Second Indenture Trustee shall select the Second Indenture Bonds of like Series and maturity payment of which shall be made in accordance with this heading in the manner provided in the provisions of the Second Indenture described above under the heading “Selection of Second Indenture Bonds to be Redeemed”. Neither the Defeasance Securities nor money deposited with the Second Indenture Trustee pursuant to this heading nor principal or interest payments on any such Defeasance Securities shall be withdrawn or used for any purpose other than, and shall be held in trust for, the payment of the principal, Sinking Fund Installments, if any, or Redemption Price, if applicable, of and interest on said Second Indenture Bonds; ***provided, however,*** that any money received from such principal or interest payments on such Defeasance Securities deposited with the Second Indenture Trustee, if not then needed for such purpose, shall, to the extent practicable, be reinvested in Defeasance Securities maturing at times and in amounts sufficient to pay when due the principal, Sinking Fund Installments, if any, or Redemption Price, if applicable, of and interest to become due on said Second Indenture Bonds on and prior to such redemption date or maturity date thereof, as the case may be. Any income or interest earned by, or increment to, the investment of any such money so deposited, shall, to the extent certified by the Second Indenture Trustee to be in excess of the amounts required as described above to pay the principal, Sinking Fund Installments, if any, or Redemption Price, if applicable, of and interest on such Second Indenture Bonds, as realized, be paid by the Second Indenture Trustee as follows: First, to each Provider the Provider Payments which have not been repaid, *pro rata,* based upon the respective Provider Payments then unpaid to each Provider; and, then, the balance thereof to the Corporation. The money so paid by the Second Indenture Trustee shall be released of any trust, pledge, lien, encumbrance or security interest created by the Second Indenture.

(Second Indenture Section 12.01)

No Recourse under Second Indenture or on the Second Indenture Bonds

All covenants, stipulations, promises, agreements and obligations of the Corporation contained in the Second Indenture shall be deemed to be the covenants, stipulations, promises, agreements and obligations of the Corporation and not of any member, officer or employee of the Corporation, and no recourse shall be had for the payment of the principal or Redemption Price of or interest on the Second Indenture Bonds or for any claims based thereon, on the Second Indenture or on the Supplemental Indenture against any member, officer or employee of the Corporation or any person executing the Second Indenture Bonds, all such liability, if any, being expressly waived and released by every Holder of Bonds by the acceptance of the Second Indenture Bonds.

(Second Indenture Section 14.04)

Certain Provisions Relating to Capital Appreciation Bonds and Deferred Income Bonds

For the purposes of (i) receiving payment of the Redemption Price if a Capital Appreciation Bond is redeemed prior to maturity or (ii) receiving payment of a Capital Appreciation Bond if the principal of all Second Indenture Bonds is declared immediately due and payable following an "event of default", as provided in the provisions of the Second Indenture described above under the heading "Mandatory Redemptions upon Payment Default", the then current Accreted Value of such Second Indenture Bond shall be deemed to be its principal amount. In computing the principal amount of Second Indenture Bonds held by the registered owner of a Capital Appreciation Bond in giving to the Corporation, the City or the Second Indenture Trustee any notice, consent, request, or demand pursuant to the Second Indenture for any purpose whatsoever, the Accreted Value of such Second Indenture Bond as at the immediately preceding Valuation Date shall be deemed to be its principal amount. Notwithstanding any other provision of the Second Indenture, the amount payable at any time with respect to the principal of and interest on any Capital Appreciation Bond shall not exceed the Accreted Value thereof at such time. For purposes of receiving payment of the Redemption Price or principal of a Capital Appreciation Bond called for redemption prior to maturity, the difference between the Accreted Value of such Second Indenture Bond when the Redemption Price or principal thereof is due upon such redemption or declaration and the principal of such Second Indenture Bond on the date the Second Indenture Bonds of the Series of which it is a part were first issued shall be deemed not to be accrued and unpaid interest thereon.

For the purposes of (i) receiving payment of the Redemption Price if a Deferred Income Bond is redeemed, or (ii) receiving payment of a Deferred Income Bond if the principal of all Second Indenture Bonds is declared immediately due and payable following an "event of default," as provided in the provisions of the Second Indenture described above under the heading "Mandatory Redemptions upon Payment Default", the then current Appreciated Value of such Second Indenture Bond shall be deemed to be its principal amount. In computing the principal amount of Second Indenture Bonds held by the registered owner of a Deferred Income Bond in giving to the Corporation or the Second Indenture Trustee any notice, consent, request, or demand pursuant to the Second Indenture for any purpose whatsoever, the Appreciated Value of such Second Indenture Bond as at the immediately preceding Valuation Date shall be deemed to be its principal amount. Notwithstanding any other provision of the Second Indenture, the amount payable at any time prior to the Interest Commencement Date with respect to the principal of and interest on any Deferred Income Bond shall not exceed the Appreciated Value thereof at such time. For purposes of receiving payment prior to the Interest Commencement Date of the Redemption Price or principal of a Deferred Income Bond called for redemption prior to maturity, the difference between the Appreciated Value of such Second Indenture Bond when the Redemption Price or principal thereof is due upon such redemption or declaration and the principal of such Second Indenture Bond on the date the Second Indenture Bonds were first issued shall be deemed not to be accrued and unpaid interest thereon.

(Second Indenture Section 14.07)

APPENDIX B

CERTAIN DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE SUPPORT AND DEVELOPMENT AGREEMENT

Definitions of Certain Terms

"Agreement" means the Amended and Restated Hudson Yards Support and Development Agreement, dated as of December 1, 2006 and amended and restated as of May 1, 2017, by and among the Corporation, HYDC and the City, as from time to time further amended or supplemented in accordance with the terms and provisions of the Agreement and of the Indentures.

"Bonds" means bonds, notes and other evidences of indebtedness issued by the Corporation, the proceeds of which are applied to the payment of Project Costs, that are secured by substantially the same revenues as the First Indenture Bonds and the Second Indenture Bonds, including the First Indenture Bonds and the Second Indenture Bonds.

"Capitalized Interest" means interest for the payment of which money derived from the proceeds of Bonds issued for the payment of such interest, and any interest earnings on such money, is available.

"City" means The City of New York, a municipal corporation of the State of New York, constituting a political subdivision thereof.

"Corporation" means Hudson Yards Infrastructure Corporation, a local development corporation formed under the Not-for-Profit Corporation Law of the State of New York.

"Deficiency Notice Date" has the meaning set forth under the heading "Interest Support Payments".

"Designee" means an officer or employee of the City authorized in a written instrument signed by the Director to act on behalf of the Director under the Agreement.

"Director" means the Director of Management and Budget of the City or the Director's Designee.

"Draw Schedule" means the schedule certified to the Corporation by HYDC and approved by the Corporation, as annexed to the Agreement as Exhibit B, setting forth the anticipated dates on which the Corporation is reasonably expected to be required to advance money for payments of the Project Costs and the amounts projected to be paid on each such date, as such schedule may from time to time be revised or modified by HYDC and recertified and resubmitted to and approved by the Corporation.

"Event of Default" has the meaning given to such term in the provisions of the Agreement described herein under the heading "Events of Default".

"First Indenture" means the Trust Indenture, dated as of December 1, 2006, as amended by a Second Supplemental Trust Indenture, dated as of February 1, 2008, and further amended and restated as of October 1, 2011, by and between the Corporation and the First Indenture Trustee, as from time to time amended and supplemented.

"First Indenture Bonds" means, as of any particular date of calculation, bonds issued under the First Indenture that are then outstanding under and within the meaning of the First Indenture, other than Funded Bonds.

"First Indenture Requirements" means, as of any particular date of calculation, (i) when used in connection with a Net Interest Obligation Notice for a Fiscal Year, the Corporation Expenses for such Fiscal Year, plus the Debt Service to be paid during such Fiscal Year on outstanding First Indenture Bonds, and, (ii) when used in connection with any particular Interest Deficiency Notice, the then unfunded Corporation Expenses for the then current Fiscal Year, plus the Debt Service payable on such Interest Payment Date on outstanding First Indenture Bonds.

"First Indenture Trustee" means U.S. Bank National Association, in its capacity as trustee under the First Indenture, or any successor trustee under the First Indenture.

"Fiscal Year" means a period of twelve (12) consecutive months beginning July 1st in any calendar year and ending on June 30th of the succeeding calendar year**.**

"HYDC Budget" means the budget of HYDC Expenses for a Fiscal Year prepared by HYDC pursuant to the provisions of the Agreement described herein under the heading "HYDC Expenses and Budget", as from time to time amended in accordance with the Agreement and as approved by the Corporation.

"HYDC Expenses" means all costs, fees and expenses of HYDC of any kind arising out of or incurred in connection with the performance of its duties and obligations under the Agreement, services performed to facilitate the development of the Project Area and maintaining its corporate existence, and for its administrative and overhead expenses, including without limitation:

(i) salaries;

(ii) insurance premiums;

(iii) fees and expenses of architects, engineers, attorneys and other consultants retained by HYDC;

(iv) fees, charges, expenses, payments, indemnities and other similar charges payable to or for (a) auditing, legal, financial and investment advisory and other professional and consulting services, and (b) printing, advertisements and publication or other distribution of notices; and

(v) any and all other fees, charges and expenses required or permitted to be incurred by HYDC or required to be paid by HYDC.

"Indentures" means, collectively, the First Indenture and the Second Indenture.

"Interest Deficiency Notice" means with respect to an Interest Payment Date a written notice setting forth, separately, the amounts by which the interest on Supported Bonds outstanding under the First Indenture and on Supported Bonds outstanding under the Second Indenture, payable on such Interest Payment Date exceed the money available for the payment thereof, which amounts shall be determined as described herein under the heading "Interest Support Payments", as such notice may be from time to time amended.

"Interest Payment Date" means each date on which interest on Supported Bonds is payable in accordance with their terms.

"Interest Support Payments" means the payments required to be made by the City pursuant to the provisions of the Agreement described herein under the heading "Interest Support Payments" in connection with interest on the Corporation's Supported Bonds.

"MTA Agreement" means the Rail Yards Agreement, dated as of September 28, 2006, among Metropolitan Transportation Authority, Triborough Bridge and Tunnel Authority, The Long Island Rail Road Company and the City.

"Net Interest Obligation" means for any Fiscal Year the amounts, separately stated, by which the interest the Corporation projects to be payable during such Fiscal Year (i) on Supported Bonds outstanding under the First Indenture, and (ii) on Supported Bonds outstanding under the Second Indenture, in each case including Supported Bonds the Corporation anticipates to issue that will be outstanding during such Fiscal Year and the Corporation's estimate of interest payable on Supported Bonds that bear interest at variable interest rates, exceed the Capitalized

Interest and other money the Corporation reasonably expects to be available for payment thereof, which such amounts shall be determined as described herein under the heading "Interest Support Payments".

"Net Interest Obligation Notice" means a written notice setting forth the Net Interest Obligation for a Fiscal Year, as from time to time amended.

"New Development" means the construction of a building or other improvement within the Project Area for residential, commercial or other use or uses, or the Substantial Rehabilitation of an existing building or improvement within the Project Area, in each case evidenced by the issuance of a temporary or permanent certificate of occupancy on or after January 19, 2005.

"PILOT Agreement" has the meaning given to such term in the Indentures.

"PILOT Payment" means a payment made pursuant to a PILOT Agreement between a governmental body, including any public benefit corporation or other instrumentality of a governmental body, in lieu of *ad valorem* real property tax on a New Development that is paid directly or indirectly to the City.

"Plans and Specifications" means the completed final schematic plans, design development drawings, and all other design documents for each separate component of the Project, which shall conform to the schematic drawings approved by the City, as such Plans and Specifications may be modified from time to time in accordance with the provisions of the Agreement described herein under the heading "Approval Process".

"Project" has the meaning given to such term in the Indentures.

"Project Area" means the geographic area within the City in the Borough of Manhattan referred to as the "Hudson Yards Finance District," as more particularly described in Resolution 547 of 2006 of the City's City Council.

"Project Cost Requisition" means (i) a requisition signed by the Corporation and delivered to the First Indenture Trustee in accordance with the First Indenture, or (ii) a requisition signed by the Corporation and delivered to the Second Indenture Trustee in accordance with the Second Indenture.

"Project Costs" has the meaning given to such term in the Indentures.

"Second Indenture" means the Second Trust Indenture, dated as of May 1, 2017, by and between the Corporation and the Second Indenture Trustee, as from time to time amended and supplemented.

"Second Indenture Bonds" means, as of any particular date of calculation, bonds issued under the Second Indenture that are then outstanding under and within the meaning of the Second Indenture, other than Funded Bonds.

"Second Indenture Requirements" means, as of any particular date of calculation, (i) when used in connection with a Net Interest Obligation Notice for a Fiscal Year, the Corporation Expenses for such Fiscal Year, but only to the extent not required to be funded pursuant to the First Indenture, plus the Debt Service to be paid during such Fiscal Year on outstanding Second Indenture Bonds, and, (ii) when used in connection with any particular Interest Deficiency Notice, the then unfunded Corporation Expenses for the then current Fiscal Year, plus the Debt Service payable on such Interest Payment Date on outstanding Second Indenture Bonds.

"Second Indenture Trustee" means U.S. Bank National Association, in its capacity as trustee under the Second Indenture, or any successor trustee under the Second Indenture.

"Substantial Rehabilitation" means any one or a combination of (i) work necessary to bring a building into compliance with all applicable laws and regulations, including but not limited to the installation, replacement or repair of heating, plumbing, electrical and related systems and the elimination of hazardous violations in the building in accordance with state and local laws and regulations, (ii) reconstruction or work to improve the habitability or prolong the useful life of a structure, or (iii) an addition to an existing building that substantially increases the square footage or floor area thereof, which, in each case, increases the assessed value of such building or structure by twenty percent (20%) or more over the prior year's assessed value.

"Supported Bonds" means Bonds that are secured by the City's obligation to make Interest Support Payments as provided in the Agreement.

"Tax Equivalency Payment" means each payment required to be made by the City pursuant to the provisions of the Agreement described herein under the heading "Tax Equivalency Payments".

"Tax Receipts" means all *ad valorem* real property taxes and PILOT Payments collected by the City from owners of New Developments, including any amounts collected (i) as a consequence or result of enforcement proceedings, (ii) as interest or penalties for the failure of any such owner to make timely payment of the *ad valorem* real property taxes levied against such New Development, (iii) as the proceeds of any sale of tax liens related to a New Development and (iv) as a consequence or result of the enforcement of a PILOT Agreement, including the foreclosure of any mortgage securing the same.

(Section 1.01)

General Administration of the Project

(a) HYDC shall serve as the Corporation's development consultant and representative in connection with the planning, design and construction of the Project, and shall use its best efforts to assist governmental or quasi-governmental entities or private developers in completing the Project. HYDC shall accomplish this goal through creative use of the City's land and building resources, public infrastructure investment and available federal, State, City and other financial assistance programs, and by making requisitions from the Corporation for the purpose of receiving payments and/or reimbursements for the foregoing. HYDC shall provide such services as shall be necessary and convenient for the administration, oversight and review of any such planning, design and implementation services undertaken for the Project or any New Development.

(b) HYDC shall (i) continue to cause the planning, design and construction of the Project, (ii) diligently work to prosecute such construction, and (iii) use commercially reasonable efforts to cause the Project to be completed as expeditiously as may be practicable.

(c) HYDC shall perform its work so as to minimize conflicts and inefficiencies of any kind with any and all governmental or quasi-governmental agencies, consultants, contractors, or other parties engaged in the development, construction and improvement of the Project.

(d) Nothing in the Agreement shall prevent the City from using its own employees or retaining any other firm or person in any capacity in connection with the Project.

(Section 2.01)

Land Acquisition and Disposition

HYDC shall promote the development of the Hudson Yards Financing District and the Project by causing the acquisition of properties necessary for the Project, through the negotiation of leases for, or causing the condemnation if necessary, through the appropriate condemning authority, including the City and MTA, and by facilitating such acquisitions, leases and condemnations. To the extent certain City-owned property is surplus to the needs of the Project, HYDC shall promote the development of the Hudson Yards Financing District by causing the disposition of such property.

(Section 2.02)

Approval Process

Except as otherwise determined by the parties to the Agreement:

(a) Prior to devoting substantial staff time to or otherwise undertaking any portion of the Project, any proposed addition to the Project (an "Additional Project Element"), or any New Development (which for purposes of this heading shall include conducting a study) (all "Additional Work"), HYDC shall submit a description of the proposed Additional Work, including estimates of a budget, the governmental or quasi-governmental agencies, developers and contractors to be involved in the Additional Project Element, if any, a performance schedule, an estimate of staff time to be spent on the Additional Work, and, where appropriate, square footage, uses and site location of the New Development, to an Authorized Officer of the Corporation.

(b) The Corporation shall approve, disapprove or modify HYDC's request to perform Additional Work promptly after receipt of said description. HYDC shall not authorize or expend any its funds for Additional Work prior to approval of the proposed Additional Work (including the budget and performance schedule therefor and for the Additional Project Element) by the Corporation and authorization under HYDC's applicable corporate procedures. Changes within approved Additional Work budgets in excess of a 15% change in any line, and any other material change in the schedule or Plans and Specifications of an Additional Project (including the addition of a new line in the approved budget), must be furnished to and approved by the Corporation.

(c) HYDC shall not, without the prior written consent of the Corporation, enter into any contract or other binding commitment that requires or provides for the expenditure of proceeds of the Bonds.

(Section 2.03)

Project Planning and Other Services

(a) In connection with the Project and any other Additional Project Element administered by HYDC, subject to the approvals set forth in the provisions of the Agreement described herein under the heading "Approval Process" and consistent with applicable laws, rules and regulations relating to the source of funds, HYDC may undertake, and incur Project Costs for or incur costs to be reimbursed by the Corporation or the City, activities including, without limitation:

(i) working with appropriate governmental and quasi–governmental agencies to obtain and implement financial assistance from federal, State, City and other sources for the development and improvement of the Project Area;

(ii) facilitating the processing of sales, leases, permits and contracts through the City's approval processes;

(iii) assisting in the processing of condemnations, zoning changes, street closings and other land use actions; and

(iv) reviewing feasibility, market and impact studies, surveys, maps, borings, site analyses, plans, specifications, contract documents, appraisals and title searches.

(b) HYDC may review, for conformance with the Project, the Plans and Specifications prepared for any Additional Project Element, including (i) analysis and evaluation of the design of the improvement, plans and specifications, and materials and equipment to be used for the improvement, (ii) review of the design and resolution of any design changes as may arise, (iii) management of fee expenditures in relation to budgets, (iv) management of design to meet Project objectives, and (v) review and comment on design documents during production.

(c) HYDC shall be responsible for assisting each governmental or quasi-governmental agency or developer in those instances where HYDC deems it appropriate in securing and/or making arrangements for procurement of all governmental authorizations, permits and licenses, zoning consents, approvals and variances as may be required for a New Development. However, responsibility for securing such governmental authorizations, permits and licenses, zoning consents, approvals and variances rests with the governmental or quasi-governmental agencies and developers.

(Section 2.03)

Project Implementation

(a) In connection with the Project and any Additional Project Element, subject to the approvals set forth in the provisions of the Agreement described herein under the heading "Approval Process" and consistent with applicable laws, rules and regulations relating to the source of funds, HYDC may facilitate and oversee, and incur Project Costs or incur costs to be reimbursed by the Corporation or the City for, activities including, without limitation:

(i) demolishing or sealing-up vacant buildings;

(ii) preparing City-owned sites for construction, reconstruction or disposition (including, without limitation, grading, foundation improvements and work to alleviate subsurface faults);

(iii) constructing improvements to real property;

(iv) renovating and rehabilitating City-owned buildings or other buildings;

(v) acquiring and managing property;

(vi) constructing drainage, road, utility, parking, security and circulation improvements and facilities on property owned by, or under the control of, the City;

(vii) establishing energy conservation and improvements;

(viii) providing relocation assistance;

(ix) providing construction management or co-ordination;

(x) developing and redeveloping markets, marginal streets, and water front property;

(xi) serving as an agent of the City for the negotiation and processing of the PILOT Agreements with regard to the Project Area;

(xii) providing information regarding the availability of financial assistance for applicants in the City from both public and private sources, in the form of loans, grants, tax incentives or any additional form available;

(xiii) maintaining and updating a ledger setting forth the total amount disbursed with respect to any Project or any Additional Project Element; and

(xiv) reviewing and approving requisitions for payment and the supporting payment breakdown.

(b) HYDC shall not be responsible for construction means, methods, techniques, sequences and procedures employed by contractors in the construction or improvement of the Project Area, but will be responsible to report on these to the Corporation. HYDC shall attend meetings and presentations as necessary and shall provide relevant information for these meetings and prepare meeting minutes.

(c) HYDC shall be the liaison with the governmental and quasi-governmental agencies, and to the extent HYDC deems it necessary, the developers of the Project, any Additional Project Element, or any New Development. In the course of such representation, HYDC may

(i) attend meetings;

(ii) receive and review reports;

(iii) review and discuss elements of the Project or any Additional Project Element, including implementation strategies and progress, value engineering, disputes, design issues, other topics relating to the design and construction of the Project, and any and all relevant reports related thereto generated by parties involved in the Project, and receive briefings on and discuss any aspect of interest related to the Project before any final actions related to such topics are taken or authorized to be taken;

(iv) vote, with the prior approval of the Corporation, on decisions related to the Project and any Additional Project Element;

(v) inspect materials related to the Project and any Additional Project Element, including invoices, materials associated with disputes with contractors and consultants, and materials associated with change orders, and conduct field inspections of the Project and the Additional Project Elements to assess the progress of the Project and the Additional Project Elements; and

(vi) in connection with the extension of the No. 7 line of the subway (the "Subway Extension"), officers of HYDC shall serve on a project committee to oversee the construction of the Subway Extension, in accordance with the No. 7 Extension Memorandum of Understanding among Metropolitan Transportation Authority, on behalf of itself and New York City Transit Authority and MTA Capital Construction, the City, HYDC and the Corporation, as the same may be amended from time to time.

(d) HYDC shall be responsible for all matters pertaining to (i) monitoring compliance with the schedule and budget for the Project; and (ii) close-out of the Project, including, but not limited to, obtaining all necessary guarantees, as-built drawings, certificates of compliance with the Plans and Specifications, certificates of occupancy and other necessary governmental approvals required for occupancy; and certification that the costs of the Project have been paid in full to date, and that all remaining Project Costs will be paid in full with the proceeds of the final disbursement.

(e) Any guaranties and warranties relating to the construction of the Project or any Additional Project Element or materials utilized in connection therewith shall be made for the benefit of HYDC and the Corporation, and, to the extent that the Corporation is not expressly named in any such warranty or guaranty, HYDC shall assign its rights and interest therein to the Corporation, pursuant to an assignment reasonably satisfactory to the Corporation in form and substance. HYDC shall cooperate with the Corporation in the prosecution of any claims against any entity issuing a guaranty and/or warranty for the benefit of the Corporation under the Agreement.

(f) Approval by the Corporation of any construction change orders shall be made in accordance with the provisions of the Agreement described herein under the heading "Approval Process", or as otherwise agreed by HYDC and the Corporation. For purposes of the Agreement, any construction change order which will result in a material modification of the Plans or Specifications shall be approved in writing by the Corporation.

(g) HYDC agrees that it will use its best efforts to cause such construction, reconstruction, rehabilitation and improvement to be completed in accordance with the Plans and Specifications; but if for any reason such construction, reconstruction, rehabilitation and improvement is delayed there shall be no resulting liability on the part of HYDC to the Corporation and no diminution in or postponement of the reimbursement of Project Costs.

(Section 2.04)

Fees

All fees, if any, charged by HYDC shall be approved by the Corporation prior to HYDC's entering into any fee arrangement, except as otherwise provided in the Agreement.

(Section 2.05)

Adequacy, Sufficiency or Suitability

HYDC makes no warranties or representations and accepts no liabilities or responsibilities with respect to or for the adequacy, sufficiency or suitability of or defects in the Plans and Specifications or any contracts or agreements with respect to the construction, reconstruction, rehabilitation or improvement of the Project or any New Development.

(Section 2.08)

Completion Dates

As between the parties to the Agreement, the Subway Extension, the Public Amenities and the purchase of the TDRs shall each be deemed to be complete upon the filing with the 2016 Indenture Trustee, the Second Indenture Trustee and the Corporation of a notice of final completion with respect thereto, which shall be issued by an Authorized Officer of HYDC. Such notice shall state (i) that the component of the Project to which it relates has been completed substantially in accordance with the Plans and Specifications, (ii) the date of such completion, (iii) that such component is free and clear of liens and encumbrances or that, in the judgment of HYDC, adequate security has been provided to protect against enforcement of such liens or encumbrances and (iv) the amount, if any, required, in the opinion of such Authorized Officer of HYDC, for the payment of any Project Costs relating thereto then unpaid. The Project shall be deemed complete when certificates of final completion for the Subway Extension, the Public Amenities and the purchase of the TDRs have been filed with the First Indenture Trustee, the Second Indenture Trustee and the Corporation. If, upon the completion of a component of the Project or the Project as a whole, there shall be any money remaining in the Construction Fund not required either to provide for the payment of the Project Costs or required to be reserved for payment of claims or to bond or discharge liens arising out of the construction of the Project, such money shall be deposited and applied as provided in the applicable Indenture.

(Section 2.11)

HYDC Expenses and Budget

HYDC shall, not later than sixty (60) days after the date of execution of the Agreement, prepare a budget for the then current Fiscal Year of the HYDC Expenses for the balance of such Fiscal Year. At least sixty (60) days prior to the beginning of each Fiscal Year thereafter, HYDC shall prepare a budget of the HYDC Expenses for such Fiscal Year. Each such budget shall set forth by reasonably descriptive category, both in the aggregate and monthly, the HYDC Expenses projected to be payable during such Fiscal Year and during each month of such Fiscal Year. A budget may be amended by HYDC from time to time during the Fiscal Year. A certified copy of each such budget or amendments thereto shall be promptly filed with the Corporation for the Corporation's approval, which approval will not be unreasonably withheld or delayed.

(Section 2.13)

Issuance of Bonds

In order to provide money for Project Costs, the Corporation will use all reasonable efforts to issue, sell and deliver Bonds at such times and in such amounts as in its discretion it determines is necessary to pay Project Cost Requisitions anticipated in accordance with the then most recent Project Draw Schedule or to refund prior Bonds.

(Section 3.01)

Payment of Project Costs

The Corporation agrees to pay, but solely from the proceeds of its Bonds available therefor, all Project Costs identified in properly prepared and executed Project Cost Requisitions.

(Section 3.02)

Advances by the City or HYDC

The Corporation shall reimburse the City and HYDC, but solely from the proceeds of its Bonds available therefor, for amounts advanced or expenses that constitute Project Costs incurred by either of them prior to the date of issuance of the Initial Bonds by the Corporation, provided that reimbursement thereof will not adversely affect the exclusion of interest on any Bonds from gross income for purposes of federal income taxation. The City and HYDC each agree to submit to the Corporation such documents as may be reasonably required by the Corporation to establish the amount and purposes of such advances or expenses and to enable the Corporation and HYDC to execute Project Cost Requisitions for payment thereof in accordance with the First Indenture or Second Indenture, as applicable.

(Section 3.03)

HYDC Expenses

The Corporation, not later than the first day of each calendar quarter of a Fiscal Year, shall pay to HYDC the amount set forth in the HYDC Budget for such Fiscal Year as payable during such calendar quarter for HYDC Expenses. All money paid to HYDC pursuant to this heading shall be held by HYDC separate and apart from all other money. Upon the expiration of the Agreement, HYDC shall remit to the Corporation any excess amounts not required for the operations of HYDC during the then current Fiscal Year, as reflected in the HYDC Budget for such Fiscal Year. HYDC shall maintain and provide to the Corporation the records relating to the investment of and income or interest earned on all money advanced to HYDC by the Corporation pursuant to this heading.

(Section 3.04)

Conditions of Bond Closings

Prior to or concurrently with the issuance and delivery of Bonds to the underwriters or purchasers thereof (the "Closing"), the following documents shall be delivered to the Corporation, in each case satisfactory in form and substance to the Corporation and its counsel:

> (a) A certificate, dated the date of Closing, of the Director to the effect that: (i) the representations and warranties of the City contained in the Agreement are true and correct in all material respects on and as of the date of Closing as if such representations and warranties had been made on and as of such date; (ii) no "event of default" on behalf of the City under the Agreement has occurred and is continuing, and no event has occurred and is continuing that with the passage of time or the giving of notice, or both, would constitute an "event of default" on behalf of the City under the Agreement; (iii) appropriations have been duly made by the City for the payment of Tax Equivalency Payments and Interest Support Payments to be made during the then current Fiscal Year in an amount at least equal to the amount required by the provisions of the Agreement described below under the heading "Mayoral Budget" to have

been included in the expense budget for such Fiscal Year submitted by the Mayor to the City Council; (iv) if any such appropriation is included in a unit of appropriation out of which payments other than Tax Equivalency Payments or Interest Support Payments, as the case may be, may be made, the amount appropriated in such unit of appropriation is at least equal to all payments, including the Tax Equivalency Payments or Interest Support Payments, as applicable, payable, and reasonably expected to be paid, from such unit of appropriation; and (v) as of the date of Closing, the information relating to the City and the Project obtained from the City and contained in the Official Statement does not contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading;

(b) A certificate, dated the date of Closing, of the appropriate officer of HYDC to the effect that: (i) the representations and warranties of HYDC contained in the Agreement are true and correct in all material respects on and as of the date of Closing as if such representations and warranties had been made on and as of such date; and (ii) no "event of default" on behalf of HYDC under the Agreement has occurred and is continuing; and

(c) Such additional legal opinions, certificates, instruments and other documents as the Corporation or its counsel reasonably may request, satisfactory in the reasonable judgment of the Corporation and its counsel, as the case may be, including, but not limited to, such opinions, certificates and other documents to evidence (i) compliance by the City and HYDC with legal requirements reasonably relating to the transactions contemplated by the Agreement, and (ii) the truth and completeness, as of the date of Closing, of the representations and warranties of the City and HYDC contained in the Agreement and the certificates or other documents referred to therein and of the statements and information contained in the Official Statement with respect to the City, HYDC and the Project.

(Section 3.05)

Tax Equivalency Payments

Subject to adjustment as provided in this heading and to the provisions of the Agreement described herein under the heading "Assignment of Payments by Corporation", not later than the l" day of August and February of each Fiscal Year, commencing on or after July 1, 2007, the City shall pay to or upon the order of the Corporation fifty percent (50%) of (i) the *ad valorem* real property taxes levied by the City on New Developments that are payable during such Fiscal Year and (ii) the PILOT Payments projected by the City to be received during such Fiscal Year. The amount payable by the City on each such date shall be adjusted to reflect the amount, if any, by which the Tax Receipts collected during the six month period that commenced on the nearer of the January I" or July I" immediately preceding such payment date either exceeded or was less than the amount payable on such payment date. The City shall retain in its possession for a reasonable period of years records of all Tax Receipts collected during a Fiscal Year sufficient to identify each New Development, the *ad valorem* real property taxes levied against each New Development during such Fiscal Year and the Tax Receipts collected during such Fiscal Year in connection with each such New Development, which records shall be subject at all reasonable times during normal business hours to the inspection of the Corporation, the First Indenture Trustee, the Second Indenture Trustee and their respective agents and representatives. At the written request of the City or the Indenture Trustee, copies of such records shall be delivered to the City, the First Indenture Trustee and the Second Indenture Trustee.

(Section 4.01)

Interest Support Payments

Not later than April 1st of each year, the Corporation shall give a Net Interest Obligation Notice to the City setting forth the Net Interest Obligation for the ensuing Fiscal Year. Such Net Interest Obligation Notice shall detail separately the Net Interest Obligation with respect to Supported Bonds issued under the First Indenture and the Net Interest Obligation with respect to Supported Bonds issued under the Second Indenture. The Corporation from time to time thereafter may amend or modify such notice. The Corporation shall, not later than fifteen days prior to each Interest Payment Date (the "Deficiency Notice Date"), give an Interest Deficiency Notice to the City setting forth the amount by which the interest payable by the Corporation on such Interest Payment Date exceeds the amount available for the payment thereof, including from Capitalized Interest, which notice may from time to time be amended by the Corporation and which such notice shall detail separately the interest deficiency with respect to Supported Bonds issued under the First Indenture and the interest deficiency with respect to Supported Bonds issued under the Second Indenture. The City shall, not later than the four Business Days immediately preceding an Interest Payment Date, pay to or upon the order of the Corporation the amount set forth in the Interest Deficiency Notice relating to such Interest Payment Date.

For the purpose of calculating the Net Interest Obligation, if any, for a Fiscal Year, such amounts shall be determined in the aggregate by calculating the amount by which the First Indenture Requirements and the Second Indenture Requirements payable during such Fiscal Year exceeds the money projected to be available during such Fiscal Year for the payment thereof, but in no event shall the aggregate Net Interest Obligation in any Fiscal Year exceed the total of the interest on the Supported Bonds outstanding under the First Indenture and the Supported Bonds outstanding under the Second Indenture payable during such Fiscal Year, in each case not including Funded Bonds under either the First Indenture or the Second Indenture.

Further, for purposes of calculating the Interest Support Payments to be set forth in an Interest Deficiency Notice to be given with respect to any particular Interest Payment Date:

(i) The amount of Interest Support Payments in connection with First Indenture Bonds shall be the amount, if any, by which the money available under the First Indenture on the Deficiency Notice Date for the payment of First Indenture Requirements is less than the First Indenture Requirement on such Deficiency Notice Date, but not in excess of the amount of interest payable on such Interest Payment Date on the Supported Bonds outstanding under the First Indenture (exclusive of Funded Bonds thereunder);

(ii) The amount of Interest Support Payments in connection with Second Indenture Bonds shall be the amount, if any, by which the money available under the Second Indenture on the Deficiency Notice Date for the payment of the Second Indenture Requirements is less than the Second Indenture Requirement on such Deficiency Notice Date, but in no event more than the aggregate amount of interest payable on such Interest Payment Date on all Supported Bonds then outstanding under the First Indenture and the Second Indenture, in each case not including Funded Bonds under either the First Indenture or the Second Indenture, *less* the amount, if any, of the Interest Support Payments required to be made in connection with First Indenture Bonds, as set forth in such Interest Deficiency Notice; **provided, however**, that after a Payment Default (as defined in the Second Indenture), in no event shall the amount of Interest Support Payments in connection with Second Indenture Bonds be in excess of the amount of interest payable on such Interest Payment Date on the Supported Bonds outstanding under the Second Indenture (exclusive of Funded Bonds thereunder).

The Corporation covenants that it will not issue Supported Bonds, other than Supported Bonds issued to pay or provide for the payment of outstanding Supported Bonds, unless the City has been authorized by appropriate action of the City Council to make Interest Support Payments in connection with such Supported Bonds.

(Section 4.02)

Nature of Obligations of the City

Except as hereinafter provided in this heading, the obligation of the City to pay the Tax Equivalency Payments and Interest Support Payments shall be absolute and unconditional, and such payments shall be payable without any rights of setoff, recoupment or counterclaim it might have against the Corporation, HYDC, the First Indenture Trustee, the Second Indenture Trustee or any other person, or any damage to or destruction to the Project, or the taking by eminent domain of title to or the right of use of all or any part of the Project. If the City shall have paid all Tax Equivalency Payments and Interest Support Payments required by the Agreement and continues to pay the same when due, the City shall not be precluded from bringing any action it may otherwise have against the Corporation or HYDC arising out of the failure of either of them to perform and observe any agreement or covenant, whether expressed or implied, or any duty, liability or obligation of either of them arising out of or in connection with the Agreement.

The City will not terminate the Agreement or be excused from performing its obligations under the Agreement for any cause including, without limiting the generality of the foregoing, any acts or circumstances that may constitute a failure of consideration or frustration of purpose, without regard to any default by the Corporation or HYDC, or the failure of the Corporation or HYDC to perform and observe any agreement or covenant, whether expressed or implied, or any duty, liability or obligation of either of them arising out of or in connection with the Agreement.

Notwithstanding anything in the Agreement to the contrary, payment of the Tax Equivalency Payments and the Interest Support Payments and all other obligations of the City under the Agreement shall be subject to and dependent upon appropriations being made from time to time by the City for such purpose.

(Section 4.03)

Assignment of Payments by Corporation

It is understood that all Tax Equivalency Payments made by the City to the Corporation under the Agreement are to be pledged and assigned by the Corporation to the payment of outstanding Bonds issued pursuant to the Indentures, that all Interest Support Payments made under the Agreement in connection with Supported Bonds issued pursuant to the First Indenture are to be pledged and assigned by the Corporation to the payment of outstanding First Indenture Bonds issued pursuant to the First Indenture, and that Interest Support Payments made in connection with Supported Bonds issued pursuant to the Second Indenture are to be pledged and assigned by the Corporation to the payment of outstanding Second Indenture Bonds issued pursuant to the Second Indenture. The City consents to such assignments. Except as provided in this heading or in each of the Indentures, the Corporation shall not assign the Agreement or any payments thereunder without the prior written consent of the City.

(Section 4.04)

Direction as to Payment

(a) Tax Equivalency Payments shall, so long as First Indenture Bonds are outstanding under the First Indenture, be paid by the City, when due, to the First Indenture Trustee for deposit in accordance with the First Indenture.

(b) Tax Equivalency Payments shall, once First Indenture Bonds are no longer outstanding under the First Indenture and for so long as Second Resolution Bonds are outstanding under the Second Indenture, be paid by the City, when due, to the Second Indenture Trustee for deposit in accordance with the Second Indenture.

(c) Interest Support Payments with respect to Supported Bonds issued under the First Indenture shall be paid by the City, when due, to the First Indenture Trustee for deposit in accordance with the First Indenture.

(d) Interest Support Payments with respect to Supported Bonds issued under the Second Indenture shall be paid by the City, when due, to the Second Indenture Trustee for deposit in accordance with the Second Indenture; **provided, however**, that no such payment shall be made unless and until the payment, if any, required to be made pursuant to paragraph (c) above has been made in accordance with an Interest Deficiency Notice.

(Section 4.05)

Mayoral Budget

The expense budget submitted by the Mayor to the City Council in each Fiscal Year for the succeeding Fiscal Year shall include appropriations for payments to or upon the order of the Corporation of (i) an amount equal to *the ad valorem* real property tax levy made by the City for such Fiscal Year against all New Developments, (ii) PILOT Payments payable to the City during such Fiscal Year and (iii) an amount equal to the Net Interest Obligation set forth in the Net Interest Obligation Notice for such Fiscal Year, which appropriations shall be separate and apart from each other, but either appropriation may be included in a unit of appropriation out of which payments other than the Tax Equivalency Payments or Interest Support Payments may be paid; **provided, however**, that, if included within a unit of appropriation out of which payments other than the Tax Equivalency Payments and Interest Support Payments may be paid, the amount set forth in said expense budget for such unit of appropriation shall not be less than the amount of all payments, including the Tax Equivalency Payments or Interest Support Payments, payable from such unit of appropriation. If at any time during a Fiscal Year the appropriation enacted for such Fiscal Year is no longer sufficient in amount to pay the Tax Equivalency Payments and Interest Support Payments payable during the balance of such Fiscal Year, the Mayor shall take all action required to seek an increase in the appropriation from which the Tax Equivalency Payments or Interest Support Payments are to be paid so that it shall be sufficient to pay the same for the balance of such Fiscal Year.

To assist the Mayor in the preparation of the expense budget to be submitted to the City Council, the Corporation agrees to give the City a Net Interest Obligation Notice not later than by April 1st of each year.

(Section 4.06)

Indemnification and Limitation on Liability

(a) The City, to the extent permitted by law, (i) releases the Corporation and HYDC and each member, officer and employee of the Corporation or HYDC from claims for damages or liability arising from or out of the design, acquisition, construction, reconstruction, rehabilitation, improvement or use of the Project, and (ii) shall indemnify and hold the Corporation and HYDC and each member, director, officer and employee of the Corporation harmless against any and all liability, loss, cost, damage or claim, and shall pay any and all judgment or expense, of any and all kinds or nature and however arising, imposed by law, including interest thereon, which it or any of them may sustain, be subject to or be caused to incur by reason of any claim, action or proceeding whatsoever, including without limitation, any claim, action or proceeding arising from or out of the design, acquisition, construction, reconstruction, rehabilitation, improvement or use of the Project, or upon or arising out of an allegation that an official statement, prospectus, placement memorandum, offering circular or other offering document prepared in connection with the sale and issuance of Bonds contained an untrue or misleading statement of a material fact or omitted to state a material fact necessary in order to make the statements made therein in light of the circumstances under which they were made not misleading. Notwithstanding the foregoing provisions of this paragraph, neither the Corporation nor HYDC shall be indemnified or held harmless by the City for any Project Costs related to the Subway Extension in excess of $2,100,000,000, exclusive of the costs of acquiring real property or interests therein in connection with the Subway Extension, unless such additional costs were approved in writing by the City prior to being incurred.

(b) The Corporation and HYDC each agree to give the City prompt notice in writing of the assertion of any claim or the institution of each such suit, action or proceeding and to cooperate with the City in the investigation of such claim and the defense, adjustment, settlement or compromise of any such action or proceeding. Neither the Corporation nor HYDC shall settle any such suit, action or proceeding without the prior written consent of the Corporation Counsel of the City.

(c) Except as provided in paragraph (d) of this heading, the City, at its own cost and expense, shall defend any and all suits, actions or proceedings which may be brought or asserted against the Corporation, HYDC or their respective members, directors, officers or employees for which the City may be required to indemnify the Corporation or HYDC or hold the Corporation or HYDC harmless pursuant to paragraph (a) of this heading, but this provision shall not be deemed to relieve any insurance company which has issued a policy of insurance from its obligation to defend the City, the Corporation, HYDC and any other insured named in such policy of insurance in connection with claims, suits or actions covered by such policy.

(d) The Corporation, HYDC and each member, director, officer or employee of the Corporation or HYDC shall, at the cost and expense of the City, be entitled to employ separate counsel in any action or proceeding arising out of any alleged act or omission which occurred or is alleged to have occurred while the member, director, officer or employee was acting within the scope of his or her employment or duties, and to conduct the defense thereof, in which (i) the Corporation Counsel of the City determines, based on his or her investigation and review of the facts and circumstances of the case, that the interests of such person and the interests of the City are in conflict, or in the event the Corporation Counsel determines that no conflict exists, a court of competent jurisdiction subsequently determines that such person is entitled to retain separate counsel, or (ii) such person may have an available defense which cannot as a matter of law be asserted on behalf of such person by the City or by counsel employed by it or (iii) such person may be subject to criminal liability, penalty or forfeiture or (iv) the City has consented to the employment of separate counsel.

(Section 4.07)

Amendment of MTA Agreement

The City shall not, without the prior written consent of the Corporation, amend, change, modify or terminate the MTA Agreement, or waive any provision thereof, if such amendment, change, modification, termination or waiver reduces the amount or delays the date of payment of any amount payable to the Corporation pursuant to Section 2 or 3 of the MTA Agreement. The City acknowledges that the provisions of Sections 2 and 3 of the MTA Agreement are intended to be for the benefit of the Corporation.

(Section 4.08)

City Representations and Warranties

The City represents and warrants as follows:

(a) Legal Entity. The City is a municipal corporation of the State of New York, constituting a political subdivision thereof, duly created and validly existing under the Constitution and laws of the State of New York.

(b) Legal Authority. The City has the good right and lawful authority and power to execute and deliver the Agreement, to perform the obligations and covenants contained in the Agreement and to consummate the transactions contemplated by the Agreement.

(c) Due Authorization. The City has duly authorized by all necessary actions the execution and delivery of the Agreement, the performance of its obligations and covenants under the Agreement, and the consummation of the transactions contemplated by the Agreement.

(d) Validity and Enforceability. The Agreement constitutes a legal, valid and binding obligation of the City, enforceable against the City in accordance with its terms, except as enforcement may be limited by bankruptcy, insolvency, reorganization or other laws relating to the enforcement of creditors' rights generally or the availability of any particular remedy.

(e) No Conflict. The Agreement, the execution and delivery of the Agreement and the performance of the City's obligations under the Agreement (i) do not and will not in any material respect conflict with, or constitute on the part of the City a breach of or default under (a) any existing law, administrative regulation, judgment, order, decree or ruling by or to which it or its revenues, properties or operations are bound or subject or (b) any agreement or other instrument to which the City is a party or by which it or any of its revenues, properties or operations are bound or subject and (ii) will not result in the creation or imposition of any lien, charge or encumbrance of any nature whatsoever upon any of the City's revenues, properties or operations.

(1) Consents and Approvals. All consents, approvals, authorizations or orders of, or filings, registrations or declarations with any court, governmental authority, legislative body, board, agency or commission which are required for the due authorization of, which would constitute a condition precedent to or the absence of which would materially adversely affect the due performance by the City of its obligations under the Agreement or the consummation of the transactions contemplated by the Agreement have been duly obtained and are in full force and effect.

(f) No Defaults. The City is not in breach of or default under any agreement or other instrument to which the City is a party or by or to which it or its revenues, properties or operations are bound or subject, or any existing administrative regulation, judgment, order, decree, ruling or other law by or to which it or its revenues, properties or operations are bound or subject, which breach or default is material to the City's ability to perform its obligations under the Agreement; and no event has occurred and is continuing that with the passage of time or the giving of notice, or both, would constitute, under any such agreement or instrument, such a breach or default material to such transactions.

(g) No Litigation. Except as set forth in an official statement, prospectus, placement memorandum or other similar offering document prepared in connection with the issuance and sale of Bonds, no action, suit, proceeding or investigation, in equity or at law, before or by any court or governmental agency or body, is pending or, to the best knowledge of the City, threatened wherein an adverse decision, ruling or finding might impair in any material respect the City's ability to perform its obligations under the Agreement or the validity or enforceability of the Agreement.

(h) Essentiality of the Project. The Project is essential to the proper implementation of the future development and redevelopment of the Project Area.

(i) Not Indebtedness of the City. The Agreement and the obligations of the City under the Agreement do not and will not constitute indebtedness of the City under Article VIII of the Constitution of the State.

(Section 5.01)

HYDC Representations and Warranties

HYDC represents and warrants as follows:

(a) Legal Entity. HYDC is a local development corporation duly created and validly existing under the Not-For-Profit Corporation Law of the State of New York.

(b) Legal Authority. HYDC has the good right and lawful authority and power to execute and deliver the Agreement, to perform the obligations and covenants contained in the Agreement and to consummate the transactions contemplated by the Agreement.

(c) Due Authorization. HYDC has duly authorized by all necessary actions the execution and delivery of the Agreement, the performance of its obligations and covenants under the Agreement, and the consummation of the transactions contemplated by the Agreement.

(d) Validity and Enforceability. The Agreement constitutes a legal, valid and binding obligation of HYDC, enforceable against it in accordance with its terms, except as enforcement may be limited by bankruptcy, insolvency, reorganization or other laws relating to the enforcement of creditors' rights generally or the availability of any particular remedy.

(e) No Conflict. The Agreement, the execution and delivery of the Agreement and the performance of HYDC's obligations under the Agreement (i) do not and will not in any material respect conflict with, or constitute on the part of HYDC a breach of or default under (a) any existing law, administrative regulation, judgment, order, decree or ruling by or to which it or its revenues, properties or operations are bound or subject or (b) any agreement or other instrument to which HYDC is a party or by which it or any of its revenues, properties or operations are bound or subject and (ii) will not result in the creation or imposition of any lien, charge or encumbrance of any nature whatsoever upon any of HYDC's revenues, properties or operations.

(f) Consents and Approvals. All consents, approvals, authorizations or orders of, or filings, registrations or declarations with any court, governmental authority, legislative body, board, agency or commission which are required for the due authorization of, which would constitute a condition precedent to or the absence of which would materially adversely affect the due performance by HYDC of its obligations under the Agreement or the consummation of the transactions contemplated by the Agreement have been duly obtained and are in full force and effect.

(g) No Defaults. HYDC is not in breach of or default under any agreement or other instrument to which it is a party or by or to which it or its revenues, properties or operations are bound or subject, or any existing administrative regulation, judgment, order, decree, ruling or other law by or to which it or its revenues, properties or operations arc bound or subject, which breach or default is material to HYDC's ability to perform its obligations under the Agreement; and no event has occurred and is continuing that with the passage of time or the giving of notice, or both, would constitute, under any such agreement or instrument, such a breach or default material to such transactions.

(h) No Litigation. Except as set forth in an official statement, prospectus, placement memorandum or other similar offering document prepared in connection with the issuance and sale of Bonds, no action, suit, proceeding or investigation, in equity or at law, before or by any court or governmental agency or body, is pending or, to the best knowledge of HYDC, threatened wherein an adverse decision, ruling or finding might impair in any material respect HYDC's ability to perform its obligations under the Agreement or the validity or enforceability of the Agreement.

(Section 5.02)

Corporation Representations and Warranties

The Corporation represents and warrants as follows:

(a) Legal Entity. The Corporation is a local development corporation duly created and validly existing under the Not-For-Profit Corporation Law of the State of New York.

(b) Legal Authority. The Corporation has the good right and lawful authority and power to execute and deliver the Agreement, to perform the obligations and covenants contained in the Agreement and to consummate the transactions contemplated by the Agreement.

(c) Due Authorization. The Corporation has duly authorized by all necessary actions the execution and delivery of the Agreement, the performance of its obligations and covenants under the Agreement, and the consummation of the transactions contemplated by the Agreement.

(d) Validity and Enforceability. The Agreement constitutes a legal, valid and binding obligation of the Corporation, enforceable against it in accordance with its terms, except as enforcement may be limited by bankruptcy, insolvency, reorganization or other laws relating to the enforcement of creditors' rights generally or the availability of any particular remedy.

(e) No Conflict. The Agreement, the execution and delivery of the Agreement and the performance of the Corporation's obligations under the Agreement (i) do not and will not in any material respect conflict with, or constitute on the part of the Corporation a breach of or default under (a) any existing law, administrative regulation, judgment, order, decree or ruling by or to which it or its revenues, properties or operations are bound or subject or (b) any agreement or other instrument to which the Corporation is a party or by which it or any of its revenues, properties or operations are bound or subject and (ii) will not result in the creation or imposition of any lien, charge or encumbrance of any nature whatsoever upon any of the Corporation's revenues, properties or operations.

(f) Consents and Approvals. All consents, approvals, authorizations or orders of, or filings, registrations or declarations with any court, governmental authority, legislative body, board, agency or commission which are required for the due authorization of, which would constitute a condition precedent to or the absence of which would materially adversely affect the due performance by the Corporation of its obligations under the Agreement or the consummation of the transactions contemplated by the Agreement have been duly obtained and are in full force and effect.

(g) No Defaults. The Corporation is not in breach of or default under any agreement or other instrument to which it is a party or by or to which it or its revenues, properties or operations are bound or subject, or any existing administrative regulation, judgment, order, decree, ruling or other law by or to which it or its revenues, properties or operations are bound or subject, which breach or default is material to the Corporation's ability to perform its obligations under the Agreement; and no event has occurred and is continuing that with the passage of time or the giving of notice, or both, would constitute, under any such agreement or instrument, such a breach or default material to such transactions.

(h) No Litigation. Except as set forth in an official statement, prospectus, placement memorandum or other similar offering document prepared in connection with the issuance and sale of Bonds, no action, suit, proceeding or investigation, in equity or at law, before or by any court or governmental agency or body, is pending or, to the best knowledge of the Corporation, threatened wherein an adverse decision, ruling or finding might impair in any material respect the Corporation's ability to perform its obligations under the Agreement or the validity or enforceability of the Agreement.

(Section 5.03)

Events of Default

An "Event of Default" or a "Default" shall mean, whenever they are used in the Agreement, any one or more of the following events:

(a) Failure by the City to pay or cause to be paid, when due, the Tax Equivalency Payments and Interest Support Payments; or

(b) Failure by any party to the Agreement to observe and perform any covenant, condition or agreement on its part to be observed or performed, which failure shall continue for a period of thirty (30) days after written notice, specifying such failure and requesting that it be remedied, is given to such party by either of the other parties to the Agreement, unless by reason of the nature of such failure the same cannot be remedied within such thirty (30) day period and within such period commenced to take appropriate actions to remedy such failure and such action is being diligently pursued; or

(c) Any representation or warranty (i) of the City or HYDC contained in the Agreement shall at any time be untrue in any material respect or (ii) of the Corporation contained in the Agreement shall have been at the time it was made untrue in any material respect; or

(d) A party to the Agreement shall generally not pay its debts as such debts become due, or shall admit in writing its inability to pay its debts generally, or shall make a general assignment for the benefit of creditors; or any proceeding shall be instituted by or against such party seeking to adjudicate it a bankrupt or insolvent, or seeking liquidation, winding up, reorganization, arrangement, adjustment, protection, relief, or composition of it or its debts under any law relating to bankruptcy, insolvency or reorganization or relief of debtors, or seeking the entry of an order for relief or the appointment of a receiver, trustee, or other similar official for it for any substantial part of its property; or such party shall authorize any of the actions set forth above in this subparagraph.

Notwithstanding anything contained in this heading to the contrary, a failure by the City to pay when due any payment required to be made under the Agreement or a failure by the City to observe and perform any covenant, condition or agreement on its part to be observed or performed under the Agreement, resulting from a failure by the City to appropriate money for such purposes, shall not constitute an Event of Default under the Agreement.

(Section 6.01)

Remedies

Whenever any event of default referred to in the provisions of the Agreement described above under the heading "Events of Default" shall have happened and be continuing, each party to the Agreement may take whatever action at law or in equity may appear necessary or desirable to collect the payments then due and thereafter to become due, or to enforce performance and observance of any obligation, agreement or covenant under the Agreement of any other party to the Agreement; **provided, however**, that (i) the Agreement may not be terminated as a consequence of such event of default and (ii) performance by a non-defaulting party shall not be excused as a consequence of such event of default.

(Section 6.02)

No Remedy Exclusive

No remedy in the Agreement conferred upon or reserved to any party to the Agreement is intended to be exclusive of any other available remedy or remedies, but each and every such remedy shall be cumulative and shall be in addition to every other remedy given under the Agreement or now or hereafter existing at law or in equity or by statute. No delay or omission to exercise any right or power accruing upon any default shall impair any such right or power or shall be construed to be a waiver thereof, but any such right and power may be exercised from time to time and as often as may be deemed expedient. In order for any party to the Agreement to exercise any remedy reserved to it in the Agreement, it shall not be necessary to give any notice, other than such notice as may be expressly required in the Agreement.

(Section 6.03)

Termination of Agreement

The Agreement shall terminate on the later of August 31, 2036 or the last day of the calendar month thereafter during which no Bonds are outstanding, ***except*** that the City's obligations under the provisions of the Agreement described above under the heading "Indemnification and Limitation on Liability" shall survive termination of the Agreement.

(Section 7.01)

Environmental Quality Review and Historic Preservation

The City, HYDC and the Corporation each covenant that they shall comply with the provisions of Article 8 of the Environmental Conservation Law and any rules and regulations promulgated pursuant thereto and of the provisions of the Historic Preservation Act of 1980 of the State of New York applicable to the Project or additions thereto. As among the City, HYDC and the Corporation, the City shall assume primary responsibility or lead agency status under such laws and shall take such actions as may be required to be taken by the lead agency or agency with primary responsibility thereunder. The Corporation and HYDC will cooperate with and provide assistance to the City in the performance of its duties as lead agency, including the preparation and provision of such documents as may be reasonably requested of the Corporation or HYDC as are necessary to enable the City to comply with such laws.

(Section 7.02)

Cooperation by the City

HYDC shall prepare and submit to the Corporation, and periodically revise as necessary to reflect any changes in the times and amounts of anticipated needs for money to pay the Project Costs, a Draw Schedule. The City and HYDC shall keep the Corporation informed, by notice in writing signed by the Director and an appropriate officer of HYDC, of any unanticipated needs for money to pay the Project Costs. The City and HYDC shall give the Corporation their full cooperation and assistance in all matters relating to financing of the Project.

The City and HYDC, whenever requested by the Corporation, shall provide and certify, or cause to be provided and certified, in form satisfactory to the Corporation, such information concerning either of them, the Project, and such other matters that the Corporation reasonably considers necessary to enable it to complete and publish an official statement, prospectus, placement memorandum, offering circular or other similar document in connection with the sale of Bonds, or to enable the Corporation to make any reports that, in the opinion of counsel to the Corporation, is required by law or regulations of any governmental authority or by contract.

(Section 7.03)

Consent to Sale of Bonds

The Corporation will consult with the Director on the terms and timing of proposed sales of Bonds and the contents of all amendments or supplements to the Indentures, certificates, applications, contracts, official statements, prospectuses, placement memoranda or other similar document relating to the sale of Bonds, notices of sale, advertisements, and other documents relating to financing of the Project. The Corporation shall not enter into any contract for the sale of Bonds, either through negotiated sale or competitive bid, unless the terms and conditions of such sale have been approved by the Director.

(Section 7.04)

Amendments, Changes and Modifications

The Agreement may be amended, changed or modified in any respect provided that each amendment, change or modification is in writing signed by an Authorized Officer of the Corporation and of the City; **provided, however**, that no amendment, change or modification shall take effect unless and until (i) if the consent of Holders of Outstanding Bonds is required by the First Indenture and/or the Second Indenture, there shall have been filed with the First Indenture Trustee and/or Second Indenture Trustee the written consents of the Holders of the percentages of Outstanding Bonds specified in the First Indenture and/or the Second Indenture, (ii) if the consent of the First Indenture Trustee is required by the First Indenture and/or if the consent of the Second Indenture Trustee is required by the Second Indenture, the First Indenture Trustee and/or the Second Indenture Trustee shall have consented thereto and (iii) an executed copy of such amendment, change or modification, certified by an Authorized Officer of the Corporation, shall have been filed with the First Indenture Trustee and/or Second Indenture Trustee.

(Section 7.07)

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APPENDIX C

PROJECT AREA DESCRIPTION

The description of the Project Area is as follows:

The Project Area, is defined as that area in the borough of Manhattan beginning at the intersection of 43rd Street and 8th Avenue, continuing southerly along Eighth Avenue to the intersection of 39th Street and 8th Avenue, continuing westerly along 39th Street to a point 150 feet westerly of the intersection of 39th Street and 8th Avenue, continuing from that point southerly along that line to the intersection of that line and 35th Street, continuing easterly from along 35th Street to the intersection of 8th Avenue and 35th Street, continuing southerly along 8th Avenue to the intersection of 33rd Street and 8th Avenue, continuing easterly along 33rd Street to the intersection of 7th Avenue and 33rd Street, continuing southerly along 7th Avenue to the intersection of 31st Street and 7th Avenue, continuing westerly along 31st Street to the intersection of 9th Avenue and 31st Street, continuing southerly along 9th Avenue to the intersection of 30th Street and 9th Avenue, continuing westerly along 30th Street to intersection of 11th Avenue and 30th Street, continuing southerly along 11th Avenue to the intersection of 29th Street and 11th Avenue, continuing westerly along 29th Street to the intersection 12th Avenue and 29th Street, then continuing northerly along 12th Avenue to the intersection of 34th Street and 12th Avenue, continuing easterly along 34th Street to the intersection of 11th Avenue and 34th Street, continuing northerly along 11th Avenue to the intersection of 41st Street and 11th Avenue, continuing westerly along 41st Street to the intersection of 12th Avenue and 41st Street, continuing Northerly along 12th Avenue to the intersection of 43rd Street and 12th Avenue, continuing easterly along 43rd Street to the intersection of 43rd Street and 10th Avenue, continuing southerly along 10th Avenue to the intersection of 10th Avenue and 42nd Street, continuing easterly along 42nd Street to a point 250 feet westerly from the intersection of 42nd Street and 8th Avenue, continuing northerly from that point 100 feet, then continuing westerly 50 feet, then continuing northerly from that point to the intersection of 43rd Street, continuing easterly along 43rd Street to the point of beginning.

A map showing the Project Area is shown at the front of this Official Statement just prior to the Summary Statement.

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APPENDIX D

THE CITY OF NEW YORK

This Appendix D provides certain information concerning The City of New York (the "City") in connection with the sale of the Series 2017 Bonds by the Hudson Yards Infrastructure Corporation.

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THE CITY OF NEW YORK

This Appendix consists of information which was furnished to the Corporation by The City of New York (the "City"). Although the Corporation considers the sources to be reliable, the Corporation has made no independent verification of the information presented herein and does not warrant its accuracy. The City will not be liable on the Series 2017 Bonds and the Series 2017 Bonds will not be a debt of the City. The obligation of the City to pay the amounts due under the Support and Development Agreement is subject to, and dependent upon, the making of annual appropriations by the City and the availability of moneys to fund such payments. References in this Appendix to Appendix A refer to Appendix A to this Appendix, references in this Appendix to Appendix B refer to Appendix B to this Appendix and references in this Appendix to Appendix C refer to Appendix C to this Appendix.

SECTION I: INTRODUCTORY STATEMENT

The purpose of this Appendix is to provide information on certain factors affecting the City and its general economic background to those considering purchasing the Series 2017 Bonds.

This Appendix contains forecasts, projections and estimates that are based on expectations and assumptions which existed at the time such forecasts, projections and estimates were prepared. In light of the important factors that may materially affect economic conditions in the City, the inclusion in this Appendix of such forecasts, projections and estimates should not be regarded as a representation by the City or its independent auditors that such forecasts, projections and estimates will occur. Such forecasts, projections and estimates are not intended as representations of fact or guarantees of results. If and when included in this Appendix, the words "expects," "forecasts," "projects," "intends," "anticipates," "estimates" and analogous expressions are intended to identify forward-looking statements and any such statements inherently are subject to a variety of risks and uncertainties that could cause actual results to differ materially from those projected. Such risks and uncertainties include, among others, general economic and business conditions, changes in political, social and economic conditions, regulatory initiatives and compliance with governmental regulations, litigation and various other events, conditions and circumstances, many of which are beyond the control of the City. These forward-looking statements speak only as of the date they were prepared. The City disclaims any obligation or undertaking to release publicly any updates or revisions to any forward-looking statement contained herein to reflect any change in the City's expectations with regard thereto or any change in events, conditions or circumstances on which any such statement is based between modifications to the City's financial plan required by law.

References to website addresses presented herein are for informational purposes only and may be in the form of a hyperlink solely for the reader's convenience. Unless specified otherwise, such websites and the information or links contained therein are not incorporated into, and are not part of, this Appendix for purposes of Rule 15c2-12 adopted by the United States Securities and Exchange Commission under the Securities Exchange Act of 1934.

The City, with an estimated population of approximately 8,550,000, is an international center of business and culture. Its non-manufacturing economy is broadly based, with the banking, securities, insurance, information, publishing, fashion, design, retailing, education and health care industries accounting for a significant portion of the City's total employment earnings. Additionally, the City is a leading tourist destination. Manufacturing activity in the City is conducted primarily in apparel and printing.

For each of the 1981 through 2016 fiscal years, the City's General Fund had an operating surplus, before discretionary and other transfers, and achieved balanced operating results as reported in accordance with then applicable generally accepted accounting principles ("GAAP"), after discretionary and other transfers and except for the application of Governmental Accounting Standards Board ("GASB") Statement No. 49 ("GASB 49"), as described below. City fiscal years end on June 30 and are referred to by the calendar year in which they end. The

City has been required to close substantial gaps between forecast revenues and forecast expenditures in order to maintain balanced operating results. There can be no assurance that the City will continue to maintain balanced operating results as required by New York State (the "State") law without proposed tax or other revenue increases or reductions in City services or entitlement programs, which could adversely affect the City's economic base.

As required by the New York State Financial Emergency Act For The City of New York (the "Financial Emergency Act" or the "Act") and the New York City Charter (the "City Charter"), the City prepares a four-year annual financial plan, which is reviewed and revised on a quarterly basis and which includes the City's capital, revenue and expense projections and outlines proposed gap-closing programs for years with projected budget gaps. The City's current financial plan projects budget balance in the 2017 fiscal year in accordance with GAAP except for the application of GASB 49. In 2010, the Financial Emergency Act was amended to waive the budgetary impact of GASB 49 by enabling the City to continue to finance with bond proceeds certain pollution remediation costs. The City's current financial plan projects budget gaps for the 2019 through 2021 fiscal years. A pattern of current year balance and projected future year budget gaps has been consistent through the entire period since 1982, during which the City has achieved an excess of revenues over expenditures, before discretionary transfers, for each fiscal year. For information regarding the current financial plan, see "SECTION II: RECENT FINANCIAL DEVELOPMENTS" and "SECTION VII: FINANCIAL PLAN." For information regarding the June 2010 amendment of the Financial Emergency Act with respect to the application of GASB 49 to the City budget, see "SECTION III: GOVERNMENT AND FINANCIAL CONTROLS." The City is required to submit its financial plans to the New York State Financial Control Board (the "Control Board"). For further information regarding the Control Board, see "SECTION III: GOVERNMENT AND FINANCIAL CONTROLS—City Financial Management, Budgeting and Controls—*Financial Review and Oversight.*"

For its normal operations, the City depends on aid from the State both to enable the City to balance its budget and to meet its cash requirements. There can be no assurance that there will not be delays or reductions in State aid to the City from amounts currently projected; that State budgets for future State fiscal years will be adopted by the April 1 statutory deadline, or interim appropriations will be enacted; or that any such reductions or delays will not have adverse effects on the City's cash flow or expenditures. See "SECTION II: RECENT FINANCIAL DEVELOPMENTS—2017-2021 Financial Plan." In addition, the City has made various assumptions with respect to federal aid. Future federal actions or inactions could have adverse effects on the City's cash flow or revenues.

The Mayor is responsible for preparing the City's financial plan which relates to the City and certain entities that receive funds from the City. The financial plan is modified quarterly. The City's projections set forth in the financial plan are based on various assumptions and contingencies which are uncertain and which may not materialize. Such assumptions and contingencies include the condition of the international, national, regional and local economies, the provision of State and federal aid, the impact on City revenues and expenditures of any future federal or State legislation and policies affecting the City and the cost of pension structures and healthcare. See "SECTION II: RECENT FINANCIAL DEVELOPMENTS."

Implementation of the financial plan is dependent on the City's ability to market successfully its bonds and notes. Implementation of the financial plan is also dependent upon the ability to market the securities of other financing entities including the New York City Municipal Water Finance Authority (the "Water Authority") and the New York City Transitional Finance Authority ("TFA"). See "SECTION VII: FINANCIAL PLAN—Financing Program." The success of projected public sales of City, Water Authority, TFA and other bonds and notes will be subject to prevailing market conditions. Future developments in the financial markets generally, as well as future developments concerning the City, and public discussion of such developments, may affect the market for outstanding City general obligation bonds and notes.

The City Comptroller and other agencies and public officials, from time to time, issue reports and make public statements which, among other things, state that projected revenues and expenditures may be different from those forecast in the City's financial plans. See "SECTION VII: FINANCIAL PLAN—Certain Reports."

The factors affecting the City's financial condition described throughout this Appendix are complex and are not intended to be summarized in this Introductory Statement. The economic and financial condition of the City may be affected by various financial, social, economic, political, geo-political, environmental and other factors which could have a material effect on the City. This Appendix should be read in its entirety.

SECTION II: RECENT FINANCIAL DEVELOPMENTS

For the 2016 fiscal year, the City's General Fund had a total surplus of $4.043 billion, before discretionary and other transfers, and achieved balanced operating results in accordance with GAAP, except for the application of GASB 49 as described above, after discretionary and other transfers. The 2016 fiscal year is the thirty-sixth consecutive year that the City has achieved balanced operating results when reported in accordance with GAAP, except for the application of GASB 49.

2017-2021 Financial Plan

On June 14, 2016, the City submitted to the Control Board the financial plan for the 2017 through 2020 fiscal years (the "June Financial Plan"), which was consistent with the City's capital and expense budgets as adopted for the 2017 fiscal year. On November 17, 2016, the City submitted to the Control Board a modification to the June Financial Plan (as so modified, the "November Financial Plan"). On January 24, 2017, the Mayor released his Preliminary Budget for the 2018 fiscal year and the City submitted to the Control Board a modification to the financial plan for the 2017 through 2021 fiscal years (as so modified, the "January Financial Plan"). On April 26, 2017, the Mayor released his Executive Budget for the 2018 fiscal year, and the City submitted to the Control Board a modification to the financial plan for years 2017 through 2021 (as so modified, the "Financial Plan"). The Executive Budget is subject to adoption by the City Council which is expected by June 30, 2017. The Adopted Budget may reflect additional expenditures.

The Financial Plan projects revenues and expenses for the 2017 and 2018 fiscal years balanced in accordance with GAAP, except for the application of GASB 49, and projects gaps of approximately $3.59 billion, $2.98 billion and $2.32 billion in fiscal years 2019 through 2021, respectively. The June Financial Plan had projected revenues and expenses for the 2017 fiscal year balanced in accordance with GAAP, except for the application of GASB 49, and had projected gaps of approximately $2.82 billion, $2.95 billion and $2.33 billion in fiscal years 2018 through 2020, respectively.

The Financial Plan reflects, since the June Financial Plan, an increase in projected net revenues of $1.19 billion in fiscal year 2017 and decreases in projected net revenues of $753 million, $481 million and $192 million in fiscal years 2018 through 2020, respectively. Changes in projected revenues include: (i) increases in real property tax revenues of $377 million, $219 million, $372 million and $427 million in fiscal years 2017 through 2020, respectively; (ii) a decrease in personal income tax revenues of $267 million in fiscal year 2017 and increases in personal income tax revenues of $102 million, $102 million and $188 million in fiscal years 2018 through 2020, respectively; (iii) decreases in business tax revenues of $189 million, $317 million, $218 million and $221 million in fiscal years 2017 through 2020, respectively; (iv) decreases in sales tax revenues of $122 million and $188 million in fiscal years 2017 and 2018, respectively, and increases in sales tax revenues of $1 million and $29 million in fiscal years 2019 and 2020, respectively; (v) decreases in real property transfer and mortgage recording tax revenues of $224 million, $380 million, $401 million and $374 million in fiscal years 2017 through 2020, respectively; (vi) decreases in State School Tax Relief Program (the "STAR Program") revenues of $333 million in each of fiscal years 2018 through 2020; (vii) increases in hotel tax revenues of $30 million, $7 million and $5 million in fiscal years 2017 through 2019, respectively, and a decrease in hotel tax revenues of $14 million in fiscal year 2020; and (viii) increases in other tax revenues of $61 million and $6 million in fiscal years 2017 and 2018, respectively, and a decrease of other tax revenues of $4 million in fiscal year 2020, in each case reflecting receipts to date in fiscal year 2017. Changes in projected revenues also include: (i) increases in tax audit revenues of $537 million, $136 million, $7 million and $7 million in fiscal years 2017 through 2020, respectively (exclusive of additional increases of $2 million in each of fiscal years 2017 through 2020, which are included in the Citywide Savings Program described below), and (ii) net increases in other revenues of $988 million and $103 million in fiscal years 2017 and 2020, respectively, and net decreases in other revenues of $5 million and $16 million in fiscal years 2018 and 2019, respectively (exclusive of increases in revenues of $38 million in fiscal year 2017, $34 million in fiscal year 2018 and $26 million in each of fiscal years 2019 and 2020, which are included in the Citywide Savings Program described below).

The Financial Plan also reflects, since the June Financial Plan, a decrease in projected net expenditures of $2.54 billion in fiscal year 2017 and increases in projected net expenditures of $158 million, $164 million and $465 million in fiscal years 2018 through 2020, respectively. Changes in projected expenditures include: (i) increases in agency expenses of $593 million, $1.24 billion, $939 million and $1.13 billion in fiscal years 2017 through 2020, respectively; (ii) decreases in pension contributions of $27 million and $139 million in fiscal years 2017 and 2018, respectively, and increases in pension contributions of $14 million and $153 million in fiscal years 2019 and 2020, respectively, primarily as a result of lower than assumed investment returns in fiscal year 2016, offset by savings reflecting the annual data update performed by the City Actuary to include data as of June 30, 2016; (iii) a decrease in the general reserve of $700 million in fiscal year 2017; (iv) increases in expenses of $34 million in fiscal year 2017 and $68 million in each of fiscal years 2018 through 2020, primarily reflecting the impact of the State Enacted Budget (as defined below) which decreased funding for childcare block grants, special education students and shifted foster care costs to the City; (v) a decrease in the capital stabilization reserve of $500 million in fiscal year 2017 and increases in the capital stabilization reserve of $250 million in each of fiscal years 2018 through 2020; and (vi) a decrease of $400 million in fiscal year 2017 reflecting a re-estimate of prior years' expenses and receivables. Changes in projected net expenditures also include decreases in net expenditures (which reflect certain increases in revenues described above) of $1.54 billion, $1.26 billion, $1.11 billion and $1.14 billion in fiscal years 2017 through 2020, respectively, as a result of the Citywide Savings Program.

The Financial Plan reflects, since the June Financial Plan, provision for $3.73 billion for the prepayment in fiscal year 2017 of fiscal year 2018 expenses, resulting in an expenditure reduction of $3.73 billion in fiscal year 2018.

The City has now reached settlements with all of its uniformed unions and over 99% of its workforce through the 2010-2017 round of collective bargaining. The Financial Plan reflects funding to cover the cost of settling the remaining unsettled unions through the 2010-2017 round of collective bargaining based on the pattern set in the settled contracts. Certain contracts with unions for the 2010-2017 round of collective bargaining, including with the District Council 37 of AFSME ("DC37") and the Police Benevolent Association (the "PBA"), begin to expire in fiscal year 2018. The Financial Plan includes a reserve for collective bargaining containing funding for the settlements from the period beyond the 2010-2017 round of collective bargaining, assuming annual increases of 1% per year. For further information, see "SECTION VII: FINANCIAL PLAN—Assumptions—*Expenditure Assumptions*—1. PERSONAL SERVICE COSTS."

The Financial Plan assumes that the City's direct costs (including costs of New York City Health and Hospitals ("NYCHH") and the New York City Housing Authority ("NYCHA")) as a result of Superstorm Sandy ("Sandy") will largely be paid from non-City sources, primarily the federal government. Such costs, which total approximately $10.1 billion (comprised of approximately $2.0 billion of expense funding and approximately $8.1 billion of capital funding) include emergency response, debris removal, emergency protective measures, repair of damaged infrastructure and long-term hazard mitigation investments. In addition, the City is delivering Sandy-related disaster recovery assistance services, benefiting impacted communities, businesses, homeowners and renters, which the City anticipates will be reimbursed by federal funds.

The City expects the reimbursements for Sandy-related costs to come from two separate federal sources of funding, Federal Emergency Management Agency ("FEMA") and the Department of Housing and Urban Development ("HUD"). As of mid-April 2017, the City, NYCHH and NYCHA have received $2.0 billion in reimbursements from FEMA for the direct costs described above. In addition, HUD has made available over $4.2 billion, of which over $1.5 billion has been received through mid-April 2017 for the direct costs and disaster recovery assistance services described above. No assurance can be given that the City will be reimbursed for its costs as described above or that such reimbursements will be received within the time periods assumed in the Financial Plan. For further information, see "SECTION IX: OTHER INFORMATION—Environmental Matters."

The Financial Plan does not reflect the payment to the State of $50 million in fiscal year 2018 and $150 million in fiscal year 2019 of sales tax revenues that would otherwise be payable to the City, pursuant to State legislation providing the State with the benefit of savings from the refinancing of debt in October 2014 by the Sales Tax Asset Receivable Corp. ("STAR Corp."). Reduction or elimination of such payments to the State would require State legislative action.

The Financial Plan reflects the impact of the State Enacted Budget (as defined below), adopted on April 7, 2017, with the exception of changes that increase the charter school per-pupil tuition rate beginning in fiscal year 2019. If not offset by changes to State education aid to the City, which occur each year during the State budget process, the costs to the City of such change in rate would be $101 million in fiscal year 2019, $240 million in fiscal year 2020 and $417 million in fiscal year 2021, which are not currently reflected in the Financial Plan.

On February 4, 2016, the Mayor announced a plan to build the Brooklyn-Queens Connector, a street car line which would run along the East River waterfront between Astoria, Queens and Sunset Park, Brooklyn. Construction is not expected to begin prior to 2019. The direct costs of the project, which are estimated to be $2.5 billion, are not reflected in the Financial Plan or the Ten-Year Capital Strategy. The City is currently performing an in-depth study of this project and will be revising cost estimates as well as funding alternatives for the project.

The City receives significant funding from the federal government for community development, social services, education and other purposes pursuant to various federal programs. The federal government has discussed a number of reductions in existing federal spending programs, changes in tax regulations and taxing rates, as well as changes to regulations affecting numerous industries in the City, including the financial services industry. It is not possible at this time to predict the form that these changes will ultimately take and, when taken as a whole, the effect they will have on the City's economy and the Financial Plan.

On January 25, 2017, President Trump signed an executive order directing the United States Attorney General and the Secretary of Homeland Security to ensure that state and local jurisdictions that willfully refuse to comply with federal law concerning the provision of information on individuals' immigration status will not be eligible to receive federal grants except as deemed necessary for law enforcement purposes. In an April 21, 2017 letter to the City, the Attorney General requested documentation of the City's compliance with such federal law by June 30, 2017, and stated that failure to do so could result in the withholding of federal grants or other actions. On April 25, 2017, the United States District Court for the Northern District of California issued a preliminary injunction enjoining enforcement nationwide of one section of the President Trump's executive order which sought to limit grants beyond those relating to federal immigration law enforcement. The court's decision is consistent with the City's position that controlling legal authority limits funding reductions to grants directly related to federal immigration law enforcement. Federal grants to the City arguably related to federal immigration law enforcement comprise a small percentage of the City's total budget. Moreover, most if not all of such grants support local law enforcement functions which the executive order expressly authorizes the Attorney General or Secretary of Homeland Security to exempt from reduction. If implementation of the executive order results in the reduction of federal aid to the City, the City expects that it would mount a vigorous legal challenge. However, there can be no guarantee that implementation of the executive order will not result in a significant reduction or delay in receiving such aid. For further information concerning federal grants to the City, see "SECTION IV: SOURCES OF CITY REVENUES—Federal and State Categorical Grants."

In January 2017, GASB issued Statement No. 84, Fiduciary Activities, effective for fiscal years beginning after December 15, 2018 (City Fiscal Year 2020). For a description, see "SECTION III: GOVERNMENT AND FINANCIAL CONTROLS—City Financial Management, Budgeting and Controls—*Financial Reporting and Control Systems*."

From time to time, the City Comptroller, the Control Board staff, the Office of the State Deputy Comptroller for the City of New York ("OSDC"), the Independent Budget Office ("IBO") and others issue reports and make public statements regarding the City's financial condition, commenting on, among other matters, the City's financial plans, projected revenues and expenditures and actions by the City to eliminate projected operating deficits. It is reasonable to expect that reports and statements will continue to be issued and may contain different perspectives on the City's budget and economy and may engender public comment. For information on reports issued on the January Financial Plan and to be issued on the Financial Plan by the City Comptroller and others reviewing, commenting on and identifying various risks therein, see "SECTION VII: FINANCIAL PLAN—Certain Reports."

The State

The State Legislature completed action on the $163 billion budget for its 2018 fiscal year on April 7, 2017 (the "State Enacted Budget"). The State Enacted Budget provides for balanced operations on a cash basis in the State's General Fund (the "General Fund"), as required by law. The State Annual Information Statement, as updated on March 8, 2017 (the "Annual Information Statement"), reflects the State's Fiscal Year 2018 Executive Budget Financial Plan, as amended. The State expects to release the State Enacted Budget financial plan in mid-May, 2017, and to update the Annual Information Statement in June, 2017, to reflect the State Enacted Budget financial plan.

The Annual Information Statement and the State Enacted Budget identify a number of risks inherent in the implementation of the State Enacted Budget and the State financial plan. Such risks include, but are not limited to, the performance of the national and State economies; national and international events; ongoing financial instability in the Eurozone; changes in consumer confidence, oil supplies and prices; cybersecurity attacks, major terrorist events, hostilities or war; climate change and extreme weather events; federal statutory and regulatory changes concerning financial sector activities; changes concerning financial sector bonus payouts and any future legislation governing the structure of compensation; shifts in monetary policy affecting interest rates and the financial markets; the impact of financial and real estate market developments on bonus income and capital gains realizations; the effect of household debt on consumer spending and State tax collections; the outcome of litigation and other claims affecting the State; wage and benefit increases for State employees that exceed projected annual costs; changes in the size of the State's workforce; the realization of the projected rate of return for pension fund assets and current assumptions with respect to wages for State employees affecting the State's required pension fund contributions; the willingness and ability of the federal government to provide the aid expected in the State financial plan; the ability of the State to implement cost reduction initiatives and the success with which the State controls expenditures; and the ability of the State and public authorities to market securities successfully in the public credit markets.

SECTION III: GOVERNMENT AND FINANCIAL CONTROLS

Structure of City Government

The City of New York is divided into five counties, which correspond to its five boroughs. The City, however, is the only unit of local government within its territorial jurisdiction with authority to levy and collect taxes, and is the unit of local government primarily responsible for service delivery. Responsibility for governing the City is currently vested by the City Charter in the Mayor, the City Comptroller, the City Council, the Public Advocate and the Borough Presidents.

— *The Mayor.* Bill de Blasio, the Mayor of the City, took office on January 1, 2014. The Mayor is elected in a general election for a four-year term and is the chief executive officer of the City. The Mayor has the power to appoint the commissioners of the City's various departments. The Mayor is responsible for preparing and administering the City's annual Expense and Capital Budgets (as defined below) and financial plan. The Mayor has the power to veto local laws enacted by the City Council, but such a veto may be overridden by a two-thirds vote of the City Council. The Mayor has powers and responsibilities relating to land use and City contracts and all residual powers of the City government not otherwise delegated by law to some other public official or body. The Mayor is also a member of the Control Board.

— *The City Comptroller.* Scott M. Stringer, the Comptroller of the City, took office on January 1, 2014. The City Comptroller is elected in a general election for a four-year term and is the chief fiscal officer of the City. The City Comptroller has extensive investigative and audit powers and responsibilities which include keeping the financial books and records of the City. The City Comptroller's audit responsibilities include a program of performance audits of City agencies in connection with the City's management, planning and control of operations. In addition, the City Comptroller is required to evaluate the Mayor's budget, including the assumptions and methodology used in the budget. The Office of the City Comptroller is responsible under the City Charter and pursuant to State law and City investment guidelines for managing and investing City funds for operating and capital purposes. The City Comptroller is also a member of the Control Board and is a trustee, the custodian and the delegated investment advisor of the City's five pension systems.

— *The City Council.* The City Council is the legislative body of the City and consists of the Public Advocate and 51 members elected for four-year terms who represent various geographic districts of the City. Under the City Charter, the City Council must annually adopt a resolution fixing the amount of the real estate tax and adopt the City's annual Expense Budget and Capital Budget. The City Council does not, however, have the power to enact local laws imposing other taxes, unless such taxes have been authorized by State legislation. The City Council has powers and responsibilities relating to franchises and land use and as provided by State law.

— *The Public Advocate.* Letitia James, the Public Advocate, took office on January 1, 2014. The Public Advocate is elected in a general election for a four-year term. The Public Advocate is first in the line of succession to the Mayor in the event of the disability of the Mayor or a vacancy in the office, pending an election to fill the vacancy. The Public Advocate appoints a member of the City Planning Commission and has various responsibilities relating to, among other things, monitoring the activities of City agencies, the investigation and resolution of certain complaints made by members of the public concerning City agencies and ensuring appropriate public access to government information and meetings.

— *The Borough Presidents.* Each of the City's five boroughs elects a Borough President who serves for a four-year term concurrent with other City elected officials. The Borough Presidents consult with the Mayor in the preparation of the City's annual Expense Budget and Capital Budget. Five percent of discretionary increases proposed by the Mayor in the Expense Budget and, with certain exceptions, five percent of the appropriations supported by funds over which the City has substantial discretion proposed by the Mayor in the Capital Budget, must be based on appropriations proposed by the

Borough Presidents. Each Borough President also appoints one member to the Panel for Educational Policy (as defined below) and has various responsibilities relating to, among other things, reviewing and making recommendations regarding applications for the use, development or improvement of land located within the borough, monitoring and making recommendations regarding the performance of contracts providing for the delivery of services in the borough and overseeing the coordination of a borough-wide public service complaint program.

On November 2, 2010, the City Charter was amended to provide that no person shall be eligible to be elected to or serve in the office of Mayor, Public Advocate, City Comptroller, Borough President or Council member if that person has previously held such office for two or more consecutive full terms, unless one full term or more has elapsed since that person last held such office. Such term limit applies only to officials first elected to office on or after November 2, 2010.

City Financial Management, Budgeting and Controls

The Mayor is responsible under the City Charter for preparing the City's annual expense and capital budgets (as adopted, the "Expense Budget" and the "Capital Budget," respectively, and collectively, the "Budgets") and for submitting the Budgets to the City Council for its review and adoption. The Expense Budget covers the City's annual operating expenditures for municipal services, while the Capital Budget covers expenditures for capital projects, as defined in the City Charter. Operations under the Expense Budget must reflect the aggregate expenditure limitations contained in financial plans.

The City Council is responsible for adopting the Expense Budget and the Capital Budget. Pursuant to the City Charter, the City Council may increase, decrease, add or omit specific units of appropriation in the Budgets submitted by the Mayor and add, omit or change any terms or conditions related to such appropriations. The City Council is also responsible, pursuant to the City Charter, for approving modifications to the Expense Budget and adopting amendments to the Capital Budget beyond certain latitudes allowed to the Mayor under the City Charter. However, the Mayor has the power to veto any increase or addition to the Budgets or any change in any term or condition of the Budgets approved by the City Council, which veto is subject to an override by a two-thirds vote of the City Council, and the Mayor has the power to implement expenditure reductions subsequent to adoption of the Expense Budget in order to maintain a balanced budget. In addition, the Mayor has the power to determine the non-property tax revenue forecast on which the City Council must rely in setting the property tax rates for adopting a balanced City budget.

Office of Management and Budget

The City's Office of Management and Budget ("OMB"), with a staff of approximately 340, is the Mayor's primary advisory group on fiscal issues and is also responsible for the preparation, monitoring and control of the City's Budgets and four-year financial plans. In addition, OMB is responsible for the preparation of a Ten-Year Capital Strategy.

State law and the City Charter require the City to maintain its Expense Budget balanced when reported in accordance with GAAP. For fiscal years 2009 and 2010, the City was authorized to phase in implementation of GASB 49 for budgetary purposes. In June 2010, the Financial Emergency Act was amended to permanently waive the budgetary impact of GASB 49 by allowing the City to include certain pollution remediation costs in its capital budget and to finance such costs with the issuance of bonds. In addition to the Budgets, the City prepares a four-year financial plan which encompasses the City's revenue, expenditure, cash flow and capital projections. All Covered Organizations (as defined below) are also required to maintain budgets that are balanced when reported in accordance with GAAP. From time to time certain Covered Organizations have had budgets providing for operations on a cash basis but not balanced under GAAP.

To assist in achieving the goals of the financial plan and budget, the City reviews its financial plan periodically and, if necessary, prepares modifications to incorporate actual results and revisions to projections and assumptions to reflect current information. The City's revenue projections are continually reviewed and periodically updated with the benefit of discussions with a panel of private economists analyzing the effects of changes in economic indicators on City revenues and information from various economic forecasting services.

Office of the Comptroller

The City Comptroller is the City's chief fiscal officer and is responsible under the City Charter for reviewing and commenting on the City's Budgets and financial plans, including the assumptions and methodologies used in their preparation. The City Comptroller, as an independently elected public official, is required to report annually to the City Council on the state of the City's economy and finances and periodically to the Mayor and the City Council on the financial condition of the City and to make recommendations, comments and criticisms on the operations, fiscal policies and financial transactions of the City. Such reports, among other things, have differed with certain of the economic, revenue and expenditure assumptions and projections in the City's financial plans and Budgets. See "SECTION VII: FINANCIAL PLAN—Certain Reports."

The Office of the City Comptroller establishes the City's accounting and financial reporting practices and internal control procedures. The City Comptroller is also responsible for the preparation of the City's annual financial statements, which, since 1978, have been required to be reported in accordance with GAAP.

The Comprehensive Annual Financial Report of the Comptroller (the "CAFR") for the 2016 fiscal year, which includes, among other things, the City's financial statements for the 2016 and 2015 fiscal years, was issued on October 31, 2016. The CAFR for the 2016 fiscal year received the Government Finance Officers Association award of the Certificate of Achievement for Excellence in Financial Reporting, the thirty-seventh consecutive year the CAFR has won such award.

All contracts for goods and services requiring the expenditure of City moneys must be registered with the City Comptroller. No contract can be registered unless funds for its payment have been appropriated by the City Council or otherwise authorized. The City Comptroller also prepares vouchers for payments for such goods and services and cannot prepare a voucher unless funds are available in the Budgets for its payment.

The City Comptroller is also required by the City Charter to audit all City agencies and has the power to audit all City contracts. The Office of the Comptroller conducts both financial and management audits and has the power to investigate corruption in connection with City contracts or contractors.

The Mayor and City Comptroller are responsible for the issuance of City indebtedness. The City Comptroller oversees the payment of such indebtedness and is responsible for the custody of certain sinking funds.

Financial Reporting and Control Systems

Since 1978, the City's financial statements have been required to be audited by independent certified public accountants and to be presented in accordance with GAAP. The City has completed thirty-six consecutive fiscal years with a General Fund surplus when reported in accordance with then applicable GAAP, except with regard to the application of GASB 49.

In fiscal year 2014, the City implemented GASB Statement No. 68, Accounting and Financial Reporting for Pensions ("GASB 68"). The adoption of GASB 68 resulted in the restatement of the City's Fiscal Year 2013 government-wide financial statements. The City implemented GASB 68 concurrently with the implementation by the five major actuarial pension systems of GASB Statement No. 67 ("GASB 67"), Financial Reporting for Pension Plans. For further information about the implementation of GASB 67 and GASB 68 and the resulting impact on the City's financial statements, see "SECTION IX: OTHER INFORMATION—Pension Systems."

In January 2017, GASB issued Statement No. 84, Fiduciary Activities ("GASB 84"), effective for fiscal years beginning after December 15, 2018 (City Fiscal Year 2020), with early implementation encouraged.

Implementation of GASB 84 could affect the City's financial statements by requiring that certain activities currently accounted for as fiduciary activities be reported as governmental activities going forward. This might result in certain resources being reported as operating revenue in periods prior to the related expenditures being incurred, negatively affecting the City's ability to meet its obligation to balance each year's operating budget in accordance with GAAP unless there is a change in applicable law. The City has not completed the process of evaluating the impact of GASB 84 on its financial statements.

Both OMB and the Office of the Comptroller utilize a financial management system which provides comprehensive current and historical information regarding the City's financial condition. This information, which is independently evaluated by each office, provides a basis for City action required to maintain a balanced budget and continued financial stability.

The City's operating results and forecasts are analyzed, reviewed and reported on by each of OMB and the Office of the Comptroller as part of the City's overall system of internal control. Internal control systems are reviewed regularly, and the City Comptroller requires an annual report on internal control and accountability from each agency. Comprehensive service level and productivity targets are formulated and monitored for each agency by the Mayor's Office of Operations and reported publicly in a semiannual management report.

The City has developed and utilizes a cash forecasting system which forecasts its daily cash balances. This enables the City to predict its short-term borrowing needs and maximize its return on the investment of available cash balances. Monthly statements of operating revenues and expenditures, capital revenues and expenditures and cash flow are reported after each month's end, and major variances from the financial plan are identified and explained.

City funds held for operating and capital purposes are managed by the Office of the City Comptroller, with specific guidelines as to investment vehicles. The City invests primarily in obligations of the United States Government, its agencies and instrumentalities, high grade commercial paper and repurchase agreements with primary dealers. The repurchase agreements are collateralized by United States Government treasuries, agencies and instrumentalities, held by the City's custodian bank and marked to market daily.

More than 97% of the aggregate assets of the City's five defined benefit pension systems are managed by outside managers, supervised by the Office of the City Comptroller, and the remainder is held in cash or managed by the City Comptroller. Allocations of investment assets are determined by each fund's board of trustees. As of February 28, 2017, aggregate pension assets were allocated approximately as follows: 33% U.S. equity; 29% fixed income; 20% international equity; 6% private equity; 4% real assets; 3% opportunistic fixed income; 2% cash; 2% hedge funds; 1% real estate investment trusts; and less than 1% infrastructure investments (percentages may not add to 100% due to rounding).

Financial Emergency Act and City Charter

The Financial Emergency Act requires that the City submit to the Control Board, at least 50 days prior to the beginning of each fiscal year (or on such other date as the Control Board may approve), a financial plan for the City and certain State governmental agencies, public authorities or public benefit corporations which receive or may receive monies from the City directly, indirectly or contingently (the "Covered Organizations") covering the four-year period beginning with such fiscal year. The New York City Transit Authority and the Manhattan and Bronx Surface Transit Operating Authority (collectively, "New York City Transit" or "NYCT" or "Transit Authority"), NYCHH and NYCHA are examples of Covered Organizations. The Act requires that the City's four-year financial plans conform to a number of standards. Subject to certain conditions, the Financial Emergency Act and the City Charter require the City to prepare and balance its budget covering all expenditures other than capital items so that the results of such budget will not show a deficit when reported in accordance with GAAP. Provision must be made, among other things, for the payment in full of the debt service on all City securities. The budget and operations of the City and the Covered Organizations must be in conformance with the financial plan then in effect.

From 1975 to June 30, 1986, the City was subject to a Control Period, as defined in the Act, which was terminated upon the satisfaction of the statutory conditions for termination, including the termination of all federal guarantees of obligations of the City, a determination by the Control Board that the City had maintained a balanced budget in accordance with GAAP for each of the three immediately preceding fiscal years and a certification by the State and City Comptrollers that sales of securities by or for the benefit of the City satisfied its capital and seasonal financing requirements in the public credit markets and were expected to satisfy such requirements in the 1987 fiscal year. With the termination of the Control Period, certain Control Board powers were suspended including, among others, its power to approve or disapprove certain contracts (including collective bargaining agreements), long-term and short-term borrowings, and the four-year financial plan and modifications thereto of the City and the Covered Organizations. Pursuant to the Act and the City Charter, the City is required to develop a four-year financial plan each year and to modify the plan as changing circumstances require. Under current law, prior to July 1, 2008, the Control Board was required to reimpose a Control Period upon the occurrence or substantial likelihood and imminence of the occurrence of any one of certain events specified in the Act. These events were (i) failure by the City to pay principal of or interest on any of its notes or bonds when due or payable, (ii) the existence of a City operating deficit of more than $100 million, (iii) issuance by the City of notes in violation of certain restrictions on short-term borrowing imposed by the Act, (iv) any violation by the City of any provision of the Act which substantially impaired the ability of the City to pay principal of or interest on its bonds or notes when due and payable or its ability to adopt or adhere to an operating budget balanced in accordance with the Act, or (v) joint certification by the State and City Comptrollers that they could not at that time make a joint certification that sales of securities in the public credit market by or for the benefit of the City during the immediately preceding fiscal year and the current fiscal year satisfied its capital and seasonal financing requirements during such period and that there was a substantial likelihood that such securities could be sold in the general public market from the date of the joint certification through the end of the next succeeding fiscal year in amounts that would satisfy substantially all of the capital and seasonal financing requirements of the City during such period in accordance with the financial plan then in effect.

In 2003, the State Legislature amended the Act to change its termination date from the *earlier* of July 1, 2008 or the date on which certain bonds are discharged to the *later* of July 1, 2008 or the date on which such bonds are discharged. The bonds referred to in the amended section of the Act are all bonds containing the State pledge and agreement authorized under section 5415 of the Act (the "State Covenant").

The State Covenant is authorized to be included in bonds of the City. Since enactment of this amendment to the Act, the City has not issued bonds containing the State Covenant. However, many City bonds issued prior to the amendment do contain the State Covenant. Because the City has issued such bonds with maturities as long as 30 years, the effect of the amendment was to postpone termination of the Act from July 1, 2008 to 2033 (or earlier if all City bonds containing the State Covenant are discharged). The State Legislature could, without violation of the State Covenant contained in the City's outstanding bonds, enact legislation that would terminate the Control Board and the Act because, at the time of issuance of those bonds, the termination date of the Act was July 1, 2008 (or the date of the earlier discharge of such bonds).

While the State Legislature amended the Act to extend the termination date of the Control Board, the power to impose or continue a Control Period terminated July 1, 2008. The power to impose or continue a Control Period is covered by a section of the Act that provides that no Control Period shall continue beyond the earlier of July 1, 2008 or the date on which all bonds containing the State Covenant are discharged. The State Legislature did not amend this provision. Therefore, under current law, although the Act continues in effect beyond July 1, 2008, no Control Period may be imposed after July 1, 2008.

Financial Review and Oversight

The Control Board, with the OSDC, reviews and monitors revenues and expenditures of the City and the Covered Organizations. In addition, the IBO has been established pursuant to the City Charter to provide analysis to elected officials and the public on relevant fiscal and budgetary issues affecting the City.

The Control Board is required to: (i) review the four-year financial plan of the City and of the Covered Organizations and modifications thereto; (ii) review the operations of the City and the Covered Organizations, including their compliance with the financial plan; and (iii) review certain contracts, including collective bargaining agreements, of the City and the Covered Organizations. The requirement to submit four-year financial plans and budgets for review was in response to the severe financial difficulties and loss of access to the credit markets encountered by the City in 1975. The Control Board must reexamine the financial plan on at least a quarterly basis to determine its conformance to statutory standards.

The *ex officio* members of the Control Board are the Governor of the State of New York (Chairman); the Comptroller of the State of New York; the Mayor of The City of New York; and the Comptroller of The City of New York. In addition, there are three private members appointed by the Governor. The Executive Director of the Control Board is appointed jointly by the Governor and the Mayor. The Control Board is assisted in the exercise of its responsibilities and powers under the Financial Emergency Act by the State Deputy Comptroller.

SECTION IV: SOURCES OF CITY REVENUES

The City derives its revenues from a variety of local taxes, user charges and miscellaneous revenues, as well as from federal and State unrestricted and categorical grants. State aid as a percentage of the City's revenues has remained relatively constant over the period from 1980 to 2016, while federal aid has been sharply reduced. The City projects that local revenues will provide approximately 72.6% of total revenues in the 2017 fiscal year, while federal aid, including categorical grants, will provide 10.5%, and State aid, including unrestricted aid and categorical grants, will provide 16.9%. Adjusting the data for comparability, local revenues provided approximately 60% of total revenues in 1980, while federal and State aid each provided approximately 20%. A discussion of the City's principal revenue sources follows. For additional information regarding assumptions on which the City's revenue projections are based, see "SECTION VII: FINANCIAL PLAN—Assumptions." For information regarding the City's tax base, see "APPENDIX A—ECONOMIC AND DEMOGRAPHIC INFORMATION."

Real Estate Tax

The real estate tax, the single largest source of the City's revenues, is the primary source of funds for the City's General Debt Service Fund. The City expects to derive approximately 44.5% of its total tax revenues and 28.6% of its total revenues for the 2017 fiscal year from the real estate tax. For information concerning tax revenues and total revenues of the City for prior fiscal years, see "SECTION VI: FINANCIAL OPERATIONS—2012-2016 Summary of Operations."

The State Constitution authorizes the City to levy a real estate tax without limit as to rate or amount (the "debt service levy") to cover scheduled payments of the principal of and interest on indebtedness of the City. However, the State Constitution limits the amount of revenue which the City can raise from the real estate tax for operating purposes (the "operating limit") to 2.5% of the average full value of taxable real estate in the City for the current and the last four fiscal years, which amount may be further limited by the State Constitution or laws. On June 24, 2011 the Governor signed into law the State's tax levy limitation law which restricts, among other things, the amount of real property taxes that may be levied by or on behalf of a municipality in a particular year. Such law does not apply to the City. Although legislation applying such law to the City has been proposed in each year since it was enacted, it has never passed. Similarly, the City does not believe that currently proposed legislation will be enacted into law. Were it to do so, it would have a material adverse impact on projected City revenues. The table below sets forth the percentage the debt service levy represents of the total levy. The City Council has adopted a distinct tax rate for each of the four categories of real property established by State legislation.

On April 24, 2017, a lawsuit was filed challenging the City's real property tax system and valuation methodology. See "SECTION IX: OTHER INFORMATION—Litigation—*Taxes*."

COMPARISON OF REAL ESTATE TAX LEVIES, TAX LIMITS AND TAX RATES

Fiscal Year	Total Levy(1)	Levy Within Operating Limit	Debt Service Levy(2)	Debt Service Levy as a Percentage of Total Levy	Operating Limit	Levy Within Operating Limit as a Percentage of Operating Limit	Rate Per $100 of Full Valuation(3)	Average Tax Rate Per $100 of Assessed Valuation
				(Dollars in Millions, except for Tax Rates)				
2012	$19,284.5	$17,181.1	$1,135.5	5.9%	$18,936.0	90.7%	$2.28	$12.28
2013	20,133.2	16,239.9	2,896.2	14.4	19,101.9	85.0	2.35	12.28
2014	21,285.5	18,779.8	1,435.8	6.7	19,601.7	95.8	2.36	12.28
2015	22,591.5	17,923.1	3,623.5	16.0	20,164.1	88.9	2.43	12.28
2016	24,145.0	20,761.2	2,310.6	9.6	21,130.6	98.3	2.45	12.28
2017	25,794.0	22,303.5	2,353.6	9.1	22,377.8	99.7	2.29	12.28

(1) As approved by the City Council.

(2) The debt service levy includes a portion of the total reserve for uncollected real estate taxes.

(3) Full valuation is based on the special equalization ratios (discussed below) and the billable assessed valuation. Special equalization ratios and full valuations are revised periodically as a result of surveys by the State Office of Real Property Tax Services.

Assessment

The City has traditionally assessed real property at less than market value. The State Office of Real Property Tax Services (the "State Office") is required by law to determine annually the relationship between taxable assessed value and market value which is expressed as the "special equalization ratio." The special equalization ratio is used to compute full value for the purpose of measuring the City's compliance with the operating limit and general debt limit. For a discussion of the City's debt limit, see "SECTION VIII: INDEBTEDNESS—Indebtedness of the City and Certain Other Entities—*Limitations on the City's Authority to Contract Indebtedness.*" The ratios are calculated by using the most recent market value surveys available and a projection of market value based on recent survey trends, in accordance with methodologies established by the State Office from time to time. Ratios, and therefore full values, may be revised when new surveys are completed. The ratios and full values shown in the table below, which were used to compute the 2017 fiscal year operating limit and general debt limit, have been established by the State Office and include the results of the fiscal year 2015 market value survey.

BILLABLE ASSESSED AND FULL VALUE OF TAXABLE REAL ESTATE(1)

Fiscal Year	Billable Assessed Valuation of Taxable Real Estate(2)	÷	Special Equalization Ratio	=	Full Valuation(2)
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		943,005,314,223
2017	210,130,499,481		0.1994		1,053,813,939,223
				Average:	$ 902,361,490,704

(1) Also assessed by the City, but excluded from the computation of taxable real estate, are various categories of property exempt from taxation under State law. For the 2017 fiscal year, the billable assessed value of all real estate (taxable and exempt) was $360.7 billion, comprised of $128.9 billion of fully exempt real estate, $71.0 billion of partially taxable real estate and $160.8 billion of fully taxable real estate.

(2) Figures are based on estimates of the special equalization ratio which are revised annually. These figures are derived from official City Council Tax Resolutions adopted with respect to the 2017 fiscal year. These figures differ from the assessed and full valuation of taxable real estate reported in the CAFR, which excludes veterans' property subject to tax for school purposes and is based on estimates of the special equalization ratio which are not revised annually.

State law provides for the classification of all real property in the City into one of four statutory classes. Class one primarily includes one-, two- and three-family homes; class two includes certain other residential property not included in class one; class three includes most utility real property; and class four includes all other real property. The total tax levy consists of four tax levies, one for each class. Once the tax levy is set for each class, the tax rate for each class is then fixed annually by the City Council by dividing the levy for such class by the billable assessed value for such class.

Assessment procedures differ for each class of property. For fiscal year 2017, class one was assessed at approximately 6% of market value and classes two, three and four were each assessed at 45.0% of market value. In addition, individual assessments on class one parcels cannot increase by more than 6% per year or 20% over a five-year period. Market value increases and decreases for most of class two and all of class four are phased in over a period of five years. Increases in class one market value in excess of applicable limitations are not phased in over subsequent years. There is also no phase in for class three property.

Class two and class four real property have three assessed values: actual, transition and billable. Actual assessed value is established for all tax classes without regard to the five-year phase-in requirement applicable to most class two and all class four properties. The transition assessed value reflects this phase-in. Billable assessed value is the basis for tax liability and is the lower of the actual or transition assessment.

The share of the total levy that can be borne by each class is regulated by the provisions of the State Real Property Tax Law. Each class share of the total tax levy is updated annually to reflect new construction, demolition, alterations or changes in taxable status and is subject to limited adjustment to reflect market value changes among the four classes. Class share adjustments are limited to a 5% maximum increase per year. Maximum class increases below 5% must be, and typically are, approved by the State legislature. Fiscal year 2017 tax rates were set on June 14, 2016 and reflect a 5% limitation on the market value adjustment for 2016. The average tax rate for fiscal year 2017 was maintained at $12.28 per $100 of assessed value.

City real estate tax revenues may be reduced in future fiscal years as a result of tax refund claims asserting overvaluation, inequality of assessment and illegality. The State Office annually certifies various class ratios and class equalization rates relating to the four classes of real property in the City. "Class ratios" are determined for each class by the State Office by calculating the ratio of assessed value to market value. Various proceedings challenging assessments of real property for real estate tax purposes are pending. For further information regarding the City's potential exposure in certain of these proceedings, see "SECTION IX: OTHER INFORMATION—Litigation—*Taxes*" and "APPENDIX B—FINANCIAL STATEMENTS—Notes to Financial Statements—Note D.5."

Trend in Taxable Assessed Value

State law provides for increases in assessed values of most properties to be phased into property tax bills over five-year periods. The billable assessed valuation as determined by the City Department of Finance rose to $162.3 billion, $171.7 billion, $182.5 billion, $195.2 billion and $208.6 billion for fiscal years 2013 through 2017, respectively. The Department of Finance released the tentative assessment roll for fiscal year 2018 on January 17, 2017. The billable assessed value rose by $17.6 billion over the 2017 assessment roll, to $226.2 billion, reflecting growth of 8.4%. However, the final roll for fiscal year 2018, which is expected to be released in late May 2017, is expected to show a growth of 6.7% over fiscal year 2017. With moderate growth forecast in the class two and class four market values combined with a deflated level of existing pipeline of deferred assessment increases yet to be phased in, the billable assessed valuations are forecast to grow by 5.8%, 4.8% and 4.6% in fiscal years 2019 through 2021, respectively.

Collection of the Real Estate Tax

Real estate tax payments are due each July 1 and January 1. Owners of all properties assessed at $250,000 or less are eligible to make tax payments in quarterly installments on July 1, October 1, January 1 and April 1. An annual interest rate of 9% compounded daily is imposed upon late payments on properties with an assessed value of $250,000 or less except in the case of (i) any parcel with respect to which the real estate taxes are held in escrow and paid by a mortgage escrow agent and (ii) parcels consisting of vacant or unimproved land. An interest rate of 18% compounded daily is imposed upon late payments on all other properties. These interest rates are set annually.

The City primarily uses two methods to enforce the collection of real estate taxes. The City has been authorized to sell real estate tax liens on class one properties which are delinquent for at least three years and class two, three and four properties which are delinquent for at least one year. The authorization to sell real estate tax liens was extended through December 31, 2020. In addition, the City is entitled to foreclose delinquent tax liens by *in rem* proceedings after one year of delinquency with respect to properties other than one- and two-family dwellings and condominium apartments for which the annual tax bills do not exceed $2,750, as to which a three-year delinquency rule is in effect.

The real estate tax is accounted for on a modified accrual basis in the General Fund. Revenue accrued is limited to prior year payments received, offset by refunds made, within the first two months of the following fiscal year. In deriving the real estate tax revenue forecast, a reserve is provided for cancellations or abatements of taxes and for nonpayment of current year taxes owed and outstanding as of the end of the fiscal year.

The following table sets forth the amount of delinquent real estate taxes (owed and outstanding as of the end of the fiscal year of levy) for each of the fiscal years indicated. Delinquent real estate taxes do not include real estate taxes subject to cancellation or abatement under various exemption or abatement programs. Delinquent real estate taxes generally increase during a recession and when the real estate market deteriorates. Delinquent real estate taxes generally decrease as the City's economy and real estate market recover.

From time to time, the City sells tax liens to separate statutory trusts. In fiscal years 2012 through 2016, the City's tax lien program resulted in net proceeds of approximately $81.6 million, $86.7 million, $81.2 million, $96.0 million and $80 million, respectively. The Financial Plan reflects receipt of $80 million in fiscal year 2017 from the tax lien program.

REAL ESTATE TAX COLLECTIONS AND DELINQUENCIES

Fiscal Year	Tax Levy(1)	Tax Collections on Current Year Levy	Tax Collections as a Percentage of Tax Levy	Prior Year (Delinquent Tax) Collections	Refunds	Cancellations, Net Credits, Abatements, Exempt Property Restored and Shelter Rent	Delinquent as of End of Fiscal Year	Delinquency as a Percentage of Tax Levy	Lien Sale Program
				(Dollars In Millions)					
2012	$19,284.5	$17,820.6	92.4%	$283.9	$(240.6)	$(1,129.5)	$(334.4)	1.73%	$81.6
2013	20,133.2	18,710.4	92.9	305.9	(352.5)	(1,119.0)	(303.7)	1.51	86.7
2014	21,285.5	19,909.2	93.5	280.5	(293.5)	(1,070.6)	(305.5)	1.44	81.2
2015	22,591.5	21,107.2	93.4	318.5	(204.5)	(1,129.7)	(354.6)	1.57	96.0
2016	24,145.0	22,835.8	94.6	281.0	(222.9)	(975.4)	(333.8)	1.38	80.0
2017(2)	25,794.0	24,116.0	93.5	300.0	(300.0)	(1,184.4)	(493.7)	1.91	80.0

(1) As approved by the City Council.

(2) Forecast.

Other Taxes

The City expects to derive 55.9% of its total tax revenues for the 2017 fiscal year from a variety of taxes other than the real estate tax, such as: (i) the 4.5% sales and compensating use tax, which commenced August 1, 2009, in addition to the 4% sales and use tax imposed by the State upon receipts from retail sales of tangible personal property and certain services in the City; (ii) the personal income tax on City residents; (iii) a general corporation tax levied on the income of corporations doing business in the City; and (iv) a banking corporation tax imposed on the income of banking corporations doing business in the City.

For local taxes other than the real estate tax, the City may adopt and amend local laws for the levy of local taxes to the extent authorized by the State. This authority can be withdrawn, amended or expanded by State legislation.

Revenues from taxes other than the real estate tax in the 2016 fiscal year increased by $17 million from the 2015 fiscal year. The following table sets forth, by category, revenues from taxes, other than the real estate tax, for each of the City's 2012 through 2016 fiscal years.

	2012	2013	2014	2015	2016
			(In Millions)		
Personal Income(1)	$ 8,531	$ 9,778	$10,152	$11,264	$11,340
General Corporation	2,447	2,692	2,766	2,873	3,354
Banking Corporation	1,278	1,357	1,227	1,214	268
Unincorporated Business Income	1,637	1,808	1,882	1,962	2,040
Sales(2)	5,812	6,132	6,494	6,742	6,911
Commercial Rent	629	664	710	735	779
Real Property Transfer	912	1,086	1,527	1,765	1,775
Mortgage Recording	537	742	961	1,155	1,234
Utility	371	385	405	384	354
Cigarette	67	61	54	50	45
Hotel	476	505	536	556	565
All Other(3)	513	533	548	591	614
Audits	743	1,009	911	1,132	1,161
Total	$23,953	$26,752	$28,173	$30,423	$30,440

Note: Totals may not add due to rounding.

(1) Personal Income includes the personal income tax revenues of $617 million, $1.006 billion, $1.641 billion, $556 million and $180 million in fiscal years 2012 through 2016, respectively, retained by the TFA for funding requirements associated with TFA Future Tax Secured Bonds. Personal income taxes flow directly from the State to the TFA, and from the TFA to the City only to the extent not required by the TFA for debt service, operating expenses and contractual and other obligations incurred pursuant to the TFA indenture. In fiscal years 2012 through 2016, Personal Income includes $578 million, $610 million, $613 million, $635 million and $607 million, respectively, which was provided to the City by the State as a reimbursement for the reduced personal income tax revenues resulting from the STAR Program.

(2) A portion of sales tax revenues payable to the City would be paid to the TFA if personal income tax revenues did not satisfy specified debt service ratios.

(3) All Other includes, among others, surtax revenues from New York City Off-Track Betting Corporation ("OTB"), beer and liquor taxes, and the automobile use tax, but excludes the STAR Program aid of $790 million, $829 million, $838 million, $835 million and $814 million in fiscal years 2012 through 2016, respectively.

Miscellaneous Revenues

Miscellaneous revenues include revenue sources such as charges collected by the City for the issuance of licenses, permits and franchises, interest earned by the City on the investment of City cash balances, tuition and fees at the Community Colleges, reimbursement to the City from the proceeds of water and sewer rates charged by the New York City Water Board (the "Water Board") for costs of delivery of water and sewer services and paid to the City by the Water Board for its lease interest in the water and sewer system, rents collected from tenants in City-owned property and from The Port Authority of New York and New Jersey (the "Port Authority") with respect to airports and the collection of fines. The following table sets forth amounts of miscellaneous revenues for each of the City's 2012 through 2016 fiscal years.

	2012	2013	2014	2015	2016
			(In Millions)		
Licenses, Permits and Franchises	$ 583	$ 593	$ 648	$ 703	$ 728
Interest Income	16	16	16	30	79
Charges for Services	850	872	951	974	1,001
Water and Sewer Payments	1,373	1,361	1,491	1,439	1,297
Rental Income	291	297	311	284	279
Fines and Forfeitures	859	815	892	959	995
Other	1,275	703	1,313	1,828	725
Total	$5,247	$4,657	$5,622	$6,217	$5,104

Note: Totals may not add due to rounding.

Rental income in fiscal years 2012 through 2016 includes approximately $124.8 million, $128.5 million, $128.5 million, $128.5 million and $128.5 million, respectively, in Port Authority lease payments for the City airports.

Fees and charges collected from the users of the water and sewer system of the City are revenues of the Water Board, a body corporate and politic, constituting a public benefit corporation, all of the members of which are appointed by the Mayor. The Water Board currently holds a long-term leasehold interest in the water and sewer system pursuant to a lease between the Water Board and the City.

Other miscellaneous revenues for fiscal years 2012 through 2016 include $117.2 million, $117.1 million, $132.5 million, $113.4 million and $229 million, respectively, of tobacco settlement revenues ("TSRs") from the settlement of litigation with certain cigarette manufacturers that were not retained by TSASC. Other miscellaneous revenues for fiscal years 2012 through 2016 do not include TSRs retained by TSASC for debt service and operating expenses totaling $70 million, $70 million, $79 million, $68 million and $139 million, respectively. Pursuant to the TSASC indenture, less than 40% of the TSRs are pledged to the TSASC bondholders and the remainder flow to the City. For further information see "SECTION VII: FINANCIAL PLAN—Assumptions—*Revenue Assumptions*—4. MISCELLANEOUS REVENUES" and "SECTION VIII: INDEBTEDNESS—Indebtedness of the City and Certain Other Entities."

Other miscellaneous revenues for fiscal year 2012 include a $469 million settlement payment by Science Applications International Corporation and $150 million from a federal settlement with ING Bank N.V. Other miscellaneous revenues for fiscal year 2014 include $338 million from the sale of taxi medallions, a payment of $50 million from Verizon to settle cost overruns caused by delays on the Emergency Communications Transformation Program, $214 million from the sale of two City office buildings and $103 million from the reconciliation of prior years health insurance premiums. Other miscellaneous revenues for fiscal year 2015 include $174 million from the sale of a former City Department of Sanitation site and $82 million from a deferred prosecution agreement under the Manhattan District Attorney's Office and the US Department of Justice related to sanctions violations against Commerzbank. Other miscellaneous revenues for fiscal year 2016 include $74 million from a deferred prosecution agreement under the Manhattan District Attorney's Office and the US Department of Justice related to sanctions violations against Credit Agricole and Investment Bank.

Unrestricted Intergovernmental Aid

Unrestricted federal and State aid are not subject to any substantial restriction as to their use and are used by the City as general support for its Expense Budget. For a further discussion of federal and State aid, see "SECTION VII: FINANCIAL PLAN—Assumptions—*Revenue Assumptions*—5. FEDERAL AND STATE CATEGORICAL GRANTS."

The following table sets forth amounts of unrestricted federal and State aid received by the City in each of its 2012 through 2016 fiscal years.

	2012	2013	2014	2015	2016
			(In Millions)		
Unrestricted Intergovernmental Aid	$25	—	$1	$1	$6

Federal and State Categorical Grants

The City makes certain expenditures for services required by federal and State mandates which are then wholly or partially reimbursed through federal and State categorical grants. State categorical grants are received by the City primarily in connection with City welfare, education, higher education, health and mental health expenditures. The City also receives substantial federal categorical grants in connection with the federal Community Development Block Grant Program ("Community Development"). The federal government also provides the City with substantial public assistance, social service and education grants as well as reimbursement for all or a portion of certain costs incurred by the City in maintaining programs in a number of areas, including housing, criminal justice and health. All City claims for federal and State grants are subject to subsequent audit by federal and State authorities. Certain claims submitted to the State Medicaid program by the City are the subject of investigation by the Office of the Inspector General of the United States Department of Health and Human Services ("OIG"). For a discussion of claims for which a final audit report has been issued by OIG, see "SECTION IX: OTHER INFORMATION—Litigation—*Miscellaneous*." The City provides a reserve for disallowances resulting from these audits which could be asserted in subsequent years. Federal grants are also subject to audit under the Single Audit Act Amendments of 1996. For a further discussion of federal and State categorical grants, see "SECTION VII: FINANCIAL PLAN—Assumptions—*Revenue Assumptions*—5. FEDERAL AND STATE CATEGORICAL GRANTS." For information regarding certain recent developments, see "SECTION II: RECENT FINANCIAL DEVELOPMENTS."

The following table sets forth amounts of federal and State categorical grants received by the City for each of the City's 2012 through 2016 fiscal years.

	2012	2013	2014	2015	2016
			(In Millions)		
Federal(1)					
Community Development(2)	$ 225	$ 566	$ 337	$ 537	$ 780
Social Services	3,290	3,315	3,206	3,076	3,225
Education	1,861	1,873	1,672	1,677	1,698
Other(3)	1,802	2,866	1,747	1,692	1,691
Total	$ 7,178	$ 8,620	$ 6,962	$ 6,982	$ 7,394
State					
Social Services	$ 1,533	$ 1,509	$ 1,415	$ 1,410	$ 1,490
Education	8,012	7,933	7,907	9,131	9,612
Higher Education	179	200	221	227	239
Health and Mental Health	536	495	454	364	535
Other	854	890	919	965	1,126
Total	$11,114	$11,027	$10,916	$12,097	$13,002

(1) Federal funding includes amounts received under the American Recovery and Reinvestment Act of $444.7 million, $377.6 million, $296 million, $230 million and $203 million in fiscal years 2012 through 2016, respectively.

(2) Amounts represent actual funds received and may be lower or higher than the appropriation of funds actually provided by the federal government for the particular fiscal year due either to underspending or the spending of funds carried forward from prior fiscal years. Community Development includes $367.2 million, $145.5 million, $338.7 million and $669.4 million in fiscal years 2013 through 2016, respectively, in disaster recovery funding for storm damage remediation as a result of Superstorm Sandy.

(3) Other includes $1.228 billion, $154.4 million, $48.0 million and $74.5 million in fiscal years 2013 through 2016, respectively, of FEMA funding for expenditures for storm damage remediation as a result of Superstorm Sandy.

SECTION V: CITY SERVICES AND EXPENDITURES

Expenditures for City Services

Three types of governmental agencies provide public services within the City's borders and receive financial support from the City. One category is the mayoral agencies established by the City Charter which include, among others, the Police, Fire and Sanitation Departments. Another is the independent agencies which are funded in whole or in part through the City Budget by the City but which have greater independence in the use of appropriated funds than the mayoral agencies. Included in this category are certain Covered Organizations such as NYCHH and the Transit Authority. A third category consists of certain public benefit corporations ("PBCs") which were created to finance the construction of housing, hospitals, dormitories and other facilities and to provide other governmental services in the City. The legislation establishing this type of agency contemplates that annual payments from the City, appropriated through its Expense Budget, may or will constitute a substantial part of the revenues of the agency. Included in this category is, among others, the City University Construction Fund ("CUCF"). For information regarding expenditures for City services, see "SECTION VI: FINANCIAL OPERATIONS—2012-2016 Summary of Operations."

Federal and State laws require the City to provide certain social services for needy individuals and families who qualify for such assistance. The City receives federal Temporary Assistance for Needy Families ("TANF") block grant funds through the State for the Family Assistance Program. The Family Assistance Program provides benefits for households with minor children subject, in most cases, to a five-year time limit. The Safety Net Assistance Program provides benefits for adults without minor children, families who have reached the Family Assistance Program time limit, and others, including certain immigrants, who are ineligible for the Family Assistance Program but are eligible for public assistance. Historically, the cost of the Safety Net Assistance Program was borne equally by the City and the State. In the 2011-2012 State Budget the State implemented new funding formulas, increasing the City share of the Safety Net Assistance Program to 71% and eliminating the City Share of 25% for the Family Assistance Program by fully funding it with TANF block grant funds.

The City also provides funding for many other social services, such as day care, foster care, family planning, services for the elderly and special employment services for welfare recipients, some of which are mandated, and may be wholly or partially subsidized, by either the federal or State government. See "SECTION VII: FINANCIAL PLAN—Assumptions—*Revenue Assumptions*—5. FEDERAL AND STATE CATEGORICAL GRANTS."

In July 2002, the Board of Education was replaced by the City's Department of Education (the "DOE") which is overseen by a Chancellor, appointed by the Mayor, and the 13-member Panel for Educational Policy where the Mayor appoints eight members including the Chancellor, and the Borough Presidents each appoint one member. The number of pupils in the school system is estimated to be approximately 1.1 million in each of the 2017 through 2021 fiscal years. Actual enrollment in fiscal years 2012 through 2016 has been 1,043,689, 1,051,653, 1,062,275, 1,073,445 and 1,081,324, respectively. See "SECTION VII: FINANCIAL PLAN—Assumptions—*Expenditure Assumptions*—2. OTHER THAN PERSONAL SERVICES COSTS—*Department of Education.*" The City's system of higher education, consisting of its Senior Colleges and Community Colleges, is operated under the supervision of the City University of New York ("CUNY"). The City is projected to provide approximately 39.2% of the costs of the Community Colleges in the 2017 fiscal year. The State has full responsibility for the costs of operating the Senior Colleges, although the City is required initially to fund these costs which are then reimbursed by the State.

The City administers health services programs for the care of the physically and mentally ill and the aged. NYCHH maintains and operates the City's 11 municipal acute care hospitals, five long-term care facilities, six free standing diagnostic and treatment centers, a certified home health-care program, many hospital-based and neighborhood clinics and a health maintenance organization. NYCHH is funded primarily by third party reimbursement collections from Medicare and Medicaid and by payments from bad debt/charity care pools, with significant contributions from the City. See "SECTION VII: FINANCIAL PLAN—Assumptions—*New York City Health and Hospitals*."

Medicaid provides basic medical assistance to needy persons. The City is required by State law to furnish medical assistance through Medicaid to all City residents meeting eligibility requirements established by the State. Prior to State legislation in fiscal year 2006 capping City Medicaid payments, the State had assumed 81.2% of the non-federal share of long-term care costs, all of the costs of providing medical assistance to the mentally disabled, and 50% of the non-federal share of Medicaid costs for all other clients. As a result of State legislation in fiscal years 2006 and 2012 capping City Medicaid payments, the State percentage of the non-federal share may vary. The federal government pays 50% of Medicaid costs for federally eligible recipients and a higher share for federally eligible childless adults.

The City's Expense Budget increased during the five-year period ended June 30, 2016, due to, among other factors, the increasing costs of pensions and Medicaid, the costs of labor settlements and the impact of inflation on various other than personal services costs.

Employees and Labor Relations

Employees

The following table presents the number of full-time and full-time equivalent employees of the City, including the mayoral agencies, the DOE and CUNY, at the end of each of the City's 2012 through 2016 fiscal years.

	2012	2013	2014	2015	2016
Education	132,273	132,469	134,426	137,078	141,311
Police	50,325	50,549	50,565	50,851	51,929
Social Services, Homeless and Children's Services	21,963	21,738	21,341	21,639	21,805
City University Community Colleges and Hunter Campus Schools	7,849	8,399	8,633	8,749	8,979
Environmental Protection and Sanitation	14,738	14,824	14,890	15,258	15,710
Fire	15,404	15,512	15,565	16,301	16,845
All Other	50,998	52,403	51,929	53,527	56,513
Total	293,550	295,894	297,349	303,403	313,092

The following table presents the number of full-time employees of certain Covered Organizations, as reported by such Organizations, at the end of each of the City's 2012 through 2016 fiscal years.

	2012	2013	2014	2015	2016
Transit Authority	44,963	45,300	46,271	46,862	47,354
Housing Authority	11,293	11,398	11,311	11,251	10,796
NYCHH	36,335	35,455	35,554	36,691	37,650
Total(1)	92,591	92,153	93,136	94,804	95,800

(1) The definition of "full-time employees" varies among the Covered Organizations and the City.

The foregoing tables include persons whose salaries or wages are paid by certain public employment programs, including programs funded under the Workforce Investment Act, which support employees in non-profit and State agencies as well as in the mayoral agencies and the Covered Organizations.

Labor Relations

Substantially all of the City's full-time employees are members of labor unions. For those employees, wages, hours or working conditions may be changed only as provided for under collective bargaining agreements. Although State law prohibits strikes by municipal employees, strikes and work stoppages by employees of the City and the Covered Organizations have occurred.

Collective bargaining for City employees is under the jurisdiction of either the New York City Office of Collective Bargaining, which was created under the New York City Collective Bargaining Law, or the New York State Public Employment Relations Board ("PERB"), which was created under the State Employees Fair Employment Act. Collective bargaining matters relating to police, firefighters and pedagogical employees are under the jurisdiction of PERB. Under applicable law, the terms of future wage settlements could be determined through an impasse procedure which, except in the case of pedagogical employees, can result in the imposition of a binding settlement. Pedagogical employees do not have access to binding arbitration but are covered by a fact-finding impasse procedure under which a binding settlement may not be imposed. Although the impasse procedure may not impose a binding settlement, it may influence ongoing collective bargaining.

For information regarding the City's assumptions with respect to the current status of the City's agreements with its labor unions, the cost of future labor settlements and related effects on the Financial Plan, see "SECTION VII: FINANCIAL PLAN—Assumptions—*Expenditure Assumptions*—1. PERSONAL SERVICES COSTS."

Pensions

The City maintains a number of pension systems providing benefits for its employees and employees of various independent agencies (including certain Covered Organizations). For further information regarding the City's pension systems and the City's obligations thereto, see "SECTION IX: OTHER INFORMATION—Pension Systems."

Capital Expenditures

The City makes substantial capital expenditures to reconstruct, rehabilitate and expand the City's infrastructure and physical assets, including City mass transit facilities, water and sewer facilities, streets, bridges and tunnels, and to make capital investments that will improve productivity in City operations. For additional information regarding the City's infrastructure, physical assets and capital program, see "SECTION VII: FINANCIAL PLAN—Long-Term Capital Program" and "—Financing Program."

The City utilizes a three-tiered capital planning process consisting of the Ten-Year Capital Strategy (previously, the Ten-Year Capital Plan), the four-year capital plan and the current-year Capital Budget. The Ten-Year Capital Strategy, which is published once every two years in conjunction with the Executive Budget as required by the City Charter, is a long-term planning tool designed to reflect fundamental allocation choices and basic policy objectives. The four-year capital plan, which is updated three times a year, as required by the City Charter, translates mid-range policy goals into specific projects. The Capital Budget defines for each fiscal year specific projects and the timing of their initiation, design, construction and completion.

On April 26, 2017, the City published the Ten-Year Capital Strategy for fiscal years 2018 through 2027. The Ten-Year Capital Strategy totals $95.8 billion, of which approximately 93% would be financed with City funds. See "SECTION VIII: INDEBTEDNESS—Indebtedness of the City and Certain Other Entities—*Limitations on the City's Authority to Contract Indebtedness.*"

The Ten-Year Capital Strategy includes, among other items: (i) $20.9 billion to construct new schools and improve existing educational facilities; (ii) $18.1 billion for improvements to the water and sewer system; (iii) $10.9 billion for expanding and upgrading the City's housing stock; (iv) $5.9 billion for reconstruction or resurfacing of City streets; (v) $655.0 million for continued City-funded investment in mass transit; (vi) $8.2 billion for the continued reconstruction and rehabilitation of all four East River bridges and 108 other bridge structures; (vii) $2.0 billion to expand current jail capacity; and (viii) $1.8 billion for construction and improvement of court facilities.

Those programs in the Ten-Year Capital Strategy financed with City funds are currently expected to be funded primarily from the issuance of bonds by the City, the Water Authority and the TFA. From time to time, during recessionary periods when operating revenues have come under increasing pressure, capital funding levels have been reduced from those previously contemplated in order to reduce debt service costs. For information concerning the City's long-term financing program for capital expenditures, see "SECTION VII: FINANCIAL PLAN—Financing Program."

The City's capital expenditures, including expenditures funded by State and federal grants, totaled $40.6 billion during the 2012 through 2016 fiscal years. City-funded expenditures, which totaled $34.0 billion during the 2012 through 2016 fiscal years, have been financed through the issuance of bonds by the City, the TFA and the Water Authority. The following table summarizes the major categories of capital expenditures in the City's 2012 through 2016 fiscal years.

	2012	2013	2014	2015	2016	Total
			(In Millions)			
Education	$1,877	$1,803	$2,107	$2,631	$2,475	$10,894
Environmental Protection	2,406	1,844	1,578	1,373	1,378	8,579
Transportation	1,044	1,031	902	758	1,032	4,767
Transit Authority(1)	131	123	36	115	231	636
Housing	349	414	428	561	753	2,505
Hospitals	169	286	197	136	104	892
Sanitation	322	353	264	246	324	1,508
All Other(2)	2,133	2,531	2,391	2,016	1,784	10,855
Total Expenditures(3)	$8,431	$8,385	$7,903	$7,836	$8,080	$40,635
City-funded Expenditures(4)	$6,994	$6,888	$7,468	$5,949	$6,676	$33,976

(1) Excludes the Transit Authority's non-City portion of the Metropolitan Transportation Authority ("MTA") capital program.

(2) All Other includes, among other things, parks, correction facilities, public structures and equipment.

(3) Total Expenditures for the 2012 through 2016 fiscal years include City, State and federal funding and represent amounts which include an accrual for work-in-progress. These figures are derived from the CAFR.

(4) City-funded Expenditures do not include accruals, but represent actual cash disbursements occurring during the fiscal year.

The City annually issues a condition assessment and a proposed maintenance schedule for the major portion of its assets and asset systems which have a replacement cost of $10 million or more and a useful life of at least ten years, as required by the City Charter. For information concerning a report which sets forth the recommended capital investment to bring certain identified assets of the City to a state of good repair, see "SECTION VII: FINANCIAL PLAN—Long-Term Capital Program."

SECTION VI: FINANCIAL OPERATIONS

The City's Basic Financial Statements and the independent auditors' opinion thereon are presented in "APPENDIX B—FINANCIAL STATEMENTS." Further details are set forth in the CAFR for the fiscal year ended June 30, 2016, which is available for inspection at the Office of the Comptroller and at www.comptroller.nyc.gov. For a summary of the City's significant accounting policies, see "APPENDIX B—FINANCIAL STATEMENTS—Notes to Financial Statements—Note A." For a summary of the City's operating results for the previous five fiscal years, see "2012-2016 Summary of Operations" below.

Except as otherwise indicated, all of the financial data relating to the City's operations contained herein, although derived from the City's books and records, are unaudited. In addition, neither the City's independent auditors, nor any other independent accountants, have compiled, examined or performed any procedures with respect to the Financial Plan or other estimates or projections contained elsewhere herein, nor have they expressed any opinion or any other form of assurance on such prospective financial information or its achievability, and assume no responsibility for, and disclaim any association with, all such prospective financial information.

The Financial Plan is prepared in accordance with standards set forth in the Financial Emergency Act and the City Charter. The Financial Plan contains projections and estimates that are based on expectations and assumptions which existed at the time such projections and estimates were prepared. The estimates and projections contained in this Section and elsewhere herein are based on, among other factors, evaluations of historical revenue and expenditure data, analyses of economic trends and current and anticipated federal and State legislation affecting the City's finances. The City's financial projections are based upon numerous assumptions and are subject to certain contingencies and periodic revisions which may involve substantial change. This prospective information is not fact and should not be relied upon as being necessarily indicative of future results. The City makes no representation or warranty that these estimates and projections will be realized. The estimates and projections contained in this Section and elsewhere herein were not prepared with a view towards compliance with the guidelines established by the American Institute of Certified Public Accountants with respect to prospective financial information.

2012-2016 Summary of Operations

The following table sets forth the City's results of operations for its 2012 through 2016 fiscal years in accordance with GAAP.

The information regarding the 2012 through 2016 fiscal years has been derived from the City's audited financial statements and should be read in conjunction with the notes accompanying this table and the City's 2015 and 2016 financial statements included in "APPENDIX B—FINANCIAL STATEMENTS." The 2012 through 2014 financial statements are not separately presented herein. For further information regarding the City's revenues and expenditures, see "SECTION IV: SOURCES OF CITY REVENUES" and "SECTION V: CITY SERVICES AND EXPENDITURES."

	Fiscal Year(1)				
	Actual				
	2012	2013	2014	2015	2016
	(In Millions)				
Revenues and Transfers					
Real Estate Tax(2)	$18,158	$18,970	$20,202	$21,518	$23,181
Other Taxes(3)(4)	23,953	26,752	28,173	30,423	30,440
Miscellaneous Revenues(3)	5,247	4,657	5,622	6,216	5,104
Other Categorical Grants	1,141	1,062	1,023	908	861
Unrestricted Federal and State Aid	25	—	1	1	6
Federal Categorical Grants	7,178	8,620	6,962	6,982	7,394
State Categorical Grants	11,114	11,027	10,916	12,097	13,002
Disallowances Against Categorical Grants	166	(59)	(18)	(110)	(1)
Total Revenues and Transfers(5)	$66,982	$71,029	$72,881	$78,035	$79,987
Expenditures and Transfers					
Social Services	$13,259	$13,433	$13,473	$13,844	$13,801
Board of Education	19,129	19,129	18,672	20,458	21,974
City University	750	802	853	904	956
Public Safety and Judicial	8,240	8,385	8,472	8,827	9,326
Health Services	1,608	1,856	1,622	1,708	2,667
Pensions(6)	7,830	8,054	8,141	8,490	9,171
Debt Service(3)(7)	4,257	6,333	4,798	7,421	5,874
All Other(8)	11,904	13,032	16,845	16,378	16,213
Total Expenditures and Transfers(5)	$66,977	$71,024	$72,876	$78,030	79,982
Surplus(9)	$ 5	$ 5	$ 5	$ 5	$ 5

(1) The City's results of operations refer to the City's General Fund revenues and transfers reduced by expenditures and transfers. The revenues and assets of PBCs included in the City's audited financial statements do not constitute revenues and assets of the City's General Fund, and, accordingly, the revenues of such PBCs are not included in the City's results of operations. Expenditures required to be made and revenues earned by the City with respect to such PBCs are included in the City's results of operations. For further information regarding the particular PBCs included in the City's financial statements, see "APPENDIX B—FINANCIAL STATEMENTS—Notes to Financial Statements—Note A."

(2) In fiscal years 2012 through 2016, Real Estate Tax includes $212.2 million, $219.1 million, $224.6 million, $201 million and $207 million, respectively, which was provided to the City by the State as a reimbursement for the reduced property tax revenues resulting from the State's STAR Program.

(3) Other Taxes includes as revenues to the City the personal income tax revenues retained by the TFA of $617 million, $1.006 billion, $1.641 billion, $556 million and $180 million in fiscal years 2012 through 2016, respectively. Debt Service includes as a debt service expense the funding requirements associated with TFA Future Tax Secured Bonds of $617 million, $1.006 billion, $1.641 billion, $556 million and $180 million in fiscal years 2012 through 2016, respectively. Debt Service does not include debt service on TSASC bonds. Miscellaneous Revenues includes TSRs that are not retained by TSASC for debt service and operating expenses.

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(4) Other Taxes includes transfers of net OTB revenues. Other Taxes includes tax audit revenues. For further information regarding the City's revenues from Other Taxes, see "SECTION IV: SOURCES OF CITY REVENUES—Other Taxes."

(5) Total Revenues and Transfers and Total Expenditures and Transfers exclude Inter-Fund Revenues.

(6) For information regarding pension expenditures, see "SECTION IX: OTHER INFORMATION."

(7) Debt Service includes grants to the TFA of $879 million, $1.362 billion, $1.578 billion and $1.734 billion in fiscal years 2012, 2014, 2015 and 2016, respectively, which were used by the TFA to pay debt service in the following fiscal year thereby decreasing the TFA funding requirements.

(8) All Other includes payments into the Retiree Health Benefits Trust Fund of $955 million and $500 million in fiscal years 2015 and 2016, respectively.

(9) Surplus is the surplus after discretionary and other transfers and expenditures. The City had general fund operating revenues exceeding expenditures of $2.467 billion, $2.812 billion, $2.011 billion, $3.606 billion and $4.043 billion before discretionary and other transfers and expenditures for the 2012 through 2016 fiscal years, respectively. Discretionary and other transfers are included in Debt Service and All Other.

Forecast of 2017 Results

The following table compares the forecast for the 2017 fiscal year contained in the financial plan, submitted to the Control Board in June 2016 (the "June 2016 Forecast"), with the forecast contained in the Financial Plan, which was submitted to the Control Board on April 26, 2017 (the "April 2017 Forecast"). Each forecast was prepared on a basis consistent with GAAP except for the application of GASB 49. For information regarding recent developments, see "SECTION II: RECENT FINANCIAL DEVELOPMENTS."

	June 2016 Forecast	April 2017 Forecast	Increase/(Decrease) from June 2016 Forecast
		(In Millions)	
REVENUES			
Taxes			
General Property Tax	$24,025	$24,402	$ 377 (1)
Other Taxes	29,904	29,193	(711)(2)
Tax Audit Revenue	714	1,251	537 (3)
Subtotal — Taxes	$54,643	$54,846	$ 203
Miscellaneous Revenues	6,407	7,011	604 (4)
Unrestricted Intergovernmental Aid	—	57	57
Less: Intra-City Revenues	(1,764)	(2,065)	(301)
Disallowances Against Categorical Grants	(15)	613	628
Subtotal – City Funds	$59,271	$60,462	$1,191
Other Categorical Grants	853	976	123 (5)
Inter-Fund Revenues	646	641	(5)
Federal Categorical Grants	7,673	8,937	1,264 (6)
State Categorical Grants	13,673	14,437	764 (7)
Total Revenues	$82,116	$85,453	$3,337
EXPENDITURES			
Personal Services			
Salaries and Wages	$25,745	$25,759	$ 14
Pensions	9,422	9,395	(27)
Fringe Benefits	9,679	9,456	(223)(8)
Total – Personal Services	$44,846	$44,610	$ (236)
Other Than Personal Services			
Medical Assistance	5,915	5,915	—
Public Assistance	1,584	1,584	—
All Other	27,450	29,138	1,688 (9)
Total – Other Than Personal Services	$34,949	$36,637	$1,688
General Obligation, Lease and TFA Debt Service	6,579	6,282	(297) (10)
FY 2016 Budget Stabilization	(3,994)	(4,038)	(44) (11)
FY 2017 Budget Stabilization	—	3,727	3,727 (12)
Capital Stabilization Reserve	500	—	(500)(13)
General Reserve	1,000	300	(700)
Total Expenditures	$83,880	$87,518	$3,638
Less: Intra-City Expenses	(1,764)	(2,065)	(301)
Net Total Expenditures	$82,116	$85,453	$3,337

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(1) The increase in General Property Tax is from a reduction in the reserve for uncollectible taxes of $207 million, a reduction in refunds of $150 million and an increase in lien sale proceeds of $20 million.

(2) The decrease in Other Taxes is due to decreases of $267 million in personal income tax, $213 million in real property transfer tax, $122 million in sales tax, $80 million in general corporation tax, $75 million in banking corporation tax, and $34 million in unincorporated business tax, $11 million in mortgage recording tax and $4 million in utility tax offset by increases of $53 million in all other taxes, $30 million in hotel tax, $11 million in commercial rent tax, and $1 million in cigarette tax.

(3) The increase in Tax Audit Revenue is primarily from an increase in banking corporation tax audits and general corporate tax audits.

(4) The increase in Miscellaneous Revenues is due to increases of $122 million in miscellaneous other revenues, $51 million in fines and forfeitures, $39 million in permit, $37 million in rental income, $34 million in charges, $23 million in franchises, $20 million in licenses, $14 million in interest income, and $301 million in intra-city revenues, offset by a decrease of $37 million in water and sewer charges.

(5) The increase in Other Categorical Grants is due to increases of $49 million in education funding, $21 million in health and mental hygiene funding, $20 million in housing preservation and development funding, $16 million in parks department funding, $15 million in police department funding, $10 million in department of small business services funding, $10 million in information technology and telecommunications department funding, $9 million in environmental protection funding and $20 million in other agencies funding, offset by a decrease of $47 million in debt service funding.

(6) The increase in Federal Categorical Grants is due to increases of $365 million in community development funding, primarily disaster recovery funding, $196 million in police department funding, $176 million in homeless services funding, $116 million in social services funding, $74 million in fire department funding, $62 million in health and mental hygiene funding, $53 million in children services funding, $43 million in transportation funding, $36 million in youth and community development funding, $30 million in mayoral agency funding, $26 million in small business services funding, $18 million in housing preservation and development funding, $10 million in emergency management funding, and $59 million in other agencies funding.

(7) The increase in State Categorical Grants is due to increases of $178 million in transportation funding, $161 million in children services funding, $93 million in health and mental hygiene funding, $92 million in police department funding, $83 million in education funding, $68 million in miscellaneous agency funding, $30 million in social services funding, $17 million in homeless services funding, $17 million in district attorney funding and $25 million in other agencies funding.

(8) The reduction in Fringe Benefits is mainly due to baseline reductions in active and retiree health insurance expenses to reflect a lower estimate of the number of eligible actives and retirees.

(9) The increase in Other Than Personal Services—All Other is primarily due to an increase of $1.364 billion in budget modifications reflecting increases in federal and categorical expenditures which are offset by federal and categorical grants, and by an increase of $324 million in net agency expenditures.

(10) The decrease in General Obligation, Lease and TFA Debt Service is primarily due to lower actual interest rates on floating rate obligations and elimination of a projected cash flow borrowing.

(11) FY 2016 Budget Stabilization reflects the discretionary transfer of $1.760 billion into the General Debt Service Fund, $1.734 billion to the TFA and $100 million for lease debt in fiscal year 2016 for debt service due in fiscal year 2017, payments of $400 million of subsidies to NYCHH in fiscal year 2016 otherwise due in fiscal year 2017 and a net equity contribution in bond refunding of $44 million.

(12) FY 2017 Budget Stabilization reflects the discretionary transfer of $1.419 billion into the General Debt Service Fund and $400 million into the Retiree Health Benefits Trust and a grant of $1.909 billion to the TFA in fiscal year 2017 for debt service due in fiscal year 2018.

(13) The decrease in the Capital Stabilization Reserve reflects a reallocation from fiscal year 2017 to fiscal years 2018 through 2021 in the amount of $250 million annually.

SECTION VII: FINANCIAL PLAN

The following table sets forth the City's projected operations on a basis consistent with GAAP, except for the application of GASB 49, for the 2017 through 2021 fiscal years as contained in the Financial Plan. This table should be read in conjunction with the accompanying notes, "Actions to Close the Remaining Gaps" and "Assumptions" below. For information regarding recent developments, see "SECTION II: RECENT FINANCIAL DEVELOPMENTS."

	Fiscal Years(1)(2)				
	2017	**2018**	**2019**	**2020**	**2021**
			(In Millions)		
REVENUES					
Taxes					
General Property Tax(3)	$24,402	$25,629	$27,292	$28,618	$29,929
Other Taxes(4)(5)	29,193	29,989	31,237	32,453	33,685
Tax Audit Revenue	1,251	850	721	721	721
Subtotal – Taxes	$54,846	$56,468	$59,250	$61,792	$64,335
Miscellaneous Revenues(6)	7,011	6,480	6,640	6,854	6,841
Unrestricted Intergovernmental Aid	57	—	—	—	—
Less: Intra-City Revenues	(2,065)	(1,815)	(1,737)	(1,739)	(1,744)
Disallowances Against Categorical Grants	613	(15)	(15)	(15)	(15)
Subtotal – City Funds	$60,462	$61,118	$64,138	$66,892	$69,417
Other Categorical Grants	976	880	868	859	856
Inter-Fund Revenues(7)	641	667	662	599	597
Federal Categorical Grants	8,937	7,799	7,002	6,897	6,879
State Categorical Grants	14,437	14,396	14,849	15,347	15,702
Total Revenues	$85,453	$84,860	$87,519	$90,594	$93,451
EXPENDITURES					
Personal Services					
Salaries and Wages	$25,759	$27,306	$28,625	$29,425	$30,064
Pension	9,395	9,572	9,866	9,936	10,001
Fringe Benefits	9,456	10,119	10,795	11,694	12,483
Subtotal – Personal Services	$44,610	$46,997	$49,286	$51,055	$52,548
Other Than Personal Services					
Medical Assistance	5,915	5,915	5,915	5,915	5,915
Public Assistance	1,584	1,594	1,605	1,617	1,617
All Other(8)	29,138	28,118	27,565	27,571	27,789
Subtotal – Other Than Personal Services	$36,637	$35,627	$35,085	$35,103	$35,321
General Obligation, Lease and TFA Debt Service(9)	6,282	6,528	7,225	7,908	8,396
FY 2016 Budget Stabilization(10)	(4,038)	—	—	—	—
FY 2017 Budget Stabilization(11)	3,727	(3,727)	—	—	—
Capital Stabilization Reserve(12)	—	250	250	250	250
General Reserve	300	1,000	1,000	1,000	1,000
Subtotal	$87,518	$86,675	$92,846	$95,316	$97,515
Less: Intra-City Expenses	(2,065)	(1,815)	(1,737)	(1,739)	(1,744)
Total Expenditures	$85,453	$84,860	$91,109	$93,577	$95,771
Gap to be Closed	$ —	$ —	$ (3,590)	$ (2,983)	$ (2,320)

(1) The four year financial plan for the 2017 through 2020 fiscal years, as submitted to the Control Board on June 5, 2016, contained the following projections for the 2017-2020 fiscal years: (i) for 2017, total revenues of $82.116 billion and total expenditures of $82.116 billion; (ii) for 2018, total revenues of $84.456 billion and total expenditures of $87.272 billion, with a gap to be closed of $2.816 billion; (iii) for 2019, total revenues of $87.479 billion and total expenditures of $90.454 billion, with a gap to be closed of $2.945 billion; and (iv) for 2020, total revenues of $90.363 billion and total expenditures of $92.689 billion, with a gap to be closed of $2.326 billion.

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The four year financial plan for the 2016 through 2019 fiscal years, as submitted to the Control Board on June 26, 2015, contained the following projections for the 2016-2019 fiscal years: (i) for 2016, total revenues of $78.528 billion and total expenditures of $78.528 billion; (ii) for 2017, total revenues of $80.729 billion and total expenditures of $82.194 billion, with a gap to be closed of $1.465 billion; (iii) for 2018, total revenues of $82.699 billion and total expenditures of $84.606 billion, with a gap to be closed of $1.907 billion; and (iv) for 2019, total revenues of $85.015 billion and total expenditures of $87.868 billion, with a gap to be closed of $2.853 billion.

The four year financial plan for the 2015 through 2018 fiscal years, as submitted to the Control Board on June 26, 2014, contained the following projections for the 2015-2018 fiscal years: (i) for 2015, total revenues of $75.027 billion and total expenditures of $75.027 billion; (ii) for 2016, total revenues of $76.595 billion and total expenditures of $79.220 billion, with a gap to be closed of $2.625 billion; (iii) for 2017, total revenues of $78.937 billion and total expenditures of $80.808 billion, with a gap to be closed of $1.871 billion; and (iv) for 2018, total revenues of $80.933 billion and total expenditures of $84.026 billion, with a gap to be closed of $3.093 billion.

The four year financial plan for the 2014 through 2017 fiscal years, as submitted to the Control Board on June 27, 2013, contained the following projections for the 2014-2017 fiscal years: (i) for 2014, total revenues of $69.917 billion and total expenditures of $69.917 billion; (ii) for 2015, total revenues of $72.587 billion and total expenditures of $74.552 billion, with a gap to be closed of $1.965 billion; (iii) for 2016, total revenues of $74.937 billion and total expenditures of $76.706 billion, with a gap to be closed of $1.769 billion; and (iv) for 2017, total revenues of $77.439 billion and total expenditures of $78.821 billion, with a gap to be closed of $1.382 billion.

(2) The Financial Plan combines the operating revenues and expenditures of the City, the DOE and CUNY. The Financial Plan does not include the total operations of NYCHH, but does include the City's subsidy to NYCHH and the City's share of NYCHH revenues and expenditures related to NYCHH's role as a Medicaid provider. Certain Covered Organizations and PBCs which provide governmental services to the City, such as the Transit Authority, are separately constituted and their revenues, are not included in the Financial Plan; however, City subsidies and certain other payments to these organizations are included. Revenues and expenditures are presented net of intra-City items, which are revenues and expenditures arising from transactions between City agencies.

(3) For a description of the STAR Program, and other real estate tax assumptions, see "SECTION VII: FINANCIAL PLAN—Assumptions—*Revenue Assumptions*—2. REAL ESTATE TAX."

(4) Personal income taxes flow directly from the State to the TFA, and from the TFA to the City only to the extent not required by the TFA for debt service, reserves, operating expenses and contractual and other obligations incurred pursuant to the TFA indenture. Sales taxes will flow directly from the State to the TFA to the extent necessary to provide statutory coverage. Other Taxes includes amounts that are expected to be retained by the TFA for its funding requirements associated with TFA Future Tax Secured Bonds.

(5) For Financial Plan assumptions, see "SECTION VII: FINANCIAL PLAN—Assumptions—*Revenue Assumptions*—3. OTHER TAXES."

(6) Miscellaneous Revenues reflects the receipt by the City of TSRs not used by TSASC for debt service and other expenses. For information on TSASC, see "SECTION IV: SOURCES OF CITY REVENUES—Miscellaneous Revenues."

(7) Inter-Fund Revenues represents General Fund expenditures, properly includable in the Capital Budget, made on behalf of the Capital Projects Fund pursuant to inter-fund agreements.

(8) For a discussion of the categories of expenditures in Other Than Personal Services—All Other, see "SECTION VII: FINANCIAL PLAN—Assumptions—*Expenditure Assumptions*—2. OTHER THAN PERSONAL SERVICES COSTS."

(9) For a discussion of the debt service in General Obligation, Lease and TFA Debt Service, see "SECTION VII: FINANCIAL PLAN—Assumptions—*Expenditure Assumptions*—3. GENERAL OBLIGATION, LEASE AND TFA DEBT SERVICE."

(10) FY 2016 Budget Stabilization reflects the discretionary transfer of $1.760 billion into the General Debt Service Fund, $1.734 billion to the TFA and $100 million for lease debt in fiscal year 2016 for debt service due in fiscal year 2017, payments of $400 million of subsidies to NYCHH in fiscal year 2016 otherwise due in fiscal year 2017 and a net equity contribution in bond refunding of $44 million.

(11) FY 2017 Budget Stabilization reflects the discretionary transfer of $1.419 billion into the General Debt Service Fund and $400 million into the Retiree Health Benefits Trust and a grant of $1.909 billion to the TFA in fiscal year 2017 for debt service due in fiscal year 2018.

(12) The Capital Stabilization Reserve reflects a capital reserve which will be available to make capital projects more efficient and to make capital investments more efficient or for debt retirement in an economic downturn.

Implementation of various measures in the Financial Plan may be uncertain. If these measures cannot be implemented, the City will be required to take actions to decrease expenditures or increase revenues to maintain a balanced financial plan. See "Assumptions" and "Certain Reports" below.

Actions to Close the Remaining Gaps

Although the City has maintained balanced budgets in each of its last 36 fiscal years, except for the application of GASB 49 with respect to fiscal years 2010 through 2016, and is projected to achieve balanced operating results for the 2017 and 2018 fiscal years, except for the application of GASB 49, there can be no assurance that the Financial Plan or future actions to close projected outyear gaps can be successfully implemented or that the City will maintain a balanced budget in future years without additional State aid, revenue increases or expenditure reductions. Additional tax increases and reductions in essential City services could adversely affect the City's economic base.

Assumptions

The Financial Plan is based on numerous assumptions, including the condition of the City's and the region's economies and the concomitant receipt of economically sensitive tax revenues in the amounts projected. The Financial Plan is subject to various other uncertainties and contingencies relating to, among other factors, the extent, if any, to which wage increases for City employees exceed the annual wage costs assumed; realization of projected earnings for pension fund assets and current assumptions with respect to wages for City employees affecting the City's required pension fund contributions; the willingness and ability of the State to provide the aid contemplated by the Financial Plan and to take various other actions to assist the City; the ability of NYCHH and other such entities to maintain balanced budgets; the willingness of the federal government to provide the amount of federal aid contemplated in the Financial Plan; the impact on City revenues and expenditures of federal and State legislation affecting Medicare or other entitlement programs; adoption of the City's budgets by the City Council in substantially the forms submitted by the Mayor; the ability of the City to implement cost reduction initiatives, and the success with which the City controls expenditures; the impact of conditions in the real estate market on real estate tax revenues; and the ability of the City and other financing entities to market their securities successfully in the public credit markets. See "SECTION II: RECENT FINANCIAL DEVELOPMENTS." Certain of these assumptions are reviewed in reports issued by the City Comptroller and other public officials. See "SECTION VII: FINANCIAL PLAN—Certain Reports."

The projections and assumptions contained in the Financial Plan are subject to revision, which may be substantial. No assurance can be given that these estimates and projections, which include actions the City expects will be taken but are not within the City's control, will be realized. For information regarding certain recent developments, see "SECTION II: RECENT FINANCIAL DEVELOPMENTS."

Revenue Assumptions

1. GENERAL ECONOMIC CONDITIONS

The Financial Plan assumes faster growth in economic activity in calendar year 2017 compared to calendar year 2016. The following table presents a forecast of the key economic indicators for the calendar years 2016 through 2021. This forecast is based upon information available in March 2017.

FORECAST OF KEY ECONOMIC INDICATORS

	Calendar Years					
	2016	2017	2018	2019	2020	2021
U.S. ECONOMY						
Economic Activity and Income						
Real GDP (billions of 2009 dollars)	16,660	17,036	17,466	17,868	18,283	18,686
Percent Change	1.6	2.3	2.5	2.3	2.3	2.2
Non-Agricultural Employment (millions)	144.3	146.5	148.4	149.9	151.4	152.5
Percent Change	1.8	1,6	1.3	1.0	1.0	0.7
CPI-All Urban (1982-84=100)	240	246	251	257	264	271
Percent Change	1.3	2.5	2.0	2.3	2.8	2.7
Wage Rate ($ per year)	56,750	58,644	61,017	63,534	66,146	69,017
Percent Change	2.5	3.3	4.0	4.1	4.1	4.3
Personal Income ($ billions)	16,012	16,729	17,586	18,506	19,442	20,382
Percent Change	3.6	4.5	5.1	5.2	5.1	4.8
Pre-Tax Corp Profits ($ billions)	2,195	2,345	2,482	2,522	2,538	2,588
Percent Change	2.7	6.8	5.8	1.6	0.6	2.0
Unemployment Rate (Percent)	4.9	4.6	4.3	4.1	4.2	4.3
10-Year Treasury Bond Rate	1.8	2.8	3.4	3.9	4.1	4.1
Federal Funds Rate	0.4	1.0	1.7	2.6	3.0	3.0
NEW YORK CITY ECONOMY						
Real Gross City Product (billions of 2009 dollars)	739	751	765	777	792	807
Percent Change	1.0	1.7	1.8	1.6	1.8	1.9
Non-Agricultural Employment (thousands)	4,341	4,394	4,439	4,474	4,508	4,542
Percent Change	2.0	1.2	1.0	0.8	0.8	0.8
CPI-All Urban NY-NJ Area (1982-84=100)	263	270	275	282	290	297
Percent Change	1.1	2.5	2.0	2.4	2.7	2.7
Wage Rate ($ per year)	86,757	89,193	92,537	95,991	99,716	103,750
Percent Change	1.1	2.8	3.7	3.7	3.9	4.0
Personal Income ($ billions)	557	577	600	625	651	676
Percent Change	3.0	3.7	3.9	4.2	4.2	3.9
NEW YORK REAL ESTATE MARKET						
Manhattan Primary Office Market						
Asking Rental Rate ($ per square foot)	78.40	80.00	79.71	79.28	79.41	78.94
Percent Change	2.2	2.0	-0.4	-0.5	0.2	-0.6
Vacancy Rate – Percent	10.0	9.5	10.2	12.1	12.0	11.7

Source: OMB.

2. REAL ESTATE TAX

Projections of real estate tax revenues are based on a number of assumptions, including, among others, assumptions relating to the tax rate, the assessed valuation of the City's taxable real estate, the delinquency rate, debt service needs, a reserve for uncollectible taxes and the operating limit. See "SECTION IV: SOURCES OF CITY REVENUES—Real Estate Tax."

Projections of real estate tax revenues include net revenues from the sale of real property tax liens of $80 million in each of fiscal years 2017 through 2021. Projections of real estate tax revenues include the effects of the STAR Program which will reduce the real estate tax revenues by an estimated $204 million in fiscal year

2017. Projections of real estate tax revenues reflect the estimated cost of extending the current tax reduction for owners of cooperative and condominium apartments amounting to $490 million, $518 million, $545 million $569 million and $594 million in fiscal years 2017 through 2021, respectively.

The delinquency rate was 1.7% in fiscal year 2012, 1.5% in fiscal year 2013, 1.4% in fiscal year 2014, 1.6% in fiscal year 2015 and 1.4% in fiscal year 2016. The Financial Plan projects delinquency rates of 1.9% in fiscal year 2017, 2.0% in fiscal year 2018 and 1.9% in fiscal years 2019 through 2021, respectively. For information concerning the delinquency rates for prior years, see "SECTION IV: SOURCES OF CITY REVENUES—Real Estate Tax—*Collection of the Real Estate Tax.*" For a description of proceedings seeking real estate tax refunds from the City, see "SECTION IX: OTHER INFORMATION—Litigation—*Taxes.*"

On April 24, 2017, a lawsuit was filed challenging the City's real property tax system and valuation methodology. See "SECTION IX: OTHER INFORMATION—Litigation—*Taxes*."

3. OTHER TAXES

The following table sets forth amounts of revenues (net of refunds) from taxes other than the real estate tax projected to be received by the City in the Financial Plan. The amounts set forth below exclude the Criminal Justice Fund and audit revenues.

	2017	2018	2019	2020	2021
		(In Millions)			
Personal Income(1)	$10,958	$11,655	$12,073	$12,624	$13,166
General Corporation	3,869	3,890	3,982	4,004	4,113
Banking Corporation	(75)	—	—	—	—
Unincorporated Business Income	2,026	2,137	2,242	2,371	2,502
Sales(2)	6,994	7,369	7,881	8,245	8,592
Commercial Rent	816	848	884	919	955
Real Property Transfer	1,345	1,364	1,400	1,461	1,490
Mortgage Recording	1,074	934	959	1,001	1,020
Utility	377	382	387	396	409
Cigarette	44	42	41	40	39
Hotel(3)	571	570	592	599	608
All Other(4)	1,194	798	796	794	792
Total	$29,193	$29,989	$31,237	$32,454	$33,686

Note: Totals may not add due to rounding.

(1) Personal Income includes $448 million, $292 million, $2.830 billion, $3.122 billion and $3.405 billion of personal income tax revenues projected to be retained by the TFA for debt service and other expenses in the 2017 through 2021 fiscal years, respectively. These projections reflect reductions in personal income tax revenues as a result of the State's STAR Program under law in effect at the date of the Financial Plan in the amount of $352 million in fiscal year 2017 and $333 million in each of fiscal years 2018 through 2021. The State will reimburse the City for reduced revenues resulting from the STAR Program.

(2) Sales tax includes the payment to the State pursuant to the State Enacted Budget of $200 million in fiscal year 2017 and $150 million in fiscal year 2018 that would otherwise be payable to the City, in order to provide the State with the benefit of savings from the refinancing of debt by STAR Corp. Sales tax does not include the payment to the State of an additional $50 million in fiscal year 2018 and $150 million in fiscal year 2019 pursuant to the State Enacted Budget. Reduction or elimination of such payments to the State would require State legislative action.

(3) Hotel includes the impact of an additional temporary hotel occupancy tax of 0.875 percent resulting in additional revenues of $84 million, $85 million, $89 million, $92 million and $92 million in fiscal years 2017 through 2021, respectively.

(4) All Other includes, among others, beer and liquor taxes and the automobile use tax. All Other also includes $556 million, $202 million, $200 million, $198 million and $196 million in fiscal years 2017 through 2021, respectively, to be provided to the City by the State as reimbursement for the reduced property tax and personal income tax revenues resulting from the STAR Program.

A May 18, 2015, U.S. Supreme Court decision found unconstitutional Maryland's collection of personal income taxes in relation to its treatment of resident and non-resident income. The City does not believe that this decision impacts the City's personal income tax structure or projected revenues at this time.

The Financial Plan reflects the following assumptions regarding projected baseline revenues from Other Taxes: (i) with respect to the personal income tax, a flat fiscal year 2017 reflecting continued employment and wage gains but declines in non-wage income and growth in fiscal years 2018 through 2021 reflecting steady economic growth; (ii) with respect to business corporation tax, growth in fiscal years 2017 through 2021 reflecting the levels of Wall Street profitability, corporate profits and steady economic growth (major changes in State law merged the general corporation tax with the banking corporation tax effective beginning in tax year 2015, resulting in nearly all banking corporation tax payments beginning with fiscal year 2016 being reported as business corporation tax payments); (iii) with respect to the unincorporated business tax, a slight growth decline in fiscal year 2017 reflecting the impact of continuing global volatility in the financial markets as well as concerns resulting from the United States presidential election and a return to trend growth for fiscal year 2018 through fiscal year 2021 reflecting steady economic growth; (iv) with respect to the sales tax, mild growth in fiscal year 2017 reflecting employment and wage growth dampened by the payment to the State of $200 million in sales tax otherwise payable to the City, in order to provide the State with the benefit of savings from the refinancing of debt by STAR Corp., moderate growth in fiscal year 2018 reduced by the payment to the State of $150 million in sales tax relating to STAR Corp. and moderate growth in fiscal years 2019 through 2021 reflecting employment gains and wage growth as well as healthy levels of tourist consumption; (v) with respect to real property transfer tax, decline in 2017, as the volume of large commercial transactions declines from the high levels seen in the prior years and returning growth in fiscal year 2018 through 2021 reflecting steady economic growth; (vi) with respect to mortgage recording tax, decline in 2017 and 2018, as the volume of large commercial transactions drops from the high levels seen in the prior years and returning growth in fiscal years 2019 through 2021 reflecting steady economic growth; and (vii) with respect to the commercial rent tax, continuing growth through 2021, as the local office market improves with employment gains.

4. Miscellaneous Revenues

The following table sets forth amounts of miscellaneous revenues projected to be received by the City in the Financial Plan.

	2017	2018	2019	2020	2021
		(In Millions)			
Licenses, Permits and Franchises	$ 738	$ 674	$ 663	$ 668	$ 662
Interest Income	75	110	177	241	246
Charges for Services	1,007	989	991	991	991
Water and Sewer Payments (1)	1,389	1,400	1,385	1,371	1,359
Rental Income	254	251	250	250	250
Fines and Forfeitures	956	908	899	891	875
Other	527	333	538	703	714
Intra-City Revenues	2,065	1,815	1,737	1,739	1,744
	$7,011	$6,480	$6,640	$6,854	$6 841

(1) Received from the Water Board. Beginning in fiscal year 2017, the City will no longer request the rental payment due to the City from the Water Board. For further information regarding the Water Board, see "SECTION VII: FINANCIAL PLAN—Financing Program."

Rental Income reflects approximately $144.7 million in fiscal year 2017 and $153.6 million in each of fiscal years 2018 through 2021 for lease payments for the City's airports.

Other reflects $100.3 million, $113.4 million, $112.0 million, $128.3 million and $127.8 million of projected resources in fiscal years 2017 through 2021, respectively, from the receipt by the City of TSRs. For more information, see "SECTION IV: SOURCES OF CITY REVENUES—Miscellaneous Revenues." Economic and legal uncertainties relating to the tobacco industry and the settlement may significantly affect the receipt of TSRs by TSASC and the City. Other also reflects $107 million, $257 million and $367 million in fiscal years 2019 through 2021, respectively, from the sale of taxi medallions.

5. FEDERAL AND STATE CATEGORICAL GRANTS

The following table sets forth amounts of federal and State categorical grants projected to be received by the City in the Financial Plan.

	2017	2018	2019	2020	2021
			(In Millions)		
Federal					
Community Development	$ 1,640	$ 1,003	$ 332	$ 253	$ 235
Social Services	3,675	3,548	3,300	3,314	3,318
Education	1,702	1,787	2,033	2,033	2,033
Other	1,920	1,461	1,337	1,297	1,293
Total	$ 8,937	$ 7,799	$ 7,002	$ 6,897	$ 6,879
State					
Social Services	$ 1,819	$ 1,711	$ 1,716	$ 1,727	$ 1,727
Education	10,327	10,683	11,108	11,554	11,879
Higher Education	286	297	297	297	297
Health and Mental Hygiene	625	547	539	539	523
Other	1,380	1,158	1,189	1,230	1,276
Total	$14,437	$14,396	$14,849	$15,347	$15,702

The Financial Plan assumes that all existing federal and State categorical grant programs will continue, unless specific legislation provides for their termination or adjustment, and assumes increases in aid where increased costs are projected for existing grant programs. For information concerning federal and State aid and the possible impacts on the Financial Plan, see "INTRODUCTORY STATEMENT" and "SECTION II: RECENT FINANCIAL DEVELOPMENTS."

As of March 31, 2017, approximately 15.2% of the City's full-time and full-time equivalent employees (consisting of employees of the mayoral agencies and the DOE) were paid by Community Development funds, water and sewer funds and from other sources not funded by unrestricted revenues of the City.

A major component of federal categorical aid to the City is the Community Development program. Pursuant to federal legislation, Community Development grants are provided to cities primarily to aid low and moderate income persons by improving housing facilities, parks and other improvements, by providing certain social programs and by promoting economic development. These grants are based on a formula that takes into consideration such factors as population, age of housing and poverty.

The City's receipt of categorical aid is contingent upon the satisfaction of certain statutory conditions and is subject to subsequent audits, possible disallowances and possible prior claims by the State or federal governments. The general practice of the State and federal governments has been to deduct the amount of any disallowances against the current year's payment, although in some cases the City remits payment for disallowed amounts to the grantor. Substantial disallowances of aid claims may be asserted during the course of the Financial Plan. The City estimates probable amounts of disallowances of recognized grant revenues and makes the appropriate adjustments to recognized grant revenue for each fiscal year. The amounts of such downward adjustments to revenue for disallowances attributable to prior years increased from $124 million in the 1977 fiscal year to $542 million in the 2006 fiscal year. The amount of such disallowance was $103 million and $114 million in fiscal years 2007 and 2008, respectively. There were no adjustments for estimated disallowances in fiscal years 2009 and 2010. In fiscal year 2011 the downward adjustment for disallowances was $113 million and in fiscal year 2012 an upward adjustment of $166 million was made, reflecting a reduced estimate of disallowances attributable to prior years as of June 30, 2012. In fiscal years 2013, 2014 and 2015 downward adjustments of $59 million, $18 million and $110 million, respectively, were made. As of June 30, 2016, the City had an accumulated reserve of $1.111 billion for all disallowances of categorical aid.

Expenditure Assumptions

1. PERSONAL SERVICES COSTS

The following table sets forth projected expenditures for personal services costs contained in the Financial Plan.

	2017	2018	2019	2020	2021
			(In Millions)		
Wages and Salaries	$25,700	$26,629	$27,034	$27,490	$27,655
Pensions	9,395	9,572	9,866	9,936	10,001
Other Fringe Benefits	9,456	10,119	10,795	11,694	12,483
Reserve for Collective Bargaining	59	677	1,591	1,935	2,409
Total	$44,610	$46,997	$49,286	$51,055	$52,548

The Financial Plan projects that the authorized number of City-funded full-time and full-time equivalent employees will increase from an estimated level of 276,574 as of June 30, 2017 to an estimated level of 278,359 by June 30, 2021.

Other Fringe Benefits includes $2.679 billion, $2.014 billion, $2.545 billion, $2.716 billion and $2.899 billion in fiscal years 2017 through 2021, respectively, for OPEB expenditures for current retirees, which costs are currently paid by the City on a pay-as-you-go basis. For information on deposits to the Retiree Health Benefits Trust to fund a portion of the future cost of OPEB for current and future retirees, see "SECTION VI: FINANCIAL OPERATIONS—2012-2016 Summary of Operations."

The City has now reached settlements with all of its uniformed unions and over 99% of its workforce through the 2010-2017 round of collective bargaining. The Financial Plan reflects funding to cover the cost of settling the remaining unsettled unions through the 2010-2017 round of collective bargaining based on the pattern set by the settled contracts. Certain contracts with unions for the 2010-2017 round of collective bargaining, including with DC37 and the PBA, begin to expire in fiscal year 2018. The Financial Plan includes a reserve for collective bargaining containing funding for the period beyond the 2010-2017 round of collective bargaining, assumed to be 1% per year.

The amounts in the Financial Plan reflect the offsets from health insurance savings of $1.0 billion in fiscal year 2017, which have been achieved, and $1.3 billion in fiscal year 2018 and thereafter. These savings are pursuant to a collective bargaining agreement between the City and the Municipal Labor Committee ("MLC"). The City has the right to enforce the agreement through a binding arbitration process. If total health insurance savings through fiscal year 2018 are greater than $3.4 billion, the first $365 million of such additional savings is payable to union members as a one-time bonus or may be used for other purposes subject to negotiation. Any additional savings beyond such $365 million is to be divided equally between the City and the unions.

For a discussion of the City's pension systems, see "SECTION IX: OTHER INFORMATION—Pension Systems" and "APPENDIX B—FINANCIAL STATEMENTS—Notes to Financial Statements—Note E.5."

2. Other Than Personal Services Costs

The following table sets forth projected other than personal services ("OTPS") expenditures contained in the Financial Plan.

	2017	2018	2019	2020	2021
			(In Millions)		
Administrative OTPS and Energy	$24,254	$23,212	$22,562	$22,396	$22,644
Public Assistance	1,584	1,594	1,605	1,617	1,617
Medical Assistance	5,915	5,915	5,915	5,915	5,915
NYCHH Support	830	872	891	992	892
Other	4,054	4,034	4,112	4,183	4,253
Total	$36,637	$35,627	$35,085	$35,103	$35,321

Administrative OTPS and Energy

The Financial Plan contains estimates of the City's administrative OTPS expenditures for general supplies and materials, equipment and selected contractual services, and the impact of agency gap-closing actions relating to such expenditures in the 2017 and 2018 fiscal years. Thereafter, to account for inflation, administrative OTPS expenditures are projected to rise by 2.5% annually in fiscal years 2019 through 2021. Energy costs for each of the 2017 through 2021 fiscal years are assumed to vary annually, with total energy expenditures projected at $829 million in fiscal year 2017 and increasing to $975 million by fiscal year 2021.

Public Assistance

The number of persons receiving benefits under cash assistance programs is projected to average 370,984 in fiscal year 2017 and remain at this level for fiscal years 2018 through 2021. Of total cash assistance expenditures in the City, the City-funded portion is projected to be $630 million, $708 million, $713 million, $719 million and $719 million in fiscal years 2017 through 2021, respectively.

Medical Assistance

Medical assistance payments projected in the Financial Plan consist of payments to voluntary hospitals, skilled nursing facilities, intermediate care facilities, home care providers, pharmacies, managed care organizations, physicians and other medical practitioners. The City-funded portion of medical assistance payments is estimated at $5.8 billion for the 2017 fiscal year.

The City-funded portion of medical assistance payments is expected to be $5.813 billion in each of fiscal years 2018 through 2021. Such payments include the City's capped share of local Medicaid expenditures as well as Supplemental Medicaid payments to NYCHH.

New York City Health and Hospitals

NYCHH operates under its own section of the Financial Plan as a Covered Organization. NYCHH's most recent accrual based financial plan was released in October 2016 and projected City-funded expenditures of $344 million, $814 million, $835 million and $838 million in fiscal years 2017 through 2020, respectively. The accrual based financial plan projected, before implementation of a gap closing program, total receipts of $5.7 billion, $6.2 billion, $6.2 billion and $6.0 billion and total disbursements of $7.3 billion, $7.4 billion, $7.6 billion and $7.7 billion, in fiscal years 2017 through 2020, respectively, resulting in projected operating gaps of $1.6 billion, $1.2 billion, $1.4 billion and $1.7 billion in those respective fiscal years. The financial plan also projects gap-closing initiatives that both generate revenue and reduce expenses. Revenue-generating initiatives total $541 million, $903 million, $1.1 billion, and $1.1 billion, and expense-reducing initiatives total $118 million, $403 million, $569 million, and $698 million in fiscal years 2017 through 2020, respectively.

NYCHH, which provides essential services to over 1.2 million New Yorkers annually, faces substantial near- and long-term financial challenges resulting from, among other things, changes in hospital reimbursement under the Affordable Care Act and the statewide transition to managed care. On April 26, 2016, the City released "One New York: Health Care for Our Neighborhoods," a report outlining the City's plan to address NYCHH's financial shortfall.

In May 2017, NYCHH released a cash-based financial plan, which projected City-funded expenditures of $423 million, $828 million, $849 million, $852 million and $853 million in fiscal years 2017 through 2021, respectively, in addition to the forgiveness of debt service and the City's contribution to supplemental Medicaid payments. The financial plan projected, before implementation of a gap closing program, total receipts of $7.0 billion, $6.5 billion, $6.3 billion, $6.4 billion and $6.4 billion and total disbursements of $8.2 billion, $7.6 billion, $8.0 billion, $8.3 billion, and $8.3 billion in fiscal years 2017 through 2021, respectively, resulting in projected operating gaps of $1.2 billion, $1.1 billion, $1.8 billion, $1.9 billion and $1.9 billion in those respective fiscal years. The financial plan also projects gap-closing initiatives that both generate revenue and reduce expenses. Revenue-generating initiatives total $752 million, $820 million, $1.1 billion, $1.1 billion, and $1.1 billion and expense-reducing initiatives total $118 million, $387 million, $619 million, $748 million and $748 million in fiscal years 2017 through 2021, respectively.

NYCHH relies on significant projected revenue from Medicaid, Medicare and other third-party payor programs. Future changes to such programs could have adverse impacts on NYCHH's financial condition.

For more information regarding NYCHH and City financial support thereof, see "SECTION II: RECENT FINANCIAL DEVELOPMENTS."

Other

The projections set forth in the Financial Plan for OTPS-Other include the City's contributions to NYCT, NYCHA, CUNY and subsidies to libraries and various cultural institutions. They also include projections for the cost of future judgments and claims which are discussed below under "Judgments and Claims." In the past, the City has provided additional assistance to certain Covered Organizations which had exhausted their financial resources prior to the end of the fiscal year. No assurance can be given that similar additional assistance will not be required in the future.

New York City Transit

NYCT operates under its own section of the Financial Plan as a Covered Organization. The financial plan for NYCT covering its 2017 through 2020 fiscal years was prepared in February 2017. The NYCT fiscal year coincides with the calendar year. The NYCT financial plan projects City assistance to the NYCT operating budget of $362.3 million in 2017, increasing to $403.8 million in 2020, in addition to real estate transfer tax revenue dedicated for NYCT use of $836.3 million in 2017, increasing to $844.6 million in 2020.

The NYCT financial plan includes additional revenues from a fare increase in 2017, the impact of labor settlements, updated inflation assumptions and organizational changes that involve service and customer experience investments. After reflecting such revenues and changes, the NYCT financial plan projects $10.0 billion in revenues and $13.6 billion in expenses for 2017, leaving a budget gap of $3.6 billion. After accounting for accrual adjustments and cash carried over from 2016, NYCT projects operating budget gaps of $172.2 million in 2017, $325.8 million in 2018, $778.0 million in 2019 and $1.5 billion in 2020.

In 2009, a Payroll Mobility Tax ("PMT") was enacted into State law to provide $0.34 for every $100 of payroll in the MTA's twelve-county service area. The PMT is currently expected to raise revenues for the MTA in the amount of $781.7 million in 2017, growing to $871.9 million in 2020.

The MTA Board approved the 2010-2014 Capital Program in April 2010 and the State Capital Program Review Board ("CPRB") approved the first two years of it on June 2, 2010 because the MTA had identified funding for only the first two years of the program. The CPRB vetoed the last three years of the program without prejudice to permit the MTA additional time to resolve the funding issues. The MTA Board approved the amended 2010-2014 Capital Program in December 2011 and the CPRB approved it on March 27, 2012. The plan includes $22.2 billion for all MTA agencies, including $11.6 billion to be invested in the NYCT core system, $1.9 billion for NYCT network expansion, and $200 million for security. Due to damages caused by Superstorm Sandy on October 29, 2012, the MTA Board approved a revised 2010-2014 Capital Program in December 2012 that includes $4.0 billion in additional capital funds, of which $3.4 billion is for the NYCT. On August 27, 2013 the CPRB approved an amendment to the 2010-2014 Capital Program which added $5.7 billion for mitigation projects, of which $5.0 billion is for the NYCT. This amendment increased the total amount of the 2010-2014 Capital Program to $31.9 billion. On September 3, 2014, the CPRB approved another amendment to the 2010-2014 Capital Program which reallocated funding among MTA agencies. This amendment decreased Sandy mitigation funding for NYCT by $223.6 million, while the overall program amount remains unchanged. The 2010-2014 Capital Program follows the 2005-2009 Capital Program, which provided approximately $17.1 billion for NYCT.

In September 2014, the MTA proposed the 2015-2019 Capital Program. The proposed plan included $29.0 billion for all MTA agencies, including $17.1 billion to be invested in the NYCT core system, and $1.6 billion for NYCT network expansion. On October 2, 2014, the CPRB vetoed the proposed program without prejudice to permit additional time to resolve issues related to fully funding the program. On October 28, 2015, the MTA Board voted on and approved a revised 2015-2019 Capital Program. The revised plan included $26.1 billion for all MTA agencies, including $15.8 billion to be invested in the NYCT core system and $583 million for NYCT network expansion. On April 20, 2016, the MTA Board voted on and approved a further revised 2015-2019 Capital Program, which now includes $26.6 billion for all MTA agencies, including $15.8 billion to be invested in the NYCT core system and $1.1 billion for NYCT network expansion. The State has agreed to increase its contribution from $1 billion to $8.3 billion, which has not yet been reflected in the State's capital plan. The City has agreed to increase its capital commitment from $657 million to $2.5 billion, which has not yet been reflected in the City's capital plan. The additional City capital funding will be provided concurrently with the additional State capital funding. The revised 2015-2019 Capital Program was approved by CPRB on May 24, 2016.

Department of Education

State law requires the City to provide City funds for the DOE each year in an amount not less than the amount appropriated for the preceding fiscal year, excluding amounts for debt service and pensions for the DOE. Such City funding must be maintained, unless total City funds for the fiscal year are estimated to be lower than in the preceding fiscal year, in which case the mandated City funding for the DOE may be reduced by an amount up to the percentage reduction in total City funds.

Judgments and Claims

In the fiscal year ended on June 30, 2016, the City expended $720.0 million for judgments and claims. The Financial Plan includes provisions for judgments and claims of $716.4 million, $691.6 million, $706.8 million, $725 million and $740.2 million for the 2017 through 2021 fiscal years, respectively. These projections incorporate a substantial amount of claims costs attributed to NYCHH, estimated to be $140 million in each year of the Financial Plan, for which NYCHH reimburses the City unless otherwise forgiven by the City, which was the case in fiscal years 2013 and 2016. The City is a party to numerous lawsuits and is the subject of numerous claims and investigations. The City has estimated that its potential future liability on account of outstanding claims against it as of June 30, 2016 amounted to approximately $7.1 billion. This estimate was made by categorizing the various claims and applying a statistical model, based primarily on actual settlements by type of claim during the preceding ten fiscal years, and by supplementing the estimated liability with information supplied by the City's Corporation Counsel. For further information regarding certain of these claims, see "SECTION IX: OTHER INFORMATION—Litigation."

In addition to the above claims, numerous real estate tax *certiorari* proceedings involving allegations of inequality of assessment, illegality and overvaluation are currently pending against the City. The City's Financial Statements for the fiscal year ended June 30, 2016 include an estimate that the City's liability in the *certiorari* proceedings, as of June 30, 2016, could amount to approximately $982 million. Provision has been made in the

Financial Plan for estimated refunds of $250 million in fiscal years 2017 and $400 million in fiscal years 2018 through 2021. For further information concerning these claims, certain remedial legislation related thereto and the City's estimates of potential liability, see "SECTION IX: OTHER INFORMATION—Litigation—*Taxes*" and "APPENDIX B—FINANCIAL STATEMENTS—Notes to Financial Statements—Note D.5."

3. GENERAL OBLIGATION, LEASE AND TFA DEBT SERVICE

Debt service estimates for fiscal years 2017 through 2021 include debt service on outstanding general obligation bonds and conduit debt, and the funding requirements associated with outstanding TFA Future Tax Secured Bonds, and estimates of debt service costs of, or funding requirements associated with, future general obligation, conduit and TFA Future Tax Secured debt issuances based on projected future market conditions. Such debt service estimates also include estimated payments pursuant to interest rate exchange agreements but do not reflect receipts pursuant to such agreements.

In July 2009, the State amended the New York City Transitional Finance Authority Act to expand the borrowing capacity of the TFA by providing that it may have outstanding $13.5 billion of Future Tax Secured Bonds (excluding Recovery Bonds) and may issue additional Future Tax Secured Bonds provided that the amount of such additional bonds, together with the amount of indebtedness contracted by the City, does not exceed the debt limit of the City. The City currently expects to continue to finance approximately half of its capital program through the TFA, exclusive of Department of Environmental Protection capital budget items financed by the Water Authority.

The Financial Plan reflects general obligation debt service of $3.89 billion, $4.10 billion, $4.18 billion, $4.52 billion and $4.71 billion in fiscal years 2017 through 2021, respectively, conduit debt service of $207 million, $224 million, $218 million, $267 million and $284 million in fiscal years 2017 through 2021, respectively, and TFA debt service of $2.18 billion, $2.20 billion, $2.88 billion, $3.12 billion and $3.41 billion in fiscal years 2017 through 2021, respectively, in each case prior to giving effect to prepayments, defeasances and redemptions. Such debt service requirements are projected to be below 15% of projected City tax revenues for each year of the Financial Plan.

Certain Reports

On March 2, 2017, the City Comptroller released a report entitled "Comments on New York City's Preliminary Budget for Fiscal Year 2018 and Financial Plan for Fiscal Years 2017-2021," commenting on the January Financial Plan. In the report, the City Comptroller projects net offsets of $45 million in fiscal year 2017 and net risks of $141 million, $373 million, $518 million and $669 million in fiscal years 2018 through 2021, respectively, which when added to the results projected in the January Financial Plan would result in a surplus of $45 million in fiscal year 2017 and gaps of $141 million, $3.69 billion, $3.03 billion and $2.46 billion in fiscal years 2018 through 2021, respectively.

The differences from the January Financial Plan projections result primarily from the City Comptroller's net expenditure projections, which are higher than the January Financial Plan projections by $76 million in fiscal year 2017 and $542 million in each of fiscal years 2018 through 2021, as a result of: (i) additional overtime expenditures of $276 million in fiscal year 2017 and $215 million in each of fiscal years 2018 through 2021; (ii) uncertainty of federal Medicaid reimbursement for special education services of $20 million in fiscal year 2017 and $70 million in each of fiscal years 2018 through 2021; (iii) increased homeless shelter operation expenditures of $132 million in each of fiscal years 2018 through 2021; (iv) increased expenditures to support NYCHH of $165 million in each of fiscal years 2017 through 2021; (v) lower public assistance grant expenses of $15 million in fiscal year 2017 and $10 million in each of fiscal years 2018 through 2021; (vi) decreased debt service from refinancings of $70 million in fiscal year 2017 and $30 million in each of fiscal years 2018 through 2021; and (vii) the assumption that the $300 million fiscal year 2017 general reserve in the January Financial Plan will not be needed for budget balance.

The differences from the January Financial Plan projections also result from the City Comptroller's revenue projections, which are higher than the January Financial Plan projections by $121 million, $401 million, $169 million and $24 million in fiscal years 2017 through 2020, respectively, and lower than the January Financial

Plan projections by $127 million in fiscal year 2021. The report estimates that: (i) property tax revenues will be higher by $34 million, $285 million, $572 million and $673 million in fiscal years 2018 through 2021, respectively; (ii) personal income tax revenues will be higher by $48 million, $258 million and $90 million in fiscal years 2017 through 2019, respectively; (iii) business tax revenues will be higher by $76 million, $95 million, $123 million and $68 million in fiscal years 2018 through 2021, respectively; (iv) sales tax revenues will be higher by $50 million, $68 million and $31 million in fiscal years 2017 through 2019, respectively; (v) real-estate-related tax revenues will be higher by $112 million and $131 million in fiscal years 2017 and 2018, respectively; (vi) Environmental Control Board fine revenues will be higher by $12 million in fiscal year 2017 and $24 million in each of fiscal years 2018 through 2021; (vii) Department of Buildings penalty revenues will be higher by $5 million in each of fiscal years 2017 through 2021; and (viii) motor vehicle fine revenues will be higher by $5 million in each of fiscal years 2018 through 2021.

The report also identifies certain risks to projected revenues: (i) personal income tax revenues will be lower by $105 million and $157 million in fiscal years 2020 and 2021, respectively; (ii) business tax revenues will be lower by $56 million in fiscal year 2017; (iii) sales tax revenues will be lower by $65 million and $106 million in fiscal years 2020 and 2021, respectively; (iv) the State budget provision for interception of sales tax revenues of $50 million, $200 million and $150 million in fiscal years 2017 through 2019, respectively, to recoup savings from refinancing the STAR Corp. bonds, which is not reflected in the January Financial Plan; (v) real-estate-related tax revenues will be lower by $109 million, $278 million and $272 million in fiscal years 2019 through 2021, respectively; and (vi) projected taxi medallion sales revenues of $107 million, $257 million and $367 million in fiscal years 2019 through 2021, respectively, given the uncertainty surrounding future taxi medallion auctions.

The City Comptroller expects to issue a report on the Financial Plan on or about May 25, 2017.

On March 2, 2017, the OSDC released a report on the January Financial Plan. The report states that the January Financial Plan projects a surplus of $3.1 billion for fiscal year 2017, which will be used to balance the fiscal year 2018 budget, and gaps of $3.3 billion, $2.5 billion and $1.8 billion for fiscal years 2019 through 2021, respectively. The report states that these gaps are relatively small as a share of City fund revenues, and the out-year budgets include reserves of $1.25 billion which, if not needed, could be used to narrow the gaps. The City economy remains strong, but job growth is slowing and tax collections have slowed. The report also identifies a number of budget risks, many of which are outside the City's direct control. The Governor's Executive Budget would adversely impact the January Financial Plan by $561 million beginning in fiscal year 2018. Also, the new federal administration supports various initiatives that could adversely impact the City. The effects of those initiatives and any budgetary impact cannot be quantified at this time, which creates added uncertainty.

The OSDC report quantifies certain risks and offsets to the January Financial Plan. The report identifies net additional expenditures of $359 million, $1.6 billion, $1.8 billion, $1.9 billion and $1.91 billion in fiscal years 2017 through 2021, respectively. When combined with the results projected in the January Financial Plan, the report estimates budget gaps of $359 million, $1.6 billion, $5.11 billion, $4.41 billion and $3.7 billion in fiscal years 2017 through 2021, respectively. The risks to the January Financial Plan identified in the report include: (i) decreased tax revenues of $215 million in fiscal year 2017 and $200 million in each of fiscal years 2018 through 2021; (ii) increased uniformed services overtime costs of $100 million in fiscal year 2017 and $200 million in each of fiscal years 2018 through 2021; (iii) decreased federal Medicaid reimbursement for special education services of $23 million in fiscal year 2017 and $79 million in each of fiscal years 2018 through 2021; (iv) increased costs of providing shelter for the homeless of $127 million in each of fiscal years 2018 through 2021; (v) decreased revenue from sale of tax medallions of $107 million, $257 million and $367 million in fiscal years 2019 through 2021, respectively; (vi) decreased revenue from development opportunities of $100 million in fiscal year 2020; (vii) decreased sales taxes of $50 million, $200 million and $150 million in fiscal years 2017 through 2019, respectively, resulting from the State budget provision for recapture of savings from the refinancing of STAR Corp. bonds, which is not reflected in the January Financial Plan; and (viii) decreased revenue due to impact of the Governor's Executive Budget of $41 million in fiscal year 2017 and $561 million in each of fiscal years 2018 through 2021; (ix) decreased revenue from loss of federal Medicaid reimbursement of $305 million in each of fiscal years 2018 through 2021; and (x) increased expenditures to support NYCHH of

$164 million in each of fiscal years 2018 through 2021. The report also identifies: (i) decreased expenses in connection with hiring delays of $50 million in fiscal year 2017; (ii) decreased public assistance costs of $20 million in each of fiscal years 2017 through 2021; (iii) additional debt service savings of $150 million in fiscal year 2018; and (iv) additional miscellaneous revenues (including recurring resources such as fines and fees and nonrecurring resources such as proceeds from the sale of taxi medallions or City property) of $75 million in each of fiscal years 2018 through 2021.

The OSDC expects to issue a report on the Financial Plan in late May, 2017.

On March 13, 2017, the staff of the Control Board issued a report reviewing the January Financial Plan. The report states that the City currently projects a surplus of $3.1 billion for fiscal year 2017 that will be used to balance the budget for fiscal year 2018 and projects gaps of $3.3 billion, $2.5 billion and $1.8 billion for fiscal years 2019 through 2021, respectively. The report states that with these projected gaps, there are concerns about the impacts of federal and State actions. The new federal administration has called for policies which could impact the City. Such policies could also impact the State budget, and it cannot be known whether any shortfall in federal aid to the State would be passed on to the City. In addition, the Governor's Executive Budget includes proposals that could be a risk to the January Financial Plan. There is also uncertainty in the economy and there has been weakness in some tax collections. The report states that the City will need to maintain a high level of reserves, find further expenditure savings and limit the addition of unfunded new needs in order to balance out-year budget gaps and be prepared for federal impacts.

The report identifies net risks to the January Financial Plan of $435 million, $1.16 billion, $980 million, $853 million and $853 million in fiscal years 2017 through 2021, respectively, resulting in estimated gaps of $435 million, $1.115 billion, $4.3 billion, $3.36 billion and $2.65 billion in fiscal years 2017 through 2021, respectively. Such net risks result from: (i) decreased business tax revenues of $50 million in each of fiscal years 2017 through 2021; (ii) decreased personal income tax revenues of $250 million and $200 million in fiscal years 2017 and 2018, respectively; (iii) increased miscellaneous revenues of $50 million, $150 million, $125 million, $100 million and $100 million in fiscal years 2017 through 2021, respectively; (iv) increased uniformed services overtime expenses of $135 million, $145 million, $195 million, $193 million and $193 million in fiscal years 2017 through 2021, respectively; (v) increased expenditures to support NYCHH of $165 million in each of fiscal years 2018 through 2021; (vi) increased expenses of $545 million in each of fiscal years 2018 through 2021 due to provisions in the Governor's Executive Budget for reduced aid and cost shifts; and (vii) increased STAR Corp. bond repayment expenses of $50 million, $200 million and $150 million in fiscal years 2017 through 2019, respectively.

The Control Board expects to issue a report on the Financial Plan in July, 2017.

Long-Term Capital Program

The City makes substantial capital expenditures to reconstruct and rehabilitate the City's infrastructure and physical assets, including City mass transit facilities, water and sewer facilities, streets, bridges and tunnels, and to make capital investments that will improve productivity in City operations.

The City utilizes a three-tiered capital planning process consisting of the Ten-Year Capital Strategy, the four-year capital plan and the current-year Capital Budget. The Ten-Year Capital Strategy is a long-term planning tool designed to reflect fundamental allocation choices and basic policy objectives. The four-year capital plan, which is updated three times a year as required by the City Charter, translates mid-range policy goals into specific projects. The Capital Budget defines specific projects and the timing of their initiation, design, construction and completion. On April 26, 2017, the City released the five-year capital commitment plan for fiscal years 2017 through 2021 which covers the current fiscal year and the four-year capital plan for fiscal years 2018 through 2021 (the "2017-2021 Capital Commitment Plan").

City-funded commitments, which were $344 million in fiscal year 1979, are projected to reach $12.0 billion in fiscal year 2017. City-funded expenditures are forecast at $7.5 billion in fiscal year 2017; total expenditures are forecast at $8.8 billion in fiscal year 2017. For additional information concerning the City's capital expenditures and the Ten-Year Capital Strategy covering fiscal years 2018 through 2027, see "SECTION V: CITY SERVICES AND EXPENDITURES—Capital Expenditures."

The following table sets forth the major areas of capital commitment projected in the 2017-2021 Capital Commitment Plan.

2017-2021 CAPITAL COMMITMENT PLAN

	2017		2018		2019		2020		2021		TOTALS	
	City Funds	All Funds	City Funds	All Funds	City Funds	All Funds	City Funds	All Funds	City Funds	All Funds	City Funds	All Funds
Mass Transit(1)	$ 285	$ 307	$ 125	$ 125	$ 125	$ 125	$ 125	$ 125	$ 40	$ 40	$ 700	$ 722
Roadway, Bridges	1,595	2,086	2,197	2,656	1,496	1,756	2,141	2,391	2,630	2,956	10,057	11,846
Environmental Protection(2)	3,122	3,214	3,189	3,394	2,664	2,670	2,682	2,682	1,612	1,612	13,271	13,572
Education(3)	3,416	3,918	2,604	3,275	2,708	2,903	2,166	2,166	1,421	2,166	12,314	14,427
Housing	1,208	1,250	1,095	1,134	999	1,031	974	1,006	937	969	5,212	5,390
Sanitation	351	355	333	346	404	404	788	788	332	332	2,208	2,225
City Operations/Facilities	5,695	6,841	7,671	8,605	4,261	5,073	3,162	3,619	1,572	1,709	22,361	25,847
Economic Development	1,053	1,268	1,137	1,177	617	646	509	593	338	338	3,654	4,022
Reserve for Unattained Commitments	(4,761)	(4,761)	(2,212)	(2,212)	(114)	(114)	215	215	1,358	1,358	(5,514)	(5,514)
Total Commitments(3)	$11,964	$14,477	$16,139	$18,499	$13,160	$14,495	$12,762	$13,585	$10,240	$11,481	$64,265	$72,537
Total Expenditures(4)	$ 7,490	$ 8,804	$ 9,000	$10,487	$11,262	$12,847	$11,723	$13,128	$11,389	$12,769	$50,884	$58,035

Note: Individual items may not add to totals due to rounding.

(1) Excludes NYCT's non-City portion of the MTA capital program.

(2) Includes water supply, water mains, water pollution control, sewer projects and related equipment.

(3) Commitments represent contracts registered with the City Comptroller, except for certain projects which are undertaken jointly by the City and State.

(4) Expenditures represent cash payments and appropriations planned to be expended for capital costs, excluding amounts for original issue discount.

Currently, if all City capital projects were implemented, expenditures would exceed the City's financing projections in the current fiscal year and subsequent years. The City has therefore established capital budgeting priorities to maintain capital expenditures within the available long-term financing. Due to the size and complexity of the City's capital program, it is difficult to forecast precisely the timing of capital project activity so that actual capital expenditures may vary from the planned annual amounts.

On May 5, 2014, the Mayor issued "Housing New York: A Five-Borough, Ten-Year Plan" which lays out a comprehensive plan to build and preserve 200,000 affordable units over the coming decade. The expected City costs of such plan for fiscal years 2017 through 2021 are reflected in the 2017-2021 Capital Commitment Plan.

On November 18, 2015, the Mayor announced a new plan to create 15,000 units of supportive housing, comprised of affordable housing with supportive services, including both mental and physical healthcare access, alcohol and substance abuse programs, and other social services, over the next 15 years. The plan includes approximately 7,500 newly constructed units and 7,500 scattered site units. The expected City costs of such plan for fiscal years 2017 through 2021 are reflected in the 2017-2021 Capital Commitment Plan.

In December 2016, the City issued an Asset Information Management System Report (the "AIMS Report"), which is its annual assessment of the asset condition and a proposed maintenance schedule for its assets and asset systems which have a replacement cost of $10 million or more and a useful life of at least ten years, as required by the City Charter. This report does not reflect any policy considerations which could affect the appropriate amount of investment, such as whether there is a continuing need for a particular facility or whether there have been changes in the use of a facility. The AIMS Report estimated that $7.97 billion in capital investment would be needed for fiscal years 2018 through 2021 to bring the assets to a state of good repair. The report also estimated that $451 million, $230 million, $268 million and $243 million should be spent on maintenance in fiscal years 2018 through 2021, respectively.

The recommended capital investment for each inventoried asset is not readily comparable to the capital spending allocated by the City in the 2017-2021 Capital Commitment Plan and the Ten-Year Capital Strategy. Only a portion of the funding set forth in the 2017-2021 Capital Commitment Plan is allocated to specifically identified assets, and funding in the subsequent years of the Ten-Year Capital Strategy is even less identifiable with individual assets. Therefore, there is a substantial difference between the amount of investment recommended in the report for all inventoried City assets and amounts allocated to the specifically identified inventoried assets in the 2017-2021 Capital Commitment Plan. The City also issues an annual report (the "Reconciliation Report") that compares the recommended capital investment with the capital spending allocated by the City in the four-year capital plan to the specifically identified inventoried assets.

The most recent Reconciliation Report, issued in June 2016, concluded that the capital investment in the four-year capital plan, for fiscal years 2017 through 2020, for the specifically identified inventoried assets funded 74% of the total investment recommended in the preceding AIMS Report issued in December 2015. Capital investment allocated in the Ten-Year Capital Strategy published in May 2015 funded an additional portion of the recommended investment. In the same Reconciliation Report, OMB estimated that 62% of the expense maintenance levels recommended were included in the financial plan.

Financing Program

The following table sets forth the par amount of bonds issued and expected to be issued during the 2017 through 2021 fiscal years (as set forth in the Financial Plan) to implement the 2017-2021 Capital Commitment Plan. See "SECTION VIII: INDEBTEDNESS—Indebtedness of the City and Certain Other Entities." From time to time, the City and its related issuers also issue bonds to refinance existing debt for economic savings. Such refunding bonds are not included in the following table.

2017-2021 FINANCING PROGRAM

	2017	2018	2019	2020	2021	Total
			(In Millions)			
City General Obligation Bonds	$2,281	$3,250	$ 4,500	$ 4,730	$ 4,610	$19,371
TFA Future Tax Secured Bonds	3,300	3,250	4,500	4,730	$ 4,610	20,390
Water Authority Bonds(1)	1,767	1,418	1,868	1,913	1,890	8,856
Total	$7,348	$7,918	$10,868	$11,373	$11,110	$48,617

Note: Totals may not add due to rounding.

(1) Water Authority Bonds includes commercial paper but does not include bonds that defease commercial paper.

The City's financing program includes the issuance of water and sewer revenue bonds by the Water Authority which is authorized to issue bonds to finance capital investment in the City's water and sewer system. Pursuant to State law, debt service on Water Authority indebtedness is secured by water and sewer fees paid by users of the water and sewer system. Such fees are revenues of the Water Board, which holds a lease interest in the City's water and sewer system. After providing for debt service on obligations of the Water Authority and certain incidental costs, the revenues of the Water Board are paid to the City to cover the City's costs of operating the water and sewer system and as rental for the system. Beginning in fiscal year 2017, the City will no longer request the rental payment due to the City from the Water Board. The City's Ten-Year Capital Strategy applicable to the City's water and sewer system covering fiscal years 2018 through 2027, projects City-funded water and sewer investment (which is expected to be financed with proceeds of Water Authority debt) at approximately $17.1 billion. The City's Capital Commitment Plan for fiscal years 2017 through 2021 reflects total anticipated City-funded water and sewer commitments of $13.3 billion which are expected to be financed with the proceeds of Water Authority debt.

The TFA is authorized to have outstanding $13.5 billion of Future Tax Secured Bonds (excluding Recovery Bonds) and may issue additional Future Tax Secured Bonds provided that the amount of such additional bonds, together with the amount of indebtedness contracted by the City, do not exceed the debt limit of the City. Future Tax Secured Bonds are issued for general City capital purposes and are secured by the City's personal income tax revenues and, to the extent such revenues do not satisfy specified debt ratios, sales tax revenues. In addition, the TFA is authorized to have outstanding $9.4 billion of Building Aid Revenue Bonds to pay for a portion of the City's five-year educational facilities capital plan. Building Aid Revenue Bonds are secured by State building aid, which the Mayor has assigned to the TFA. The TFA expects to issue $750 million, $163 million, $77 million and $295 million of Building Aid Revenue Bonds in fiscal years 2018 through 2021, respectively.

Implementation of the financing program is dependent upon the ability of the City and other financing entities to market their securities successfully in the public credit markets which will be subject to prevailing market conditions at the times of sale. No assurance can be given that the credit markets will absorb the projected amounts of public bond sales. A significant portion of bond financing is used to reimburse the City's General Fund for capital expenditures already incurred. If the City and such other entities are unable to sell such amounts of bonds, it would have an adverse effect on the City's cash position. In addition, the need of the City to fund future debt service costs from current operations may also limit the City's capital program. The Ten-Year Capital Strategy for fiscal years 2018 through 2027 totals $89.6 billion, of which approximately 93% is to be financed with funds borrowed by the City and such other entities. See "INTRODUCTORY STATEMENT" and "SECTION VIII: INDEBTEDNESS—Indebtedness of the City and Certain Other Entities—*Limitations on the City's Authority to Contract Indebtedness*." Congressional developments affecting federal taxation generally could reduce the market value of tax-favored investments and increase the debt-service costs of carrying out the major portion of the City's capital plan which is currently eligible for tax-exempt financing.

Interest Rate Exchange Agreements

In an effort to reduce its borrowing costs over the life of its bonds, the City began entering into interest rate exchange agreements commencing in fiscal year 2003. For a description of such agreements, see "APPENDIX B—FINANCIAL STATEMENTS—Notes to Financial Statements—Note A.12." As of March 31, 2017, the aggregate notional amount of the City's interest rate exchange agreements was $1,280,845,000 and the total marked-to-market value of such agreements was ($86,899,167).

In addition, in connection with its Courts Facilities Lease Revenue Bonds (The City of New York Issue) Series 2005A and B, the Dormitory Authority of the State of New York ("DASNY") entered into interest rate exchange agreements with Goldman Sachs Mitsui Marine Derivative Products, L.P. and JPMorgan Chase Bank, National Association. The City is obligated, subject to appropriation, to make lease payments to DASNY reflecting DASNY's obligations under these interest rate exchange agreements. Under such agreements, with a notional amount of $125,500,000, an effective date of June 15, 2005 and a termination date of May 15, 2039, DASNY pays a fixed rate of 3.017% and receives payments based on a LIBOR-indexed variable rate. As of March 31, 2017, the total marked-to-market value of the DASNY agreements was ($28,225,615).

Seasonal Financing Requirements

The City since 1981 has fully satisfied its seasonal financing needs, when necessary, in the public credit markets, repaying all short-term obligations within their fiscal year of issuance. The City has not issued short-term obligations to finance projected cash flow needs since fiscal year 2004. The City regularly reviews its cash position and the need for short-term borrowing. The Financial Plan does not reflect the issuance of short-term obligations.

SECTION VIII: INDEBTEDNESS

Indebtedness of the City and Certain Other Entities

Outstanding City and PBC Indebtedness

The following table sets forth outstanding City and PBC indebtedness as of March 31, 2017. "City indebtedness" refers to general obligation debt of the City, net of reserves. "PBC indebtedness" refers to obligations of the City, net of reserves, to the following PBCs: the New York City Educational Construction Fund ("ECF"), and DASNY (for health facilities, court facilities and CUCF as described below). PBC indebtedness is not debt of the City. However, the City has entered into agreements to make payments, subject to appropriation, to PBCs to be used for debt service on certain obligations constituting PBC indebtedness. Neither City indebtedness nor PBC indebtedness includes outstanding debt of the TFA, TSASC, Fiscal Year 2005 Securitization Corp. or STAR Corp., which are not obligations of, and are not paid by, the City; nor does such indebtedness include obligations of the Hudson Yards Infrastructure Corporation ("HYIC"), for which the City has agreed to pay, as needed and subject to appropriation, interest on but not principal of such obligations.

	(In Thousands)	
Gross City Long-Term Indebtedness(1)	$38,005,935	
Less: Assets Held for Debt Service(2)	(121,115)	
Net City Long-Term Indebtedness		$37,884,820
PBC Indebtedness		
Bonds Payable	294,661	
Capital Lease Obligations	1,027,040	
Gross PBC Indebtedness	1,321,701	
Less: Assets Held for Debt Service	(157,295)	
Net PBC Indebtedness		1,164,405
Combined Net City and PBC Indebtedness		$39,049,225

(1) Reflects capital appreciation bonds at accreted values as of June 30, 2016.

(2) Assets Held for Debt Service consists of General Debt Service Fund assets.

Trend in Outstanding Net City and PBC Indebtedness

The following table shows the trend in the outstanding net City and PBC indebtedness as of June 30 of each of the fiscal years 2007 through 2016 and at March 31, 2017.

	City Indebtedness		PBC	
	Long-Term	Short-Term	Indebtedness(1)	Total
	(In Millions)			
2007	$34,396	—	$1,637	$36,033
2008	33,129	—	1,558	34,687
2009	38,648	—	1,484	40,131
2010	41,490	—	1,395	42,885
2011	41,737	—	1,550	43,287
2012	40,913	—	1,486	42,399
2013	38,844	—	1,413	40,257
2014	41,033	—	1,347	42,380
2015	38,497	—	1,261	39,758
2016	36,147	—	1,236	37,383
March 31, 2017	37,885	—	1,164	39,049

(1) Includes obligations of New York State Urban Development Corporation ("UDC") through June 30, 2015.

Rapidity of Principal Retirement

The following table details, as of March 31, 2017, the cumulative percentage of total City indebtedness that is scheduled to be retired in accordance with its terms in each prospective five-year period.

Period	Cumulative Percentage of Debt Scheduled for Retirement
5 years	23.71%
10 years	52.87
15 years	74.14
20 years	89.42
25 years	97.53
30 years	100.00

City and PBC Debt Service Requirements

The following table summarizes future debt service requirements, as of March 31, 2017, on City and PBC indebtedness.

Fiscal Years	City Long-Term Debt Principal	City Long-Term Debt Interest	PBC Indebtedness	Total
		(In Thousands)		
2017	$ 121,115	$ 266,750	$ 35,165	$ 423,030
2018	2,194,465	1,591,005	75,543	3,861,013
2019	2,157,625	1,499,534	73,647	3,730,806
2020 through 2147	33,532,730	11,964,735	1,137,345	46,634,810
Total	$38,005,935	$15,322,024	$1,321,701	$54,649,660

Certain Debt Ratios

The following table sets forth the approximate ratio of City net general obligation bonded debt to assessed taxable property value as of June 30 of each of the fiscal years 2007 through 2016.

Fiscal Year	City General Obligation Bonded Debt(1)	Debt Service Restricted Cash(2)	City General Obligation Bonded Debt Net of Debt Service Restricted Cash	City Net General Obligation Bonded Debt as a Percentage of Assessed Taxable Value of Property(3)	Per Capita
	(in millions)	(in millions)	(in millions)		
2007	$34,506	$3,372	$31,134	24.39%	$3,885
2008	36,100	5,117	30,983	21.28	3,840
2009	39,991	3,376	36,615	24.09	4,503
2010	41,555	2,926	38,629	24.46	4,715
2011	41,785	2,818	38,967	24.40	4,702
2012	42,286	1,374	40,912	23.88	4,891
2013	41,592	2,766	38,826	21.68	4,602
2014	41,665	639	41,026	21.57	4,829
2015	40,460	1,970	38,490	18.97	4,502
2016	38,073	1,775	36,298	16.68	4,245

Source: CAFR for the fiscal year ended June 30, 2016; New York City Comptroller's Office.

(1) General Obligation Bonded Debt is presented at par value and does not reflect GASB 44 reporting methodology netting premium and discount. See "APPENDIX D—FINANCIAL STATEMENTS—Notes to Financial Statements—Note D.5—*Changes in Long-term liabilities*."

(2) Primarily comprised of restricted cash and investments held in the General Debt Service Fund.

(3) Based on full valuations for each fiscal year derived from the application of the special equalization ratio reported by the State Office of Real Property Tax Services for such fiscal year.

Indebtedness of the City and Related Issuers

The following table sets forth obligations of the City and other issuers as of June 30 of each of the fiscal years 2007 through 2016. General obligation bonds are debt of the City. Although IDA Stock Exchange bonds and PBC indebtedness are not debt of the City, the City has entered into agreements to make payments, subject to appropriation, to the respective issuers to be used for debt service on the indebtedness included in the following table. ECF bonds are also not debt of the City. ECF bonds are expected to be paid from revenues of ECF, provided, however, that if such revenues are insufficient, the City has agreed to make payments, subject to appropriation, to ECF for debt service on its bonds. Indebtedness of the TFA, TSASC and STAR Corp. does not constitute debt of, and is not paid by, the City.

Fiscal Year	General Obligation Bonds	ECF	TFA	TSASC	STAR	HYIC	PBC Indebtedness and Other(1)	IDA Stock Exchange
				(In Millions)				
2007	$34,506	$123	$14,607	$1,317	$2,368	$2,100	$2,832	$102
2008	36,100	109	14,828	1,297	2,339	2,067	2,025	101
2009	39,991	102	16,913	1,274	2,253	2,033	1,937	99
2010	41,555	150	20,094	1,265	2,178	2,000	1,859	99
2011	41,785	281	23,820	1,260	2,117	2,000	1,895	98
2012	42,286	274	26,268	1,253	2,054	3,000	1,818	95
2013	41,592	268	29,202	1,245	1,985	3,000	1,739	93
2014	41,665	266	31,038	1,228	1,975	3,000	1,701	90
2015	40,460	264	33,850	1,222	2,035	3,000	1,639	87
2016	38,073	240	37,358	1,145	1,961	3,000	1,571	84

Source: CAFR for the fiscal year ended June 30, 2016.

(1) PBC Indebtedness and Other includes capital lease obligations of the City and excludes Fiscal Year 2005 Securitization Corporation, ECF and Tax Lien Collateralized Bonds.

As of March 31, 2017, approximately $38 billion of City general obligation bonds were outstanding. For information regarding the City's variable rate bonds, see APPENDIX D hereto.

As of March 31, 2017, $3 billion aggregate principal amount of HYIC bonds were outstanding. Such bonds were issued to finance the extension of the Number 7 subway line and other public improvements. They are secured by and payable from payments in lieu of taxes and other revenues generated by development in the Hudson Yards area. To the extent such payments in lieu of taxes and other revenues are insufficient to pay interest on the HYIC bonds, the City has agreed to pay the amount of any shortfall in interest on such bonds, subject to appropriation. The Financial Plan provides $0 in fiscal years 2017 through 2019, $47 million in fiscal year 2020 and $65 million in fiscal year 2021 for such interest support payments. The City has no obligation to pay the principal of such bonds.

Certain Provisions for the Payment of City Indebtedness

The State Constitution requires the City to make an annual appropriation for: (i) payment of interest on all City indebtedness; (ii) redemption or amortization of bonds; and (iii) redemption of short-term indebtedness issued in anticipation of the collection of taxes or other revenues, such as tax anticipation notes ("TANs") and revenue anticipation notes ("RANs") which (with permitted renewals thereof) are not retired within five years of the date of original issue. If this appropriation is not made, a sum sufficient for such purposes must be set apart from the first revenues thereafter received by the City and must be applied for these purposes.

The City's debt service appropriation would provide for the interest on, but not the principal of, short-term indebtedness, if any. If such principal were not provided for from the anticipated sources, it would be, like debt service on City bonds, a general obligation of the City.

Pursuant to the Financial Emergency Act, a general debt service fund (the "General Debt Service Fund" or the "Fund") has been established for the purpose of paying Monthly Debt Service, as defined in the Act. In addition, as required under the Act, accounts have been established by the State Comptroller within the Fund to pay the principal of City TANs and RANs when outstanding. For the expiration date of the Financial Emergency Act, see "SECTION III: GOVERNMENT AND FINANCIAL CONTROLS—City Financial Management, Budgeting and Controls—*Financial Emergency Act and City Charter.*"

Limitations on the City's Authority to Contract Indebtedness

The Financial Emergency Act imposes various limitations on the issuance of City indebtedness. No TANs may be issued by the City which would cause the principal amount of such issue of TANs to exceed 90% of the "available tax levy," as defined in the Act, with respect to such issue; TANs and renewals thereof must mature not later than the last day of the fiscal year in which they were issued. No RANs may be issued by the City which would cause the principal amount of RANs outstanding to exceed 90% of the "available revenues," as defined in the Act, for that fiscal year; RANs must mature not later than the last day of the fiscal year in which they were issued; and in no event may renewals of RANs mature later than one year subsequent to the last day of the fiscal year in which such RANs were originally issued. No bond anticipation notes ("BANs") may be issued by the City in any fiscal year which would cause the principal amount of BANs outstanding, together with interest due or to become due thereon, to exceed 50% of the principal amount of bonds issued by the City in the twelve months immediately preceding the month in which such BANs are to be issued.

The State Constitution provides that, with certain exceptions, the City may not contract indebtedness, including contracts for capital projects to be paid with the proceeds of City bonds ("contracts for capital projects"), in an amount greater than 10% of the average full value of taxable real estate in the City for the most recent five years (the "general debt limit"). See "SECTION IV: SOURCES OF CITY REVENUES—Real Estate Tax—*Assessment*." Certain indebtedness ("excluded debt") is excluded in ascertaining the City's authority to contract indebtedness within the constitutional limit. TANs, RANs and BANs, and long-term indebtedness issued for specified purposes are considered excluded debt. The City's authority for variable rate bonds is currently limited, with statutory exceptions, to 25% of the general debt limit. The State Constitution also provides that, subject to legislative implementation, the City may contract indebtedness for low-rent housing, nursing homes for persons of low income and urban renewal purposes in an amount not to exceed 2% of the average assessed valuation of the taxable real estate of the City for the most recent five years (the "2% debt limit"). Excluded from the 2% debt limit, after approval by the State Comptroller, is indebtedness for certain self-supporting programs aided by City guarantees or loans.

Water Authority and TSASC indebtedness and the City's commitments with other PBCs or related issuers are not chargeable against the City's constitutional debt limit. The TFA and TSASC were created to provide financing for the City's capital program. Without the TFA and TSASC, or other legislative relief, new contractual commitments for the City's general obligation financed capital program would have been virtually brought to a halt during the financial plan period beginning early in the 1998 fiscal year. TSASC has approximately $1.1 billion of bonds outstanding that are payable from TSRs. The TFA is permitted to have outstanding $13.5 billion of Future Tax Secured Bonds (excluding Recovery Bonds) and may issue additional Future Tax Secured Bonds, provided that the amount of such additional bonds, together with the amount of indebtedness contracted by the City, do not exceed the debt limit of the City. Future Tax Secured Bonds are secured by the City's personal income tax revenues and sales tax revenues, if personal income tax revenues do not satisfy specified debt ratios. The TFA, as of March 31, 2017, has outstanding approximately $29.9 billion of Future Tax Secured Bonds (excluding Recovery Bonds). The TFA is authorized to have outstanding $9.4 billion of Building Aid Revenue Bonds, which are secured by State building aid and are not chargeable against the City's constitutional debt limit.

The following table sets forth the calculation of debt-incurring power as of March 31, 2017.

		(In Thousands)
Total City Debt-Incurring Power under General Debt Limit		$90,236,149
Gross Debt-Funded	$37,752,549	
Less: Excluded Debt	(43,139)	
	37,709,410	
Less: Appropriations for Payment of Principal	(119,100)	
	37,590,310	
Contracts and Other Liabilities, Net of Prior Financings Thereof	10,123,493	
Total City Indebtedness		47,713,803
TFA Debt Outstanding above $13.5 billion		16,350,510
Debt-Incurring Power		$26,171,836

Note: Numbers may not add due to rounding.

Federal Bankruptcy Code

Under the Federal Bankruptcy Code, a petition may be filed in the federal bankruptcy court by a municipality which is insolvent or unable to meet its debts as they mature. The filing of such a petition would operate as a stay of any proceeding to enforce a claim against the City. Under such circumstances, the Federal Bankruptcy Code requires the municipality to file a plan for the adjustment of its debts, which may modify or alter the rights of creditors and may provide for the municipality to issue indebtedness, which could have priority over existing creditors and which could be secured. Any plan of adjustment confirmed by the court must be approved by the requisite majority of creditors. If confirmed by the bankruptcy court, the plan would be binding upon all creditors affected by it. Pursuant to authorization by the State, each of the City and the Control Board, acting on behalf of the City pursuant to the Financial Emergency Act, has the legal capacity to file a petition under the Federal Bankruptcy Code. For the expiration date of the Financial Emergency Act, see "SECTION III: GOVERNMENT AND FINANCIAL CONTROLS—City Financial Management, Budgeting and Controls—*Financial Emergency Act and City Charter*."

Public Benefit Corporation Indebtedness

City Financial Commitments to PBCs

PBCs are corporate governmental agencies created by or under State law to finance and operate projects of a governmental nature or to provide governmental services. Generally, PBCs issue bonds and notes to finance construction of housing, hospitals, dormitories and other facilities and receive revenues from the collection of fees, charges or rentals for the use of their facilities, including subsidies and other payments from the governmental entity whose residents have benefited from the services and facilities provided by the PBC. These bonds and notes do not constitute debt of the City.

The City has undertaken various types of financial commitments with certain PBCs which, although they do not represent City indebtedness, have a similar budgetary effect. The principal forms of the City's financial commitments with respect to PBC debt obligations are as follows:

1. *Capital Lease Obligations*—These are leases of facilities by the City or a Covered Organization, entered into with PBCs, under which the City has no liability beyond monies legally available for lease payments. State law generally provides, however, that in the event the City fails to make any required lease payment, the amount of such payment will be deducted from State aid otherwise payable to the City and will be paid to the PBC.

2. *Executed Leases*—These are leases pursuant to which the City is legally obligated to make the required rental payments.

3. *Capital Reserve Fund Arrangements*—Under these arrangements, State law requires the PBC to maintain a capital reserve fund in a specified minimum amount to be used solely for the payment of the PBC's obligations. State law further provides that in the event the capital reserve fund is depleted, State aid otherwise payable to the City may be paid to the PBC to restore such fund.

Certain PBCs are further described below.

New York City Educational Construction Fund

As of March 31, 2017, $240.4 million principal amount of ECF bonds to finance costs related to the school portions of combined occupancy structures was outstanding. Under ECF's leases with the City, debt service on the ECF bonds is payable by the City to the extent third party revenues are not sufficient to pay such debt service.

Dormitory Authority of the State of New York

As of March 31, 2017, $453.7 million principal amount and $573.3 million principal amount of DASNY bonds issued to finance the design, construction and renovation of court facilities and health facilities, respectively, in the City were outstanding. The court facilities and health facilities are leased to the City by DASNY, with lease payments made by the City in amounts sufficient to pay debt service on DASNY bonds and certain fees and expenses of DASNY.

City University Construction Fund

As of March 31, 2017, approximately $107.9 million principal amount of DASNY bonds, relating to Community College facilities, subject to capital lease arrangements was outstanding. The City and the State are each responsible for approximately one-half of the CUCF's annual rental payments to DASNY for Community College facilities which are applied to the payment of debt service on the DASNY's bonds issued to finance the leased projects plus related overhead and administrative expenses of DASNY.

For further information regarding the particular PBCs included in the City's financial statements, see "APPENDIX B—FINANCIAL STATEMENTS—Notes to Financial Statements—Note A."

SECTION IX: OTHER INFORMATION

Pension Systems

The City maintains five actuarial pension systems, providing benefits for its employees and employees of various independent agencies (including certain Covered Organizations). Such systems consist of the New York City Employees' Retirement System ("NYCERS"), the Teachers' Retirement System of the City of New York ("TRS"), the New York City Board of Education Retirement System ("BERS"), the New York City Police Pension Fund ("PPF") and the New York Fire Department Pension Fund ("FDPF") (together, the New York City Retirement Systems, "NYCRS"). Members of these actuarial pension systems are categorized into tiers depending on date of membership. The systems combine features of defined benefit pension plans with those of defined contribution pension plans. Three of the five actuarial pension systems are cost-sharing multiple employer systems that include public employees who are not City employees. Each public employer in these multiple employer systems has primary responsibility for funding and reporting in the employer's financial statements on its share of the systems' liabilities. Total membership in the City's five actuarial pension systems on June 30, 2014 consisted of approximately 366,000 active employees and approximately 326,000 retirees and beneficiaries receiving benefits and other vested members terminated but not receiving benefits. The City also contributes to three other pension systems, maintains a closed non-actuarial retirement program for certain retired individuals not covered by the five actuarial pension systems, provides other supplemental benefits to retirees and makes contributions to certain union annuity funds.

Each of the City's five actuarial pension systems is managed by a board of trustees which includes representatives of the City and the employees covered by such system. The City Comptroller is the custodian of, and has been delegated investment responsibilities for, the actuarial pension systems, subject to the policies established by the boards of trustees of the systems and State law. The City Actuary (the "Actuary"), an independent professional who is also the Chief Actuary of each of the five actuarial pension systems, determines annual employer contributions and prepares other actuarial analyses and reports that are used by the City for Financial Plan and financial reporting purposes, as further described below. The State Constitution provides that pension rights of public employees are contractual and shall not be diminished or impaired. Constitutional protection applies only to the basic pension benefits provided through each pension system's Qualified Pension Plan ("QPP") and does not extend to the Variable Supplements Funds ("VSFs") or Tax-Deferred Annuity Programs ("TDA Programs") that are also administered by some of the pension systems, as discussed below.

City Pension Contributions

The City has consistently made its full statutorily required pension contributions based on then-current actuarial valuations. For fiscal year 2016, the City's pension contributions for the five actuarial pension systems, plus other pension expenditures, were approximately $9.3 billion.

The Financial Plan reflects pension contribution projections of $9.395 billion, $9.572 billion, $9.866 billion, $9.936 billion and $10.001 billion for fiscal years 2017 through 2021, respectively. These projections are based on the valuation from the Actuary as of June 30, 2016 data. For the 2016 fiscal year, the City's total annual pension contribution expenditures, including pension costs not associated with the five actuarial pension systems, plus Social Security tax payments by the City for the year, were approximately 45% of total wage and salary costs. In addition, contributions are made by certain component units of the City and other government units directly to the three cost-sharing multiple employer actuarial pension systems on behalf of their participating employees and retirees.

The pension contributions projected in the Financial Plan reflect changes to funding assumptions and methods first implemented in 2012 as recommended by the Actuary and adopted by the boards of trustees of each of the City's five actuarial pension systems. For further information, see "—*Actuarial Assumptions and Methods*" below.

The Financial Plan also reflects contributions associated with actual pension fund investment performance through the end of fiscal year 2016. Such investment performance was 3.15% (net of investment fees) in fiscal year 2015 and 1.46% (net of investment fees) in fiscal year 2016. These reported returns are on investment assets of the pension systems managed through the City Comptroller's office and do not reflect the impact of transfers within each pension system between the QPP and other employee benefit funds, or within each QPP with regard to certain supplemental, voluntary member contribution accounts. For further information on the phasing in of actual investment returns, see "— *Actuarial Assumptions and Methods*" below. For further information on potential transfers within the pension systems, see "— *Fiduciary Fund Reporting*" below.

The Financial Plan projections also reflect certain impacts of the TDA Programs, the VSFs and certain other voluntary, supplemental QPP member programs. For further information, see "—*Fiduciary Fund Reporting*" below.

The Financial Plan also reflects certain increased pension contributions resulting, in part, from recommendations of an independent actuarial auditor engaged, pursuant to the City Charter, to review actuarial methods and assumptions every two years, as described below. Such changes resulted in an annual increase of approximately $600 million to the City's annual pension contribution starting in fiscal year 2016.

Actuarial Assumptions and Methods

An actuarial valuation requires an initial set of information and assumptions about future events. Every four to seven years, the Actuary conducts a full review of the actuarial assumptions and methods used to fund the

NYCRS. These reviews lead to recommendations that are set forth in formal Reports. The most recent of these Reports are referred to as the "Silver Books" and were published during February 2012. The Silver Books present the recommendations of the Actuary for determining employer contributions to the NYCRS for Fiscal Years 2012 and thereafter.

The implementation of the Actuary's recommendations involves adoption of the tabular (i.e., demographic) assumptions by the Boards of Trustees of the NYCRS; enactment of legislation by the New York State Legislature and Governor for the Actuarial Interest Rate, Actuarial Cost Method, and Amortization Period and Method for any Unfunded Actuarial Accrued Liabilities ("UAAL"); and establishment of an Actuarial Asset Value by the Actuary.

The actuarial methods and assumptions adopted in 2012 included an Actuarial Interest (discount) Rate assumption of 7% per annum which is based on investment earnings net of investment expenses, updated mortality tables (which were updated again in December 2015, as discussed below) to account for longer life expectancy, and the use of the Entry Age Actuarial Cost Method. The initial UAAL recognized as a result of such changes in assumptions and methods, excluding the December 2015 mortality change, is being amortized, with interest of 7% through City contributions over a 22-year period that commenced in fiscal year 2012 with increasing dollar payments increasing at a rate of 3% per year.

Under the 2012 methods and assumptions, emerging unfunded liabilities are recognized and amortized over closed, fixed periods using level dollar payments. Future UAAL attributable to actuarial gains and losses is amortized over 15 years; future UAAL attributable to changes in actuarial assumptions and methods is amortized over 20 years; future changes in UAAL attributed to benefit improvements is amortized over periods reasonably consistent with the remaining working lifetimes of those impacted; and investment returns above or below expectation are reflected in City pension contributions in two stages: first, the annual returns above or below expectation are phased in to the actuarial value of assets over a six-year period, with 15% of the total recognized per year in years 1-4 and 20% per year in years 5 and 6. The portion recognized in each year is then amortized over a 15-year period for the purpose of calculating the City's annual pension contributions.

The 2012 methods and assumptions included continued use of the One Year Lag methodology, where census data and asset information as of the June 30 second preceding a fiscal year is used to determine the employer contribution for that fiscal year.

Pursuant to the City Charter, studies of the actuarial assumptions used to value liabilities of the five actuarial pension systems are conducted by an independent actuarial firm every two years. Such studies assess the reasonableness of the Actuary's calculations of employer contributions and make recommendations about actuarial methods and assumptions.

On October 23, 2015, an independent actuarial auditor released a report analyzing experience for the four-year and ten-year periods ended June 30, 2013. Such report confirmed that the Actuary's calculations of employer contributions for fiscal year 2014 and that investment return assumptions were reasonable and appropriate, but recommended the consideration of changes to the mortality, overtime, and investment return assumptions.

In December 2015, the Actuary proposed updated post-retirement mortality assumptions for use in determining employer QPP contributions beginning in fiscal year 2016. The Boards of Trustees of each of the five actuarial pension systems adopted the proposed assumptions. In addition, beginning in fiscal year 2016, the Actuary revised the Actuarial Asset Valuation Method to constrain the Actuarial Asset Value to be no more than 120% and no less than 80% of the market value of assets, known as a 20% corridor.

The Actuary continues to review the report's other findings and recommendations and continues to monitor the appropriateness of all actuarial assumptions.

The complete sets of actuarial assumptions and methods are available on the web site of the New York City Office of the Actuary (www.nyc.gov/actuary). Such website, and the information and links contained therein, are not incorporated into, and are not part of, this Appendix.

Financial Reporting

City Pension Fund Financial Reporting

The City accounts for its pensions consistent with the requirements of the Governmental Accounting Standards Board ("GASB"). In fiscal year 2014, the City implemented GASB Statement No. 68, Accounting and Financial Reporting for Pensions ("GASB 68"). The GASB 68 standards apply to actuarial calculations for financial reporting but not to the actuarial calculation of annual City employer pension contributions, which continue to be determined as described above. The City implemented GASB 68 concurrently with the implementation by the five major actuarial pension systems of GASB Statement No. 67, Financial Reporting for Pension Plans ("GASB 67").

GASB 68 changed many but not all aspects of calculating the City's reported pension fund assets and liabilities. In broad terms, GASB 68 separates pension accounting in the City's government-wide financial statements from the phased or smoothed asset and liability figures that the Actuary uses in determining the City's annual pension contributions, as described above. For pension reporting purposes, most changes in assets and liabilities are reflected in the year in which they occur. The City expects that pension fund accounting under GASB 68 could increase year-to-year volatility in reported net pension liability.

Under GASB 68, net pension liabilities are reported on employers' Government-Wide Statements of Net Assets when the fair value of pension assets falls short of actuarially calculated liabilities, when both are measured as of the same date (fiscal year end). For the cost-sharing multiple employer pension systems, only the City share of net pension liabilities is reported in the Government-Wide Statement of Net Assets. In the Government-Wide financial statements in the fiscal year 2016 CAFR, the City's net pension liabilities were reported as $53.1 billion and $64.8 billion as of June 30, 2015 and 2016, respectively. The City's share of plan fiduciary net position, $124.2 billion and $123.4 billion, represented 70.1% and 65.6% of the City's total pension liabilities as of June 30, 2015 and 2016, respectively.

For further information see "APPENDIX B—FINANCIAL STATEMENTS."

Fiduciary Fund Reporting

The fiscal year 2016 CAFR contains Fiduciary Funds financial statements for each of the five actuarial pension systems. These financial statements report on the entirety of the five systems, not just the City share. Each of the five actuarial pension systems administers programs in addition to its respective QPP, and these programs are also reported as part of each system's financial statements in the Fiduciary Fund financial statements. For fiscal year 2016, the City reported that the five actuarial pension systems had, in aggregate, a net position of $179.6 billion, of which $146.9 billion was restricted for QPPs, $30.1 billion was restricted for TDAs, and $2.6 billion was restricted for VSFs. For fiscal year 2015, the City reported that the five actuarial pension systems had, in aggregate, a net position of $178.4 billion, of which $145.8 billion was restricted for QPPs, $28.8 billion was restricted for TDAs, and $3.8 billion was restricted for VSFs. For further information, see "APPENDIX B—FINANCIAL STATEMENTS—Pension and Other Employee Benefit Trust Funds Combining Statement of Fiduciary Net Position."

In addition to the QPPs, TRS and BERS administer TDA Programs. Benefits provided under the TDA programs are derived from members' accumulated contributions. No direct contributions are provided by employers. However certain investment and benefit options, if selected by TDA members, may indirectly affect employer financial obligations, as described below. As of June 30, 2015 and 2016, the total fiduciary net position restricted for TDA benefits was $28.8 billion and $30.1 billion, respectively. Each of the TDA Programs has at least two investment options, broadly categorized as a fixed return fund and one or more variable return funds.

Deposits from members' TDA Program accounts into the fixed return funds are used by the respective QPP to purchase investments, and such TDA Program accounts are credited with a statutory rate of interest, currently 7% for United Federation of Teachers members and 8.25% for all other members. If earnings on the respective QPP are less than the amount credited to the TDA Program members' accounts, the higher cost to the QPP could require additional payments by the City to the pension funds. If the earnings are higher, then lower payments by the City to the pension funds could be required.

All investment securities purchased and invested by the QPPs with TDA Programs' fixed return funds' balances are owned and reported by the QPP. A receivable due from the respective QPP equal in amount to the aggregate original principal amounts contributed by TDA Programs' members to the respective fixed return funds, plus accrued interest at the statutory rate, is owned by each of the TDA Programs. The balances of TDA Program fixed return funds held by the TRS QPP as of June 30, 2015 and 2016 were $18.7 billion and $20.3 billion, respectively, and interest paid on TDA Program fixed return funds by the TRS QPP for the years then ended were $1.2 billion and $1.4 billion, respectively. The balances of TDA Program fixed return funds held by the BERS QPP as of June 30, 2015 and 2016 were $1.1 billion and $1.3 billion, respectively, and interest paid on TDA Program fixed return funds by the BERS QPP for the years then ended were $85.1 million and $94.8 million, respectively. Deposits from members' TDA Program accounts into the variable return funds are credited with actual returns on the underlying investments of the specific fund selected. Members may reallocate all or a part of their TDA Program contributions between the fixed and variable return funds on a quarterly basis.

Retired TDA members may make withdrawals from their TDA accounts or elect to take the balance in the form of an annuity that is calculated based on a statutory rate of interest and mortality assumptions, which are separate and different from the mortality assumptions used in pension liability calculations. Once an annuity has been selected by a member, the payment of those benefits is guaranteed by the QPP.

In addition, certain Tier I and Tier II pension plan members have the right to make supplemental, voluntary member contributions into the QPPs. These contributions are credited with interest at rates set by statute or, for certain employees that may choose variable return investments, the actual return, and may be withdrawn or annuitized at retirement. In general, the assets and liabilities associated with these member contributions are included in the reported assets and actuarially-determined net pension obligations of the respective plans. Ultimately, investment earnings of the fixed rate funds that are less than the amounts credited to the members could result in additional required contributions by the City to the pension funds and investment earnings that are greater than the amounts credited to the members could result in lower required contributions by the City to the pension funds.

Pursuant to State law, certain retirees of NYCERS, PPF and FDPF are eligible to receive scheduled supplemental benefits from VSFs. Under some circumstances where assets in the VSFs are insufficient, NYCERS, PPF and FDPF are required to transfer assets to their respective VSFs to fund those payments that are statutorily guaranteed. The effects of these transfers are included by the Office of the Actuary in calculating required employer contributions to the pension funds. However under current State law, the VSFs are not pension funds or retirement systems and are subject to change by the State legislature.

For information regarding the amount and investment allocation of investments in the pension systems see "SECTION III: GOVERNMENT AND FINANCIAL CONTROLS." For further information regarding the City's pension systems see "APPENDIX B—FINANCIAL STATEMENTS—Notes to Financial Statements—Note E.5," "—Pension and Other Employee Benefit Trust Funds—Combining Statement of Fiduciary Net Position" and "—Required Supplementary Information."

Other Post-Employment Benefits

Post-Employment benefits other than pensions ("OPEB") provided to eligible retirees of the City and their eligible beneficiaries and dependents include health insurance, Medicare Part B premium reimbursements and welfare fund contributions. In the Government-Wide financial statements in the fiscal year 2016 CAFR, the City's OPEB liabilities were reported as $85.5 billion and $89.4 billion as of June 30, 2015 and 2016, respectively. See "APPENDIX B—FINANCIAL STATEMENTS—Note E.4." There is no requirement to fund the OPEB obligation.

In June 2015, GASB issued Statement No. 74 ("GASB 74") and Statement No. 75 ("GASB 75"), which update financial reporting standards for state and local government OPEB Plans. GASB 74 applies to financial reporting by post-employment benefit plans and GASB 75 covers reporting on post-employment benefit plans by employers. GASB 74 and GASB 75 are effective for financial statements for fiscal years beginning after June 15, 2016 and June 15, 2017, respectively. The City has not completed the process of evaluating the impact of GASB 74 and GASB 75 on its financial statements.

For further information see "APPENDIX B—FINANCIAL STATEMENTS—Notes to Financial Statements—Note A.24 Pronouncements Issued but Not Yet Effective."

Litigation

The following paragraphs describe certain material legal proceedings and claims involving the City and Covered Organizations other than routine litigation incidental to the performance of their governmental and other functions and certain other litigation arising out of alleged constitutional violations, torts, breaches of contract and other violations of law and condemnation proceedings. While the ultimate outcome and fiscal impact, if any, on the City of the proceedings and claims described below are not currently predictable, adverse determinations in certain of them might have a material adverse effect upon the City's ability to carry out the Financial Plan. The City has estimated that its potential future liability on account of outstanding claims against it as of June 30, 2016 amounted to approximately $7.1 billion. See "SECTION VII: FINANCIAL PLAN—Assumptions—*Expenditure Assumptions*—2. OTHER THAN PERSONAL SERVICES COSTS—*Judgments and Claims.*"

Taxes

1. Numerous real estate tax *certiorari* proceedings alleging overvaluation, inequality and illegality are pending against the City. Based on historical settlement activity, and including an estimated premium for inequality of assessment, the City estimates its potential future liability for outstanding *certiorari* proceedings to be $982 million at June 30, 2016. For a discussion of the City's accounting treatment of its inequality and overvaluation exposure, see "APPENDIX B—FINANCIAL STATEMENTS—Notes to Financial Statements—Note D.5."

2. Con Edison has challenged the City's method of valuation for determining assessments of certain of its properties in two separate actions. Con Edison has challenged the City's tax assessments on its Manhattan power plants and equipment for tax years 1994/1995 through 2015/2016 and the special franchise assessments on its electric, gas and steam equipment located in the public right of way for tax years 2009/2010 through 2015/2016. With respect to the East 74th Street power plant and equipment, trial was scheduled for February 16 through 18, 2016, however, the court has adjourned the trial indefinitely for the parties to discuss a settlement. The challenges could result in substantial real property tax refunds in fiscal years 2017 and beyond.

3. In 2014, a class action seeking declaratory and injunctive relief was filed on the basis that the City's real property tax classification system as prescribed by State law violates the Fair Housing Act, denies plaintiffs equal protection and due process rights and results in disparate, adverse and discriminatory treatment of the City's African-American and Hispanic renters. In April 2015, the City's motion to dismiss was granted. Plaintiffs appealed to the Appellate Division, First Department. The Appellate Division affirmed the dismissal by the lower Court. The plaintiffs have not sought leave to appeal the Appellate Division's decision and the time period to seek such appeal has expired.

4. Tax Equity Now New York LLC (composed of certain advocacy groups and owners and tenants of properties in the City) commenced an action on April 24, 2017 against the City and the State. The action alleges that the City's real property tax system violates the State and federal constitutions as well as the Fair Housing Act. The action further alleges the valuation methodology as mandated by certain provisions of the State Real Property Tax Law results in a disparity and inequality in the amount of taxes paid by black and hispanic Class 1 property owners and renters. The City plans to mount a vigorous defense against all claims made in the action.

Miscellaneous

1. Complaints on behalf of approximately 11,900 plaintiffs alleging respiratory or other injuries from alleged exposures to World Trade Center dust and debris at the World Trade Center site or the Fresh Kills landfill were commenced against the City and other entities involved in the post-September 11 rescue and recovery process. Plaintiffs include, among others, Department of Sanitation employees, firefighters, police officers, construction workers and building clean-up workers. The actions were consolidated in federal District Court pursuant to the Air Transportation and System Stabilization Act, which grants exclusive federal jurisdiction for all claims related to or resulting from the September 11 attack. A not-for-profit "captive" insurance company, WTC Captive Insurance Company, Inc. (the "WTC Insurance Company") was formed to cover claims against the City and its private contractors relating to debris removal work at the World Trade Center site and the Fresh Kills landfill. The WTC Insurance Company was funded by a grant from the Federal Emergency Management Agency in the amount of $999,900,000. On June 10, 2010, the WTC Insurance Company announced that a settlement was reached with attorneys for the plaintiffs. On November 19, 2010, District Court Judge Hellerstein announced that more than the required 95% of plaintiffs agreed to the settlement, thus making it effective. Approximately $700 million has been paid under the settlement, leaving residual funds of approximately $290 million to insure and defend the City and its contractors against any new claims. Since the applicable statute of limitations runs from the time a person learns of his or her injury or should reasonably be aware of the injury, additional plaintiffs may bring lawsuits in the future for late emerging cancers, which could result in substantial damages. No assurance can be given that the remaining insurance will be sufficient to cover all liability that might arise from such claims.

2. In 1996, a class action was brought against the City Board of Education and the State under Title VII of the Civil Rights Act of 1964 alleging that the use by the Board of Education of two teacher certification examinations mandated by the State had a disparate impact on minority candidates. In 2006, the United States Court of Appeals for the Second Circuit dismissed the claims against the State. In December 2012, the District Court decided a controlling legal question against the City. On February 4, 2013, the Second Circuit affirmed the District Court's decision. The District Court has appointed a Special Master to oversee claimants' individualized hearings both as to damages and eligibility for Board of Education employment. The hearings relate to members of the class that took the Liberal Arts and Science Test ("LAST") from 1996 to 2004. Currently, 3,916 such individuals have submitted claim forms and may be eligible for damages. On June *5,* 2015, the Court ruled that a second version of LAST, LAST-2, that was administered from 2004 to 2014, violated Title VII because it did not measure skills necessary to do the job. In August 2015, the Court found that the State's new teacher certification test, the Academic Literacy Skills Test (ALST), administered since Spring 2014, was not discriminatory and evaluated skills necessary to do the job. The plaintiffs could seek to expand the damages class with respect to LAST-2. If approved by the Court, the extent to which this would extend the class is not known at this time. The potential cost to the City is uncertain at this time but could be significant.

3. The federal Department of Health and Human Services Office of Inspector General ("HHS OIG") conducted a review of Medicaid Personal Care Services claims made by providers in the City from January 1, 2004 through December 31, 2006, and concluded that 18 out of 100 sampled claims by providers failed to comply with federal and State requirements. The Medicaid Personal Care Services program in the City is administered by the City's Human Resources Administration. In its audit report issued in June 2009, the HHS OIG, extrapolating from the case sample, estimated that the State improperly claimed $275.3 million in federal Medicaid reimbursement

during the audit period and recommended to the Center for Medicare and Medicaid Services ("CMS") that it seek to recoup that amount from the State. To the City's knowledge, CMS has not taken any action to recover amounts from the State based on the findings in this audit, but no assurance can be given that it will not do so in the future.

Section 22 of Part B of Chapter 109 of the Laws of 2010 amended an earlier unconsolidated State law to set forth a process under which the State Department of Health may recover from a social services district, including the City, the amount of a federal Medicaid disallowance or recovery that the State Commissioner of Health "determines was caused by a district's failure to properly administer, supervise or operate the Medicaid program." Such a determination would require a finding that the local agency had "violated a statute, regulation or clearly articulated written policy and that such violation was a direct cause of the federal disallowance or recovery." It is not clear whether the recovery process set out in the amendment can be applied to a federal disallowance against the State based upon a pre-existing audit; however, in the event that it does, and results in a final determination by the State Commissioner of Health against the City, such a determination could result in substantial liability for the City as a result of the audit.

4. On October 27, 2014 a lawsuit under the False Claims Act against the City and Computer Sciences Corporation, a contractor that participated in the submission of claims for Medicaid reimbursement, was unsealed in the United States District Court for the Southern District of New York. Plaintiffs, consisting of the federal government and a relator, allege fraud in connection with the use of diagnosis and other codes in seeking Medicaid reimbursement in connection with the Early Intervention Program. Plaintiffs seek treble damages and penalties. If plaintiffs were to ultimately prevail the City could be subject to substantial liability.

5. In July 2014 disability rights advocates organizations and disabled individuals commenced a putative class action against the City in the United States District Court for the Southern District of New York. Plaintiffs allege, among other matters, that the City has not complied with certain requirements of the Americans with Disabilities Act with respect to the installation, configuration and maintenance of curb ramps on sidewalks and requirements for sidewalk walkways in general in Manhattan south of 14th Street. If plaintiffs were to prevail, the City could be subject to substantial compliance costs.

6. On December 21, 2015, the United States Attorney for the Southern District of New York ("USAO-SDNY") sent a findings letter to the DOE indicating various areas in which he alleged that the City elementary schools were not accessible to students with disabilities in violation of the Americans with Disabilities Act of 1990. The City and USAO-SDNY are currently in discussion as to the matters raised in the letter. Alterations to City elementary schools to address concerns raised in the findings letter could result in substantial compliance costs to the City.

7. In West v. City of New York, a putative class action on behalf of blind and visually impaired persons served on the City in April, 2016 in the United States District Court for the Southern District of New York, plaintiffs allege that they are excluded from using pedestrian rights of way on the City's sidewalks because of the allegedly low number of Accessible Pedestrian Signals ("APS") on pedestrian crossings. Plaintiffs claim that this is not only a violation of their rights, but hazardous. Plaintiffs allege violations of the Americans with Disabilities Act, Rehabilitation Act, and New York City Human Rights Law. Plaintiffs seek declaratory relief that the City has violated the disability statutes, that the City develop a remedial plan, that all future new construction and street alterations provide for APS installations, and attorneys' fees. Plaintiffs never obtained class certification and on February 10, 2017, the case was settled with the City's Department of Transportation agreeing to provide 15 APS installations at specific locations and attorneys' fees.

8. In late 2015, a putative class action was filed against the City and the New York City Taxi and Limousine Commission alleging numerous commercial claims in connection with the November 2013 and February 2014 auctions of wheelchair accessible taxi medallions. Plaintiffs allege that the New York City Taxi and Limousine Commission negligently posted false information about average medallion transfer prices in advance of the auction falsely inducing plaintiffs to bid higher amounts for their medallions. If plaintiffs were to prevail and a class of plaintiffs who purchased medallions at the auctions were certified, damages of several hundred million dollars could be sought.

9. In an action filed in late November 2015, plaintiffs, which consist of owners of independent taxi medallions and an owner-advocacy group, challenged the constitutionality of the New York City Taxi and Limousine Commission's rule requiring taxi medallion owners to place wheelchair accessible taxis on the street by 2020. The potential cost to the City is uncertain at this time but could be significant if plaintiffs were to prevail.

10. In an action filed in December 2015, plaintiffs that include owners of taxi medallions, taxi drivers, groups that finance taxi medallions, and taxi medallion interest groups, raised numerous constitutional claims challenging regulations on taxi medallions that allegedly are not applied to other for hire vehicle transportation that utilize apps for their service. If the plaintiffs were to ultimately prevail, the City could be subject to substantial liability.

Environmental Matters

On Monday, October 29, 2012, Sandy hit the Mid-Atlantic East Coast. The storm caused widespread damage to the coastal and other low lying areas of the City and power failures in various parts of the City, including most of downtown Manhattan. On January 29, 2013, President Obama signed legislation providing for approximately $50.5 billion in storm-related aid for the region affected by the storm. Although it is not possible for the City to quantify the full, long-term impact of the storm on the City and its economy, the current estimate of the direct costs to the City, NYCHH and NYCHA is approximately $10.1 billion (comprised of approximately $2.0 billion of expense funding and approximately $8.1 billion of capital funding). Such direct costs represent funding for emergency response, debris removal, emergency protective measures, repair of damaged infrastructure and long-term hazard mitigation investments. In addition, the City is delivering Sandy-related disaster recovery assistance services, benefiting impacted communities, businesses, homeowners and renters, which the City anticipates will be fully reimbursed by federal funds.

The Financial Plan assumes that the direct costs described above will largely be paid from non-City sources, primarily the federal government, and that the disaster assistance services costs described above will be fully reimbursed by federal funds. The City expects reimbursements to come from two separate federal sources of funding, FEMA and HUD. The maximum reimbursement rate from FEMA is 90% of total costs. Other funding sources may have larger local share percentages. The City expects to use $736 million of Community Development Block Grant Disaster Recovery funding allocated by HUD to meet the local share requirements of the FEMA funding, as well as recovery work not funded by FEMA or other federal sources. This allocation would be available to fill gaps in such FEMA funding. As of mid-April 2017, the City, NYCHH and NYCHA have received $2.0 billion in reimbursements from FEMA for the direct costs described above. In addition, HUD has made available over $4.2 billion, of which over $1.5 billion has been received through mid-April 2017 for the direct costs and disaster recovery assistance services described above. No assurance can be given that the City will be reimbursed for all of its costs or that such reimbursements will be received within the time periods assumed in the Financial Plan.

In June 2013, the City released a report, updated in April 2015 with the release of One New York: the Plan for a Strong and Just City, which analyzed the City's climate risks and outlined certain recommendations to address those risks (the "Report"). The Report is updated on an annual basis, with the last update released April 21, 2017. The Report, as updated, outlines a climate resiliency plan costing in excess of $20 billion covering over 1,000 individual projects citywide. The Report includes City and non-City assets and programs, and reflects both expense and capital funding from the City and from other sources. City capital funding for City infrastructure and coastal protection is included in the Ten Year Capital Strategy, and the City has secured significant federal relief for long-term recovery, largely from FEMA and HUD. However, there are currently approximately $5 billion in unfunded climate resiliency proposals set forth in the Report, particularly for investments in the City's coastal protection plan and resiliency retrofits for buildings, which are not currently funded. These proposals would require increased federal or other funding and increased City capital or expense funding.

Superfund Designations

On March 2, 2010, the United States Environmental Protection Agency ("EPA") listed the Gowanus Canal (the "Canal"), a waterway located in the City, as a federal Superfund site under the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"). EPA considers the City a potentially responsible party ("PRP") under CERCLA, based on contaminants from currently and formerly City-owned and operated properties, as well as from the City's combined sewer overflows ("CSOs"). On September 30, 2013 EPA issued the Record of Decision ("ROD") for the Canal, setting forth requirements for dredging contaminated sediment in the Canal and covering it with a cap as well as source control requirements. The ROD requires that two CSO retention tanks be constructed as part of the source control component of the remedy. EPA estimates that the costs of the tanks will be approximately $85 million and the overall cleanup costs (to be allocated among potentially responsible parties) will be $506 million. The City anticipates that the actual cleanup costs could substantially exceed EPA's cost estimate. On May 28, 2014, EPA issued a unilateral administrative order requiring the City to design major components of the remedy for the Canal, including the CSO retention tanks, remediation of the First Street basin (a currently filled-in portion of the Canal), and storm water controls. As required under the Unilateral Order, the City submitted its siting recommendations for the CSO tanks to EPA on June 30, 2015. As set forth in a consent order which was fully executed on June 9, 2016, EPA agrees with the City's preferred location for one of the tanks and, with respect to the other tank, EPA has directed the City to site the tank at the City's preferred location subject to certain milestones. In addition, the City is participating in an ongoing arbitration process with approximately 20 other parties to determine each party's share of liability for the design of the in-canal (dredging and capping) portion of the remedy.

On September 27, 2010, EPA listed Newtown Creek, the waterway on the border between Brooklyn and Queens, New York, as a Superfund site. On April 6, 2010, EPA notified the City that EPA considers the City a PRP under CERCLA for hazardous substances in Newtown Creek. In its Newtown Creek PRP notice letter, EPA identified historical City activities that filled former wetlands and low lying areas in and around Newtown Creek and releases from formerly City-owned and operated facilities, including municipal incinerators, as well as discharges from sewers and CSO outfalls, as potential sources of hazardous substances in Newtown Creek. In July, 2011, the City entered into an Administrative Settlement Agreement and Order on Consent with EPA and five other PRPs to conduct an investigation of conditions in Newtown Creek and evaluate feasible remedies. The investigation and feasibility study is expected to take approximately seven years. The City's share will be determined in a future allocation proceeding. The settlement does not cover any remedy that may ultimately be chosen by EPA to address the contamination identified as a result of the investigation and evaluation.

On May 12, 2014, EPA listed the former Wolff-Alport Chemical Company site ("Wolff-Alport Site") in Ridgewood, Queens, as a Superfund site. The designation is based on radioactive contamination resulting from the operations of the Wolff-Alport Chemical Company during the 1920s to 1950s, which, among other things, disposed of radioactive material on-site and via the sewer system. In 2013, EPA, in cooperation with City and State agencies, completed a response action to implement certain interim remedial measures at the Wolff-Alport Site to address the site's short-term public health risks. The Superfund process will include a remedial investigation that will assess, among other things, impacts to the sewer system from operations at the Wolff-Alport Site. The remedial investigation was recently commenced.

The National Park Service ("NPS") is undertaking a CERCLA removal action at Great Kills Park on Staten Island to address radioactive contamination that has been detected at the site. Great Kills Park was owned by the City until roughly 1972, when it was transferred to NPS for inclusion in the Gateway National Recreation Area. While owned by the City, the site was used as a sanitary landfill, and the park was also expanded using urban fill. NPS believes that the radioactive contamination is the result of City activities and that the City is therefore liable for the investigation and remediation under CERCLA. The City has negotiated a settlement with NPS to address a remedial investigation and feasibility study. No other PRPs have been identified at this time.

Under CERCLA, a responsible party may be held responsible for monies expended for response actions at a Superfund site, including investigative, planning, removal, remedial and EPA enforcement actions. A responsible party may also be ordered by EPA to take response actions itself. Responsible parties include, among others, past or current owners or operators of a facility from which there is a release of a hazardous substance that causes the incurrence of response costs. The nature, extent, and cost of response actions at either the Canal, Newtown Creek, the Wolff-Alport site or Great Kills Park, the contribution, if any, of discharges from the City's sewer system or other municipal operations, and the extent of the City's liability, if any, for monies expended for such response actions, will likely not be determined for several years and could be material.

Financial Statements

The City's financial statements for the fiscal years ended June 30, 2016 and 2015 are included herein as APPENDIX B. Grant Thornton LLP, the City's independent auditor, has not reviewed, commented on or approved, and is not associated with, this Appendix. The report of Grant Thornton LLP relating to the City's financial statements for the fiscal years ended June 30, 2016 and 2015, which is a matter of public record, is included in this Appendix. However, Grant Thornton LLP has not performed any procedures on any financial statements or other financial information of the City, including without limitation any of the information contained in this Appendix, since the date of such report and has not been asked to consent to the inclusion of its report in this Appendix.

Further Information

Orrick, Herrington & Sutcliffe LLP, New York, New York, Special Disclosure Counsel to the City, will pass upon certain legal matters in connection with the preparation of this Appendix. A description of those matters and the nature of the review conducted by that firm is set forth in its opinion and accompanying memorandum which are on file at the office of the Corporation Counsel.

The references herein to, and summaries of, provisions of federal, State and local laws, including but not limited to the State Constitution, the Financial Emergency Act and the City Charter, and documents, agreements and court decisions, including but not limited to the Financial Plan, are summaries of certain provisions thereof. Such summaries do not purport to be complete and are qualified in their entirety by reference to such acts, laws, documents, agreements or decisions, copies of which are available for inspection during business hours at the office of the Corporation Counsel.

Copies of the most recent financial plan submitted to the Control Board are at www.nyc.gov/omb. Copies of the published Comprehensive Annual Financial Reports of the Comptroller are available at www.comptroller.nyc.gov or upon written request to the Office of the Comptroller, Deputy Comptroller for Public Finance, Municipal Building, One Centre Street, New York, New York 10007. Financial plans are prepared quarterly, and the Comprehensive Annual Financial Report of the Comptroller is typically published at the end of October of each year.

THE CITY OF NEW YORK

APPENDIX A
TO
APPENDIX D

ECONOMIC AND DEMOGRAPHIC INFORMATION

This section presents certain economic and demographic information about the City. All information is presented on a calendar year basis unless otherwise indicated. The data set forth are the latest available. Sources of information are indicated in the text or immediately following the tables. Although the City considers the sources to be reliable, the City has made no independent verification of the information provided by non-City sources and does not warrant its accuracy.

New York City Economy

The City has a diversified economic base, with a substantial volume of business activity in the financial, professional service, education, health care, hospitality, wholesale and retail trade and manufacturing industries and is the location of many securities, banking, law, accounting, new media and advertising firms.

The City is a major seaport and focal point for international business. Many of the major corporations headquartered in the City are multinational in scope and have extensive foreign operations. Numerous foreign-owned companies in the United States are also headquartered in the City. These firms, which have increased substantially in number over the past decade, are found in all sectors of the City's economy, but are concentrated in trade, professional and business services, tourism and finance. The City is the location of the headquarters of the United Nations, and several affiliated organizations maintain their principal offices in the City. A large diplomatic community exists in the City to staff the missions to the United Nations and the foreign consulates. No single assessed property in the City accounts for more than .5% of the City's real property tax revenue.

Economic activity in the City has experienced periods of growth and recession and can be expected to experience periods of growth and recession in the future. The City experienced a recession in the early 1970s through the middle of that decade, followed by a period of expansion in the late 1970s through the late 1980s. The City fell into recession again in the early 1990s which was followed by an expansion that lasted until 2001. The economic slowdown that began in 2001 as a result of the September 11 attack, a national economic recession, and a downturn in the securities industry came to an end in 2003. Subsequently, Wall Street activity, tourism, and the real estate market drove a broad based economic recovery until the second half of 2007. A decrease in economic activity began in the second half of 2007 and continued through the first half of 2010. The Financial Plan assumes that the gradual increase in economic activity that began in the second half of 2010 will continue through 2017.

The United States Department of Commerce Bureau of Economic Analysis produces measures of Gross Domestic Product ("GDP") by metropolitan area. The New York metropolitan area – defined geographically as New York City; Long Island; the Lower Hudson Valley, New York; parts of Northern and Central New Jersey and Pike County Pennsylvania – is the largest metropolitan economy in the United States.

	Top Ten GDP by Metropolitan Area (millions of current dollars)				GDP Per Capita (2009 Dollars)
	2012	2013	2014	2015*	2015*
United States (metropolitan areas)	$14,516,387	$14,967,434	$15,606,598	$16,204,029	$52,896
New York-Newark-Jersey City, NY-NJ-PA	1,440,989	1,478,671	1,537,140	1,602,705	69,971
Los Angeles-Long Beach-Anaheim, CA.	805,023	843,758	879,960	930,817	62,826
Chicago-Naperville-Elgin, IL-IN-WI.	581,924	587,130	608,710	640,656	59,688
Houston-The Woodlands-Sugar Land, TX	469,925	504,708	522,028	503,311	70,797
Dallas-Fort Worth-Arlington, TX.	454,109	460,375	474,375	491,042	72,558
Washington-Arlington-Alexandria, DC-VA-MD-WV	430,194	452,668	478,572	485,683	63,197
San Francisco-Oakland-Hayward, CA.	372,610	384,375	408,067	431,704	81,347
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	371,295	381,662	397,137	411,161	60,662
Boston-Cambridge-Newton, MA-NH.	358,303	363,001	378,983	396,549	74,545
Atlanta-Sandy Springs-Roswell, GA	294,083	305,311	322,054	339,203	53,216

Source: U.S. Bureau of Economic Analysis
* Advance statistics.

Personal Income

Total personal income for City residents, unadjusted for the effects of inflation and the differential in living costs, increased from 2006 to 2015 (the most recent year for which City personal income data are available). From 2006 to 2008, personal income averaged 5.9% and 5.6% annual growth in the City and the nation, respectively. Total personal income in the City decreased by 3.4% in 2009 and increased by an average of 5.2% from 2010 through 2015. Total personal income in the nation decreased by 3.3% in 2009 and increased by an average of 4.2% from 2010 through 2015.

The following table sets forth information regarding personal income in the City from 2006 to 2015.

PERSONAL INCOME(1)

Year	Total NYC Personal Income ($ billions)	Per Capita Personal Income NYC	Per Capita Personal Income U.S.	NYC as a Percent of U.S.
2006	$378.0	$47,289	$38,144	124%
2007	409.5	51,099	39,821	128%
2008	412.9	51,176	41,082	125%
2009	398.8	49,042	39,376	125%
2010	412.6	50,368	40,277	125%
2011	446.8	53,920	42,453	127%
2012	476.2	56,925	44,267	129%
2013	492.6	58,387	44,462	131%
2014	519.8	61,186	46,414	132%
2015	540.4	63,196	48,112	131%

Sources: U.S. Department of Commerce, Bureau of Economic Analysis and the Bureau of the Census.

(1) In current dollars. Personal Income is based on the place of residence and is measured from income which includes wages and salaries, supplements to wages and salaries, proprietors' income, personal dividend income, personal interest income, rental income of persons, and transfer payments.

Employment

The City is a leading center for the banking and securities industry, life insurance, communications, fashion design, health care, education, hospitality and retail fields. Over the past two decades the City has experienced a number of business cycles. From 1992 to 2000, the City added 456,700 private sector jobs (growth of 17%). From 2000 to 2003, the City lost 173,100 private sector jobs (decline of 5%). From 2003 to 2008, the City added 257,400 private sector jobs (growth of 9%). From 2008 to 2009, the City lost 103,000 private sector jobs (decline of 3%). From 2009 to 2016, the City added 644,100 private sector jobs (growth of 20%). All such changes are based on average annual employment levels through and including the years referenced.

As of March 2017, total employment in the City was 4,366,600 compared to 4,308,700 in March 2016, an increase of 1.3% based on data provided by the New York State Department of Labor, which is not seasonally adjusted.

The table below shows the distribution of employment from 2007 to 2016.

EMPLOYMENT DISTRIBUTION

	Average Annual Employment (in thousands)									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Goods Producing Sectors										
Construction	127.3	132.7	120.8	112.5	112.3	116.1	122.2	129.2	139.3	146.3
Manufacturing	101.0	95.6	81.6	76.3	75.7	76.3	76.4	76.6	77.8	76.3
Service Producing Sectors										
Trade, Transportation & Utilities	570.6	574.6	552.7	559.7	575.6	590.5	605.0	620.6	630.2	629.4
Information	166.8	169.5	165.2	165.9	170.8	175.7	179.2	185.0	189.0	192.6
Financial Activities	467.2	464.6	433.9	428.3	439.1	438.8	437.5	449.2	459.3	465.8
Professional & Business Services	592.3	603.4	569.2	575.3	597.5	619.3	642.9	669.0	700.0	723.4
Education & Health Services	721.6	736.3	752.6	771.6	789.2	805.6	831.1	866.4	896.9	930.2
Leisure & Hospitality	297.8	310.2	308.5	322.2	342.2	365.7	385.4	408.5	427.8	437.6
Other Services	157.7	160.8	160.3	160.6	165.2	170.4	174.9	180.2	185.0	187.3
Total Private	3,202.2	3,247.7	3,144.7	3,172.5	3,267.5	3,358.5	3,454.5	3,584.7	3,705.2	3,788.8
Total Government	559.0	564.1	567.0	558.0	550.6	546.1	544.4	545.4	549.9	552.4
Total	3,761.2	3,811.8	3,711.7	3,730.5	3,818.1	3,904.6	3,998.9	4,130.1	4,255.1	4,341.2

Note: Totals may not add due to rounding.
Source: New York State Department of Labor. Data are presented using the North American Industry Classification System ("NAICS").

Sectoral Distribution of Employment and Earnings

In 2015, the City's service producing sectors provided approximately 3.5 million jobs and accounted for approximately 82% of total employment. Figures on the sectoral distribution of employment in the City from 1980 to 2000 reflect a significant shift to the service producing sectors and a shrinking manufacturing base relative to the nation.

The structural shift to the service producing sectors affects the total earnings as well as the average wage per employee because employee compensation in certain of those sectors, such as financial activities and professional and business services, tends to be considerably higher than in most other sectors. Moreover, average wage rates in these sectors are significantly higher in the City than in the nation. In the City in 2015, the employment share for the financial activities and professional and business services sectors was approximately 28% while the earnings share for those same sectors was approximately 46%. In the nation, those same service producing sectors accounted for only approximately 20% of employment and 26% of earnings in 2015. Due to the earnings distribution in the City, sudden or large shocks in the financial markets may have a disproportionately adverse effect on the City relative to the nation.

The City's and the nation's employment and earnings by sector for 2015 are set forth in the following table.

SECTORAL DISTRIBUTION OF EMPLOYMENT AND EARNINGS IN 2015(1)

	Employment		Earnings(2)	
	NYC	U.S.	NYC	U.S.
Goods Producing Sectors				
Mining	0.0%	0.6%	0.0%	1.5%
Construction	3.3	4.5	3.3	5.8
Manufacturing	1.8	8.7	1.2	9.6
Total Goods Producing	5.1	13.8	4.6	17.0
Service Producing Sectors				
Trade, Transportation and Utilities	14.9	19.0	9.3	15.5
Information	4.5	1.9	7.3	3.4
Financial Activities	10.9	5.7	25.4	9.2
Professional and Business Services	16.6	13.9	21.0	17.0
Education and Health Services	20.6	15.5	11.6	12.7
Leisure & Hospitality	10.1	10.7	5.0	4.5
Other Services	4.4	4.0	3.2	3.7
Total Service Producing	81.9	70.7	82.8	66.0
Total Private Sector	87.0	84.5	88.3	83.3
Government(3)	13.0	15.5	11.7	16.7

Note: Data may not add due to rounding or disclosure limitations. Data are presented using NAICS.

Sources: The primary sources are the New York State Department of Labor, U.S. Department of Labor, Bureau of Labor Statistics, and the U.S. Department of Commerce, Bureau of Economic Analysis.

(1) The sectoral distributions are obtained by dividing each industry's employment or earnings by total non-agricultural employment or earnings.

(2) Includes the sum of wage and salary disbursements, other labor income and proprietor's income. The latest information available is 2015 data.

(3) Excludes military establishments.

The comparison of employment and earnings in 1980 and 2000 set forth below is presented using the industry classification system which was in use until the adoption of NAICS in the late 1990's. Though NAICS has been implemented for most government industry statistical reporting, most historical earnings data have not been converted. Furthermore, it is not possible to compare data from the two classification systems except in the general categorization of government, private and total employment. The table below reflects the overall increase in the service producing sectors and the declining manufacturing base in the City from 1980 to 2000.

The City's and the nation's employment and earnings by industry are set forth in the following table.

SECTORAL DISTRIBUTION OF EMPLOYMENT AND EARNINGS(1)

	Employment				Earnings(2)			
	1980		2000		1980		2000	
	NYC	U.S.	NYC	U.S.	NYC	U.S.	NYC	U.S.
Private Sector:								
Non-Manufacturing:								
Services	27.0%	19.8%	39.1%	30.7%	26.0%	18.4%	30.2%	28.7%
Wholesale and Retail Trade	18.6	22.5	16.8	23.0	15.1	16.6	9.3	14.9
Finance, Insurance and Real Estate	13.6	5.7	13.2	5.7	17.6	5.9	35.5	10.0
Transportation and Public Utilities	7.8	5.7	5.7	5.3	10.1	7.6	5.2	6.8
Contract Construction	2.3	4.8	3.3	5.1	2.6	6.3	2.9	5.9
Mining	0.0	1.1	0.0	0.4	0.4	2.1	0.1	1.0
Total Non-Manufacturing	69.3	59.6	78.1	70.3	71.8	56.9	83.2	67.3
Manufacturing:								
Durable	4.4	13.4	1.6	8.4	3.7	15.9	1.3	10.5
Non-Durable	10.6	9.0	4.9	5.6	9.5	8.9	4.8	6.1
Total Manufacturing	15.0	22.4	6.5	14.0	13.2	24.8	6.1	16.6
Total Private Sector	84.3	82.0	84.7	84.3	85.2	82.1	89.8	84.6
Government(3)	15.7	18.0	15.3	15.7	14.8	17.9	10.3	15.4

Note: Totals may not add due to rounding. Data are presented using the Standard Industrial Classification System ("SICS").

Sources: The two primary sources of employment and earnings information are U.S. Department of Labor, Bureau of Labor Statistics and U.S. Department of Commerce, Bureau of Economic Analysis.

(1) The sectoral distributions are obtained by dividing each industry's employment or earnings by total non-agricultural employment or earnings.

(2) Includes the sum of wage and salary disbursements, other labor income, and proprietors' income. The latest information available for the City is 2000 data.

(3) Excludes military establishments.

Unemployment

As of March 2017, the total unemployment rate in the City was 4.1%, compared to 5.4% in March 2016, based on data provided by the New York State Department of Labor, which is not seasonally adjusted. The annual unemployment rate of the City's resident labor force is shown in the following table.

ANNUAL UNEMPLOYMENT RATE(1)
(Average Annual)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
New York City	5.0%	5.6%	9.3%	9.5%	9.1%	9.3%	8.9%	7.3%	5.7%	5.2%
United States	4.6%	5.8%	9.3%	9.6%	8.9%	8.1%	7.4%	6.2%	5.3%	4.9%

Source: New York State Department of Labor and U.S. Department of Labor, Bureau of Labor Statistics.

(1) Percentage of civilian labor force unemployed: excludes those persons unable to work and discouraged workers (i.e., persons not actively seeking work because they believe no suitable work is available).

Public Assistance

As of March 2017, the number of persons receiving cash assistance in the City was 366,430 compared to 370,232 in March 2016. The following table sets forth the number of persons receiving public assistance in the City.

PUBLIC ASSISTANCE

(Annual Averages in Thousands)

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
434.8	416.9	393.1	360.8	341.8	346.9	350.5	351.7	353.9	356.0	342.3	361.9	370.5

Taxable Sales

The City is a major retail trade market with the greatest volume of retail sales of any city in the nation. The sales tax is levied on a variety of economic activities including retail sales, utility and communication sales, services and manufacturing. Taxable sales and purchases reflects data from the State Department of Taxation and Finance publication "Taxable Sales and Purchases, County and Industry Data." The yearly data presented in this paragraph and the table below covers the period from March 1 of the year prior to the listed year through the last day of February of the listed year. Between 2003 and 2008, total taxable sales volume growth rate averaged 6.0%. From 2009 to 2010, total taxable sales volume decreased by 6.3%, reflecting a decline in consumption, as a result of local employment losses and the local and national recessions. Between 2010 to 2013, total taxable sales volume growth rate averaged 6.8% primarily as a result of an increase in consumption as a result of local employment gains and the local and national recoveries, as well as two sales tax base expansions enacted by the City, effective August 1, 2009.

The following table illustrates the volume of sales and purchases subject to the sales tax from 2006 to 2016.

TAXABLE SALES AND PURCHASES SUBJECT TO SALES TAX (In Billions)

Year(1)	Retail(2)	Utility & Communication Sales(3)	Services(4)	Manufacturing	Other(5)	All Total
2006	35.9	20.1	26.3	2.2	20.6	105.1
2007	33.4	19.1	28.1	2.4	23.7	106.7
2008	33.3	20.6	31.5	2.8	26.7	115.0
2009	31.3	22.0	31.8	2.7	25.9	113.6
2010	31.0	20.6	30.1	2.2	22.5	106.4
2011	36.6	21.4	33.7	4.6	20.1	116.4
2012	41.3	20.9	37.2	4.9	22.0	126.3
2013	41.2	20.6	39.2	5.2	23.3	129.5
2014	46.1	22.8	43.9	5.6	20.7	139.1
2015	47.3	23.1	47.3	5.8	22.2	145.7
2016	47.6	21.8	50.9	5.9	23.4	149.6

Source: State Department of Taxation and Finance publication "Taxable Sales and Purchases, County and Industry Data." Data are presented using NAICS.

(1) The yearly data is for the period from March 1 of the year prior to the listed year through the last day of February of the listed year.

(2) Retail sales include building materials, general merchandise, food, auto dealers/gas stations, apparel, furniture, eating and drinking and miscellaneous retail.

(3) Utility and Communication sales include non-residential electric, non-residential gas and communication.

(4) Services include business services, hotel occupancy services (stays for the first 90 days), and other services (auto repair, parking and others).

(5) Other sales include construction, wholesale trade, arts, entertainment and recreation, and others. Also included in other are local tax base components of City taxable sales and purchases which include Manhattan parking services, hotel occupancy services, and miscellaneous services (credit rating and reporting services, miscellaneous personal services, and other services.

Population

The City has been the most populous city in the United States since 1790. The City's population is larger than the combined population of Los Angeles and Chicago, the next most populous cities in the nation.

POPULATION

Year	Total Population
1970	7,895,563
1980	7,071,639
1990	7,322,564
2000	8,008,278
2010	8,175,133

Note: Figures do not include an undetermined number of undocumented aliens.
Source: U.S. Department of Commerce, Bureau of the Census.

The United States Census Bureau estimates that the City's population increased to 8,537,673 in July 2016.

The following table sets forth the distribution of the City's population by age between 2000 and 2010.

DISTRIBUTION OF POPULATION BY AGE

	2000		2010	
Age		% of Total		% of Total
Under 5	540,878	6.8	517,724	6.3
5 to 14	1,091,931	13.6	941,313	11.5
15 to 19	520,641	6.5	535,833	6.6
20 to 24	589,831	7.4	642,585	7.9
25 to 34	1,368,021	17.1	1,392,445	17.0
35 to 44	1,263,280	15.8	1,154,687	14.1
45 to 54	1,012,385	12.6	1,107,376	13.5
55 to 64	683,454	8.5	890,012	10.9
65 and Over	937,857	11.7	993,158	12.1

Source: U.S. Department of Commerce, Bureau of the Census.

Housing

In 2014, the housing stock in the City consisted of approximately 3,400,093 housing units, excluding certain special types of units primarily in institutions such as hospitals and universities ("Housing Units") according to the 2014 Housing and Vacancy Survey released February 9, 2015. The 2014 housing inventory represented an increase of approximately 48,000 units, or 1.4%, since 2011. The 2014 Housing and Vacancy Survey indicates that rental housing units continue to predominate in the City. Of all occupied housing units in 2014, approximately 32.1% were conventional home-ownership units, cooperatives or condominiums and approximately 67.9% were rental units. Due to changes in the inventory basis beginning in 2002, it is not possible to accurately compare Housing and Vacancy Survey results beginning in 2002 to the results of earlier Surveys until such time as the data is reweighted. The following table presents trends in the housing inventory in the City.

HOUSING INVENTORY
(In Thousands)

Ownership/Occupancy Status	1991	1993	1996	1999	2002	2005	2008	2011	2014
Total Housing Units	2,981	2,977	2,995	3,039	3,209	3,261	3,328	3,352	3,400
Owner Units	858	825	858	932	997	1,032	1,046	1,015	1,033
Owner-Occupied	829	805	834	915	982	1,010	1,019	984	1,015
Vacant for Sale	29	20	24	17	15	21	26	31	18
Rental Units	2,028	2,040	2,027	2,018	2,085	2,092	2,144	2,173	2,184
Renter-Occupied	1,952	1,970	1,946	1,953	2,024	2,027	2,082	2,105	2,109
Vacant for Rent	77	70	81	64	61	65	62	68	75
Vacant Not Available for Sale or Rent(1)	94	111	110	89	127	137	138	164	183

Note: Details may not add up to totals due to rounding.

Sources: U.S. Bureau of the Census, 1991, 1993, 1996, 1999, 2002, 2005, 2008, 2011 and 2014 New York City Housing and Vacancy Surveys.

(1) Vacant units that are dilapidated, intended for seasonal use, held for occasional use, held for maintenance purposes or other reasons.

APPENDIX B
TO
APPENDIX D

FINANCIAL STATEMENTS

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Basic Financial Statements of the City of New York
June 30, 2016 and 2015

REQUIRED SUPPLEMENTARY INFORMATION—PART II-B

Schedule of Funds Held in Trust—PART III-B

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REPORT OF INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS

The People of The City of New York

Report on the financial statements

We have audited the accompanying financial statements of the governmental activities, the aggregate discretely presented component units, each major governmental fund, and the aggregate remaining fund information of The City of New York ("The City") as of and for the year ended June 30, 2016, and the related notes to the financial statements, which collectively comprise The City's basic financial statements as listed in the table of contents.

Management's responsibility for the financial statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We did not audit the financial statements of those entities disclosed in Note E.1 which represent 7 percent, (2) percent, and 5 percent, respectively, of the assets, net position and revenues of the government-wide financial statements, 100 percent of the assets, net position and revenues of the aggregate discretely presented component units, and 100 percent of the assets, fund balance and revenues of the aggregate remaining funds of The City. Those financial statements were audited by other auditors whose reports have been furnished to us, and our opinions, insofar as they relate to the amounts included for those entities disclosed in Note E.1, are based solely on the reports of the other auditors. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to The City's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of The City's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions

In our opinion, based on our audit and the reports of other auditors, the financial statements referred to above present fairly, in all material respects, the respective financial position of the governmental activities, the aggregate discretely presented component units, each major governmental fund, and the aggregate remaining fund information of The City of New York as of June 30, 2016, and the respective changes in financial position and the respective budgetary comparison for the General Fund thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other matters

The financial statements of The City as of and for the year ended June 30, 2015, before the effects of the adjustments to restate the 2015 financial statements to correct an error described in note E.5, were audited by other auditors. Those auditors expressed an unmodified opinion on those 2015 financial statements (not presented herein) in their report dated October 29, 2015.

As part of our audit of the 2016 financial statements, we audited the aforementioned adjustments described in note E.5 to the financial statements that were applied to restate the 2015 financial statements to correct an error. In our opinion, such adjustments are appropriate and have been properly applied. We were not engaged to audit, review, or apply any procedures to the 2015 financial statements of The City other than with respect to such adjustments and, accordingly, we do not express an opinion or any other form of assurance on the 2015 financial statements taken as a whole.

Required supplementary information

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis on pages B-9 through B-34, Schedule of Changes in the City's Net Pension Liability and Related Ratios for Single-Employer Pension Plans at June 30 on page B-141, Schedule of the City's Proportionate Share of the Net Pension Liabilities for Cost-Sharing Multiple-Employer Pension Plans at June 30 on page B-142, Schedule of City Contributions for all Pension Plans for Fiscal Years Ended June 30 on page B-143, and Schedule of Funding Progress for the New York City Other Postemployment Benefits Plan on page B-147 be presented to supplement the basic financial statements. Such information, although not a required part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. This required supplementary information is the responsibility of management. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America. These limited procedures consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

GRANT THORNTON LLP

New York, New York
October 31, 2016

MANAGEMENT'S DISCUSSION AND ANALYSIS

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MANAGEMENT'S DISCUSSION AND ANALYSIS

Overview of the Financial Statements

The following is a narrative overview and analysis of the financial activities of The City of New York (City or primary government) for the Fiscal Years ended June 30, 2016 and 2015. This discussion and analysis is intended to serve as an introduction to the City's basic financial statements, which have the following components: (1) government-wide financial statements, (2) fund financial statements, and (3) notes to financial statements.

Government-Wide Financial Statements

The government-wide financial statements are designed to provide readers with a broad overview of the City's finances in a manner similar to a private-sector business.

The *Statement of Net Position* presents information on all of the City's assets, liabilities, and deferred outflows and inflows of resources. *Net position (deficit)* is the difference between (a) assets and deferred outflows of resources and (b) liabilities and deferred inflows of resources. Over time, increases or decreases in *net position* may serve as a useful indicator of whether the financial position of the City is improving or deteriorating.

The *Statement of Activities* presents information showing how the City's net position changed during the fiscal year. All changes in net position are reported as soon as the underlying event giving rise to the change occurs, regardless of the timing of related cash flows. Thus, revenues are recorded when earned and expenses are recorded at the time liabilities are incurred.

Fund Financial Statements

A fund is a grouping of related accounts that is used to maintain control over resources that have been segregated for specific activities or objectives. The City uses fund accounting to ensure and demonstrate compliance with finance-related legal requirements, including the New York State Financial Emergency Act for The City of New York (Act). The Act requires the City to operate under a "rolling" Four-Year Financial Plan (Plan). Revenues and expenditures, including transfers, of each year of the Plan are required to be balanced on a basis consistent with Generally Accepted Accounting Principles (GAAP). The Plan is broader in scope than the expense budget; it comprises General Fund revenues and expenditures, Capital Projects Fund revenues and expenditures, and all short and long-term financing.

Governmental Funds

Governmental funds are used to account for essentially the same functions reported as governmental activities in the government-wide financial statements. The principal role of funds in the financial reporting model is to demonstrate fiscal accountability. Governmental fund financial statements focus on near-term inflows and outflows of spendable resources, as well as on balances of spendable resources available at the end of a fiscal year. Such information may be useful in evaluating a government's near-term financing requirements.

Because the focus of governmental funds is narrower than that of the government-wide financial statements, it is useful to compare the information presented for governmental funds with similar information presented for *governmental activities* in the government-wide financial statements. By doing so, readers may better understand the long-term impact of the City's near-term financing decisions. Both the governmental funds balance sheet and the governmental funds *Statement of Revenues, Expenditures, and Changes in Fund Balances* provide a reconciliation to facilitate the comparison between *governmental funds* and *governmental activities*.

The City adopts an annual appropriated budget for its General Fund. A budgetary comparison statement has been provided for the General Fund to demonstrate compliance with this budget.

Fiduciary Funds

The fiduciary funds are used to account for assets and activities when a governmental unit is functioning either as a trustee or an agent for another party. The City's fiduciary funds fall into two categories: Pension and Other Employee Benefit Trust Funds and Agency Funds.

The **Pension and Other Employee Benefit Trust Funds** account for the operations of:

- Pension Trusts
  - New York City Employees' Retirement System (NYCERS)
  - Teachers' Retirement System of The City of New York (TRS)
  - New York City Board of Education Retirement System (BERS)
  - New York City Police Pension Funds (POLICE)
  - New York City Fire Pension Funds (FIRE)
- Deferred Compensation Plans (DCP)
- The New York City Other Postemployment Benefits Plan (the OPEB Plan)

Each of the pension trusts report all jointly administered plans including primary pension (QPPs), and variable supplements funds (VSFs) and/or tax deferred annuity plans (TDAs), as appropriate. Before Fiscal Year 2014, the City's financial statements grouped the pension trusts by type (primary pensions, VSFs) rather than as systems. The new presentation is preferable because it more clearly illustrates the relationships between the plans within a pension system, and between the systems and the City. While the VSFs are included with QPPs for financial reporting purposes, in accordance with the Administrative Code of The City of New York (ACNY), VSFs are not pension funds or retirement systems. Instead, they provide scheduled supplemental payments, in accordance with applicable statutory provisions. While a portion of these payments are guaranteed by the City, the State has the right and power to amend, modify, or repeal VSFs and the payments they provide. However, any assets transferred to the VSFs are held in trust solely for the benefit of its members. More information is available in Note E.5.

The Deferred Compensation Plans report the various jointly administered Deferred Compensation Plans of The City of New York and related agencies and Instrumentalities and the New York City Employee Individual Retirement Account (NYCEIRA).

Note: These fiduciary funds publish separate annual financial statements, which are available at: Office of the Comptroller, Bureau of Accountancy—Room 200 South, 1 Centre Street, New York, New York 10007, or at www.comptroller.nyc.gov.

These funds use the accrual basis of accounting and a measurement focus on the periodic determination of additions, deductions, and net position restricted for benefits.

The New York City Other Postemployment Benefits Plan (the OPEB Plan) is composed of The New York City Retiree Health Benefits Trust (the Trust) and postemployment benefits other than pensions (OPEB) paid for directly by the City out of its general resources rather than through the Trust. The Trust is used to accumulate assets to pay for some of the OPEB provided by the City to its retired employees. The OPEB Plan is reported in the City's financial statements as an Other Employee Benefit Trust Fund. The OPEB Plan was established for the exclusive benefit of the City's retired employees and their dependents in providing the following current postemployment benefits: a health insurance program, Medicare Part B premium reimbursements, and welfare fund contributions. The City is not required to provide funding for the OPEB Plan other than the "pay-as-you-go" amounts necessary to provide current benefits to eligible retirees and their dependents. During Fiscal Year 2016, the City contributed approximately $2.9 billion to the OPEB Plan.

The **Agency Funds** account for miscellaneous assets held by the City for other funds, governmental units, and individuals. School fundraiser monies for scholarships, federal asset forfeiture for investigative purposes, cash bail for use by the surety/assignee, are the major miscellaneous assets accounted for in these funds. The Agency Funds are custodial in nature and do not involve measurement of results of operations.

Notes to Financial Statements

The notes to financial statements provide additional information that is essential for a full understanding of the information provided in the government-wide and fund financial statements.

Financial Reporting Entity

The financial reporting entity consists of the City government and its component units, which are legally separate organizations for which the City is financially accountable.

The City is financially accountable for the organizations that make up its legal entity. The City is also financially accountable for a legally separate organization (component units) if City officials appoint a voting majority of that organization's governing body and the City is able to either impose its will on that organization or there is a potential for the organization to provide specific financial benefits to, or to impose specific financial burdens on the City. The City may also be financially accountable for organizations that are fiscally dependent on the City if there is a potential for the organizations to provide specific financial benefits to the City, or impose specific financial burdens on the City, regardless of whether the organizations have separate elected governing boards, governing boards appointed by higher levels of government, or jointly appointed boards.

Blended Component Units

Certain component units, despite being legally separate from the City, are reported as if they were part of the City because, in addition to the City being financially accountable for them, they provide services exclusively to the City. The blended component units, which are all reported as Nonmajor Governmental Funds, comprise the following:

- New York City School Construction Authority (SCA)
- New York City Transitional Finance Authority (TFA)
- TSASC, Inc. (TSASC)
- New York City Educational Construction Fund (ECF)
- Fiscal Year 2005 Securitization Corporation (FSC)
- Sales Tax Asset Receivable Corporation (STAR)
- Hudson Yards Development Corporation (HYDC)
- Hudson Yards Infrastructure Corporation (HYIC)
- New York City Tax Lien Trusts (NYCTLTs):
  - NYCTLT 1998-2
  - NYCTLT 2012-A
  - NYCTLT 2013-A
  - NYCTLT 2014-A
  - NYCTLT 2015-A
  - NYCTLT 2016-A
- New York City Technology Development Corporation (TDC)

Discretely Presented Component Units

Certain component units are discretely presented because, while the City is financially accountable for them, they do not provide services exclusively to the government itself.

The following entities are presented discretely in the City's financial statements as major component units:

- Water and Sewer System (the System):
  - New York City Water Board (Water Board)
  - New York City Municipal Water Finance Authority (Water Authority)
- New York City Housing Authority (HA)
- New York City Housing Development Corporation (HDC)
- New York City Health and Hospitals Corporation (HHC)
- New York City Economic Development Corporation (EDC)

The following entities are presented discretely in the City's financial statements as nonmajor component units:

- WTC Captive Insurance Company, Inc. (WTC Captive)
- Brooklyn Navy Yard Development Corporation (BNYDC)
- New York City Industrial Development Agency (IDA)
- The Trust for Governors Island (TGI)
- Brooklyn Bridge Park Corporation (BBPC)
- Business Relocation Assistance Corporation (BRAC)
- Build NYC Resource Corporation (Build NYC)
- New York City Land Development Corporation (LDC)
- New York City Neighborhood Capital Corporation (NYCNCC)
- Brooklyn Public Library (BPL)
- The Queens Borough Public Library & Affiliate (QBPL)

Financial Analysis of the Government-Wide Financial Statements

In the government-wide financial statements, all of the activities of the City, aside from its discretely presented component units, are reported as governmental activities. Governmental activities decreased the City's net position by $5.1 billion during Fiscal Year 2016. The net position was increased by governmental activities during Fiscal Year 2015 by $8.0 billion and increased during Fiscal Year 2014 by $3.6 billion.

As mentioned previously, the basic financial statements include a reconciliation between the Fiscal Year 2016 governmental funds *Statement of Revenues, Expenditures, and Changes in Fund Balances*, which reports a decrease of $1.4 billion for all governmental funds balances and a decrease in the net position reported in the government-wide *Statement of Activities* of $5.1 billion. A similar reconciliation is provided for Fiscal Year 2015 amounts.

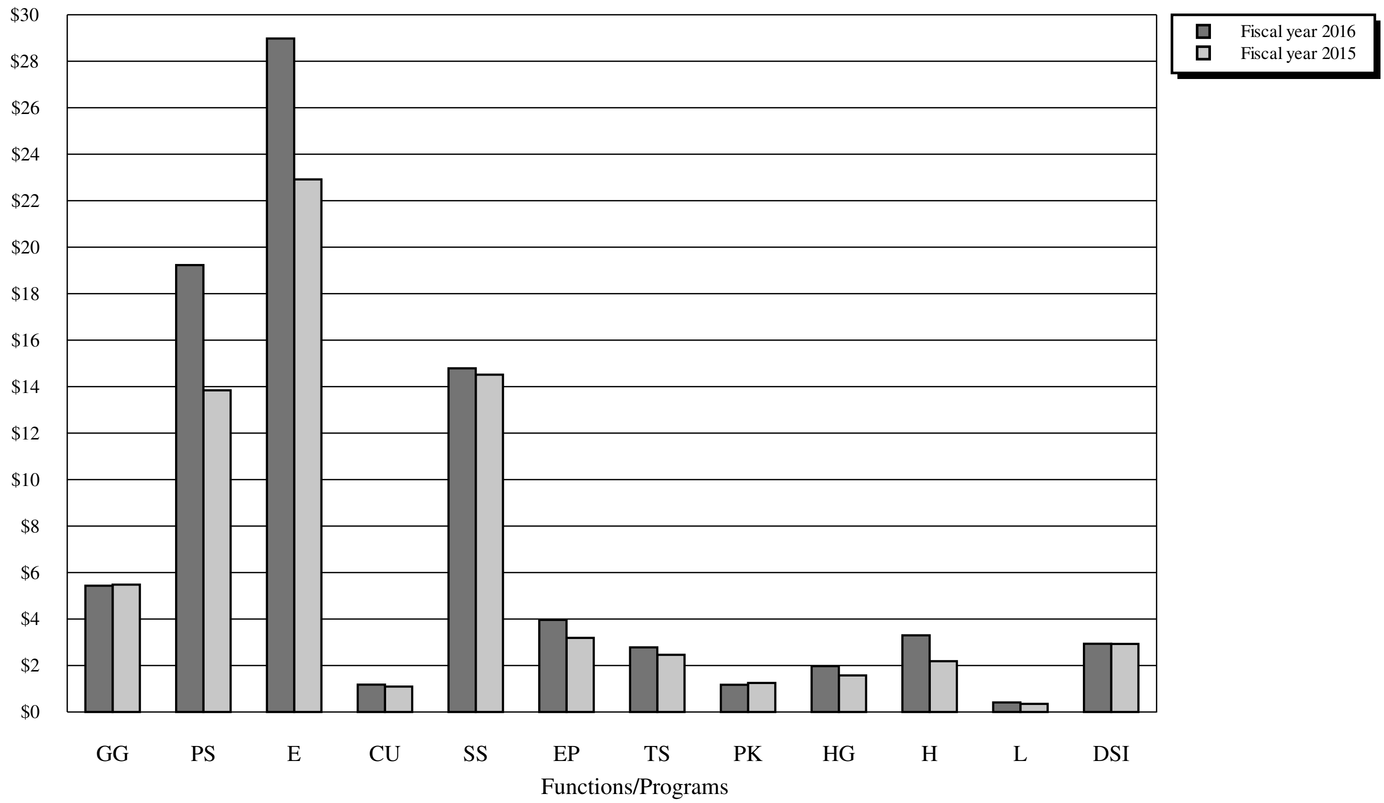
Previously published Fiscal Year 2015 financial statements have been restated to reflect restatements to POLICE's and FIRE's 2015 financial statements which had previously not reported the cost of certain accidental death benefits in their total and net pension obligations. Additionally, BERS's Fiscal Year 2015 statements were restated to reallocate certain assets. The net effect of these restatements is reported as adjustments to opening net position. See Note E.5 for more information.

Key elements of these changes are as follows:

	Governmental Activities for the Fiscal Years ended June 30,		
	2016	**2015(restated)[a]**	**2014**
		(in thousands)	
Revenues:			
Program revenues:			
Charges for services	$ 4,786,001	$ 6,078,264	$ 5,242,253
Operating grants and contributions	20,897,593	19,437,743	18,395,238
Capital grants and contributions	723,038	973,430	695,650
General revenues:			
Taxes	53,564,673	52,523,182	48,529,279
Investment income	201,724	161,351	79,261
Unrestricted Federal and State aid	258,215	252,194	251,474
Other	711,127	1,403,787	848,455
Total revenues	81,142,371	80,829,951	74,041,610
Expenses:			
General government	5,433,721	5,479,762	4,324,146
Public safety and judicial	19,230,156	13,840,502	13,614,413
Education	29,068,138	22,915,670	21,805,586
City University	1,177,695	1,094,172	1,065,176
Social Services	14,788,160	14,514,037	14,248,276
Environmental protection	3,961,688	3,188,665	4,022,369
Transportation services	2,781,281	2,460,777	2,419,644
Parks, recreation and cultural activities	1,171,975	1,249,560	1,771,837
Housing	1,973,718	1,574,233	1,446,617
Health (including payments to HHC)	3,299,166	2,186,493	2,364,475
Libraries	410,538	350,475	292,568
Debt service interest	2,935,520	2,929,046	3,025,056
Total expenses	86,231,756	71,783,392	70,400,163
Change in net position	(5,089,385)	9,046,559	3,641,447
Net position deficit—beginning	(183,081,913)	(191,103,187)	(194,744,634)
Restatement of beginning net deficit[a]	—	(1,025,285)	—
Net position deficit—ending	$(188,171,298)	$(183,081,913)	$(191,103,187)

[a] The restatement of the beginning net deficit in Fiscal Year 2015 results from restatements of actuarial liabilities and, to a lesser extent, asset allocations, reported by three of the City's Pension Systems. Additional information is discussed above in the MD&A. See Note E.5 for more information.

Expenses — Governmental Activities
for the Fiscal Years ended June 30, 2016 and 2015
(in billions)



Functions/Programs

GG	General government
PS	Public safety and judicial
E	Education (Primary and Secondary)
CU	City University
SS	Social services
EP	Environmental protection
TS	Transportation services
PK	Parks, recreation, and cultural activities
HG	Housing
H	Health, including payments to HHC
L	Libraries
DSI	Debt service interest

In Fiscal Year 2016, the government-wide revenues increased from Fiscal Year 2015 by approximately $312 million and government-wide expenses increased by approximately $14.4 billion.

The major components of the government-wide revenue increases were:

- Grants increased due to more reimbursements for costs associated with Superstorm Sandy which impacted New York City in October 2012 and an increase in State Foundation Aid for Education.
- Tax revenues, net of refunds, increased overall, as a result of the following:
  - The increase in real estate taxes results from growth in billable assessed value during the fiscal year.
  - The overall increase in sales and use taxes is driven primarily by an increase in the collection of general sales tax, which is a result of increases in audit revenue and increases in taxable consumption resulting from growth in wages and visitor spending. Additionally, there was growth in mortgage financing activity.
  - For all other taxes, commercial rent taxes increased primarily due to continued improvement in commercial office vacancy rates and asking rents in Manhattan. Also increasing was payment in lieu of taxes (PILOT), which reflects higher payments from the World Trade Center. Additionally, refunds on other taxes increased due to tax overpayments in commercial rent and personal income.
- The decrease in Other Revenues was due to a large one-time payment from the Health Stabilization Fund in FY 2015 resulting from collective bargaining settlements. This one-time payment was not repeated in FY 2016.
- The major components of the changes in government-wide expenses were:
  - Overall government-wide expenses increased significantly due to higher pension expenses, which was a result of changes in actuarial assumptions related to mortality tables. Public Safety and Education had the highest increase in pension expenses due to this change. Additionally, collective bargaining increases also resulted in higher expenses.
  - Public Safety expenses grew as a result of the hiring of additional police officers. Expenses increased in the Department of Correction (DOC) due to increased facility posts required for the plan to reform Rikers and increased spending for installation of security cameras at various facilities. In the Fire Department (FDNY), increases were due to higher Emergency Medical Services (EMS) spending.
  - Education expenses also increased due to the continued expansion of Universal Pre-Kindergarten and growth in mandated costs for special education pupils and charter schools. Capital increases were due to additional Sandy recovery work, capital and technology improvements, and new capacity projects.
  - Environmental protection expenses increased due to higher spending in facility improvements and increased construction of storm and sanitary sewers in the Department of Environmental Protection (DEP). Expenses in the Department of Sanitation (DSNY) increased due to higher levels of vehicle purchases and ongoing construction of the Marine Transfer Stations.
  - Transportation Services expenses increased due to spending in the Department of Transportation (DOT) related to roadway and sidewalk repair and maintenance, street resurfacing, and reconstruction of bridges. Transit Authority (TA) expenses increased because of higher costs for paratransit and the Staten Island Railway (SIR). Additionally, the City transferred delayed funds to the Metropolitan Transportation Authority (MTA) for bus purchases, which resulted in higher bus payments in the current year than in the prior year.
  - Housing expenses increased due to higher spending on initiatives associated with Housing New York production in the Housing Preservation and Development (HPD) agency. Expenses in the Department of Buildings (DOB) increased due to IT upgrades to improve service delivery and various Mayoral initiatives.
  - Health expenses increased as a result of a prepayment of FY 2017 funds and additional subsidy to HHC. HHC also received funds from the City to begin providing Correctional Health Services. Additionally, expenses in the Department of Health and Mental Hygiene (DOHMH) increased due to expenses for the Chelsea Clinic renovation project.
  - Libraries expenses increased due to higher operating subsidies to ensure 6-day service at branches and increased funding towards capital improvements for QBPL.

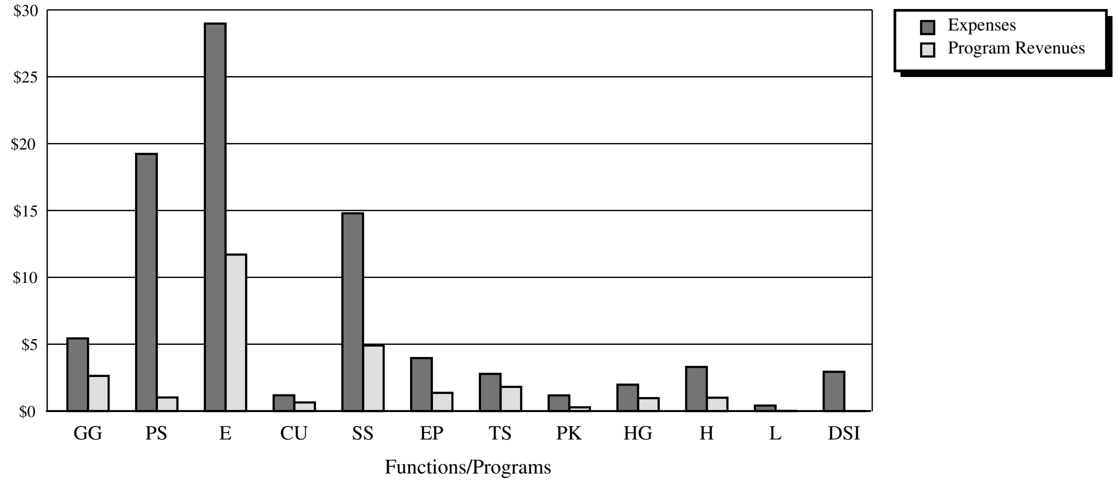
In Fiscal Year 2015, the government-wide revenues increased from Fiscal Year 2014 by approximately $6.8 billion and government-wide expenses increased by approximately $1.4 billion.

The major components of the government-wide revenue increases were:

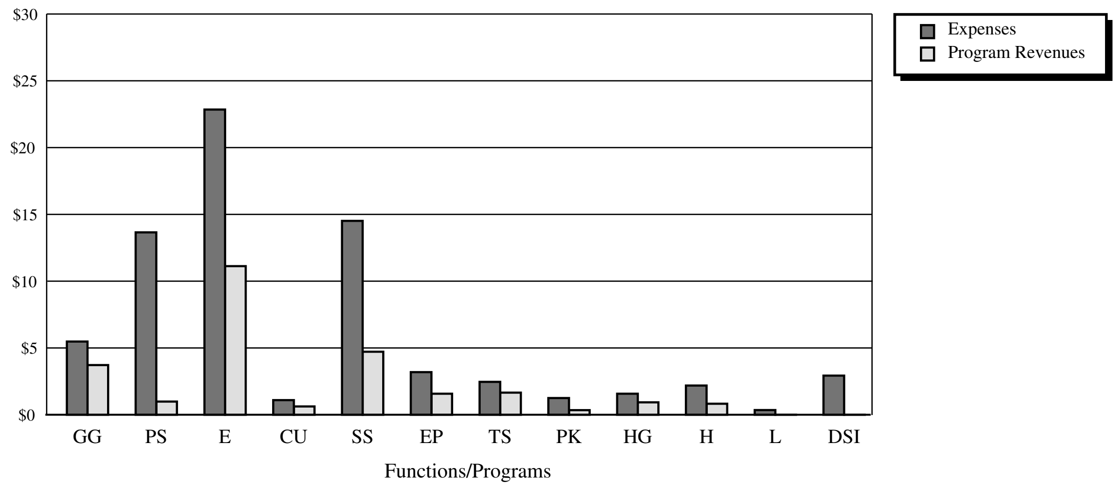
- Grants increased due to more reimbursements for costs associated with Superstorm Sandy which impacted New York City in October 2012.
- Tax revenues, net of refunds, increased overall, as a result of the following:
  - The increase in real estate taxes results from growth in billable assessed value during the fiscal year.
  - The overall increase in sales and use taxes is driven primarily by large growth in mortgage financing activity for the commercial real estate market and stable financial activity for the residential market. Additionally, there was an increase in the collection of general sales tax which demonstrates an increase in taxable consumption resulting from growth in wages and visitor spending.
  - The increase in personal income taxes reflects the strong withholding growth and large gains in non-wage income.
  - The increase in other income taxes (which includes general corporation, financial corporation, unincorporated business income, non-resident personal income taxes, and utility tax) is primarily attributable to an increase in financial corporation taxes which reflects increases in consumer and corporate lending, deposit taking, and reduced settlements related to mortgage securities and unfair banking practices. Additionally, growth in hedge fund asset management and employment, and growth in personal income payments from non-resident City employees increased unincorporated business income and personal income taxes, respectively.
  - For all other taxes, the increase in taxes associated with the conveyance of real property reflects a continued recovery in the average sale price for both commercial and residential properties. Also increasing was payment in lieu of taxes (PILOT), which reflects higher payments for World Trade Center and Battery Park City Authority, offset by the forgiveness of New York City Housing Authority (NYCHA) payments. Additionally, hotel room occupancy taxes grew due to continued growth in the tourism sector.
  - The decrease in penalties and interest on delinquent taxes is primarily attributable to a decrease in penalties and interest on real estate taxes, which reflects a smaller percentage of delinquent properties paying penalties and interest. Additionally, refunds increased as a result of overpayments by taxpayers.
- The major components of the changes in government-wide expenses were:
  - General government expense increases are attributable to increases in Community Development Block Grant Disaster Recovery funded work, collective bargaining increases, and various Mayoral initiatives.
  - Education expenses increased due to the expansion of Universal Pre-Kindergarten and after-school programming, new investments in low-performing schools, growth in mandated costs for special education pupils, and collective bargaining increases.
  - Expenses in housing increased due to greater spending on initiatives associated with Sandy housing recovery and resiliency efforts in Housing Preservation Development (HPD). Department of Buildings expenses increased due to collective bargaining settlements and technology upgrades to improve service delivery. Expenses related to NYCHA increased due to unit rehabilitations, extended hours at community centers, and collective bargaining increases.
  - Parks, Recreation, Cultural Activities, and Health expenses decreased as a result of a reclassification of Capital work-in-progress that occurred during the fiscal year.
  - Environmental protection expenses decreased primarily due to lower accruals for collective bargaining payments in Department of Environmental and Preservation in Fiscal Year 2015. Expenses in Sanitation increased due to landfill closure costs at Freshkills, start of operations at the North Shore Marine Transfer Station, and increase in collective bargaining expenses.
  - Libraries expenses increased primarily due to budget increases to cover collective bargaining settlement payments made in Fiscal Year 2015.

The following charts compare the amounts of expenses and program revenues for Fiscal Years 2016 and 2015:

Expenses and Program Revenues — Governmental Activities for the Fiscal Year ended June 30, 2016 (in billions)



Expenses and Program Revenues — Governmental Activities for the Fiscal Year ended June 30, 2015 (in billions)

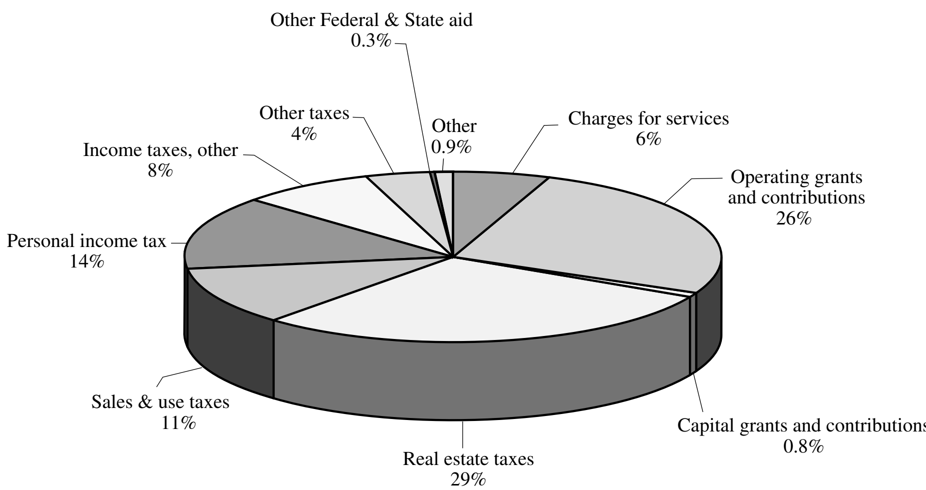


Functions/Programs

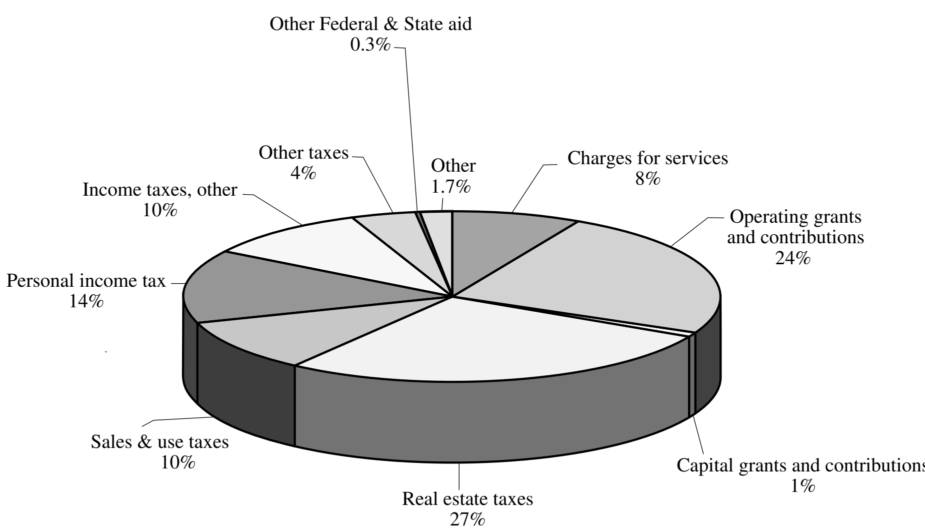
GG	General government
PS	Public safety and judicial
E	Education (Primary and Secondary)
CU	City University
SS	Social services
EP	Environmental protection
TS	Transportation services
PK	Parks, recreation, and cultural activities
HG	Housing
H	Health, including payments to HHC
L	Libraries
DSI	Debt service interest

The following charts compare the amounts of program and general revenues for Fiscal Years 2016 and 2015:

Revenues by Source — Governmental Activities
for the Fiscal Year ended June 30, 2016



Revenues by Source — Governmental Activities
for the Fiscal Year ended June 30, 2015



As noted earlier, increases and decreases of net position may over time serve as a useful indicator of changes in a government's financial position. In the case of the City, liabilities and deferred inflows of resources exceed assets and deferred outflows of resources by $188.2 billion at the close of the most recent fiscal year, a decrease in the excess of liabilities and deferred inflows of resources over assets and deferred outflows of resources (i.e., a decrease in the net deficit) of $5.1 billion from June 30, 2015 as restated, which in turn compares with the net position decrease (i.e. an increase to the net deficit) of $8.0 billion over the prior Fiscal Year 2014.

	Governmental Activities		
	2016	**2015 (restated)[(a)]**	**2014**
		(in thousands)	
Current and other assets	$ 39,227,499	$ 40,367,330	$ 36,647,566
Capital assets (net of depreciation)	54,952,234	53,122,237	51,662,105
Total assets	94,179,733	93,489,567	88,309,671
Deferred outflows of resources	13,387,451	5,334,087	544,247
Long-term liabilities outstanding	257,893,385	240,788,718	235,859,487
Other liabilities	22,316,416	22,860,910	22,339,115
Total liabilities	280,209,801	263,649,628	258,198,602
Deferred inflows of resources	15,528,681	18,255,939	21,758,503
Net position:			
Net investment in capital assets	(12,684,965)	(13,828,805)	(7,495,896)
Restricted	4,235,460	5,277,387	4,420,127
Unrestricted (deficit)	(179,721,793)	(174,530,495)	(188,027,418)
Total net position (deficit)	$(188,171,298)	$(183,081,913)	$(191,103,187)

(a) As previously discussed in MD&A and in Note E.5, there were restatements to pension amounts reported by three of the City's Pension Systems.

The excess of liabilities over assets reported on the government-wide statement of net position (deficit) is a result of several factors. The largest components of the net position (deficit) are the result of the City having long-term debt with no corresponding capital assets and the City's OPEB liability. The following summarizes the main components of the net deficit as of June 30, 2016 and 2015:

	Components of Net Deficit	
	2016	**2015 (restated)**
	(in billions)	
Net Position Invested in Capital Assets		
Some City-owned assets have a depreciable life used for financial reporting that is different from the period over which the related debt principal is being repaid. Schools and related education assets depreciate more quickly than their related debt is paid, and they comprise one of the largest components of this difference	$ (12.7)	$ (13.8)
Net Position Restricted for:		
Debt Service	3.8	4.1
Capital Projects	0.4	1.2
Total restricted net position	4.2	5.3
Unrestricted Net Position		
TFA issued debt to finance costs related to the recovery from the September 11, 2001 World Trade Center disaster, which are operating expenses of the City	(1.0)	(1.0)
STAR issued debt related to the defeasance of the MAC issued debt	(1.9)	(2.0)
The City has issued debt for the acquisition and construction of public purpose capital assets which are not reported as City-owned assets on the Statement of Net Position. This includes assets of the TA, the System, HHC, and certain public libraries and cultural institutions. This is the debt outstanding for non-City owned assets at year end.	(28.0)	(25.0)
Certain long-term obligations do not require current funding:		
OPEB liability	(89.4)	(85.5)
Judgments and claims	(7.1)	(6.8)
Vacation and sick leave	(4.3)	(3.9)
Pension liability	(64.8)	(53.1)
Landfill closure and postclosure costs	(1.5)	(1.5)
Deferred outflows of resources	13.4	5.3
Other:	4.9	(1.0)
Total unrestricted net position	(179.7)	(174.5)
Total net position (deficit)	$(188.2)	$(183.0)

The following chart provides key pension statistics by pension system as of and for the Fiscal Year ended June 30, 2016:

Summary of City Pension Information Fiscal Year 2016

	NYCERS*	TRS**	BERS**	POLICE*	FIRE*	Total
City Membership (active, inactive and retired) as of 6/30/14	187,548	206,481	45,358	84,555	27,138	551,080
			(in billions, except %)			
Total Pension Liability (TPL)	$ 43.7	$ 68.0	$ 4.8	$ 51.1	$ 20.6	$ 188.2
Less Plan Fiduciary Net Position (PFNP)	30.4	42.4	3.4	35.5	11.7	123.4
Net Pension Liability (NPL)	$ 13.3	$ 25.6	$ 1.4	$ 15.6	$ 8.9	$ 64.8
PFNP as a % of TPL***	69.6%	62.4%	70.8%	69.5%	56.8%	65.6%
Pension Expense	$ 1.7	$ 3.8	$ 0.3	$ 2.2	$ 1.1	$ 9.1

* Includes QPP and VSFs
** QPP only
*** Calculated based on whole dollar unrounded amounts.

The following chart provides key pension statistics by pension system as of and for the Fiscal Year ended June 30, 2015:

Summary of City Pension Information Fiscal Year 2015 (restated)

	NYCERS*	TRS**	BERS**	POLICE*	FIRE*	Total
City Membership (active, inactive and retired) as of 6/30/13	187,527	201,761	45,592	83,727	27,039	545,646
			(in billions, except %)			
Total Pension Liability (TPL)	$ 41.9	$ 63.3	$ 4.5	$ 48.2	$ 19.4	$ 177.3
Less Plan Fiduciary Net Position (PFNP)	30.6	43.1	3.5	35.3	11.7	124.2
Net Pension Liability (NPL)	$ 11.3	$ 20.2	$ 1.0	$ 12.9	$ 7.7	$ 53.1
PFNP as a % of TPL***	73.0%	68.1%	77.8%	73.2%	60.3%	70.1%
Pension Expense	$ 1.2	$ 2.1	$ 0.1	$ 1.2	$ 0.7	$ 5.3

* Includes QPP and VSFs
** QPP only
*** Calculated based on whole dollar unrounded amounts.

More information about pensions is available in Note E.5.

Financial Analysis of the Governmental Funds

As noted earlier, the City uses fund accounting to ensure and demonstrate compliance with finance-related legal requirements. The table below summarizes the changes in the fund balances of the City's governmental funds.

Governmental Funds

	General Fund	Capital Projects Fund	General Debt Service Fund	Nonmajor Governmental Funds	Adjustments/ Eliminations	Total
			(in thousands)			
Fund Balances (deficit), June 30, 2014	$ 462,519	$(3,035,881)	$ 638,852	$ 4,866,002	$ —	$ 2,931,492
Revenues	77,482,450	2,359,933	126,223	4,907,069	(3,230,345)	81,645,330
Expenditures	(70,196,875)	(7,836,311)	(3,781,824)	(8,965,577)	2,674,141	(88,106,446)
Other financing sources (uses)	(7,280,473)	6,732,668	4,986,969	3,570,692	556,204	8,566,060
Fund Balances (deficit), June 30, 2015	467,621	(1,779,591)	1,970,220	4,378,186	—	5,036,436
Revenues	79,399,507	1,996,759	87,611	3,827,148	(2,746,399)	82,564,626
Expenditures	(73,700,743)	(8,079,916)	(3,912,444)	(5,906,994)	2,566,109	(89,033,988)
Other financing sources (uses)	(5,693,566)	4,884,351	3,629,730	2,098,080	180,290	5,098,885
Fund Balances (deficit), June 30, 2016	$ 472,819	$(2,978,397)	$ 1,775,117	$ 4,396,420	$ —	$ 3,665,959

The City's General Fund is required to adopt an annual budget prepared on a basis generally consistent with Generally Accepted Accounting Principles (GAAP). Surpluses from any fiscal year cannot be appropriated in future fiscal years.

If the City anticipates that the General Fund will have an operating surplus, the City will make discretionary transfers to the General Debt Service Fund and other payments that reduce the amount of the General Fund surplus for financial reporting purposes and reduce the need for expenditures in the succeeding fiscal year or years. As detailed later, the General Fund had an operating surplus of $4.0 billion and $3.6 billion before these expenditures and transfers (discretionary and other) for Fiscal Years 2016 and 2015, respectively. After these certain expenditures and transfers, the General Fund reported an operating surplus of $5 million in both Fiscal Years 2016 and 2015, which resulted in an increase in fund balance by this amount.

The General Debt Service Fund receives transfers (discretionary and other) from the General Fund from which it pays the City's debt service requirements. Its fund balance at June 30, 2016 can be attributed principally to transfers (discretionary transfer and other) from the General Fund totaling $1.8 billion in Fiscal Year 2016 for Fiscal Year 2017 debt service. Similar transfers in Fiscal Year 2015 of $2.02 billion for Fiscal Year 2016 debt service also primarily account for the General Debt Service Fund balance at June 30, 2015.

The Capital Projects Fund accounts for the financing of the City's capital program. The primary source of funding is the issuance of City and TFA debt. Capital-related expenditures are first paid from the General Fund, which is reimbursed for these expenditures by the Capital Projects Fund. To the extent that capital expenditures exceed proceeds from bond issuances, and other revenues and financing sources, the Capital Projects Fund will have a deficit. The deficit fund balances at June 30, 2016 and 2015 represent the amounts expected to be financed from future bond issues or intergovernmental reimbursements. To the extent the deficits will not be financed or reimbursed, transfers from the General Fund will be required.

General Fund Budgetary Highlights

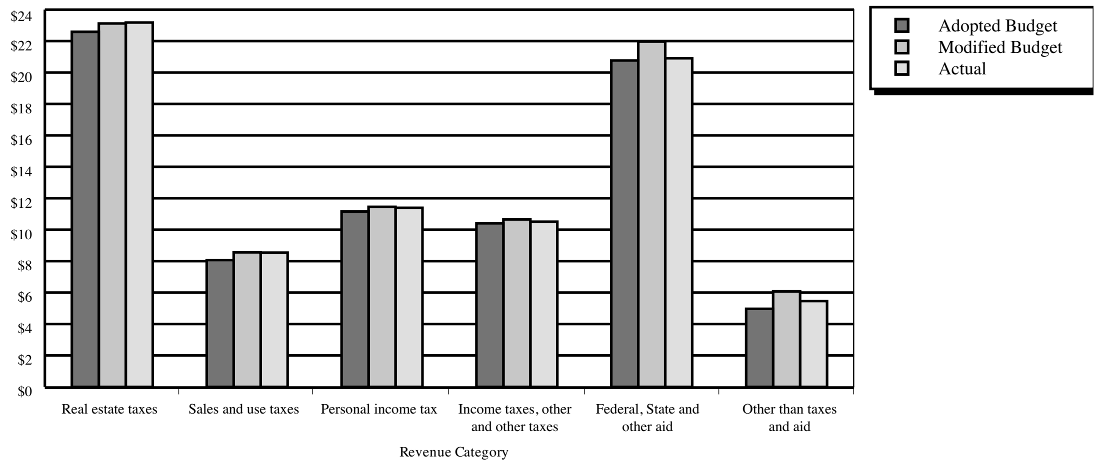
GAAP require recognition of pollution remediation obligations and generally preclude costs incurred for pollution remediation from being reported as capital expenditures. Thus, the City's Fiscal Year 2016 General Fund expenditures include approximately $163.9 million of pollution remediation expenditures associated with projects which were originally included in the City's capital program. The City also reported $159.2 million of City bond proceeds and $4.7 million of other revenues (New York City Municipal Water Finance Authority bond proceeds transferred to the City) supporting the $163.9 million of pollution remediation expenditures in the General Fund for Fiscal Year 2016. In Fiscal Year 2015, $241.1 million of City bond proceeds and $13.5 million of other revenues supported the $254.6 million of pollution remediation expenditures reported in the General Fund. Although amounts were not established in the Adopted Budget, a modification to the budget was made to accommodate the amount of pollution remediation expenditure charge in the General Fund. These pollution remediation expenditures were incurred by various agencies, as follows:

	General Fund Pollution Remediation Expenditures	
	2016	2015
	(in thousands)	
General government	$ 23,456	$ 42,730
Public safety and judicial	3,172	3,491
Education	107,083	130,514
Social services	154	301
Environmental protection	10.929	15,476
Transportation services	5,879	7,844
Parks, recreation, and cultural activities	3,227	47,941
Housing	1,892	1,726
Health, including HHC	7,665	4,346
Libraries	437	251
Total expenditures	$ 163,894	$ 254,620

General Fund Revenues

The following charts and tables summarize actual revenues by category for Fiscal Years 2016 and 2015 and compare revenues with each fiscal year's Adopted Budget and Modified Budget.

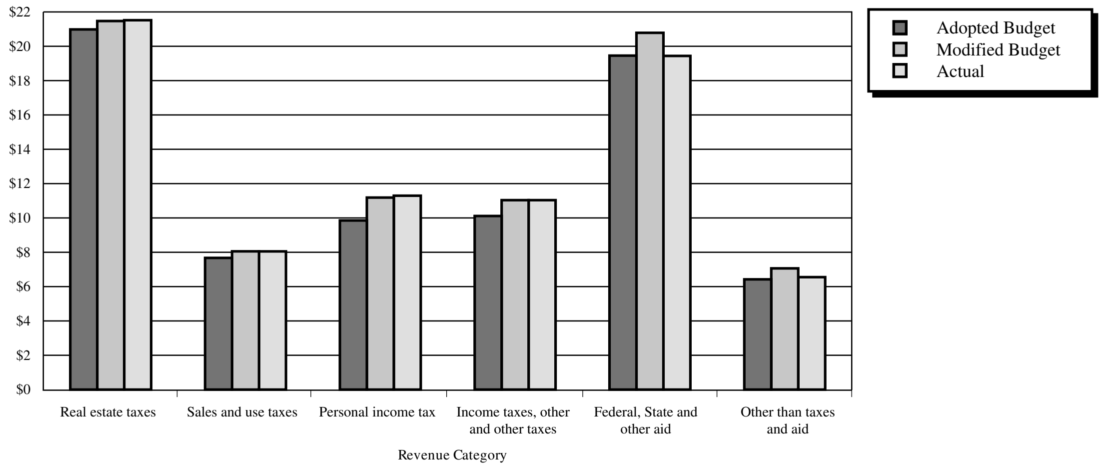
General Fund Revenues
Fiscal Year 2016
(in billions)



General Fund Revenues
Fiscal Year 2016

	Adopted Budget	Modified Budget	Actual
		(in millions)	
Taxes (net of refunds):			
Real estate taxes	$22,589	$23,120	$23,181
Sales and use taxes	8,068	8,560	8,540
Personal income tax	11,154	11,454	11,392
Income taxes, other	6,662	7,171	6,948
Other taxes	3,745	3,484	3,560
Taxes (net of refunds)	52,218	53,789	53,621
Federal, State and other aid:			
Categorical	20,766	21,969	20,904
Federal, State and other aid	20,766	21,969	20,904
Other than taxes and aid:			
Charges for services	2,735	2,734	2,624
Other revenues	1,911	2,755	2,250
Bond proceeds	—	159	159
Transfers from Nonmajor Debt Service Fund	240	346	346
Transfers from General Nonmajor Debt Service Fund	82	82	82
Other than taxes and aid	4,968	6,076	5,461
Total revenues	$77,952	$81,834	$79,986

General Fund Revenues
Fiscal Year 2015
(in billions)



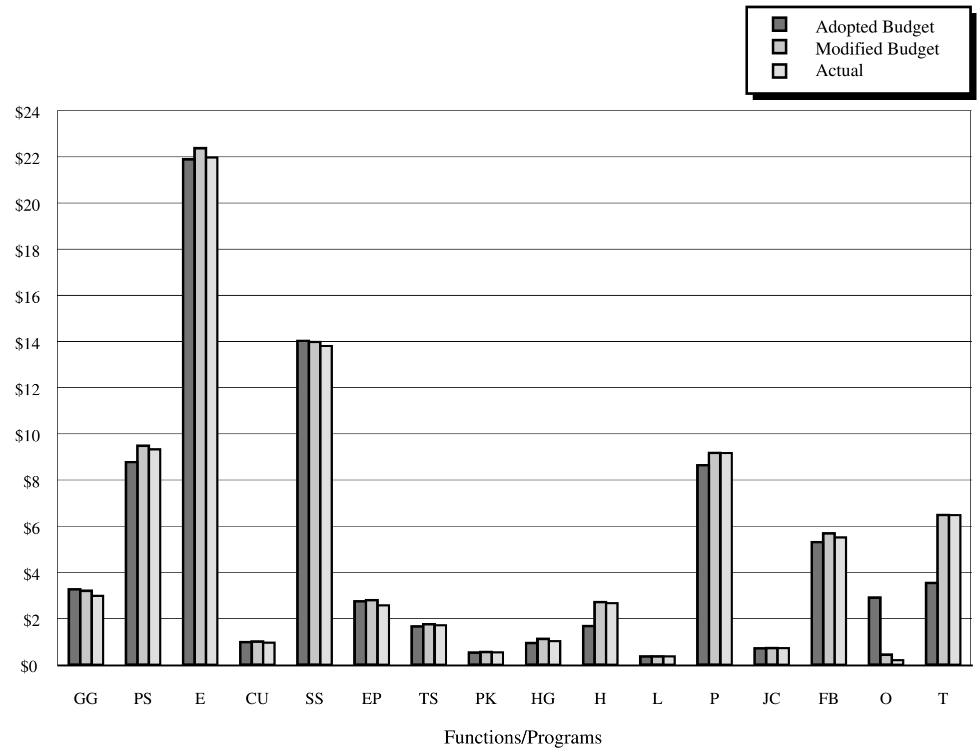
General Fund Revenues
Fiscal Year 2015

	Adopted Budget	Modified Budget (in millions)	Actual
Taxes (net of refunds):			
Real estate taxes	$20,981	$21,471	$21,518
Sales and use taxes	7,672	8,054	8,051
Personal income tax	9,851	11,186	11,295
Income taxes, other	6,495	7,570	7,602
Other taxes	3,618	3,466	3,475
Taxes (net of refunds)	48,617	51,747	51,941
Federal, State and other aid:			
Categorical	19,455	20,784	19,438
Federal, State and other aid	19,455	20,784	19,438
Other than taxes and aid:			
Charges for services	2,752	2,778	2,745
Other revenues	3,348	3,657	3,358
Bond proceeds	—	315	241
Transfers from Nonmajor Debt Service Fund	240	230	230
Transfers from General Debt Service Fund	82	82	82
Other than taxes and aid	6,422	7,062	6,656
Total revenues	$74,494	$79,593	$78,035

General Fund Expenditures

The following charts and tables summarize actual expenditures by function/program for Fiscal Years 2016 and 2015 and compare expenditures with each fiscal year's Adopted Budget and Modified Budget.

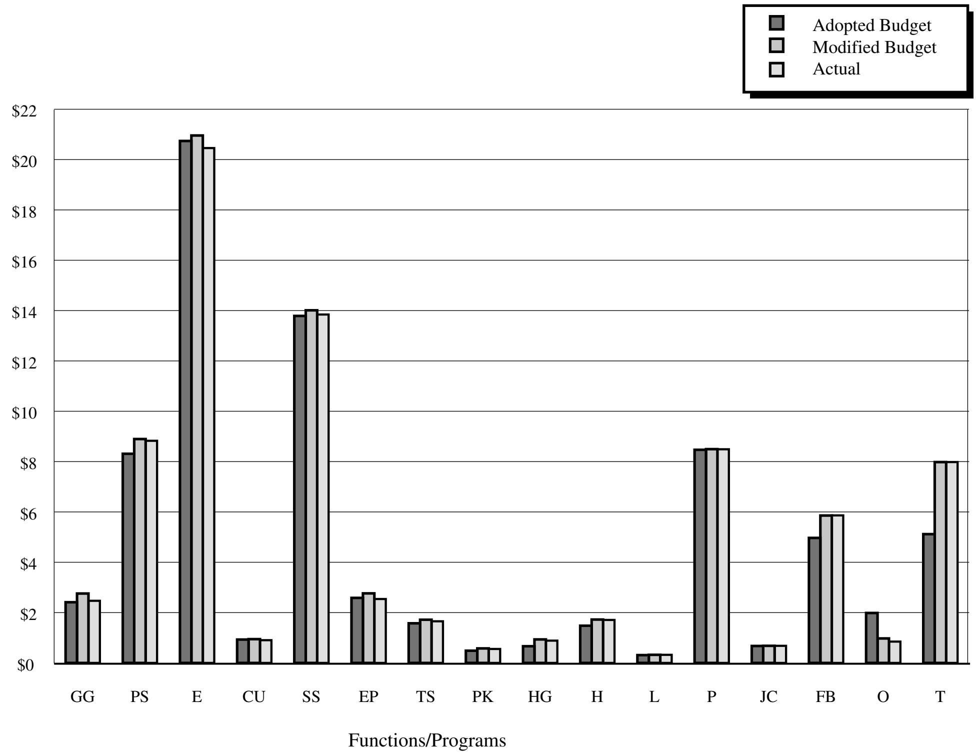
General Fund Expenditures
Fiscal Year 2016
(in billions)



General Fund Expenditures
Fiscal Year 2016

	Adopted Budget	Modified Budget (in millions)	Actual
General government (GG)	$ 3,267	$ 3,201	$ 2,985
Public safety and judicial (PS)	8,777	9,483	9,326
Education (E)	21,894	22,374	21,974
City university (CU)	978	1,003	955
Social services (SS)	14,027	13,980	13,800
Environmental protection (EP)	2,748	2,796	2,569
Transportation services (TS)	1,659	1,754	1,708
Parks, recreation and cultural activities (PK)	525	549	534
Housing (HG)	939	1,118	1,023
Health, including HHC (H)	1,673	2,712	2,667
Libraries (L)	358	360	360
Pensions (P)	8,643	9,173	9,171
Judgments and claims (JC)	710	720	720
Fringe benefits and other benefit payments (FB)	5,310	5,691	5,511
Other (O)	2,904	435	198
Transfers and other payments for debt service (T)	3,540	6,485	6,480
Total expenditure	$77,952	$81,834	$79,981

General Fund Expenditures
Fiscal Year 2015
(in billions)



General Fund Expenditures
Fiscal Year 2015

	Adopted Budget	Modified Budget (in millions)	Actual
General government (GG)	$ 2,412	$ 2,758	$ 2,469
Public safety and judicial (PS)	8,311	8,896	8,827
Education (E)	20,740	20,957	20,458
City university (CU)	929	946	904
Social services (SS)	13,788	14,011	13,843
Environmental protection (EP)	2,585	2,764	2,540
Transportation services (TS)	1,575	1,717	1,655
Parks, recreation and cultural activities (PK)	486	577	555
Housing (HG)	664	934	886
Health, including HHC (H)	1,479	1,724	1,708
Libraries (L)	311	323	322
Pensions (P)	8,469	8,495	8,490
Judgments and claims (JC)	674	680	680
Fringe benefits and other benefit payments (FB)	4,968	5,857	5,863
Other (O)	1,985	973	848
Transfers and other payments for debt service (T)	5,118	7,981	7,982
Total expenditures	$74,494	$79,593	$78,030

General Fund Surplus

The City had General Fund surpluses of $4.0 billion, $3.6 billion and $2.01 billion before certain expenditures and transfers (discretionary and other) for Fiscal Years 2016, 2015 and 2014, respectively. For the Fiscal Years 2016, 2015 and 2014, the General Fund surplus was $5 million after expenditures and transfers (discretionary and other).

The expenditures and transfers (discretionary and other) made by the City after the adoption of its Fiscal Years 2016, 2015 and 2014 budgets follow:

	Governmental Activities		
	2016	**2015**	**2014**
		(in millions)	
Transfer, as required by law, to the General Debt Service Fund of real estate taxes collected in excess of the amount needed to finance debt service	$ 382	$ 428	$ 481
Discretionary transfers to the General Debt Service Fund	1,378	1,548	140
Net equity contribution in bond refunding that accrued to future years debt service savings	44	47	23
Debt service prepayments for lease purchase debt service due in the fiscal year	100	—	—
Grant to TFA	1,734	1,578	1,362
Advance cash subsidies to the HHC	400	—	—
Total expenditures and transfers (discretionary and other)	4,038	3,601	2,006
Reported surplus	5	5	5
Total surplus	$4,043	$3,606	$2,011

Fiscal Year 2016

Final results for any given fiscal year may differ greatly from that year's Adopted Budget. The following table shows the variance between actuals and amount for the Fiscal Year ended 2016 Adopted Budget:

	2016
Additional Resources:	**(in millions)**
Lower than expected all other administrative OTPS costs	$1,148
Lower than expected all other personal services spending	1,031
Reallocation of the General Reserve	1,000
Greater than expected real estate tax collections	591
Lower than expected debt service costs	580
Higher than expected banking corporation tax collections	481
Lower than expected Medicaid spending	414
Greater than expected real property transfer tax collections	364
Higher than expected mortgage tax collections	319
Lower than expected current health insurance costs	302
Higher than expected Federal categorical aid	248
Greater than expected personal income tax collections	217
Lower than expected fuel and energy costs	208
Greater than expected revenues from fines and forfeitures	185
Lower than expected supplies and materials costs	168
Pollution remediation bond proceeds	159
Greater than expected sales tax collections	117
Higher than expected tobacco settlement proceeds	106
Greater than expected all other general government charges (collections)	100
Higher than expected revenues from licenses, permits & privileges	87
Higher than expected commercial rent tax collections	47
Greater than expected all other tax collections	47
Higher than expected all other miscellaneous revenues	34
Greater than expected proceeds from asset sales	33
Greater than expected State categorical aid (including prior year adjustments)	24
Lower than expected provisions for disallowance reserve	14
Greater than expected unincorporated business tax collections	9
Greater than expected rental revenues	8
Lower than expected public assistance spending	4
Total	8,045
Enabled the City to provide for:	
Additional prepayments for certain debt service costs and subsidies due in Fiscal Year 2017	3,994
Lower than expected general corporation tax collections	789
Higher than expected payments to New York City Health and Hospitals Corporation	574
Greater than expected pension costs	528
Higher than expected reserve for future retirees' health insurance costs	500
Greater than expected uniformed overtime costs	296
Lower than expected reimbursement and payment for the water and sewer system	219
Greater than expected all other overtime costs	193
Higher than expected all other fixed and miscellaneous charges	193
Greater than expected property and equipment costs	179
Pollution remediation costs	164
Lower than expected non-governmental grants	154
Higher than expected contractual services spending	126
Higher than expected all other social services spending (excluding Medicaid and public assistance)	102
Greater than expected judgments & claims costs	21
All other net overspending or revenues below budget	8
Total	8,040
Reported Surplus	$ 5

Fiscal Year 2015

The following table shows the variance between actuals and amounts for the Fiscal Year ended 2015 Adopted Budget:

	2015
Additional Resources:	(in millions)
Greater than expected personal income tax collections	$1,423
Reallocation of the general reserve	750
Lower than expected debt service costs for amounts due in current fiscal year	622
Greater than expected real estate tax collections	537
Higher than expected Federal categorical aid	525
Greater than expected real property transfer tax collections	414
Lower than expected all other personal services spending	375
Higher than expected banking corporation tax collections	358
Higher than expected mortgage tax collections	281
Pollution remediation bond proceeds	241
Lower than expected current health insurance costs	201
Greater than expected proceeds from asset sales	183
Greater than expected revenues from fines and forfeitures	170
Lower than expected all other administrative OTPS costs	136
Higher than expected revenues from licenses, permits & privileges	120
Lower than expected fuel and energy costs	112
Higher than expected all other charges for services	102
Lower than expected Medicaid spending	97
Higher than expected general corporation tax collections	82
Greater than expected sales tax collections	66
Lower than expected supplies and materials costs	66
Greater than expected unincorporated business tax collections	63
Higher than expected commercial rent tax collections	52
Greater than expected all other tax collections	48
Higher than expected contractual services spending	31
Lower than expected all other social services spending (excluding Medicaid and public assistance)	13
Greater than expected rental revenues	12
All other net underspending or revenues above budget	19
Total	7,099
Enabled the City to provide for:	
Additional prepayments for certain debt service costs due in Fiscal Year 2016	3,554
Higher than expected contribution to trust funding future retirees' health insurance costs	955
Lower than expected proceeds from sale of taxi medallions	532
Greater than expected uniformed overtime costs	352
Lower than expected State categorical aid (including prior year adjustments)	305
Higher than expected all other fixed and miscellaneous charges	297
Pollution remediation costs	255
Greater than expected all other overtime costs	187
Greater than expected payments to the Health and Hospitals Corporation	152
Lower than expected reimbursement and payment from the water and sewer system	120
Greater than expected property and equipment costs	114
Greater than expected provisions for disallowance reserve	95
Higher than expected public assistance spending	68
Lower than expected non-governmental grants	62
Higher than expected pension costs	21
Lower than expected all other miscellaneous revenues	12
Lower than expected tobacco settlement proceeds	10
Greater than expected judgments & claims costs	3
Total	7,094
Reported Surplus	$ 5

Capital Assets

The City's investment in capital assets (net of accumulated depreciation/amortization), is detailed as follows:

	Governmental Activities		
	2016	2015	2014
		(in millions)	
Land*	$ 1,941	$ 1,907	$ 1,771
Buildings	33,733	33,081	30,785
Equipment (including software)	2,643	2,602	2,571
Infrastructure**	13,124	12,552	12,275
Construction work-in-progress	3,511	2,980	4,260
Total	$54,952	$53,122	$51,662

* Not depreciable/amortizable

** Infrastructure elements include the roads, bridges, curbs and gutters, streets and sidewalks, park land and improvements, piers, bulkheads and tunnels.

The net increase in the City's capital assets during Fiscal Year 2016 was $1.83 billion, a 3% increase. Capital assets additions in Fiscal Year 2016 were $7.71 billion, a decrease of $2.19 billion from Fiscal Year 2015.

In 2016 construction work-in-progress was $3.51 billion, representing a 18% net increase. The 2016 addition to work-in-progress was $3.04 billion, a 15% decrease from prior year. The increase in the work-in-progress ending balance was the result of a decrease in building additions (work-in-progress deletion) of $2.35 billion, which represents a 48% decrease from Fiscal Year 2015.

The net increase in the City's capital assets during Fiscal Year 2015 was $1.46 billion, a 3% increase. Capital assets additions in Fiscal Year 2015 were $9.90 billion, an increase of $1.38 billion from Fiscal Year 2014.

In 2015 construction work-in-progress was $2.98 billion, representing a 30% net decrease. The decrease was the result of $4.37 billion in building additions and the reclassification of $485 million of construction costs as being for non-city-owned assets and other accounting adjustments. The total reclassification write down accounted for 11% of the 2015 construction work-in-progress opening balance.

Additional information on the City's capital assets can be found in Note D.2 of the Basic Financial Statements and in schedule CA1 through CA3 of other supplementary information.

Debt Administration

The City, through the Comptroller's Office of Public Finance, in conjunction with the Mayor's Office of Management and Budget, is charged with issuing debt to finance the City's capital program. The following table summarizes the debt outstanding for the City and certain City-related issuing entities at the end of Fiscal Years 2016, 2015 and 2014.

	New York City and City-Related Debt		
	2016	2015	2014
		(in millions)	
General Obligation Bonds[(a)]	$38,073	$40,460	$41,665
TFA Bonds	28,408	25,488	24,013
TFA Recovery Bonds	906	936	974
TFA BARBS	8,044	7,426	6,051
TSASC Bonds	1,145	1,222	1,228
IDA Bonds	84	87	90
STAR Bonds	1,961	2,035	1,975
FSC Bonds	175	198	231
HYIC Bonds	3,000	3,000	3,000
ECF Bonds	240	264	266
Tax Lien Collateralized Bonds	32	34	46
Total bonds and notes outstanding	82,068	81,150	79,539
Plus premiums / less discounts (net)	4,173	3,825	3,162
Total bonds and notes payable	$86,241	$84,975	$82,701

(a) Does not include capital contract liabilities.

General Obligation

On June 30, 2016, the City's outstanding General Obligation (GO) debt, including capital contract liabilities and TFA's outstanding debt above $13.5 billion totaled $62.21 billion (compared with $59.63 and $57.90 billion as of June 30, 2015 and 2014, respectively). The State Constitution provides that, with certain exceptions, the City may not contract indebtedness in an amount greater than 10% of the average full value of taxable real estate in the City for the most recent five years (Debt Limit). As of June 30, 2016, the City's 10% Debt Limit was $85.18 billion (compared with $81.35 and $79.10 billion as of June 30, 2015 and 2014 respectively). The City and TFA's combined debt incurring power as of June 30, 2016, after providing for capital contract liabilities, totaled $22.98 billion. As of July 1, 2016, the debt incurring power is $30.17 billion based on the change in the five-year full valuation average for fiscal year 2017.

As of June 30, 2016, the City's outstanding GO debt is $38.07 billion; consisting of $6.94 billion of variable rate bonds and $31.13 billion of fixed rate bonds. In Fiscal Year 2016, a total of $2.51 billion GO bonds were issued to refund certain outstanding bonds at lower interest rates and no bonds were issued for new money capital purposes. The proceeds of the refunding issues were placed in irrevocable escrow accounts in amounts sufficient to pay, when due, all principal, interest, and applicable redemption premium, if any, on the refunded bonds. These refundings produce a budgetary dissavings of $18.39 million in Fiscal Year 2016 and budgetary savings of $170.72 million and $82.53 million in Fiscal Years 2017 and 2018, respectively. The refundings will generate $428.53 million in budgetary savings over the life of the bonds and approximately $397.22 million on a net present value basis.

In Fiscal Year 2016, no traditional taxable fixed rate bonds were issued.

In addition, the City converted $74.06 million of bonds between different interest rate modes.

During Fiscal Year 2016, GO variable rate debt traded at the following average interest rates:

	Tax-Exempt	Taxable
Dailies[1]	0.10%	—
2-Day Mode[1]	0.10%	—
Weeklies[1]	0.12%	0.47%
Auction Rate Securities—7 Day	0.72%	—
Index Floaters	0.77%	1.08%

[1] Remarketed with bank credit and/or liquidity support; rates do not include bank fees.

During Fiscal Year 2016, Standard & Poor's Ratings Services (S&P) and Fitch Ratings (Fitch) maintained the GO rating at AA. Moody's Investors Service (Moody's) continued to rate GO bonds at Aa2.

Short-Term Financing

In Fiscal Year 2016, the City had no short-term borrowings.

Transitional Finance Authority

The New York State Legislature created the New York City Transitional Finance Authority (TFA), a bankruptcy-remote separate legal entity, and, through various state legislative measures, authorized TFA to issue debt to fund a portion of the capital program of the City.

TFA Future Tax Secured Bonds (FTSBs) are secured by the City's collections of personal income tax and, if necessary, sales tax. FTSBs outstanding over a $13.5 billion limit, together with the amount of indebtedness contracted by the City, cannot exceed the City's Debt Limit.

TFA Recovery Bonds have been issued to fund capital and operating costs related to, or arising from, the events of September 11, 2001. TFA is authorized to have outstanding up to $2.5 billion of Recovery Bonds secured by personal income tax, as well as debt without limit as to principal amount, secured solely by state or federal aid received as a result of the events of September 11, 2001. Recovery Bonds are not subject to the City's Debt Limit.

During Fiscal Year 2016, TFA issued $4.05 billion TFA FTSB debt. This total included $3.65 billion issued for new money capital purposes and $399.66 million issued to refund certain outstanding bonds at lower interest rates. The refundings will generate $67.76 million in budgetary savings over the life of the bonds and approximately $63.21 million on a net present value basis.

As of June 30, 2016, the total outstanding FTSB and Recovery Bond debt was approximately $29.31 billion. Of the amount outstanding, variable rate debt totaled $4.25 billion, including $726.7 million of variable rate Recovery Bonds. During Fiscal Year 2016, TFA's variable rate debt traded at the following average interest rates:

	Tax-Exempt
Dailies[(1)]	0.13%
2-Day Mode[(1)]	0.10%
Weeklies[(1)]	0.17%
Auction Rate Securities—7 Day	0.46%
Index Floaters	0.79%

(1) Remarketed with bank credit and/or liquidity support; rates do not include bank fees.

In Fiscal Year 2016, Standard & Poor's and Fitch Ratings maintained AAA ratings on both Senior Lien and Subordinate Lien TFA Bonds. Moody's Investors Service maintained its rating of Aaa on Senior Lien and Aa1 on Subordinate Lien Bonds.

TFA is authorized to issue bonds and notes or other obligations in an amount outstanding of up to $9.4 billion to finance a portion of the City's educational facilities capital plan. TFA is authorized to use all or any portion of the state aid payable to the City or its school district pursuant to Section 3602.6 of the New York State Education Law (State Building Aid) as security for these Building Aid Revenue Bonds (BARBs). BARBs do not count against the FTSB Debt Limit. As of June 30, 2016, the TFA BARBs outstanding totaled $8.04 billion. TFA issued $750 million of TFA BARB Bonds in Fiscal Year 2016.

Both Fitch Ratings and Standard & Poor's rate BARBs at AA, while Moody's Investor Services maintained their Aa2 rating.

TSASC, Inc.

TSASC, Inc. (TSASC) is a special purpose, bankruptcy-remote, local development corporation created pursuant to the Not-for-Profit Corporation Law of the State of New York. TSASC is authorized to issue bonds to purchase from the City its future right, title and interest under a Master Settlement Agreement (the MSA) between participating cigarette manufacturers and 46 states, including the State of New York.

TSASC had no financing activity in Fiscal Year 2016. As of June 30, 2016, TSASC had approximately $1.14 billion of bonds outstanding.

TSASC bond ratings vary by maturity. As of June 30, 2016, Standard and Poor's rated TSASC bonds maturing June 1, 2022 at BBB-; June 1, 2026 at BB-; June 1, 2034 at B and June 1, 2042 at B-. On June 15, 2016 Fitch Ratings withdrew all ratings assigned on U.S. tobacco settlement asset-backed securities.

Sales Tax Asset Receivable Corporation

In May 2003, New York State statutorily committed $170 million of New York State Sales Tax receipts to the City in each fiscal year from 2004 through 2034. The Sales Tax Asset Receivable Corporation (STAR) was formed to securitize these payments and to use the proceeds to retire existing debt of the Municipal Assistance Corporation for The City of New York (MAC) debt, thereby saved the City approximately $500 million per year for Fiscal Years 2004 through 2008.

As of June 30, 2016, STAR had $1.96 billion of bonds outstanding. In Fiscal Year 2016, STAR had no financing activity.

STAR maintained its Aa1 rating from Moody's Investor Services and AA+ from Fitch Ratings throughout Fiscal 2016. Standard & Poor's also maintained its longstanding AAA rating.

Fiscal Year 2005 Securitization Corporation

In Fiscal Year 2005, $498.85 million of taxable bonds were issued by the Fiscal Year 2005 Securitization Corporation (FSC), a bankruptcy-remote local development corporation, established to restructure an escrow fund that was previously funded with GO bonds proceeds.

As of June 30, 2016, FSC had $175.17 million bonds outstanding. It had no financing activity in Fiscal Year 2016.

As of June 30, 2016, the bonds were rated AA+ by S&P, Aaa by Moody's and AAA by Fitch.

Hudson Yards Infrastructure Corporation

The Hudson Yards Infrastructure Corporation (HYIC), is a local development corporation established to provide financing for infrastructure improvements to facilitate economic development on Manhattan's far west side. Principal on the bonds is payable from revenues generated by the new development in the Hudson Yards District. To the extent that such revenues are not sufficient to cover interest payments, the City, subject to appropriation, has agreed to make interest support payments to HYIC. The interest support payments do not cover principal repayment of the bonds.

As of June 30, 2016, HYIC had $3 billion bonds outstanding. HYIC had no financing activity in Fiscal Year 2016.

The bonds are rated A by S&P, A2 by Moody's, and A by Fitch.

New York City Educational Construction Fund

The New York City Educational Construction Fund (ECF), a public benefit corporation, was established to facilitate the construction and improvement of City elementary and secondary school buildings in combination with other compatible lawful uses, such as housing, office or other commercial buildings. The City is required to make rental payments on the school portions of the ECF projects sufficient to make debt service payments as they come due on ECF Bonds, less the revenue received by the ECF from the non-school portions of the ECF projects.

The ECF had no financing activity in Fiscal Year 2016.

As of June 30, 2016, ECF had $240.41 million bonds outstanding.

The bonds are rated AA- by S&P and Aa3 by Moody's.

New York City Tax Lien Trusts

The New York City Tax Lien Trusts (NYCTLTs) are Delaware statutory trusts which are created to acquire certain liens securing unpaid real estate taxes, water rents, sewer surcharges, and other payables to the City and the New York City Water Board in exchange for the proceeds from bonds issued by the NYCTLTs, net of reserves funded by the bond proceeds and bond issued cost. The City is the sole beneficiary to the NYCTLTs and is entitled to receive distributions from the NYCTLTs after payments to the bondholders and certain reserve requirements have been satisfied.

As of June 30, 2016, the New York City Tax lien Trusts had $31.86 million in bonds outstanding. In Fiscal Year 2016, the New York City Tax Lien Trust, NYCTLT 2015-A, sold $71.80 million bonds. The bonds are rated AAA by Kroll Bond Rating Agency Inc. and Aaa by Moody's Investors Service.

Interest Rate Exchange Agreements

To lower borrowing costs over the life of its bonds and to diversify its existing portfolio, the City has from time to time entered into interest rate exchange agreements (swaps) and sold options to enter into swaps at future dates. The City received specific authorization to enter into such agreements under Section 54.90 of the New York State Local Finance Law. No new swaps were initiated in Fiscal Year 2016 and one outstanding swap was terminated. As of June 30, 2016, the outstanding notional amount on the City's various swap agreements in connection with General Obligation debt and City-related debt of the Dormitory Authority of the State of New York was $1.49 billion.

The Water Authority has also entered into interest rate exchange agreements from time to time in order to lower its borrowing costs over the life of its bonds and to diversify its existing portfolio. In Fiscal Year 2016, the Authority did not initiate or terminate any swaps. As of June 30, 2016, the outstanding notional amount on the Water Authority's various swap agreements was $401 million.

Additional information on the City's long-term liabilities can be found in Note D.5 of the Basic Financial Statements.

Subsequent Events

Subsequent to June 30, 2016, the City, TFA and NYCTLT completed the following long-term financings:

NYCTLT 2016-A: On July 27, 2016, NYCTLT 2016-A issued Tax Lien Collateralized Bonds, Series 2016-A of $64,997,000 to fund the purchase of certain liens from the City.

TFA Debt: On July 28, 2016, the New York City Transitional Finance Authority issued $1,050,000,000 of Fiscal 2017 Series A Future Tax Secured bonds for capital purposes.

On September 22, 2016 the New York City Transitional Finance Authority issued $1,150,000,000 of Fiscal 2017 Series B Future Tax Secured bonds for capital purposes.

City Debt: On August 18, 2016, the City of New York issued $1,431,000,000 of Fiscal 2017 Series A General Obligation bonds for capital purposes.

City Swap Portfolio: On October 5, 2016 the City novated two swaps with UBS AG to US Bank National Association. The total notional amount of the novation was $151,835,834. As a result of the novation the City received a payment of $150,000 from UBS AG.

Commitments

At June 30, 2016, the outstanding commitments relating to projects of the City's Capital Projects Fund amounted to approximately $15.8 billion.

To address the need for significant infrastructure and public facility capital investments, the City has prepared a ten-year capital spending program which contemplates New York City Capital Projects Fund expenditures of $83.8 billion over Fiscal Years 2016 through 2025. To help meet the financing needs for its capital spending program, the City and TFA borrowed $3.65 billion in the public credit market in Fiscal Year 2016. The City and TFA plan to borrow $5.63 billion in the public credit market in Fiscal Year 2017.

Superstorm Sandy

On October 29, 2012, Superstorm Sandy made landfall in the City. The storm surge and high winds caused significant damage in the City as well as other states and cities along the U.S. eastern seaboard. The City incurred costs for emergency response and storm related damages to, and destruction of, City buildings and other assets. As of June 30, 2016, the estimated value of damages and recovery costs was approximately $9.9 billion – this includes $7.8 billion for capital construction and $2.1 billion for cleanup, relief, and repairs.

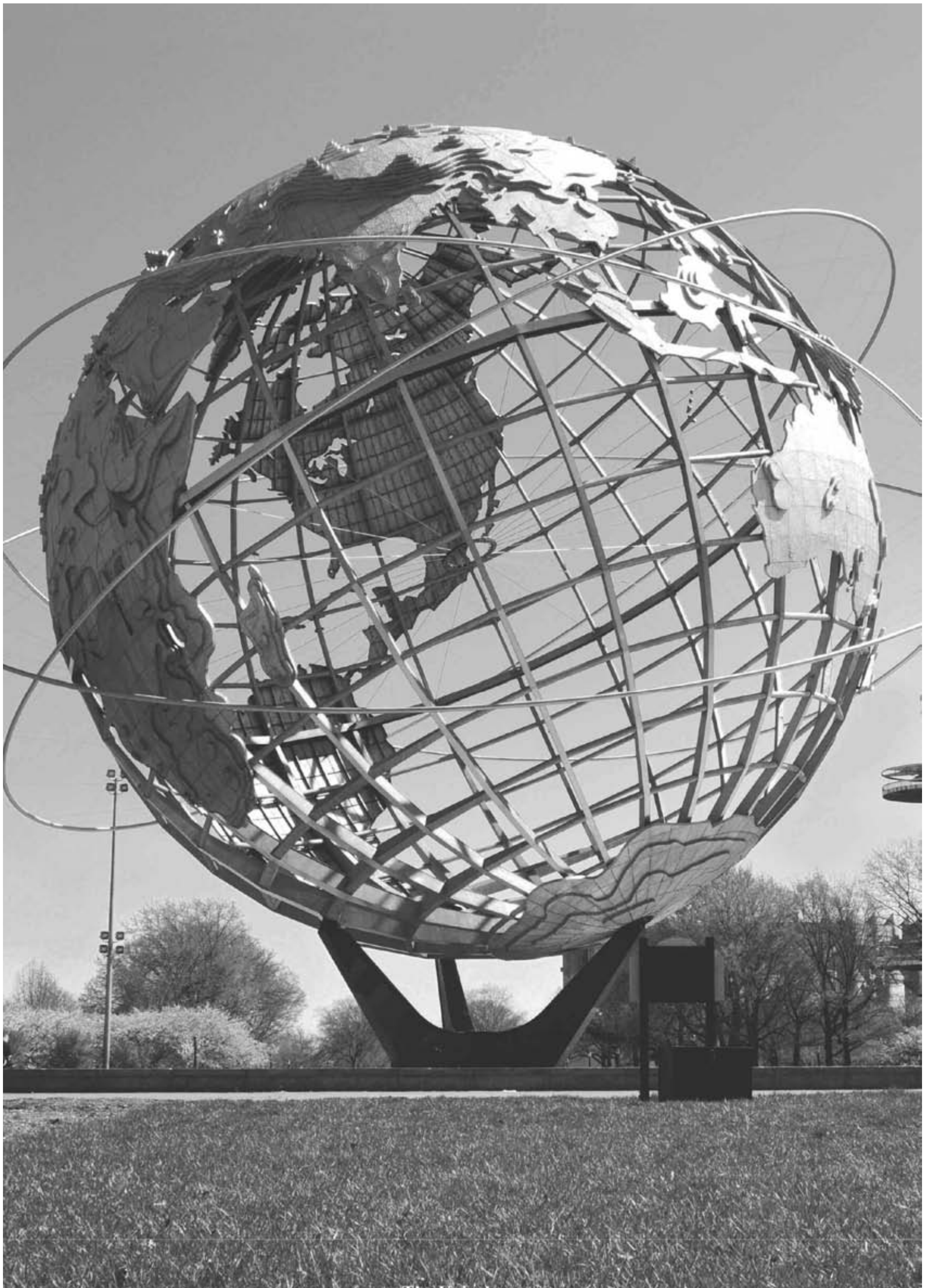
In response to the damage caused by Superstorm Sandy, President Obama signed a major disaster declaration on October 30, 2012, authorizing the Federal Emergency Management Agency (FEMA) to provide Public Assistance grants (PA) to government entities for response and recovery efforts. The emergency declaration supports the reimbursement of eligible emergency work (categorized as Emergency Protective Measures and Debris Removal) and permanent work (categorized as restoration of Roads and Bridges, Water Control Facilities, Buildings and Equipment, Utilities and Parks and Recreational facilities). On June 26, 2013, the President authorized reimbursement of eligible costs at a 90% rate.

In addition to the FEMA PA, the City has been awarded more than $4.2 billion of Community Development Block Grant Disaster Recovery (CDBG-DR) funding through the U.S. Department of Housing and Urban Development. The major portion of these funds is being used in a variety of home restoration and replacement programs, small business assistance programs, and resiliency/hazard mitigation programs. The remainder is being used to pay certain Superstorm Sandy-related costs that are not reimbursable by FEMA as well as the 10% non-FEMA share of eligible costs, to the extent that those are eligible for CDBG-DR funding.

Approximately $4 billion in emergency and recovery spending was obligated for reimbursement by FEMA during the City's Fiscal Year 2016, the remainder of eligible reimbursement will be obligated going forward. To the extent that eligible Superstorm Sandy related costs were incurred as of June 30, 2016, the FEMA reimbursement has been received or accrued as a receivable in Fiscal Year 2016.

Request for Information

This comprehensive annual financial report is designed to provide a general overview of the City's finances for all those with an interest in its finances. Questions concerning any of the information provided in this report or requests for additional financial information should be addressed to The City of New York, Office of the Comptroller, Bureau of Accountancy, 1 Centre Street—Room 200 South, New York, New York 10007, or at Accountancy@comptroller.nyc.gov.



The Unisphere

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The City of New York

Comprehensive
Annual Financial Report
of the
Comptroller

Part II-A

BASIC
FINANCIAL STATEMENTS

Fiscal Year Ended June 30, 2016

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David N. Dinkins Municipal Building

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THE CITY OF NEW YORK
STATEMENT OF NET POSITION
JUNE 30, 2016
(in thousands)

	Primary Government (PG) Governmental Activities	Component Units (CU)
ASSETS:		
Cash and cash equivalents	$ 6,622,280	$ 2,468,937
Investments	9,878,993	2,180,002
Receivables:		
Real estate taxes (less allowance for uncollectible amounts of $223,031)	352,832	—
Federal, State and other aid	7,848,075	—
Taxes other than real estate	6,127,117	—
Leases	—	1,694,490
Other	1,684,793	4,282,706
Mortgage loans and interest receivable, net	—	9,663,493
Inventories	402,433	36,685
Due from PG	—	217,428
Due from CUs, net	1,781,185	—
Restricted cash, cash equivalents and investments	4,100,554	6,034,077
Other	429,237	287,969
Capital assets:		
Land and construction work-in-progress	5,452,463	7,907,403
Other capital assets (net of depreciation/amortization):		
Property, plant and equipment (including software)	36,376,135	31,688,833
Infrastructure	13,123,636	—
Total assets	94,179,733	66,462,023
DEFERRED OUTFLOWS OF RESOURCES:		
Deferred outflows from pensions	12,814,357	577,146
Other deferred outflows of resources	573,094	190,675
Total deferred outflows of resources	13,387,451	767,821
LIABILITIES:		
Accounts payable and accrued liabilities	14,774,910	3,554,506
Accrued interest payable	1,068,258	166,683
Unearned revenue	4,206	392,357
Due to PG	—	2,152,665
Due to CUs, net	217,428	—
Estimated disallowance of Federal, State and other aid	1,110,512	—
Other	5,084,548	237,049
Derivative instruments—interest rate swaps	56,554	161,319
Noncurrent liabilities:		
Due within one year	5,446,522	1,931,025
Bonds & notes payable (net of amount due within one year—$3,312,241 for PG)	82,928,584	43,175,695
Net pension liability	64,846,995	4,145,300
OPEB liability	89,403,007	7,604,611
Other (net of amount due within one year— $2,134,281 for PG)	15,268,277	1,478,941
Total liabilities	280,209,801	65,000,151
DEFERRED INFLOWS OF RESOURCES:		
Deferred inflows from pensions	7,210,537	95,935
Deferred real estate taxes	8,105,167	—
Other deferred inflows of resources	212,977	16,647
Total deferred inflows of resources	15,528,681	112,582
NET POSITION:		
Net investment in capital assets	(12,684,965)	8,447,201
Restricted for:		
Capital projects	416,919	47,875
Debt service	3,818,541	2,805,934
Loans/security deposits	—	60,265
Donor/statutory restrictions	—	171,693
Operations	—	314,721
Unrestricted (deficit)	(179,721,793)	(9,730,578)
Total net position (deficit)	$(188,171,298)	$ 2,117,111

See accompanying notes to financial statements.

THE CITY OF NEW YORK
STATEMENT OF NET POSITION
JUNE 30, 2015
(in thousands)

	Restated	
	Primary Government (PG)	
	Governmental Activities	Component Units (CU)
ASSETS:		
Cash and cash equivalents	$ 7,176,737	$ 2,669,890
Investments	8,093,660	1,640,990
Receivables:		
Real estate taxes (less allowance for uncollectible amounts of $230,295)	364,422	—
Federal, State and other aid	7,423,667	—
Taxes other than real estate	6,443,031	—
Leases	—	1,718,818
Other	2,049,558	3,880,231
Mortgage loans and interest receivable, net	—	8,790,966
Inventories	376,743	35,793
Due from PG	—	141,221
Due from CUs, net	1,923,475	—
Restricted cash, cash equivalents and investments	5,989,683	6,235,909
Other	526,354	239,257
Capital assets:		
Land and construction work-in-progress	4,887,666	6,856,101
Other capital assets (net of depreciation/amortization):		
Property, plant and equipment (including software)	35,682,778	31,918,658
Infrastructure	12,551,793	—
Total assets	93,489,567	64,127,834
DEFERRED OUTFLOWS OF RESOURCES:		
Deferred outflows from pensions	4,790,696	78,156
Other deferred outflows of resources	543,391	156,825
Total deferred outflows of resources	5,334,087	234,981
LIABILITIES:		
Accounts payable and accrued liabilities	15,805,775	3,481,135
Accrued interest payable	1,031,977	164,292
Unearned revenue	3,070	368,901
Due to PG	—	2,220,286
Due to CUs, net	119,756	—
Estimated disallowance of Federal, State and other aid	1,115,521	—
Other	4,743,517	222,210
Derivative instruments—interest rate swaps	41,294	121,499
Noncurrent liabilities:		
Due within one year	5,702,195	2,686,672
Bonds & notes payable (net of amount due within one year—$3,178,050 for PG)	81,797,019	41,683,099
Net pension liability	53,124,067	3,314,595
OPEB liability	85,484,552	7,459,733
Other (net of amount due within one year—$2,524,145 for PG)	14,680,885	1,462,389
Total liabilities	263,649,628	63,184,811
DEFERRED INFLOWS OF RESOURCES:		
Deferred inflows from pensions	11,048,854	527,124
Deferred real estate taxes	6,994,205	—
Other deferred inflows of resources	212,880	17,978
Total deferred inflows of resources	18,255,939	545,102
NET POSITION:		
Net investment in capital assets	(13,828,805)	8,087,953
Restricted for:		
Capital projects	1,203,356	29,424
Debt service	4,074,031	2,478,267
Loans/security deposits	—	60,934
Donor/statutory restrictions	—	154,343
Operations	—	279,304
Unrestricted (deficit)	(174,530,495)	(10,457,323)
Total net position (deficit)	$(183,081,913)	$ 632,902

See accompanying notes to financial statements.

THE CITY OF NEW YORK
STATEMENT OF ACTIVITIES
FOR THE YEAR ENDED JUNE 30, 2016
(in thousands)

		Program Revenues			Net (Expense) Revenue and Changes in Net Position	
					Primary Government	
Functions/Programs	Expenses	Charges for Services	Operating Grants and Contributions	Capital Grants and Contributions	Governmental Activities	Component Units
Primary government:						
General government	$ 5,433,721	$ 928,917	$ 2,050,077	$ (347,632)	$ (2,802,359)	$ —
Public safety and judicial	19,230,156	311,520	690,006	13,669	(18,214,961)	—
Education	29,068,138	75,555	11,435,552	281,227	(17,275,804)	—
City University	1,177,695	394,974	248,789	484	(533,448)	—
Social services	14,788,160	61,592	4,832,462	7,226	(9,886,880)	—
Environmental protection	3,961,688	1,343,526	8,567	9,745	(2,599,850)	—
Transportation services	2,781,281	1,069,257	226,858	512,611	(972,555)	—
Parks, recreation and cultural activities	1,171,975	96,456	9,938	173,822	(891,759)	—
Housing	1,973,718	416,901	504,946	43,611	(1,008,260)	—
Health (including payments to HHC)	3,299,166	87,303	890,398	19,135	(2,302,330)	—
Libraries	410,538	—	—	9,140	(401,398)	—
Debt service interest	2,935,520	—	—	—	(2,935,520)	—
Total primary government	$86,231,756	$ 4,786,001	$20,897,593	$ 723,038	(59,825,124)	—
Component Units	$18,101,486	$13,412,815	$ 2,902,243	$1,193,194	—	$ (593,234)

	Governmental Activities	Component Units
General revenues:		
Taxes (net of refunds):		
Real estate taxes	23,171,276	—
Sales and use taxes	8,534,604	—
Personal income tax	11,565,473	—
Income taxes, other	6,760,614	—
Other taxes:		
Commercial rent	836,816	—
Conveyance of real property	1,788,182	—
Hotel room occupancy	568,069	—
Payments in lieu of taxes	320,634	—
Other	19,005	—
Investment income	201,724	109,157
Unrestricted federal and state aid	258,215	8,966
Other	711,127	1,959,320
Total general revenues	54,735,739	2,077,443
Change in net position	(5,089,385)	1,484,209
Net position (deficit)—beginning	(183,081,913)	632,902
Net position (deficit)—ending	$(188,171,298)	$2,117,111

See accompanying notes to financial statements.

THE CITY OF NEW YORK
STATEMENT OF ACTIVITIES
FOR THE YEAR ENDED JUNE 30, 2015
(in thousands)

Functions/Programs	Expenses	Program Revenues: Charges for Services	Program Revenues: Operating Grants and Contributions	Program Revenues: Capital Grants and Contributions	Restated Net (Expense) Revenue and Changes in Net Position: Primary Government: Governmental Activities	Restated Net (Expense) Revenue and Changes in Net Position: Component Units
Primary government:						
General government	$ 5,479,762	$ 2,139,192	$ 1,529,203	$ 49,220	$ (1,762,147)	$ —
Public safety and judicial	13,840,502	318,318	649,500	18,158	(12,854,526)	—
Education	22,915,670	77,577	10,959,817	83,015	(11,795,261)	—
City University	1,094,172	383,012	237,559	592	(473,009)	—
Social services	14,514,037	55,827	4,593,584	67,848	(9,796,778)	—
Environmental protection	3,188,665	1,483,453	25,093	65,911	(1,614,208)	—
Transportation services	2,460,777	1,046,642	253,446	354,962	(805,727)	—
Parks, recreation and cultural activities	1,249,560	93,490	18,431	232,533	(905,106)	—
Housing	1,574,233	416,119	485,768	27,019	(645,327)	—
Health (including payments to HHC)	2,186,493	64,634	685,342	74,016	(1,362,501)	—
Libraries	350,475	—	—	156	(350,319)	—
Debt service interest	2,929,046	—	—	—	(2,929,046)	—
Total primary government	$71,783,392	$ 6,078,264	$19,437,743	$ 973,430	(45,293,955)	—
Component Units	$17,188,148	$12,941,245	$ 2,961,038	$1,179,583	—	$ (106,282)
General revenues:						
Taxes (net of refunds):						
Real estate taxes					21,447,965	—
Sales and use taxes					8,071,466	—
Personal income tax					11,559,669	—
Income taxes, other					7,965,041	—
Other taxes:						
Commercial rent					787,035	—
Conveyance of real property					1,772,193	—
Hotel room occupancy					559,846	—
Payment in lieu of taxes					304,585	—
Other					55,382	—
Investment income					161,351	236,645
Unrestricted federal and state aid					252,194	10,192
Other					1,403,787	641,984
Total general revenues					54,340,514	888,821
Change in net position					9,046,559	782,539
Net position (deficit)—beginning					(191,103,187)	(286,481)
Restatement of beginning net position					(1,025,285)	136,844
Net position (deficit)—ending					$(183,081,913)	$ 632,902

See accompanying notes to financial statements.

THE CITY OF NEW YORK

GOVERNMENTAL FUNDS

BALANCE SHEET

JUNE 30, 2016

(in thousands)

	General Fund	Capital Projects Fund	General Debt Service Fund	Nonmajor Governmental Funds	Adjustments/ Eliminations	Total Governmental Funds
ASSETS:						
Cash and cash equivalents	$ 6,218,872	$ 261,047	$ —	$ 142,361	$ —	$ 6,622,280
Investments	8,025,500	—	—	1,927,972	—	9,953,472
Accounts receivable:						
Real estate taxes (less allowance for uncollectible amounts of $223,031)	352,832	—	—	—	—	352,832
Federal, State and other aid	6,437,418	1,410,657	—	—	—	7,848,075
Taxes other than real estate	5,387,712	—	—	739,405	—	6,127,117
Other receivables, net	1,251,694	—	—	402,602	—	1,654,296
Due from other funds	3,230,864	6,668	—	414,751	(414,614)	3,237,669
Due from component units, net	1,155,612	625,573	—	—	—	1,781,185
Restricted cash and investments	—	129,509	1,778,906	2,192,139	—	4,100,554
Other assets	—	107,136	—	308,338	—	415,474
Total assets	$32,060,504	$ 2,540,590	$1,778,906	$6,127,568	$(414,614)	$42,092,954
LIABILITIES:						
Accounts payable and accrued liabilities	$12,657,086	$ 1,453,393	$ 3,789	$ 661,022	$ —	$14,775,290
Accrued tax refunds:						
Real estate taxes	45,308	—	—	—	—	45,308
Personal income tax	56,820	—	—	—	—	56,820
Other	36,093	—	—	—	—	36,093
Accrued judgments and claims	510,048	44,925	—	—	—	554,973
Unearned revenues	—	—	—	4,206	—	4,206
Due to other funds	—	3,581,794	—	70,489	(414,614)	3,237,669
Due to component units, net	217,428	—	—	—	—	217,428
Estimated disallowance of Federal, State and other aid	1,110,512	—	—	—	—	1,110,512
Other liabilities	3,808,801	438,875	—	—	—	4,247,676
Total liabilities	18,442,096	5,518,987	3,789	735,717	(414,614)	24,285,975
DEFERRED INFLOWS OF RESOURCES:						
Prepaid real estate taxes	8,105,167	—	—	—	—	8,105,167
Grant advances	30,613	—	—	—	—	30,613
Uncollected real estate taxes	287,280	—	—	—	—	287,280
Taxes other than real estate	4,496,113	—	—	—	—	4,496,113
Other deferred inflows of resources	226,416	—	—	995,431	—	1,221,847
Total deferred inflows of resources	13,145,589	—	—	995,431	—	14,141,020
FUND BALANCES:						
Nonspendable	472,819	—	—	612	—	473,431
Spendable:						
Restricted	—	129,509	382,005	2,330,834	—	2,842,348
Committed	—	—	1,393,112	—	—	1,393,112
Assigned	—	—	—	2,064,974	—	2,064,974
Unassigned	—	(3,107,906)	—	—	—	(3,107,906)
Total fund balances (deficit)	472,819	(2,978,397)	1,775,117	4,396,420	—	3,665,959
Total liabilities, deferred inflows of resources and fund balances	$32,060,504	$ 2,540,590	$1,778,906	$6,127,568	$(414,614)	$42,092,954

The reconciliation of the fund balances of governmental funds to the net position (deficit) of governmental activities in the Statement of Net Position is presented in an accompanying schedule.

See accompanying notes to financial statements.

THE CITY OF NEW YORK

GOVERNMENTAL FUNDS
BALANCE SHEET

JUNE 30, 2015
(in thousands)

	General Fund	Capital Projects Fund	General Debt Service Fund	Nonmajor Governmental Funds	Adjustments/ Eliminations	Total Governmental Funds
ASSETS:						
Cash and cash equivalents	$ 6,960,112	$ 48,499	$ —	$ 168,126	$ —	$ 7,176,737
Investments	6,499,378	—	—	1,668,424	—	8,167,802
Accounts receivable:						
Real estate taxes (less allowance for uncollectible amounts of $230,295)	364,422	—	—	—	—	364,422
Federal, State and other aid	6,325,433	1,098,234	—	—	—	7,423,667
Taxes other than real estate	5,832,296	—	—	610,735	—	6,443,031
Other receivables, net	1,614,328	—	—	404,868	—	2,019,196
Due from other funds	3,023,132	993,028	—	540,957	(540,578)	4,016,539
Due from component units, net	1,311,505	611,970	—	—	—	1,923,475
Restricted cash and investments	—	751,924	1,973,168	3,264,591	—	5,989,683
Other assets	—	92,451	—	419,914	—	512,365
Total assets	$31,930,606	$ 3,596,106	$1,973,168	$7,077,615	$(540,578)	$44,036,917
LIABILITIES:						
Accounts payable and accrued liabilities	$13,626,047	$ 1,400,594	$ 2,948	$ 776,548	$ —	$15,806,137
Accrued tax refunds:						
Real estate taxes	26,905	—	—	—	—	26,905
Personal income tax	45,626	—	—	—	—	45,626
Other	208,567	—	—	—	—	208,567
Accrued judgments and claims	557,860	81,446	—	—	—	639,306
Unearned revenues	—	—	—	3,070	—	3,070
Due to other funds	—	3,455,785	—	1,101,332	(540,578)	4,016,539
Due to component units, net	119,756	—	—	—	—	119,756
Estimated disallowance of Federal, State and other aid	1,115,521	—	—	—	—	1,115,521
Other liabilities	3,637,653	437,872	—	—	—	4,075,525
Total liabilities	19,337,935	5,375,697	2,948	1,880,950	(540,578)	26,056,952
DEFERRED INFLOWS OF RESOURCES:						
Prepaid real estate taxes	6,994,205	—	—	—	—	6,994,205
Grant advances	7,331	—	—	—	—	7,331
Uncollected real estate taxes	271,564	—	—	—	—	271,564
Taxes other than real estate	4,624,782	—	—	—	—	4,624,782
Other deferred inflows of resources	227,168	—	—	818,479	—	1,045,647
Total deferred inflows of resources	12,125,050	—	—	818,479	—	12,943,529
FUND BALANCES:						
Nonspendable	467,621	—	—	619	—	468,240
Spendable:						
Restricted	—	751,924	427,588	2,555,243	—	3,734,755
Committed	—	—	1,542,632	—	—	1,542,632
Assigned	—	—	—	1,822,324	—	1,822,324
Unassigned	—	(2,531,515)	—	—	—	(2,531,515)
Total fund balances (deficit)	467,621	(1,779,591)	1,970,220	4,378,186	—	5,036,436
Total liabilities, deferred inflows of resources and fund balances	$31,930,606	$ 3,596,106	$1,973,168	$7,077,615	$(540,578)	$44,036,917

The reconciliation of the fund balances of governmental funds to the net position (deficit) of governmental activities in the Statement of Net Position is presented in an accompanying schedule.

See accompanying notes to financial statements.

THE CITY OF NEW YORK

RECONCILIATION OF THE GOVERNMENTAL FUNDS BALANCE SHEET TO THE STATEMENT OF NET POSITION

JUNE 30, 2016
(in thousands)

Total fund balances—governmental funds	$ 3,665,959
Amounts reported for *governmental activities* in the Statement of Net Position are different because:	
Inventories recorded in the Statement of Net Position are recorded as expenditures in the governmental funds	402,433
Capital assets used in governmental activities are not financial resources and therefore are not reported in the funds	54,952,234
Certain other long-term assets and deferred outflows of resources are not available to pay for current period expenditures and, therefore, are deferred in or excluded from the funds	
Deferred outflows of resources	13,387,451
Other long-term assets	44,260
Long-term liabilities and deferred inflows of resources are not due and payable in the current period and accordingly are not reported in the funds:	
Bonds and notes payable	(86,240,825)
OPEB liability	(89,403,007)
Accrued interest payable	(1,068,258)
Capital lease obligations	(1,571,006)
Accrued vacation and sick leave	(4,262,698)
Net pension liability	(64,846,995)
Landfill closure and post-closure care costs	(1,465,689)
Pollution remediation obligations	(208,873)
Accrued judgments and claims	(6,499,359)
Other accrued tax refunds	(1,765,000)
Deferred inflows of resources	(1,387,661)
Other long-term liabilities	(1,904,264)
Net position (deficit) of governmental activities	$(188,171,298)

See accompanying notes to financial statements.

THE CITY OF NEW YORK

RECONCILIATION OF THE GOVERNMENTAL FUNDS BALANCE SHEET TO THE STATEMENT OF NET POSITION

JUNE 30, 2015
(in thousands)

Total fund balances—governmental funds	$ 5,036,436
Amounts reported for *governmental activities* in the Statement of Net Position are different because:	
Inventories recorded in the Statement of Net Position are recorded as expenditures in the governmental funds	376,743
Capital assets used in governmental activities are not financial resources and therefore are not reported in the funds	53,122,237
Certain other long-term assets and deferred outflows of resources are not available to pay for current period expenditures and, therefore, are deferred in or excluded from the funds	
Deferred outflows of resources	5,334,087
Other long-term assets	44,351
Long-term liabilities and deferred inflows of resources are not due and payable in the current period and accordingly are not reported in the funds:	
Bonds and notes payable	(84,975,069)
OPEB liability	(85,484,552)
Accrued interest payable	(1,031,977)
Capital lease obligations	(1,639,243)
Accrued vacation and sick leave	(3,980,729)
Net pension liability	(53,124,067)
Landfill closure and post-closure care costs	(1,508,360)
Pollution remediation obligations	(250,231)
Accrued judgments and claims	(6,147,347)
Other accrued tax refunds	(1,847,000)
Deferred inflows of resources	(5,312,410)
Other long-term liabilities	(1,694,782)
Net position (deficit) of governmental activities	$(183,081,913)

See accompanying notes to financial statements.

THE CITY OF NEW YORK

GOVERNMENTAL FUNDS

STATEMENT OF REVENUES, EXPENDITURES, AND CHANGES IN FUND BALANCES

FOR THE YEAR ENDED JUNE 30, 2016

(in thousands)

	General Fund	Capital Projects Fund	General Debt Service Fund	Nonmajor Governmental Funds	Adjustments/ Eliminations	Total Governmental Funds
REVENUES:						
Real estate taxes	$23,180,583	$ —	$ —	$ —	$ —	$23,180,583
Sales and use taxes	8,540,154	—	—	—	—	8,540,154
Personal income tax	11,392,473	—	—	180,290	(180,290)	11,392,473
Income taxes, other	6,947,614	—	—	—	—	6,947,614
Other taxes	3,559,825	—	—	—	—	3,559,825
Federal, State and other categorical aid	20,897,592	986,523	82,047	—	—	21,966,162
Unrestricted Federal and State aid	6,168	—	—	170,000	—	176,168
Charges for services	2,624,357	—	—	—	—	2,624,357
Tobacco settlement	—	—	—	365,783	—	365,783
Investment income	78,791	—	203	123,305	—	202,299
Other revenues	2,171,950	1,010,236	5,361	2,987,770	(2,566,109)	3,609,208
Total revenues	79,399,507	1,996,759	87,611	3,827,148	(2,746,399)	82,564,626
EXPENDITURES:						
General government	2,985,013	664,819	—	61,344	—	3,711,176
Public safety and judicial	9,325,708	327,079	—	—		9,652,787
Education	21,973,688	2,475,122	—	2,706,580	(2,566,109)	24,589,281
City University	955,775	56,994	—	—	—	1,012,769
Social services	13,800,868	60,086	—	—	—	13,860,954
Environmental protection	2,569,229	1,701,883	—	—	—	4,271,112
Transportation services	1,707,930	1,262,685	—	—	—	2,970,615
Parks, recreation and cultural activities	533,855	587,601	—	—	—	1,121,456
Housing	1,023,213	752,753	—	—	—	1,775,966
Health (including payments to HHC)	2,666,511	150,022	—	—	—	2,816,533
Libraries	359,548	40,872	—	—	—	400,420
Pensions	9,170,963	—	—	—	—	9,170,963
Judgments and claims	719,968	—	—	—	—	719,968
Fringe benefits and other benefit payments	5,511,572	—	—	—	—	5,511,572
Administrative and other	197,649	—	76,101	274,604	—	548,354
Debt Service:						
Interest	—	—	1,605,023	1,750,524	—	3,355,547
Redemptions	—	—	2,231,320	1,113,942	—	3,345,262
Lease payments	199,253	—	—	—	—	199,253
Total expenditures	73,700,743	8,079,916	3,912,444	5,906,994	(2,566,109)	89,033,988
Excess (deficiency) of revenues over expenditures	5,698,764	(6,083,157)	(3,824,833)	(2,079,846)	(180,290)	(6,469,362)
OTHER FINANCING SOURCES (USES):						
Transfers from (to) General Fund	—	—	3,619,487	2,052,943	—	5,672,430
Transfers from (to) Nonmajor Capital Projects Funds	—	4,836,353	—	3,794	—	4,840,147
Transfers from (to) Nonmajor Special Revenue Funds, net	—	—	—	86,893	—	86,893
Principal amount of bonds issued	159,154	—	—	4,471,797	—	4,630,951
Bond premium	—	—	430,131	477,299	—	907,430
Capitalized leases	—	47,998	—	—	—	47,998
Issuance of refunding debt	—	—	2,351,450	399,660	—	2,751,110
Transfers from (to) Capital Projects Fund	—	—	—	(4,836,353)	—	(4,836,353)
Transfers from (to) General Debt Service Fund, net	(3,619,487)	—	—	—	—	(3,619,487)
Transfers from (to) Nonmajor Debt Service Funds, net	(2,233,233)	—	—	(90,687)	180,290	(2,143,630)
Payments to refunded bond escrow holder	—	—	(2,771,338)	(467,266)	—	(3,238,604)
Total other financing sources (uses)	(5,693,566)	4,884,351	3,629,730	2,098,080	180,290	5,098,885
Net change in fund balances	5,198	(1,198,806)	(195,103)	18,234	—	(1,370,477)
FUND BALANCES (DEFICIT) AT BEGINNING OF YEAR	467,621	(1,779,591)	1,970,220	4,378,186	—	5,036,436
FUND BALANCES (DEFICIT) AT END OF YEAR	$ 472,819	$(2,978,397)	$ 1,775,117	$ 4,396,420	$ —	$ 3,665,959

The reconciliation of the net change in fund balances of governmental funds to the change in net position of governmental activities in the Statement of Net Position is presented in an accompanying schedule.

See accompanying notes to financial statements.

THE CITY OF NEW YORK

GOVERNMENTAL FUNDS

STATEMENT OF REVENUES, EXPENDITURES, AND CHANGES IN FUND BALANCES

FOR THE YEAR ENDED JUNE 30, 2015

(in thousands)

	General Fund	Capital Projects Fund	General Debt Service Fund	Nonmajor Governmental Funds	Adjustments/ Eliminations	Total Governmental Funds
REVENUES:						
Real estate taxes	$21,517,932	$ —	$ —	$ —	$ —	$21,517,932
Sales and use taxes	8,050,932	—	—	—	—	8,050,932
Personal income tax	11,294,669	—	—	556,204	(556,204)	11,294,669
Income taxes, other	7,602,041	—	—	—	—	7,602,041
Other taxes	3,475,767	—	—	—	—	3,475,767
Federal, State and other categorical aid	19,437,742	966,077	81,786	—	—	20,485,605
Unrestricted Federal and State aid	408	—	—	170,000	—	170,408
Charges for services	2,745,137	—	—	—	—	2,745,137
Tobacco settlement	—	—	—	181,094	—	181,094
Investment income	29,889	—	246	112,860	—	142,995
Other revenues	3,327,933	1,393,856	44,191	3,886,911	(2,674,141)	5,978,750
Total revenues	77,482,450	2,359,933	126,223	4,907,069	(3,230,345)	81,645,330
EXPENDITURES:						
General government	2,468,539	789,667	—	128,008	—	3,386,214
Public safety and judicial	8,826,839	302,856	—	—		9,129,695
Education	20,457,511	2,631,088	—	2,610,157	(2,674,141)	23,024,615
City University	904,050	70,208	—	—	—	974,258
Social services	13,843,523	208,941	—	—	—	14,052,464
Environmental protection	2,540,334	1,619,842	—	—	—	4,160,176
Transportation services	1,654,973	872,415	—	—	—	2,527,388
Parks, recreation and cultural activities	555,411	576,245	—	—	—	1,131,656
Housing	885,857	560,550	—	—	—	1,446,407
Health (including payments to HHC)	1,708,378	167,744	—	—	—	1,876,122
Libraries	322,392	36,755	—	—	—	359,147
Pensions	8,489,857	—	—	—	—	8,489,857
Judgments and claims	679,605	—	—	—	—	679,605
Fringe benefits and other benefit payments	5,862,664	—	—	—	—	5,862,664
Administrative and other	848,095	—	75,693	930,899	—	1,854,687
Debt Service:						
Interest	—	—	1,636,535	1,615,424	—	3,251,959
Redemptions	—	—	2,069,596	3,681,089	—	5,750,685
Lease payments	148,847	—	—	—	—	148,847
Total expenditures	70,196,875	7,836,311	3,781,824	8,965,577	(2,674,141)	88,106,446
Excess (deficiency) of revenues over expenditures	7,285,575	(5,476,378)	(3,655,601)	(4,058,508)	(556,204)	(6,461,116)
OTHER FINANCING SOURCES (USES):						
Transfers from (to) General Fund	—	—	4,979,173	1,986,222	—	6,965,395
Transfers from (to) Nonmajor Capital Projects Funds	—	5,765,533	—	2,083	—	5,767,616
Transfers from (to) Nonmajor Special Revenue Funds, net	—	—	—	121,258	—	121,258
Principal amount of bonds issued	241,126	808,874	—	6,520,809	—	7,570,809
Bond premium	—	31,717	264,218	982,494	—	1,278,429
Capitalized leases	—	126,544	—	—	—	126,544
Issuance of refunding debt	—	—	1,779,660	785,795	—	2,565,455
Transfers from (to) Capital Projects Fund	—	—	—	(5,765,533)	—	(5,765,533)
Transfers from (to) General Debt Service Fund, net	(4,979,173)	—	—	—	—	(4,979,173)
Transfers from (to) Nonmajor Debt Service Funds, net	(2,542,426)	—	—	(123,341)	556,204	(2,109,563)
Payments to refunded bond escrow holder	—	—	(2,036,082)	(939,095)	—	(2,975,177)
Total other financing sources (uses)	(7,280,473)	6,732,668	4,986,969	3,570,692	556,204	8,566,060
Net change in fund balances	5,102	1,256,290	1,331,368	(487,816)	—	2,104,944
FUND BALANCES (DEFICIT) AT BEGINNING OF YEAR	462,519	(3,035,881)	638,852	4,866,002	—	2,931,492
FUND BALANCES (DEFICIT) AT END OF YEAR	$ 467,621	$(1,779,591)	$ 1,970,220	$ 4,378,186	$ —	$ 5,036,436

The reconciliation of the net change in fund balances of governmental funds to the change in net position of governmental activities in the Statement of Net Position is presented in an accompanying schedule.

See accompanying notes to financial statements.

THE CITY OF NEW YORK

RECONCILIATION OF THE STATEMENT OF REVENUES, EXPENDITURES, AND CHANGES IN FUND BALANCES OF GOVERNMENTAL FUNDS TO THE STATEMENT OF ACTIVITIES

FOR THE YEAR ENDED JUNE 30, 2016
(in thousands)

Net change in fund balances—governmental funds		$(1,370,477)
Amounts reported for *governmental activities* in the Statement of Activities are different because:		
Governmental funds report capital outlays as expenditures. However, in the Statement of Activities the cost of those assets is allocated over their estimated useful lives and reported as depreciation expense. This is the amount by which capital outlays exceeded depreciation in the current period.		
Purchases of capital assets	$ 5,193,139	
Depreciation expense	(3,353,181)	1,839,958
The net effect of various miscellaneous transactions involving capital assets and other (*i.e.*, sales, trade-ins, and donations) is to decrease net position		83,098
The issuance of long-term debt (*i.e.*, bonds, capital leases) provides current financial resources to governmental funds, while the repayment of the principal of long-term debt consumes the current financial resources of governmental funds. Neither transaction, however, has any effect on net position. Also, governmental funds report the effect of premiums, discounts, and similar items when debt is first issued, whereas these amounts are deferred and amortized in the Statement of Activities. This amount is the net effect of these differences in the treatment of long-term debt and related items.		
Proceeds from sales of bonds	(7,382,061)	
Principal payments of bonds	5,676,249	
Other	417,780	(1,288,032)
Some expenses reported in the Statement of Activities do not require the use of current financial resources and therefore, are not reported as expenditures in governmental funds		(585,453)
Some revenues in the Statement of Activities that do not provide current financial resources are not reported as revenues in the funds		11,831,546
Change in net pension liability		(11,722,928)
Change in OPEB liability		(3,918,455)
Change in pollution remediation obligations		41,358
Change in net position—governmental activities		$ (5,089,385)

See accompanying notes to financial statements.

THE CITY OF NEW YORK

RECONCILIATION OF THE STATEMENT OF REVENUES, EXPENDITURES, AND CHANGES IN FUND BALANCES OF GOVERNMENTAL FUNDS TO THE STATEMENT OF ACTIVITIES

FOR THE YEAR ENDED JUNE 30, 2015
(in thousands)

Net change in fund balances—governmental funds		$ 2,104,944
Amounts reported for *governmental activities* in the Statement of Activities are different because:		
Governmental funds report capital outlays as expenditures. However, in the Statement of Activities the cost of those assets is allocated over their estimated useful lives and reported as depreciation expense. This is the amount by which capital outlays exceeded depreciation in the current period.		
Purchases of capital assets	$ 5,528,102	
Depreciation expense	(3,428,753)	2,099,349
The net effect of various miscellaneous transactions involving capital assets and other (*i.e.*, sales, trade-ins, and donations) is to decrease net position		(548,216)
The issuance of long-term debt (*i.e.*, bonds, capital leases) provides current financial resources to governmental funds, while the repayment of the principal of long-term debt consumes the current financial resources of governmental funds. Neither transaction, however, has any effect on net position. Also, governmental funds report the effect of premiums, discounts, and similar items when debt is first issued, whereas these amounts are deferred and amortized in the Statement of Activities. This amount is the net effect of these differences in the treatment of long-term debt and related items.		
Proceeds from sales of bonds	(10,136,264)	
Principal payments of bonds	7,422,523	
Other	307,849	(2,405,892)
Some expenses reported in the Statement of Activities do not require the use of current financial resources and therefore, are not reported as expenditures in governmental funds		116,332
Some revenues in the Statement of Activities that do not provide current financial resources are not reported as revenues in the funds		9,377,879
Change in net pension liability		(6,711,068)
Change in OPEB liability		4,000,570
Change in pollution remediation obligations		(12,624)
Change in net position—governmental activities		$ 8,021,274

See accompanying notes to financial statements.

THE CITY OF NEW YORK

GENERAL FUND
STATEMENT OF REVENUES, EXPENDITURES, AND CHANGES IN FUND BALANCE BUDGET AND ACTUAL

FOR THE YEAR ENDED JUNE 30, 2016
(in thousands)

	Budget			Better (Worse) Than Modified Budget
	Adopted	Modified	Actual	
Revenues:				
Real estate taxes	$22,589,192	$23,120,192	$23,180,583	$ 60,391
Sales and use taxes	8,068,000	8,560,220	8,540,154	(20,066)
Personal income tax	11,154,000	11,454,000	11,392,473	(61,527)
Income taxes, other	6,662,000	7,170,791	6,947,614	(223,177)
Other taxes	3,745,583	3,483,519	3,559,825	76,306
Federal, State and other categorical aid	20,765,775	21,963,335	20,897,592	(1,065,743)
Unrestricted Federal and State aid	—	6,155	6,168	13
Charges for services	2,735,296	2,734,077	2,624,357	(109,720)
Investment income	29,400	64,430	78,791	14,361
Other revenues	1,881,683	2,690,983	2,171,950	(519,033)
Total revenues	77,630,929	81,247,702	79,399,507	(1,848,195)
Expenditures:				
General government	3,267,424	3,200,819	2,985,013	215,806
Public safety and judicial	8,777,557	9,483,114	9,325,708	157,406
Education	21,894,475	22,373,621	21,973,688	399,933
City University	977,677	1,003,118	955,775	47,343
Social services	14,026,800	13,980,252	13,800,868	179,384
Environmental protection	2,747,907	2,795,819	2,569,229	226,590
Transportation services	1,658,820	1,754,285	1,707,930	46,355
Parks, recreation and cultural activities	525,196	549,319	533,855	15,464
Housing	939,324	1,118,137	1,023,213	94,924
Health (including payments to HHC)	1,673,106	2,711,950	2,666,511	45,439
Libraries	357,731	360,295	359,548	747
Pensions	8,643,115	9,172,968	9,170,963	2,005
Judgments and claims	709,890	719,966	719,968	(2)
Fringe benefits and other benefit payments	5,309,527	5,691,328	5,511,572	179,756
Lease payments for debt service	169,678	199,255	199,253	2
Other	2,904,342	434,813	197,649	237,164
Total expenditures	74,582,569	75,549,059	73,700,743	1,848,316
Excess of revenues over expenditures	3,048,360	5,698,643	5,698,764	121
Other Financing Sources (Uses):				
Principal amount of bonds issued	—	159,154	159,154	—
Transfer to Nonmajor Debt Service Fund	(1,024,767)	(2,578,096)	(2,579,009)	913
Transfer from Nonmajor Debt Service Fund	239,768	345,879	345,776	103
Transfers and other payments for debt service, net	(2,263,361)	(3,625,580)	(3,619,487)	(6,093)
Total other financing uses	(3,048,360)	(5,698,643)	(5,693,566)	(5,077)
Excess of Revenues Over Expenditures and Other Financing Uses	$ —	$ —	5,198	$ 5,198
Fund Balance at Beginning of Year			467,621	
Fund Balance at End of Year			$ 472,819	

See accompanying notes to financial statements.

THE CITY OF NEW YORK

GENERAL FUND
STATEMENT OF REVENUES, EXPENDITURES, AND CHANGES IN FUND BALANCE
BUDGET AND ACTUAL

FOR THE YEAR ENDED JUNE 30, 2015
(in thousands)

	Budget			Better (Worse) Than Modified Budget
	Adopted	Modified	Actual	
REVENUES:				
Real estate taxes	$20,980,932	$21,470,931	$21,517,932	$ 47,001
Sales and use taxes	7,672,000	8,053,583	8,050,932	(2,651)
Personal income tax	9,851,000	11,185,750	11,294,669	108,919
Income taxes, other	6,495,000	7,570,175	7,602,041	31,866
Other taxes	3,618,670	3,466,234	3,475,767	9,533
Federal, State and other categorical aid	19,455,185	20,783,875	19,437,742	(1,346,133)
Unrestricted Federal and State aid	—	—	408	408
Charges for services	2,751,819	2,777,635	2,745,137	(32,498)
Investment income	9,570	20,642	29,889	9,247
Other revenues	3,337,940	3,637,373	3,327,933	(309,440)
Total revenues	74,172,116	78,966,198	77,482,450	(1,483,748)
EXPENDITURES:				
General government	2,411,649	2,757,796	2,468,539	289,257
Public safety and judicial	8,311,464	8,896,161	8,826,839	69,322
Education	20,740,326	20,957,360	20,457,511	499,849
City University	928,505	945,910	904,050	41,860
Social services	13,788,378	14,011,561	13,843,523	168,038
Environmental protection	2,584,639	2,764,080	2,540,334	223,746
Transportation services	1,574,887	1,717,281	1,654,973	62,308
Parks, recreation and cultural activities	486,419	576,943	555,411	21,532
Housing	664,138	933,846	885,857	47,989
Health (including payments to HHC)	1,478,521	1,723,780	1,708,378	15,402
Libraries	311,451	323,563	322,392	1,171
Pensions	8,468,530	8,494,772	8,489,857	4,915
Judgments and claims	673,989	679,605	679,605	—
Fringe benefits and other benefit payments	4,968,013	5,856,671	5,862,664	(5,993)
Lease payments for debt service	163,869	148,856	148,847	9
Other	1,985,040	972,666	848,095	124,571
Total expenditures	69,539,818	71,760,851	70,196,875	1,563,976
Excess of revenues over expenditures	4,632,298	7,205,347	7,285,575	80,228
OTHER FINANCING SOURCES (USES):				
Principal amount of bonds issued	—	315,274	241,126	74,148
Transfers to Nonmajor Debt Service Fund	(1,421,491)	(2,772,414)	(2,772,375)	(39)
Transfers from Nonmajor Debt Service Fund	240,372	229,947	229,949	(2)
Transfers and other payments for debt service, net	(3,451,179)	(4,978,154)	(4,979,173)	1,019
Total other financing uses	(4,632,298)	(7,205,347)	(7,280,473)	75,126
EXCESS OF REVENUES OVER EXPENDITURES AND OTHER FINANCING USES	$ —	$ —	5,102	$ 5,102
FUND BALANCE AT BEGINNING OF YEAR			462,519	
FUND BALANCE AT END OF YEAR			$ 467,621	

See accompanying notes to financial statements.

THE CITY OF NEW YORK

FIDUCIARY FUNDS

STATEMENT OF FIDUCIARY NET POSITION

JUNE 30, 2016

(in thousands)

	Pension and Other Employee Benefit Trust Funds	Agency Funds
ASSETS:		
Cash and cash equivalents	$ 1,862,743	$1,299,970
Receivables:		
Member loans	2,319,160	—
Investment securities sold	4,181,594	—
Accrued interest and dividends	540,835	—
Other receivables	379	—
Total receivables	7,041,968	—
Investments:		
Short-term investments	5,117,216	—
Debt securities	40,119,759	3,172,406
Equity securities	59,731,778	—
Alternative investments	25,752,930	—
Mutual funds	10,352,595	—
Collective trust funds	51,716,410	—
Collateral from securities lending transactions	11,902,353	—
Guaranteed investment contracts	5,303,762	—
Total investments	209,996,803	3,172,406
Other assets	275,809	—
Total assets	219,177,323	4,472,376
LIABILITIES:		
Accounts payable and accrued liabilities	1,389,479	1,010,008
Payable for investment securities purchased	5,432,381	—
Accrued benefits payable	787,009	—
Securities lending transactions	11,902,353	—
Other liabilities	97,746	3,462,368
Total liabilities	19,608,968	4,472,376
NET POSITION:		
Restricted for benefits to be provided by QPPs	146,917,855	—
Restricted for benefits to be provided by VSFs	2,642,245	—
Restricted for benefits to be provided by TDA program	30,074,416	—
Restricted for other employee benefits	19,933,839	—
Total net position	$199,568,355	$ —

See accompanying notes to financial statements.

THE CITY OF NEW YORK

FIDUCIARY FUNDS
STATEMENT OF FIDUCIARY NET POSITION

JUNE 30, 2015
(in thousands)

	Pension and Other Employee Benefit Trust Funds	Agency Funds
ASSETS:		
Cash and cash equivalents	$ 1,072,112	$1,373,381
Receivables:		
Member loans	2,242,884	—
Investment securities sold	5,260,694	—
Accrued interest and dividends	513,055	—
Other receivables	216	—
Total receivables	8,016,849	—
Investments:		
Short-term investments	9,912,775	—
Debt securities	41,948,003	2,161,656
Equity securities	60,297,544	—
Alternative investments	23,870,592	—
Mutual funds	10,204,567	—
Collective trust funds	49,232,865	—
Collateral from securities lending transactions	11,188,889	—
Guaranteed investment contracts	5,159,254	—
Total investments	211,814,489	2,161,656
Other assets	274,180	—
Total assets	221,177,630	3,535,037
LIABILITIES:		
Accounts payable and accrued liabilities	1,469,887	1,058,440
Payable for investment securities purchased	10,317,207	—
Accrued benefits payable	723,878	—
Securities lending transactions	11,188,889	—
Other liabilities	85,655	2,476,597
Total liabilities	23,785,516	3,535,037
NET POSITION:		
Restricted for benefits to be provided by QPPs	145,769,301	—
Restricted for benefits to be provided by VSFs	3,775,111	—
Restricted for benefits to be provided by TDA program	28,844,941	—
Restricted for other employee benefits	19,002,761	—
Total net position	$197,392,114	$ —

See accompanying notes to financial statements.

THE CITY OF NEW YORK

FIDUCIARY FUNDS

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEAR ENDED JUNE 30, 2016

(in thousands)

	Pension and Other Employee Benefit Trust Funds
ADDITIONS:	
Contributions:	
Member contributions	$ 2,739,214
Employer contributions	13,679,102
Other employer contributions	58,145
Total contributions	16,476,461
Investment income:	
Interest income	2,356,503
Dividend income	2,561,066
Net depreciation in fair value of investments	(1,399,849)
Investment expenses	(673,517)
Investment income, net	2,844,203
Securities lending transactions:	
Securities lending income	88,389
Securities lending fees	(6,057)
Net securities lending income	82,332
Other	(106,450)
Total additions	19,296,546
DEDUCTIONS:	
Benefit payments and withdrawals	16,917,534
Administrative expenses	195,331
Other	7,440
Total deductions	17,120,305
Net increase in net position	2,176,241
NET POSITION:	
Restricted for Benefits:	
Beginning of year	197,392,114
End of year	$199,568,355

See accompanying notes to financial statements.

THE CITY OF NEW YORK

FIDUCIARY FUNDS

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEAR ENDED JUNE 30, 2015

(in thousands)

	Pension and Other Employee Benefit Trust Funds
ADDITIONS:	
Contributions:	
Member contributions	$ 2,525,727
Employer contributions	13,122,664
Other employer contributions	55,521
Total contributions	15,703,912
Investment income:	
Interest income	2,128,236
Dividend income	2,832,442
Net appreciation in fair value of investments	1,415,848
Investment expenses	(741,614)
Investment income, net	5,634,912
Securities lending transactions:	
Securities lending income	82,478
Securities lending fees	(5,353)
Net securities lending income	77,125
Other	2,713
Total additions	21,418,662
DEDUCTIONS:	
Benefit payments and withdrawals	16,152,532
Administrative expenses	184,862
Other	7,142
Total deductions	16,344,536
Net increase in net position	5,074,126
NET POSITION:	
Restricted for Benefits:	
Beginning of year	192,317,988
End of year	$197,392,114

See accompanying notes to financial statements.

THE CITY OF NEW YORK
COMPONENT UNITS
STATEMENT OF NET POSITION

JUNE 30, 2016
(in thousands)

	Water and Sewer System	Housing Authority December 31, 2015	Housing Development Corporation October 31, 2015	Health and Hospitals Corporation	Economic Development Corporation	Nonmajor Component Units	Total
ASSETS:							
Cash and cash equivalents	$ 356	$ 410,765	$ 782,027	$ 1,112,003	$ 82,265	$ 81,521	$ 2,468,937
Investments	6,096	796,424	375,587	405,906	175,693	420,296	2,180,002
Lease receivables	—	—	—	—	—	1,694,490	1,694,490
Other receivables	784,369	298,246	1,144,785	1,774,462	252,934	27,910	4,282,706
Mortgage loans and interest receivable, net	—	5	9,646,533	—	16,955	—	9,663,493
Inventories	—	13,394	—	23,291	—	—	36,685
Due from Primary Government	194,362	—	—	—	—	23,066	217,428
Restricted cash and investments	2,199,646	408,913	2,524,077	320,960	280,826	299,655	6,034,077
Other	73,556	105,249	9,133	—	76,910	23,121	287,969
Capital assets:							
Land and construction work-in-progress	5,227,182	2,028,773	—	371,259	112,912	167,277	7,907,403
Buildings and equipment	36,815,525	12,363,185	7,225	8,020,508	37,513	1,117,468	58,361,424
Accumulated depreciation	(12,976,917)	(8,458,707)	(5,429)	(4,983,098)	(8,862)	(239,578)	(26,672,591)
Total assets	32,324,175	7,966,247	14,483,938	7,045,291	1,027,146	3,615,226	66,462,023
DEFERRED OUTFLOWS OF RESOURCES:							
Deferred outflows from pensions	275	83,162	2,063	491,646	—	—	577,146
Other deferred outflows of resources	142,802	6,284	10,287	12,785	—	18,517	190,675
Total deferred outflows of resources	143,077	89,446	12,350	504,431	—	18,517	767,821
LIABILITIES:							
Accounts payable and accrued liabilities	18,066	385,836	830,524	2,070,537	178,154	71,389	3,554,506
Accrued interest payable	49,745	15,361	89,441	12,136	—	—	166,683
Unearned revenues	141,741	95,120	83,198	—	34,205	38,093	392,357
Due to Primary Government	498,330	—	1,022,190	504,902	127,243	—	2,152,665
Other	—	48,617	—	5,061	32,667	150,704	237,049
Derivative instruments-interest rate swaps	142,802	—	—	—	—	18,517	161,319
Noncurrent Liabilities:							
Due within one year	578,028	217,698	429,706	679,185	—	26,408	1,931,025
Bonds & notes payable (net of amount due within one year)	30,251,327	689,405	9,671,638	868,626	—	1,694,699	43,175,695
Net pension liability	1,215	1,026,612	10,908	3,095,542	—	11,023	4,145,300
OPEB liability	1,270	2,689,623	8,919	4,883,995	20,719	85	7,604,611
Other (net of amount due within one year)	33,840	642,625	106,109	—	207,919	488,448	1,478,941
Total liabilities	31,716,364	5,810,897	12,252,633	12,119,984	600,907	2,499,366	65,000,151
DEFERRED INFLOWS OF RESOURCES:							
Deferred inflows from pensions	154	93,706	2,075	—	—	—	95,935
Other deferred inflows of resources	16,647	—	—	—	—	—	16,647
Total deferred inflows of resources	16,801	93,706	2,075	—	—	—	112,582
NET POSITION:							
Net investment in capital assets	(430,201)	5,407,064	1,796	2,520,920	28,651	918,971	8,447,201
Restricted for:							
Capital projects	—	—	—	—	40,279	7,596	47,875
Debt service	1,457,332	—	1,207,367	141,235	—	—	2,805,934
Loans/security deposits	—	—	—	—	54,865	5,400	60,265
Donor/statutory restrictions	—	—	—	148,130	—	23,563	171,693
Operations	250,447	—	64,274	—	—	—	314,721
Unrestricted (deficit)	(543,491)	(3,255,974)	968,143	(7,380,547)	302,444	178,847	(9,730,578)
Total net position (deficit)	$ 734,087	$ 2,151,090	$ 2,241,580	$ (4,570,262)	$ 426,239	$ 1,134,377	$ 2,117,111

See accompanying notes to financial statements.

THE CITY OF NEW YORK
COMPONENT UNITS
STATEMENT OF NET POSITION
JUNE 30, 2015
(in thousands)

	Water and Sewer System	Housing Authority December 31, 2014	Housing Development Corporation October 31, 2014	Health and Hospitals Corporation	Economic Development Corporation	Nonmajor Component Units	Total
ASSETS:							
Cash and cash equivalents	$ 53	$ 627,310	$ 570,451	$ 1,264,999	$ 106,289	$ 100,788	$ 2,669,890
Investments	6,212	550,725	323,658	249,868	81,814	428,713	1,640,990
Lease receivables	—	—	—	—	—	1,718,818	1,718,818
Other receivables	733,469	234,927	987,983	1,632,984	261,462	29,406	3,880,231
Mortgage loans and interest receivable, net	—	5	8,770,368	—	20,593	—	8,790,966
Inventories	—	14,884	—	20,909	—	—	35,793
Due from Primary Government	119,756	—	—	—	—	21,465	141,221
Restricted cash and investments	2,280,401	649,771	2,444,399	273,956	295,758	291,624	6,235,909
Other	71,772	103,852	9,489	—	52,028	2,116	239,257
Capital assets:							
Land and construction work-in-progress	4,558,225	1,719,935	—	304,394	108,412	165,135	6,856,101
Buildings and equipment	36,175,966	12,015,195	6,522	7,862,341	29,416	953,895	57,043,335
Accumulated depreciation	(12,070,070)	(8,115,141)	(5,178)	(4,728,794)	(9,621)	(195,873)	(25,124,677)
Total assets	31,875,784	7,801,463	13,107,692	6,880,657	946,151	3,516,087	64,127,834
DEFERRED OUTFLOWS OF RESOURCES:							
Deferred outflows from pensions	105	77,701	350	—	—	—	78,156
Other deferred outflows of resources	103,182	7,992	11,985	15,349	—	18,317	156,825
Total deferred outflows of resources	103,287	85,693	12,335	15,349	—	18,317	234,981
LIABILITIES:							
Accounts payable and accrued liabilities	3,750	479,230	644,659	2,087,304	214,254	51,938	3,481,135
Accrued interest payable	57,535	15,810	78,077	12,870	—	—	164,292
Unearned revenues	149,226	48,773	77,173	—	39,667	54,062	368,901
Due to Primary Government	500,587	—	903,331	704,985	111,383	—	2,220,286
Other	—	45,001	—	5,061	32,773	139,375	222,210
Derivative instruments-interest rate swaps	103,182	—	—	—	—	18,317	121,499
Noncurrent Liabilities:							
Due within one year	991,462	226,905	834,981	608,096	—	25,228	2,686,672
Bonds & notes payable (net of amount due within one year)	29,941,881	729,413	8,405,292	882,848	—	1,723,665	41,683,099
Net pension liability	1,012	904,747	9,730	2,389,367	—	9,739	3,314,595
OPEB liability	989	2,867,542	7,196	4,563,268	20,483	255	7,459,733
Other (net of amount due within one year)	81,477	631,791	73,218	—	201,841	474,062	1,462,389
Total liabilities	31,831,101	5,949,212	11,033,657	11,253,799	620,401	2,496,641	63,184,811
DEFERRED INFLOWS OF RESOURCES:							
Deferred inflows from pensions	199	259,791	2,794	264,340	—	—	527,124
Other deferred inflows of resources	17,978	—	—	—	—	—	17,978
Total deferred inflows of resources	18,177	259,791	2,794	264,340	—	—	545,102
NET POSITION:							
Net investment in capital assets	(598,349)	5,308,896	1,344	2,526,617	19,795	829,650	8,087,953
Restricted for:							
Capital projects	—	—	—	—	27,652	1,772	29,424
Debt service	1,224,925	—	1,117,381	135,961	—	—	2,478,267
Loans/security deposits	—	—	—	—	55,923	5,011	60,934
Donor/statutory restrictions	—	—	—	130,375	—	23,968	154,343
Operations	226,383	—	52,921	—	—	—	279,304
Unrestricted (deficit)	(723,166)	(3,630,743)	911,930	(7,415,086)	222,380	177,362	(10,457,323)
Total net position (deficit)	$ 129,793	$ 1,678,153	$ 2,083,576	$(4,622,133)	$ 325,750	$1,037,763	$ 632,902

See accompanying notes to financial statements.

THE CITY OF NEW YORK
COMPONENT UNITS
STATEMENT OF ACTIVITIES

FOR THE YEAR ENDED JUNE 30, 2016
(in thousands)

	Water and Sewer System	Housing Authority December 31, 2015	Housing Development Corporation October 31, 2015	Health and Hospitals Corporation	Economic Development Corporation	Nonmajor Component Units	Total
EXPENSES	$3,510,055	$3,274,759	$ 271,479	$ 9,756,868	$813,588	$ 474,737	$18,101,486
PROGRAM REVENUES:							
Charges for services	3,892,465	990,524	357,318	7,773,121	342,219	57,168	13,412,815
Operating grants and contributions	—	2,213,763	—	362,409	72,162	253,909	2,902,243
Capital grants, contributions and other	4,060	433,505	—	151,403	453,384	150,842	1,193,194
Total program revenues	3,896,525	3,637,792	357,318	8,286,933	867,765	461,919	17,508,252
Net (expenses) program revenues	386,470	363,033	85,839	(1,469,935)	54,177	(12,818)	(593,234)
GENERAL REVENUES:							
Investment income (loss)	53,322	10,249	32,324	12,389	1,929	(1,056)	109,157
Unrestricted federal and state aid	—	—	—	—	3,374	5,592	8,966
Other	164,502	99,655	39,841	1,509,417	41,009	104,896	1,959,320
Total general revenue	217,824	109,904	72,165	1,521,806	46,312	109,432	2,077,443
Change in net position (deficit)	604,294	472,937	158,004	51,871	100,489	96,614	1,484,209
Net position (deficit)—-beginning	129,793	1,678,153	2,083,576	(4,622,133)	325,750	1,037,763	632,902
Net position (deficit)—-ending	$ 734,087	$2,151,090	$2,241,580	$(4,570,262)	$426,239	$1,134,377	$ 2,117,111

See accompanying notes to financial statements.

THE CITY OF NEW YORK

COMPONENT UNITS

STATEMENT OF ACTIVITIES

FOR THE YEAR ENDED JUNE 30, 2015

(in thousands)

	Water and Sewer System	Housing Authority December 31, 2014	Housing Development Corporation October 31, 2014	Health and Hospitals Corporation	Economic Development Corporation	Nonmajor Component Units	Total
EXPENSES	$3,912,413	$3,511,818	$ 229,886	$ 8,342,672	$744,343	$ 447,016	$17,188,148
PROGRAM REVENUES:							
Charges for services	3,791,135	956,815	326,143	7,535,297	250,180	81,675	12,941,245
Operating grants and contributions	—	2,135,245	—	526,673	65,002	234,118	2,961,038
Capital grants, contributions and other	223,791	330,548	—	106,915	365,598	152,731	1,179,583
Total program revenues	4,014,926	3,422,608	326,143	8,168,885	680,780	468,524	17,081,866
Net (expenses) program revenues	102,513	(89,210)	96,257	(173,787)	(63,563)	21,508	(106,282)
GENERAL REVENUES:							
Investment income (loss)	22,426	7,668	204,142	2,884	969	(1,444)	236,645
Unrestricted federal and state aid	—	—	—	—	4,744	5,448	10,192
Other	163,655	94,156	42,811	202,550	32,583	106,229	641,984
Total general revenue	186,081	101,824	246,953	205,434	38,296	110,233	888,821
Change in net position (deficit)	288,594	12,614	343,210	31,647	(25,267)	131,741	782,539
Net position (deficit)—beginning	(158,801)	1,665,539	1,740,366	(4,653,780)	351,017	769,178	(286,481)
Restatement of beginning net position	—	—	—	—	—	136,844	136,844
Net position (deficit)—ending	$ 129,793	$1,678,153	$2,083,576	$(4,622,133)	$325,750	$1,037,763	$ 632,902

See accompanying notes to financial statements.

A. Summary of Significant Accounting Policies

The accompanying basic financial statements of The City of New York (City or primary government) are presented in conformity with Generally Accepted Accounting Principles (GAAP) for state and local governments in the United States of America as prescribed by the Governmental Accounting Standards Board (GASB). The amounts shown in the "City" and "component units" columns of the accompanying government-wide financial statements are only presented to facilitate financial analysis and are not the equivalent of consolidated financial statements.

The following is a summary of the significant accounting policies and reporting practices of the City:

1. Reporting Entity

The City is a municipal corporation governed by the Mayor and the City Council. The City's operations also include those normally performed at the county level and, accordingly, transactions applicable to the operations of the five counties that comprise the City are included in these financial statements.

The financial reporting entity consists of the City and its component units, which are legally separate organizations for which the City is financially accountable.

The City is financially accountable for the organizations that make up its legal entity. It is also financially accountable for legally separate organizations if City officials appoint a voting majority of an organization's governing body and, either the City is able to impose its will on that organization, or there is a potential for the organization to provide specific financial benefits to, or to impose specific financial burdens on, the City. The City may also be financially accountable for organizations that are fiscally dependent on the City if there is a potential for the organizations to provide specific financial benefits to the City or impose specific financial burdens on the City, regardless of whether the organizations have separate elected governing boards, governing boards appointed by higher levels of government, or jointly appointed boards. The City is financially accountable for all of its component units.

Most component units are included in the financial reporting entity by discrete presentation. Some component units, despite being legally separate from the City, are so integrated with the City that they are in substance part of the City. These component units are blended with the City.

The New York City Transit Authority is an affiliated agency of the Metropolitan Transportation Authority (MTA) of the State of New York (State), which is a component unit of the State and is thus excluded from the City's financial reporting entity.

Blended Component Units

These component units, although legally separate, are reported as if they were part of the City, because they provide services exclusively to the City. They include the following:

New York City Transitional Finance Authority (TFA). TFA, a corporate governmental agency constituting a public benefit corporation and instrumentality of the State, was created in 1997 to issue and sell bonds and notes to fund a portion of the capital program of the City, the purpose of which is to maintain, rebuild, and expand the infrastructure of the City and to pay TFA's administrative expenses.

TFA's authorizing legislation, which was amended several times, authorizes TFA to have outstanding $13.5 billion of Future Tax Secured Bonds. In addition, TFA is authorized to issue additional Future Tax Secured Bonds provided that the amount of such additional bonds, together with the amount of indebtedness contracted by the City, does not exceed the debt limit of the City. As of June 30, 2016, the City's and TFA's combined debt-incurring capacity was approximately $23.0 billion. TFA is also authorized to have outstanding Recovery Bonds of $2.5 billion to fund the City's costs related to, and arising from, events on September 11, 2001 at the World Trade Center, notwithstanding the limits discussed above. Further, legislation enacted in April 2006 enables TFA to have outstanding up to $9.4 billion of Building Aid Revenue Bonds (BARBs), notes, or other obligations for purposes of funding costs of the five-year educational facilities capital plan for the City school system and TFA's administrative expenditures. As of June 30, 2016, $8.0 billion of BARBs have been issued and are outstanding.

TFA does not have any employees; its affairs are administered by employees of the City and of another component unit of the City, for which TFA pays a management fee and overhead based on its allocated share of personnel and overhead costs.

TSASC, Inc. (TSASC). TSASC is a special purpose, local development corporation organized under the not-for-profit corporation law of the State. TSASC is an instrumentality of the City, but is a separate legal entity from the City.

Pursuant to a purchase and sale agreement with the City, the City sold to TSASC all of its future right, title, and interest in the tobacco settlement revenues (TSRs) under the Master Settlement Agreement and the Decree and Final Judgment. This settlement agreement resolved cigarette smoking-related litigation between the settling states and participating manufacturers, released the participating manufacturers from past and present smoking-related claims, and provides for a continuing release of future smoking-related claims in exchange for certain payments to be made to the settling states, as well as certain tobacco advertising and marketing restrictions, among other things. The City is allocated a share of the TSRs received by the State. The future rights, title, and interest of the City to the TSRs were sold to TSASC.

The purchase price of the City's future right, title, and interest in the TSRs was financed by the issuance of a series of bonds and the Residual Certificate.

Under the Amended and Restated Indenture dated January 1, 2006 (Indenture), the Residual Certificate represents the entitlement to receive all amounts in excess of specified percentages of TSRs and other revenues (Collections) used to fund debt service and operating expenses of TSASC. The Collections in excess of the specified percentages will be transferred to the TSASC Tobacco Settlement Trust (Trust), as owner of the Residual Certificate and then to the City as the beneficial owner of the Trust.

The Indenture provides that a specified percentage of Collections are pledged (Pledged), and required to be applied to the payment of debt service and operating costs. The Pledged percentage is 37.40% and is subject to reduction at June 1, 2024, and at each June 1st thereafter, depending on the magnitude of cumulative bond redemptions under the turbo redemption feature of Series 2006-1 bonds (which requires all Pledged Collections, after payment of operating costs, to be applied to payment of principal of and interest on Series 2006-1 bonds).

TSASC does not have any employees; its affairs are administered by employees of the City and of another component unit of the City, for which TSASC pays a management fee, rent, and overhead based on its allocated share of personnel and overhead costs.

New York City Educational Construction Fund (ECF). ECF was created in 1967 as a corporate governmental agency of the State, constituting a public benefit corporation. ECF was established to develop combined occupancy structures containing school and nonschool portions. ECF was created by the Education Law of the State and is authorized to issue bonds, notes, or other obligations to finance those projects.

New York City School Construction Authority (SCA). SCA is a public benefit corporation created by the State Legislature in 1988. SCA's responsibilities as defined in the enabling legislation, are the design, construction, reconstruction, improvement, rehabilitation and repair of the City's public schools. SCA is governed by a three-member Board of Trustees all of whom are appointed by the Mayor, which includes the Schools Chancellor of the City, who serves as the Chairman.

SCA's operations are funded by appropriations made by the City, which are based on a five-year capital plan (Plan), developed by the New York City Department of Education (DOE). The City's appropriation for the five-year capital plan for the fiscal years 2015 through 2019 is $14.11 billion.

SCA carries out certain projects funded by the City Council and Borough Presidents, pursuant to the City Charter.

As SCA represents a pass-through entity, in existence for the sole purpose of construction capital projects, all expenditures are capitalized into construction-in-progress. Upon completion of projects, the assets are transferred to DOE.

Fiscal Year 2005 Securitization Corporation (FSC). FSC was established in 2004 as a special purpose, bankruptcy-remote, local development corporation organized under the not-for-profit corporation law of the State. FSC is a financing instrumentality of the City, but is a separate legal entity from the City. FSC was formed for the purpose of issuing bonds; a major portion of the proceeds of $499 million of bonds issued in December 2004 was used to acquire securities held in an escrow account securing City General Obligation Bonds of the City. The securities, which are held in a trust by the trustee for FSC, as they mature, are expected to generate sufficient cash flow to fund the debt service and operational expenditures of FSC for the life of FSC's bonds.

FSC does not have any employees; its affairs are administered by employees of the City and of another component unit of the City, for which FSC pays a management fee and overhead based on its allocated share of personnel and overhead costs.

Sales Tax Asset Receivable Corporation (STAR). STAR is a special purpose, bankruptcy remote, local development corporation organized under the not-for-profit corporation law of the State. STAR is a financing instrumentality of the City, but separate and apart from the City.

Section 3238-a of the New York State Public Authorities Law, which terminates on July 1, 2034, requires that $170 million be paid annually by the State Local Government Assistance Corporation to the City or its assignee. STAR used the proceeds of its November 4, 2004 bond issue (2005 Series A and B) to provide for the payment of the principal and interest and redemption premium, if any, on all outstanding bonds of the Municipal Assistance Corporation for The City of New York (MAC) and to reimburse the City for amounts retained by MAC since July 1, 2003 for debt service. The payment of the outstanding MAC bonds resulted in the receipt by the City of tax revenues that would otherwise have been paid to MAC for the payment of debt service on MAC's bonds.

On October 15, 2014, STAR issued $2 billion of bonds (2015 Series A and B) and released the debt service reserve, which along with the proceeds allowed STAR to refund all of its outstanding 2005 Series A and B bonds and make a payment to TFA to defease its debt and which is intended to confer savings to the City over the following four years.

STAR does not have any employees; its affairs are administered by employees of the City and of another component unit of the City, for which STAR pays a management and overhead fee based on its allocated share of personnel and overhead costs. STAR is governed by a Board of Directors elected by its six members, all of whom are officials of the City.

Hudson Yards Development Corporation (HYDC). HYDC, a local development corporation organized by the City under the not-for-profit corporation law of the State, was created to manage and implement the City's economic development initiative for the development and redevelopment activities (Project) of the Hudson Yards area on the West Side of Manhattan (Project Area). HYDC is governed by a Board of thirteen Directors, a majority of whom are appointed by the Mayor. HYDC works with various City and State agencies and authorities, and with private developers, on the design, construction and implementation of the various elements of the Project, and to further private development and redevelopment of the Project Area.

Hudson Yards Infrastructure Corporation (HYIC). HYIC, a local development corporation organized by the City under the not-for-profit corporation law of the State, was created for the purpose of financing certain infrastructure improvements in the Hudson Yards area on the West Side of Manhattan (Project). HYIC does not engage in development directly, but finances development spearheaded by HYDC and carried out by existing public entities. HYIC fulfills its purpose through the issuance of bonds to finance the Project, including the operations of HYDC, and the collection of revenues, including payments in lieu of taxes and district improvement bonuses from private developers and appropriations from the City, to support its operations and pay principal and interest on its outstanding bonds. HYIC is governed by a Board of Directors elected by its five Members, all of whom are officials of the City. HYIC's Certificate of Incorporation requires the vote of an independent director as a condition to taking certain actions; the independent director would be appointed by the Mayor prior to any such actions.

HYIC does not have any employees; its affairs are administered by employees of the City and of another component unit of the City, for which HYIC pays a management fee and overhead based on its allocated share of personnel and overhead costs.

New York City Tax Lien Trusts (NYCTLTs). The NYCTLTs are Delaware statutory trusts, which were created to acquire certain tax liens from the City in exchange for the proceeds from bonds issued by the NYCTLTs, net of reserves funded by the bond proceeds and bond issuance costs. The City is the sole beneficiary to the NYCTLTs and is entitled to receive distributions from the NYCTLTs after payments to the bondholders and certain reserve requirements have been satisfied. The NYCTLTs do not have any employees. The NYCTLTs' affairs are administered by the owner trustee, its program manager, tax lien servicer, paying agent and investment custodian.

The NYCTLTs are:

- NYCTLT 1998-2
- NYCTLT 2012-A
- NYCTLT 2013-A
- NYCTLT 2014-A
- NYCTLT 2015-A
- NYCTLT 2016-A

NYC Technology Development Corporation (TDC). TDC is a type C not-for-profit corporation organized under the not-for-profit law of the State. TDC's contract with the City was registered on December 24, 2012, and began operations on January 1, 2013. For fiscal year 2016, a one year contract renewal was registered to be effective on July 1, 2015. For fiscal year 2017, a second one year contract renewal was registered to be effective on July 7, 2016. Pursuant to this contract, TDC receives quarterly payments from the City that cover its projected expenses for the forthcoming quarter and those contractual payments are TDC's sole source of revenue.

TDC was incorporated for the purpose of enhancing the City's ability to effectively manage and deploy information technology (IT) projects through (i) attracting, developing and retaining highly experienced and skilled IT professionals; (ii) successfully delivering large, critical and cross-agency IT projects in a timely and cost-effective manner; (iii) providing a common framework, resources, best practices and diagnostics for large IT projects; and (iv) providing and supporting citywide governance over IT programs, environments and services.

Under its contract with the City, TDC provides four broad categories of program services: (i) senior management services; (ii) solution architect services; (iii) multi-agency vendor management services; and (iv) portfolio management and additional IT consulting services.

TDC is governed by a Board of Directors appointed by the Mayor. The Board may have up to seven members and is required to have a minimum of three members.

Discretely Presented Component Units

All discretely presented component units are legally separate from the City. These entities are reported as discretely presented component units because the City appoints a majority of these organizations' boards, and is able to impose its will on them or a financial benefit/burden situation exists; or if they are fiscally dependent on the City and a financial benefit or burden relationship also exists regardless of city control.

The component units column in the government-wide financial statements includes the financial data of these entities, which are reported in a separate column to emphasize that they are legally separate from the City. They include the following:

New York City Health and Hospitals Corporation (HHC). HHC, a public benefit corporation, assumed responsibility for the operation of the City's municipal hospital system in 1970. HHC provides the full continuum of care including primary and specialty care, inpatient acute, outpatient, long-term care, and home health services.

HHC's financial statements include the accounts of HHC and its blended component units, HHC Insurance Company, Inc., HHC Capital Corporation, HHC Physicians Purchasing Group, Inc., HHC Risk Services Corporation, HHC ACO Inc. and HHC Assistance Corporation. HHC's Financial Statements also include MetroPlus, a discretely presented component unit.

HHC mainly provides, on behalf of the City, comprehensive medical and mental health services to City residents regardless of ability to pay. Funds appropriated from the City are direct or indirect payments made by the City on behalf of HHC for patient care rendered to prisoners, uniformed City employees and various discretely funded facility-specific programs; for interest on City General Obligation debt which funded HHC capital acquisitions; for funding for collective bargaining agreements; and for settlements of claims for medical malpractice, negligence, other torts, and alleged breach of contracts and payments by the City. Reimbursement by HHC is negotiated annually with the City.

New York City Housing Development Corporation (HDC). HDC, a corporate governmental agency constituting a public benefit corporation of the State of New York, was established in 1971 to encourage the investment of private capital through low-interest mortgage loans in order to increase the supply of safe and sanitary dwelling accommodations for families and persons whose need for housing accommodations cannot be provided by unassisted private enterprise. To accomplish its objectives HDC is empowered to finance housing through new construction or rehabilitation and to provide permanent financing for multi-family residential housing. HDC finances significant amounts of its activities through the issuance of bonds, notes and debt obligations. The bonds, notes and debt obligations of HDC are not debts of either the State or the City. The combined financial statements include: (i) the accounts of HDC and (ii) two active discretely presented component units: the New York City Housing Assistance Corporation and the New York City Residential Mortgage Insurance Corporation. HDC also includes the Housing New York Corporation, which became an inactive subsidiary of HDC on November 3, 2003 and is not expected to be dissolved, and the NYC HDC Real Estate Owned Corporation, a blended component of HDC that has not been active in recent years.

New York City Housing Authority (HA). HA is a public benefit corporation created in 1934 under the New York State Public Housing Law. HA develops, constructs, manages, and maintains affordable housing for eligible low income families in the City. HA also maintains a leased housing program, which provides housing assistance payments to families.

Substantial operating losses result from the essential services that HA provides exceeding revenues. To meet the funding requirements of these operating losses, HA receives subsidies from: (a) the Federal government, primarily the U.S. Department of Housing and Urban Development, in the form of annual grants for operating assistance, debt service payments, contributions for capital, and reimbursement of expenditures incurred for certain Federal housing programs; (b) New York State in the form of debt service and capital payments; and (c) the City in the form of debt service and capital payments. Subsidies are established through budgetary procedures, which establish amounts to be funded by the grantor agencies.

New York City Industrial Development Agency (IDA). IDA is a public benefit corporation established in 1974 to actively promote, retain, attract, encourage, and develop an economically sound commerce and industry base to prevent unemployment and economic deterioration in the City. IDA assists industrial and commercial organizations through "straight lease" structures. The straight lease provides tax benefits to the participating organizations (the "Beneficiaries") to incentivize the acquisition and capital improvement of their facilities. IDA may also assist Beneficiaries in obtaining long-term, low-cost financing for capital assets through a financing transaction, which includes the issuance of double and triple tax-exempt industrial development bonds ("IDBs"). The Beneficiaries, in addition to satisfying legal requirements under IDA's governing laws, must meet certain economic development criteria, the most important of which is job creation and/or retention. Whether IDA enters into a straight lease or issues IDBs, IDA may provide one or more of the following tax benefits: exemption from mortgage recording tax; payments in lieu of real property taxes ("PILOT") that are less than full taxes; and exemption from City and State sales and use taxes as applied to construction materials and machinery and equipment. IDA is governed by a Board of Directors, which establishes official policies and reviews and approves requests for financial assistance. Its membership is prescribed by statue and includes a public official and mayoral appointees.

New York City Economic Development Corporation (EDC). EDC was organized under the State not-for-profit Corporation law. EDC's primary activities consist of rendering a variety of services and administering certain economic development programs on behalf of the City relating to the attraction, retention and expansion of commerce in the City. These programs and services include encouragement of construction, acquisition, rehabilitation and improvement of commercial and industrial enterprises within the City and the provision of grants to qualifying business enterprises as a means to helping to create and retain employment therein.

Business Relocation Assistance Corporation (BRAC). BRAC is a not-for-profit corporation incorporated in 1981 according to the not-for-profit corporation law of the State for the purpose of implementing and administering the Relocation Incentive Program (RIP) and other related programs. BRAC provides relocation assistance to qualifying commercial and manufacturing firms moving within the City.

All conversion contributions received by BRAC under previous zoning regulations are restricted for the use of administering industrial retention/relocation programs. One such program, the Industrial Relocation Grant Program, provides grants up to $30,000 to eligible New York City manufacturing firms to defray their moving costs. Grants are paid as reimbursement of moving costs after a firm completes its relocation.

In Fiscal Year 2007, BRAC had received $1.5 million in contributions from EDC to administer the Greenpoint Relocation Program. This program is intended to help defray relocation costs for those manufacturing and industrial firms that may need to relocate due to the rezoning of the Greenpoint-Williamsburg area of Brooklyn by providing for maximum grants of $50,000. In July of 2015, a plan of dissolution was approved by BRAC's Board of Directors and by the Attorney General of the State of New York. The assets of BRAC, all monetary for a total of $422 thousand, were transferred to the New York Business Assistance Corporation, a not-for-profit organization that is engaged in activities substantially similar to BRAC's activities. BRAC had no assets or liabilities as of June 30, 2016.

Brooklyn Navy Yard Development Corporation (BNYDC). BNYDC was organized in 1966 as a not-for-profit corporation according to the not-for-profit corporation law of the State. The primary purpose of BNYDC is to provide economic rehabilitation in Brooklyn, to revitalize the economy, and create job opportunities. In 1971, BNYDC leased the Brooklyn Navy Yard from the City for the purpose of rehabilitating it and attracting new businesses and industry to the area. That lease was amended, restated and the term extended by a lease commencing July 1, 2012, for a period of 49 years with five 10-year extension periods. The members of the Board of Directors serve at the pleasure of the Mayor of the City.

New York City Water and Sewer System (the System). The System provides water supply, treatment and distribution, and sewage collection, treatment, and disposal for the City and began operations in July, 1985. The System is a joint operation consisting of two legally separate and independent entities. The New York City Municipal Water Finance Authority (Water Authority) is a public benefit corporation created in accordance with the New York City Municipal Water Finance Act in 1984. The New York City Water Board (Water Board) was created by the laws of 1984. The Water Authority issues debt to finance the cost of capital improvements to the system and to refund all outstanding bonds and general obligation bonds of the City issued for water and sewer purposes. The Water Board leases the System from the City and fixes and collects rates, fees, rents and other charges for the use of, or for services furnished, rendered or made available by, the System to produce cash sufficient to pay debt service on the Water Authority's bonds and to put the System on a self-sustaining basis. The physical operation and capital improvements of the System are performed by the City's Department of Environmental Protection subject to contractual agreements with the Water Authority and the Water Board.

WTC Captive Insurance Company, Inc. (WTC Captive). WTC Captive is a not-for-profit corporation incorporated in the State in 2004 in response to the events of September 11, 2001. WTC Captive was funded with $999.9 million in funds by the Federal Emergency Management Agency (FEMA) and used this funding to support a liability insurance contract (Contract) that provides specified coverage (general liability, environmental liability, professional liability, and marine liability) against certain third-party claims made against the City and approximately 145 contractors and subcontractors working on the City's FEMA-funded debris removal project. Coverage is provided on both an excess of loss and first dollar basis, depending on the line of coverage. WTC Captive uses deposit accounting, which is applicable when no insurance risk is transferred in an insurance contract. Additionally, as all of WTC Captive's resources must be used to satisfy obligations under the Contract or returned, it reports only changes to its liabilities and no net position. See also Judgements and Claims in Note E5.

Brooklyn Bridge Park Corporation (BBPC). BBPC is a not-for-profit corporation incorporated in the State in 2010. BBPC was formed for the purposes of lessening the burdens of government by further developing and enhancing the economic vitality of the Brooklyn waterfront through the development, operation, and maintenance of a renovated waterfront area, including a public park, which serves the people of the New York City region. BBPC is responsible for the planning, construction, maintenance, and operation of Brooklyn Bridge Park, an 85 acre sustainable water front park stretching 1.3 miles along Brooklyn's East River shoreline. The majority of BBPC's funding comes from a limited number of revenue-generating development sites within the project's footprint. BBPC is governed by a 17-member Board of Directors appointed by the Mayor, the Governor of New York State and local elected officials.

Governors Island Corporation, doing business as **The Trust for Governors Island (TGI),** is a not-for-profit corporation incorporated in the State in 2010. TGI was formed for the purposes of lessening the burdens of government by providing the planning, preservation, redevelopment and ongoing operations and maintenance of approximately 150 acres of Governors Island plus surrounding lands underwater. TGI opened 30 acres of new park space in 2014 and is proceeding with an ambitious infrastructure program to ready the Island for expanded tenancy and activity. TGI receives funding from the City and State of New York. TGI is governed by a 13-member Board of Directors appointed by the Mayor and nominated by the Mayor, the Governor of the State of New York, and local officials.

Build NYC Resource Corporation (Build NYC). Build NYC is a local development corporation organized under the not-for-profit Corporation law of the State to assist entities eligible under the Federal tax laws in obtaining tax-exempt bond and taxable bond financing; it began operating in 2011. Build NYC's primary goal is to facilitate access to private activity tax-exempt bond financing for eligible entities to acquire, construct, renovate, and/or equip their facilities as well as refinance previous financing transactions. Build NYC is governed by a Board of Directors, comprised of public officials and appointees of the Mayor.

New York City Land Development Corporation (LDC). LDC was formed on May 8, 2012, as a local development corporation organized under the not-for-profit law of the State. LDC assists the City with leasing and selling certain properties for the purpose of economic development. The mission of LDC is to encourage economic growth throughout the five boroughs of the City by acquiring City-owned property and disposing of it to strengthen the City's competitive position and facilitate investments that build capacity, generate economic opportunity and improve the quality of life.

New York City Neighborhood Capital Corporation (NYCNCC). NYCNCC was incorporated in July of 2014 under Section 402 of the not-for-profit Corporation Law of the State. NYCNCC was formed for the following purposes: a) to make qualified low income community investments in the service area of the City, b) to operate as a qualified Community Development Entity (CDE) under the Federal new markets tax credit program, c) to form and manage subsidiary limited liability companies which are certified as CDEs to receive equity contributions, which will be utilized primarily to make qualified low-income community investments, and d) to engage in all activities consistent with the business of NYCNCC.

Brooklyn Public Library (BPL). BPL is a not-for-profit corporation, incorporated by the New York State Legislature in 1902. BPL serves more than 2.5 million Brooklynites with a Central Library, a Business Library and 58 branch locations. BPL receives significant support through governmental appropriations, primarily the State and the City. Its continuing operations are dependent upon such government support.

The Queens Borough Public Library Affiliate (QBPL). QBPL is a not-for-profit corporation, incorporated by the State Legislature in 1907. QBPL is a free association library and provides free public library service in the Borough of Queens. QBPL receives a substantial amount of support from the City, other governmental entities and private sources. A significant reduction in the level of support provided by the City may have an effect on QBPL's programs and activities. The operations of QBPL also include its affiliate, Queens Library Foundation, Inc., which supports QBPL.

Note: All of the component units publish separate annual financial statements, which are available at: Office of the Comptroller, Bureau of Accountancy—Room 200 South, 1 Centre Street, New York, New York 10007, or at www.comptroller.nyc.gov.

2. Basis of Presentation

Government-Wide Statements: The government-wide financial statements (the *Statement of Net Position* and the *Statement of Activities*) display information about the City and its component units. These statements include the financial activities of the overall government except for fiduciary activities. Eliminations of internal activity have been made in these statements. The City is reported separately from certain legally separate component units, for which the City is financially accountable. All of the activities of the City are governmental activities.

The *Statement of Activities* presents a comparison between program expenses, which include allocated indirect expenses, and program revenues for each function of the City's governmental activities. Direct expenses are those that are clearly identifiable with a specific function. Program revenues include: (i) charges for services such as rental revenue from operating leases on markets, ports, and terminals and (ii) grants and contributions that are restricted to meeting the operational or capital requirements of a particular function or program. Taxes and other revenues, not properly included among program revenues, are reported as general revenues.

Fund Financial Statements: The fund financial statements provide information about the City's funds, including blended component units. Separate statements for the governmental and fiduciary fund categories are presented. The emphasis of fund financial statements is on major governmental funds, each displayed in a separate column. All remaining governmental funds are aggregated and reported as nonmajor funds.

The City uses funds to report on its financial position and the results of its operations. Fund accounting is designed to demonstrate legal compliance and to aid financial management by segregating transactions related to certain government functions or activities. A fund is a separate accounting entity with a self-balancing set of accounts.

The City's funds are classified into two categories: governmental and fiduciary; each category, in turn, is divided into separate "fund types." The City has no proprietary funds, only proprietary component units.

The City reports the following major governmental funds:

General Fund. This is the general operating fund of the City. Substantially all tax revenues, Federal and State aid (except aid for capital projects), and other operating revenues are accounted for in the General Fund. This fund also accounts for expenditures and transfers as appropriated in the expense budget, which provides for the City's day-to-day operations, including transfers to Debt Service Funds for payment of long-term liabilities. The fund balance in the General Fund is reported as nonspendable.

Capital Projects Fund. This fund is used to account for and report financial resources that are restricted, committed, or assigned to expenditures for capital outlays, including the acquisition or construction of capital facilities and other capital assets. Capital Projects Funds exclude capital-related outflows financed by component unit proprietary funds or for assets that will be held in trust for individuals, private organizations, or other governments. Resources of the Capital Projects Fund are derived principally from proceeds of City and TFA bond issues, payments from the Water Authority, and from Federal, State, and other aid.

General Debt Service Fund. This fund is used to account for and report financial resources that are restricted, committed, or assigned to expenditures for principal and interest. This fund, into which payments of real estate taxes and other revenues are deposited in advance of debt service payment dates, is required by State legislation and is administered and maintained by the State Comptroller. Debt service on all City notes and bonds is paid from this fund.

Nonmajor Governmental Funds. The City reports the following blended component units within the Nonmajor Governmental Funds: **TFA, TSASC, ECF, SCA, FSC, STAR, HYDC, HYIC, NYCTLTs and TDC.** If a component unit is blended, the governmental fund types of the component unit are blended with those of the City by including them in the appropriate combining statements of the City. Although the City's General Fund is usually the main operating fund of the reporting entity, the General Fund of a blended component is reported as a Special Revenue Fund. The City does not have other Special Revenue Funds.

Additionally, the City reports the following fund types:

Fiduciary Funds

The fiduciary funds are used to account for assets and activities when a governmental unit is functioning either as a trustee or an agent for another party. The City's fiduciary funds fall into two categories:

The **Pension and Other Employee Benefit Trust Funds** account for the operations of:

- Pension Trusts
  - New York City Employees' Retirement System (NYCERS)
  - Teachers' Retirement System of The City of New York (TRS)
  - New York City Board of Education Retirement System (BERS)
  - New York City Police Pension Funds (POLICE)
  - New York City Fire Pension Funds (FIRE)
- Deferred Compensation Plans (DCP)
- The New York City Other Postemployment Benefits Plan (the OPEB Plan)

Each of the pension trusts report all jointly administered plans including primary pension (QPPs), and variable supplements funds (VSFs) and/or tax deferred annuity plans (TDAs), as appropriate. While the VSFs are included with QPPs for financial reporting purposes, in accordance with the Administrative Code of The City of New York (ACNY), VSFs are not pension funds or retirement systems. Instead, they provide scheduled supplemental payments, in accordance with applicable statutory provisions. While a portion of these payments are guaranteed by the City, the State has the right and power to amend, modify, or repeal VSFs and the payments they provide. However, any assets transferred to the VSFs are held in trust solely for the benefit of its members. More information is available in note E.5.

The Deferred Compensation Plans report the various jointly administered Deferred Compensation Plans of The City of New York and related agencies and Instrumentalities and the New York City Employee Individual Retirement Account (NYCEIRA).

Note: These fiduciary funds publish separate annual financial statements, which are available at: Office of the Comptroller, Bureau of Accountancy—Room 200 South, 1 Centre Street, New York, New York 10007, or at www.comptroller.nyc.gov.

These funds use the accrual basis of accounting and a measurement focus on the periodic determination of additions, deductions, and net position restricted for benefits.

The **Agency Funds** account for miscellaneous assets held by the City for other funds, governmental units, and individuals. School fundraiser monies for scholarships, federal asset forfeiture for investigative purposes, and cash bail for use by the surety/assignee, are the major miscellaneous assets accounted for in these funds. The Agency Funds are custodial in nature and do not involve measurement of results of operations.

Discretely Presented Component Units

The discretely presented major component units consist of **HHC, HDC, HA, EDC,** and **NYW.** The discretely presented nonmajor components units are **IDA, BRAC, BNYDC, WTC Captive, BBPC, TGI, LDC, Build NYC, NYCNCC, QBPL, and BPL.** Their activities are accounted for in a manner similar to private business enterprises, in which the focus is on the periodic determination of revenues, expenses, and net income.

Change in Reporting Entity

As a result of a review of Governmental Accounting Standards Board Statement No. 14, *The Financial Reporting Entity*, as amended, City management determined that it is preferable to present the QBPL and the BPL as discretely presented component units of the City. The analysis concluded that the City has financial accountability over the QBPL and the BPL because it appoints a voting majority, and a financial benefit/burden relationship exists with these two entities. The 2015 entity-wide financial statements, which originally did not include the QBPL and BPL as discretely presented component units, were restated to conform to this change. The financial reporting impact of this change was an increase of $145.3 million to component units' *Total Net Position* on the *Statement of Net Position* and an increase of $8.5 million to component units' *Change in Net Position* on the *Statement of Activities*.

New Accounting Standards Adopted

In Fiscal Year 2016, the City adopted six new statements of financial accounting standards issued by the Governmental Accounting Standards Board:

- Statement No. 73, *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68.*
- Statement No. 76, *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments*
- Statement No. 77, *Tax Abatement Disclosures*
- Statement No. 78, *Pensions Provided through Certain Multiple-Employer Defined Benefit Pension Plans.*
- Statement No. 79, *Certain External Investment Pools and Pool Participants*
- Statement No. 81, *Irrevocable Split-Interest Agreements*

Statement No. 73 establishes requirements for defined benefit pension plans and defined contribution plans that are not within the scope of Statement No. 68, *Accounting and Financial Reporting for Pensions*. This Statement extends the approach to accounting and financial reporting established in Statement No. 68 to all pensions to reflect that for accounting and financial reporting purposes, any assets accumulated for pensions that are provided through pension plans that are not administered through trusts that meet the criteria specified in Statement No. 68, should not be considered pension plan assets. It also requires that information similar to that required by Statement No. 68 be included in notes to financial statements and required supplementary information by all similarly situated employers and nonemployer contributing entities. There was no material impact on the City's financial statements as a result of the implementation of Statement No. 73.

Statement No. 76 reduces the GAAP hierarchy to two categories of authoritative GAAP and addresses the use of authoritative and nonauthoritative literature in the event that the accounting treatment for a transaction or other event is not specified within a source of authoritative GAAP.

This Statement supersedes Statement No. 55, *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments*. It also amends Statement No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre November 30, 1989 FASB and AICPA Pronouncements*, paragraph 64, 74, and 82. There was no material impact on the City's financial statements as a result of the implementation of Statement No. 76.

Statement No. 77 defines a tax abatement and contains required disclosures about a reporting government's own tax abatement agreements and those agreements that are entered into by other governments and that reduce the reporting government's tax revenues. In 2016, the City and its discretely presented component units entered into agreements from eleven tax abatement programs which reduced tax revenues. In addition, there were agreements entered into by the State in two programs which also reduced the City's tax revenues. There was no impact on the City's financial statements as a result of the implementation of Statement No. 77. See Note D.7 for a table that summarizes essential information about the nature and magnitude of the reduction of tax revenues realized through tax abatement programs.

Statement No. 78 amends the scope and applicability of Statement No. 68 *Accounting and Financial Reporting for Pensions*—and amendment of GASB Statement No. 27 to exclude pension plans provided to employees of state or local governmental employers through a cost-sharing multiple-employer defined benefit pension plan that (a) is not a state or local government pension plan, (b) is used to provide defined benefits both to employees of state or local governmental employers and to employees of employers that are not state or local governments, and (c) has no predominant state or local governmental employer (either individually or collectively with other state or local governmental employers that provide pensions through the pension plan). The Statement also establishes requirements for recognition and measurement of pension expense, expenditures, and liabilities; note disclosures; and required supplementary information for pensions that have the characteristics described above. There was no material impact on the City's financial statements as a result of the implementation of Statement No. 78.

Statement No. 79 establishes specific criteria used to determine whether a qualifying external investment pool may elect to use an amortized cost exception to fair value measurement. Those criteria will provide qualifying external investment pools and participants in those pools with consistent application of an amortized cost-based measurement for financial reporting purposes. The statement also establishes additional note disclosures for qualifying external investment pools. There was no material impact on the City's financial statement as a result of the implementation of Statement No. 79.

Statement No. 81, requires that a government that receives resources pursuant to an irrevocable split-interest agreement recognize assets, liabilities, and deferred inflows of resources at the inception of the agreement. GASB 81 also provides expanded guidance for circumstances in which the government holds the assets. There was no material impact on the City's financial statement as a result of the implementation of Statement No. 81.

3. Basis of Accounting

The government-wide financial statements are reported using the economic resources measurement focus and the accrual basis of accounting in which revenues are recorded when earned and expenses are recorded at the time liabilities are incurred, regardless of when the related cash flows take place. Nonexchange transactions include: sales and income taxes, property taxes, grants, entitlements and donations, and are recorded on the accrual basis of accounting. Revenues from sales and income taxes are recognized when the underlying exchange transaction takes place.

Revenues from property tax are recognized in the fiscal year for which the taxes are levied. Revenues from grants, entitlements, and donations are recognized in the fiscal year in which all eligibility requirements have been satisfied.

Governmental funds use the flow of current financial resources measurement focus. This focus is on the determination of and changes in financial position, and generally only current financial resources and current liabilities are included on the balance sheet although certain receivable amounts may not be currently available. These funds use the modified accrual basis of accounting, whereby revenues are recognized in the accounting period in which they become both measurable and available to finance expenditures of the fiscal period. Revenues from taxes are generally considered available if received within two months after the fiscal year-end. Revenues from categorical and other grants are generally considered available if expected to be received within one year after the fiscal year-end. Expenditures are recorded when the related liability is incurred and payment is due, except for principal and interest on long-term debt, pensions, post employment benefits other than pensions and certain other estimated liabilities, which are recorded only when payment is due.

The measurement focus of the Pension and Other Employee Benefit Trust Funds and Other Trust Funds is on the flow of economic resources. This focus emphasizes the determination of and changes in net position. With this measurement focus, all assets and liabilities associated with the operation of these funds are included on the balance sheet. These funds use the accrual basis of accounting whereby revenues are recognized in the accounting period in which they are earned, and expenses are recognized in the period incurred.

The Agency Funds use the accrual basis of accounting and do not measure the results of operations.

Reclassifications—certain amounts have been reclassified in the 2015 financial statements to conform to the presentation in the 2016 financial statements. The reclassifications include a change in net investment in capital assets as presented on the Statement of Net Position. These reclassifications result in no change in the total net position (deficit) reported for 2015.

4. Encumbrances

Encumbrance accounting, under which purchase orders, contracts, and other commitments for expenditures are recorded to reflect the use of the applicable spending appropriations, is used by the General Fund during the fiscal year to control expenditures. The cost of those goods received and services rendered on or before June 30 are recognized as expenditures. Encumbrances that do not result in expenditures by year-end lapse.

5. Cash and Investments

The City considers all highly liquid investments (including restricted assets), with a maturity of three months or less when purchased, to be cash equivalents. Cash equivalents are carried at amortized cost which approximates fair value.

The annual average collected bank balances maintained during Fiscal Years 2016 and 2015 were approximately $1.59 billion and $2.15 billion, respectively.

Investments are reported in the balance sheet at fair value. Investment income, including changes in the fair value of investments, is reported in operations.

Investments in fixed income securities are recorded at fair value. Securities purchased pursuant to agreements to resell are carried at the contract price, exclusive of interest, at which the securities will be resold.

Investments of the Pension and Other Employee Benefit Trust Funds and Other Trust Funds are reported at fair value. Investments are stated at the last reported sales price on a national securities exchange or as priced by a nationally recognized securities pricing service as on the last business day of the fiscal year, except for securities held as alternative investments where fair value is determined by the general partners or other experts of the partnerships.

A description of the City's fiduciary funds securities lending activities in Fiscal Years 2016 and 2015 is included in Deposits and Investments (see Note D.1).

6. Inventories

Inventories on hand at June 30, 2016 and 2015, estimated based on average cost at $402 million and $377 million, respectively, have been reported on the government-wide *Statement of Net Position*. Inventories are recorded as expenditures in governmental funds at the time of purchase, and accordingly have not been reported on the governmental funds balance sheet.

7. Restricted Cash and Investments

Certain proceeds of the City and component unit bonds, as well as certain resources set aside for payments to bond holders, are classified as restricted cash and investments on the balance sheet, because their use is limited by applicable bond covenants.

8. Capital Assets

Capital assets include all land, buildings, equipment (including software), and other elements of the City's infrastructure having an initial minimum useful life of five years, having a cost of more than $35 thousand, and having been appropriated in the Capital Budget (see Note C.1). Capital assets, which are used for general governmental purposes and are not available for expenditure, are accounted for and reported in the government-wide financial statements. Infrastructure elements include the roads, bridges, curbs and gutters, streets and sidewalks, park land and improvements, piers, bulkheads and tunnels. The capital assets of the water distribution and sewage collection system are recorded in the Water and Sewer System component unit financial statements under a lease agreement between the City and the Water Board.

Capital assets are generally stated at historical cost, or at estimated historical cost, based on appraisals or on other acceptable methods, when historical cost is not available. Donated capital assets are stated at their fair market value as of the date of the donation. Capital leases are classified as capital assets in amounts equal to the lesser of the fair market value or the present value of net minimum lease payments at the inception of the lease (see Note D.3).

Accumulated depreciation and amortization are reported as reductions of capital assets. Depreciation is computed using the straight-line method based upon estimated useful lives of generally 25 to 50 years for new construction, 10 to 25 for betterments and/or reconstruction, 5 to 15 years for equipment (including software), and 15 to 40 years for infrastructure. Capital lease assets and leasehold improvements are amortized over the term of the lease or the life of the asset, whichever is less.

9. Vacation and Sick Leave

Earned vacation and sick leave is recorded as an expenditure in the period when it is payable from current financial resources in the fund financial statements. The estimated value of vacation leave earned by employees, which may be used in subsequent years, and earned vacation and sick leave to be paid upon termination or retirement from future resources, is recorded as a liability in the government-wide financial statements.

10. Judgments and Claims

The City is generally uninsured with respect to risks including, but not limited to, property damage, personal injury, and workers' compensation. However, as required by the Stafford Act, the City insures certain assets, which have been restored with grant funds from the Federal Emergency Management Agency, through the National Flood Insurance Program. In the fund financial statements, expenditures for judgments and claims (other than workers' compensation and condemnation proceedings) are recorded on the basis of settlements reached or judgments entered within the current fiscal year. Expenditures for workers' compensation are recorded when paid. Settlements relating to condemnation proceedings are reported when the liability is estimable. In the government-wide financial statements, the estimated liability for all judgments and claims incurred but not yet expended is recorded as a noncurrent liability.

11. Long-Term Liabilities

For long-term liabilities, only that portion expected to be financed from expendable available financial resources is reported as a fund liability of a governmental fund. All long-term liabilities are reported in the government-wide *Statement of Net Position*. Long-term liabilities expected to be financed from discretely presented component units' operations are accounted for in those component units' financial statements.

12. Derivative Instruments

The fair value balances and notional amounts of derivative instruments outstanding at June 30, 2016, classified by type, and the changes in fair value of such derivative instruments for the fiscal year then ended, as reported in the 2016 financial statements are as follows:

Governmental Activities

		Changes in Fair Value from June 30, 2015		Fair Value at June 30, 2016		
Item	**Description**	**Classification**	**Amount**	**Classification**	**Amount**	**Notional**
			(in thousands)			
Cashflow Hedges:						
H	Pay-Fixed interest rate swap	Deferred Outflow	$(16,145)	Debt	$(56,194)	$250,000
L	Pay-Fixed interest rate swap	Deferred Outflow	885	Debt	(360)	32,165
Investment derivative instruments:						
A	Pay-Fixed interest rate swap	Investment Revenue	2,806	Investment	(14,229)	190,307
B	Pay-Fixed interest rate swap	Investment Revenue	936	Investment	(4,743)	63,436
C	Pay-Fixed interest rate swap	Investment Revenue	936	Investment	(4,743)	63,436
D	Pay-Fixed interest rate swap	Investment Revenue	936	Investment	(4,743)	63,436
E	Pay-Fixed interest rate swap	Investment Revenue	(1,540)	Investment	(16,077)	116,100
G	Basis Swap	Investment Revenue	(2,336)	Investment	0	0
H	Pay-Fixed interest rate swap	Investment Revenue	(6,297)	Investment	(22,478)	100,000
K	Basis Swap	Investment Revenue	3,984	Investment	(7,719)	500,000

On August 4, 2016 the City terminated Investment Derivative G. The total Notional Amount Terminated was $364.10 million and the City received a $2.41 million termination payment from the swap counterparty.

Fair Value for the derivate instruments is the estimated exit price that assumes a transaction takes place in the City's principal market, or in the City's most advantageous market in the absence of a principal market. These inputs include the mid-market valuation and then incorporates the credit risk of either the City or its counterparty and the bid/offer spread that would be charged to the City in order to transact. The mid-market values of the derivate instruments were estimated using the income approach. This method calculates the future net settlement payments required by the swap, assuming that the current forward rates implied by the yield curve correctly anticipate future spot interest rates. These payments are then discounted using the spot rates implied by the current yield curve for hypothetical zero-coupon bonds due on the date of each future net settlement date. The derivate instruments are classified in Level 2 as their valuation relies primarily on observable inputs.

Hedging Derivative Instruments

The following table displays the objective and terms of the City's hedging derivative instruments outstanding at June 30, 2016, along with the credit rating of the associated counterparty. Regarding derivative instruments where the counterparty is unrated, the rating provided is that of the counterparty's guarantor.

Item	Type	Objective	Notional Amount (in thousands)	Effective Date	Maturity Date	Terms	Counterparty Rating
H	Pay-Fixed interest rate swap	Hedge of changes in cash flows on the 2004 Series A bonds	$250,000	7/14/2003	8/1/2031	2.964%; receive 61.85% of USD-LIBOR-BBA	Aa2/AA–
L	Pay-Fixed interest rate swap	Hedge of changes in cash flows on the 2005 Series J, K, and L Bonds	32,165	3/3/2005	8/1/2017	Pay 4.55%/4.63%/4.71%; receive CPI + 1.50% for 2015 maturity/CPI + 1.55% for 2016 maturity/CPI + 1.60% for 2017 maturity	Aa3/A+

LIBOR: London Interbank Offered Rate Index
CPI: Consumer Price Index

Risks

Credit risk: The City is exposed to credit risk on hedging derivative instruments. To minimize its exposure to loss related to credit risk, it is the City's policy to require counterparty collateral posting provisions in its hedging derivative instruments. These terms require full collateralization of the fair value of hedging derivative instruments (net of the effect of applicable threshold requirements and netting arrangements) should the counterparty's credit rating fall, as follows:

- The counterparty with respect to derivative instrument H is required to post collateral if its credit ratings goes below A2/A. Collateral posted is to be in the form of U.S. Treasury securities held by a third-party custodian. The City has never been required to access collateral.
- The counterparty with respect to derivative instruments L is required to post collateral if it has at least one rating below the double-A category.

It is the City's policy to enter into netting arrangements whenever it has entered into more than one derivative instrument transaction with a counterparty. Under the terms of these arrangements, should one party become insolvent or otherwise default on its obligations, closeout netting provisions permit the non-defaulting party to accelerate and terminate all outstanding transactions and net the transactions' fair values so that a single sum will be owed by, or owed to, the non-defaulting party.

The aggregate fair value of hedging derivative instruments requiring collateralization at June 30, 2016 was $(56.19) million.

Interest rate risk: The City is exposed to interest rate risk on its swaps. On its pay-fixed, receive-variable interest rate swaps, as LIBOR or the Consumer Price Index decreases, the City's net payment on the swaps increases.

Basis risk: The City is exposed to basis risk on its pay-fixed interest rate swaps, because the variable-rate payments received by the City on these hedging derivative instruments are based on a rate or index other than interest rates the City pays on its hedged variable-rate debt, which is remarketed either daily or weekly. Under the terms of its synthetic fixed rate swap transactions, the City pays a variable rate on its bonds based on the Securities Industry and Financial Markets Association (SIFMA), but receives a variable rate on the swaps based on a percentage of LIBOR.

Tax risk: The City is at risk that a change in Federal tax rates will alter the fundamental relationship between the SIFMA and LIBOR Indices. A reduction in Federal tax rates, for example, will likely increase the City's payment on its underlying variable rate bonds in the synthetic fixed rate transactions and its variable payer rate in the basis swaps.

Termination risk: The City or its counterparties may terminate a derivative instrument if the other party fails to perform under the terms of the contract. The City is at risk that a counterparty will terminate a swap at a time when the City owes it a termination payment. The City has mitigated this risk by specifying that the counterparty has the right to terminate only as a result of certain events, including: a payment default by the City; other City defaults which remain uncured for 30 days after notice; City bankruptcy; insolvency of the City (or similar events); or a downgrade of the City's credit rating below investment grade (i.e., BBB-/Baa3). If at the time of termination, a hedging derivative instrument is in a liability position, the City would be liable to the counterparty for a payment equal to the liability, subject to netting arrangements, if applicable.

Counterparty risk: The City is at risk that a counterparty will not meet its obligations under the swap. If a counterparty were to default under its agreement when the counterparty would owe a termination payment to the City, the City may have to pay another entity to assume the position of the defaulting counterparty. The City has sought to limit its counterparty risk by contracting only with highly rated entities or requiring guarantees of the counterparty's obligations under the swap documents.

Rollover risk: The City is exposed to rollover risk on hedging derivative instruments that are hedges of debt that mature or may be terminated prior to the maturity of the hedged debt. When these hedging derivative instruments terminate, the City will be re-exposed to the risks being hedged by the hedging derivative instrument.

Contingencies

All of the City's derivative instruments include provisions that require the City to post collateral in the event its credit rating falls below Baa1 (Moody's) or BBB+ (Standard & Poor's) for derivative instruments A, B, D, E, K, and L, or below Baa3 (Moody's) or BBB- (Standard & Poor's) for derivative instruments C, G and H. The collateral posted is to be in the form of cash, U.S. Treasury securities, or specified U.S. Government Agency securities in the amount equal to (when in the form of cash) or greater than (when in the form of securities) the fair value of derivative instruments in liability positions, net of the effect of applicable netting arrangements and applicable thresholds. If the City does not post collateral when required, the derivative instrument may be terminated by the counterparty. At June 30, 2016, the aggregate fair value of all derivative instruments with these collateral posting provisions is $(131.29) million. If the collateral posting requirements had been triggered at June 30, 2016, the City would have been required to post $38.84 million in collateral to its counterparties (assuming cash collateral). The collateral requirements would be $131.24 million for ratings below Baa3 or BBB- based on posting cash. The City's credit rating as of June 30, 2016 was Aa2 (Moody's) and AA (Standard & Poor's); therefore, no collateral was posted as of that date.

Swap Collateral Requirements upon a Rating Downgrade of the City[1]

Swap/Counterparty	Fair Value as of June 30, 2016[2] (in thousands)	Collateral Threshold at Baa2/BBB to Baa3/BBB-[3]	Collateral Amount[4] (in thousands)	Collateral Threshold below Baa3/BBB-	Collateral Amount[5] (in thousands)
Bank of New York Mellon	$ —	Infinity	$ —	—	$ —
JP Morgan Chase Bank, N.A.	(22,308)	3,000	19,300	—	22,300
Merrill Lynch Capital Services, Inc.	(4,743)	3,000	1,743	—	4,743
UBS AG	(20,820)	3,000	17,800	—	20,800
US Bank National Association	(4,743)	Infinity	—	—	4,700
Wells Fargo Bank, NA	(78,672)	Infinity	—	—	78,700
Total Fair Value	$(131,286)		$38,843		$131,243

(1) All of the City's swap counterparties have agreements that collateral is to be posted by the City if the City were to owe a termination payment and its ratings fall below a certain level. Based on the credit rating level, the amount of collateral required can range from zero to the amount of the counterparty's exposure based on the market value of the swap.

(2) A negative value means the City would owe a termination payment.

(3) A downgrade of the City to either Baa2 (Moody's) or BBB (S&P) is the highest rating level at which the City would be required to post collateral.

(4) The swap counterparties, other than Merrill Lynch Capital Services Inc., round the collateral amount up or down to the nearest $100,000. Merrill Lynch does not round the amount.

(5) Represents the total amount of required collateral for ratings below Baa3/BBB-. The amount of collateral required to be posted would be the amount shown below less any collateral previously posted.

13. Real Estate Tax

Real estate tax payments for the Fiscal Year ended June 30, 2016, were due July 1, 2015 and January 1, 2016, except that payments by owners of real property assessed at $250,000 or less and cooperatives whose individual units, on average, are valued at $250,000 or less, which were due in quarterly installments on the first day of each quarter beginning on July 1.

The levy date for Fiscal Year 2016 taxes was June 29, 2015. The lien date is the date taxes are due.

Real estate tax revenue represents payments received during the year and payments received (against the current fiscal year and prior years' levies) within the first two months of the following fiscal year reduced by tax refunds for the fund financial statements. Real estate tax revenues not available are reported as deferred inflows of resources. The government-wide financial statements recognize real estate tax revenue (net of refunds) which are not available to the governmental fund type in the fiscal year for which the taxes are levied. Real estate taxes received or reported as receivables before the period for which the property taxes are levied, or the period when resources are required to be used, or when use is first permitted, are reported as deferred inflows of resources.

The City offered a 0.5% discount on the full amount of a taxpayer's yearly property tax if the entire amount shown on their bill is paid by the July due date (or grace period due date), a 0.25% discount on the last three quarters if the taxpayer waits until the October due date to pay the entire amount due, or a 0.125% discount on the last six months of taxes when the taxpayer pays the balance by the January due date for both Fiscal Years 2017 and 2016. Payment of real estate taxes before July 15, 2016, on properties with an assessed value of $250,000 or less and before July 1, 2016, on properties with an assessed value over $250,000 received the discount. Collections of these real estate taxes received on or before June 30, 2016 and 2015 were about $8.1 billion and $7.0 billion, respectively.

The City sold approximately $82.0 million of real property tax liens, fully attributable to Fiscal Year 2016, at various dates in Fiscal Year 2016. As in prior years' lien sale agreements, the City will refund the value of liens later determined to be defective, plus interest and a 5% surcharge. It has been estimated that $4.0 million worth of liens sold in Fiscal Year 2016 will require refunding. The estimated refund accrual amount of $6.0 million, including the surcharge and interest, resulted in Fiscal Year 2016 net sale proceeds of $76.0 million.

The City sold approximately $101 million of real property tax liens, fully attributable to Fiscal Year 2015, at various dates in Fiscal Year 2015. As in prior years' lien sale agreements, the City will refund the value of liens later determined to be defective, plus interest and a 5% surcharge. It has been estimated that $5.0 million worth of liens sold in Fiscal Year 2015 will require refunding. The estimated refund accrual amount of $8.0 million, including the surcharge and interest, resulted in Fiscal Year 2015 net sale proceeds of $93.0 million.

In Fiscal Years 2016 and 2015, $223 million and $230 million, respectively, were provided as allowances for uncollectible real estate taxes against the balance of the receivable. Delinquent real estate taxes receivable that are estimated to be collectible but which are not collected in the first two months of the next fiscal year are recorded as deferred inflows of resources in the governmental funds balance sheet but included in general revenues on the government-wide *Statement of Activities*.

The City is permitted to levy real estate taxes for general operating purposes in an amount up to 2.5% of the average full value of taxable real estate in the City for the last five years and in unlimited amounts for the payment of principal and interest on long-term City debt. Amounts collected for payment of principal and interest on long-term debt in excess of that required for that purpose in the year of the levy must be applied towards future years' debt service. For the Fiscal Years ended June 30, 2016 and 2015, excess amounts of $382 million and $428 million, respectively, were transferred to the General Debt Service Fund.

14. Other Taxes and Other Revenues

Taxpayer-assessed taxes, such as sales and income taxes, net of refunds, are recognized in the accounting period in which they become susceptible to accrual for the fund financial statements. Assets recorded in the governmental fund financial statements, but the revenue is not available, are reported as deferred inflows of resources. Additionally, the government-wide financial statements recognize sales and income taxes (net of refunds), which are not available to the governmental fund type in the accounting period for which the taxes are assessed.

15. Federal, State, and Other Aid

For the government-wide and fund financial statements, categorical aid, net of a provision for estimated disallowances, is reported as receivable when the related eligibility requirements are met. Unrestricted aid is reported as revenue in the fiscal year of entitlement. Resources received before the time requirements are met, but after all other eligibility requirements are met, are reported as deferred inflows of resources.

16. Bond Discounts, Premiums and Issuance Costs

In the fund financial statements, bond premiums, discounts and issuance costs are recognized as revenues/expenditures in the period incurred. In the government-wide financial statements, bond premiums and discounts are deferred and amortized over the term of the bonds payable using the straight-line method. Bond premiums and discounts are presented as additions/reductions to the face amount of the bonds payable. Bond issuance costs are recognized as an expense in the period incurred.

17. Intra-Entity Activity

Payments from a fund receiving revenue to a fund through which the revenue is to be expended are reported as transfers. Such payments include transfers for debt service and capital construction. In the government-wide financial statements, resource flows between the City and the discretely presented component units are reported as if external transactions.

18. Subsidies

The City makes various payments to subsidize a number of organizations which provide services to City residents including but not limited to Art and Cultural institutions. These payments are recorded as expenditures in the fiscal year paid.

19. Deferred Outflows and Inflows of Resources

In accordance with Government Accounting Standards Board Statement No. 63, *Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources, and Net Position*, the City reports deferred outflows of resources in the *Statement of Financial Position* in a separate section following Assets. Similarly, the City reports deferred inflows of resources in the *Statement of Net Position* in a separate section following Liabilities.

The Components of the deferred outflows of resources and deferred inflows of resources are as follows:

	FY 2016		FY 2015*	
	Primary Government	Component units	Primary Government	Component units
	(in thousands)			
Deferred Outflows of Resources:				
Deferred Outflows from pension activities	$12,814,357	$577,146	$ 4,790,696	$ 78,156*
Accumulated decrease in fair value of hedging derivatives	15,260	176,706	41,294	140,522
Unamortized deferred bond refunding costs	73,446	13,969	82,477	16,033
Other	484,388	—	419,620	—
Total Deferred Outflows of Resources	$13,387,451	$767,821	$ 5,334,087	$234,711
Deferred Inflows of Resources:				
Deferred Inflows from pension activities	$ 7,210,537	$ 95,935	$11,048,854	$527,124*
Service concession arrangements	122,432	—	145,661	—
Real estate taxes	8,105,167	—	6,994,205	—
Grant advances	30,613	—	7,331	—
Unamortized deferred refunding costs	—	16,647	—	17,978
Other	59,932	—	59,888	—
Total Deferred Inflows of Resources	$15,528,681	$112,582	$18,255,939	$545,102

* Fiscal Year 2015 was restated to reflect the changes to deferred outflows and deferred inflows of resources pertaining to pension activities resulting from restatements to pension amounts reported by the POLICE, FIRE and BERS financial statements and disclosures for that year. See Note E.5 for additional information.

20. Fund Balance

In accordance with Government Accounting Standards Board Statement No. 54, *Fund Balance Reporting and Governmental Fund Type Definitions*, the classification of Fund Balance is based on the extent to which the City is bound to observe constraints imposed upon the use of the resources in the governmental funds. The classifications are as follows:

Nonspendable–includes fund balance amounts that cannot be spent, either because they are not in spendable form, or because of legal or contractual constraints requiring such amounts to remain intact. As required by the New York State Financial Emergency Act, the City must prepare its budget covering all expenditures, other than capital items, balanced so that the results do not show a deficit when reported in accordance with GAAP. Therefore, the General Fund's fund balance must legally remain intact and is classified as nonspendable. Additionally, certain receivable amounts are not anticipated to be collected in the current period.

Restricted–includes fund balance amounts that are constrained for specific purposes when such constraints are externally imposed by creditors, laws or regulations of other governments, or by constitutional provisions or enabling legislation.

Committed–includes fund balance amounts that are constrained for specific purposes when such constraints are internally imposed by the government's formal action at the highest level of decision making authority and do not lapse at year-end. In accordance with the New York City Charter, the City Council is the City's highest level of decision-making authority and can, by legal resolution prior to the end of a fiscal year, approve to establish, modify or rescind a fund balance commitment. For the blended component units reported as Nonmajor Funds, the respective Boards of Directors ("Boards") constitute the highest level of decision-making authority. When resolutions are adopted by the Boards that constrain fund balances for a specific purpose, such resources are accounted for and reported as committed for such purpose, unless and until a subsequent resolution altering the commitment is adopted by a Board.

Assigned–includes fund balance amounts that are intended to be used for specific purposes that are neither considered restricted or committed. The City does not have any assigned amounts in its major funds. For the blended component units reported as Nonmajor Funds, the fund balances which are constrained for use for a specific purpose based on the direction of the President of the component unit to direct the movement of such funds are accounted for and reported as assigned for such purpose unless and until a subsequent authorized action by the same, or another duly authorized officer, or by a Board, is taken which removes or changes the assignment.

Unassigned–The City's Capital Projects Fund's and Nonmajor Governmental Funds' deficits are classified as unassigned.

The City uses restricted amounts first when both restricted and unrestricted resources are available. Additionally, the City first uses committed, then assigned, and lastly unassigned resources when expenditures are made.

The City does not have a formal minimum fund balance policy. Below is the detail included in the fund balance classifications for the governmental funds at June 30, 2016 and 2015:

Fiscal Year 2016

	General Fund	Capital Projects Fund	Debt Service Fund	Nonmajor Governmental Funds	Total Governmental Funds
			(in thousands)		
Nonspendable:					
General Fund balance.	$ 472,819	$ —	$ —	$ —	$ 472,819
Prepaid expenditures.	—	—	—	612	612
Spendable:					
Restricted					
Capital projects	—	129,509	—	287,410	416,919
Debt service.	—	—	382,005	2,043,424	2,425,429
Committed					
Debt service	—	—	1,393,112	—	1,393,112
Assigned					
Debt Service	—	—	—	1,899,644	1,899,644
Operations*	—	—	—	165,330	165,330
Unassigned					
Capital Projects Fund.	—	(3,107,906)	—	—	(3,107,906)
Total Fund Balance (Deficit)	$ 472,819	$(2,978,397)	$1,775,117	$4,396,420	$ 3,665,959

Fiscal Year 2015

	General Fund	Capital Projects Fund	Debt Services Fund	Nonmajor Governmental Funds	Total Governmental Fund
			(in thousands)		
Nonspendable:					
General Fund balance	$ 467,621	$ —	$ —	$ —	$ 467,621
Prepaid expenditures	—	—	—	619	619
Spendable:					
Restricted					
Capital projects	—	751,924	—	451,432	1,203,356
Debt service	—	—	427,588	2,103,811	2,531,399
Committed					
Debt service	—	—	1,542,632	—	1,542,632
Assigned					
Debt Service	—	—	—	1,667,966	1,667,966
Operations*	—	—	—	154,358	154,358
Unassigned					
Capital Projects Fund	—	(2,531,515)	—	—	(2,531,515)
Total Fund Balance (Deficit)	$ 467,621	$(1,779,591)	$1,970,220	$4,378,186	$ 5,036,436

* Represents the unassigned fund balance of the Special Revenue Funds.

21. Pensions

In government-wide financial statements, pensions are recognized and disclosed using the accrual basis of accounting (see Notes E.5 and the RSI section immediately following the notes to financial statements), regardless of the amount recognized as pension expenditures on the modified accrual basis of accounting. The City recognizes a net pension liability for each qualified pension plan in which it participates, which represents the excess of the total pension liability over the fiduciary net position of the qualified pension plan, measured as of the City's fiscal year-end or the City's proportionate share thereof in the case of a cost-sharing multiple-employer plan. Changes in the net pension liability during the period are recorded as pension expense, or as deferred inflows of resources or deferred outflows of resources depending on the nature of the change, in the period incurred. Those changes in net pension liability that are recorded as deferred inflows of resources or deferred outflows of resources that arise from changes in actuarial assumptions or other inputs and differences between expected or actual experience are amortized over the weighted average remaining service life of all participants including retirees, in the respective qualified pension plan and recorded as a component of pension expense beginning with the period in which they arose. Projected earnings on qualified pension plan investments are recognized as a component of pension expense. Differences between projected and actual investment earnings are reported as deferred inflows of resources or deferred outflows of resources and amortized as a component of pension expense on a closed basis over a five-year period beginning with the period in which the difference occurred.

22. Other Postemployment Benefits

Other Postemployment Benefits (OPEB) cost for retiree healthcare and similar, non-pension retiree benefits, is required to be measured and disclosed using the accrual basis of accounting (see Note E.4), regardless of the amount recognized as OPEB expense on the modified accrual basis of accounting. Annual OPEB cost is calculated in accordance with GASB Statement No. 45.

23. Estimates and Assumptions

A number of estimates and assumptions relating to the reporting of revenues, expenditures, assets and liabilities, and the disclosure of contingent liabilities were used to prepare these financial statements in conformity with GAAP. Actual results could differ from those estimates.

24. Pronouncements Issued But Not Yet Effective

In June 2015, GASB issued Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*. The scope of this statement includes defined benefit and defined contribution OPEB plans administered through trusts that meet specified criteria.

This statement establishes financial reporting standards for state and local governmental other postemployment benefit ("OPEB") plans. The Statement replaces Statements No. 43, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*, as amended, and No. 57, *OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans*.

Statement No. 74 is effective for financial statements for fiscal years beginning after June 15, 2016. Earlier application is encouraged. The City has not completed the process of evaluating the impact of Statement No. 74 on its financial statements.

In June 2015, GASB issued Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*. This statement addresses accounting and financial reporting for OPEB that is provided to the employees of state and local governmental employees. This Statement also establishes standards for recognizing and measuring liabilities, deferred outflows of resources, deferred inflows of resources, and expense/expenditures.

For defined benefit OPEB plans this statement identifies the methods and assumptions that are required to be used to project benefit payments, discount projected benefit payments to their actuarial present value, and attribute that present value to periods of employee service. Note disclosures and required supplementary information are also addressed by the statement.

This statement replaces the requirements of Statements No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*, as amended, and Statement No. 57, *OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans*, for OPEB.

Statement No. 75 is effective for fiscal years beginning after June 15, 2017. Earlier application is encouraged. The City has not completed the process of evaluating the impact of Statement No. 75 on its financial statements.

In January 2016, GASB issued Statement No 80, *Blending Requirements for Certain Component Units* – an amendment of GASB Statement No. 14. The Statement amends the blending requirements for the financial statement presentation of component units of all state and local governments by providing an additional criterion. A component unit should be included in the reporting entity financial statements using the Blending method if the component unit is organized as a not-for-profit corporations in which the primary government is the sole corporate member as identified in the component unit's articles of incorporation and bylaws. The requirements of GASB 80 are effective for fiscal years beginning after June 15, 2016. The City has not completed the process of evaluating the impact of Statement No. 80 on its financial statements.

In March 2016, GASB issued Statement No 82, *Pension Issues* – an amendment of GASB Statements No. 67, No. 68, and No. 73. GASB 82 addresses practice issues raised with respect to GASB Statements No. 67, *Financial Reporting for Pension Plans* – an amendment of GASB Statement No. 25; GASB No. 68, *Accounting and Financial Reporting for Pensions* – an amendment of GASB Statement No. 25, 17, No. 68 and No. 73; and GASB No. 73, *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68*. Specifically, this Statement addresses issues regarding (1) the presentation of payroll-related measures in required supplementary information, (2) the selection of assumptions and the treatment of deviations from the guidance in an Actuarial Standard of Practice for financial reporting purposes, and (3) the classification of payments made by employers to satisfy employee (plan member) contribution requirements. The requirements of GASB Statement No. 82 are effective for fiscal years beginning after June 15, 2016. The City has not completed the process of evaluating the impact of Statement No. 82 on its financial statements.

B. Reconciliation of Government-Wide and Fund Financial Statements

A summary reconciliation of the difference between total fund balances (deficit) as reflected on the governmental funds balance sheet and total net position (deficit) of governmental activities as shown on the government-wide *Statement of Net Position* is presented in an accompanying schedule to the governmental funds balance sheet. The asset and liability elements, that comprise the difference are related to the governmental funds using the current financial resources measurement focus and the modified accrual basis of accounting, while the government-wide financial statements use the economic resources measurement focus and the accrual basis of accounting.

Similarly, a summary reconciliation of the difference between net change in fund balances, as reflected on the governmental funds *Statement of Revenues, Expenditures, and Changes in Fund Balances*, and *Change in Net Position* of governmental activities, as shown on the government-wide Statement of Activities, is presented in an accompanying schedule to the governmental funds *Statement of Revenues, Expenditures, and Changes in Fund Balances*. The revenue and expense elements, that comprise the reconciliation difference stem from governmental funds using the current financial resources measurement focus and the modified accrual basis of accounting, while the government-wide financial statements use the economic resources measurement focus and the accrual basis of accounting.

C. Stewardship, Compliance, and Accountability

1. Budgets and Financial Plans

Budgets

Annual expense budget appropriations, which are prepared on the modified accrual basis, are adopted for the General Fund, and unused appropriations lapse at fiscal year-end. The City uses appropriations in the capital budget to authorize the expenditure of funds for various capital projects. Capital appropriations, unless modified or rescinded, remain in effect until the completion of each project.

The City is required by State Law to adopt and adhere to a budget, on a basis consistent with GAAP, that would not have General Fund expenditures and other financing uses in excess of revenues and other financing sources.

Expenditures made against the expense budget are controlled through the use of quarterly spending allotments and units of appropriation. A unit of appropriation represents a subdivision of an agency's budget and is the level of control at which expenditures may not legally exceed the appropriation. The number of units of appropriation, and the span of operating responsibility which each unit represents, differs from agency to agency depending on the size of the agency and the level of control required. Transfers between units of appropriation and supplementary appropriations may be made by the Mayor, subject to the approval provisions set forth in the City Charter. Supplementary appropriations increased the expense budget by $3.88 billion and $5.10 billion subsequent to its original adoption in Fiscal Years 2016 and 2015, respectively.

Financial Plans

Additionally, the New York State Financial Emergency Act for The City of New York requires the City to operate under a "rolling" Four-Year Financial Plan (Plan). Revenues and expenditures, including transfers, of each year of the Plan are required to be balanced on a basis consistent with GAAP. The Plan is broader in scope than the expense budget; it comprises General Fund revenues and expenditures, Capital Projects Fund revenues and expenditures, and all short and long-term financing.

The expense budget is generally consistent with the first year of the Plan and operations under the expense budget must reflect the aggregate limitations contained in the approved Plan. The City reviews its Plan periodically during the year and, if necessary, makes modifications to incorporate actual results and revisions to assumptions.

2. Deficit Fund Balance

The Capital Projects Fund had deficits of $2.98 and $1.78 billion for the years ended June 30, 2016 and 2015, respectively. These deficits represent the amounts expected to be financed from future bond issues or intergovernmental reimbursements. To the extent the deficits will not be financed or reimbursed, a transfer from the General Fund will be required.

D. Detailed Notes on All Funds

1. Deposits and Investments

Deposits

The City's bank depositories are designated by the New York City Banking Commission, which consists of representatives of the Comptroller, the Mayor, and the Finance Commissioner. The Banking Commission considers a list of requirements to approve banks for designation, including but not limited to independent bank rating agency reports, bank regulators' reports, the banks' quarterly financial statements reported to the SEC, independently audited public financial statements and the New York State Department of Financial Services and Federal supervisory agency Community Reinvestment Act (CRA) reports to determine the financial soundness of each bank. In addition, the City's banking relationships are under periodic operational, financial and credit reviews.

The City Charter limits the amount of deposits at any time in any one bank or trust company to a maximum of one-half of the amount of the capital and net surplus of such bank or trust company. The discretely presented component units included in the City's reporting entity maintain their own banking relationships, which generally conform with the City's.

The City's bank account balances in excess of the prevailing Federal Deposit Insurance Corporation (FDIC) insurance limits of $250 thousand are fully collateralized in accordance with the New York State General Municipal Law (GML) and the New York City Department of Finance Collateral Policy, dated December 5, 2012. The FDIC insurance limits of $250 thousand are only applied one time to each bank relationship with multiple bank accounts. Each NYC Designated Bank must pledge Eligible Securities and/or Letters of Credit (LOC) that satisfy the minimum GML collateral requirements. The Designated Banks are required to closely monitor daily City bank account balances and adjust the amount of collateral pledged when the City's bank account balance changes to ensure that City deposits are always fully collateralized. With the exception of banks pledging a LOC as collateral, the banks are required on a daily basis to aggregate the total balances of all bank accounts under the City's tax ID, deduct the FDIC insurance limit of $250 thousand and pledge collateral which more than covers the remaining balances. The custodians provide collateral reports to the Department of Finance Collateral Committee on a regular basis; ranging from daily to monthly.

Cash & Cash Equivalents

The following is a summary of the cash and cash equivalents of the City as of June 30, 2016 and June 30, 2015:

	2016	2015
	(in thousands)	
Restricted cash and cash equivalents:		
Cash	$ 18,435	$ 1,668,133
Cash Equivalents	2,443,183	1,945,284
Total restricted cash and cash equivalents:	$2,461,618	$ 3,613,417
Unrestricted cash and cash equivalents:		
Cash	$2,106,736	$ 2,949,428
Cash Equivalents	4,515,544	4,227,309
Total unrestricted cash and cash equivalents:	$6,622,280	$ 7,176,737
Total cash and cash equivalents	$9,083,898	$10,790,154

At June 30, 2016 and 2015, the City's unrestricted bank balances were $2.33 billion and $4.29 billion, respectively. Of those amounts, there was no exposure to custodial credit risk at June 30, 2016; $51 thousand were exposed to custodial credit risk at June 30, 2015 (this is the risk that in the event of a bank failure, the City's deposits may not be returned to it or the City will not be able to recover collateral securities that are in the possession of an outside party). At June 30, 2016 and 2015, the City's restricted cash balances were $2.46 billion and $3.61 billion, respectively. Of those amounts $5 thousand and $4 thousand were exposed to custodial credit risk. Bank balances are exposed to custodial credit risk when they are uninsured and uncollateralized.

Investments

The City's investment of cash in its governmental fund types is currently limited to U.S. Government guaranteed securities and U.S. Government agency securities purchased directly and through repurchase agreements from primary dealers, as well as commercial paper rated A1 and P1 by Standard & Poor's Corporation and Moody's Investors Service, Inc., respectively. The repurchase agreements must be collateralized by U.S. Government guaranteed securities, U.S. Government agency securities, or eligible commercial paper in a range of 100% to 102% of the matured value of the repurchase agreements. The following is a summary of the fair value of investments of the City as of June 30, 2016 and 2015:

Governmental Activities:

	Investment Maturities (in years)					
	2016			2015		
Investment Type	**Less than 1**	**1 to 5**	**More than 5**	**Less than 1**	**1 to 5**	**More than 5**
	(in thousands)					
Unrestricted						
U.S. Government securities	$1,038,024	$5,259,266	$ —	$149,688	$5,350,429	$ —
U.S. Government agency obligations	1,899,994	245,850	—	1,718,306	125,041	—
Commercial paper	1,482,615	—	—	824,353	—	—
Time deposits	27,976	—				
Investment derivative instruments	—	—	(74,732)[(1)]	—	—	(74,157)[(2)]
Total unrestricted	$4,448,609	$5,505,116	$(74,732)	$2,692,347	$5,475,470	$(74,157)
Restricted						
U.S. Government securities	$ 506,460	$ 146,310	$ —	$ 544,700	$ 464,435	$ —
U.S. Government agency obligations	909,661	10,000	—	1,202,661	84,527	—
Commercial paper	—	—	—	19,999	—	—
Municipal bonds	—	—	17,389	—	—	16,900
Money market funds	39,783	—	—	33,710	—	—
Time deposits	9,333	—	—	9,334	—	—
Total restricted	$1,465,237	$ 156,310	$ 17,389	$1,810,404	$ 548,962	$ 16,900

(1) The City has five pay-fixed interest rate swaps and one basis swap that is treated as investment derivative instruments. Additionally, the City has one pay-fixed swap (H) that is partially treated as an investment derivative instrument. On June 30, 2016, the swaps had fair values of $(14,229) thousand, $(4,743) thousand, $(4,743) thousand, $(4,743) thousand, $(16,077) thousand, $(7,719) thousand, and $(22,478) thousand, respectively.

(2) The City has five pay-fixed interest rate swaps and two basis swaps that are treated as investment derivative instruments. Additionally, the City has one pay-fixed swap (H) that is partially treated as an investment derivative instrument. On June 30, 2015, the swaps had fair values of $(17,035) thousand, $(5,679) thousand, $(5,679) thousand, $(5,679) thousand, $(14,537) thousand, $2,336 thousand, $(11,703) thousand, and $(16,181) thousand, respectively.

Fair Value Hierarchy

The City categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure fair value of the assets. Level 1 inputs are quoted prices in an active market for identical assets; Level 2 inputs are significant other observable inputs; and Level 3 inputs are significant unobservable inputs (the City does not value any of its investments using level 3 inputs).

The following is a summary of the fair value hierarchy of the fair value of investments of the City as of June 30, 2016 and June 30, 2015:

	6/30/2016			6/30/2015		
		Fair Value Measurements Using			Fair Value Measurements Using	
Investments[1] by Fair Value Level	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)
			(in thousands)			
U.S. Government securities	$ 6,968,541	$367,074	$6,601,467	$ 6,596,073	$878,299	$ 5,717,774
U.S. Government agency obligations	3,263,130	—	3,263,130	3,120,686	—	3,120,686
Commercial paper	1,501,196	—	1,501,196	1,699,849	—	1,699,849
Money Market Funds	353,687	39,783	313,904	273,121	33,710	239,411
Municipal Bonds	17,389	—	17,389	16,900	—	16,900
Investment derivative instruments	(74,732)	—	(74,732)	(74,157)	—	(74,157)
Total Investment & Cash Equivalent by Fair Value Level	$12,029,211[2]	$406,857	$11,622,354	$11,632,472[2]	$912,009	$10,720,463

(1) Includes cash equivalents carried at fair value by blended components.

(2) As of June 30, 2016 and June 30, 2015, all ECF investment maturities were less than one year and recorded at carrying value. For the year ended June 30, 2016 and June 30, 2015, ECF's listed investments totaled $68.57 million and $44.23 million, respectively.

Investments classified in Level 1 of the fair value hierarchy, valued at $406.86 million and $912.01 million in Fiscal Years 2016 and 2015 respectively, are valued using quoted prices in active markets.

U.S. Government securities totaling $6.41 billion and $5.50 billion, U.S. Government agency obligations totaling $3.26 billion and $3.12 billion, commercial paper totaling $1.5 billion and $1.7 billion, money market funds totaling $313.90 million and $239.41 million and municipal bonds totaling $17.39 million and $16.90 million, in fiscal years 2016 and 2015 respectively, classified in Level 2 of the fair value hierarchy are valued using matrix pricing techniques maintained by various pricing vendors. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. Fair value is defined as the quoted market value on the last trading day of the period. These prices are obtained from various pricing sources by our custodian bank.

U.S. Government securities, totaling $190.47 million and $217.74 million in Fiscal Years 2016 and 2015 respectively, under a forward supply contract classified in Level 2 of the fair value hierarchy are valued using present value and option pricing model techniques.

Investment derivative instruments, totaling ($74.73 million) and ($74.16 million) in Fiscal Years 2016 and 2015, respectively, are classified in Level 2 of the fair value hierarchy. Fair value is described as the exit price that assumes a transaction takes place in the City's most advantageous market in the absence of a principal market. These inputs include the mid-market valuation and then incorporates the credit risk of either the City or its counterparty and the bid/offer spread that would be charged to the City in order to transact. The mid-market values of the interest rate swaps were estimated using the income approach. This method calculates the future net settlement payments required by the swap, assuming that the current forward rates implied by the yield curve correctly anticipate future spot interest rates. These payments are then discounted using the spot rates implied by the current yield curve for hypothetical zero-coupon bonds due on the date of each future net settlement date.

Interest rate risk. As a means of limiting its exposure to fair value losses arising from rising interest rates, the City's investment policy limits the weighted average maturity to a period of less than 2 years. The City's current weighted average maturity is less than 201 days.

Credit risk. Investment guidelines and policies are designed to protect principal by limiting credit risk. This is accomplished through ratings, collateral, and diversification requirements that vary according to the type of investment. As of June 30, 2016 and 2015, investments in Fannie Mae or Freddie Mac and Federal Home Loan Bank (FHLB) were rated in the highest long-term or short-term ratings category (as applicable) by Standard & Poor's and/or Moody's Investor Service. These ratings were AA+ and A-1+ by Standard & Poor's and Aaa and P-1 by Moody's for long-term and short-term instruments, respectively.

Concentration of credit risk. The City's investment policy limits investments to no more than $250 million invested at any time in either commercial paper of a single issuer or investment agreements with a single provider.

Custodial credit risk-investments. For investments, custodial credit risk is the risk that, in the event of the failure of the counterparty, the City will also not be able to recover the value of its investments or collateral securities that are in the possession of the custodian. Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered in the name of the City, and are held by either the counterparty or the counterparty's trust department or agent.

The City's investment policy related to custodial credit risk calls for limiting its investments to highly rated institutions and/or requiring high quality collateral be held by the counterparty or custodian in the name of the City.

Investment Derivative Instruments

Note: More information on derivative instruments discussed herein can be found in Note A.12, by referencing the indicated derivative instrument's identifying letter.

Credit risk: The City is exposed to credit risk on investment derivative instruments. To minimize its exposure to loss related to credit risk, it is the City's policy to require counterparty collateral posting provisions in its investment derivative instruments. These terms require collateralization of the fair value of investment derivative instruments (net of the effect of applicable threshold requirements and netting arrangements) should the counterparty's credit rating fall below the following:

The counterparty (or its respective guarantor) with respect to derivative instruments B, D, and E is required to post collateral if one of its credit ratings goes below A3/A-. The counterparty with respect to derivative instrument H is required to post collateral if one of its credit ratings goes below A2/A. The counterparty with respect to derivative instruments A, C and K is required to post collateral if it has at least one rating below Aa3 or AA-. The City has never been required to access collateral.

As discussed in Note A.12, it is the City's policy to enter into netting arrangements whenever it has entered into more than one derivative instrument transaction with a counterparty.

The aggregate fair value of investment derivative instruments requiring collateralization at June 30, 2016 was $(74.73) million. A negative aggregate fair value means the City would have owed payments to the counterparties. The City had no counterparty credit exposure to any of the investment derivative instrument counterparties as of that date.

Interest rate risk: The City is exposed to interest rate risk on its swaps. In derivative instruments A, B, C, D, E and H, pay-fixed, receive-variable interest rate swaps, as LIBOR decreases, the City's net payment on the swap increases.

Basis risk: The City is exposed to basis risk on derivative instruments A, B, C, D, E and H because the variable-rate payment received by the City is based on a rate or index other than the interest rate the City pays on its variable-rate debt. Under the terms of its derivative instruments A, B, C, D, E and H, the City pays a variable rate on the outstanding underlying bonds based on SIFMA, but receives a variable rate on the swap based on a percentage of LIBOR. In derivative instrument K, the City's variable payer rate is based on SIFMA and its variable receiver rate is based on a percentage of LIBOR. However, the stepped percentages of LIBOR received by the City mitigate the risk that the City will be harmed in low interest rate environments by the compression of the SIFMA and LIBOR indices. As the overall level of interest rate decreases, the percentage of LIBOR received by the City increases.

Tax risk: The City is at risk that a change in Federal tax rates will alter the fundamental relationship between the SIFMA and LIBOR indices. A reduction in Federal tax rates, for example, will likely increase the City's payment on its underlying variable rate bonds in derivative instruments A, B, C, D, E and H and its variable payer rate in derivative instrument K.

Termination risk: The City or its counterparties may terminate a derivative instrument if the other party fails to perform under the terms of the contract. The City is at risk that a counterparty will terminate a swap at a time when the City owes it a termination payment. The City has mitigated this risk by specifying that the counterparty has the right to terminate only as a result of certain events, including: a payment default by the City; other City defaults which remain uncured for 30 days after notice; City bankruptcy;

insolvency of the City (or similar events); or a downgrade of the City's credit rating below investment grade (i.e., BBB-/Baa3). If at the time of termination, an investment derivative instrument is in a liability position, the City would be liable to the counterparty for a payment equal to the liability, subject to netting arrangements.

Counterparty risk: The City is at a risk that a counterparty (or its guarantor) will not meet its obligations under the swap. If a counterparty were to default under its agreement when the counterparty would owe a payment to the City, the City may have to pay another entity to assume the position of the defaulting counterparty. The City has sought to limit its counterparty risk by contracting only with highly-rated entities or requiring guarantees of the counterparty's obligations under the swap documents.

The discretely presented component units included in the City's reporting entity maintain their own investment policies that generally conform to those of the City.

The criteria for the Pension and Other Employee Benefit Trust Funds' and Other Trust Funds' investments are as follows:

1. Fixed income investments may be made in U.S. Government guaranteed securities or securities of U.S. Government agencies, securities of entities rated BBB or better by both Standard and Poor's Corporation and Moody's Investors Service, Inc., securities below BBB up to 10% of the total asset allocation and any bond that meets the qualifications of the New York State Retirement and Social Security Law, the New York State Banking Law, and the New York City Administrative Code.
2. Equity investments may be made only in those stocks that meet the qualifications of the New York State Retirement and Social Security Law, the New York State Banking Law, and the New York City Administrative Code.
3. Short-term investments may be made in the following:
   a. U.S. Government guaranteed securities or U.S. Government agency securities.
   b. Commercial paper rated A1, P1, or F1 by Standard & Poor's Corporation or Moody's Investors Service, Inc., or Fitch, respectively.
   c. Repurchase agreements collateralized in a range of 100% to 102% of matured value, purchased from primary dealers of U.S. Government securities.
   d. Investments in bankers' acceptances, certificates of deposit, and time deposits are limited to banks with worldwide assets in excess of $50 billion that are rated within the highest categories of the leading bank rating services, and selected regional banks also rated within the highest categories.
   e. Other top-rate securities maturing in less than 4 years.
4. Investments up to 25% of total pension fund assets in instruments not specifically covered by the New York State Retirement and Social Security Law.
5. No investment in any one corporation can be: (i) more than 2% of the pension plan net position; or (ii) more than 5% of the total outstanding issues of the corporation.

All investments are held by the City's custodial banks (in bearer or book-entry form) solely as an agent of the Comptroller of The City of New York on behalf of the various account owners. Payments for purchases are not released until evidence of ownership of the underlying investments are received by the City's custodial bank.

Securities Lending

State statutes and Board policies permit the Pension and Certain Other Employee Benefit Trust Funds to lend its securities to broker-dealers and other entities for collateral, for the same securities in the future with a simultaneous agreement to return the collateral in the form of cash, treasury and U.S. Government securities. The Funds' agent lends the following types of securities: short term securities, common stocks, long-term corporate bonds, U.S. Government and U.S. Government agency bonds, asset-backed securities and international equities and bonds held in collective investment funds. In return, the Funds receive collateral in the form of cash, U.S. Treasury and US. Government agency securities at 100% to 105% of the principal plus accrued interest for reinvestment. At June 30, 2016 and 2015, management believes that the Funds had no credit risk exposure to borrowers because the amounts the Funds owed the borrowers equaled or exceeded the amounts the borrowers owed the Funds. The contracts with the Funds' custodians require the securities lending agent to indemnify the Funds. In the situation when a borrower goes into default, the Agent will liquidate the collateral to purchase replacement securities. Any shortfall before the replacement securities cost and the collateral value is covered by the Agent. All securities loans can be terminated on demand within a period specified in each agreement by either the Funds or the borrowers. Cash collateral is invested by the securities lending agent using approved lender's investment guidelines. The weighted average maturity is 66 days. The securities lending program in which the Funds participate only allows pledging or selling securities in the case of borrower default.

The City reports securities loaned as assets on the *Statement of Fiduciary Net Position*. Cash received as collateral on securities lending transactions, and investments made with that cash, are also recorded as assets. Liabilities resulting from these transactions are reported on the *Statement of Fiduciary Net Position*. Accordingly, the City records the investments purchased with the cash collateral as Investments; Collateral From Securities Lending Transactions with a corresponding liability are recorded as Securities Lending Transactions.

2. Capital Assets

The following is a summary of capital assets activity for the Fiscal Years ended June 30, 2015 and 2016:

	Primary Government						
Primary Government	**Balance June 30, 2014**	**Additions**	**Deletions**	**Balance June 30, 2015**	**Additions**	**Deletions**	**Balance June 30, 2016**
				(in thousands)			
Governmental Activities:							
Capital assets, not being depreciated/amortized:							
Land	$ 1,770,734	$ 137,076	$ 60	$ 1,907,750	$ 39,728	$ 6,107	$ 1,941,371
Construction work-in-progress	4,259,644	3,577,653	4,857,381	2,979,916	3,043,506	2,512,330	3,511,092
Total capital assets, not being depreciated/amortized	6,030,378	3,714,729	4,857,441	4,887,666	3,083,234	2,518,437	5,452,463
Capital assets, being depreciated/amortized:							
Buildings	52,084,999	4,372,039	414,345	56,042,693	2,512,330	161,618	58,393,405
Equipment (including software)	7,849,727	633,302	271,986	8,211,043	585,476	131,946	8,664,573
Infrastructure	19,542,136	1,180,428	448,903	20,273,661	1,525,297	241,546	21,557,412
Total capital assets, being depreciated/amortized	79,476,862	6,185,769	1,135,234	84,527,397	4,623,103	535,110	88,615,390
Less accumulated depreciation/amortization:							
Buildings	21,299,537	1,988,833	326,682	22,961,688	1,859,409	161,094	24,660,003
Equipment (including software)	5,278,340	548,257	217,327	5,609,270	540,318	127,748	6,021,840
Infrastructure	7,267,258	891,663	437,053	7,721,868	953,454	241,546	8,433,776
Total accumulated depreciation/amortization	33,845,135	3,428,753[(1)]	981,062	36,292,826	3,353,181[(1)]	530,388	39,115,619
Total capital assets, being depreciated/amortized, net	45,631,727	2,757,016	154,172	48,234,571	1,269,922	4,722	49,499,771
Governmental activities capital assets, net	$51,662,105	$6,471,745	$5,011,613	$53,122,237	$4,353,156	$2,523,159	$54,952,234

(1) Depreciation expense was charged to functions/programs of the City for the Fiscal Years ended June 30, 2016 and 2015 as follows:

	2016	2015
	(in thousands)	
Governmental activities:		
General government	$ 488,144	$ 535,537
Public safety and judicial	229,582	422,511
Education	1,343,771	1,230,095
City University	4,914	5,313
Social services	72,708	85,340
Environmental protection	133,938	129,380
Transportation services	642,043	596,550
Parks, recreation and cultural activities	352,453	348,016
Housing	3,471	8,838
Health	65,321	50,572
Libraries	16,836	16,601
Total depreciation expense-governmental activities	$3,353,181	$3,428,753

The following are the sources of funding for the governmental activities capital assets for the Fiscal Years ended June 30, 2016 and 2015. Sources of funding for capital assets are not available prior to Fiscal Year 1987.

	2016	2015
	(in thousands)	
Capital Projects Funds:		
Prior to Fiscal Year 1987	$ 6,598,498	$ 6,598,496
City and TFA bonds	84,339,652	79,707,160
Federal grants	544,003	519,030
State grants	80,180	75,842
Private grants	77,466	67,224
Capitalized leases	2,428,054	2,447,311
Total funding sources	$94,067,853	$89,415,063

At June 30, 2016 and 2015, the governmental activities capital assets include approximately $1.2 billion of City-owned assets leased for $1 per year to the New York City Transit Authority which operates and maintains the assets. In addition, assets leased to HHC and to the Water and Sewer System are excluded from governmental activities capital assets and are recorded in the respective component unit financial statements.

Included in buildings at June 30, 2016 and 2015, are leased properties that have elements of ownership. These assets are recorded as capital assets as follows:

	Capital Leases	
Governmental activities:	2016	2015
	(in thousands)	
Capital asset:		
Buildings	$2,428,054	$2,447,311
Less accumulated amortization	857,048	808,068
Buildings, net	$1,571,006	$1,639,243

Capital Commitments

At June 30, 2016, the outstanding commitments relating to projects of the New York City Capital Projects Fund amounted to approximately $15.8 billion.

To address the need for significant infrastructure and public facility capital investments, the City has prepared a ten-year capital spending program which contemplates City Capital Projects Fund expenditures of $83.8 billion over Fiscal Years 2016 through 2025. To help meet its capital spending program, the City and TFA borrowed $3.65 billion in the public credit market in Fiscal Year 2016. The City and TFA plan to borrow $5.63 billion in the public credit market in Fiscal Year 2017.

3. Leases

The City leases a significant amount of property and equipment from others. Leased property having elements of ownership is recorded in the government-wide financial statements. The related obligations, in amounts equal to the present value of minimum lease payments payable during the remaining term of the leases, are also recorded in the government-wide financial statements. Other leased property not having elements of ownership are classified as operating leases. Both capital and operating lease payments are recorded as expenditures when payable. Total expenditures on such leases for the Fiscal Years ended June 30, 2016 and 2015 were approximately $988.0 million and $942.0 million, respectively.

As of June 30, 2016, the City (excluding discretely presented component units) had future minimum payments under capital and operating leases with a remaining term in excess of one year as follows:

	Capital Leases	Operating Leases	Total
		(in thousands)	
Governmental activities:			
Fiscal Year ending June 30:			
2017	$ 183,088	$ 653,581	$ 836,669
2018	179,561	611,625	791,186
2019	171,350	570,150	741,500
2020	171,525	541,547	713,072
2021	163,240	503,895	667,135
2022-2026	636,984	2,032,467	2,669,451
2027-2031	416,643	1,160,577	1,577,220
2032-2036	177,170	341,067	518,237
2037-2041	77,141	42,006	119,147
2042-2046	3,899	12,549	16,448
2047-2051	—	8,990	8,990
Future minimum payments	2,180,601	$6,478,454	$8,659,055
Less: Interest	609,595		
Present value of future minimum payments	$1,571,006		

The present value of future minimum lease payments includes approximately $1.056 billion for leases with Public Benefit Corporations (PBC) where State law generally provides that in the event the City fails to make any required lease payment, the amount of such payment will be deducted from State aid otherwise payable to the City and paid to PBCs.

The City also leases City-owned property to others, primarily for markets, ports, and terminals. Total rental revenue on these capital and operating leases for the Fiscal Years ended June 30, 2016 and 2015 was approximately $279 million and $284 million, respectively. As of June 30, 2016, the following future minimum rentals are provided for by the leases:

	Capital Leases	Operating Leases	Total
Governmental activities:		(in thousands)	
Fiscal Year ending June 30:			
2017	$ 1,198	$ 197,061	$ 198,259
2018	1,198	195,532	196,730
2019	1,198	191,097	192,295
2020	1,201	188,312	189,513
2021	1,201	164,514	165,715
2022-2026	5,240	789,675	794,915
2027-2031	5,351	746,330	751,681
2032-2036	4,748	730,948	735,696
2037-2041	2,157	716,642	718,799
2042-2046	2,020	708,038	710,058
2047-2051	1,824	640,774	642,598
2052-2056	1,800	60,147	61,947
2057-2061	1,800	60,147	61,947
2062-2066	1,800	60,147	61,947
2067-2071	1,800	59,510	61,310
2072-2076	1,800	58,022	59,822
2077-2081	1,260	46,271	47,531
2082-2086	—	42,747	42,747
2087-2091	—	4,068	4,068
Thereafter until 2106	—	1	1
Future minimum lease rentals	37,596	$5,659,983	$5,697,579
Less interest	23,833		
Present value of future minimum lease rentals	$13,763		

4. Service Concession Arrangements

The City is the transferor in 63 Service Concession Arrangements contracted at the Parks Department. The agreements convey to the operators the right, either through licenses or permits, to construct capital assets and operate and maintain all service concessions. The City has the right to approve the type of services the operators may provide and the fees that may be charged by the operators to the public. As per the agreements, the operators provide high-quality amenities and facilities to park users, which generate General Fund revenues for the City and also create valuable business and employment opportunities for the public. The Parks Department operators help preserve some of the City's unique park facilities and provide public amenities while creating and developing new park destinations with fewer public funds.

The Service Concession Agreements do not contain any upfront payments from the operators nor are there any guarantees or commitments by the City. By concession type, the value of the Capital Assets associated with the above Service Concession Arrangements and the deferred inflows resulting from such arrangements are as follows at June 30:

	2016			2015		
Concession Type	Number of concessions	Deferred inflows	Capital Assets Value	Number of concessions	Deferred inflows	Capital Assets Value
		(in thousands)			(in thousands)	
Restaurants	24	$ 40,983	$ 84,357	24	$ 48,063	$ 86,718
Sports Centers	11	18,305	47,507	15	21,926	52,102
Golf Courses	14	24,877	46,720	14	29,262	48,399
Gas Stations	7	454	905	6	517	783
Amusement Parks/Carousels	3	37,398	76,645	3	45,789	78,895
Stables	3	408	1,013	2	80	418
Other	1	7	100	2	24	230
Total	63	$122,432	$257,247	66	$145,661	$267,545

5. Long-Term Liabilities

Changes in Long-term liabilities

In Fiscal Years 2015 and 2016, the changes in long-term liabilities were as follows:

Primary Government	Balance June 30, 2014	Additions	Deletions	Balance June 30, 2015	Additions	Deletions	Balance June 30, 2016	Due Within One Year
				(in thousands)				
Governmental activities:								
Bonds and notes payable								
General Obligation Bonds[1]	$ 41,664,633	$ 3,249,510	$ 4,454,196	$ 40,459,947	$ 2,510,604	$ 4,896,980	$38,073,571	$2,175,171
TFA bonds	31,038,820	5,175,795	2,364,510	33,850,105	4,799,660	1,292,285	37,357,480	1,008,920
TSASC bonds	1,228,370	—	6,335	1,222,035	—	77,510	1,144,525	—
IDA bonds	89,755	—	2,975	86,780	—	3,115	83,665	3,265
STAR bonds	1,974,530	2,035,330	1,974,530	2,035,330	—	73,935	1,961,395	76,895
FSC bonds	230,790	—	33,415	197,375	—	22,205	175,170	43,465
HYIC bonds	3,000,000	—	—	3,000,000	—	—	3,000,000	—
ECF bond	266,155	—	1,965	264,190	—	23,785	240,405	4,525
Tax lien collateralized bonds	45,781	95,479	107,029	34,231	71,797	74,164	31,864	—
Total before premiums/discounts(net)	79,538,834	10,556,114	8,944,955	81,149,993	7,382,061	6,463,979	82,068,075	3,312,241
Less premiums/(discounts)(net)	3,161,979	1,278,429	615,332	3,825,076	907,430	559,756	4,172,750	—
Total bonds and notes payable	82,700,813	11,555,789	9,281,533	84,975,069	8,289,491	7,023,735	86,240,825	3,312,241
Capital lease obligations	1,701,439	93,015	155,211	1,639,243	47,998	116,235	1,571,006	73,368
Other tax refunds	1,934,703	312,193	145,704	2,101,192	10,913	254,192	1,857,913	92,913
Judgments and claims	6,913,458	1,148,392	1,275,197	6,786,653	1,629,179	1,361,500	7,054,332	1,314,597
Real estate tax certiorari	885,961	205,290	152,629	938,622	224,981	181,556	982,047	170,931
Vacation and sick leave	3,935,666	355,296	310,233	3,980,729	576,845	294,876	4,262,698	294,876
Net pension liability	46,598,085	6,525,982	—	53,124,067	11,722,928	—	64,846,995	—
OPEB liability	89,485,122	(864,197)	3,136,373	85,484,552	6,816,123	2,897,668	89,403,007	—
Landfill closure and postclosure care costs	1,466,633	105,030	63,303	1,508,360	2,928	45,599	1,465,689	8,401
Pollution remediation obligation	237,607	228,622	215,998	250,231	101,035	142,393	208,873	179,195
Total changes in governmental activities long-term liabilities	$235,859,487	$19,665,412	$14,736,181	$240,788,718	$29,422,421	$12,317,754	$257,893,385	$5,446,522

(1) General Obligation Bonds are generally liquidated with resources of the General Debt Service Fund. Other long-term liabilities are generally liquidated with resources of the General Fund.

The bonds and notes payable at June 30, 2015 and 2016, summarized by type of issue are as follows:

Primary Government	2015 City General Obligation[1]	2015 Other bonds and notes payable[2]	2015 Revenue[3]	2015 Total	2016 City General Obligation[1]	2016 Other bonds and notes payable[2]	2016 Revenue[3]	2016 Total
				(in thousands)				
Governmental activities:								
Bonds and notes payable								
General obligation bonds	$40,459,947	$ —	$ —	$40,459,947	$38,073,571	$ —	$ —	$38,073,571
TFA bonds	—	26,424,345	—	26,424,345	—	29,313,725	—	29,313,725
TFA bonds BARBs	—	—	7,425,760	7,425,760	—	—	8,043,755	8,043,755
TSASC bonds	—	—	1,222,035	1,222,035	—	—	1,144,525	1,144,525
IDA bonds	—	86,780	—	86,780	—	83,665	—	83,665
STAR bonds	—	—	2,035,330	2,035,330	—	—	1,961,395	1,961,395
FSC bonds	—	—	197,375	197,375	—	—	175,170	175,170
HYIC bonds	—	—	3,000,000	3,000,000	—	—	3,000,000	3,000,000
ECF bonds	—	—	264,190	264,190	—	—	240,405	240,405
Tax lien collateralized bonds	—	—	34,231	34,231	—	—	31,864	31,864
Total before net of premium / discount	40,459,947	26,511,125	14,178,921	81,149,993	38,073,571	29,397,390	14,597,114	82,068,075
Premiums/(discounts)(net)	1,599,541	1,588,851	636,684	3,825,076	430,131	477,299	3,265,320	4,172,750
Total bonds payable	$42,059,488	$28,099,976	$14,815,605	$84,975,069	$38,503,702	$29,874,689	$17,862,434	$86,240,825

(1) The City issues its General Obligation for capital projects which include construction, acquisition, repair or life extending maintenance of the City's infrastructure.

(2) Other bonds and notes payable includes TFA (excluded BARBs) and IDA. They are general obligations of the respective issuers.

(3) Revenue bonds include ECF, FSC, HYIC, STAR, TFA (BARBs), NYCTLTs and TSASC.

The following table summarizes future debt service requirements as of June 30, 2016:

	Governmental Activities					
	City General Obligation Bonds		Other Bonds and Notes Payable		Revenue Bonds	
Primary Government	Principal	Interest[1]	Principal	Interest	Principal	Interest
	(in thousands)					
Fiscal year ending June 30:						
2017	$ 2,175,171	$ 1,590,051	$ 843,090	$ 1,150,666	$ 293,980	$ 717,016
2018	2,215,730	1,509,199	1,005,660	1,125,649	321,115	709,932
2019	2,138,761	1,411,131	1,287,175	1,085,670	351,970	695,338
2020	2,270,430	1,310,992	1,296,115	1,039,635	324,770	679,184
2021	2,223,186	1,208,726	1,338,335	992,308	317,050	664,169
2022-2026	10,779,078	4,541,044	6,333,430	4,243,977	2,063,805	3,055,728
2027-2031	7,732,953	2,416,869	6,170,595	2,980,883	2,426,594	2,481,656
2032-2036	5,356,937	1,018,673	5,133,990	1,798,822	2,875,415	1,806,049
2037-2041	2,680,412	212,647	4,656,165	582,423	1,573,510	1,196,072
2042-2046	500,868	17,179	1,332,835	22,680	1,048,905	833,650
2047-2051	4	16	—	—	3,000,000	—
Thereafter until 2147	41	141	—	—	—	—
Total future debt service requirements	38,073,571	15,236,668	29,397,390	15,022,713	14,597,114	12,838,794
Less interest component	—	15,236,668	—	15,022,713	—	12,838,794
Total principal outstanding	$38,073,571	$ —	$29,397,390	$ —	$14,597,114	$ —

(1) Includes interest for general obligation bonds estimated at a 3% rate on tax-exempt adjustable rate bonds and at a 4% rate on taxable adjustable rate bonds.

The average (weighted) interest rates for outstanding City General Obligation Bonds as of June 30, 2016 and 2015, were 4.52% and 4.35%, respectively, and both ranged from 0% to 8.6%. The last maturity of the outstanding City debt is in the year 2147.

Since the City has variable rate debt outstanding, the terms by which interest rates change for variable rate debt are as follows: for Auction Rate Securities, an interest rate is established periodically by an auction agent at the lowest clearing rate based upon bids received from broker-dealers. Variable Rate Demand Bonds (VRDBs) are long-term bonds that have a daily or weekly "put" feature backed by a bank Letter of Credit or Stand By Bond Purchase Agreement. VRDBs are repriced daily or weekly and provide investors with the option to tender the bonds at each repricing. A broker, called a Remarketing Agent, is responsible for setting interest rates and reselling to new investors any securities that have been tendered. CPI Bonds pay the holder a floating interest rate tied to the consumer price index. The rate is a fixed spread plus a floating rate equal to the change in the Consumer Price Index-Urban (CPI-U) for a given period. LIBOR Bonds pay the holder a floating interest rate calculated as a percentage of the LIBOR. SIFMA Index Bonds pay the holder a floating index rate based on the Securities Industry and Financial Markets Association Municipal Swap Index plus spread.

In Fiscal Years 2016 and 2015, the City issued $2.51 billion and $1.78 billion, respectively, of General Obligation Bonds to advance refund General Obligation Bonds of $2.67 billion and $1.96 billion, respectively, aggregate principal amounts. The net proceeds from the sales of the refunding bonds, together with other funds of $44.43 million and $49.12 million, respectively, were irrevocably placed in escrow accounts and invested in United States Government securities. As a result of providing for the payment of the principal and interest to maturity, and any redemption premium, the advance refunded bonds are considered to be defeased and, accordingly, the liability is not reported in the government-wide financial statements. In Fiscal Year 2016, the refunding transactions will decrease the City's aggregate debt service payments by $428.53 million and provide an economic gain of $397.22 million. In Fiscal Year 2015, the refunding transactions decreased the City's aggregate debt service payments by $278.36 million and provided an economic gain of $241.97 million. At June 30, 2016 and 2015, $21.10 billion and $20.23 billion, respectively, of the City's outstanding General Obligation Bonds were considered defeased.

The State Constitution requires the City to pledge its full faith and credit for the payment of the principal and interest on City term and serial bonds and guaranteed debt. The GO debt-incurring power of the City is limited by the Constitution to 10% of the average of five years' full valuations of taxable real estate. Excluded from this debt limitation is certain indebtedness incurred for water supply, certain obligations for transit, sewage, and other specific obligations which exclusions are based on a relationship of debt service to net revenue. In July 2009, the State Assembly passed legislation stipulating that certain TFA debt would be included in the calculation of debt-incurring margin within the debt limit of the City.

As of June 30, 2016 and 2015, the 10% general limitation was approximately $85.18 billion and $81.35 billion, respectively. Also, as of June 30, 2016, the City's remaining GO debt-incurring power totaled $22.98 billion, after providing for capital commitments. As of July 1, 2016, the debt incurring power is $30.17 billion based on the change in the five-year full valuation average for fiscal year 2017.

Pursuant to State law, the City's General Debt Service Fund is administered and maintained by the State Comptroller. Payments of real estate taxes and other revenues are deposited in advance of debt service payment dates into the Fund. Debt service on all City notes and bonds is paid from this Fund. In Fiscal Year 2016, prepayment transfers of $1.76 billion were made from the General Fund which included discretionary transfers of $1.38 billion to the General Debt Service Fund for Fiscal Year 2017 debt service. In Fiscal Year 2015, prepayment and other transfers of $1.98 billion were made from the General Fund to the General Debt Service Fund for Fiscal Year 2016 debt service.

Hedging derivative instrument payments and hedged debt

The table that follows represents debt service payments on certain general obligation variable-rate bonds and net receipts/payments on associated hedging derivative instruments (see Note A.12), as of June 30, 2016. Although interest rates on variable rate debt and the current reference rates of hedging derivative instruments change over time, the calculations included in the table below are based on the assumption that the variable rate and the current reference rates of hedging derivative instruments on June 30, 2016 will remain the same for their term.

	Governmental Activities			
	General Obligation Bonds			
	Principal	Interest	Hedging Derivative Instruments, Net	Total
	(in thousands)			
Fiscal year ending June 30:				
2017	$ 14,125	$ 2,080	$ 6,853	$ 23,058
2018	18,040	1,431	6,750	26,221
2019	—	1,065	6,691	7,756
2020	—	1,065	6,691	7,756
2021	—	1,065	6,691	7,756
2022-2026	53,115	5,127	32,210	90,452
2027-2031	172,805	2,270	14,262	189,337
2032	24,080	51	322	24,453
Total	$282,165	$14,154	$80,470	$376,789

Judgments and Claims

The City is a defendant in lawsuits pertaining to material matters, including claims asserted which are incidental to performing routine governmental and other functions. This litigation includes, but is not limited to: actions commenced and claims asserted against the City arising out of alleged constitutional violations; torts; breaches of contract; other violations of law; and condemnation proceedings.

As of June 30, 2016 and 2015, claims in excess of $1.093 trillion and $1.15 trillion, respectively, were outstanding against the City for which the City estimates its potential future liability to be $7.05 billion and $6.78 billion, respectively.

As explained in Note A.10, the estimate of the liability for all judgments and claims has been reported in the government-wide *Statement of Net Position* under noncurrent liabilities. The liability was estimated by using the probable exposure information provided by the New York City Law Department (Law Department), and supplemented by information provided by the Law Department with respect to certain large individual claims and proceedings. The recorded liability is the City's best estimate based on available information and application of the foregoing procedures.

Complaints on behalf of approximately 11,900 plaintiffs alleging respiratory or other injuries from alleged exposures to World Trade Center dust and debris at the World Trade Center site or the Fresh Kills landfill were commenced against the City and other entities involved in the post-September 11 rescue and recovery process. Plaintiffs include, among others, Department of Sanitation employees, firefighters, police officers, construction workers and building clean-up workers. The actions were consolidated in Federal District Court pursuant to the Air Transportation and System Stabilization Act, which grants exclusive federal jurisdiction for all claims related to or resulting from the September 11 attack. A not-for-profit “captive” insurance company, WTC Captive Insurance Company, Inc. (the WTC Insurance Company) was formed to cover claims against the City and its private contractors relating to debris removal work at the World Trade Center site and the Fresh Kills landfill. The WTC Insurance Company was funded by a grant from the Federal Emergency Management Agency (FEMA) in the amount of $999.9 million. On June 10, 2010, the WTC Insurance Company announced that a settlement was reached with attorneys for the plaintiffs. On November 19, 2010, the District Court Judge announced that more than the required 95% of plaintiffs agreed to the settlement, thus making it effective. Approximately $700 million has been paid under the settlement, leaving residual funds of approximately $290 million to insure and defend the City and its contractors against any new claims. Since the applicable statute of limitations runs from the time a person learns of his or her injury or should reasonably be aware of the injury, additional plaintiffs may bring lawsuits in the future for late emerging cancers, which could result in substantial damages. No assurance can be given that the remaining insurance will be sufficient to cover all liability that might arise from such claims.

In 1996, a class action was brought against the City Board of Education and the State under Title VII of the Civil Rights Act of 1964 alleging that the use by the Board of Education of two teacher certification examinations mandated by the State had a disparate impact on minority candidates. In 2006, the United States Court of Appeals for the Second Circuit dismissed the claims against the State. In December 2012, the District Court decided a controlling legal question against the City. On February 4, 2013, the Second Circuit affirmed the District Court’s decision. The District Court has appointed a Special Master to oversee claimants’ individualized hearings both as to damages and eligibility for Board of Education employment. The hearings relate to members of the class that took the Liberal Arts and Science Test (LAST) from 1996 to 2004. Currently, 3,916 such individuals have submitted claim forms and may be eligible for damages. On June 5, 2015, the Court ruled that a second version of LAST, LAST-2, that was administered from 2004 to 2014, violated Title VII because it did not measure skills necessary to do the job. In August 2015, the Court found that the State’s new teacher certification test, the Academic Literacy Skills Test (ALST), administered since Spring 2014, was not discriminatory and evaluated skills necessary to do the job. The plaintiffs could seek to expand the damages class with respect to LAST-2. If approved by the Court, the extent to which this would extend the class is not known at this time. The potential cost to the City is uncertain at this time but could be significant.

The Federal Department of Health and Human Services Office of Inspector General (HHS OIG) conducted a review of Medicaid Personal Care Services claims made by providers in the City from January 1, 2004 through December 31, 2006, and concluded that 18 out of 100 sampled claims by providers failed to comply with Federal and State requirements. The Medicaid Personal Care Services program in the City is administered by the City’s Human Resources Administration. In its audit report issued in June 2009, the HHS OIG, extrapolating from the case sample, estimated that the State improperly claimed $275.3 million in Federal Medicaid reimbursement during the audit period and recommended to the Center for Medicare and Medicaid Services (CMS) that it seek to recoup that amount from the State. To the City’s knowledge, CMS has not taken any action to recover amounts from the State based on the findings in this audit, but no assurance can be given that it will not do so in the future. Section 22 of Part B of Chapter 109 of the Laws of 2010 amended an earlier unconsolidated State law to set forth a process under which the State Department of Health may recover from a social services district, including the City, the amount of a federal Medicaid disallowance or recovery that the State Commissioner of Health “determines was caused by a district’s failure to properly administer, supervise or operate the Medicaid program.” Such a determination would require a finding that the local agency had “violated a statute, regulation or clearly articulated written policy and that such violation was a direct cause of the federal disallowance or recovery.” It is not clear whether the recovery process set out in the amendment can be applied to a federal disallowance against the State based upon a pre-existing audit; however, in the event that it does, and results in a final determination by the State Commissioner of Health against the City, such a determination could result in substantial liability for the City as a result of the audit.

On October 27, 2014 a lawsuit under the False Claims Act against the City and Computer Sciences Corporation, a contractor that participated in the submission of claims for Medicaid reimbursement, was unsealed in the United States District Court for the Southern District of New York (USAO-SDNY). Plaintiffs, consisting of the federal government and a relator, allege fraud in connection with the use of diagnosis and other codes in seeking Medicaid reimbursement in connection with the Early Intervention Program. Plaintiffs seek treble damages and penalties. If plaintiffs were to ultimately prevail the City could be subject to substantial liability.

In July 2014, disability rights advocates organizations and disabled individuals commenced a putative class action against the City in the (USAO-SDNY). Plaintiffs allege, among other matters, that the City has not complied with certain requirements of the Americans with Disabilities Act with respect to the installation, configuration and maintenance of curb ramps on sidewalks and requirements for sidewalk walkways in general in Manhattan south of 14th Street. If plaintiffs were to prevail, the City could be subject to substantial compliance costs.

On December 21, 2015, the USAO-SDNY sent a findings letter to the DOE indicating various areas in which he alleged that the City elementary schools were not accessible to students with disabilities in violation of the Americans with Disabilities Act of 1990. The City and USAO-SDNY are currently in discussion as to the matters raised in the letter. Alterations to City elementary schools to address concerns raised in the findings letter could result in substantial compliance costs to the City.

A personal injury lawsuit commenced in 2005 alleged that the City failed to properly equip its firefighters. The lawsuit claims that as a result of the alleged failure three firefighters died and three others sustained significant injuries. On February 22, 2016, a verdict was rendered in the amount of $183 million against the City and a co-defendant. The co-defendant has already paid $43 million. The City appealed the verdict as to both liability and the excessiveness of the award. The lawsuit was subsequently settled in the amount of $29.5 million in mid September 2016.

In West v. City of New York, a putative class action on behalf of blind and visually impaired persons served on the City in April, 2016 in the USAO-SDNY, plaintiffs allege that they are excluded from using pedestrian rights of way on the City's sidewalks because of the allegedly low number of Accessible Pedestrian Signals (APS) on pedestrian crossings. Plaintiffs claim that this is not only a violation of their rights, but hazardous. Plaintiffs allege violations of the Americans with Disabilities Act, Rehabilitation Act, and New York City Human Rights Law. Plaintiffs seek declaratory relief that the City has violated the disability statutes, that the City develop a remedial plan, that all future new construction and street alterations provide for APS installations, and attorneys' fees. If plaintiffs were to prevail, the City could be subject to substantial compliance costs.

In late 2015, a putative class action was filed against the City and the New York City Taxi and Limousine Commission alleging numerous commercial claims in connection with the November 2013 and February 2014 auctions of wheelchair accessible taxi medallions. Plaintiffs allege that the New York City Taxi and Limousine Commission negligently posted false information about average medallion transfer prices in advance of the auction falsely inducing plaintiffs to bid higher amounts for their medallions. If plaintiffs were to prevail and a class of plaintiffs who purchased medallions at the auctions were certified, damages of several hundred million dollars could be sought.

In an action filed in late November 2015, plaintiffs, which consist of owners of independent taxi medallions and an owner-advocacy group, challenged the constitutionality of the New York City Taxi and Limousine Commission's rule requiring taxi medallion owners to place wheelchair accessible taxis on the street by 2020. The potential cost to the City is uncertain at this time but could be significant if plaintiffs were to prevail.

In an action filed in December 2015, plaintiffs that include owners of taxi medallions, taxi drivers, groups that finance taxi medallions, and taxi medallion interest groups, raised numerous constitutional claims challenging regulations on taxi medallions that allegedly are not applied to other for hire vehicle transportation that utilize apps for their service. If the plaintiffs were to ultimately prevail, the City could be subject to substantial liability.

In addition to the above claims and proceedings, numerous real estate tax *certiorari* proceedings alleging overvaluation, inequality and illegality are pending against the City. Based on historical settlement activity, and including an estimated premium for inequality of assessment, the City estimates its potential future liability for outstanding *certiorari* proceedings to be $982 million and $938 million at June 30, 2016 and 2015, respectively, as reported in the government-wide financial statements.

Landfill Closure and Postclosure Care Costs

The City's only active landfill after October 9, 1993 was the Fresh Kills landfill which has been closed since 2002. Upon the landfill becoming inactive, the City is required by Federal and State law, and under Consent Order with the State Department of Environmental Conservation to complete the Final Closure Plan, and to provide postclosure care for a minimum period of 30 years following closure. The Final Closure Plan includes the construction of final cover, stormwater management, leachate mitigation and/or corrective measures, and landfill gas control systems. Postclosure care includes environmental monitoring, and the operation, maintenance, recordkeeping and reporting for the final closure systems.

The liability for these activities as of June 30, 2016, which equates to the total estimated current cost, is $1.30 billion. There are no costs remaining to be recognized. Cost estimates are based on current data including contracts awarded by the City, contract bids, and engineering studies. These estimates are subject to adjustment for inflation and to account for any changes in landfill conditions, regulatory requirements, technologies, or cost estimates. For government-wide financial statements, the liability for closure and postclosure care is based on total estimated current cost. For fund financial statements, expenditures are recognized using the modified accrual basis of accounting when the related liability is incurred and the payment is due.

Resource Conservation and Recovery Act Subtitle D Part 258, which became effective April, 1997, requires financial assurance regarding closure and postclosure care. This assurance was most recently provided, on February 19, 2016, by the City's Chief Financial Officer placing in the Fresh Kills landfill operating record representations in satisfaction of the Local Government Financial Test. As of June 30, 2016, the financial assurance cost estimate for the Fresh Kills Landfill is $1.02 billion.

The City has five inactive hazardous waste sites not covered by the EPA rule. The City has recorded the long-term liability for these postclosure care costs in the government-wide financial statements.

During Fiscal Year 2016, expenditures for landfill and inactive hazardous waste site closure and postclosure care costs totaled $45.2 million.

The following represents the City's total landfill and hazardous waste sites liability which is recorded in the government-wide *Statement of Net Position*:

	Amount (in thousands)
Landfill	$1,272,938
Hazardous waste sites	192,751
Total landfill and hazardous waste sites liability	$1,465,689

Pollution Remediation Obligations

The pollution remediation obligations (PROs) at June 30, 2016 and June 30, 2015, summarized by obligating event and pollution type, respectively, are as follows:

Obligating Event	Fiscal Year 2016		Fiscal Year 2015	
	Amount (in thousands)	Percentage	Amount (in thousands)	Percentage
Imminent endangerment	$ 111	0.1%	$ 111	—%
Violation of pollution prevention-related permit or license	2,123	1.0	—	—
Named by regulator as a potentially responsible party	50,970	24.4	50,964	20.4
Voluntary commencement	155,669	74.5	199,156	79.6
Total	$208,873(1)	100.0%	$250,231(1)	100.0%

Pollution Type	Amount (in thousands)	Percentage	Amount (in thousands)	Percentage
Asbestos removal	$ 97,802	46.8%	$135,900	54.3%
Lead paint removal	12,515	6.0	8,501	3.4
Soil remediation	39,075	18.7	46,338	18.5
Water remediation	57,784	27.7	57,784	23.1
Other	1,697	0.8	1,708	0.7
Total	$208,873(1)	100.0%	$250,231(1)	100.0%

(1) There are no expected recoveries to reduce the liability.

The PRO liability is derived from registered multi-year contracts which offsets cumulative expenditures (liquidated/unliquidated) against original encumbered contractual amounts. The potential for changes to existing PRO estimates is recognized due to such factors as: additional remediation work arising during the remediation of an existing pollution project; remediation activities may find unanticipated site conditions resulting in necessary modifications to work plans; changes in methodology during the course of a project may cause cost estimates to change, e.g., the new ambient air quality standard for lead considered a drastic change will trigger the adoption of new/revised technologies for compliance purposes; and changes in the quantity which is paid based on actual field measured quantity for unit price items measured in cubic meters, linear meters, etc. Consequently, changes to original estimates are processed as change orders. Further, regarding pollution remediation liabilities that are not yet recognized because they are not reasonably estimable, the Law Department relates that we have approximately 12 cases involving hazardous substances, including spills from above and underground storage tanks, and other condemnation on, or caused by facilities on City-owned property. There is also one case involving environmental review and land use, and one case involving polychlorinated biphenyls caulk in the public schools. Due to the uncertainty of the legal proceedings we cannot estimate a future liability.

The City, in compliance with the State Department of Environmental Conservation Permit Number 2-6302-00007/00019 issued pursuant to 6 NYCRR Part 360, must provide financial assurance for the closure of the North Shore Marine Transfer Station. Such surety instrument must conform to the requirements of 6 NYCRR Part 260-1.12. The liability for closure as of June 30, 2016, which equates to the total current cost, is $970 thousand. The cost estimate is based on current data and is representative of the cost that would be incurred by an independent party. The estimate is subject to adjustment for inflation and to account for changes in regulatory requirements or cost estimates. For government-wide financial statements, the liability for closure is based on total estimated current cost. For fund financial statements, expenditures are recognized using the modified accrual basis of accounting when the closure costs are incurred and the payment is due.

On Monday, October 29, 2012, Superstorm Sandy hit the Mid-Atlantic East Coast. The storm caused widespread damage to the coastal and other low lying areas of the City and power failures in various parts of the City, including most of downtown Manhattan. Although it is not possible for the City to quantify the full, long-term impact of the storm on the City and its economy, the current estimate of costs to the City and HHC is approximately $9.9 billion. Of such amount, approximately $2.1 billion represents expense funding for emergency response, debris removal and emergency protective measures, and approximately $7.8 billion represents capital funding of long-term permanent work to restore damaged infrastructure.

The Financial Plan assumes that the City’s costs relating to emergency services and the repair of damaged infrastructure as a result of the storm will ultimately be paid from non-City sources, primarily the federal government. On January 29, 2013, President Obama signed legislation providing for approximately $50.5 billion in storm-related aid for the region affected by the storm. The maximum reimbursement rate from the Federal Emergency Management Agency (FEMA) is 90% of total costs. Other funding sources may have larger local share percentages. The City expects to use $755 million of Community Development Block Grant Recovery funding allocated by the U.S. Department of Housing and Urban Development to meet the local share requirements of the FEMA funding, as well as recovery work not funded by FEMA or other federal sources. This allocation would be available to fill gaps in such FEMA funding. No assurance can be given that the City will be reimbursed for all of its costs or that such reimbursements will be received within the time periods assumed in the Financial Plan.

In June 2013, the City released a report, updated in April 2015 with the release of One New York: the Plan for a Strong and Just City, that analyzed the City’s climate risks and outlined certain recommendations to address those risks. The report outlined a $20 billion climate resiliency plan covering over 1,000 individual projects citywide. The climate resiliency plan includes City and non-City assets and programs, and reflects both expense and capital funding from the City and from other sources. City capital funding for City infrastructure and coastal protection is included in the Ten Year Capital Strategy, and the City has secured significant federal relief for long-term recovery, largely from FEMA and HUD. However, there are currently approximately $5 billion in unfunded climate resiliency proposals, particularly for investments in the City’s coastal protection plan and resiliency retrofits for buildings beyond the City’s existing efforts. These additional costs would require increased federal or other funding and increased City capital or expense funding.

On March 2, 2010, the United States Environmental Protection Agency (EPA) listed the Gowanus Canal (the Canal), a waterway located in the City, as a federal Superfund site under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). EPA considers the City a potentially responsible party (PRP) under CERCLA, based on contaminants from currently and formerly City-owned and operated properties, as well as from the City’s combined sewer overflows (CSOs). On September 30, 2013 EPA issued the Record of Decision (ROD) for the Canal, setting forth requirements for dredging contaminated sediment in the Canal and covering it with a cap as well as source control requirements. The ROD requires that two CSO retention tanks be constructed as part of the source control component of the remedy. EPA estimates that the costs of the tanks will be approximately $85 million and the overall cleanup costs (to be allocated among potentially responsible parties) will be $506 million. The City anticipates that the actual cleanup costs could substantially exceed EPA’s cost estimate. On May 28, 2014, EPA issued a unilateral administrative order requiring the City to design major components of the remedy for the Canal, including the CSO retention tanks, remediation of the First Street basin (a currently filled-in portion of the Canal), and storm water controls. As required under the Unilateral Order, the City submitted its siting recommendations for the CSO tanks to EPA on June 30, 2015. As set forth in a consent order which was fully executed on June 9, 2016, EPA agrees with the City's preferred location for one of the tanks and, with respect to the other tank, EPA has directed the City to site the tank at the City's preferred location subject to certain milestones. In addition, the City is participating in an ongoing arbitration process with approximately 20 other parties to determine each party's share of liability for the design of the in-canal (dredging and capping) portion of the remedy.

On September 27, 2010, EPA listed Newtown Creek, the waterway on the border between Brooklyn and Queens, New York, as a Superfund site. On April 6, 2010, EPA notified the City that EPA considers the City a PRP under CERCLA for hazardous substances in Newtown Creek. In its Newtown Creek PRP notice letter, EPA identified historical City activities that filled former wetlands and low lying areas in and around Newtown Creek and releases from formerly City-owned and operated facilities, including municipal incinerators, as well as discharges from sewers and CSO outfalls, as potential sources of hazardous substances in Newtown Creek. In July, 2011, the City entered into an Administrative Settlement Agreement and Order on Consent (AOC) with EPA and five other PRPs to conduct an investigation of conditions in Newtown Creek and evaluate feasible remedies. The investigation and feasibility study is expected to take approximately seven years. Under the AOC, the City is required to establish and maintain financial security in the amount of $25 million for the benefit of EPA in order to secure the full and final completion of the work required to be performed under the AOC by the City and the Newtown Creek Group, the group of five companies that are respondents to the AOC, in addition to the City. The City has made its demonstration of financial assurance pursuant to the Resource Conservation and Recovery act, 40 C.F.R.§258.74(f).The City's share will be determined in a future allocation proceeding. The settlement does not cover any remedy that may ultimately be chosen by EPA to address the contamination identified as a result of the investigation and evaluation.

On May 12, 2014, EPA listed the former Wolff-Alport Chemical Company site (Wolff-Alport Site) in Ridgewood, Queens, as a Superfund site. The designation is based on radioactive contamination resulting from the operations of the Wolff-Alport Chemical Company during the 1920s to 1950s, which, among other things, disposed of radioactive material on-site and via the sewer system. In 2013, EPA, in cooperation with City and State agencies, completed a response action to implement certain interim remedial measures at the Wolff-Alport Site to address the site's short-term public health risks. The Superfund process will include a remedial investigation that will assess, among other things, impacts to the sewer system from operations at the Wolff-Alport Site. The remedial investigation was recently commenced.

The National Park Service (NPS) is undertaking a CERCLA removal action at Great Kills Park on Staten Island to address radioactive contamination that has been detected at the site. Great Kills Park was owned by the City until roughly 1972, when it was transferred to NPS for inclusion in the Gateway National Recreation Area. While owned by the City, the site was used as a sanitary landfill, and the park was also expanded using urban fill. NPS believes that the radioactive contamination is the result of City activities and that the City is therefore liable for the investigation and remediation under CERCLA. The City has negotiated a settlement with NPS to address a remedial investigation and feasibility study. No other PRPs have been identified at this time.

Under CERCLA, a responsible party may be held responsible for monies expended for response actions at a Superfund site, including investigative, planning, removal, remedial and EPA enforcement actions. A responsible party may also be ordered by EPA to take response actions itself. Responsible parties include, among others, past or current owners or operators of a facility from which there is a release of a hazardous substance that causes the incurrence of response costs. The nature, extent, and cost of response actions at either the Canal, Newtown Creek, the Wolff-Alport site or Great Kills Park, the contribution, if any, of discharges from the City's sewer system or other municipal operations, and the extent of the City's liability, if any, for monies expended for such response actions, will likely not be determined for several years and could be material.

6. Interfund Receivables, Payables, and Transfers

At June 30, 2016 and 2015, City and discretely presented component units receivable and payable balances and interfund transfers were as follows:

Governmental activities:

Due from/to other funds:

Receivable by	Payable by	2016	2015
		(in thousands)	
General Fund	Capital Projects Fund	$3,167,180[1]	$2,915,207[1]
	TDC—General Fund	277	191
	TFA—Debt Service	63,405	107,735
Capital Projects Fund	TFA—Capital Projects Fund	6,321	990,794
	HYIC—Capital Projects Fund	347	2,233
HYDC—Capital Projects Fund	HYIC—Capital Projects Fund	45	124
HYIC—Debt Service Fund	HYIC—Capital Projects Fund	94	255
Total due from/to other funds		$3,237,669	$4,016,539

Component Units:

Due from/to City and Component Units:

Receivable by	Payable by	2016	2015
		(in thousands)	
City—General Fund	Component units—HDC	$1,022,190	$ 903,331
	HHC	504,902	704,985
	Less:allowance for uncollectable amounts	(371,480)	(296,811)
		1,155,612	1,311,505
City—Capital Projects Fund	Component units—Water Authority	498,330	500,587
	EDC	127,243	111,383
		625,573	611,970
Total due from Component Units		$1,781,185	$1,923,475
Component Unit—Water Board	City—General Fund	$ 194,362	$ 119,756
Component Unit—Brooklyn Public Library	City—General Fund	717	—
Component Unit—Queens Public Library	City—General Fund	22,349	—
Total due to Component Units		$ 217,428	$ 119,756

(1) Net of eliminations within the same fund type.

Note: During Fiscal Years 2016 and 2015, the Capital Projects Fund reimbursed the General Fund for expenditures made on its behalf.

The outstanding balances between funds are the result of the time lag between the dates that the interfund goods and services are provided, the date the transactions are recorded in the accounting system and the date payments between funds are made. All interfund balances are expected to be settled during the subsequent year.

Governmental activities:

Interfund transfers[(1)]

	Fiscal Year 2016					
	General Fund	Capital Projects Fund	Debt Service Fund	Nonmajor Governmental Funds	Adjustments/ Eliminations	Total
	(in thousands)					
Transfer From (to):						
General Fund	$ —	$ —	$3,619,487	$ 2,052,943	$ —	$ 5,672,430
General Debt Service Fund	(3,619,487)	—	—	—	—	(3,619,487)
Capital Projects Fund	—	—	—	(4,836,353)	—	(4,836,353)
Nonmajor Debt Service Funds	(2,233,233)	—	—	(90,687)	180,290	(2,143,630)
Nonmajor Capital Projects Funds	—	4,836,353	—	3,794	—	4,840,147
Nonmajor Special Revenue Funds	—	—	—	86,893	—	86,893
Total	$(5,852,720)	$ 4,836,353	$3,619,487	$(2,783,410)	$180,290	$ —

	Fiscal Year 2015					
	General Fund	Capital Projects Fund	Debt Service Fund	Nonmajor Governmental Funds	Adjustments/ Eliminations	Total
	(in thousands)					
Transfer from (to):						
General Fund	$ —	$ —	$4,979,173	$ 1,986,222	$ —	$6,965,395
General Debt Service Fund	(4,979,173)	—	—	—	—	(4,979,173)
Capital Projects Fund	—	—	—	(5,765,533)	—	(5,765,533)
Nonmajor Debt Service Funds	(2,542,426)	—	—	(123,341)	556,204	(2,109,563)
Nonmajor Capital Projects Funds	—	5,765,533	—	2,083	—	5,767,616
Nonmajor Special Revenue Funds	—	—	—	121,258	—	121,258
Total	$(7,521,599)	$ 5,765,533	$4,979,173	$(3,779,311)	$556,204	$ —

(1) Transfers are used to: (i) move unrestricted General Fund revenues to finance various programs that the City must account for in other funds in accordance with budgetary authorizations, including amounts provided as aid or matching funds for grant programs, (ii) move restricted amounts borrowed by authorized fund or component unit to finance Capital Projects Fund expenditures, (iii) move unrestricted surplus revenue from the General Fund to finance Capital Projects Fund expenditures and prepay debt service coming due in the next fiscal year, and (iv) move revenue from the fund with collection authorization to the Debt Service Fund as debt service principal and interest payments become due.

In the fiscal year ended 2016, the City made the following transfer: A transfer from the General Fund in the amount of $1.7 billion on June 23, 2016 to TFA. These funds were used to fund debt service requirements for future tax secured debt.

In the fiscal year ended 2015, the City made the following transfers: Transfers of unrestricted grants from the General Fund in the amount of $1,677 million to TFA. These funds were used to fund debt service requirements for future tax secured debt ($1.6 billion) and building aid revenue debt ($76.8 million).

7. Tax Abatements

NYC Tax Abatement Disclosure as required by Statement No. 77 of the Governmental Accounting Standards Board	**Programs Administered by NYC Housing Preservation & Development (HPD)**			
	J51 Program	**Commercial Conversion Programs 421-a, 421-b and 421-g**	**Division of Alternative Management Programs (DAMP)**	**Urban Development Action Area Programs (UDAAP)**
1) Purpose of Program	Encourages the renovation of residential properties to owners of residential real property who perform rehabilitation work.	Designed to encourage the new construction of multiple dwellings (421-a), new construction or conversion or reconstruction of owner-occupied one- and two-family homes (421-b), and the construction and conversion of commercial buildings to residential apartment buildings (421-g) by providing real property tax benefits for eligible parcels.	DAMP encourages community growth by returning City-owned buildings to responsible private owners. DAMP offers incentive programs that select alternative managers for residential properties foreclosed by the City for nonpayment of taxes, with the goal of returning these properties to the tax roll.	UDAAP offers incentive programs for rehabilitating housing or building new housing.
2) Tax being abated.	Real Property Tax	Real Property Tax	Real Property Tax	Real Property Tax
3) Authority under which abatement agreements are entered into.	New York State (NYS) Real Property Tax Law (RTPL): Article 4, Title 2, Section 489 and the NYC Administrative Code, Title 11, Chapter 2, Subchapter 2, Parts 1, 11-242, 11-243, 11-244 and 11-245.8	NYS RTPL: Article 4, Title 2, Section 421-a, 421-b, and 421-g.	Housing Finance Law: Article XI: Section 577.	General Municipal Law 696: Article 16.
4) Criteria to be eligible to receive abatement.	The projects may be government-assisted or privately financed for moderate and gut rehabilitation of multiple dwellings. The projects may also be for major capital improvements, conversions of lofts and non-residential buildings into multiple dwellings, and for certain cooperative/condominium and conversions to residential property projects.	a) 421-a Program: The buildings must receive governmental assistance, contain 20% affordable units, or the owner must participate in an affordable housing production program. b) 421-b Program: The homes must be owner-occupied and may not include commercial or other non-residential space. c) 421-g Program: The conversions must have an alteration Type 1 permit dated before June 30, 2006. All of the programs have eligible abatement zones.	The benefits are limited to residential properties that were foreclosed on by the City for nonpayment of taxes.	The housing must be designated by the City Council as an area in need of urban renewal.
5) How recipients' taxes are reduced.	Through both a reduction of the property's assessed value and as a credit to the amount of taxes owed.	421-a and 421-b: Through a reduction of the property's assessed value; 421-g: Through both a reduction of the property's assessed value and as a credit to the amount of taxes owed.	Through a reduction of the property's assessed value.	Through a reduction of the property's assessed value

NYC Tax Abatement Disclosure as required by Statement No. 77 of the Governmental Accounting Standards Board	**Programs Administered by NYC Housing Preservation & Development (HPD) (continued)**			
	J51 Program (continued)	**Commercial Conversion Programs 421-a, 421-b and 421-g (continued)**	**Division of Alternative Management Programs (DAMP) (continued)**	**Urban Development Action Area Programs (UDAAP) (continued)**
6) How amount of abatement is determined.	The amount of the direct reduction to the remaining billable amount due is based on the calculated "Certified Reasonable Cost"; a percentage is applied to that figure to determine the Lifetime Abatement Amount or Abatement Pool.	a) 421-a Program: The benefit is based on a reduction of assessment value of the new construction for a three year construction benefit period, up to 25 years following the construction period. b) 421-b Program: The building assessment is exempt during the construction period and for an additional two years; the benefit then declines until the ninth year. c) 421-g Program: There is a construction period abatement from the increase in real estate taxes resulting from the work, and a 14 year abatement (ten years full and four year phase out) based on the existing real estate taxes in year one of the benefit term.	The benefit is equal to the assessed value times an eligible percentage less the DAMP ceiling, which sets a limit on the maximum taxable assessment that can be placed on a property.	The UDAAP benefit is equal to the delta between the building Assessed Value (AV) in the base year and the building AV in the benefit year, up to 20 years.
7) Provisions for recapturing abated taxes.	N/A	N/A	N/A	N/A
8) Types of commitments made by the City other than to reduce taxes.	Commitments, other than reducing taxes, may only be applicable with 34-year government-assisted construction projects. In these instances the City supports in the associated construction costs.	N/A	N/A	N/A
9) Gross dollar amount, on accrual basis, by which the City's tax revenues were reduced as a result of abatement agreement.	2016 / 2015 (in thousands) $266,200 / $259,700	2016 / 2015 (in thousands) $1,286,900 / $1,188,400	2016 / 2015 (in thousands) $34,100 / $30,400	2016 / 2015 (in thousands) $24,100 / $24,800

NYC Tax Abatement Disclosure as required by Statement No. 77 of the Governmental Accounting Standards Board	**Programs Administered by NYC Department of Finance (DOF)**			
	The Commercial Revitalization (CRP) and Commercial Expansion (CEP) Programs	**Industrial and Commercial Incentive Program (ICIP) and Industrial and Commercial Abatement Program (ICAP)**	**Relocation and Assistance Programs—(REAP), Lower Manhattan Relocation and Employment Assistance Program for Eligible Benefits (LMREAP-EB) and Lower Manhattan Relocation and Employment Assistance Program for Special Eligible Benefits (LMREAP-SEB)**	**Sports Arena Used by the NHL and NBA**
1) Purpose of Program	CRP provides a real property tax reduction in lower Manhattan by encouraging owners to invest in building improvements for offices, retail or elementary or secondary schools. The CEP provides a real property tax reduction for space that has been leased for commercial offices, industrial/manufacturing spaces, retail or elementary or secondary schools in the outer boroughs or Manhattan above 96th street and the Garment District.	ICAP replaced ICIP in 2008. Both programs encourage economic development for construction and rehabilitation of commercial, industrial or mixed-use structures.	Offers business income tax credits for relocating jobs outside of the City to designated locations within the City.	Ensure the viability of a major league sports facility in the City.
2) Tax being abated.	Real Property Tax	Real Property Tax	The credits may be taken against the City's general corporation tax, banking corporation tax, unincorporated business tax, and/or utility tax.	Real Property Tax
3) Authority under which abatement agreements are entered into.	The CRP is governed by the NYS RPTL: Title 4; the CEP is governed by the NYS RPTL: Title 4a.	NYS RPTL: Article 4, Title 2F, Section 489; aaaaaa-kkkkkk the NYC Administrative Code: Title 11, Chapter 2, Subchapter 2, Part 5.	NYC Administrative Code: Title 11, Chapter 6, Subchapter 3, Part 4, Section 11-643.9, 11-1105.211-1105.3	NYS RPTL: Section 429.
4) Criteria to be eligible to receive abatement.	Both programs require commercial tenant occupancy in commercial offices and that the space leased out be located in a non-residential or mixed-use building. Both programs also have minimum requirements regarding expenditures for tenant improvement per square foot. In addition, the CEP requires a minimum aggregate floor area of 25,000 square feet.	The programs require industrial construction work where, after completion, at least 75 percent of the total net square footage is used or available for manufacturing activities. The buildings must also be located in an allowable zone within the City, which varies depending on whether the project is for a commercial new construction, a commercial renovation construction, or an industrial construction. Depending on the property's taxable assessed value, applicants must meet a minimum required expenditure amount in order to be eligible in the tax year, with a taxable status date immediately preceding the issuance of the first building permit or, if no permit is required, the start of construction.	For REAP, LMREAP-EB, and LMREAP-SEB, eligible businesses must have conducted substantial business operations outside of the City for at least 24 consecutive months before relocating; most retail and hotel services do not qualify. The eligibility requirements are that the premises must be nonresidential; have been improved by construction or renovation; the lease term must be at least three years; and expenditures for improvements must be more than $25 per square foot. For LMREAP-SEB, eligible businesses must move at least 250 employees or increase its payroll by 25%	For Madison Square Garden

NYC Tax Abatement Disclosure as required by Statement No. 77 of the Governmental Accounting Standards Board	**Programs Administered by NYC Department of Finance (DOF) (continued)** **The Commercial Revitalization (CRP) and Commercial Expansion (CEP) Programs (continued)**	**Industrial and Commercial Incentive Program (ICIP) and Industrial and Commercial Abatement Program (ICAP) (continued)**	**Relocation and Assistance Programs—(REAP), Lower Manhattan Relocation and Employment Assistance Program for Eligible Benefits (LMREAP-EB) and Lower Manhattan Relocation and Employment Assistance Program for Special Eligible Benefits (LMREAP-SEB) (continued)**	**Sports Arena Used by the NHL and NBA (continued)**
5) How recipients' taxes are reduced.	Through a reduction of the property's assessed value.	As a credit to the amount of taxes owed.	As a credit to the amount of taxes owed.	Through a reduction of the property's assessed value.
6) How amount of abatement is determined.	The granted abatement is realized from a calculation formula base abatement (the lower of the tax liability/building sq. ft. or $2.50 per sq. ft.) multiplied by square footage multiplied by abatement percentage.	The base abatement amount year is the amount that the post-completion tax liability exceeds 115% of the initial tax liability for each type of abatement, except for the additional industrial abatement. The calculated base abatement is then subjected to a corresponding timetable.	For REAP, LMREAP-EB and LMREAP-SEB, eligible business receives a $3,000 annual credit, per eligible employee, up to 12 years. REAP allows an additional credit of $1,000 per share for relocating to parts of the eligible area that are not revitalization areas.	100% reduction of the property tax.
7) Provisions for recapturing abated taxes.	N/A	N/A	N/A	N/A
8) Types of commitments made by the City other than to reduce taxes.	N/A	N/A	N/A	N/A
9) Gross dollar amount, on accrual basis, by which the City's tax revenues were reduced as a result of abatement agreement.	2016 2015 (in thousands) $18,500 $15,500	2016 2015 (in thousands) $709,400 $700,100	2016 2015 (in thousands) $22,000 $27,000	2016 2015 (in thousands) $41,500 $44,000

NYC Tax Abatement Disclosure as required by Statement No. 77 of the Governmental Accounting Standards Board	**Program Administered by NYC Department of Buildings (DOB)**	**Programs Administered by NYC Industrial Development Agency (IDA)**	**Program Administered by Build NYC Resource Corporation[3]**
	Solar Electric Generating System (SEGS) Abatement Program	**Commercial Growth and Industrial Incentive Programs**	**Build NYC Tax Abatement Program**
1) Purpose of Program	The program provides tax benefits to properties that use solar power. This process allows for a reliable alternative energy source to be available during peak hours and power outages. Additionally, less energy being produced by traditional combustion of fossil fuels means less air pollution and cleaner air, and solar energy does not emit greenhouse gas emissions.	Designed to encourage economic development in the City. The Commercial Growth[1] and Industrial Incentive[2] programs retain, expand, and attract commercial and industrial businesses, and the related economic benefits and job creation and retention associated with them.	As a conduit bond issuer, the primary goal is to facilitate access to private activity tax-exempt bond financing for qualified projects.
2) Tax being abated.	Real Property Tax	a) Real Property Tax (via a PILOT); b) State and Local Sales Tax (ST); and c) Mortgage Recording Tax (MRT).	Mortgage Recording Tax (MRT)
3) Authority under which abatement agreements are entered into.	RPTL: Title 4C (499 aaaa - 499 gggg) parcel.	Industrial Development Act of 1969 as governed by Article 18: A of the General Municipal Law[3].	Section 411 of the New York Not-for-profit Law.
4) Criteria to be eligible to receive abatement.	The abatement is applied to the property for a four-year period starting on July 1, following DOB approval. Class 1, 2, and 4 properties are eligible; however, if you receive ICAP, 421-a, 421-b, 421-g, or pay payments in-lieu-of-tax (PILOTs), your property is NOT eligible for the Solar Electric Generating System Tax Abatement.	All applicants must satisfy eligibility requirements and must demonstrate a need for assistance. Applicants are selected based on an analysis of the economic benefit of the proposed project in compliance with the uniform Tax Exemption Policy of IDA. Stores that benefit from the Fresh Project Program must be located in an eligible area.	The projects must have been undertaken by Build NYC, as mortgagee, who records a mortgage, for the creation or retention of jobs. Build NYC assists qualified projects in obtaining tax-exempt bond financing as a conduit bond issuer.
5) How recipients' taxes are reduced	Through both a reduction of the property's assessed value and as a credit to the amount of taxes owed.	The projects are tax exempt but businesses receiving such benefits typically make PILOTs. PILOT payments are a stepped-down percentage of full real estate tax rates.	Build NYC has authorization to exempt MRT due upon the recording of a mortgage associated with Build NYC sponsored bond transactions.

NYC Tax Abatement Disclosure as required by Statement No. 77 of the Governmental Accounting Standards Board	**Program Administered by NYC Department of Buildings (DOB) (continued)** **Solar Electric Generating System (SEGS) Abatement Program (continued)**	**Programs Administered by NYC Industrial Development Agency (IDA) (continued)** **Commercial Growth and Industrial Incentive Programs (continued)**	**Program Administered by Build NYC Resource Corporation[3] (continued)** **Build NYC Tax Abatement Program (continued)**
6) How amount of abatement is determined.	Depending on the date the system was placed in service, the benefit is the lesser of 2.5%-8.75% of the installation costs limited to the property tax for the year, or $62,000.	a) PILOT tax abatements are typically granted for a 20 year period followed by a 5 year “phase in” period during which the tax rates paid by the PILOT recipient are increased each year by 20% of the abated amount until the full rate is reached in year 25. b) The MRT abatement is a singular benefit received at closing only for projects that are financed, and c) The ST abatements apply for eligible purchases to be used at project facilities. The Yankee and Mets stadium projects coincide with the underlying debt service related to the construction of the stadiums and the length of the abatements cover a 36-40 year period.	One hundred percent reduction of the MRT.
7) Provisions for recapturing abated taxes.	N/A	Program participants are required to adhere to various lease provisions as a prerequisite to receive abatement benefits. The lease provisions authorize benefit recapture in the case of non-compliance	A change in the utilization of the facility that compromises the tax exempt status of the underlying tax exempt debt, the sale of the property, absent specific preauthorization, that includes the maintenance of the original tax exempt utilization of the property and/or the bankruptcy or cessation of operations of the facility/entity. Projects are subject to a benefit recapture period of ten years.
8) Types of commitments made by the City other than to reduce taxes.	N/A	N/A	N/A
9) Gross dollar amount, on accrual basis, by which the City’s tax revenues were reduced as a result of abatement agreement.	2016 — 2015 (in thousands) $4,600 — $3,000	2016 — 2015 (in thousands) **Commercial Growth Programs:** a) PILOT — $74,600 — $65,100 b) ST — $5,000 — $26,000 **Industrial Incentive Programs:** a) PILOT — $28,600 — $22,000 b) ST — $2,000 — $800 c) MRT — $8,800 — $3,600	2016 — 2015 (in thousands) $11,700 — $6,000

NYC Tax Abatement Disclosure as required by Statement No. 77 of the Governmental Accounting Standards Board	**Programs Administered by the State of New York**			
	Battery Park City Authority (The Authority)		**Urban Development Corporation (currently known as Empire State Development Corporation [ESDC])**	
1) Purpose of Program	The Authority was created for the benefit of the people of the State of New York, the county of New York, and the City, and is a public purpose, regarded as performing a governmental function in the exercise of the powers conferred upon it, and shall be required to pay no taxes upon any of the properties acquired by it or under its jurisdiction or control or supervision or upon its activities.		The acquisition, construction, reconstruction, rehabilitation, or improvement of such industrial, manufacturing, and commercial facilities, and of such cultural, educational, and recreational facilities including but not limited to facilities identified as projects are public uses and public purposes for which public money be loaned and private property may be acquired and tax exemption granted, and that the powers and duties of the Urban Development Corporation as hereinafter prescribed are necessary and proper for the purpose of achieving the ends here recited.	
2) Tax being abated.	Real Property Tax		Real Property Tax	
3) Authority under which abatement agreements are entered into.	Public Authority Law: Section 1981.		McKinney's Unconsolidated Laws of NY: Section 6252.	
4) Gross dollar amount, on accrual basis, by which the City's tax revenues were reduced as a result of abatement agreement.	2016	2015	2016	2015
	(in thousands)		(in thousands)	
	$185,100	$173,700	$315,700	$272,300

(1) Stadia transactions are a unique subset within the Commercial Growth portfolio. There are only two such transactions and they relate to the construction of the Yankee and Mets baseball stadiums in the Bronx and Queens, respectively. These transactions are unique in that the related PILOT payments coincide with the underlying debt service related to the construction of the stadiums. As such, the length of these abatements related to the Yankee and Mets stadiums cover a 36 and 40 year period, respectively.

(2) These businesses include Warehousing, Distribution Centers and Logistics. The FRESH projects are a subset of the Industrial Incentive Transactions and target food distribution companies.

(3) City Charter 1301(1) (b) requires NYCEDC, NYCIDA and Build NYC to report on projects undertaken for the purposes of the creation or retention of jobs if, in connection with such projects, Financial Assistance was provided in the form of loans, grants or tax benefits. In compliance with this requirement, a detailed report is prepared annually and posted on the NYCEDC web site that lists both summary and transaction level detail for all active projects. This report can be accessed at www.nycedc.com/about-nycedc/financial-public-documents.

Note: There were no amounts received or receivable from other governments; there were no government made commitments other than to reduce taxes; there were no abatements disclosed separately, and no information was omitted if required by GASB Statement No. 77.

N/A denotes program agreements that do not contain provisions related to this disclosure requirement.

8. Superstorm Sandy

Government Assistance

On October 29, 2012, Superstorm Sandy made landfall in the City. The storm surge and high winds caused significant damage in the City, as well as other states and cities along the U.S. eastern seaboard. The City incurred costs for emergency response and storm related damages to, and destruction of, City buildings and other assets. As of June 20, 2016, the estimated value of damages and recovery costs was approximately $9.9 billion—this includes $7.8 billion for capital construction and $2.1 billion for cleanup, relief, and repairs.

In response to the damages caused by Superstorm Sandy, President Obama signed a major disaster declaration on October 30, 2012, authorizing the Federal Emergency Management Agency (FEMA) to provide Public Assistance grants (PA) to government entities for response and recovery efforts. The emergency declaration supports the reimbursement of eligible emergency work (categorized as Emergency Protective Measures and Debris Removal) and permanent work (categorized as restoration of Roads and Bridges, Water Control Facilities, Buildings and Equipment, Utilities, and Parks and Recreational facilities). On June 26, 2013, the President authorized reimbursement of eligible costs at a 90% rate.

In addition to the FEMA PA, the City has been awarded more than $4.2 billion of Community Development Block Grant Disaster Recovery (CDBG-DR) funding through the U.S. Department of Housing and Urban Development. The major portion of these funds is being used in a variety of home restoration and replacement programs, small business assistance programs, and resiliency/hazard mitigation programs. The remainder is being used to pay certain Superstorm Sandy-related costs that are not reimbursable by FEMA as well as the 10% non-FEMA share of eligible costs, to the extent that those are eligible for CDBG-DR funding.

Approximately $4 billion in emergency and recovery spending was obligated for reimbursement by FEMA during the City's Fiscal Year 2016, the remainder of eligible reimbursement will be obligated going forward. To the extent that eligible Superstorm Sandy related costs were incurred as of June 30, 2016, the FEMA reimbursement has been received or accrued as receivable in Fiscal Year 2016.

E. Other Information

1. Audit Responsibility

In Fiscal Years 2016 and 2015, respectively, the separately administered organizations included in the financial statements of the City audited by auditors other than Grant Thornton, LLP and the City's predecessor auditors Deloitte & Touche LLP for both Fiscal Years are TSASC, Inc., New York City School Construction Authority, New York City Health and Hospitals Corporation, New York City Housing Development Corporation, New York City Industrial Development Agency, New York City Economic Development Corporation, Business Relocation Assistance Corporation, Brooklyn Navy Yard Development Corporation, Deferred Compensation Plan, WTC Captive Insurance Company, Inc., New York City Educational Construction Fund, Sales Tax Asset Receivable Corporation, Fiscal Year 2005 Securitization Corporation, NYCTL Trusts, New York City Housing Authority, Hudson Yards Infrastructure Corporation, Hudson Yards Development Corporation, Brooklyn Bridge Park Corporation, The Trust for Governors Island, Build NYC, New York City Land Development Corporation, the New York City Neighborhood Capital Corporation, New York City Transitional Finance Authority*, New York City Technology Development Corporation*, New York City Water and Sewer System*, the Brooklyn Public Library, the Queens Borough Public Library and Affiliates, New York City Employees' Retirement System*, Teachers' Retirement System of the City of New York*, New York City Board of Education Retirement System*, New York City Police Pension Funds*, New York City Fire Pension Funds*, and the New York City Other Postemployment Benefits Plan*.

	Government-wide				Fund-based			
	Governmental Activities		Component Units		Nonmajor Governmental Funds		Fiduciary Funds	
	2016	2015	2016	2015	2016	2015	2016	2015
Total assets	7%	3%	100%	50%	100%	37%	98%	7%
Revenues, other financing sources and net position held in trust	5%	4%	100%	76%	100%	71%	100%	8%

* Represents entities audited by Deloitte & Touche LLP in Fiscal Year 2015.

2. Subsequent Events

The following events occurred subsequent to June 30, 2016:

Long-Term Financing

NYCTLT 2016-A: On July 27, 2016, NYCTLT 2016-A issued Tax Lien Collateralized Bonds, Series 2016-A of $64,997,000 to fund the purchase of certain liens from the City.

TFA Debt: On July 28, 2016, the New York City Transitional Finance Authority issued $1,050,000,000 of Fiscal 2017 Series A Future Tax Secured bonds for capital purposes. On September 22, 2016, the New York City Transitional Finance Authority issued $1,150,000,000 of Fiscal 2017 Series B Future Tax Secured bonds for capital purposes.

City Debt: On August 18, 2016, the New York City of New York issued $1,431,000,000 of Fiscal 2017 Series A General Obligation bonds for capital purposes.

City Swap Portfolio: On October 5, 2016 the City novated two swaps with UBS AG to US Bank National Association. The total notional amount of the novation was $151,835,834. As a result of the novation the City received a payment of $150,000 from UBS AG.

3. Other Employee Benefit Trust Funds

Deferred Compensation Plans For Employees of The City of New York and Related Agencies and Instrumentalities (DCP) and the New York City Employee Individual Retirement Account (NYCE IRA)

DCP offers employees of The City and Related Agencies and Instrumentalities two defined contribution plans in accordance with Internal Revenue Code Sections 457 and 401(k). DCP permits employees to defer a portion of their salary on either a pre-tax (traditional) or after-tax (Roth) basis until future years. Funds may not be withdrawn until termination, retirement, death, Board-approved unforeseen emergency or hardship (as defined by the Internal Revenue Code) or, if still working for the City, upon attainment of age 70 ½ in the 457 Plan or upon age 59 ½ for the 401(k). A 401(a) defined contribution plan is available to certain employees of the Lieutenant's Benevolent Association and the Captains Endowment Association of The City of New York Police Department.

The NYCE IRA is a deemed Individual Retirement Account (IRA) in accordance with Internal Revenue Code Section 408(q) and is available as both a traditional and Roth IRA to those employees eligible to participate in the 457 Plan and 401(k) Plan and their spouses along with former employees and their spouses. Funds may be withdrawn from the NYCE IRA at any time, subject to an early withdrawal penalty.

Amounts maintained under a deferred compensation plan and an IRA by a state or local government are held in trusts (or in a custodial accounts) for the exclusive benefit of participants and their beneficiaries. The DCP plans and IRA are presented together as an Other Employee Benefit Trust Fund in the City's financial statements.

Participants in DCP or NYCE IRA can choose among seven investment options, or one of twelve pre-arranged portfolios consisting of varying percentages of those investment options. Participants can also invest a portion of their assets in a self-directed brokerage option.

The New York City Other Postemployment Benefits Plan (OPEB Plan)

The OPEB Plan is a fiduciary component unit of the City and is composed of: (1) the New York City Retiree Health Benefits Trust (RHBT) which is used to receive, hold, and disburse assets accumulated to pay for some of the OPEB provided by the City to its retired employees, and (2) OPEB paid for directly by the City out of its general resources rather than through RHBT. RHBT was established for the exclusive benefit of the City's retired employees and their eligible spouses and dependents, to fund some of the OPEB provided in accordance with the City's various collective bargaining agreements and the City's Administrative Code. Amounts contributed to RHBT by the City are held in an irrevocable trust and may not be used for any other purpose than to fund the costs of health and welfare benefits of its eligible participants. Consequently, the OPEB Plan is presented as an Other Employee Benefit Trust Fund in the City's financial statements. The separate annual financial statements of the OPEB Plan are available at: Office of the Comptroller, Bureau of Accountancy—Room 200 South, 1 Centre Street, New York, New York 10007, or at www.comptroller.nyc.gov.

Summary of Significant Accounting Policies:

Basis of Accounting. The measurement focus of the OPEB Plan is on the flow of economic resources. This focus emphasizes the determination of changes in the OPEB Plan's net position. With this measurement focus, all assets and liabilities associated with the operation of this fiduciary fund are included on the *Statement of Fiduciary Net Position*. This fund uses the accrual basis of accounting whereby contributions from the employer are recognized when due. Benefits and refunds are recognized when due and payable in accordance with the terms of the plans.

Method Used to Value Investments. Investments are reported on the *Statement of Fiduciary Net Position* at fair value based on quoted market prices.

The Schedule of Funding Progress of OPEB valuations appears in the RSI Section, immediately following the notes to financial statements.

4. Other Postemployment Benefits

Program Description. Postemployment benefits other than pensions (OPEB) provided to eligible retirees of the City and their eligible beneficiaries and dependents (hereafter referred to collectively as "Retiree Participants") include: health insurance, Medicare Part B Premium reimbursements and welfare fund contributions. OPEB are funded by the OPEB Plan.

Funding Policy. The Administrative Code of The City of New York (ACNY) defines OPEB stemming from the City's various collective bargaining agreements. The City is not required by law or contractual agreement to provide funding for the OPEB other than the pay-as-you-go (PAYG) amounts necessary to provide current benefits to Retiree Participants and eligible beneficiaries/dependents. For the fiscal year ended June 30, 2016, the City paid $2.9 billion on behalf of the Program. Based on current practice (the Substantive Plan which is derived from ACNY), the City pays the full cost of basic coverage for non-Medicare-eligible and Medicare-eligible Retiree Participants. The costs of these benchmark plans are reflected in the actuarial valuations by using age and gender adjusted premium amounts. Retiree Participants who opt for other basic or enhanced coverage must contribute 100% of the incremental costs above the premiums for the benchmark plans. The City also reimburses covered retirees and eligible spouses 100% of the Medicare Part B Premium rate applicable to a given year and there is no Retiree Participant contribution to the Welfare Funds. The City pays per capita contributions to the Welfare Funds, the amounts of which are based on negotiated contract provisions.

Annual OPEB Cost and Net OPEB Obligation. The City's annual OPEB cost (expense) is calculated based on the annual required contribution (ARC) of the employer, an amount that was actuarially determined by using the Entry Age Actuarial Cost Method (one of the actuarial cost methods in accordance with the parameters of GASB Statement No. 45).

The method is unchanged from the actuarial cost method used in the prior OPEB actuarial valuation.

Under this method, as used in the June 30, 2015 OPEB actuarial valuation, the Actuarial Present Value (APV) of Benefits (APVB) of each individual included in the actuarial valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit age(s). The employer portion of this APVB allocated to a valuation year is the Employer Normal Cost. The portion of this APVB not provided for at a valuation date by the APV of Future Employer Normal Costs is the Actuarial Accrued Liability (AAL).

The excess, if any, of the AAL over the Actuarial Asset Value (AAV) is the Unfunded Actuarial Accrued Liability (UAAL).

Under this method, actuarial gains (losses), as they occur, reduce (increase) the UAAL and are explicitly identified and amortized.

Increases (decreases) in obligations due to benefit changes, actuarial assumption changes and/or actuarial method changes are also explicitly identified and amortized.

The following table shows the elements of the City's annual OPEB cost for the year, the amount actually paid, and changes in the City's net OPEB obligation for the year ended June 30, 2016:

	Amount (in thousands)
Annual required contribution	$ 92,300,676
Interest on net OPEB obligation	3,419,382
Adjustment to annual required contribution	(88,903,935)
Annual OPEB expense	6,816,123
Payments made	2,897,668
Increase in net OPEB obligation	3,918,455
Net OPEB obligation-beginning of year	85,484,552
Net OPEB obligation-end of year	$ 89,403,007

The City's annual OPEB cost, the percentage of annual OPEB cost contributed and the net OPEB obligation for the fiscal years ended June 30, 2016, 2015, 2014, 2013, 2012, and 2011 were as follows:

Fiscal Year Ended	Annual OPEB Cost	Percentage of Annual OPEB Cost Paid	Net OPEB Obligation
	($ in thousands)		
6/30/16	$ 6,816,123	42.5%	$89,403,007
6/30/15	(864,197)	**	85,484,552
6/30/14	78,551	3,965.3	89,485,122
6/30/13	5,542,845	21.6	92,521,346
6/30/12	5,707,001	25.2	88,174,139
6/30/11	10,494,993	15.0	83,906,953

** Not Determined due to Annual OPEB Cost (AOC) being less than zero. This results from the impact of one-year amortization of experience gains and one-year amortization of actuarial assumption changes established as of June 30, 2014.

Funded Status and Funding Progress. As of June 30, 2015, the most recent actuarial valuation date, the funded status was 4.4%. The actuarial accrued liability for benefits was $76.4 billion, and the actuarial value of assets was $3.4 billion, resulting in an unfunded actuarial accrued liability (UAAL) of $73.0 billion. The covered payroll (annual payroll of active employees covered) was $21.4 billion, and the ratio of the UAAL to the covered payroll was 341.4%. Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. The determined actuarial valuations of OPEB incorporated the use of demographic and salary increase assumptions among others as reflected below. Amounts determined regarding the funded status and the annual required contributions of the City are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The schedule of funding progress, shown in the RSI section immediately following the notes to financial statements, disclosures required by GASB Statement No. 43 for OPEB Plan reporting, presents GASB Statement No. 45 results of OPEB valuations as of June 30, 2015, 2014, 2013, 2012, 2011, 2010, 2009, 2008, and 2007 and the schedule provides a nine year information trend about whether the actuarial values assets are increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

Actuarial Methods and Assumptions. The actuarial assumptions used in the June 30, 2015 and 2014 OPEB actuarial valuations are classified as those used in the New York City Retirement Systems (NYCRS) valuations and those specific to the OPEB valuations. NYCRS consist of: (i) New York City Employees' Retirement System (NYCERS); (ii) Teachers' Retirement System of The City of New York Qualified Pension Plan (TRS); (iii) New York City Board of Education Retirement System Qualified Pension Plan (BERS); (iv) New York City Police Pension Fund (POLICE); and (v) New York Fire Department Pension Fund (FIRE). The OPEB actuarial valuations incorporate only the use of certain NYCRS demographic and salary increase assumptions. The NYCRS demographic and salary scale assumptions are unchanged from the prior OPEB actuarial valuation. For purposes of determining pension obligations, the demographic and salary scale assumptions requiring NYCRS Board approval (available on the website of the Office of the Actuary at www.nyc.gov/actuary) were adopted by each respective Board of Trustees during fiscal year 2012 (the Silver Books), with revisions proposed by the Actuary and adopted by each respective Board of Trustees in fiscal year 2016. Chapter 3 of the Laws of 2013 enacted those actuarial assumptions and methods that require New York State Legislation.

The OPEB-specific actuarial assumptions used in the June 30, 2015 OPEB actuarial valuation of the Plan are as follows:

Valuation Date	June 30, 2015.
Discount Rate.	4.0% per annum.[1]
Actuarial Cost Method	Entry Age calculated on an individual basis with the Actuarial Value of Projected Benefits allocated on a level basis over earnings from hire through age of exit.
Per-Capita Claims Costs	HIP HMO and GHI/EBCBS benefit costs reflect age adjusted premiums for June 30, 2015 and June 30, 2014 valuations. For June 30, 2015 valuation, Other HMOs reflect age adjusted premiums

GHI/EBCBS non-Medicare premiums adjusted for Health Savings Agreement changes. Age adjustment based on assumed age distribution of covered population used for non-Medicare retirees and HIP and Other HMO Medicare retirees.

Age adjustment based on actual age distribution of the GHI/EBCBS Medicare covered population.

For June 30, 2014 valuation, insured premiums without age adjustment for other coverage.

All reported premiums assumed to include administrative costs.

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(1) 2.5% CPI, 1.5% real rate of return on short-term investments.

Employers' premium contribution schedules for the month of July 2015 and January 2016 were reported by OLR. In most cases, the premium contributions remained the same throughout the year. HIP and Other HMO Medicare rates varied by date and by specific plan option. These variations are the result of differing Medicare reimbursements. The various monthly rates were blended by proportion of enrollment. For other rates, where the January 2016 premium rate was different than the July 2015 premium rate, the valuation assumed that the January 2016 premium rate was more representative of the long-range cost of the arrangement.

Initial monthly premium rates used in valuations are shown in the following tables:

	Monthly Rates	
Plan	**FY'16[1]**	**FY'15[2]**
HIP HMO		
Non-Medicare Single	$ 603.02	$ 586.10
Non-Medicare Family	1,477.41	1,435.95
Medicare	160.05	157.55
GHI/EBCBS		
Non-Medicare Single	524.44[3]	497.39[3]
Non-Medicare Family	1,376.15[3]	1,292.81[3]
Medicare	160.75	160.86
Others		
Non-Medicare Single	923.23[4]	586.10[4]
Non-Medicare Family	2,010.43[4]	1,435.95[4]
Medicare Single	245.19[4]	160.86[4]
Medicare Family	501.71[4]	321.72[4]

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(1) Used in June 30, 2015 OPEB actuarial valuation.

(2) Used in June 30, 2014 OPEB actuarial valuation.

(3) For June 30, 2015 valuation, GHI/EBCBS Pre-Medicare premiums decreased 2.48% to reflect Fiscal Year 2016 Health Savings agreement changes. For June 30, 2014 valuation, GHI/EBCBS Pre-Medicare premiums decreased 2.05%.

(4) For June 30, 2015 valuation, other HMO premiums is the total premium for medical (not prescription) coverage including retiree contributions. For June 30, 2014, Other HMO premium is the net employer contribution.

Welfare Funds . . . . For the June 30, 2015 and June 30, 2014 valuation, the Welfare Fund contribution reported for Fiscal Year 2016, (including any reported retroactive amounts) was used as the per capita cost for valuation purposes. The amount used included the $25 increase effective July 1, 2015 under the 2014 MLC-NYC Health Savings Agreement, $100 for Fiscal Year 2016 under further negotiations (reflected in the June 30, 2015 valuation) as well as further $25 annual increases effective July 1, 2016 and July 1, 2017. It is assumed that all Welfare Funds will ultimately be subject to those agreements, whether or not the union running the particular Welfare Fund has currently signed.

Reported annual contribution amounts for the last three years are shown in Appendix B, Tables 2a to 2e of the Eleventh Annual Actuarial Valuation of Other Postemployment Benefit provided under the New York City Health Benefits Program (Eleventh annual OPEB Report) dated September 23, 2016. The amounts shown for Fiscal Year 2016 as of June 30, 2015, increased by $25 as of July 1, 2015, plus an additional $100, are used for current retirees. For current retirees in the June 30, 2014 valuation, the valuation reflected the Fiscal Year 2015 values shown as of June 30, 2014 increased by $25 as of July 1, 2014.

Welfare Fund rates are based on actual reported Union Welfare Fund code for current retirees. Where Union Welfare Fund code was missing, the most recently reported union code was reflected.

Weighted average annual contribution rates used for future retirees are shown in the following table. These averages were developed based on Welfare Fund enrollment of recent retirees (during the five years prior to the valuation).

	Annual Rate	
	6/30/2015	**6/30/2014**
NYCERS	$1,692	$1,693
TRS	1,746	1,746
BERS	1,677	1,677
POLICE	1,584	1,614
FIRE	1,705	1,707

Contributions were assumed to increase by Medicare Plans trend rates. For the June 30, 2014 OPEB actuarial valuation, the assumed increases were replaced by the negotiated $25 increase for the next 3 fiscal years. For the June 30, 2015 valuation, the assumed increase is replaced by the negotiated $25 increase for the next 2 fiscal years. In addition to current increasing payments an expected one time $100 increase was also reflected for Fiscal Year 2016.

For Welfare Fund contribution amounts reflected in the June 30, 2014 OPEB actuarial valuation for current retirees, see the Tenth Annual OPEB Report.

Medicare Part B Premiums . . . .

Calendar Year	**Monthly Premium**
2012	$ 99.90
2013	104.90
2014	104.90
2015	104.90
2016	109.97*

* Reflected only in the June 30, 2015 OPEB actuarial valuation.

2016 Medicare Part B Premium is assumed to increase by Medicare Part B trend rates.

Medicare Part B Premium is reimbursement amounts have been updated to reflect actual premium rates announced for Calendar Years through 2016, including changes adopted as part of the Bipartisan Budget Act of 2015. Due to there being no cost-of-living increase in Social Security benefits for Calendar Year 2016, most Medicare Part B participants will not be charged the Medicare Part B premium originally projected or ultimately announced for 2016. The initially projected Medicare Part B premium was artificially increased so that the overall amount collected by the Center for Medicare and Medicaid Services (CMS) would be sufficient for the needs of the Medicare Part B program. The Bipartisan Budget Act allowed for certain borrowing of funds, but still resulted in a stated Part B premium amount in excess of the amount sufficient for the Part B Program if collected for all participants. These changes for Calendar Year 2016 are reflected in the valuation. Thus, for the June 30, 2015 OPEB actuarial valuation (i.e., Fiscal Year 2016), the annual premium used of $1,289.22 equals six months of the Calendar Year 2015 premium plus six months of:

- 70% of the Calendar Year 2015 monthly premium (i.e., $104.90), representing the approximate percentage of the overall U.S. Medicare population that will pay the frozen amount, and
- 30% of the announced Calendar Year 2016 monthly premium (i.e., $121.80), representing the approximate percentage of the overall U.S. Medicare population that will pay the Calendar Year 2016 amount.

Future Calendar Year Medicare Part B Premium rates are projected from the Calendar Year 2016 rate of $121.80 using the assumed Medicare Part B Premium trend.

Overall Medicare Part B Premium amounts are assumed to increase by the following percentages to reflect the income-related increases in Medicare Part B Premiums for high income individuals. The percentages assumed have been increased to reflect revisions to the income-related Part B Premium provisions as adopted in the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA). Percentages assumed are based on CMS income distribution published statistics and provisions of Social Security Act related to Medicare Part B Premium amounts, both before and after MACRA changes.

	Income-related Medicare Part B Increase	
Fiscal Year	**June 30, 2015 Valuation**	**June 30, 2014 Valuation**
2015	NA	3.8%
2016	3.9%	3.9
2017	4.0	4.0
2018	4.5	4.5
2019	5.0	5.0
2020	5.2	5.2
2021	5.3	5.3
2022	5.4	5.4
2023	5.5	5.5
2024	5.6	5.6
2025	5.8	5.8
2026	5.9	5.9
2027 and later	6.0	6.0

Medicare Part B Premium Reimbursement Assumption . . . . For the June 30, 2015 OPEB actuarial valuation, 90% of Medicare participants are assumed to claim reimbursement (unchanged from last year). Percentage based on claim counts reported by OLR for calendar years 2007 through 2013.

Health Care Cost Trend Rate (HCCTR) . . . . Covered medical expenses are assumed to increase by the following percentages (unchanged from the last valuation). For purposes of measuring entry age calculations, actual historic plan increases are reflected to the extent known, with further historic trend rates based on the trend assumed for Fiscal Year 2016 (initial trend).

HCCTR Assumptions

Year Ending[(1)]	Pre-Medicare Plans	Medicare Plans	Medicare Part B Premiums
2016[(2)(3)]	8.5%	5.0%	5.5%
2017[(3)]	8.0	5.0	5.0
2018	7.5	5.0	5.0
2019	7.0	5.0	5.0
2020	6.5	5.0	5.0
2021	6.0	5.0	5.0
2022	5.5	5.0	5.0
2023 and Later	5.0	5.0	5.0

(1) Fiscal Year for Pre-Medicare Plans and Medicare Plans and Calendar Year for Medicare Part B Premiums.

(2) For the June 30, 2015 OPEB actuarial valuation, rates shown for 2016 were not reflected since actual values for the Fiscal Year 2016 per capita costs, Fiscal Year 2016 Welfare Fund contributions and Calendar Year 2016 Medicare Part B Premium amounts were used.

(3) For the June 30, 2015 OPEB actuarial valuation, HIP and other HMO Pre-Medicare trend assumed to be 4.88% based on 2014 Health Care Savings Agreement initiatives.

For the June 30, 2014 OPEB actuarial valuation, HIP and HMO Pre-Medicare trend assumed to be 2.89% based on 2014 Health Care Savings Agreement initiatives.

Welfare Fund contribution rates assumed to increase based on current pattern bargaining until Fiscal Year 2018, and for the June 30, 2015 valuation assumed to increase 3.5% each future fiscal year (5.0% for the June 30, 2014 valuation.)

Age- and Gender-Related Morbidity . . . . The premiums are age adjusted for HIP HMO and GHI/EBCBS participants. Beginning with June 30, 2012 OPEB actuarial valuation, the premiums are also adjusted for gender. Beginning with the June 30, 2015 valuation, the premiums for the Other HMOs are age and gender adjusted.

Beginning with the June 30, 2012 OPEB actuarial valuation, the assumed relative costs of coverage are consistent with information presented in ***Health Care Costs—From Birth to Death***, prepared by Dale H. Yamamoto* (Yamamoto Study).

* http://www.healthcostinstitute.org/files/Age-Curve-Study_0.pdf. Retrieved July 15, 2013. The Study was sponsored by the Society of Actuaries and is part of the Health Care Cost Institute's Independent Report Series.

For non-Medicare costs, relative factors were based on graduated 2010 PPO/POS data as presented in Chart 28 of the Yamamoto Study. The resultant relative factors, normalized to the male age 65 rate, used for non-Medicare costs are as follows:

Age	Male	Female	Age	Male	Female
20	0.170	0.225	43	0.325	0.480
21	0.157	0.227	44	0.340	0.487
22	0.147	0.236	45	0.355	0.495
23	0.143	0.252	46	0.372	0.505
24	0.143	0.274	47	0.391	0.519
25	0.146	0.301	48	0.412	0.536
26	0.151	0.329	49	0.437	0.556
27	0.157	0.357	50	0.463	0.576
28	0.165	0.384	51	0.491	0.597
29	0.173	0.408	52	0.519	0.616
30	0.181	0.428	53	0.547	0.635
31	0.190	0.444	54	0.577	0.653
32	0.199	0.456	55	0.608	0.671
33	0.208	0.463	56	0.641	0.690
34	0.217	0.466	57	0.676	0.710
35	0.227	0.466	58	0.711	0.732
36	0.237	0.465	59	0.747	0.756
37	0.249	0.464	60	0.783	0.783
38	0.261	0.464	61	0.822	0.813
39	0.274	0.465	62	0.864	0.846
40	0.286	0.467	63	0.909	0.881
41	0.299	0.471	64	0.957	0.917
42	0.312	0.475			

Children costs were assumed to represent a relative factor of 0.229.

For Medicare costs, relative factors based on the Yamamoto Study for net Medicare costs for 2010 for inpatient, outpatient and professional costs were blended. Prescription drug costs were not reflected as NYCHBP excludes most drugs from coverage. Professional costs were weighted at 64%, based on the GHI portion of the combined GHI/EBCBS premiums reported historically. Inpatient costs were weighted as twice as prevalent as outpatient costs based on the relative allocation suggested in the Yamamoto Study. Costs prior to age 65 were approximated using the non-Medicare data, but assuming that individuals under age 65 on Medicare had an additional disability-related morbidity factor. The resultant Medicare relative factors are as follows:

Age	Males	Females	Age	Males	Females
20	0.323	0.422	60	1.493	1.470
21	0.297	0.426	61	1.567	1.526
22	0.280	0.443	62	1.646	1.588
23	0.272	0.474	63	1.731	1.653
24	0.272	0.516	64	1.822	1.721
25	0.278	0.565	65	0.919	0.867
26	0.288	0.618	66	0.917	0.864
27	0.300	0.671	67	0.918	0.864
28	0.314	0.721	68	0.924	0.867
29	0.329	0.766	69	0.933	0.875
30	0.346	0.804	70	0.946	0.885
31	0.363	0.834	71	0.961	0.898
32	0.380	0.856	72	0.978	0.911
33	0.397	0.869	73	0.996	0.925
34	0.414	0.875	74	1.013	0.939
35	0.432	0.876	75	1.032	0.953
36	0.452	0.874	76	1.049	0.967
37	0.474	0.872	77	1.067	0.982
38	0.497	0.871	78	1.085	0.996
39	0.521	0.873	79	1.103	1.012
40	0.545	0.878	80	1.122	1.029
41	0.569	0.885	81	1.141	1.047
42	0.594	0.893	82	1.161	1.065
43	0.620	0.902	83	1.180	1.083
44	0.647	0.914	84	1.199	1.100
45	0.676	0.929	85	1.217	1.116
46	0.708	0.949	86	1.234	1.130
47	0.744	0.975	87	1.250	1.143
48	0.785	1.007	88	1.264	1.155
49	0.832	1.043	89	1.277	1.164
50	0.883	1.082	90	1.287	1.169
51	0.935	1.120	91	1.295	1.171
52	0.988	1.156	92	1.301	1.167
53	1.042	1.191	93	1.305	1.156
54	1.099	1.225	94	1.306	1.139
55	1.159	1.260	95	1.304	1.113
56	1.222	1.295	96	1.299	1.077
57	1.288	1.333	97	1.292	1.033
58	1.355	1.374	98	1.281	0.978
59	1.423	1.419	99+	1.281	0.978

For the June 30, 2015 and June 30, 2014 OPEB actuarial valuations, an actual age and gender distribution based on reported census information was used for GHI/EBCBS Medicare eligible participants. For the June 30, 2015 and June 30, 2014 OPEB actuarial valuations, the Medicare participants in the HIP Medicare Advantage arrangement were assumed to have the same age and gender distribution as the data underlying the Yamamoto Study. For the June 30, 2015 valuation, the Medicare participants in the Other HMO arrangements were assumed to have the same age and gender distribution as the data underlying the Yamamoto Study.

For the June 30, 2015 and June 30, 2014 OPEB actuarial valuations, the age and gender of non-Medicare eligible participants were based on the following assumed distribution table, assuming a total of 2,354 single contracts and 2,492 family contracts.

	Members Used	
Age Range	**Male**	**Female**
00-00	64	64
01-01	67	67
02-04	210	210
05-09	373	373
10-14	403	403
15-19	388	371
20-24	310	323
25-29	338	357
30-34	431	447
35-39	481	499
40-44	495	530
45-49	446	486
50-54	392	422
55-59	271	272
60-64	173	166
65+	89	76

The age adjustment for the non-Medicare GHI/EBCBS premium reflects a 5% reduction in the GHI portion of the monthly premium (with the GHI portion representing $254.27 out of $537.76 single and $674.06 out of $1,411.11 Family for Fiscal Year 2016 rates) and a 3% reduction in the EBCBS portion of the premium (with the EBCBS portion representing the remainder of the premiums) for the estimated margin anticipated to be returned.

The morbidity factors are used to age-adjust the reported premiums for the HIP and GHI/EBCBS arrangements. The stated premiums provided to OA by OLR reflect average cost of retirees and actives of the Program, not all of whom are included in this valuation report. The assumed underlying cost of the benefit provided to retirees is developed by taking the stated premiums, removing any known margin to get to underlying expected cost of benefits provided (including administrative costs), adjusting for any plan changes, and then finally adjusting for the age and gender of the particular retiree. The age and gender is compared to a distribution for the age and gender of the overall population reflected in developing the stated premium. The distribution can reflect the actual age and gender of the covered population, or can be an estimate if the actual data is not available.

Medicare Advantage Adjustment Factors . . The age-adjusted premiums for HIP HMO Medicare-eligible retirees were multiplied by the following factors to reflect actual Calendar Year 2016 premiums and future anticipated changes in Medicare Advantage reimbursement rates. As of June 30, 2009, the factors had been updated to reflect that Medicare Advantage reimbursement rates are expected to be significantly reduced over the next several years. The reductions in the reimbursement rates were part of the NHCR legislation and are likely to be most significant in areas where medical costs are greater, such as New York City. In developing the adjustment factors for the June 30, 2015 and the June 30, 2014 OPEB actuarial valuations, it was assumed that the cost of HIP coverage would not be allowed to exceed the cost of GHI/EBCBS coverage for Medicare retirees. Since the reported calendar year 2016 and 2015 HIP Medicare Advantage premium is within 1/2% of the Fiscal Year 2016 and 2015 GHI/EBCBS Medicare rates, respectively, the assumption that HIP would not be allowed to exceed the GHI/EBCBS rate has resulted in a factor of 1.0 for all future years.

	Factor*	
Fiscal Year	**6/30/15 Valuation**	**6/30/14 Valuation**
2015	1.00	1.00
2016	1.00	1.00
Thereafter	1.00	1.00

* Includes anticipated impact of National Health Care Reform

Medicare . . . . Medicare is assumed to be the primary payer over age 65 and for retirees currently on Medicare. For future disability retirements, Medicare is assumed to start 2.5 years after retirement for the following portion of retirees:

Proportion based on portion of recent disability retirees who have been retired at least 2.5 years who are reported with Medicare.

	Valuation as of June 30	
	2015	**2014**
NYCERS	35%	35%
TRS	45	45
BERS	45	45
POLICE	15	15
FIRE	20	20

Participation . . . . Active participation assumptions based on current retiree elections. Actual elections for current retirees. Portions of current retirees not eligible for Medicare are assumed to change elections upon attaining age 65 based on patterns of elections of Medicare-eligible retirees. Detailed assumptions appear in the following table:

PLAN PARTICIPATION ASSUMPTIONS

Benefits	June 30, 2015 and June 30, 2014 Valuations				
	NYCERS	**TRS**	**BERS**	**POLICE**	**FIRE**
Pre-Medicare					
–GHI/EBCBS	65%	83%	73%	76%	71%
–HIP HMO	22	6	16	13	16
–Other HMO	8	4	3	9	12
–Waiver	5	7	8	2	1
Medicare					
–GHI	72	87	78	82	77
–HIP HMO	21	9	16	12	16
–Other HMO	4	2	2	4	6
–Waiver	3	2	4	2	1
Post-Medicare Migration					
–Other HMO to GHI	50	0	33	50	50
–HIP HMO to GHI					
–Pre-Med. Waiver					
To GHI @ 65	13	35	50	0	0
To HIP @ 65	13	35	0	0	0

Waivers are assumed to include participants who do not qualify for coverage because they were working less than 20 hours a week at termination.

Dependent Coverage .... Dependent coverage is assumed to terminate when a retiree dies, except in the following situations.

I Lifetime coverage is provided to the surviving spouse or domestic partner and to children (coverage to age 26 based on legislative mandates under National Health Care Reform) of uniformed members of the Police or Fire Departments who die in the Line of Duty.

II Effective November 13, 2001, other surviving spouses of retired uniformed members of the Police and Fire Departments may elect to continue coverage for life by paying 102% of stated premium.

III Effective August 31, 2010, surviving spouses of retired uniformed members of the Departments of Correction and Sanitation may elect to continue coverage for life by paying 102% of stated premium.

For survivors of POLICE and FIRE who die other than in the Line of Duty (assumed to be all who terminate with Accidental Death Benefits), and for all survivors of uniformed members of the Departments of Correction and Sanitation, the valuation assumes that 30% of spouses eligible for survivor continuation will elect the benefit, with costs equal to 30% greater than the age-adjusted premiums for surviving spouses for HIP HMO and GHI/EBCBS participants.

Beginning with the June 30, 2010 OPEB actuarial valuation, the valuation includes an estimate of the value of benefits provided to existing survivors of POLICE and FIRE retirees who died other than in the Line of Duty, who qualified for lifetime continuation coverage prior to the valuation date, based on the assumptions outlined above. Beginning with the June 30, 2012 OPEB actuarial valuation, the valuation includes an estimate of the value of benefits provided to existing survivors of retired uniformed members of the Departments of Correction and Sanitation who qualified for lifetime continuation coverage prior to the valuation date, based on the assumptions outlined above.

The valuation includes the entire cost of additional surviving spouse benefits for basic coverage and Medicare Part B Premium reimbursement for Line of Duty survivors, although the OA understands that some of this amount may be reimbursed through Welfare Funds.

Dependents .... Dependent assumptions based on distribution of coverage of recent retirees are shown in the following table. Actual spouse data for current retirees. Child dependents of current retirees are assumed to receive coverage until age 26.

Beginning with the June 30, 2012 valuation, based on experience under the Plan, for NYCERS, TRS and BERS employees, male retirees were assumed to be four (4) years older than their wives, and female retirees were assumed to be two (2) years younger than their husbands; for POLICE and FIRE employees, husbands are assumed to be two (2) years older than their wives.

Children are assumed to be covered for eight (8) years after retirement. For employees eligible to retire based only on service, children are assumed to be covered for an additional five (5) years.

Dependent Coverage Assumptions

Group	June 30, 2015 and June 30, 2014 Valuations				
	NYCERS	TRS	BERS	POLICE	FIRE
Male					
–Single Coverage	30%	45%	35%	15%	10%
–Spouse	40	35	55	15	20
–Child/No Spouse	5	5	2	5	5
–Spouse and Child	25	15	8	65	65
Total	100%	100%	100%	100%	100%
Female					
–Single Coverage	70%	60%	60%	45%	10%
–Spouse	20	32	35	10	20
–Child/No Spouse	5	3	2	25	5
–Spouse and Child	5	5	3	20	65
Total	100%	100%	100%	100%	100%

Note: For accidental death, 80% of POLICE and FIRE members are assumed to have family coverage.

Demographic Assumptions . . . . The same assumptions that were used to value the pension benefits of the NYCRS for determining employer contributions for fiscal years beginning 2016.

COBRA Benefits . . . . Although COBRA beneficiaries pay 102% of “premiums,” typical claim costs for COBRA participants run about 50% greater than other participants.

There is no cost to the City for COBRA beneficiaries who enroll in community-rated HMO’s, including HIP, since these individuals pay their full community rate. However, the City’s costs under the experience-rated GHI/EBCBS coverage are affected by the claims for COBRA-covered individuals.

In order to reflect the cost of COBRA coverage, the cost of excess claims for GHI covered individuals and families is estimated assuming 15% of employees not eligible for other benefits included in the valuation elect COBRA coverage for 15 months. These assumptions are based on experience of other large employers. This percentage is applied to the overall enrollment in the active plan and reflects a load for individuals not yet members of the retirement systems who are still eligible for COBRA benefits. This results in an assumption in the June 30, 2015 OPEB actuarial valuation of a lump-sum COBRA cost of $925 for terminations during Fiscal Year 2016 ($875 lump-sum cost during Fiscal Year 2015 was assumed in the June 30, 2014 OPEB actuarial valuation). The $925 ($875) lump-sum amount is increased by the Pre-Medicare HCCTR for future years but is not adjusted for age-related morbidity.

Cadillac Tax . . . . Effective June 30, 2012, the OPEB actuarial valuation includes an explicit calculation of the high-cost plan excise tax (Cadillac Tax) that will be imposed beginning in 2020 under NHCR.

The tax is 40% of the excess of (a) over (b) where (a) is the cost of medical coverage, and (b) is the statutory limits ($10,200 for single coverage and $27,500 for family coverage), adjusted for the following:

- The limit will first be increased by the excess of accumulated trend for the period from 2010 through 2018 over 55% (reflecting the adjustment for excess trend on the standard Federal Blue Cross/Blue Shield option). The calculation reflects actual trend on the standard Federal Blue Cross/Blue Shield option for 2010 through 2015. Trend was estimated using the Pre-Medicare trend for the period from 2015 through 2018 and actual Federal Blue Cross/Blue Shield trend for the period 2010-2015.
- For Pre-Medicare retirees above the age of 55, the limit will be further increased by $1,650 for single coverage; $3,450 for family coverage.
- For 2019, the 2018 limit was increased by CPI + 1% (e.g. 3.5%). For each year after 2019, the limit is further increased by CPI (2.5%). Indexing of limits starts in 2018; tax first applies in 2020 (legislative change reflected in June 30, 2015 valuation).

The impact of the Cadillac Tax for the NYCHBP benefits is calculated based on the following assumptions about the cost of medical coverage:

- Benefit costs were based on Pre-Medicare and Medicare plan premiums as stated, without adjustment for age.
- For Medicare participants, the cost of reimbursing the Medicare Part B Premium was reflected based on average cost assumed in the valuation, including IRMAA.
- The cost for each benefit option (GHI, HIP, or other HMO, combined with Medicare Part B Premium reimbursement, if applicable) was separately compared to the applicable limit.
- The additional Cadillac Tax due to the riders or optional benefit arrangements is assumed to be reflected in the contribution required for the rider or optional benefit.
- The additional Cadillac Tax due to amounts provided by Welfare Fund benefits is assumed to be absorbed by the Welfare Fund or by lower net Welfare Fund contribution amounts.
- The additional amount for Pre-Medicare retirees above age 55 is available to Medicare retirees or retirees who are younger than age 55 for plans sponsored by an employer where the majority of employees are engaged in high-risk professions including law enforcement officers and fire fighters. It has been assumed that the majority of the employees of the City are not engaged in such professions and have not extended the adjustment to these additional ages.

In cases where the City provides only a portion of the OPEB benefits which give rise to the Cadillac Tax, the calculated Cadillac Tax is allocated to the appropriate paying entity in proportion to the OPEB liabilities for relevant OPEB benefits.

Active/Inactives Liabilities	Beginning with the June 30, 2010 OPEB actuarial valuation, it was assumed that the liability for the Active/Inactive members should be 40% of the measured liability of the Active/Inactive population. This is roughly equivalent to assuming that 60% of the Active/Inactive members will terminate membership prior to vesting and not receive OPEB. Beginning with the June 30, 2012 OPEB actuarial valuation, the Entry Age Actuarial Accrued Liability is assumed to include the 40% of the measured present value of projected benefits.
Stabilization Fund	A 0.4% load is applied on all City GASB 45 obligations (0.6% last year) The same loads apply to the GASB 43 obligations in the current and preceding valuation. The load is not applicable to Component Units.
Educational Construction Fund	The actuarial assumptions used for determining GASB 45 obligations for ECF are shown in Appendix E of the Eleventh Annual Actuarial Valuation of Other Postemployment Benefits Provided under the New York City Health Benefits Program (Report) dated September 23, 2016. The Report is available at the Office of the Comptroller, Bureau of Accountancy-Room 200 South, 1 Centre Street, New York, New York 10007 and on the website of the New York City Office of the Actuary (http://www.nyc.gov/html/actuary).
CUNY TIAA	The actuarial assumptions used for determining obligations for CUNY TIAA are shown in Appendix F of the Eleventh Annual Actuarial Valuation of Other Postemployment Benefits Provided under the New York City Health Benefits Program (Report) dated September 23, 2016. The Report is available at the Office of the Comptroller, Bureau of Accountancy-Room 200 South, 1 Centre Street, New York, New York 10007 and on the website of the New York City Office of the Actuary (http://www.nyc.gov/html/actuary).

5. Pensions

Plan Descriptions

The City sponsors or participates in five pension trusts providing benefits to its employees, the majority of whom are members of one of these pension trusts (collectively referred to as NYCRS). Each of the trusts administers a qualified pension plan (QPP) and one or more variable supplements funds (VSFs) or tax-deferred annuity programs (TDA Programs) that supplement the pension benefits provided by the QPP. The trusts administered by NYCRS function in accordance with existing State statutes and City laws, which are the basis by which benefit terms and employer and member contribution requirements are established. The QPPs combine features of a defined benefit pension plans with those of a defined contribution pension plans; however, they are considered defined benefit plans for financial reporting purposes. The VSFs are considered defined benefit pension plans and the TDA Programs are considered defined contribution plans for financial reporting purposes. A brief description of each of the NYCRS and the individual plans they administer follows:

1. New York City Employees' Retirement System (NYCERS) administers the NYCERS QPP and five VSFs. The NYCERS QPP is a cost-sharing multiple-employer pension plan that provides pension benefits for employees of the City not covered by one of the other NYCRS, and employees of certain component units of the City and certain other governmental units.

   NYCERS administers the following VSFs, which operate pursuant to the provisions of Title 13, Chapter 1 of the Administrative Code of The City of New York (ACNY):

   - Transit Police Officers' Variable Supplements Fund (TPOVSF), which provides supplemental benefits to NYCERS QPP members who retire from service on or after July 1, 1987 with 20 or more years of service as Transit Police Officers.

   - Transit Police Superior Officers' Variable Supplements Fund (TPSOVSF), which provides supplemental benefits to NYCERS QPP members who retire from service on or after July 1, 1987 as Transit Police Superior Officers with 20 or more years of service.

- Housing Police Officers' Variable Supplements Fund (HPOVSF), which provides supplemental benefits to NYCERS QPP members who retire from service on or after July 1, 1987 with 20 or more years of service as Housing Police Officers.
- Housing Police Superior Officers' Variable Supplements Fund (HPSOVSF), which provides supplemental benefits to NYCERS QPP members who retire from service on or after July 1, 1987 as Housing Police Superior Officers with 20 or more years of service.
- Correction Officers' Variable Supplements Fund (COVSF), which provides supplemental benefits to NYCERS QPP members who retire for service on or after July 1, 1999 (with 20 or 25 years of service, depending upon the plan) as members of the Uniformed Correction Force.

TPOVSF, TPSOVSF, HPOVSF, and HPSOVSF are closed to new entrants.

2. Teachers' Retirement System of The City of New York (TRS) administers the TRS QPP and the TRS TDA Program. The TRS QPP is a cost-sharing, multiple-employer pension plan for pedagogical employees in the public schools of the City and certain Charter Schools and certain other specified school and CUNY employees. The TRS TDA Program was established and is administered pursuant to Internal Revenue Code Section 403(b) and Chapter 4 of Title 13 of ACNY. The TRS TDA Program provides a means of deferring income tax payments on members' voluntary pre-tax contributions and earnings thereon until the periods after retirement or upon withdrawal of contributions. Members of the TRS QPP have the option to participate in the TRS TDA Program.

3. New York City Board of Education Retirement System (BERS) administers the BERS QPP and the BERS TDA Program. The BERS QPP is a cost-sharing, multiple-employer pension plan for non-pedagogical employees of the Department of Education and certain Charter Schools and certain employees of the School Construction Authority. The BERS TDA Program was established and is administered pursuant to Internal Revenue Code Section 403(b), the New York State Education Law and the BERS Rules and Regulations. The BERS TDA Program provides a means of deferring income tax payments on members' voluntary pre-tax contributions and earnings thereon until the periods after retirement or upon withdrawal of contributions. Members of the BERS QPP have the option to participate in the BERS TDA Program.

4. New York City Police Pension Fund (POLICE) administers the POLICE QPP, along with the Police Officers' Variable Supplements Fund (POVSF) and Police Superior Officers' Variable Supplements Fund (PSOVSF). The POLICE QPP is a single-employer pension plan for all full-time uniformed employees of the New York City Police Department.

   POVSF and PSOVSF operate pursuant to the provisions of Title 13, Chapter 2 of the ACNY. POVSF provides supplemental benefits to POLICE QPP members who retire for service on or after October 1, 1968 with 20 or more years of service as police officers. PSOVSF provides supplemental benefits to POLICE QPP members who retire for service on or after October 1, 1968 as police superior officers with 20 or more years of service.

5. New York Fire Department Pension Fund (FIRE) administers the FIRE QPP, along with the Firefighters' Variable Supplements Fund (FFVSF) and the Fire Officers' Variable Supplements Fund (FOVSF). The FIRE QPP is a single-employer pension plan for full-time uniformed employees of the New York City Fire Department.

   FFVSF and FOVSF operate pursuant to the provisions of Title 13, Chapter 3 of the ACNY. FFVSF provides supplemental benefits to FIRE QPP members who retire for service on or after October 1, 1968 with 20 or more years of service as firefighters or wipers. FOVSF provides supplemental benefits to FIRE QPP members who retire for service on or after October 1, 1968 as fire officers, and all pilots and marine uniformed engineers, with 20 or more years of service.

Except for NYCERS and BERS, permanent, full-time employees are generally required to become members of a NYCRS QPP upon employment. Permanent full-time employees who are eligible to participate in the NYCERS QPP and BERS QPP are generally required to become members within six months of their permanent employment status but may elect to become members earlier. Other employees who are eligible to participate in the NYCERS QPP and BERS QPP may become members at their option.

As of June 30, 2014 and June 30, 2013, the dates of the most recent actuarial valuations, system-wide membership data for the QPPs are as follows:

	NYCERS	TRS	BERS	POLICE	FIRE	Total
QPP Membership at June 30, 2014						
Retirees and Beneficiaries Receiving Benefits	142,095	80,419	15,995	48,212	16,763	303,484
Terminated Vested Members Not Yet Receiving Benefits	9,674	12,349	195	572	40	22,830
Other Inactives	16,527	8,702	4,005	1,369	16	30,619
Active Members	184,762	111,726	25,182	34,402	10,319	366,391
Total QPP Membership	353,058	213,196	45,377	84,555	27,138	723,324

	NYCERS	TRS	BERS	POLICE	FIRE	Total
QPP Membership at June 30, 2013						
Retirees and Beneficiaries Receiving Benefits	139,399	78,177	15,455	46,950	16,807	296,788
Terminated Vested Members Not Yet Receiving Benefits	10,086	10,867	182	715	33	21,883
Other Inactives	16,482	6,683	4,127	1,287	17	28,596
Active Members	185,971	112,481	25,848	34,775	10,182	369,257
Total QPP Membership	351,938	208,208	45,612	83,727	27,039	716,524

As of June 30, 2015 and 2014, the dates of the most recent actuarial valuations, membership data for the NYCERS VSFs are as follows:

	TPOVSF	TPSOVSF	HPOVSF	HPSOVSF	COVSF	Total
Membership at June 30, 2015						
Retirees Receiving or Eligible to Receive Benefits	333	255	170	224	6,850	7,832
Active Members	—	—	—	—	8,466	8,466
Total Membership	333	255	170	224	15,316	16,298

	TPOVSF	TPSOVSF	HPOVSF	HPSOVSF	COVSF	Total
Membership at June 30, 2014						
Retirees Receiving or Eligible to Receive Benefits	339	258	175	232	6,645	7,649
Active Members	—	—	—	—	8,612	8,612
Total Membership	339	258	175	232	15,257	16,261

As of June 30, 2015 and 2014, the dates of the most recent actuarial valuations, membership data for the POLICE and FIRE VSFs are as follows:

	PSOVSF	POVSF	Total POLICE	FOVSF	FFVSF	Total FIRE
Membership at June 30, 2015						
Retirees Receiving Benefits	18,029	12,367	30,396	1,593	3,621	5,214
Active Members	12,273	22,162	34,435	2,699	8,081	10,780
Total Membership	30,302	34,529	64,831	4,292	11,702	15,994

	PSOVSF	POVSF	Total POLICE	FOVSF	FFVSF	Total FIRE
Membership at June 30, 2014						
Retirees Receiving Benefits	17,608	12,251	29,859	1,629	3,691	5,320
Active Members	12,198	22,204	34,402	2,696	7,623	10,319
Total Membership	29,806	34,455	64,261	4,325	11,314	15,639

Summary of Plan Benefits

QPPs

The NYCRS QPPs provide pension benefits to retired employees generally based on salary, length of service, and pension tier. For certain members of the NYCRS QPPs, voluntary member contributions also impact pension benefits provided. The NYCRS also provide automatic Cost-of-Living Adjustments (COLA) and other supplemental pension benefits to certain retirees and beneficiaries. In the event of disability during employment, participants may receive retirement allowances based on satisfaction of certain service requirements and other provisions. The NYCRS QPPs also provide death benefits. Subject to certain conditions, members become fully vested as to benefits upon the completion of 5 or 10 years of service depending on tier. Upon termination of employment before retirement, certain members are entitled to refunds of their own contributions, including accumulated interest, less any outstanding loan balances.

The State Constitution provides that pension rights of public employees are contractual and shall not be diminished or impaired. In 1973, 1976, 1983 and 2012, significant amendments made to the State Retirement and Social Security Law (RSSL) modified certain benefits for employees joining the QPPs on or after the effective date of such amendments, creating membership tiers. Currently, there are several tiers referred to as Tier I, Tier II, Tier III, Tier IV and Tier VI. Members are assigned a tier based on membership date. The specific membership dates for each tier may vary depending on the respective QPP. The Tier II Plan ended as of June 30, 2009. This affects new hires into the uniformed forces of the New York City Police Department and the New York City Fire Department (new members of the POLICE QPP and FIRE QPP) and Detective Investigators who become new members of the NYCERS QPP from July 1, 2009 to March 31, 2012. Chapter 18 of the Laws of 2012 (Chapter 18/12) amended the retirement benefits of public employees who establish membership in one of the NYCRS on or after April 1, 2012. Chapter 18/12 is commonly referred to as Tier VI.

VSFs

The VSFs provide supplemental benefits for their respective eligible members at a maximum annual amount of $12,000. For COVSF prior to Calendar Year 2019, total supplemental benefits paid, although determined in the same manner as for other VSFs, are only paid if the assets of COVSF are sufficient to pay the full amount due to all eligible retirees. Scheduled benefits to COVSF participants were paid for Calendar Years 2000 to 2005 and for Calendar Years 2014 and 2015. Due to insufficient assets, no benefits were paid to COVSF participants from Calendar Year 2006 to Calendar Year 2013. For Calendar Years 2019 and later, COVSF provides for supplemental benefits to be paid regardless of the sufficiency of assets in the COVSF.

In accordance with ACNY, VSFs are not pension funds or retirement systems. Instead, they provide scheduled supplemental payments, in accordance with applicable statutory provisions. While a portion of these payments are guaranteed by the City, the Legislature has reserved to itself and the State, the right and power to amend, modify, or repeal VSFs and the payments they provide. However, any assets transferred to the VSFs are held in trust solely for the benefit of its members.

TDA Programs

Benefits provided under the TRS and BERS TDA Programs are derived from members' accumulated contributions. No benefits are provided by employer contributions. A participant may withdraw all or part of the balance of his or her account at the time of retirement or termination of employment. Beginning January 1, 1989, the tax laws restricted withdrawals of tax-deferred annuity contributions and accumulated earnings thereon for reasons other than retirement or termination. Contributions made after December 31, 1988, and investment earnings credited after December 31, 1988, may only be withdrawn upon attainment of age 59-1/2 or for reasons of hardship (as defined by Internal Revenue Service regulations). Hardship withdrawals are limited to contributions only.

An active member may withdraw all or part of the contributions made before January 1, 1989, and the earnings credited to the account before January 1, 1989. The member making the withdrawals may not contribute to the TDA Program for the remainder of the current year.

If a member dies while an active employee, the full value of his or her account at the date of death is paid to the member's beneficiary or estate.

When a member resigns before attaining vested rights under the respective QPP, he or she may withdraw the value of his or her TDA Program account or leave the account in the TDA Program for a period of up to five years after the date of resignation. If a member resigns after attaining vested rights under the respective QPP, he or she may leave his or her account in the TDA Program, accruing earnings until reaching an age requiring minimum distribution as required by IRS regulations. Once a withdrawal is made from the respective QPP, an automatic termination and refund of the value of the account in the TDA Program will be made to the member. In lieu of making withdrawals from his or her TDA Program account upon retirement, a member may choose to take the balance in the form of an annuity that is calculated based on the statutory rate of interest (discussed below) and statutory mortality assumptions.

The TDA Programs have several investment options broadly categorized as fixed return funds and variable return funds. Under the fixed return funds, deposits from members' TDA Program accounts are used by the respective QPP to purchase investments, and such TDA Program accounts are credited with a statutory rate of interest, currently 7% for UFT members and 8.25% for all other members. The QPP is initially responsible for funding any deficiency between the statutory rates and actual rate of return of the QPP. If earnings on the respective QPP are less than the amount credited to the TDA Program members' accounts, then additional payments by the City to the respective QPP may be required. If the earnings are higher, then lower payments by the City to the QPP may be required.

All investment securities held in the fixed return funds are owned and reported by the QPP. A receivable due from the QPP equal to the aggregate original principal amounts contributed by TDA Program members to the fixed return funds, plus accrued interest at the statutory rate, less member withdrawals, is owned by the TDA Program. The balance of TDA Program fixed return funds held by the TRS QPP as of June 30, 2016 and 2015 were $20.3 billion and $18.7 billion, respectively, and interest paid on TDA Program fixed return funds by the TRS QPP for the years then ended were $1.4 billion and $1.2 billion, respectively. The balance of TDA Program fixed return funds held by the BERS QPP as of June 30, 2016 and 2015 are $1,283 million and $1,145 million, respectively, and interest paid on TDA Program fixed return funds by the BERS QPP for the years then ended were $94.8 million and $85.1 million, respectively, based on restated assets. Under the variable return funds, members' TDA Program accounts are adjusted for actual returns on the underlying investments of the specific fund selected. Members may switch all or a part of their TDA contributions between the fixed and variable return funds on a quarterly basis.

Contributions and Funding Policy

QPPs

The City's funding policy is to contribute statutorily-required contributions (Statutory Contributions). Statutory Contributions for the NYCRS, determined by the Actuary in accordance with State statutes and City laws, are generally funded by the employers within the appropriate Fiscal Year. The Statutory Contributions are determined under the One-Year Lag Methodology (OYLM). Under OYLM, the actuarial valuation date is used for calculating the Employer Contributions for the second following Fiscal Year. For example, the June 30, 2014 actuarial valuation was used for determining the Fiscal Year 2016 Statutory Contributions. Statutory Contributions are determined annually to be an amount that, together with member contributions and investment income, provides for QPP assets to be sufficient to pay benefits when due. The aggregate Statutory Contributions due to each QPP from all participating employers for Fiscal Years 2016 and 2015 and the amount of the City's Statutory and Actual contribution to each QPP for such fiscal years are as follows (in millions):

QPP	Fiscal Year 2016 Aggregate Statutory Contribution	Fiscal Year 2016 City Statutory/Actual Contribution	Fiscal Year 2015 Aggregate Statutory Contribution	Fiscal Year 2015 City Statutory/Actual Contribution
	(in millions)			
NYCERS	$3,365	$1,843	$3,160	$1,758
TRS	3,703	3,594	3,270	3,181
BERS	266	265	258	258
POLICE	2,394	2,394	2,310	2,310
FIRE	1,054	1,054	989	989

Member contributions are established by law and vary by QPP. In general, Tier I and Tier II member contribution rates are dependent upon the employee's age at membership and retirement plan election. In general, Tier III and Tier IV members make basic contributions of 3.0% of salary regardless of age at membership. Effective October 1, 2000, in accordance with Chapter 126 of the Laws of 2000, these members, except for certain Transit Authority employees, are not required to make basic contributions after the 10th anniversary of their membership date or completion of ten years of credited service, whichever is earlier. Effective December 2000, certain Transit Authority Tier III and Tier IV members make basic member contributions of 2.0% of salary in accordance with Chapter 10 of the Laws of 2000. Certain members of the NYCERS QPP, TRS QPP and BERS QPP also make additional member contributions. Tier VI members contribute between 3.0% and 6.0% of salary, depending on salary level.

VSFs

ACNY provides that the POLICE QPP and FIRE QPP transfer to their respective VSFs amounts equal to certain excess earnings on QPP equity investments, generally limited to the unfunded accumulated benefit obligation for each VSF. ACNY also provides that the NYCERS QPP transfer to COVSF a fraction of certain excess earnings on NYCERS QPP equity investments, such fraction reflecting the ratio of Uniformed Correction member salaries to the salaries of all active members of the NYCERS QPP. In each case, the earnings to be transferred (or the appropriate fraction thereof in the case of COVSF) are the amount by which earnings on equity investments exceed what the earnings would have been had such funds been invested at a yield comparable to that available from fixed income securities, less any cumulative past deficiencies (Excess Earnings).

In addition to the transfer of Excess Earnings, under Chapter 3 of the Laws of 2013, should the assets of the POVSF or the PSOVSF be insufficient to pay annual benefits, the POLICE QPP is required to transfer amounts sufficient to make such benefit payments. Additionally, under Chapter 583 of the Laws of 1989, should the assets of the FFVSF or the FOVSF be insufficient to pay annual benefits, the City is required to transfer amounts sufficient to make such benefit payments. Further, under Chapter 255 of the Laws of 2000, the NYCERS QPP is required to make transfers to TPOVSF, TPSOVSF, HPOVSF and HPSOVSF sufficient to meet their annual benefit payments.

For Fiscal Year 2016, there were no Excess Earnings on equity investments, and therefore, no transfers of assets from the QPPs to their respective VSFs were required.

For Fiscal Year 2015, Excess Earnings on equity investments, inclusive of prior year's cumulative deficiencies, exceeded zero, and therefore, transfers of assets from the QPPs to their respective VSFs were required. As of the date of this report, the amount of such transfer due for Fiscal Year 2015 from the NYCERS QPP to COVSF is estimated to be $30 million. The amounts of such transfers due for Fiscal Year 2015 from the POLICE QPP to POVSF and PSOVSF are estimated to be $330 million and $260 million, respectively. The amounts of such transfers due for Fiscal Year 2015 from the FIRE QPP to FFVSF and FOVSF are estimated to be $30 million and $10 million, respectively. Additionally, in Fiscal Year 2015, the NYCERS QPP made required transfers of $4.1 million, $3.1 million, $2.1 million, and $2.7 million to TPOVSF, TPSOVSF, HPOVSF, and HPSOVSF, respectively, to fund annual benefits.

TDA Programs

Contributions to the TDA Programs are made by the members only and are voluntary. Active members of the respective QPP are required to submit a salary reduction agreement and an enrollment request to make contributions. A participant may elect to exclude an amount (within the maximum allowed by the Internal Revenue Service) of his or her compensation from current taxable income by contributing it to the TDA Programs. This maximum is determined annually by the IRS for each calendar year. Additionally, members can elect either a fixed or variable investment program for investment of their contributions.

No employer contributions are made to the TDA Programs. However, the TDA Programs offer a fixed return investment option as discussed above which could increase or decrease the City's contribution to the respective QPPs.

Net Pension Liability and Pension Related Restatements

The City's net pension liabilities for each of the QPPs reported at June 30, 2016 and 2015 were measured as of those fiscal year end dates. The total pension liabilities used to calculate those net pension liabilities were determined by actuarial valuations as of June 30, 2014 and June 30, 2013, respectively, based on the OLYM described above, and rolled forward to the respective fiscal year-end measurement dates. Information about the fiduciary net position of each QPP and additions to and deductions from each QPP's fiduciary net position has been determined on the same basis as they are reported by the respective QPP. For this purpose, benefits and refunds are recognized when due and payable in accordance with the terms of the respective qualified pension plan and investments are reported at fair value.

Previously published Fiscal Year 2015 financial statements have been restated, primarily because it was determined that certain previously reported pension liabilities and related disclosures, pertaining to the City's obligations for Special Accidental Death Benefits ("SADB") of uniformed members of the Police and Fire Departments, erroneously excluded SADB obligations based on New York State ("State") General Municipal Law Section 208-f (e); that Law requires the State to reimburse the City for SADB benefits. However, beginning with Fiscal 2009 and for every year since, the State has adopted budgets that override this law, and paid the City less than the cost of SADB. Moreover, in accordance with new GASB standards adopted by the City in 2014, the liability should have been reported regardless of the State's reimbursement rate. Additionally, a restatement by BERS to that system's allocation of assets between its QPP and its TDA also contributed, to a significantly smaller extent, to the restatement.

A summary of the net effects of such restatements on the Fiscal Year 2015 financial statements, and related disclosures follows:

		Total Pension Liability (millions)	
	As originally presented	Changes	As restated
Balance at June 30, 2014	$169,621	$ —	$169,621
Post-Publication Adjustment	—	(1,096)	1,096
Revised Balance at June 30, 2014	169,621	(1,096)	170,717
Net Change in activity for year	6,400	(101)	6,501
Change in Proportionate Share	—	(70)	70
Balances at June 30, 2015	$176,021	$(1,267)	$177,288

		Net Pension Liability (millions)	
	As originally presented	Changes	As restated
Balance at June 30, 2014	$ 46,598	$ —	$ 46,598
Post-Publication Adjustment	—	(1,025)	1,025
Revised Balance at June 30, 2014	46,598	(1,025)	47,623
Net Change in activity for year	5,401	(77)	5,478
Change in Proportionate Share	—	(17)	17
Other	—	(6)	6
Balances at June 30, 2015	$ 51,999	$(1,125)	$ 53,124

Actuarial Assumptions

The total pension liabilities in the June 30, 2014 and June 30, 2013 actuarial valuations were determined using the following actuarial assumptions, applied to all periods included in the measurement:

	June 30, 2014	June 30, 2013
Investment Rate of Return	*7.0% per annum, net of investment expenses (Actual Return for Variable Funds).*	*7.0% per annum, net of investment expenses (Actual Return for Variable Funds).*
Post-Retirement Mortality	*Tables adopted by the respective Boards of Trustees during Fiscal Year 2016.*	*Tables adopted by the respective Boards of Trustees during Fiscal Year 2012.*
Active Service: Withdrawal, Death, Disability, Retirement	*Tables adopted by the respective Boards of Trustees during Fiscal Year 2012.*	*Tables adopted by the respective Boards of Trustees during Fiscal Year 2012.*
Salary Increases[1]	*In general, Merit and Promotion increases, plus assumed General Wage Increases of 3.0% per year.*	*In general, Merit and Promotion increases, plus assumed General Wage Increases of 3.0% per year.*
Cost-of-Living Adjustments[1]	*1.5% per annum for Tiers I, II, IV, and certain Tier III and Tier VI retirees. 2.5% per annum for certain Tier III and Tier VI retirees.*	*1.5% per annum for Tiers I, II, IV and certain Tier III and Tier VI retirees. 2.5% per annum for certain Tier III and Tier VI retirees.*

(1) *Developed assuming a long-term Consumer Price Inflation assumption of 2.5% per year.*

Pursuant to Section 96 of the New York City Charter, studies of the actuarial assumptions used to value liabilities of the five actuarially-funded QPPs are conducted by an independent actuarial firm every two years.

In accordance with the ACNY and with appropriate practice, the Boards of Trustees of the five actuarially-funded QPPs are to periodically review and adopt certain actuarial assumptions as proposed by the Actuary for use in the determination of Employer Contributions, which are also generally used to determine the total pension liability, as applicable. Based, in part, upon a review of the experience studies completed in November 2006 by the Segal Company (Segal) and in December 2011 by The Hay Group (Hay), the Actuary issued reports for the QPPs proposing changes in actuarial assumptions and methods for Fiscal Years beginning on and after July 1, 2011 (February 2012 Reports). Where required, the Boards of Trustees of the NYCRS adopted those changes to actuarial assumptions that require Board approval. The State Legislature enacted Chapter 3/13 to provide for those changes to the actuarial assumptions and methods that require legislation, including the Actuarial Interest Rate (AIR) assumption of 7.0% per annum, net of investment expenses.

In October 2015 the independent actuarial auditor, Gabriel, Roeder, Smith & Company (GRS), issued a report on their NYC Charter-mandated actuarial experience studies for the four-year and ten-year periods ended June 30, 2013 (the GRS Report).

Based, in part, on the GRS Report, on published studies of mortality improvement, and on input from the City's outside consultants and auditors, the Actuary proposed, and the Boards of Trustees of the NYCRS adopted, new post-retirement mortality tables for use in determining employer contributions beginning in Fiscal Year 2016. The new tables of post-retirement mortality are based primarily on the experience of the NYCRS (the Base Tables) and the application of Mortality Improvement Scale MP-2015, published by the Society of Actuaries in October 2015 (the Valuation Tables). Scale MP-2015 replaced Mortality Improvement Scale AA.

In addition, beginning in Fiscal Year 2016, the Actuary revised the Actuarial Asset Valuation Method to constrain the Actuarial Asset Value to be within a 20% corridor of the Market Value of Assets.

Management of each of the pension funds has determined its long-term expected rate of return to be 7.0% per annum. This is based upon weighted expected real rates of return (RROR) ranging from 5.34% to 5.58% and a long-term Consumer Price Inflation assumption of 2.5% offset by investment related expenses. The target asset allocation of each of the funds and the expected RROR for each of the asset classes are summarized in the following tables:

	NYCERS	
Asset Class	Target Asset Allocation	Long-Term Expected RROR
U.S. Public Market Equities.	32.60%	6.60%
International Public Market Equities	10.00%	7.00%
Emerging Public Market Equities	6.90%	7.90%
Private Market Equities	7.00%	9.90%
Fixed Income	33.50%	2.70%
Alternatives (Real Assets, Hedge Funds)	10.00%	4.00%
Total	100.00%	

	TRS	
Asset Class	Target Asset Allocation	Long-Term Expected RROR
U.S. Public Market Equities	34.00%	6.60%
International Public Market Equities	9.00%	7.00%
Emerging Public Market Equities	8.00%	7.90%
Private Market Equities	6.00%	9.90%
Fixed Income	37.00%	2.70%
Alternatives (Real Assets, Hedge Funds)	6.00%	4.00%
Total	100.00%	

	BERS	
Asset Class	Target Asset Allocation	Long-Term Expected RROR
U.S. Public Market Equities	35.00%	6.60%
International Public Market Equities	17.00%	7.00%
Emerging Public Market Equities	5.00%	7.90%
Private Market Equities	6.00%	9.90%
Fixed Income	30.00%	2.70%
Alternatives (Real Assets, Hedge Funds)	7.00%	4.00%
Total	100.00%	

	POLICE	
Asset Class	Target Asset Allocation	Long-Term Expected RROR
U.S. Public Market Equities	34.00%	6.60%
International Public Market Equities	10.00%	7.00%
Emerging Public Market Equities	6.00%	7.90%
Private Market Equities	7.00%	9.90%
Fixed Income	32.00%	2.70%
Alternatives (Real Assets, Hedge Funds)	11.00%	4.00%
Total	100.00%	

	FIRE	
Asset Class	Target Asset Allocation	Long-Term Expected RROR
U.S. Public Market Equities	32.00%	6.60%
International Public Market Equities	10.00%	7.00%
Emerging Public Market Equities	6.50%	7.90%
Private Market Equities	7.00%	9.90%
Fixed Income	34.50%	2.70%
Alternatives (Real Assets, Hedge Funds)	10.00%	4.00%
Total	100.00%	

Discount Rate

The discount rate used to measure the total pension liability of each QPP as of June 30, 2016 and 2015 was 7.0%. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the rates applicable to the current tier for each member and that employer contributions will be made based on rates determined by the Actuary. Based on those assumptions, each QPP's fiduciary net position was projected to be available to make all projected future benefit payments of current active and non-active QPP members. Therefore, the long-term expected rate of return on QPP investments was applied to all periods of projected benefit payments to determine the total pension liability.

Changes in Net Pension Liability-POLICE and FIRE QPPs

Changes in the City's net pension liability for POLICE and FIRE for the Fiscal Years ended June 30, 2016 and 2015 are as follows:

	POLICE			FIRE		
	Total Pension Liability	**Plan Fiduciary Net Position**	**Net Pension Liability**	**Total Pension Liability**	**Plan Fiduciary Net Position**	**Net Pension Liability**
	(in millions)					
Balances at 6/30/2014	$46,287	$34,456	$11,831	$17,980	$11,458	$6,522
Adjustment attributable to SADB	313	—	313	783	—	783
Revised Balances at 6/30/2014	46,600	34,456	12,144	18,763	11,458	7,305
Changes for the Fiscal Year 2015:						
Service cost	1,326	—	1,326	419	—	419
Interest	3,245	—	3,245	1,313	—	1,313
Differences between expected and actual experience.	(215)	—	(215)	171	—	171
Contributions—employer	—	2,310	(2,310)	—	989	(989)
Contributions—employee	—	241	(241)	—	109	(109)
Net investment income	—	1,098	(1,098)	—	302	(302)
Benefit payments, including refunds of employee contributions	(2,747)	(2,747)	—	(1,220)	(1,220)	—
Administrative expense	—	(18)	18	—	—	—
Other changes	—	5	(5)	—	41	(41)
Net changes	1,609	889	720	683	221	462
Balances at 6/30/2015	48,209	35,345	12,864	19,446	11,679	7,767
Changes for the Fiscal Year 2016:						
Service cost	1,341	—	1,341	431	—	431
Interest	3,441	—	3,441	1,396	—	1,396
Differences between expected and actual experience	233	—	233	324	—	324
Change of Assumptions	794	—	794	405	—	405
Contributions—employer	—	2,394	(2,394)	—	1,054	(1,054)
Contributions—employee	—	250	(250)	—	117	(117)
Net investment income	—	404	(404)	—	203	(203)
Benefit payments, including refunds of employee contributions	(2,878)	(2,878)	—	(1,359)	(1,359)	—
Administrative expense	—	(18)	18	—	—	—
Other changes	—	6	(6)	—	44	(44)
Net changes	2,931	158	2,773	1,197	59	1,138
Balances at 6/30/2016	$51,140	$35,503	$15,637	$20,643	$11,738	$8,905

The following table presents the City's net pension liability for POLICE and FIRE calculated using the discount rate of 7.0%, as well as what the City's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.0%) or 1-percentage-point higher (8.0%) than the current rate:

	Fiscal Year 2016			Fiscal Year 2015 (Restated)		
	1% Decrease (6.0%)	**Current Discount Rate (7.0%)**	**1% Increase (8.0%)**	**1% Decrease (6.0%)**	**Current Discount Rate (7.0%)**	**1% Increase (8.0%)**
	(in millions)					
POLICE	$21,344	$15,638	$10,900	$18,093	$12,864	$8,522
FIRE	11,203	8,906	6,981	9,825	7,767	5,993

City Proportion of Net Pension Liability—NYCERS, TRS and BERS (Excluding TDAs)

The following table presents the City's proportionate share of the net pension liability of the NYCERS, TRS and BERS QPPs at June 30, 2016 and 2015, and the proportion percentage of the aggregate net pension liability of each QPP allocated to the City:

	June 30, 2016			June 30, 2015[1]		
	NYCERS	TRS	BERS	NYCERS	TRS	BERS
	(in millions, except for %)					
City's proportion of the net pension liability	54.77%	97.07%	99.99%	55.64%	97.27%	99.98%
City's proportionate share of the net pension liability	$13,307	$25,600	$1,384	$11,262	$20,219	$1,006

The City's proportion of the respective QPP's net pension liability was based on actual required contributions of each of the participating employers.

The following table presents the City's proportionate share of net pension liability for the NYCERS, TRS, and BERS QPPs calculated using the discount rate of 7.0%, as well as what the City's proportionate share of the respective net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.0%) or 1-percentage-point higher (8.0%) than the current rate:

	Fiscal Year 2016			Fiscal Year 2015		
QPPs	1% Decrease (6.0%)	Current Discount Rate (7.0%)	1% Increase (8.0%)	1% Decrease (6.0%)	Current Discount Rate (7.0%)	1% Increase (8.0%)
	(in millions)					
NYCERS	$18,246	$13,307	$ 9,171	$15,575	$11,262	$ 7,255
TRS	32,714	25,600	19,651	26,453	20,219	15,065
BERS	1,948	1,384	911	1,596	1,006	666

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

Pension expense recognized by the City for the Fiscal Years ended June 30, 2016 and 2015 related to the NYCRS are as follows:

NYCRS	2016	2015[1]
	(in millions)	
NYCERS	$1,658	$1,171
TRS (Excluding TDA)	3,763	2,103
BERS (Excluding TDA)	302	111[2]
POLICE	2,213	1,241[3]
FIRE	1,139	664[3]
TOTAL	$9,075	$5,290

[1] Revised due to a refinement in the proportionate share calculations.

[2] Based on Restated assets as of June 30, 2015.

[3] Restated due to Special Accidental Death Benefits pursuant to Section 208-f of the General Municipal Law.

Deferred outflows of resources and deferred inflows of resources by source reported by the City at June 30, 2016 and 2015 for each NYCRS are as follows:

Fiscal Year 2016

	NYCERS		TRS		BERS		POLICE		FIRE		TOTAL	
	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources
	(in thousands)											
Differences between expected and actual experience	$ —	$ 377,739	$1,592,013	$ —	$ 19,753	$ 52,105	$ 138,171	$ 39,566	$235,136	$ —	$1,985,073	$ 469,410
Changes of assumptions	982,278	—	1,746,686	—	126,081	—	470,321	—	248,328	—	3,573,694	—
Net difference between projected and actual earning on pension plan investments	2,027,717	1,307,820	2,271,911	3,096,249	86,300	377,671	2,433,621	1,488,560	785,619	486,857	7,605,168	6,757,157
Changes in proportion and differences between City contributions and proportionate share of contributions (cost-sharing plans)	(137,886)	(12,753)	(211,670)	(3,279)	(22)	2	—	—	—	—	(349,578)	(16,030)
Total	$2,872,109	$1,672,806	$5,398,940	$3,092,970	$232,112	$429,778	$3,042,113	$1,528,126	$1,269,083	$486,857	$12,814,357	$7,210,537

Fiscal Year 2015

	NYCERS		TRS		BERS		POLICE		FIRE		TOTAL	
	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources
	(in thousands)											
Differences between expected and actual experience	$ —	$ 112,928	$1,088,801	$ —	$34,945	$ —	$ —	$ 127,492	$104,152	$ —	$1,227,898	$ 240,420
Changes of assumptions	—	—	—	—	—	—	—	—	—	—	—	—
Net difference between projected and actual earning on pension plan investments	1,168,314	2,103,705	1,078,088	4,955,787	43,210	617,015	1,045,207	2,358,962	397,376	772,965	3,732,195	10,808,434
Changes in proportion and differences between City contributions and proportionate share of contributions (cost-sharing plans)	15,985	—	(185,269)	—	(113)	—	—	—	—	—	(169,397)	—
Total	$1,184,299	$2,216,633	$1,981,620	$4,955,787	$78,042	$617,015	$1,045,207	$2,486,454	$501,528	$772,965	$4,790,696	$11,048,854

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions at June 30, 2016 will be recognized in pension expense as follows:

	NYCERS	TRS	BERS	POLICE	FIRE	TOTAL
			(in thousands)			
Year ending June 30:						
2017	$ 50,596	$ 81,578	$(166,140)	$ 183,411	$254,690	$ 404,135
2018	275,043	592,669	(75,700)	244,417	184,398	1,220,827
2019	609,897	1,295,828	30,698	673,731	221,241	2,831,395
2020	263,767	335,895	13,476	412,428	121,897	1,147,463
Total	$ 1,199,303	$ 2,305,970	$(197,666)	$1,513,987	$782,226	$ 5,603,820

The Flatiron Building

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The City of New York

Comprehensive
Annual Financial Report
of the
Comptroller

Part II-B

Required Supplementary Information

Fiscal Year Ended June 30, 2016

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A. Schedule of Changes in the City's Net Pension Liability and Related Ratios for Single-Employer Pension Plans at June 30,

	POLICE		FIRE	
	2016	2015[1]	2016	2015[1]
	(in thousands, except %)			
Total pension liability:				
Service cost	$ 1,340,615	$ 1,325,808	$ 431,268	$ 419,575
Interest	3,441,398	3,245,225	1,395,735	1,312,814
Changes of Assumptions	794,680	—	405,498	—
Benefit payments and withdrawals	(2,878,451)	(2,746,784)	(1,359,095)	(1,220,441)
Difference b/t Expected and Actual Experience	233,462	(215,418)	323,609	171,347
Net change in total pension liability	2,931,704	1,608,831	1,197,015	683,295
Total pension liability—beginning	48,209,042	46,600,211	19,446,792	18,763,497
Total pension liability—ending[a]	51,140,746	48,209,042	20,643,807	19,446,792
Plan fiduciary net position:				
Employer contributions	2,393,940	2,309,619	1,054,478	988,784
Member contributions	249,921	241,102	116,619	108,582
Net investment income	403,534	1,098,220	203,104	302,567
Benefit payments and withdrawals	(2,878,451)	(2,746,784)	(1,359,095)	(1,220,441)
Administrative expenses	(18,478)	(17,903)	—	—
Other	6,756	4,616	43,673	41,201
Net change in plan fiduciary net position	157,222	888,870	58,779	220,693
Plan fiduciary net position—beginning	35,345,052	34,456,182	11,679,331	11,458,638
Plan fiduciary net position—ending[b]	35,502,274	35,345,052	11,738,110	11,679,331
Employer's net pension liability-ending[a]-[b]	$15,638,472	$12,863,990	$ 8,905,697	$ 7,767,461
Plan fiduciary net position as a percentage of the total pension liability	69.4%	73.3%	56.9%	60.1%
Covered-employee payroll	$ 3,540,326	$ 3,512,778	$ 1,129,470	$ 1,111,744
Employer's net pension liability as a percentage of covered-employee payroll	441.7%	366.2%	788.5%	698.7%

[1] Revised due to Special Accidental Death Benefits pursuant to Section 208-f of the General Municipal Law.

B. Schedule of the City's Proportionate Share of the Net Pension Liabilities of Cost-Sharing Multiple-Employer Pension Plans at June 30,

	NYCERS		TRS		BERS	
	2016	2015[1]	2016	2015	2016	2015[1]
	(in millions, except %)					
City's proportion of the net pension liability	54.77%	55.64%	97.07%	97.27%	99.99%	99.98%
City's proportionate share of the net pension liability	$13,307.9	$11,262.0	$25,599.9	$20,219.1	$1,384.1	$1,006.1
City's covered-employee payroll	$ 6,462.2	$ 6,500.5	$ 8,039.3	$ 7,869.8	$1,007.5	$1,016.8
City's proportionate share of the net pension liability as a percentage of its covered-employee payroll	205.93%	173.25%	318.43%	256.92%	137.38%	98.95%
Plan fiduciary net position as a percentage of the total pension liability	69.57%	73.13%	62.33%	68.04%	71.17%	75.33%

(1) Revised due to a refinement in the proportionate share calculations.

C. Schedule of City Contributions for All Pension Plans for the Fiscal Years ended June 30,

	2016	2015	2014	2013	2012*	2011*	2010*	2009*	2008*	2007*
					(in thousands except %)					
NYCERS										
Contractually required contribution	$1,843,323	$1,758,378	$1,729,616	$1,692,278	$3,017,004	$2,387,216	$2,197,717	$2,150,438	$1,874,242	$1,471,030
Contributions in relation to the contractually required contribution	1,843,323	1,758,378	1,729,616	1,692,278	3,017,004	2,387,216	2,197,717	2,150,438	1,874,242	1,471,030
Contribution deficiency (excess)	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Covered-employee payroll	6,462,231	6,500,475	6,506,353	6,322,125	11,812,858	11,465,975	10,977,607	10,454,244	9,863,942	9,456,351
Contributions as a percentage of covered-employee payroll	28.524%	27.050%	26.583%	26.768%	25.540%	20.820%	20.020%	20.570%	19.001%	15.556%
TRS										
Contractually required contribution	$3,594,301	$3,180,865	$2,917,129	$2,777,966	$2,673,078	$2,468,973	$2,484,074	$2,223,644	$1,916,520	$1,600,904
Contributions in relation to the contractually required contribution	3,594,301	3,180,865	2,917,129	2,777,966	2,673,078	2,468,973	2,484,074	2,223,644	1,916,520	1,600,904
Contribution deficiency (excess)	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Covered-employee payroll	8,039,326	7,869,774	7,772,827	7,683,465	7,920,935	7,935,248	7,859,999	7,221,499	6,998,174	6,285,203
Contributions as a percentage of covered-employee payroll	44.709%	40.419%	37.530%	36.155%	33.747%	31.114%	31.604%	30.792%	27.386%	25.471%
BERS										
Contractually required contribution	$ 265,497	$ 258,055	$ 214,574	$ 196,231	$ 213,651	$ 180,191	$ 147,349	$ 134,225	$ 143,100	$ 129,820
Contributions in relation to the contractually required contribution	265,497	258,055	214,574	196,231	213,651	180,191	147,349	134,225	143,100	129,820
Contribution deficiency (excess)	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Covered-employee payroll	1,007,499	1,016,277	988,757	885,491	879,476	880,656	826,782	755,516	729,098	696,421
Contributions as a percentage of covered-employee payroll	26.352%	25.392%	21.701%	22.161%	24.293%	20.461%	17.822%	17.766%	19.627%	18.641%
POLICE										
Contractually required contribution	$2,393,940	$2,309,619	$2,320,910	$2,424,690	$2,385,731	$2,083,633	$1,980,996	$1,932,150	$1,797,824	$1,544,341
Contributions in relation to the contractually required contribution	2,393,940	2,309,619	2,320,910	2,424,690	2,385,731	2,083,633	1,980,996	1,932,150	1,797,824	1,544,341
Contribution deficiency (excess)	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Covered-employee payroll	3,540,326	3,512,778	3,420,312	3,459,889	3,448,784	3,252,729	3,097,484	2,946,698	2,797,429	2,788,324
Contributions as a percentage of covered-employee payroll	67.619%	65.749%	67.857%	70.080%	69.176%	64.058%	63.955%	65.570%	64.267%	55.386%
FIRE										
Contractually required contribution	$1,054,478	$ 988,784	$ 969,956	$ 962,173	$ 976,895	$ 890,706	$ 874,331	$ 843,751	$ 780,202	$ 683,193
Contributions in relation to the contractually required contribution	1,054,478	988,784	969,956	962,173	976,895	890,706	874,331	843,751	780,202	683,193
Contribution deficiency (excess)	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Covered-employee payroll	1,129,470	1,111,744	1,102,396	1,129,921	1,149,423	1,057,243	1,059,911	1,013,661	944,463	916,582
Contributions as a percentage of covered-employee payroll	93.360%	88.940%	87.986%	85.154%	84.990%	84.248%	82.491%	83.238%	82.608%	74.537%

* For City Fiscal Years 2012, 2011, 2010, 2009, 2008 and 2007, reported contributions and covered payroll amounts are those of each retirement system as a whole (i.e., the sums for all participating employers.) City-only covered payroll is not readily available for years prior to 2013; and due to methodological changes during the periods 2005 through 2012, the City-only employer contributions are not comparable over the ten year period.

Notes to Schedule C:

The above actuarially determined and contractually required contributions were developed using a One-Year Lag Methodology, under which the actuarial valuation determines the employer contribution for the second following fiscal year (e.g. Fiscal Year 2016 contributions were determined using an actuarial valuation as of June 30, 2014). The methods and assumptions used to determine the actuarially determined and contractually required contributions are as follows:

Fiscal Year	2016	2015	2014	2013	2012
Valuation Dates	June 30, 2014 (Lag)	June 30, 2013 (Lag)	June 30, 2012 (Lag)	June 30, 2011 (Lag)	June 30, 2010 (Lag)
Actuarial cost method	Entry Age[5]	Entry Age[5]	Entry Age[5]	Entry Age[5]	Entry Age[5]
Amortization method for Unfunded Actuarial Accrued Liabilities (UAAL):					
Pre-2010 UAALs	NA	NA	NA	NA	NA
Initial 2010 UAAL	Increasing Dollar Payments.	Increasing Dollar Payments.	Increasing Dollar Payments.	Increasing Dollar Payments.	Increasing Dollar Payments.
Post-2010 UAALs	Level Dollar Payments.	Level Dollar Payments.	Level Dollar Payments.	Level Dollar Payments.	Level Dollar Payments
Remaining amortization period:					
Pre-2010 UAALs	NA	NA	NA	NA	NA
Initial 2010 UAAL	18 Years (Closed).	19 Years (Closed).	20 Years (Closed).	21 years (Closed).	22 years (Closed).
2010 ERI	2 Years (Closed).	3 Years (Closed).	4 Years (Closed).	5 Years (Closed).	NA
2011 (G)/L	12 Years (Closed).	13 Years (Closed).	14 Years (Closed).	15 Years (Closed).	NA
2012 (G)/L	13 Years (Closed).	14 Years (Closed).	15 Years (Closed).	NA	NA
2013 (G)/L	14 Years (Closed).	15 Years (Closed).	NA	NA	NA
2013 Transit Refunds	4 Years (Closed).	5 Years (Closed).	NA	NA	NA
2014 (G)/L	15 years (Closed).	NA	NA	NA	NA
2014 Assumption Change	20 Years (Closed).	NA	NA	NA	NA
2014 Method Change	20 Years (Closed).	NA	NA	NA	NA
Actuarial Asset Valuation Method	Modified 6-year moving average of Market Value with "Market Value Restart" as of June 30, 2011[6]. Actuarial Asset Value (AAV) is constrained to be no more than 20% from Market Value	Modified 6-year moving average of Market Value with "Market Value Restart" as of June 30, 2011[6]. NA	Modified 6-year moving average of Market Value with "Market Value Restart" as of June 30, 2011[6]. NA	Modified 6-year moving average of Market Value with "Market Value Restart" as of June 30, 2011[6]. NA	Modified 6-year moving average of Market Value with "Market Value Restart" as of June 30, 2011[6]. NA
Actuarial assumptions:					
Assumed rate of return	7.0% per annum, net of investment expenses (4.0% per annum for benefits payable under the variable annuity programs of TRS and BERS).	7.0% per annum, net of investment expenses (4.0% per annum for benefits payable under the variable annuity programs of TRS and BERS).	7.0% per annum, net of investment expenses (4.0% per annum for benefits payable under the variable annuity programs of TRS and BERS).	7.0% per annum, net of investment expenses (4.0% per annum for benefits payable under the variable annuity programs of TRS and BERS).	7.0% per annum, net of investment expenses (4.0% per annum for benefits payable under the variable annuity programs of TRS and BERS).
Post-retirement mortality	Tables adopted by Boards of Trustees during Fiscal Year 2012.	Tables adopted by Boards of Trustees during Fiscal Year 2012.	Tables adopted by Boards of Trustees during Fiscal Year 2012.	Tables adopted by Boards of Trustees during Fiscal Year 2012.	Tables adopted by Boards of Trustees during Fiscal Year 2012.
Active service: withdrawal, death, disability, service retirement	Tables adopted by Boards of Trustees during Fiscal Year 2016.	Tables adopted by Boards of Trustees during Fiscal Year 2012.	Tables adopted by Boards of Trustees during Fiscal Year 2012.	Tables adopted by Boards of Trustees during Fiscal Year 2012.	Tables adopted by Boards of Trustees during Fiscal Year 2012.
Salary increases	In general, Merit and Promotion Increases plus assumed General Wage Increases of 3.0% per year.[4]	In general, Merit and Promotion Increases plus assumed General Wage Increases of 3.0% per year.[4]	In general, Merit and Promotion Increases plus assumed General Wage Increases of 3.0% per year.[4]	In general, Merit and Promotion Increases plus assumed General Wage Increases of 3.0% per year4.	In general, Merit and Promotion Increases plus assumed General Wage Increases of 3.0% per year.[4]
Cost-of-Living Adjustments[4]	1.5% per annum for Auto Cola. 2.5% per annum for Escalation.	1.5% per annum for Auto Cola. 2.5% per annum for Escalation.	1.5% per annum for Auto Cola. 2.5% per annum for Escalation.	1.5% per annum for Auto Cola. 2.5% per annum for Escalation.	1.5% per annum for Auto Cola. 2.5% per annum for Escalation.

Notes to Schedule C:

Fiscal Year	2011	2010	2009	2008	2007
Valuation Dates	June 30, 2009 (Lag)	June 30, 2008 (Lag)	June 30, 2007 (Lag)	June 30, 2006(Lag)	June 30, 2005 (Lag)
Actuarial cost method	Frozen Initial Liability[1]	Frozen Initial Liability[1]	Frozen Initial Liability[1]	Frozen Initial Liability[1]	Frozen Initial Liability[1]
Amortization method for Unfunded Actuarial Accrued Liabilities (UAAL):					
Pre-2010 UAALs	N/A	Increasing dollar for FIRE[2] All outstanding components of UAAL are being amortized over closed periods.	Increasing dollar for FIRE[2] All outstanding components of UAAL are being amortized over closed periods.	Increasing dollar for FIRE[2] Level dollar for UAAL attributable to NYCERS, TRS and BERS 2002 ERI (Part A only).[3] All outstanding components of UAAL are being amortized over closed periods.	Increasing dollar for FIRE2. Level dollar for UAAL attributable to NYCERS, TRS and BERS 2002 ERI (Part A only).[3] All outstanding components of UAAL are being amortized over closed periods.
Initial 2010 UAAL	NA	NA	NA	NA	NA
Post-2010 UAALs	NA	NA	NA	NA	NA
Remaining amortization period:					
Pre-2010 UAALs	N/A	1 year for FIRE[2].	2 years for FIRE[2],	3 years for FIRE[2], and 1 year for 2002 ERI (Part A Only).	4 years for FIRE[2], and 2 years for 2002 ERI (Part A Only).
Initial 2010 UAAL	NA	NA	NA	NA	NA
2010 ERI	NA	NA	NA	NA	NA
2011 (G)/L	NA	NA	NA	NA	NA
2012 (G)/L	NA	NA	NA	NA	NA
2013 (G)/L	NA	NA	NA	NA	NA
Transit Refunds	NA	NA	NA	NA	NA
2014 (G)/L	NA	NA	NA	NA	NA
2014 Assumption Change	NA	NA	NA	NA	NA
2014 Method Change	NA	NA	NA	NA	NA
Actuarial Asset Valuation Method	Modified 6-year moving average of Market Value with “Market Value Restart” as of June 30, 1999.	Modified 6-year moving average of Market Value with “Market Value Restart” as of June 30, 1999.	Modified 6-year moving average of Market Value with “Market Value Restart” as of June 30, 1999.	Modified 6-year moving average of Market Value with “Market Value Restart” as of June 30, 1999.	Modified 6-year moving average of Market Value with “Market Value Restart” as of June 30, 1999.
Actuarial assumptions:					
Assumed rate of return	8.0% per annum, gross of investment expenses (4.0% per annum for benefits payable under the variable annuity programs of TRS and BERS).	8.0% per annum[4] (4.0% per annum for benefits payable under the variable annuity programs of TRS and BERS).	8.0% per annum[4] (4.0% per annum for benefits payable under the variable annuity programs of TRS and BERS).	8.0% per annum[4] (4.0% per annum for benefits payable under the variable annuity programs of TRS and BERS).	8.0% per annum[4] (4.0% per annum for benefits payable under the variable annuity programs of TRS and BERS).
Post retirement morality	Tables adopted by Boards of Trustees during Fiscal Year 2006.	Tables adopted by Boards of Trustees during Fiscal Year 2006.	Tables adopted by Boards of Trustees during Fiscal Year 2006.	Tables adopted by Boards of Trustees during Fiscal Year 2006.	Tables adopted by Boards of Trustees during Fiscal Year 2006.
Active service: withdrawal, death, disability, service retirement	Tables adopted by Boards of Trustees during Fiscal Year 2006.	Tables adopted by Boards of Trustees during Fiscal Year 2006.	Tables adopted by Boards of Trustees during Fiscal Year 2006.	Tables adopted by Boards of Trustees during Fiscal Year 2006.	Tables adopted by Boards of Trustees during Fiscal Year 2006.

Notes to Schedule C:

Fiscal Year	2011	2010	2009	2008	2007
Salary Increases	In general, Merit and Promotion Increases plus assumed General Wage Increases of 3.0% per year.[4]	In general, Merit and Promotion Increases plus assumed General Wage Increases of 3.0% per year.[4]	In general, Merit and Promotion Increases plus assumed General Wage Increases of 3.0% per year.[4]	In general, Merit and Promotion Increases plus assumed General Wage Increases of 3.0% per year.[4]	In general, Merit and Promotion Increases plus assumed General Wage Increases of 3.0% per year.[4]
Cost-of-Living Adjustments[4]	1.3% per annum	1.3% per annum	1.3% per annum	1.3% per annum	1.3% per annum

[1] Under the Frozen Initial Liability Actuarial Cost Method, the excess of the Actuarial Present Value (APV) of projected benefits of the membership as of the valuation date, over the sum of the Actuarial Value of Assets plus the UAAL, if any, and the APV of future employee contributions is allocated on a level basis over the future earnings of members who are on the payroll of the valuation date. The Initial Liability was reestablished by the Entry Age Actuarial Cost Method as of June 20, 1999 but with the UAAL not less than $0. Actuarial gains and losses are reflected in the employer normal contribution rate.

[2] In conjunction with Chapter 85 of the Laws of 2000 (Chapter 85/100), there is an amortization method. However, the initial pre-2010 UAAL of NYCERS, TRS, BERS, and POLICE equal $0 and no amortization periods are required.

[3] Laws of established UAAL for Early Retirement Inventive Programs to be amortized on a level dollar basis over periods of 5 years.

[4] Developed assuming a long-term Consumer Price Inflation assumption of 2.5% per year.

[5] Beginning with the June 30, 2010 (Lag) actuarial valuation under the 2012 A&M, the Entry Age Actuarial Cost Method (EAACM) of funding is utilized by the Actuary to calculate the contributions required of the Employer. Under this method, the Actuarial Present Value (APV) of Benefits (APVB) of each individual included in the actuarial valuation is allocated on a level basis over the earnings (or service) of the individual between entry age and assumed exit ages. The employer portion of this APV allocated to a valuation year is the Normal Cost. The portion of this APV not provided for at a valuation date by the APV of Future Normal Costs or future member contributions is the Actuarial Accrued Liability (AAL). The excess, if any, of the AAL over the Actuarial Asset Value (AAV) is the Unfunded Actuarial Accrued Liability (UAAL). Under this method, actuarial gains (losses), as they occur, reduce (increase) the UAAL and are explicitly identified and amortized. Increases (decreases) in obligations due to benefit changes, actuarial assumption changes and/or actuarial method changes are also explicitly identified and amortized.

[6] Market Value Restart as of June 30, 2011. Actuarial Asset Value (AAV) as of June 30, 2010 defined to recognize Fiscal Year 2011 investment performance. The June 30, 2010 AAV is derived as equal to the June 30, 2011 Market Value of Assets, discounted by the Actuarial Interest Rate assumption (adjusted for cash flow) to June 30, 2010.

D. Schedule of Funding Progress for the New York City Other Postemployment Benefits Plan

The schedule of funding progress presents GASB No. 45 results of OPEB valuations as of Fiscal Years ended June 30, 2015, 2014, 2013, 2012, 2011, 2010, 2009, 2008, and 2007. The schedule provides a nine year information trend about whether the actuarial values of plan assets are increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

Actuarial Valuation Date	(1) Actuarial Value of Assets	(2) Actuarial Accrued Liability (AAL)	(3) Unfunded AAL (UAAL)	(4) Funded Ratio	(5) Covered Payroll	(6) UAAL as a Percentage of Covered Payroll
			(2)-(1)	(1)÷(2)		(3)÷(5)
			(in thousands, except %)			
6/30/15	$3,396,524	$76,442,396	$73,045,872	4.4%	$21,395,786	341.4%
6/30/14	2,378,144	70,381,602	68,003,458	3.4	20,712,782	328.3
6/30/13	1,363,073	71,338,386	69,975,313	1.9	20,252,631	345.5
6/30/12	2,115,846	71,417,253	69,301,407	3.0	20,262,853	342.0
6/30/11*	2,631,584	85,971,494	83,339,910	3.1	19,912,761	418.5
6/30/10*	3,022,624	82,063,852	79,041,228	3.7	19,731,127	400.6
6/30/09*	3,103,186	73,674,157	70,570,971	4.2	19,469,182	362.5
6/30/08*	3,186,139	65,164,503	61,978,364	4.9	18,721,681	331.1
6/30/07*	2,594,452	62,135,453	59,541,001	4.2	17,355,874	343.1

* Based on the Frozen Entry Age Actuarial Cost Method.

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THE CITY OF NEW YORK

PENSION AND OTHER EMPLOYEE BENEFIT TRUST FUNDS
COMBINING STATEMENT OF FIDUCIARY NET POSITION

JUNE 30, 2016
(in thousands)

		Other Employee Benefit Trust Funds		
	Pension Funds*	Deferred Compensation Plans December 31, 2015	The New York City Other Postemployment Benefits Plan	Total
ASSETS:				
Cash and cash equivalents	$ 344,051	$ 15,372	$1,503,320	$ 1,862,743
Receivables:				
Member loans	2,089,798	229,362	—	2,319,160
Investment securities sold	4,181,594	—	—	4,181,594
Accrued interest and dividends	537,647	—	3,188	540,835
Other receivables	14	—	365	379
Total receivables	6,809,053	229,362	3,553	7,041,968
INVESTMENTS:				
Short-term investments	5,117,216	—	—	5,117,216
Debt securities	37,207,963	—	2,911,796	40,119,759
Equity securities	59,731,778	—	—	59,731,778
Alternative investments	25,752,930	—	—	25,752,930
Mutual funds	—	10,352,595	—	10,352,595
Collective trust funds	51,716,410	—	—	51,716,410
Collateral from securities lending transactions	11,902,353	—	—	11,902,353
Guaranteed investment contracts	—	5,303,762	—	5,303,762
Total investments	191,428,650	15,656,357	2,911,796	209,996,803
Other assets	273,223	2,545	41	275,809
Total assets	198,854,977	15,903,636	4,418,710	219,177,323
LIABILITIES:				
Accounts payable and accrued liabilities	1,056,030	6,128	327,321	1,389,479
Payable for investment securities purchased	5,377,323	—	55,058	5,432,381
Accrued benefits payable	787,009	—	—	787,009
Securities lending transactions	11,902,353	—	—	11,902,353
Other liabilities	97,746	—	—	97,746
Total liabilities	19,220,461	6,128	382,379	19,608,968
NET POSITION:				
Restricted for benefits to be provided by QPPs	146,917,855	—	—	146,917,855
Restricted for benefits to be provided by VSFs	2,642,245	—	—	2,642,245
Restricted for benefits to be provided by TDA Program	30,074,416	—	—	30,074,416
Restricted for other employee benefits	—	15,897,508	4,036,331	19,933,839
Total net position	$179,634,516	$15,897,508	$4,036,331	$199,568,355

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK

PENSION AND OTHER EMPLOYEE BENEFIT TRUST FUNDS
COMBINING STATEMENT OF FIDUCIARY NET POSITION

JUNE 30, 2015
(in thousands)

		Other Employee Benefit Trust Funds		
	Pension Funds*	Deferred Compensation Plans December 31, 2014	The New York City Other Postemployment Benefits Plan	Total
ASSETS:				
Cash and cash equivalents	$ 159,639	$ 14,820	$ 897,653	$ 1,072,112
Receivables:				
Member loans	2,011,781	231,103	—	2,242,884
Investment securities sold	5,260,694	—	—	5,260,694
Accrued interest and dividends	510,306	—	2,749	513,055
Other receivables	11	—	205	216
Total receivables	7,782,792	231,103	2,954	8,016,849
Investments:				
Short-term investments	9,912,775	—	—	9,912,775
Debt securities	38,817,775	—	3,130,228	41,948,003
Equity securities	60,297,544	—	—	60,297,544
Alternative investments	23,870,592	—	—	23,870,592
Mutual funds	—	10,204,567	—	10,204,567
Collective trust funds	49,232,865	—	—	49,232,865
Collateral from securities lending transactions	11,188,889	—	—	11,188,889
Guaranteed investment contracts	—	5,159,254	—	5,159,254
Total investments	193,320,440	15,363,821	3,130,228	211,814,489
Other assets	271,226	2,732	222	274,180
Total assets	201,534,097	15,612,476	4,031,057	221,177,630
LIABILITIES:				
Accounts payable and accrued liabilities	938,826	6,239	524,822	1,469,887
Payable for investment securities purchased	10,207,496	—	109,711	10,317,207
Accrued benefits payable	723,878	—	—	723,878
Securities lending transactions	11,188,889	—	—	11,188,889
Other liabilities	85,655	—	—	85,655
Total liabilities	23,144,744	6,239	634,533	23,785,516
NET POSITION:				
Restricted for benefits to be provided by QPPs	145,769,301	—	—	145,769,301
Restricted for benefits to be provided by VSFs	3,775,111	—	—	3,775,111
Restricted for benefits to be provided by TDA program	28,844,941	—	—	28,844,941
Restricted for other employee benefits	—	15,606,237	3,396,524	19,002,761
Total net position	$178,389,353	$15,606,237	$3,396,524	$197,392,114

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK

PENSION AND OTHER EMPLOYEE BENEFIT TRUST FUNDS
COMBINING STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEAR ENDED JUNE 30, 2016
(in thousands)

		Other Employee Benefit Trust Funds		
	Pension Funds*	Deferred Compensation Plans December 31, 2015	The New York City Other Postemployment Benefits Plan	Total
ADDITIONS:				
Contributions:				
Member contributions	$ 1,859,350	$ 879,864	$ —	$ 2,739,214
Employer contributions.	10,781,973	—	2,897,129	13,679,102
Other employer contributions	58,145	—	—	58,145
Total contributions	12,699,468	879,864	2,897,129	16,476,461
Investment income:				
Interest income	2,212,985	122,953	20,565	2,356,503
Dividend income	2,561,066	—	—	2,561,066
Net depreciation in fair value of investments	(1,323,067)	(76,782)	—	(1,399,849)
Investment expenses	(640,509)	(33,008)	—	(673,517)
Investment income, net	2,810,475	13,163	20,565	2,844,203
Securities lending transactions:				
Securities lending income.	88,389	—	—	88,389
Securities lending fees.	(6,057)	—	—	(6,057)
Net securities lending income	82,332	—	—	82,332
Other	(106,450)	—	—	(106,450)
Total additions	15,485,825	893,027	2,917,694	19,296,546
DEDUCTIONS:				
Benefit payments and withdrawals	14,052,394	587,624	2,277,516	16,917,534
Administrative expenses	180,828	14,132	371	195,331
Other	7,440	—	—	7,440
Total deductions	14,240,662	601,756	2,277,887	17,120,305
Net increase in net position	1,245,163	291,271	639,807	2,176,241
NET POSITION:				
Restricted for benefits:				
Beginning of year	178,389,353	15,606,237	3,396,524	197,392,114
End of year	$179,634,516	$15,897,508	$4,036,331	$199,568,355

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK

PENSION AND OTHER EMPLOYEE BENEFIT TRUST FUNDS
COMBINING STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEAR ENDED JUNE 30, 2015
(in thousands)

		Other Employee Benefit Trust Funds		
	Pension Funds*	Deferred Compensation Plans December 31, 2014	The New York City Other Postemployment Benefits Plan	Total
ADDITIONS:				
Contributions:				
Member contributions	$ 1,752,458	$ 773,269	$ —	$ 2,525,727
Employer contributions	9,986,767	—	3,135,897	13,122,664
Other employer contributions	55,521	—	—	55,521
Total contributions	11,794,746	773,269	3,135,897	15,703,912
Investment income:				
Interest income	1,991,785	126,421	10,030	2,128,236
Dividend income	2,832,442	—	—	2,832,442
Net appreciation in fair value of investments	631,087	784,761	—	1,415,848
Investment expenses	(708,866)	(32,748)	—	(741,614)
Investment income, net	4,746,448	878,434	10,030	5,634,912
Securities lending transactions:				
Securities lending income	82,478	—	—	82,478
Securities lending fees	(5,353)	—	—	(5,353)
Net securities lending income	77,125	—	—	77,125
Other	2,713	—	—	2,713
Total additions	16,621,032	1,651,703	3,145,927	21,418,662
DEDUCTIONS:				
Benefit payments and withdrawals	13,443,504	582,006	2,127,022	16,152,532
Administrative expenses	170,701	13,637	524	184,862
Other	7,142	—	—	7,142
Total deductions	13,621,347	595,643	2,127,546	16,344,536
Net increase in net position	2,999,685	1,056,060	1,018,381	5,074,126
NET POSITION:				
Restricted for benefits:				
Beginning of year	175,389,668	14,550,177	2,378,143	192,317,988
End of year	$178,389,353	$15,606,237	$3,396,524	$197,392,114

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK

PENSION TRUST FUNDS*
COMBINING SCHEDULE OF FIDUCIARY NET POSITION

JUNE 30, 2016
(in thousands)

	New York City Employees' Retirement System	Teachers' Retirement System**	Board of Education Retirement System**	New York City Police Pension Funds	New York City Fire Pension Funds	Total
ASSETS:						
Cash and cash equivalents	$ 166,041	$ 9,856	$ 532	$ 118,867	$ 48,755	$ 344,051
Receivables:						
Member loans	1,081,783	643,568	85,669	251,861	26,917	2,089,798
Investment securities sold	1,413,529	1,802,207	119,970	668,224	177,664	4,181,594
Accrued interest and dividends	280,765	164,612	873	69,223	22,174	537,647
Other receivables	11	—	3	—	—	14
Total receivables	2,776,088	2,610,387	206,515	989,308	226,755	6,809,053
Investments:						
Short-term investments	1,614,900	2,314,459	113,900	857,866	216,091	5,117,216
Debt securities	11,446,576	15,196,888	890,152	7,312,481	2,361,866	37,207,963
Equity securities	18,523,033	31,885,457	726,951	6,793,390	1,802,947	59,731,778
Alternative investments	9,873,044	6,872,850	506,922	6,382,258	2,117,856	25,752,930
Collective trust funds:						
Debt securities	4,078,137	4,576,038	354,248	2,462,140	1,096,178	12,566,741
Domestic equity	—	—	1,401,665	6,013,129	2,103,107	9,517,901
International equity	9,220,895	11,507,149	942,911	5,856,080	2,104,733	29,631,768
Collateral from securities lending transactions	5,267,092	2,141,284	493,265	3,078,231	922,481	11,902,353
Total investments	60,023,677	74,494,125	5,430,014	38,755,575	12,725,259	191,428,650
Other assets	84,632	42,280	124,031	16,104	6,176	273,223
Total assets	63,050,438	77,156,648	5,761,092	39,879,854	13,006,945	198,854,977
LIABILITIES:						
Accounts payable and accrued liabilities	177,909	499,669	6,907	279,398	92,147	1,056,030
Payable for investment securities purchased	1,794,940	2,338,120	104,115	904,834	235,314	5,377,323
Accrued benefits payable	314,386	103,690	14,140	305,412	49,381	787,009
Securities lending transactions	5,267,092	2,141,284	493,265	3,078,231	922,481	11,902,353
Other liabilities	1,590	—	96,156	—	—	97,746
Total liabilities	7,555,917	5,082,763	714,583	4,567,875	1,299,323	19,220,461
NET POSITION:						
Restricted for benefits to be provided by QPPs	55,489,504	43,629,545	3,416,433	33,482,610	10,899,763	146,917,855
Restricted for benefits to be provided by VSFs	5,017	—	—	1,829,369	807,859	2,642,245
Restricted for benefits to be provided by TDA Program	—	28,444,340	1,630,076	—	—	30,074,416
Total net position	$55,494,521	$72,073,885	$5,046,509	$35,311,979	$11,707,622	$179,634,516

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.
** Investment categories include fixed return funds and variable funds of the QPPs.

THE CITY OF NEW YORK
PENSION TRUST FUNDS*
COMBINING SCHEDULE OF FIDUCIARY NET POSITION

JUNE 30, 2015
(in thousands)

	New York City Employees' Retirement System	Teachers' Retirement System**	Board of Education Retirement System**	New York City Police Pension Funds	New York City Fire Pension Funds	Total
ASSETS:						
Cash and cash equivalents	$ 44,296	$ 25,990	$ 16,265	$ 52,320	$ 20,768	$ 159,639
Receivables:						
Member loans	1,027,069	618,116	81,184	256,288	29,124	2,011,781
Investment securities sold	1,639,525	2,856,517	55,004	521,013	188,635	5,260,694
Accrued interest and dividends	267,572	158,439	829	63,697	19,769	510,306
Other receivables	11	—	—	—	—	11
Total receivables	2,934,177	3,633,072	137,017	840,998	237,528	7,782,792
Investments:						
Short-term investments	2,673,869	3,945,043	215,612	2,354,399	723,852	9,912,775
Debt securities	12,231,677	15,495,329	861,891	7,622,814	2,606,064	38,817,775
Equity securities	18,188,567	32,713,127	784,214	6,668,018	1,943,618	60,297,544
Alternative investments	9,824,907	6,002,260	385,819	5,770,380	1,887,226	23,870,592
Collective trust funds:						
Debt securities	3,258,890	3,456,238	249,171	1,838,110	827,186	9,629,595
Domestic equity	—	—	1,432,065	5,940,312	1,951,729	9,324,106
International equity	9,501,921	11,615,671	969,838	6,030,187	2,161,547	30,279,164
Collateral from securities lending transactions	4,789,313	2,438,758	331,742	2,792,751	836,325	11,188,889
Total investments	60,469,144	75,666,426	5,230,352	39,016,971	12,937,547	193,320,440
Other assets	140,813	3,681	106,257	14,879	5,596	271,226
Total assets	63,588,430	79,329,169	5,489,891	39,925,168	13,201,439	201,534,097
LIABILITIES:						
Accounts payable and accrued liabilities	142,088	481,746	6,199	233,964	74,829	938,826
Payable for investment securities purchased	3,368,991	4,709,879	91,175	1,445,424	592,027	10,207,496
Accrued benefits payable	257,254	110,539	11,506	294,500	50,079	723,878
Securities lending transactions	4,789,313	2,438,758	331,742	2,792,751	836,325	11,188,889
Other liabilities	1,754	—	83,901	—	—	85,655
Total liabilities	8,559,400	7,740.922	524,523	4,766,639	1,553,260	23,144,744
NET POSITION:						
Restricted for benefits to be provided by QPPs	54,889,324	44,254,665	3,454,009	32,355,973	10,815,330	145,769,301
Restricted for benefits to be provided by VSFs	139,706	—	—	2,802,556	832,849	3,775,111
Restricted for benefits to be provided by TDA program	—	27,333,582	1,511,359	—	—	28,844,941
Total net position	$55,029,030	$71,588,247	$4,965,368	$35,158,529	$11,648,179	$178,389,353

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

** Investment categories include fixed return fund and variable funds of the QPPs.

THE CITY OF NEW YORK

PENSION TRUST FUNDS*

COMBINING SCHEDULE OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEAR ENDED JUNE 30, 2016

(in thousands)

	New York City Employees' Retirement System	Teachers' Retirement System	Board of Education Retirement System	New York City Police Pension Funds	New York City Fire Pension Funds	Total
ADDITIONS:						
Contributions:						
Member contributions	$ 485,508	$ 891,262	$ 116,040	$ 249,921	$ 116,619	$ 1,859,350
Employer contributions	3,365,454	3,702,569	265,532	2,393,940	1,054,478	10,781,973
Other employer contributions	—	58,145	—	—	—	58,145
Total contributions	3,850,962	4,651,976	381,572	2,643,861	1,171,097	12,699,468
Investment income:						
Interest income	692,957	893,691	48,122	433,009	145,206	2,212,985
Dividend income	836,490	1,024,591	57,316	484,994	157,675	2,561,066
Net (depreciation) appreciation in fair value of investments	(174,204)	(780,798)	71,243	(379,436)	(59,872)	(1,323,067)
Investment expenses	(212,996)	(209,423)	(14,998)	(156,771)	(46,321)	(640,509)
Investment income, net	1,142,247	928,061	161,683	381,796	196,688	2,810,475
Securities lending transactions:						
Securities lending income.	31,719	22,796	3,763	23,249	6,862	88,389
Securities lending fees	(2,062)	(1,785)	(253)	(1,511)	(446)	(6,057)
Net securities lending income	29,657	21,011	3,510	21,738	6,416	82,332
Other	2,928	1,233	(161,040)	6,756	43,673	(106,450)
Total additions	5,025,794	5,602,281	385,725	3,054,151	1,417,874	15,485,825
DEDUCTIONS:						
Benefit payments and withdrawals	4,496,180	5,024,644	290,916	2,882,223	1,358,431	14,052,394
Administrative expenses	56,683	91,999	13,668	18,478	—	180,828
Other	7,440	—	—	—	—	7,440
Total deductions	4,560,303	5,116,643	304,584	2,900,701	1,358,431	14,240,662
Net increase in net position	465,491	485,638	81,141	153,450	59,443	1,245,163
NET POSITION:						
Restricted for benefits:						
Beginning of year	55,029,030	71,588,247	4,965,368	35,158,529	11,648,179	178,389,353
End of year	$55,494,521	$72,073,885	$5,046,509	$35,311,979	$11,707,622	$179,634,516

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK

PENSION TRUST FUNDS*
COMBINING SCHEDULE OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEAR ENDED JUNE 30, 2015
(in thousands)

	New York City Employees' Retirement System	Teachers' Retirement System	Board of Education Retirement System	New York City Police Pension Funds	New York City Fire Pension Funds	Total
ADDITIONS:						
Contributions:						
Member contributions	$ 467,129	$ 821,191	$ 114,454	$ 241,102	$ 108,582	$ 1,752,458
Employer contributions	3,160,258	3,270,007	258,099	2,309,619	988,784	9,986,767
Other employer contributions	—	55,521	—	—	—	55,521
Total contributions	3,627,387	4,146,719	372,553	2,550,721	1,097,366	11,794,746
Investment income:						
Interest income	635,757	791,153	40,009	402,092	122,774	1,991,785
Dividend income	795,259	1,016,098	51,814	730,243	239,028	2,832,442
Net (depreciation) appreciation in fair value of investments	(50,658)	422,297	116,300	139,762	3,386	631,087
Investment expenses	(231,760)	(205,719)	(10,851)	(192,509)	(68,027)	(708,866)
Investment income, net	1,148,598	2,023,829	197,272	1,079,588	297,161	4,746,448
Securities lending transactions:						
Securities lending income	28,196	25,524	3,050	19,927	5,781	82,478
Securities lending fees	(1,685)	(1,792)	(206)	(1,295)	(375)	(5,353)
Net securities lending income	26,511	23,732	2,844	18,632	5,406	77,125
Other	4,140	329	(47,573)	4,616	41,201	2,713
Total additions	4,806,636	6,194,609	525,096	3,653,557	1,441,134	16,621,032
DEDUCTIONS:						
Benefit payments and withdrawals	4,325,756	4,885,617	262,466	2,749,775	1,219,890	13,443,504
Administrative expenses	54,635	84,174	13,989	17,903	—	170,701
Other	7,142	—	—	—	—	7,142
Total deductions	4,387,533	4,969,791	276,455	2,767,678	1,219,890	13,621,347
Net increase in net position	419,103	1,224,818	248,641	885,879	221,244	2,999,685
NET POSITION:						
Restricted for benefits:						
Beginning of year	54,609,927	70,363,429	4,716,727	34,272,650	11,426,935	175,389,668
End of year	$55,029,030	$71,588,247	$4,965,368	$35,158,529	$11,648,179	$178,389,353

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK

PENSION TRUST FUNDS*
NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM
COMBINING SCHEDULE OF FIDUCIARY NET POSITION

JUNE 30, 2016
(in thousands)

	NYCERS Qualified Pension Plan (QPP)	Variable Supplements Funds (VSFs)						Total New York City Employees' Retirement System
		TPOVSF	TPSOVSF	HPOVSF	HPSOVSF	COVSF	Eliminations	
ASSETS:								
Cash and cash equivalents	$ 165,685	$ 29	$ 40	$ 30	$ 44	$ 213	$ —	$ 166,041
Receivables:								
Member loans	1,081,783	—	—	—	—	—	—	1,081,783
Investment securities sold	1,413,529	—	—	—	—	—	—	1,413,529
Accrued interest and dividends	280,740	—	—	—	—	25	—	280,765
Other receivables.	—	—	—	—	—	11	—	11
Transferrable earnings due from QPP to VSFs	—	—	—	—	—	3,000	(3,000)	—
Total receivables	2,776,052	—	—	—	—	3,036	(3,000)	2,776,088
Investments:								
Short-term investments	1,571,207	—	—	—	—	43,693	—	1,614,900
Debt securities	11,446,576	—	—	—	—	—	—	11,446,576
Equity securities	18,523,033	—	—	—	—	—	—	18,523,033
Alternative investments	9,873,044	—	—	—	—	—	—	9,873,044
Collective trust funds:								
Debt securities	4,078,137	—	—	—	—	—	—	4,078,137
International equity	9,220,895	—	—	—	—	—	—	9,220,895
Collateral from securities lending transactions	5,267,092	—	—	—	—	—	—	5,267,092
Total investments	59,979,984	—	—	—	—	43,693	—	60,023,677
Due from QPP	—	1,967	1,448	991	1,318	—	(5,724)	—
Other assets	84,632	—	—	—	—	—	—	84,632
Total assets	63,006,353	1,996	1,488	1,021	1,362	46,942	(8,724)	63,050,438
LIABILITIES:								
Accounts payable and accrued liabilities	177,887	22	—	—	—	—	—	177,909
Payable for investment securities purchased	1,794,940	—	—	—	—	—	—	1,794,940
Accrued benefits payable	266,616	1,974	1,488	1,021	1,362	41,925	—	314,386
Transferrable earnings due from QPP to VSFs	3,000	—	—	—	—	—	(3,000)	—
Due to VSFs	5,724	—	—	—	—	—	(5,724)	—
Securities lending transactions	5,267,092	—	—	—	—	—	—	5,267,092
Other liabilities	1,590	—	—	—	—	—	—	1,590
Total liabilities	7,516,849	1,996	1,488	1,021	1,362	41,925	(8,724)	7,555,917
NET POSITION:								
Restricted for benefits to be provided by QPP	55,489,504	—	—	—	—	—	—	55,489,504
Restricted for benefits to be provided by VSFs	—	—	—	—	—	5,017	—	5,017
Total net position	$55,489,504	$ —	$ —	$ —	$ —	$ 5,017	$ —	$55,494,521

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK

PENSION TRUST FUNDS*
NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM
COMBINING SCHEDULE OF FIDUCIARY NET POSITION

JUNE 30, 2015
(in thousands)

	NYCERS Qualified Pension Plan (QPP)	Variable Supplements Funds (VSFs) TPOVSF	TPSOVSF	HPOVSF	HPSOVSF	COVSF	Eliminations	Total New York City Employees' Retirement System
Assets:								
Cash and cash equivalents	$ 40,548	$ 16	$ 33	$ 30	$ 38	$ 3,631	$ —	$ 44,296
Receivables:								
Member loans	1,027,069	—	—	—	—	—	—	1,027,069
Investment securities sold	1,639,525	—	—	—	—	—	—	1,639,525
Accrued interest and dividends	267,570	—	—	—	—	2	—	267,572
Other receivables	—	—	—	—	1	10	—	11
Transferrable earnings due from QPP to VSFs	—	—	—	—	—	49,000	(49,000)	—
Total receivables	2,934,164	—	—	—	1	49,012	(49,000)	2,934,177
Investments:								
Short-term investments	2,547,113	—	—	—	—	126,756	—	2,673,869
Debt securities	12,231,677	—	—	—	—	—	—	12,231,677
Equity securities	18,188,567	—	—	—	—	—	—	18,188,567
Alternative investments	9,824,907	—	—	—	—	—	—	9,824,907
Collective trust funds:								
Debt securities	3,258,890	—	—	—	—	—	—	3,258,890
International equity	9,501,921	—	—	—	—	—	—	9,501,921
Collateral from securities lending transactions	4,789,313	—	—	—	—	—	—	4,789,313
Total investments	60,342,388	—	—	—	—	126,756	—	60,469,144
Due from QPP	—	2,019	1,530	1,044	1,354	—	(5,947)	—
Other assets	140,813	—	—	—	—	—	—	140,813
Total assets	63,457,913	2,035	1,563	1,074	1,393	179,399	(54,947)	63,588,430
Liabilities:								
Accounts payable and accrued liabilities	142,067	21	—	—	—	—	—	142,088
Payable for investment securities purchased	3,368,991	—	—	—	—	—	—	3,368,991
Accrued benefits payable	211,517	2,014	1,563	1,074	1,393	39,693	—	257,254
Transferrable earnings due from QPP to VSFs	49,000	—	—	—	—	—	(49,000)	—
Due to VSFs	5,947	—	—	—	—	—	(5,947)	—
Securities lending transactions	4,789,313	—	—	—	—	—	—	4,789,313
Other liabilities	1,754	—	—	—	—	—	—	1,754
Total liabilities	8,568,589	2,035	1,563	1,074	1,393	39,693	(54,947)	8,559,400
Net Position:								
Restricted for benefits to be provided by QPP	54,889,324	—	—	—	—	—	—	54,889,324
Restricted for benefits to be provided by VSFs	—	—	—	—	—	139,706	—	139,706
Total net position	$54,889,324	$ —	$ —	$ —	$ —	$139,706	$ —	$55,029,030

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK

PENSION TRUST FUNDS*
NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM
COMBINING SCHEDULE OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEAR ENDED JUNE 30, 2016
(in thousands)

	NYCERS Qualified Pension Plan (QPP)	Variable Supplements Funds (VSFs)						Total New York City Employees' Retirement System
		TPOVSF	TPSOVSF	HPOVSF	HPSOVSF	COVSF	Eliminations	
ADDITIONS:								
Contributions:								
Member contributions	$ 485,508	$ —	$ —	$ —	$ —	$ —	$ —	$ 485,508
Employer contributions	3,365,454	—	—	—	—	—	—	3,365,454
Total contributions	3,850,962	—	—	—	—	—	—	3,850,962
Investment income:								
Interest income	692,773	—	—	—	—	184	—	692,957
Dividend income	836,490	—	—	—	—	—	—	836,490
Net depreciation in fair value of investments	(174,204)	—	—	—	—	—	—	(174,204)
Investment expenses	(212,996)	—	—	—	—	—	—	(212,996)
Investment income, net	1,142,063	—	—	—	—	184	—	1,142,247
Securities lending transactions:								
Securities lending income	31,719	—	—	—	—	—	—	31,719
Securities lending fees	(2,062)	—	—	—	—	—	—	(2,062)
Net securities lending income	29,657	—	—	—	—	—	—	29,657
Payments from QPP	—	3,945	2,964	1,968	2,648	—	(11,525)	—
Transferrable earnings due from QPP to VSFs	—	—	—	—	—	(52,724)	52,724	—
Other	2,928	—	—	—	—	—	—	2,928
Total additions	5,025,610	3,945	2,964	1,968	2,648	(52,540)	41,199	5,025,794
DEDUCTIONS:								
Benefit payments and withdrawals	4,402,506	3,945	2,964	1,968	2,648	82,149	—	4,496,180
Payments to VSFs	11,525	—	—	—	—	—	(11,525)	—
Transferrable earnings due from QPP to VSFs	(52,724)	—	—	—	—	—	52,724	—
Administrative expenses	56,683	—	—	—	—	—	—	56,683
Other	7,440	—	—	—	—	—	—	7,440
Total deductions	4,425,430	3,945	2,964	1,968	2,648	82,149	41,199	4,560,303
Net increase (decrease) in net position	600,180	—	—	—	—	(134,689)	—	465,491
NET POSITION:								
Restricted for benefits:								
Beginning of year	54,889,324	—	—	—	—	139,706	—	55,029,030
End of year	$55,489,504	$ —	$ —	$ —	$ —	$ 5,017	$ —	$ 55,494,521

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK

PENSION TRUST FUNDS*
NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM
COMBINING SCHEDULE OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEAR ENDED JUNE 30, 2015
(in thousands)

	NYCERS Qualified Pension Plan (QPP)	Variable Supplements Funds (VSFs)						Total New York City Employees' Retirement System
		TPOVSF	TPSOVSF	HPOVSF	HPSOVSF	COVSF	Eliminations	
ADDITIONS:								
Contributions:								
Member contributions	$ 467,129	$ —	$ —	$ —	$ —	$ —	$ —	$ 467,129
Employer contributions	3,160,258	—	—	—	—	—	—	3,160,258
Total contributions	3,627,387	—	—	—	—	—	—	3,627,387
Investment income:								
Interest income	635,747	—	—	—	—	10	—	635,757
Dividend income	795,259	—	—	—	—	—	—	795,259
Net depreciation in fair value of investments	(50,658)	—	—	—	—	—	—	(50,658)
Investment expenses	(231,760)	—	—	—	—	—	—	(231,760)
Investment income, net	1,148,588	—	—	—	—	10	—	1,148,598
Securities lending transactions:								
Securities lending income	28,196	—	—	—	—	—	—	28,196
Securities lending fees	(1,685)	—	—	—	—	—	—	(1,685)
Net securities lending income	26,511	—	—	—	—	—	—	26,511
Payments from QPP	—	4,040	3,080	2,100	2,686	12	(11,918)	—
Transferrable earnings due from QPP to VSFs	—	—	—	—	—	30,000	(30,000)	—
Other	4,140	—	—	—	—	—	—	4,140
Total additions	4,806,626	4,040	3,080	2,100	2,686	30,022	(41,918)	4,806,636
DEDUCTIONS:								
Benefit payments and withdrawals	4,235,565	4,040	3,080	2,100	2,686	78,285	—	4,325,756
Payments to VSFs	11,918	—	—	—	—	—	(11,918)	—
Transferrable earnings due from QPP to VSFs	30,000	—	—	—	—	—	(30,000)	—
Administrative expenses	54,635	—	—	—	—	—	—	54,635
Other	7,142	—	—	—	—	—	—	7,142
Total deductions	4,339,260	4,040	3,080	2,100	2,686	78,285	(41,918)	4,387,533
Net increase (decrease) in net position	467,366	—	—	—	—	(48,263)	—	419,103
NET POSITION:								
Restricted for benefits:								
Beginning of year	54,421,958	—	—	—	—	187,969	—	54,609,927
End of year	$54,889,324	$ —	$ —	$ —	$ —	$139,706	$ —	$55,029,030

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK
PENSION TRUST FUNDS*
TEACHERS' RETIREMENT SYSTEM
COMBINING SCHEDULE OF FIDUCIARY NET POSITION

JUNE 30, 2016
(in thousands)

	TRS Qualified Pension Plan (QPP)	Tax-Deferred Annuity Program (TDA)	Eliminations	Total Teachers' Retirement System
ASSETS:				
Cash and cash equivalents	$ 5,157	$ 4,699	$ —	$ 9,856
Receivables:				
Member loans	275,704	367,864	—	643,568
Investment securities sold	1,772,521	29,686	—	1,802,207
Accrued interest and dividends	151,330	13,282	—	164,612
Total receivables	2,199,555	410,832	—	2,610,387
Investments:				
Fixed return funds:				
Short-term investments	2,179,314	—	—	2,179,314
Debt securities	14,655,009	—	—	14,655,009
Equity securities	22,284,584	—	—	22,284,584
Alternative investments	6,872,850	—	—	6,872,850
Collective trust funds:				
International equity	11,507,149	—	—	11,507,149
Debt securities	4,576,038	—	—	4,576,038
Collateral from securities lending transactions	1,774,456	—	—	1,774,456
Variable Funds:				
Short-term investments	30,113	105,032	—	135,145
Debt securities	74,934	466,945	—	541,879
Equity securities	2,226,196	7,374,677	—	9,600,873
Collateral from securities lending transactions	84,226	282,602	—	366,828
Total investments	66,264,869	8,229,256	—	74,494,125
Investment in fixed return funds	—	20,292,733	(20,292,733)	—
Other assets	49,873	13,429	(21,022)	42,280
Total assets	68,519,454	28,950,949	(20,313,755)	77,156,648
LIABILITIES:				
Accounts payable and accrued liabilities	417,408	103,283	(21,022)	499,669
Payable for investment securities purchased	2,308,523	29,597	—	2,338,120
Accrued benefits payable	12,563	91,127	—	103,690
Due to TDA fixed return funds	20,292,733	—	(20,292,733)	—
Securities lending transactions	1,858,682	282,602	—	2,141,284
Total liabilities	24,889,909	506,609	(20,313,755)	5,082,763
NET POSITION:				
Restricted for benefits to be provided by QPP	43,629,545	—	—	43,629,545
Restricted for benefits to be provided by TDA Program	—	28,444,340	—	28,444,340
Total net position	$43,629,545	$28,444,340	$ —	$72,073,885

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK

PENSION TRUST FUNDS*
TEACHERS' RETIREMENT SYSTEM
COMBINING SCHEDULE OF FIDUCIARY NET POSITION

JUNE 30, 2015
(in thousands)

	TRS Qualified Pension Plan (QPP)	Tax-Deferred Annuity Program (TDA)	Eliminations	Total Teachers' Retirement System
ASSETS:				
Cash and cash equivalents	$ 22,674	$ 3,316	$ —	$ 25,990
Receivables:				
Member loans	257,043	361,073	—	618,116
Investment securities sold	2,766,976	89,541	—	2,856,517
Accrued interest and dividends	145,968	12,471	—	158,439
Total receivables	3,169,987	463,085	—	3,633,072
Investments:				
Fixed return funds:				
Short-term investments	3,804,020	—	—	3,804,020
Debt securities	14,936,440	—	—	14,936,440
Equity securities	21,988,143	—	—	21,988,143
Alternative investments	6,002,260	—	—	6,002,260
Collective trust funds:				
International equity	11,615,671	—	—	11,615,671
Debt securities	3,456,238	—	—	3,456,238
Collateral from securities lending transactions	1,663,710	—	—	1,663,710
Variable Funds:				
Short-term investments	34,767	106,256	—	141,023
Debt securities	97,139	461,750	—	558,889
Equity securities	2,822,011	7,902,973	—	10,724,984
Collateral from securities lending transactions	200,213	574,835	—	775,048
Total investments	66,620,612	9,045,814	—	75,666,426
Investment in fixed return funds	—	18,699,332	(18,699,332)	—
Other assets	27,855	3,725	(27,899)	3,681
Total assets	69,841,128	28,215,272	(18,727,231)	79,329,169
LIABILITIES:				
Accounts payable and accrued liabilities	391,945	117,700	(27,899)	481,746
Payable for investment securities purchased	4,616,284	93,595	—	4,709,879
Accrued benefits payable	14,979	95,560	—	110,539
Due to TDA program fixed return funds	18,699,332	—	(18,699,332)	—
Securities lending transactions	1,863,923	574,835	—	2,438,758
Total liabilities	25,586,463	881,690	(18,727,231)	7,740,922
NET POSITION:				
Restricted for benefits to be provided by QPP	44,254,665	—	—	44,254,665
Restricted for benefits to be provided by TDA program	—	27,333,582	—	27,333,582
Total net position	$44,254,665	$27,333,582	$ —	$71,588,247

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK

PENSION TRUST FUNDS*
TEACHERS' RETIREMENT SYSTEM
COMBINING SCHEDULE OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEAR ENDED JUNE 30, 2016
(in thousands)

	TRS Qualified Pension Plan (QPP)	Tax-Deferred Annuity Program (TDA)	Total Teachers' Retirement System
ADDITIONS:			
Contributions:			
Member contributions	$ 173,696	$ 717,566	$ 891,262
Employer contributions	3,702,569	—	3,702,569
Other employer contributions	58,145	—	58,145
Total contributions	3,934,410	717,566	4,651,976
Investment income:			
Interest income	860,222	33,469	893,691
Dividend income	896,208	128,383	1,024,591
Net depreciation in fair value of investments	(598,443)	(182,355)	(780,798)
Investment expenses	(215,068)	5,645	(209,423)
Investment income (loss), net	942,919	(14,858)	928,061
Securities lending transactions:			
Securities lending income	18,742	4,054	22,796
Securities lending fees	(1,395)	(390)	(1,785)
Net securities lending income	17,347	3,664	21,011
Other	1,233	—	1,233
Total additions	4,895,909	706,372	5,602,281
DEDUCTIONS:			
Benefit payments and withdrawals	4,107,455	917,189	5,024,644
Administrative expenses	59,367	32,632	91,999
Interest on TDA Program fixed return funds	1,354,207	(1,354,207)	—
Total deductions	5,521,029	(404,386)	5,116,643
Net (decrease) increase in net position	(625,120)	1,110,758	485,638
NET POSITION:			
Restricted for benefits:			
Beginning of year	44,254,665	27,333,582	71,588,247
End of year	$43,629,545	$28,444,340	$72,073,885

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK

PENSION TRUST FUNDS*
TEACHERS' RETIREMENT SYSTEM
COMBINING SCHEDULE OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEAR ENDED JUNE 30, 2015
(in thousands)

	TRS Qualified Pension Plan (QPP)	Tax-Deferred Annuity Program (TDA)	Total Teachers' Retirement System
ADDITIONS:			
Contributions:			
Member contributions	$ 158,590	$ 662,601	$ 821,191
Employer contributions	3,270,007	—	3,270,007
Other employer contributions	55,521	—	55,521
Total contributions	3,484,118	662,601	4,146,719
Investment income:			
Interest income	758,526	32,627	791,153
Dividend income	889,231	126,867	1,016,098
Net appreciation in fair value of investments	146,833	275,464	422,297
Investment expenses	(202,961)	(2,758)	(205,719)
Investment income, net	1,591,629	432,200	2,023,829
Securities lending transactions:			
Securities lending income	21,713	3,811	25,524
Securities lending fees	(1,413)	(379)	(1,792)
Net securities lending income	20,300	3,432	23,732
Interest on TDA program fixed return funds	(1,248,988)	1,248,988	—
Other	329	—	329
Total additions	3,847,388	2,347,221	6,194,609
DEDUCTIONS:			
Benefit payments and withdrawals	4,024,272	861,345	4,885,617
Administrative expenses	58,391	25,783	84,174
Total deductions	4,082,663	887,128	4,969,791
Net (decrease) increase in net position	(235,275)	1,460,093	1,224,818
NET POSITION:			
Restricted for benefits:			
Beginning of year	44,489,940	25,873,489	70,363,429
End of year	$44,254,665	$27,333,582	$71,588,247

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK

PENSION TRUST FUNDS*
BOARD OF EDUCATION RETIREMENT SYSTEM
COMBINING SCHEDULE OF FIDUCIARY NET POSITION

JUNE 30, 2016
(in thousands)

	BERS Qualified Pension Plan (QPP)	Tax-Deferred Annuity Program (TDA)	Eliminations	Total Board of Education Retirement System
ASSETS:				
Cash and cash equivalents	$ 327	$ 205	$ —	$ 532
Receivables:				
Member loans	46,748	38,921	—	85,669
Investment securities sold	119,062	908	—	119,970
Accrued interest and dividends	247	626	—	873
Other receivables	3	—	—	3
Total receivables	166,060	40,455	—	206,515
Investments:				
Fixed return funds:				
Short-term investments	107,821	—	—	107,821
Debt securities	879,762	—	—	879,762
Equity securities	291,144	—	—	291,144
Alternative investments	506,922	—	—	506,922
Collective trust funds:				
Debt securities	354,248	—	—	354,248
Domestic equity	1,401,665	—	—	1,401,665
International equity	942,911	—	—	942,911
Collateral from securities lending transactions	476,001	—	—	476,001
Variable funds:				
Short-term investments	571	5,508	—	6,079
Debt securities	976	9,414	—	10,390
Equity securities	40,953	394,854	—	435,807
Collateral from securities lending transactions	1,622	15,642	—	17,264
Total investments	5,004,596	425,418	—	5,430,014
Investment in fixed return funds	—	1,283,481	(1,283,481)	—
Other assets	124,031	—	—	124,031
Total assets	5,295,014	1,749,559	(1,283,481)	5,761,092
LIABILITIES:				
Accounts payable and accrued liabilities	6,907	—	—	6,907
Payable for investment securities purchased	103,213	902	—	104,115
Accrued benefits payable	7,357	6,783	—	14,140
Due to TDA Program fixed return funds	1,283,481	—	(1,283,481)	—
Securities lending transactions	477,623	15,642	—	493,265
Other liabilities	—	96,156		96,156
Total liabilities	1,878,581	119,483	(1,283,481)	714,583
NET POSITION:				
Restricted for benefits to be provided by QPP	3,416,433	—	—	3,416,433
Restricted for benefits to be provided by TDA Program	—	1,630,076	—	1,630,076
Total net position	$3,416,433	$1,630,076	$ —	$5,046,509

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK

PENSION TRUST FUNDS*
BOARD OF EDUCATION RETIREMENT SYSTEM
COMBINING SCHEDULE OF FIDUCIARY NET POSITION

JUNE 30, 2015
(in thousands)

	BERS Qualified Pension Plan (QPP)	Tax-Deferred Annuity Program (TDA)	Eliminations	Total Board of Education Retirement System
ASSETS:				
Cash and cash equivalents	$ 16,143	$ 122	$ —	$ 16,265
Receivables:				
Member loans	44,675	36,509	—	81,184
Investment securities sold	50,839	4,165	—	55,004
Accrued interest and dividends	239	590	—	829
Total receivables	95,753	41,264	—	137,017
Investments:				
Fixed return funds:				
Short-term investments	210,042	—	—	210,042
Debt securities	851,577	—	—	851,577
Equity securities	334,325	—	—	334,325
Alternative investments	385,819	—	—	385,819
Collective trust funds:				
Debt securities	249,171	—	—	249,171
Domestic equity	1,432,065	—	—	1,432,065
International equity	969,838	—	—	969,838
Collateral from securities lending transactions	298,872	—	—	298,872
Variable funds:				
Short-term investments	553	5,017	—	5,570
Debt securities	1,024	9,290	—	10,314
Equity securities	44,666	405,223	—	449,889
Collateral from securities lending transactions	3,263	29,607	—	32,870
Total investments	4,781,215	449,137	—	5,230,352
Investment in fixed return funds	—	1,144,817	(1,144,817)	—
Other assets	106,257	—	—	106,257
Total assets	4,999,368	1,635,340	(1,144,817)	5,489,891
LIABILITIES:				
Accounts payable and accrued liabilities	6,199	—	—	6,199
Payable for investment securities purchased	86,747	4,428	—	91,175
Accrued benefits payable	5,461	6,045	—	11,506
Due to TDA Program fixed return funds	1,144,817	—	(1,144,817)	—
Securities lending transactions	302,135	29,607	—	331,742
Other liabilities	—	83,901	—	83,901
Total liabilities	1,545,359	123,981	(1,144,817)	524,523
NET POSITION:				
Restricted for benefits to be provided by QPP	3,454,009	—	—	3,454,009
Restricted for benefits to be provided by TDA Program	—	1,511,359	—	1,511,359
Total net position	$3,454,009	$1,511,359	$ —	$4,965,368

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK

PENSION TRUST FUNDS*
BOARD OF EDUCATION RETIREMENT SYSTEM
COMBINING SCHEDULE OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEAR ENDED JUNE 30, 2016
(in thousands)

	BERS Qualified Pension Plan (QPP)	Tax-Deferred Annuity Program (TDA)	Total Board of Education Retirement System
ADDITIONS:			
Contributions:			
Member contributions	$ 38,581	$ 77,459	$ 116,040
Employer contributions	265,532	—	265,532
Total contributions	304,113	77,459	381,572
Investment income:			
Interest income	44,782	3,340	48,122
Dividend income	51,328	5,988	57,316
Net appreciation (depreciation) in fair value of investments	79,014	(7,771)	71,243
Investment expenses	(14,296)	(702)	(14,998)
Investment income, net	160,828	855	161,683
Securities lending transactions:			
Securities lending income	3,547	216	3,763
Securities lending fees	(231)	(22)	(253)
Net securities lending income	3,316	194	3,510
Interest on TDA Program fixed return funds	(94,789)	94,789	—
Other receipts from other retirement systems	(157,499)	(3,541)	(161,040)
Total additions	215,969	169,756	385,725
DEDUCTIONS:			
Benefit payments and withdrawals	240,727	50,189	290,916
Administrative expenses	12,818	850	13,668
Total deductions	253,545	51,039	304,584
Net (decrease) increase in net position	(37,576)	118,717	81,141
NET POSITION:			
Restricted for benefits:			
Beginning of year	3,454,009	1,511,359	4,965,368
End of year	$3,416,433	$1,630,076	$5,046,509

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK

PENSION TRUST FUNDS*
BOARD OF EDUCATION RETIREMENT SYSTEM
COMBINING SCHEDULE OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEAR ENDED JUNE 30, 2015
(in thousands)

	BERS Qualified Pension Plan (QPP)	Tax-Deferred Annuity Program (TDA)	Total Board of Education Retirement System
ADDITIONS:			
Contributions:			
Member contributions	$ 39,564	$ 74,890	$ 114,454
Employer contributions	258,099	—	258,099
Total contributions	297,663	74,890	372,553
Investment income:			
Interest income	36,898	3,111	40,009
Dividend income	46,207	5,607	51,814
Net appreciation in fair value of investments	101,496	14,804	116,300
Investment expenses	(10,098)	(753)	(10,851)
Investment income, net	174,503	22,769	197,272
Securities lending transactions:			
Securities lending income.	2,849	201	3,050
Securities lending fees	(186)	(20)	(206)
Net securities lending income	2,663	181	2,844
Interest on TDA Program fixed return funds.	(85,104)	85,104	—
Other receipts from other retirement systems.	(52,021)	4,448	(47,573)
Total additions	337,704	187,392	525,096
DEDUCTIONS:			
Benefit payments and withdrawals	223,244	39,222	262,466
Administrative expenses	10,956	3,033	13,989
Total deductions	234,200	42,255	276,455
Net increase in net position.	103,504	145,137	248,641
NET POSITION:			
Restricted for benefits:			
Beginning of year	3,279,265	1,437,462	4,716,727
Prior year adjustment	71,240	(71,240)	—
Beginning of year balance restated	3,350,505	1,366,222	4,716,727
End of year	$3,454,009	$1,511,359	$4,965,368

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK
PENSION TRUST FUNDS*
NEW YORK CITY POLICE PENSION FUNDS
COMBINING SCHEDULE OF FIDUCIARY NET POSITION

JUNE 30, 2016
(in thousands)

	POLICE Qualified Pension Plan (QPP)	Variable Supplements Funds (VSFs)		Eliminations	Total New York City Police Pension Funds
		POVSF	PSOVSF		
ASSETS:					
Cash and cash equivalents	$ 116,153	$ 1,851	$ 863	$ —	$ 118,867
Receivables:					
Member loans	251,861	—	—	—	251,861
Investment securities sold	575,823	65,948	26,453	—	668,224
Transferrable earnings due to/from QPP to VSFs	326,195	330,000	260,000	(916,195)	—
Accrued interest and dividends	66,102	2,317	804	—	69,223
Total receivables	1,219,981	398,265	287,257	(916,195)	989,308
Investments:					
Short-term investments	832,596	21,064	4,206	—	857,866
Debt securities	6,870,189	322,512	119,780	—	7,312,481
Equity securities	6,180,793	612,597	—	—	6,793,390
Alternative investments	6,382,258	—	—	—	6,382,258
Collective trust funds:					
Debt securities	2,462,140	—	—	—	2,462,140
Domestic equity	5,803,115	—	210,014	—	6,013,129
International equity	5,402,281	338,978	114,821	—	5,856,080
Collateral from securities lending transactions	2,945,709	97,014	35,508	—	3,078,231
Total investments	36,879,081	1,392,165	484,329	—	38,755,575
Other assets	16,104	—	—	—	16,104
Total assets	38,231,319	1,792,281	772,449	(916,195)	39,879,854
LIABILITIES:					
Accounts payable and accrued liabilities	260,836	12,289	6,273	—	279,398
Payable for investment securities purchased	837,047	48,023	19,764	—	904,834
Accrued benefits payable	115,117	76,586	113,709	—	305,412
Transferrable earnings due from/to QPP to VSFs	590,000	250,751	75,444	(916,195)	—
Securities lending transactions	2,945,709	97,014	35,508	—	3,078,231
Total liabilities	4,748,709	484,663	250,698	(916,195)	4,567,875
NET POSITION:					
Restricted for benefits to be provided by QPP	33,482,610	—	—	—	33,482,610
Restricted for benefits to be provided by VSFs	—	1,307,618	521,751	—	1,829,369
Total net position	$33,482,610	$1,307,618	$521,751	$ —	$35,311,979

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK

PENSION TRUST FUNDS*
NEW YORK CITY POLICE PENSION FUNDS
COMBINING SCHEDULE OF FIDUCIARY NET POSITION

JUNE 30, 2015
(in thousands)

	POLICE Qualified Pension Plan (QPP)	Variable Supplements Funds (VSFs) POVSF	Variable Supplements Funds (VSFs) PSOVSF	Eliminations	Total New York City Police Pension Funds
Assets:					
Cash and cash equivalents	$ 48,152	$ 3,027	$ 1,141	$ —	$ 52,320
Receivables:					
Member loans	256,288	—	—	—	256,288
Investment securities sold	461,115	46,598	13,300	—	521,013
Transferrable earnings due from QPP to VSFs	—	459,000	362,000	(821,000)	—
Accrued interest and dividends	60,370	2,299	1,028	—	63,697
Total receivables	777,773	507,897	376,328	(821,000)	840,998
Investments:					
Short-term investments	2,272,902	41,182	40,315	—	2,354,399
Debt securities	7,074,891	371,413	176,510	—	7,622,814
Equity securities	6,668,018	—	—	—	6,668,018
Alternative investments	5,770,380	—	—	—	5,770,380
Collective trust funds:					
Debt securities	1,838,110	—	—	—	1,838,110
Domestic equity	4,989,666	642,058	308,588	—	5,940,312
International equity	5,411,168	430,625	188,394	—	6,030,187
Collateral from securities lending transactions	2,678,845	70,156	43,750	—	2,792,751
Total investments	36,703,980	1,555,434	757,557	—	39,016,971
Other assets	14,879	—	—	—	14,879
Total assets	37,544,784	2,066,358	1,135,026	(821,000)	39,925,168
Liabilities:					
Accounts payable and accrued liabilities	233,964	—	—	—	233,964
Payable for investment securities purchased	1,347,025	72,623	25,776	—	1,445,424
Accrued benefits payable	107,977	75,645	110,878	—	294,500
Transferrable earnings due from QPP to VSFs	821,000	—	—	(821,000)	—
Securities lending transactions	2,678,845	70,156	43,750	—	2,792,751
Total liabilities	5,188,811	218,424	180,404	(821,000)	4,766,639
Net Position:					
Restricted for benefits to be provided by QPP	32,355,973	—	—	—	32,355,973
Restricted for benefits to be provided by VSFs	—	1,847,934	954,622	—	2,802,556
Total net position	$32,355,973	$1,847,934	$ 954,622	$ —	$35,158,529

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK

PENSION TRUST FUNDS*
NEW YORK CITY POLICE PENSION FUNDS
COMBINING SCHEDULE OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEAR ENDED JUNE 30, 2016
(in thousands)

	POLICE Qualified Pension Plan (QPP)	Variable Supplements Funds (VSFs) POVSF	PSOVSF	Eliminations	Total New York City Police Pension Funds
ADDITIONS:					
Contributions:					
Member contributions	$ 249,921	$ —	$ —	$ —	$ 249,921
Employer contributions	2,393,940	—	—	—	2,393,940
Total contributions	2,643,861	—	—	—	2,643,861
Investment income:					
Interest income	416,038	11,930	5,041	—	433,009
Dividend income	449,480	25,507	10,007	—	484,994
Net depreciation in fair value of investments	(85,518)	(170,921)	(122,997)	—	(379,436)
Investment expenses	(156,155)	(437)	(179)	—	(156,771)
Investment income (loss), net	623,845	(133,921)	(108,128)	—	381,796
Securities lending transactions:					
Securities lending income	21,896	967	386	—	23,249
Securities lending fees	(1,423)	(63)	(25)	—	(1,511)
Net securities lending income	20,473	904	361	—	21,738
Transferrable earnings due from QPP to VSFs	326,195	—	—	(326,195)	—
Other	6,479	147	130	—	6,756
Total additions	3,620,853	(132,870)	(107,637)	(326,195)	3,054,151
DEDUCTIONS:					
Benefit payments and withdrawals	2,475,738	156,695	249,790	—	2,882,223
Transferrable earnings due from QPP to VSFs	—	250,751	75,444	(326,195)	—
Administrative expenses	18,478	—	—	—	18,478
Total deductions	2,494,216	407,446	325,234	(326,195)	2,900,701
Net increase (decrease) in net position	1,126,637	(540,316)	(432,871)	—	153,450
NET POSITION:					
Restricted for benefits:					
Beginning of year	32,355,973	1,847,934	954,622	—	35,158,529
End of year	$33,482,610	$1,307,618	$521,751	$ —	$35,311,979

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK

PENSION TRUST FUNDS*
NEW YORK CITY POLICE PENSION FUNDS
COMBINING SCHEDULE OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEAR ENDED JUNE 30, 2015
(in thousands)

	POLICE Qualified Pension Plan (QPP)	Variable Supplements Funds (VSFs)		Eliminations	Total New York City Police Pension Funds
		POVSF	PSOVSF		
ADDITIONS:					
Contributions:					
Member contributions	$ 241,102	$ —	$ —	$ —	$ 241,102
Employer contributions	2,309,619	—	—	—	2,309,619
Total contributions	2,550,721	—	—	—	2,550,721
Investment income:					
Interest income	392,792	7,280	2,020	—	402,092
Dividend income	703,701	19,099	7,443	—	730,243
Net appreciation in fair value of investments	96,151	34,438	9,173	—	139,762
Investment expenses	(192,099)	(288)	(122)	—	(192,509)
Investment income, net	1,000,545	60,529	18,514	—	1,079,588
Securities lending transactions:					
Securities lending income	19,209	524	194	—	19,927
Securities lending fees	(1,248)	(34)	(13)	—	(1,295)
Net securities lending income	17,961	490	181	—	18,632
Payments from QPP	—	—	313	(313)	—
Transferrable earnings due from QPP to VSFs	—	330,000	260,000	(590,000)	—
Other	4,554	25	37	—	4,616
Total additions	3,573,781	391,044	279,045	(590,313)	3,653,557
DEDUCTIONS:					
Benefit payments and withdrawals	2,360,484	152,045	237,246	—	2,749,775
Payments to VSFs	313	—	—	(313)	—
Transferrable earnings due from QPP to VSFs	590,000	—	—	(590,000)	—
Administrative expenses	17,903	—	—	—	17,903
Total deductions	2,968,700	152,045	237,246	(590,313)	2,767,678
Net increase in net position	605,081	238,999	41,799	—	885,879
NET POSITION:					
Restricted for benefits:					
Beginning of year	31,750,892	1,608,935	912,823	—	34,272,650
End of year	$32,355,973	$1,847,934	$954,622	$ —	$35,158,529

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK
PENSION TRUST FUNDS*
NEW YORK CITY FIRE PENSION FUNDS
COMBINING SCHEDULE OF FIDUCIARY NET POSITION

JUNE 30, 2016
(in thousands)

	FIRE Qualified Pension Plan (QPP)	Variable Supplements Funds (VSFs)		Eliminations	Total New York City Fire Pension Funds
		FFVSF	FOVSF		
ASSETS:					
Cash and cash equivalents	$ 37,457	$ 10,740	$ 558	$ —	$ 48,755
Receivables:					
Member loans	26,917	—	—	—	26,917
Investment securities sold	153,595	12,433	11,636	—	177,664
Accrued interest and dividends	20,518	985	671	—	22,174
Transferrable earnings due from QPP to VSFs	—	59,739	29,134	(88,873)	—
Total receivables	201,030	73,157	41,441	(88,873)	226,755
Investments:					
Short-term investments	197,458	12,719	5,914	—	216,091
Debt securities	2,211,925	93,304	56,637	—	2,361,866
Equity securities	1,802,947	—	—	—	1,802,947
Alternative investments	2,117,856	—	—	—	2,117,856
Collective trust funds:					
Debt securities	1,034,765	37,279	24,134	—	1,096,178
Domestic equity	1,736,914	221,610	144,583	—	2,103,107
International equity	1,966,228	85,780	52,725	—	2,104,733
Collateral from securities lending transactions	854,211	37,719	30,551	—	922,481
Total investments	11,922,304	488,411	314,544	—	12,725,259
Other assets	6,176	—	—	—	6,176
Total assets	12,166,967	572,308	356,543	(88,873)	13,006,945
LIABILITIES:					
Accounts payable and accrued liabilities	89,435	—	2,712	—	92,147
Payable for investment securities purchased	215,792	10,514	9,008	—	235,314
Accrued benefits payable	18,893	21,225	9,263	—	49,381
Transferrable earnings due from QPP to VSFs	88,873	—	—	(88,873)	—
Securities lending transactions	854,211	37,719	30,551	—	922,481
Total liabilities	1,267,204	69,458	51,534	(88,873)	1,299,323
NET POSITION:					
Restricted for benefits to be provided by QPP	10,899,763	—	—	—	10,899,763
Restricted for benefits to be provided by VSFs	—	502,850	305,009	—	807,859
Total net position	$10,899,763	$502,850	$305,009	$ —	$11,707,622

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK

PENSION TRUST FUNDS*
NEW YORK CITY FIRE PENSION FUNDS
COMBINING SCHEDULE OF FIDUCIARY NET POSITION

JUNE 30, 2015
(in thousands)

	FIRE Qualified Pension Plan (QPP)	Variable Supplements Funds (VSFs)		Eliminations	Total New York City Fire Pension Funds
		FFVSF	FOVSF		
ASSETS:					
Cash and cash equivalents	$ 8,375	$ 11,750	$ 643	$ —	$ 20,768
Receivables:					
Member loans	29,124	—	—	—	29,124
Investment securities sold	178,385	6,383	3,867	—	188,635
Accrued interest and dividends	18,568	743	458	—	19,769
Transferrable earnings due from QPP to VSFs	—	41,000	11,000	(52,000)	—
Total receivables	226,077	48,126	15,325	(52,000)	237,528
Investments:					
Short-term investments	695,095	20,850	7,907	—	723,852
Debt securities	2,463,809	88,272	53,983	—	2,606,064
Equity securities	1,943,618	—	—	—	1,943,618
Alternative investments	1,887,226	—	—	—	1,887,226
Collective trust funds:					
Debt securities	767,331	36,331	23,524	—	827,186
Domestic equity	1,516,030	273,828	161,871	—	1,951,729
International equity	2,022,335	77,890	61,322	—	2,161,547
Collateral from securities lending transactions	795,944	22,251	18,130	—	836,325
Total investments	12,091,388	519,422	326,737	—	12,937,547
Due from QPP	—	—	15	(15)	—
Due from FFVSF	—	—	32	(32)	—
Other assets	5,596	—	—	—	5,596
Total assets	12,331,436	579,298	342,752	(52,047)	13,201,439
LIABILITIES:					
Accounts payable and accrued liabilities	74,773	—	56	—	74,829
Payable for investment securities purchased	574,447	9,941	7,639	—	592,027
Accrued benefits payable	18,927	21,630	9,522	—	50,079
Transferrable earnings due from QPP to VSFs	52,000	—	—	(52,000)	—
Due to FOVSF	15	32	—	(47)	—
Securities lending transactions	795,944	22,251	18,130	—	836,325
Total liabilities	1,516,106	53,854	35,347	(52,047)	1,553,260
NET POSITION:					
Restricted for benefits to be provided by QPP	10,815,330	—	—	—	10,815,330
Restricted for benefits to be provided by VSFs	—	525,444	307,405	—	832,849
Total net position	$10,815,330	$525,444	$307,405	$ —	$11,648,179

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK

PENSION TRUST FUNDS*
NEW YORK CITY FIRE PENSION FUNDS
COMBINING SCHEDULE OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEAR ENDED JUNE 30, 2016
(in thousands)

	FIRE Qualified Pension Plan (QPP)	Variable Supplements Funds (VSFs) FFVSF	FOVSF	Eliminations	Total New York City Fire Pension Funds
ADDITIONS:					
Contributions:					
Member contributions	$ 116,619	$ —	$ —	$ —	$ 116,619
Employer contributions	1,054,478	—	—	—	1,054,478
Total contributions	1,171,097	—	—	—	1,171,097
Investment income:					
Interest income	137,160	4,796	3,250	—	145,206
Dividend income	145,276	7,957	4,442	—	157,675
Net depreciation in fair value of investments	(44,510)	(8,428)	(6,934)	—	(59,872)
Investment expenses	(46,321)	—	—	—	(46,321)
Investment income, net	191,605	4,325	758	—	196,688
Securities lending transactions:					
Securities lending income	6,196	368	298	—	6,862
Securities lending fees	(403)	(24)	(19)	—	(446)
Net securities lending income	5,793	344	279	—	6,416
Transferrable earnings due from QPP to VSFs	—	18,739	18,134	(36,873)	—
Other	43,673	—	—	—	43,673
Total additions	1,412,168	23,408	19,171	(36,873)	1,417,874
DEDUCTIONS:					
Benefit payments and withdrawals	1,290,862	46,002	21,567	—	1,358,431
Transferrable earnings due from QPP to VSFs	36,873	—	—	(36,873)	—
Total deductions	1,327,735	46,002	21,567	(36,873)	1,358,431
Net increase (decrease) in net position	84,433	(22,594)	(2,396)	—	59,443
NET POSITION:					
Restricted for benefits:					
Beginning of year	10,815,330	525,444	307,405	—	11,648,179
End of year	$10,899,763	$502,850	$305,009	$ —	$11,707,622

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK
PENSION TRUST FUNDS*
NEW YORK CITY FIRE PENSION FUNDS
COMBINING SCHEDULE OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEAR ENDED JUNE 30, 2015
(in thousands)

	FIRE Qualified Pension Plan (QPP)	Variable Supplements Funds (VSFs) FFVSF	FOVSF	Eliminations	Total New York City Fire Pension Funds
ADDITIONS:					
Contributions:					
Member contributions	$ 108,582	$ —	$ —	$ —	$ 108,582
Employer contributions	988,784	—	—	—	988,784
Total contributions	1,097,366	—	—	—	1,097,366
Investment income:					
Interest income	115,571	4,297	2,906	—	122,774
Dividend income	227,390	7,138	4,500	—	239,028
Net (depreciation) appreciation in fair value of investments	(8,490)	7,226	4,650	—	3,386
Investment expenses	(68,027)	—	—	—	(68,027)
Investment income, net	266,444	18,661	12,056	—	297,161
Securities lending transactions:					
Securities lending income	5,332	243	206	—	5,781
Securities lending fees	(346)	(16)	(13)	—	(375)
Net securities lending income	4,986	227	193	—	5,406
Transferrable earnings due from QPP to VSFs	—	30,000	10,000	(40,000)	—
Other	41,201	—	—	—	41,201
Total additions	1,409,997	48,888	22,249	(40,000)	1,441,134
DEDUCTIONS:					
Benefit payments and withdrawals	1,150,505	47,415	21,970	—	1,219,890
Transferrable earnings due from QPP to VSFs	40,000	—	—	(40,000)	—
Total deductions	1,190,505	47,415	21,970	(40,000)	1,219,890
Net increase in net position	219,492	1,473	279	—	221,244
NET POSITION:					
Restricted for benefits:					
Beginning of year	10,595,838	523,971	307,126	—	11,426,935
End of year	$10,815,330	$525,444	$307,405	$ —	$11,648,179

* Includes VSFs and TDAs, which are not pension funds or retirement systems under ACNY.

THE CITY OF NEW YORK

OTHER EMPLOYEE BENEFIT TRUST FUNDS
DEFERRED COMPENSATION PLANS
COMBINING SCHEDULE OF FIDUCIARY NET POSITION

DECEMBER 31, 2015
(in thousands)

	Deferred Compensation Plans			Defined Contribution Plan	
	457 Plan	401(k) Plan	NYCE IRA	401(a) Plan	Total
ASSETS:					
Cash and cash equivalents	$ 14,177	$ 1,174	$ 21	$ —	$ 15,372
Receivables:					
Member loans	205,085	24,277	—	—	229,362
Total receivables	205,085	24,277	—	—	229,362
Investments:					
Mutual funds	8,923,630	1,302,456	110,054	16,455	10,352,595
Guaranteed investment contracts	4,419,597	751,391	130,227	2,547	5,303,762
Total investments	13,343,227	2,053,847	240,281	19,002	15,656,357
Other assets	1,427	1,116	—	2	2,545
Total assets	13,563,916	2,080,414	240,302	19,004	15,903,636
LIABILITIES:					
Accounts payable and accrued liabilities	5,822	137	169	—	6,128
Total liabilities	5,822	137	169	—	6,128
NET POSITION:					
Restricted for other employee benefits	13,558,094	2,080,277	240,133	19,004	15,897,508
Total net position	$13,558,094	$2,080,277	$240,133	$19,004	$15,897,508

THE CITY OF NEW YORK

OTHER EMPLOYEE BENEFIT TRUST FUNDS
DEFERRED COMPENSATION PLANS
COMBINING SCHEDULE OF FIDUCIARY NET POSITION

DECEMBER 31, 2014
(in thousands)

	Deferred Compensation Plans			Defined Contribution Plan	
	457 Plan	401(k) Plan	NYCE IRA	401(a) Plan	Total
ASSETS:					
Cash and cash equivalents	$ 14,089	$ 718	$ 13	$ —	$ 14,820
Receivables:					
Member loans	207,615	23,488	—	—	231,103
Total receivables	207,615	23,488	—	—	231,103
Investments:					
Mutual funds	8,879,252	1,210,934	97,555	16,826	10,204,567
Guaranteed investment contracts	4,353,060	682,009	121,666	2,519	5,159,254
Total investments	13,232,312	1,892,943	219,221	19,345	15,363,821
Other assets	1,007	1,724	—	1	2,732
Total assets	13,455,023	1,918,873	219,234	19,346	15,612,476
LIABILITIES:					
Accounts payable and accrued liabilities	5,628	474	137	—	6,239
Total liabilities	5,628	474	137	—	6,239
NET POSITION:					
Restricted for other employee benefits	13,449,395	1,918,399	219,097	19,346	15,606,237
Total net position	$13,449,395	$1,918,399	$219,097	$19,346	$15,606,237

THE CITY OF NEW YORK

OTHER EMPLOYEE BENEFIT TRUST FUNDS
DEFERRED COMPENSATION PLANS
COMBINING SCHEDULE OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEAR ENDED DECEMBER 31, 2015
(in thousands)

	Deferred Compensation Plans			Defined Contribution Plan	
	457 Plan	401(k) Plan	NYCE IRA	401(a) Plan	Total
ADDITIONS:					
Contributions:					
Member contributions	$ 622,019	$ 226,803	$ 31,018	$ 24	$ 879,864
Total contributions	622,019	226,803	31,018	24	879,864
Investment income:					
Interest income	104,207	15,972	2,722	52	122,953
Net depreciation in fair value of investments	(64,767)	(10,966)	(940)	(109)	(76,782)
Investment expenses	(28,062)	(4,363)	(547)	(36)	(33,008)
Investment income (loss), net	11,378	643	1,235	(93)	13,163
Total additions	633,397	227,446	32,253	(69)	893,027
DEDUCTIONS:					
Benefit payments and withdrawals	512,324	63,961	11,068	271	587,624
Administrative expenses	12,374	1,607	149	2	14,132
Total deductions	524,698	65,568	11,217	273	601,756
Net increase (decrease) in net position	108,699	161,878	21,036	(342)	291,271
NET POSITION:					
Restricted for other employee benefits:					
Beginning of year	13,449,395	1,918,399	219,097	19,346	15,606,237
End of year	$13,558,094	$2,080,277	$240,133	$19,004	$15,897,508

THE CITY OF NEW YORK

OTHER EMPLOYEE BENEFIT TRUST FUNDS
DEFERRED COMPENSATION PLANS
COMBINING SCHEDULE OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEAR ENDED DECEMBER 31, 2014
(in thousands)

	Deferred Compensation Plans			Defined Contribution Plan	
	457 Plan	401(k) Plan	NYCE IRA	401(a) Plan	Total
ADDITIONS:					
Contributions:					
Member contributions	$ 545,251	$ 197,072	$ 30,231	$ 715	$ 773,269
Total contributions	545,251	197,072	30,231	715	773,269
Investment income:					
Interest income	108,160	15,510	2,700	51	126,421
Net appreciation in fair value of investments	694,877	82,004	6,557	1,323	784,761
Investment expenses	(28,090)	(4,100)	(522)	(36)	(32,748)
Investment income, net	774,947	93,414	8,735	1,338	878,434
Total additions	1,320,198	290,486	38,966	2,053	1,651,703
DEDUCTIONS:					
Benefit payments and withdrawals	508,158	62,163	11,268	417	582,006
Administrative expenses	11,984	1,520	130	3	13,637
Total deductions	520,142	63,683	11,398	420	595,643
Net increase in net position	800,056	226,803	27,568	1,633	1,056,060
NET POSITION:					
Restricted for other employee benefits:					
Beginning of year	12,649,339	1,691,596	191,529	17,713	14,550,177
End of year	$13,449,395	$1,918,399	$219,097	$19,346	$15,606,237

THE CITY OF NEW YORK
AGENCY FUNDS
SCHEDULE OF CHANGES IN ASSETS AND LIABILITIES

FOR THE YEAR ENDED JUNE 30, 2016
(in thousands)

	Balance July 1, 2015	Additions	Deductions	Balance June 30, 2016
Assets:				
Cash and investments	$3,535,037	$2,094,708	$1,157,369	$4,472,376
Liabilities:				
Other	$3,535,037	$2,094,708	$1,157,369	$4,472,376

THE CITY OF NEW YORK
AGENCY FUNDS
SCHEDULE OF CHANGES IN ASSETS AND LIABILITIES

FOR THE YEAR ENDED JUNE 30, 2015
(in thousands)

	Balance July 1, 2014	Additions	Deductions	Balance June 30, 2015
ASSETS:				
Cash and investments	$3,289,873	$1,548,069	$1,302,905	$3,535,037
LIABILITIES:				
Other	$3,289,873	$1,548,069	$1,302,905	$3,535,037

APPENDIX C
TO
APPENDIX D

VARIABLE RATE BONDS

Variable Rate Demand Bonds

Series	Outstanding Principal Amount	Provider	Facility Type	Expiration
1994H-3	75,700,000	State Street Bank and Trust Company	SBPA[1]	October 12, 2018
2002A-6	70,000,000	Dexia Crédit Local	SBPA	November 1, 2017
2002A-10	60,000,000	Dexia Crédit Local	SBPA	November 1, 2017
2004A-2	75,000,000	Bank of America, N.A.	LOC[2]	June 29, 2018
2004A-3	100,000,000	Morgan Stanley Bank, N.A.	LOC	September 27, 2017
2004A-4	25,000,000	Bank of Montreal	LOC	August 12, 2020
2004A-5	50,000,000	Bank of Montreal	LOC	August 12, 2020
2004H-1	40,300,000	The Bank of New York Mellon	LOC	October 31, 2017
2004H-2	60,455,000	California Public Employees' Retirement System	LOC	October 31, 2017
2004H-3	60,455,000	California Public Employees' Retirement System	LOC	October 31, 2017
2004H-4	40,300,000	The Bank of New York Mellon	LOC	October 31, 2017
2004H-5	26,415,000	Dexia Crédit Local	LOC	February 2, 2022
2004H-6	31,305,000	Bank of America, N.A.	LOC	February 28, 2019
2004H-8	31,335,000	Bank of America, N.A.	LOC	February 28, 2019
2006E-2	87,530,000	Bank of America, N.A.	LOC	August 1, 2019
2006E-3	87,530,000	Bank of America, N.A.	LOC	August 1, 2019
2006E-4	87,525,000	Bank of America, N.A.	LOC	August 1, 2019
2006F-3	75,000,000	Sumitomo Mitsui Banking Corporation	LOC	September 17, 2021
2006F-4A	40,000,000	Sumitomo Mitsui Banking Corporation	LOC	September 17, 2021
2006F-4B	35,000,000	Bank of Tokyo-Mitsubishi UFJ, LTD	LOC	November 19, 2019
2006H-1	50,535,000	JPMorgan Chase Bank, N.A.	SBPA	October 14, 2019
2006H-2	50,530,000	JPMorgan Chase Bank, N.A.	SBPA	October 14, 2019
2006I-3	50,000,000	Bank of America, N.A.	LOC	May 12, 2020
2006I-4	125,000,000	TD Bank, N.A.	LOC	May 24, 2019
2006I-5	75,000,000	The Bank of New York Mellon	LOC	May 31, 2019
2006I-6	75,000,000	The Bank of New York Mellon	LOC	May 31, 2019
2006I-7	50,000,000	Bank of America, N.A.	LOC	May 12, 2020
2006I-8	50,000,000	State Street Bank and Trust Company	SBPA	July 10, 2019
2008D-3	50,000,000	Bank of Montreal	SBPA	December 3, 2019
2008D-4	50,000,000	Bank of Montreal	SBPA	December 3, 2019
2008J-3	75,000,000	Barclays Bank, PLC	SBPA	March 29, 2019
2008J-5	101,405,000	Bank of America, N.A.	SBPA	March 30, 2018
2008J-6	111,225,000	Landesbank Hessen-Thüringen Girozentrale	LOC	December 14, 2020
2008J-8	74,060,000	Sumitomo Mitsui Banking Corporation	LOC	August 2, 2021
2008J-10	100,000,000	Bank of Tokyo-Mitsubishi UFJ, LTD.	LOC	April 27, 2020
2008L-3	80,000,000	Bank of America, N.A.	LOC	April 21, 2020
2008L-4	100,000,000	US Bank, N.A.	LOC	December 20, 2017
2008L-5	145,400,000	Bank of America, N.A.	SBPA	April 20, 2018
2009B-3	100,000,000	TD Bank, N.A.	LOC	January 15, 2020
2010G-4	150,000,000	Barclays Bank, PLC	SBPA	March 29, 2019
2012A-3	25,000,000	Landesbank Hessen-Thüringen Girozentrale	SBPA	December 14, 2020
2012A-4	100,000,000	Bank of Tokyo-Mitsubishi UFJ, LTD.	LOC	June 29, 2017
2012A-5	50,000,000	Royal Bank of Canada	LOC	June 29, 2017
2012D-3A	76,665,000	California Public Employees' Retirement System	LOC	October 31, 2017
2012D-3B	50,000,000	Royal Bank of Canada	LOC	October 31, 2017

See footnotes on page D-C-2

Series	Outstanding Principal Amount	Provider	Facility Type	Expiration
2012G-3	300,000,000	Citibank, N.A.	LOC	March 30, 2018
2012G-4	100,000,000	Citibank, N.A.	LOC	March 30, 2018
2012G-6	200,000,000	Mizuho Bank, Ltd.	LOC	April 2, 2018
2012G-7	85,000,000	Bank of Tokyo-Mitsubishi UFJ, LTD	LOC	April 2, 2018
2013A-2	100,000,000	Mizuho Bank, Ltd.	LOC	October 15, 2018
2013A-3	100,000,000	Mizuho Bank, Ltd.	LOC	October 15, 2018
2013A-4	75,000,000	Sumitomo Mitsui Banking Corporation	LOC	October 15, 2020
2013A-5	50,000,000	Sumitomo Mitsui Banking Corporation	LOC	October 15, 2020
2013F-3	180,000,000	Bank of America, N.A.	SBPA	March 15, 2019
2014D-3	225,000,000	JPMorgan Chase Bank, N.A.	SBPA	October 14, 2019
2014D-4	100,000,000	TD Bank, N.A.	LOC	October 16, 2018
2014D-5	75,000,000	PNC Bank, National Association	LOC	October 14, 2019
2014I-2	100,000,000	JPMorgan Chase Bank, N.A.	SBPA	March 24, 2020
2015F-4	100,000,000	Bank of Tokyo-Mitsubishi UFJ, LTD	LOC	June 15, 2018
2015F-5	100,000,000	Barclays Bank, PLC	SBPA	June 18, 2019
2015F-6	100,000,000	JPMorgan Chase Bank, N.A.	SBPA	June 18, 2018
2015F-7	50,000,000	Royal Bank of Canada	LOC	June 18, 2018
2017A-4	200,000,000	Citibank, N.A.	LOC	August 16, 2019
2017A-5	81,000,000	Landesbank Hessen-Thüringen Girozentrale	SBPA	August 17, 2021
2017A-6	50,000,000	Landesbank Hessen-Thüringen Girozentrale	SBPA	August 17, 2021
2017A-7	50,000,000	Bank of the West	LOC	August 16, 2019
	$5,544,670,000			

Index Rate Bonds(3)

Series	Outstanding Principal Amount	Step up Date
1994E-4	$ 50,000,000	none
1995F-4	50,000,000	none
2004A-6	50,250,000	April 2, 2018
2008J-4	100,000,000	April 2, 2018
2008J-11	100,000,000	April 1, 2019
2008L-6	150,000,000	June 23, 2019
2011F-3	75,000,000	December 1, 2020
2012G-5	75,000,000	April 3, 2020
2014I-3	200,000,000	April 1, 2019
	$ 850,250,000	

Auction Rate Bonds

Series	Outstanding Principal Amount
Various	$ 634,900,000

(1) Standby Bond Purchase Agreement.

(2) Letter of Credit.

(3) The City's index rate bonds pay interest based on a specified index. Such bonds, other than the Series 1994E-4, 1995F-4 and 2003F Bonds, also provide for an increased rate of interest commencing on an identified step up date if such bonds are not converted or refunded.

APPENDIX E

CUSHMAN & WAKEFIELD, INC. 2017 REPORT

See CD-ROM attached to back cover of this Official Statement for the Hudson Yards Demand and Development Report, dated February, 2017, prepared by Cushman & Wakefield, Inc.

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CUSHMAN & WAKEFIELD

CELEBRATING 100 YEARS

Hudson Yards Demand and Development Report

Prepared For:

Hudson Yards Infrastructure Corporation

February 2017

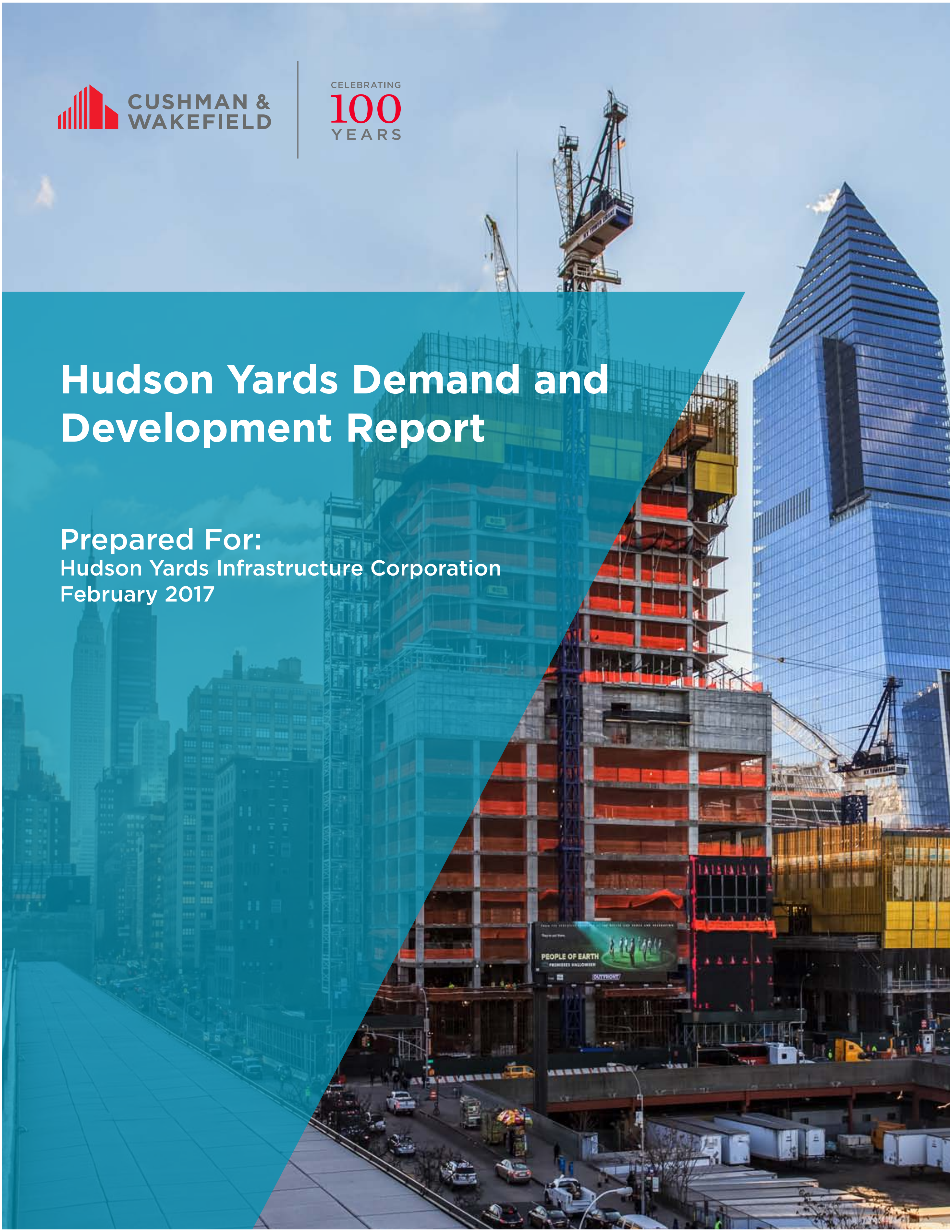
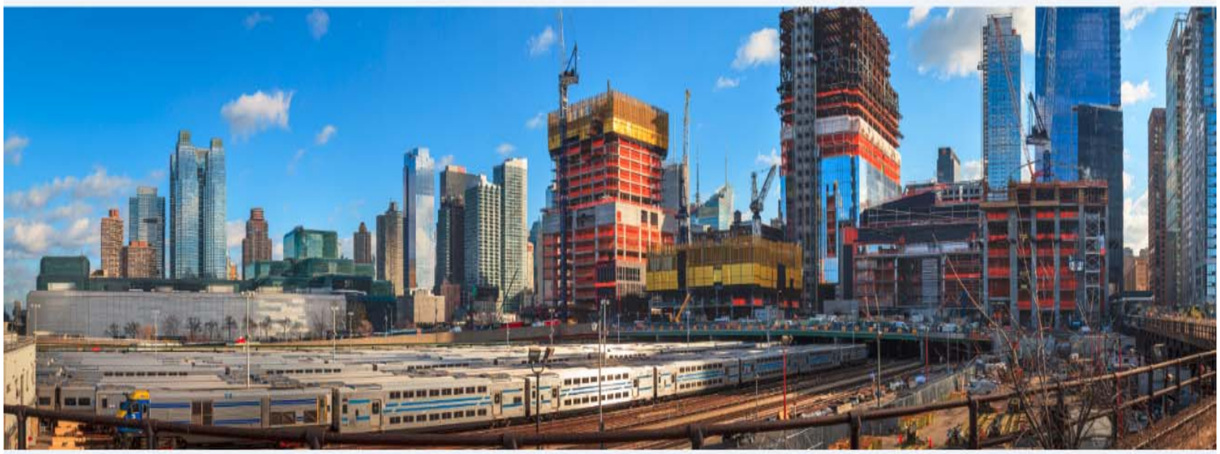


TABLE OF CONTENTS

Chapter 1a. Executive Summary

The Hudson Yards Infrastructure Corporation (HYIC) engaged Cushman & Wakefield, Inc. (Cushman & Wakefield or C&W) to update the 2011 and 2006 reports that C&W prepared to support the revenue projections underpinning HYIC's Hudson Yards Second Indenture Revenue Bonds Fiscal 2017 Series A and B[1]. Incorporating Manhattan market data from 2011 to 2016, this updated report extends both prior studies' analytical framework to forecast real estate market fundamentals over a new projection period (2017-2047)[2] for the Hudson Yards district (Hudson Yards, HY, or district)[3], as shown in Exhibit 1-1. C&W has also been asked to opine as to whether the projected real estate-related revenues from future development within the Hudson Yards Financing District (HYFD)[4] are reasonable.

Hudson Yards - looking northeast over the Western Rail Yard toward West 42nd Street



Source: Jason Nakleh, December 2016

Notable Highlights of the 2017 Analysis

- Hudson Yards is an established and growing west side district, meeting its planned objective of enabling Midtown to increase its core office inventory within a mixed use environment. The area now contains residential, retail, hotel, and cultural uses, with new public open spaces, all served by mass transportation.
- Since the 2005 rezoning to create the Hudson Yards Special District, HY has seen very strong development trends with 7.6 million square feet (msf)[5] of residential completions and 1.8 msf of hotel completions. This trend is expected to continue.
- Office construction, although slower to develop, has significantly increased over the past three years. The first major new office tower of 1.9 msf was completed in 2016, with approximately 5.9 msf of additional office buildings under construction.

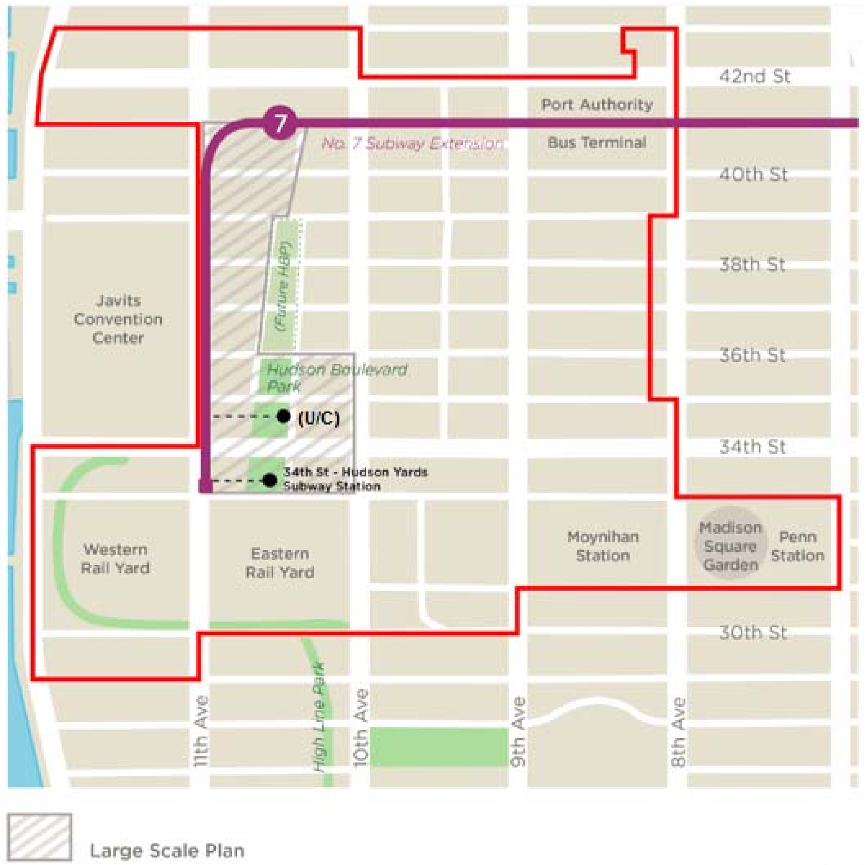
[1] The 2017 C&W report is an update to the initial feasibility study and report that C&W undertook for HYIC in 2006, and updated in 2011. These two prior reports are referred to throughout this update report as the 2006 and 2011 reports, respectively.
[2] C&W's report and forecast pertain to the period from 2017-2047. Note that the forecasts are based on the City's Fiscal Year that runs July 1 – June 30.
[3] The Hudson Yards, as considered in this report, comprises approximately 46 blocks. The major zoning and land use approvals for the district were adopted by City Council (NA40500(A) ZRM), January 19, 2005, and further extended to the Western Rail Yard by City Council, December 21, 2009.
[4] HYFD is the area from which revenues are pledged to repay HYIC's bonds, pursuant to Resolution No. 547 of 2006 adopted by the City Council of the City on October 11, 2006. The boundaries are illustrated in Exhibit 1-1.
[5] Exclusive of 0.8 msf substantially renovated and developed prior to the rezoning

- Retail construction to date has evolved as street-level spaces within the new buildings, aligned with typical retail development in Manhattan.
- To date, office buildings completed and under construction are expected to generate PILOT revenues of $6.4 billion from 2017 through 2047. Over the same time period, TEP revenues generated from completed residential and hotel projects are expected to generate $6.2 and $1.6 billion, respectively. Combined, these revenues committed to HYIC total $14.2 billion.
- The revenues exclusively dedicated to HYIC include both completed and under construction office properties as PILOT payments and completed residential and hotel TEP payments. The TEP revenues exclude under construction properties as their associated TEP must be assigned to HYIC by City Council. Although the forecast assumes that these payments will continue to be dedicated to HYIC, only properties currently paying TEP are included in the committed revenue stream.
- Major developers are actively investing in Hudson Yards, with many projects completed, and more underway and planned. Currently, approximately 11.8 msf are under construction consisting of office (5.9 msf), residential (3.0 msf), hotel (1.9 msf), and retail (1.0 msf) properties.
- The annual projections of development and revenues are based on market fundamentals of supply and demand set against the permitted development capacity of HY of approximately 52 msf gross[6]. Throughout the report all forecast square footage is shown in gross square feet, unless otherwise noted[7].
- Given the extensive development of residential and hotel buildings, both to date and under construction, the maximum development capacity of these property types is expected to be reached by 2028 and 2039, respectively. Office building completions are expected to continue through 2047 before maximum development capacity is reached.

[6] HYDC provided C&W with its analysis of the development capacity of the district in 2006 and again in 2011. This analysis was based on the 2004 Reasonable Worst Case Development Scenario (RWCDS) from the Hudson Yards Rezoning Generic Environmental Impact Statement (EIS), as revised by HYDC and the Department of City Planning subsequent to the rezoning adoption in January 2005. C&W made certain assumptions and adjustments to this data based on its review and analysis of the suitability of the 15 sites identified in the 2011 report as suitable for development with Class A office space, and as subsequently updated in Chapter 3.

[7] Gross area is the actual square footage measured from the outside walls. Zoning square feet (ZSF), also known as Zoning Floor Area (ZFA), is based on the NYC Zoning Resolution governing development in various zoning districts. See Appendix A for definitions.

Exhibit 1-1. Hudson Yards District



Source: Hudson Yards Development Corporation

Hudson Yards New Forecast

The anticipated demand for real estate in Hudson Yards over the new forecast period has increased significantly since the 2011 report, in sync with the strong development pace of all property types. New York City's economy has experienced robust growth over the past five years due to strong employment and record tourism numbers that exceeded 58 million visitors in 2015. As further detailed in Moody's Analytics' economic forecast (Chapter 2), New York City, is expected to experience slower, but steady growth.

Future office development in the HY is expected to be at a much faster pace than the 2011 forecast due to strong tenant demand for new state-of-the-art office buildings that are accessible via numerous forms of public transportation. As intended, the City's Payments In Lieu Of Taxes (PILOT) program has incentivized developers to initiate construction on many of the large commercial sites. In fact, the largest PILOT (40% reduction in taxes), that was available for the first 5 msf developed, has been fully subscribed.

Residential and hotel demand far exceeds the forecast of 2011. Manhattan's population has substantially increased, in part due to the millennial[8] age sector, and demand for housing among residents and secondary home buyers/renters is strong. While residential construction in Manhattan averaged 3,280 units annually between 2010-2015, it has yet to reach the historic annual average of 4,315 units evidenced between 1985 and 2015. Demand for hotels remains strong, as leisure and business visitors continue to bolster the City's

[8] The millennial age sector is comprised of individuals born between 1982 and 2000, US Census.

economy. The renovated and expanded Jacob K. Javits Convention Center (Javits Center) is now served by the Number 7 subway line (#7), and is expected to provide a draw for further hotel development.

As was the case in the 2011 report, retail uses are expected to predominantly occupy space constructed in office and residential projects, and are expected to contribute to the respective PILOT and Tax Equivalency Payments (TEP) programs.

Based on the analysis, C&W's new demand forecast for Hudson Yards (2017 – 2047) estimates sufficient demand for approximately 23.5 msf of office, 12.1 msf of housing, 2.4 msf of hotel, and 1.8 msf of retail, in addition to the 11.3 msf[9] in all categories built through 2016. As shown in Exhibit 1-2, the expected construction completions and resulting revenues dedicated to HYIC from new real estate development total approximately 39.8 msf and $28.0 billion, respectively, through 2047.

C&W incorporated the analysis, assumptions and factors detailed in this chapter in reviewing the revenues derived from new development in the HY. The revenues are contingent on the realization of all of the economic and real estate assumptions, analyses, and limiting conditions that are detailed in the subsequent chapters.

[9] Exclusive of 0.8 msf of residential substantially completed before the rezoning

Exhibit 1-2. Hudson Yards Expected Annual Revenues From Completed Buildings 2017-2047

	Office	Residential	Hotel	Combined
FY	Revenues ($)*	Revenues ($)	Revenues ($)	Total Revenues ($)
2017	$10,946,590	$38,580,304	$35,240,118	$84,767,012
2018	28,652,071	39,280,934	36,121,121	104,054,126
2019	40,628,423	45,409,277	37,024,149	123,061,850
2020	93,829,199	47,228,328	37,949,753	179,007,280
2021	111,855,277	50,110,717	38,898,497	200,864,491
2022	115,658,467	52,016,072	39,870,959	207,545,499
2023	119,591,417	56,591,600	40,867,733	217,050,751
2024	123,564,703	70,271,815	41,889,427	235,725,945
2025	127,271,644	78,132,026	42,936,662	248,340,333
2026	131,089,794	93,796,369	44,010,079	268,896,241
2027	135,022,487	103,704,007	45,110,331	283,836,825
2028	139,073,162	121,601,081	46,238,089	306,912,332
2029	143,245,357	138,668,922	47,394,041	329,308,320
2030	147,542,718	159,284,447	48,578,892	355,406,058
2031	151,968,999	178,988,749	49,793,365	380,751,113
2032	156,528,069	202,638,670	51,038,199	410,204,938
2033	167,633,180	223,150,879	52,314,154	443,098,213
2034	177,513,880	232,044,052	53,622,008	463,179,940
2035	191,877,418	250,173,079	54,962,558	497,013,055
2036	225,263,477	260,164,072	56,336,622	541,764,171
2037	254,272,400	278,168,651	57,745,037	590,186,088
2038	279,692,626	289,295,398	59,188,663	628,176,686
2039	306,576,155	300,867,213	60,668,380	668,111,749
2040	332,158,166	312,901,902	62,185,089	707,245,157
2041	343,783,702	325,417,978	63,739,717	732,941,396
2042	355,816,131	338,434,697	65,333,209	759,584,038
2043	368,269,696	351,972,085	66,966,540	787,208,320
2044	381,159,135	366,050,968	68,640,703	815,850,807
2045	394,499,705	380,693,007	70,356,721	845,549,433
2046	408,307,194	395,920,728	72,115,639	876,343,561
2047	422,597,946	411,757,557	73,918,530	908,274,033
TOTAL	**$6,385,889,189**	**$6,193,315,587**	**$1,621,054,985**	**$14,200,259,761**

*Includes Under Construction properties, as PILOT payments are guaranteed to HYIC

Shaded bars represent recessionary years per Moody's Analytics. Note, Residential and Hotel completions reach maximum development capacity after 2028 and 2039, respectively.

Source: NYC Office of Management and Budget, Moody's Analytics, Smith Travel Research, and Cushman & Wakefield, Inc.

Exhibit 1-2a. Hudson Yards Forecast of Annual Completions and Revenue, 2017-2047

	Office		Residential		Hotel		Retail		Combined (without non-recurring)	Non-Recurring	Combined (with non-recurring)
FY	Completions SF	Revenues ($)	Completions SF	Revenues ($)	Completions SF	Revenues ($)	Completions SF	Revenues ($)	Total Revenues ($)	Total Non-Recurring ($)	Total Revenues ($)
2017	-	$10,946,590	1,375,281	$38,580,304	872,304	$35,240,118	-	$0	$84,767,012	$21,956,942	$106,723,954
2018	-	28,652,071	1,227,489	45,254,638	629,078	36,121,121	-	0	110,027,831	203,418,079	313,445,910
2019	3,998,310	40,628,423	860,466	57,750,255	430,503	59,376,716	1,028,395	97,969	157,853,363	77,316,435	235,169,798
2020	1,908,301	93,829,199	801,890	65,960,379	83,066	77,384,095	26,462	192,922	237,366,595	16,386,066	253,752,661
2021	730,780	111,855,277	767,401	75,421,535	62,621	90,908,698	49,440	510,801	278,696,311	14,165,355	292,861,666
2022	3,560,822	115,658,467	604,821	83,056,389	-	95,473,632	50,898	844,365	295,032,854	26,992,304	322,025,158
2023	-	131,112,307	538,512	93,197,257	-	99,631,713	17,771	1,389,285	325,330,563	30,359,756	355,690,318
2024	-	193,590,693	1,007,010	116,901,943	-	102,122,506	33,231	2,237,095	414,852,238	88,053,063	502,905,301
2025	-	199,748,544	1,091,113	136,243,427	21,083	104,675,569	36,007	2,464,937	443,132,477	63,531,956	506,664,433
2026	-	206,103,385	1,317,594	166,314,830	21,293	107,292,458	43,481	2,735,681	482,446,354	49,681,295	532,127,649
2027	1,449,337	212,597,687	1,273,631	191,189,193	21,506	110,632,993	89,858	3,448,550	517,868,422	21,247,269	539,115,691
2028	707,326	218,975,618	1,263,740	224,967,608	21,721	114,080,243	65,045	4,121,919	562,145,388	30,844,805	592,990,193
2029	322,097	253,632,245	-	245,573,120	21,939	117,637,694	10,629	5,072,697	621,915,756	38,375,848	660,291,604
2030	537,823	275,569,000	-	269,867,823	22,158	121,308,949	17,748	6,072,014	672,817,787	940,340	673,758,126
2031	776,072	291,141,169	-	293,398,469	22,380	125,097,729	25,610	6,683,766	716,321,133	0	716,321,133
2032	944,651	312,460,945	-	321,027,788	-	129,007,879	31,173	7,479,994	769,976,606	707,978	770,684,585
2033	-	346,827,495	-	345,678,572	-	133,043,374	-	7,834,405	833,383,846	48,322,821	881,706,667
2034	-	385,470,115	-	358,875,862	22,603	136,369,458	-	8,199,427	888,914,863	63,829,354	952,744,217
2035	-	406,349,590	-	381,481,171	22,829	139,778,695	-	8,565,493	936,174,949	21,613,034	957,787,983
2036	1,106,759	446,388,436	-	396,127,497	23,058	144,154,490	36,523	9,216,464	995,886,887	30,834,055	1,026,720,942
2037	1,405,892	482,155,328	-	418,973,623	23,288	148,670,746	46,394	10,113,683	1,059,913,381	31,501,855	1,091,415,236
2038	426,392	547,969,238	-	435,135,578	23,521	153,332,072	14,071	11,429,418	1,147,866,306	62,720,712	1,210,587,017
2039	638,362	637,471,018	-	451,944,011	23,756	158,143,225	21,066	13,001,027	1,260,559,281	1,524,291	1,262,083,572
2040	639,184	694,941,854	-	469,424,781	-	163,109,127	21,093	13,987,382	1,341,463,144	0	1,341,463,144
2041	1,292,668	747,642,514	-	487,604,782	-	168,234,861	42,658	15,430,418	1,418,912,575	0	1,418,912,575
2042	-	803,568,734	-	506,511,983	-	172,440,733	-	16,195,866	1,498,717,316	0	1,498,717,316
2043	-	883,975,416	-	537,570,332	-	176,751,751	-	17,069,927	1,615,367,427	117,892,810	1,733,260,237
2044	-	919,481,311	-	570,271,306	-	181,170,545	-	18,271,861	1,689,195,023	19,898,250	1,709,093,272
2045	-	956,680,179	-	603,948,674	-	185,699,809	-	19,556,714	1,765,885,376	0	1,765,885,376
2046	2,193,908	995,246,530	-	638,948,953	-	190,342,304	72,399	22,318,406	1,846,856,193	0	1,846,856,193
2047	819,028	1,036,652,296	-	673,332,233	-	195,100,861	27,028	24,623,930	1,929,709,320	0	1,929,709,320
TOTAL	23,457,711	$12,987,321,678	12,128,949	$9,700,534,315	2,368,708	$3,972,334,166	1,806,982	$259,166,417	$26,919,356,576	$1,082,114,671	$28,001,471,247

Note: Completions are shown in gross square feet
Shaded bars represent recessionary years per Moody’s Analytics. Note, Residential and Hotel completions reach maximum development capacity after 2028 and 2039, respectively.
Source: NYC Office of Management and Budget, Moody’s Analytics, Smith Travel Research, and Cushman & Wakefield, Inc.

Study Objective

The dedicated revenues generated by the HY's development support certain infrastructure expenditures, as allocated by HYIC, the district's financing entity. Revenues pledged to repay HYIC bonds consist primarily of PILOT, TEP from the City, payments for additional air rights pursuant to the District Improvement Fund Bonus (DIB) and Eastern Rail Yard Transferrable Development Rights (ERY TDR), and Payment in lieu of Mortgage Recording Tax (PILOMRT), as highlighted within the applicable chapters of this report.

The C&W 2017 Report should be read in its entirety. The report is an update of previous reports prepared by C&W in 2006 and 2011, which are available at nycbonds.org/HYIC/pdf/HYIC_2007_A_Appendix.pdf and emma.msrb.org/ER513681-ER398151-ER799738.pdf, for informational purposes only. To understand the C&W 2017 Report, it is not necessary to review the 2006 Report or the 2011 Report, which are not incorporated herein and which speak only as of their respective dates.

Using methodologies similar to those employed in the 2011 report, and based on an economic and demographic forecast provided by Moody's Analytics[10], Cushman & Wakefield has prepared an updated forecast of real estate demand for Hudson Yards from 2017 through 2047. This was used to generate a series of inputs, which were integrated into a tax revenue calculation model prepared by the City's Office of Management and Budget (OMB) and the Hudson Yards Development Corporation (HYDC).

Overview of Economy

New York City[11] remains one of the world's premier business capitals. As noted by Moody's Analytics, the City is "a global financial center, through trade and tourism, as home to the headquarters of large multinational corporations, through foreign direct investment, and through strong foreign immigration"[12]. The City's workforce is highly educated, with more than 60% (roughly 750,000) of Manhattan residents over age 25 holding at least a bachelor's degree, followed by more than 600,000 residents in Brooklyn, who hold a similar degree. The City attracts the best and the brightest talent in numerous industries from around the globe including finance, media, law, fashion, and telecommunications. Over the past five years, New York City has continued to grow and diversify its economy and employment sectors, and its "productivity growth will remain stronger than that of the nation due to its abundance of high-wage, high-skill industries"[13] with TAMI[14], one of the major growth sectors, in addition to the traditional robust financial services industries.

One of the main objectives of the 2005 rezoning of the Hudson Yards area was to help retain the City's position as the nation's premier global gateway city by increasing Manhattan's geographic capacity to construct modern office space. Since 2011, as office users in Manhattan seek new and/or larger space, tenants are looking not only in the established locations of Midtown and Downtown, but farther west, in particular, the Hudson Yards. With approximately 5.6 msf[15] of office space, occupied or committed to by tenants and owners, HY is a recognized and growing office location with the majority of Midtown's newest state-of-the-art buildings.

As detailed in Chapter 2, Moody's Analytics prepared an updated overview of the New York region and New York City's economic outlook, in addition to a long-term cyclical forecast to 2056. Although slower job growth is projected throughout the region, Manhattan retains a steady and growing share of the regional growth as compared to the 2011 and 2006 forecasts. Moody's long-term demographic forecast is positive due to the aforementioned status of Manhattan as a premier global business center, and strong millennial population

[10] Moody's Analytics is an independent provider of data, analysis, modeling and forecasts on national and regional economies, financial markets and credit risk.
[11] New York City is comprised of five boroughs - Bronx, Queens, Brooklyn, Manhattan, and Staten Island.
[12] Chapter 2 contains Moody's Analytics report.
[13] Ibid
[14] TAMI includes the industries of technology, advertising, media and information.
[15] Refer to Exhibit 3-10 in Chapter 3. Note this excludes the recent commitment of BlackRock to 50 Hudson Yards.

growth within Manhattan. C&W used the relevant variables in developing the real estate demand forecasts contained in this report.

Hudson Yards

The City, in collaboration with the Metropolitan Transportation Authority (MTA) and the State of New York, started planning the Hudson Yards project in 2002. The zoning controls adopted for Hudson Yards in January 2005 provide for a mix of commercial and residential uses, with a high-density commercial core (Large Scale Plan) running along West 33rd Street from Pennsylvania Station to the Eastern Rail Yard (ERY), and north between Tenth and Eleventh Avenues from West 33rd to West 41st Streets. A mix of residential and lower-density commercial uses was also provided to the north and east towards Ninth Avenue. These corridors complement the residential properties concentrated along West 42nd Street, and between Ninth and Tenth Avenues, as well as the community's existing lower-density "main-street" along Ninth Avenue. In 2009 the MTA Western Rail Yard (WRY) was rezoned to accommodate mixed-use development, with public open space and a school. The Related Companies (Related) and Oxford Properties Group (Oxford) were designated the developer of the ERY and WRY by the MTA, and entered into a 99-year ground lease in 2013[16].

Expanding Midtown Manhattan via the Hudson Yards

The HY provides the increased development capacity needed to expand the Midtown office market[17], the nation's largest central business district (CBD) and a key driver of economic activity in the region. The availability of sites for new large-scale office towers within HY has strengthened the City's ability to accommodate office-using employment[18] (OUE) growth, and since 2006, has enabled the City's competitive advantage within the region to increase substantially. Additionally, Downtown Manhattan is also expected to help accommodate growth in OUE over the next few decades.

The five key elements of the Hudson Yards redevelopment plan to support its evolution into a mixed-use, 24/7 district were: 1) zoning for mixed-use development; 2) access to mass-transit; 3) availability of large commercial sites; 4) creation of new public open spaces and cultural amenities; and 5) renovation and expansion of the Javits Center. All of these goals have been accomplished.

Hudson Yards Zoning

Formerly zoned as a manufacturing district, the Hudson Yards could only accommodate low-density commercial and industrial development. Large-scale commercial development was prohibited, as was most residential construction. The 2005 rezoning was designed to create opportunities for large-scale commercial development along Eleventh Avenue (West 30th to West 41st Streets), and residential development throughout the area. In addition, the City created incentives such as the Hudson Yards DIB, the ERY TDRs and dedicated PILOMRT to facilitate the neighborhood's transformation. The 2009 rezoning of the WRY for mixed-use development further increased the development capacity of the district to accommodate residential and commercial construction. With the exception of the rezoning of the WRY, the zoning controls put in place in 2005 are still in effect.

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[16] "MTA, Related and Oxford close on 99-year Hudson Yards lease", MTA press release April 10, 2013
[17] Market areas defined in 2006 C&W report; Midtown runs from 59th Street to Canal Street, and Downtown is Manhattan below Canal Street.
[18] Office using employment (OUE) includes financial services, professional/business services, information and government.

Based on information provided to C&W by HYDC, the total development capacity of the district is approximately 52 msf gross. As detailed in the Office chapter[19], an analysis of the large sites determined there is sufficient capacity to accommodate the full office space demand. Residential and hotel demand is so robust that development capacity completion is forecast by year-end 2028 and 2039, respectively.

Public Access and Transportation

The extension of the #7 subway, financed by HYIC's bond proceeds, was completed in September 2015. The subway extension runs west from Times Square underneath West 41st Street, turning south along Eleventh Avenue to a new terminal station at Eleventh Avenue and West 34th Street. The main entrance to the station is located between West 33rd and West 34th Streets within the new Hudson Boulevard Park[20], and adjacent to the sites designated for the highest density office development. A secondary subway entrance is planned for completion by the MTA in late 2018 at the corner of West 35th Street and Hudson Boulevard East. The extension connects HY to all major north-south subway lines in Manhattan, making the area accessible from virtually anywhere in the City. The largest share of the bond proceeds was used to fund the subway extension, including land acquisition, underground tunnel boring, station excavation, and construction.

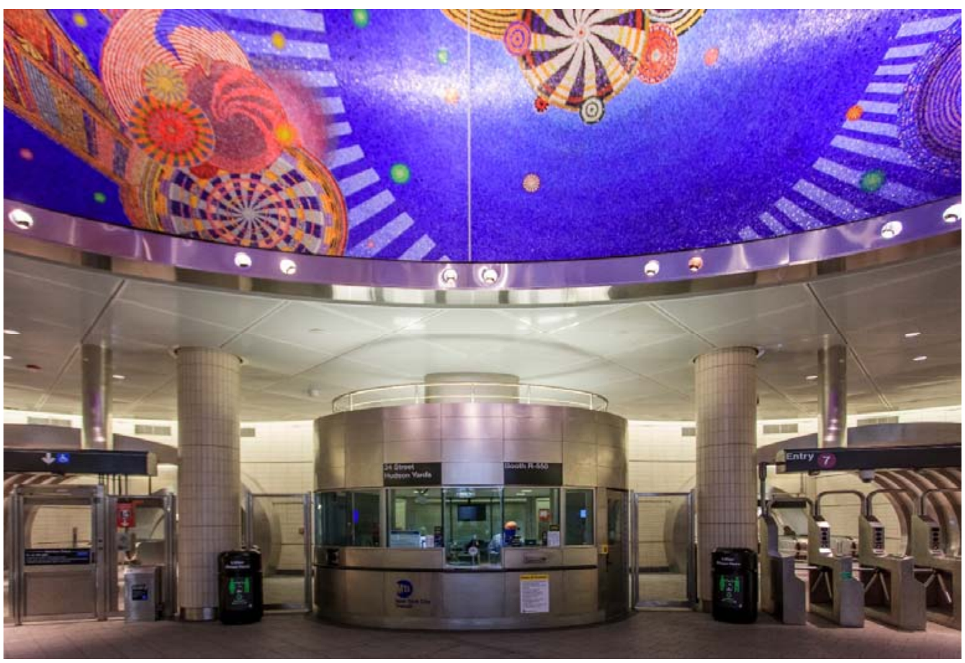
Views of the #7 Subway Station at West 34th Street – Entrance

[19] See Exhibit 3-16

[20] Name of park per the Hudson Yards/Hell's Kitchen Alliance. It was formerly known as the Hudson Park and Boulevard.

View looking down escalator from street entry to station below

View of station entrance booth and turnstile



Source: Jason Nakleh, December 2016

Other mass transit available to HY included the M11, M34, and M42 buses. The West 39th Street Ferry Terminal serves New Jersey commuters with shuttle bus service to Midtown. Major commuter rail terminals, Long Island Rail Road and New Jersey Transit, are located at the eastern edge of the district at Pennsylvania Station.

Large Commercial Sites

Hudson Yards has a number of large sites that can accommodate commercial uses such as office, hotel, and retail, as outlined by the Large Scale Plan numbered sites in Exhibit 1-3. Ten sites in Hudson Yards were reviewed in this report and are expected to be developed primarily as new Class A office properties. These sites can accommodate the large floor plates, advanced technology and amenities, and flexible layouts required for contemporary office development. The new buildings will also offer convenient access to mass transit.

Exhibit 1-3. Hudson Yards Finance District showing Large Commercial Sites

Source: Hudson Yards Infrastructure Corporation, Cushman & Wakefield, Inc.

Since the 2011 report, several of the 15 large sites analyzed have entered the development process. In addition, three sites have been removed, and two others added, as detailed in Chapter 3.

As previously noted, Related and Oxford, an affiliate of Ontario's Teachers' Pension Plan, are developing the ERY and WRY. The High Line Park's northern segment, which has been completed to an interim design, runs along the southern perimeter of the ERY and the southern and western perimeters of the WRY, terminating near the corner of Eleventh Avenue and West 34th Street. The developers hold a long-term ground lease of the site from the Metropolitan Transportation Authority (MTA), with the option to purchase the fee interest in portions of the site, as it is developed. When completed, the combined development on the ERY and WRY will total approximately 14.1 msf, including the 7.9 msf currently completed and under construction on the ERY and approximately 6.2 msf planned for the WRY. The sites are located above active Long Island Rail Road (LIRR) rail operations, requiring the construction of structural decks over the rail yards. The developer will be responsible for designing, operating, and maintaining the parks and public open space on the ERY and WRY.

View looking southeast from Javits Center towards Eastern Rail Yard and Manhattan West developments

Source: Jason Nakleh, December 2016

Development of the ERY (Site 2) is underway, with the first office tower of 1.9 msf, 10 Hudson Yards, completed in 2016. Currently under construction are 30 Hudson Yards, a 2.7 msf office tower and a 1.0 msf retail center anchored by the City's first Neiman Marcus; 15 Hudson Yards, a 980,000 sf residential building; and 35 Hudson Yards, a mixed-used property of 1.1 msf. All buildings and amenities on the ERY are planned for completion by 2019. In addition, Related purchased the site adjacent to the #7 subway entrance (Site 4), and in 2016 commenced vertical construction of 55 Hudson Yards, a 1.3 msf office building.

On the WRY, Related's future plans include approximately 4.0 msf of residential space, 200,000 sf of retail, a 1.8 msf office tower, and six acres of public open space. The City also expects to build, and pay for, a 120,000 sf public school on the WRY.

Brookfield Properties' Manhattan West project is located between Ninth and Tenth Avenues and West 31st and 33rd Streets. When complete, Manhattan West (Site 1) will include approximately 5.0 msf of space. One Manhattan West, a 1.9 msf office building, is currently in vertical construction and planned for completion by 2020. Two Manhattan West is planned to comprise an additional 1.9 msf. An approximately 590,000 sf residential tower at 401 West 31st Street is also under construction, containing 844 units. The site includes the 140,000 sf loft building at 424 West 33rd Street, which Brookfield purchased and is renovating and repositioning as specialty office space called The Lofts at Manhattan West. In addition, a small hotel and a sizable retail component of approximately 240,000 sf are planned. Brookfield has also purchased 450 West 33rd Street, an office building, which it is renovating and repositioning as Five Manhattan West. It is expected to connect directly into the rest of the complex by a pedestrian bridge over Dyer Avenue.

View looking east of Five Manhattan West, Manhattan West residential tower, and One Manhattan West (under construction)

Source: Jason Nakleh, December 2016

Tishman Speyer (Tishman) purchased the assemblage referred to as Site 7 in 2014, and has since announced plans to develop an office tower of approximately 2.6 msf designed by Danish architect Bjarke Ingels and dubbed the “Spiral” at 66 Hudson Yards. Tishman also purchased the majority of Site 11 in 2016, with plans to build an office or mixed-use building of approximately 860,000 square feet.

The Moinian Group (Moinian) has designed a mixed-use tower of approximately 1.8 msf at Site 6, known as 3 Hudson Boulevard. Moinian has been working with the MTA and its contractors, which occupy the site for construction of the secondary #7 subway station entrance on West 35th Street. Completion of the station entrance is planned in 2018, along with construction foundation components for the commercial building that would begin thereafter.

It has recently been reported that Related and Spitzer are partnering to build a combined 1.4 msf office and residential development on Site 10, known as 517 West 35th Street.

As detailed in the chapters on residential and hotel development, well-known developers have assembled additional sites with plans to construct future residential and hotel projects. Other owner/developers with sites in HY that can accommodate significant commercial or mixed-use development include McCourt, Rockrose, Spitzer, and Silverstein.

New Parks and Open Space

An essential objective of the Hudson Yards plan was to increase the livability and desirability of the neighborhood with the addition of new public parks and open space. To address this need, Hudson Boulevard Park was designed to run between Tenth and Eleventh Avenues, from West 33rd to West 39th Streets. In the summer of 2015, the first phase, from West 33rd to West 36th Streets, was completed. A portion of HYIC's bond proceeds were used to fund the design, property acquisition, and construction of this first phase. The park is a series of discrete segments, with the southern entry hosting the #7 subway entrance between West 33rd and 34th Streets, north to a plaza space between West 34th and West 35th Streets, and farther north to a children's playground and snack/restroom kiosk located between West 35th and West 36th Streets, as shown in Exhibit 1-4.

Exhibit 1-4. Hudson Boulevard Park, Phase 1, West 33rd – West 36th Streets

Source: Hudson Yards Development Corporation, Michael Van Valkenburgh Associates

The park and boulevard system has been turned over by the City to a newly formed business improvement district, the Hudson Yards/Hell's Kitchen Alliance (HYHKA), which has assumed responsibility to staff, manage, and maintain the parks and streets at its expense. HYHKA has also established a program of events and activities in the park.

The northern portion of the park, from West 36th to West 39th Streets, is envisioned by the City to be constructed by private developers under a zoning mechanism that is described in Chapter 7. Tishman Speyer, the owner of two large development sites in HY, has announced its intention to undertake design and construction of the next park segment, between West 36th and West 37th Streets, utilizing this zoning mechanism.

Views of Hudson Boulevard Park

The Plaza seating area looking northwest to Jacob K. Javits Convention Center

Hudson Boulevard Park Plaza seating area adjacent to #7 Subway Station

Source: Jason Nakleh, December 2016

Building upon the success of both the nearby High Line Park and the Hudson River Park, the park is an active lunchtime scene and bustling recreation area, providing an amenity to residents and workers. The original planning vision of a network of interconnected public spaces is coming to fruition, with pedestrians able to walk from commercial and residential buildings lining Hudson Boulevard Park, through the public plazas of the ERY and WRY, into Hudson River Park, or to step up to the High Line and walk as far south as the new Whitney Museum in the Meatpacking District.

Cultural Amenities

Cultural organizations play an integral role in the life of any neighborhood and HY is no exception. In 2011 the Frank Gehry-designed Signature Theater complex opened within the MiMa residential and mixed-use building at 440-460 West 42nd Street. Other organizations that have invested in the HY include the Baryshnikov Arts Center and Orchestra of St. Luke's, which together occupy a facility that was completed in 2011 on West 37th Street. Another major planned cultural facility is The Shed, a non-profit arts and events hall currently under construction on the ERY. The Shed will provide space for visual, performing and other artists, as well as event space, in a building of 200,000 sf, with the ability to expand by transforming an outdoor plaza into a 20,000 sf multi-purpose hall.

In 2016 Related announced its commission of a dramatic sculpture/viewing structure by artist Thomas Heatherwick dubbed "Vessel", which will serve as a visual focus of the 6-acre plaza on the ERY. The 150 foot tall Vessel is currently being fabricated in Italy and is planned for installation in 2018.

Jacob K. Javits Convention Center Renovation

The Javits Center is located on the western border of HY. A renovation and expansion project of approximately $460 million was completed in November 2013, with replacement of the building's glass curtain wall and roof system, mechanical upgrades, and construction of a 60,000 sf North Building to increase event space. In 2017, state officials announced a further $1.6 billion expansion, including a new 600,000 sf truck loading/storage facility, additional meeting and event space, and an enlarged green roof with room for events for up to 1,500 people. This project is slated to commence in 2017. The recent and planned improvements to enhance the facilities for convention and meeting business, in turn, are expected to significantly complement the overall development of HY.

Other Projects within the District

Moynihan Station For many years the State of New York has been endeavoring to transform the landmarked Farley Post Office Building on Eighth Avenue into a new transit hall named Moynihan Station. This would provide expansion space and an upgraded passenger experience for Amtrak, Long Island Rail Road, and New Jersey Transit, all currently located in Pennsylvania Station. A first phase of $300 million in infrastructure upgrades to the station and building has been completed. In late 2016, the Governor announced that a joint venture of Related, Vornado Realty Trust (Vornado), and the construction firm Skanska, was designated as the developer of the project. The developers will lead the transformation of the building into a state-of-the-art train hall of approximately 255,000 sf, with approximately 700,000 sf of office and retail space[21]. With completion of the train hall, Amtrak and LIRR will move passenger operations one block west, thus bringing 700,000 daily passengers[22] closer to Hudson Yards, and across the street from Brookfield's Manhattan West project.

[21] Governor Cuomo - announcement of development team for Pennsylvania Station-Farley Complex, September 27, 2016
[22]Inclusive of NJ transit ridership that will not move to Moynihan Station
http://www.nj.com/traffic/index.ssf/2016/01/how_did_new_york_penn_station_get_so_bad.html

Port Authority Bus Terminal (PABT) Planning for the renovation, expansion, and potential replacement of the PABT at the northeast edge of the HY continues. The PABT provides a vital transportation link, bringing in excess of 230,000 weekday commuters[23] to the City. Bus traffic congestion, created by inefficient connections to and from the Lincoln Tunnel and bottlenecks within the terminal, create a challenge, in particular to the northern area of the HY. There is a broad consensus among the real estate community, economic development professionals, transit advocates, and elected officials that the current PABT needs to be renovated or replaced to improve passenger experience and enlarge capacity. The Port Authority released several potential schemes for consideration by its board of commissioners in early 2016, and held a design competition later in 2016, however, these planning initiatives were met with controversy. In late 2016 the Port Authority announced that it was going to commence a new planning process, involving close participation by neighborhood residents, stakeholders, and elected officials in New York, as well as stakeholders in New Jersey.

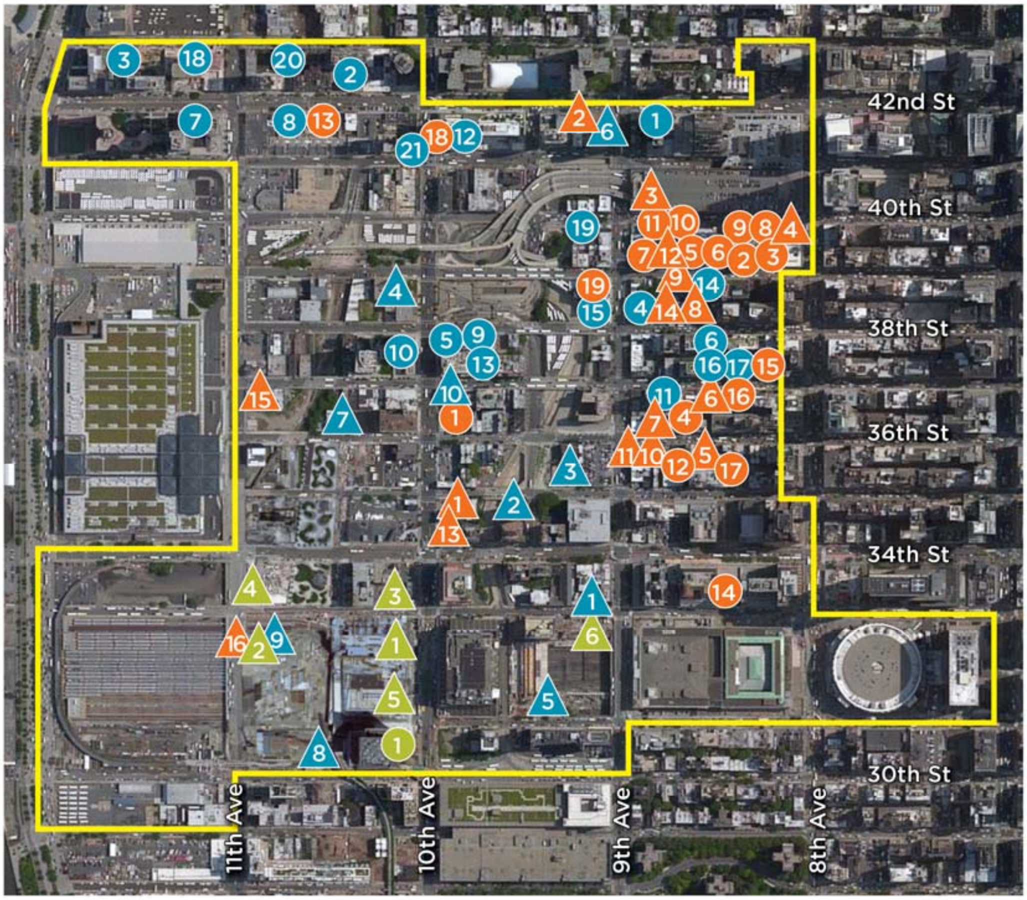
Development Activity in the Hudson Yards since the 2005 Rezoning

The years since the adoption of the rezoning in 2005 have seen the completion of many new buildings that are transforming Hudson Yards, as shown in Exhibit 1-5. The Hudson Yards is a recognized new mixed-use district and office submarket of Manhattan. It has realized the City's objective of expanding Midtown to the west, and has garnered considerable private sector investment, in office, residential and hotel construction. The HY is increasingly viewed as an integrated and successful extension of Midtown. Amenities and development include the opening of the #7 subway station in 2015, completion of the High Line Park (with its "Plinth" extension along the spur at West 30th Street set to open in 2018), renovation and expansion of the Javits Center, numerous residential and hotel projects, and significant construction at the ERY and Manhattan West.

Within the boundaries of the HYFD, approximately 11.3 msf of development has been completed since the 2005 rezoning. Residential development has led the charge, with 7.6 msf, or more than 7,850 units, of rental and condominium properties brought to market during this period. Hotel development has also thrived, with 19 new properties totaling 1.8 msf and approximately 4,200 rooms completed, with another 16 hotels under construction. Office development has the first new tower of 1.9 msf completed, three others under construction totaling 5.9 msf and another tower of 2.9 msf expected to start construction in 2017. These properties, both completed and under construction, are illustrated in Exhibit 1-5.

[23] Port Authority Bus Terminal Fact Sheet, by the Port Authority of New York and New Jersey

Exhibit 1-5. Development Activity within the Hudson Yards, December 2016



OFFICE

Completed 1.9 MSF

1. 10 Hudson yards

Under Construction 8.7 MSF

1. 30 Hudson Yards
2. 35 Hudson Yards
3. 50 Hudson Yards (Assume 2017 start)
4. 55 Hudson Yards
5. Shops at Hudson Yards (Retail)
6. One Manhattan West

RESIDENTIAL

Completed 7.6 MSF

1. 350 W 42nd St.
2. 521 W 42nd St.
3. 635 W 42nd St.
4. 502 9th Ave.
5. 455 W 37th St.
6. 320 W 38th St.
7. 600 W 42nd St.
8. 534 W 42nd St.
9. 446 W 38th St.
10. 505 W 37th St.
11. 350 W 37th St.
12. 440 W 42nd St.
13. 433 W 37th St.
14. 330 W 39th St.
15. 511 9th Ave.
16. 325 W 37th St.
17. 321 W 37th St.
18. 605 W 42nd St.
19. 402 W 40th St.
20. 552 W 43rd St
21. 555 Tenth Ave..

Under Construction 3.0 MSF

1. 411 9th Ave.
2. 445 W 35th St.
3. 411-421 W 35th St.
4. 509 W 38th St.
5. 401 W 31st St.
6. 577 Ninth Ave.
7. 515 W 36th St.
8. 545 W 30th St.
9. 560 W 33rd St.
10. 480 Tenth Ave.

HOTEL

Completed 1.8 MSF

1. 449 W 36th St.
2. 309 W 39th St.
3. 305 W 39th St.
4. 341 W 36th St.
5. 341 W 39th St.
6. 337 W 39th St.
7. 343 W 39th St.
8. 326 W 40th St.
9. 330 W 40th St.
10. 334 W 40th St.
11. 342 W 40th St.
12. 345 W 35th St.
13. 510 W 42nd St.
14. 325 W 33rd St.
15. 307 W 37th St.
16. 312 W 37th St.
17. 321 W 35th St.
18. 570 10th Ave.
19. 515 9th Ave.

Under Construction 1.9 MSF

1. 444 10th Ave.
2. 400 W 42nd St.
3. 350 W 40th St.
4. 310 W 40th St.
5. 320 W 36th St.
6. 326-330 W 37th St.
7. 337 W 36th St.
8. 333 W 38th St.
9. 338 W 39th St.
10. 334-344 W 36th St.
11. 334-344 W 36th St.
12. 342 W 39th St.
13. 461 W 34th St.
14. 351-353 W 38th St.
15. 450 11th Ave.
16. 35 Hudson Yards

Source: Hudson Yards Development Corporation, Cushman & Wakefield, Inc.

Additional development rights are available in order to achieve the maximum development potential, either through the ERY TDRs or through the DIB. Since 2006, approximately 2.9 msf in development rights have been obtained pursuant to DIB and approximately 840,000 sf from ERY TDRs. Under the UTEP amendment, the applicable mortgage recording tax would flow to HYIC in the form of a Payment in Lieu of Mortgage Recording Tax (PILOMRT).

View of Hudson Yards development activity, looking southeast from Javits Convention Center

Source: Jason Nakleh, December 2016

Development in Surrounding Neighborhoods

As identified in 2011, development in areas surrounding HY has continued, providing further integration of the district into the fabric of Manhattan's economy and civic life. To the south of HY, the West Chelsea district has been bolstered by the completion of the new Whitney Museum of American Art at the foot of the High Line Park. Construction of new residential and hospitality projects in this area continues, with construction of boutique office buildings such as 860 Washington Street and 837 Washington Street, the new American headquarters of Samsung. Pier 57 is being transformed into a mixed-use project in excess of 300,000 sf, with a food hall, office space anchored by Google, and a rooftop park.

To the east, near Pennsylvania Station, Vornado continues to reposition its office and retail portfolio, with completed and planned upgrades to several buildings. These include 2 Penn Plaza with a new food hall, and re-tenanting of 330 West 34th Street with advertising agencies Deutche and Yodle, construction company StructureTone, and retailer Foot Locker. Sam Ash Music Stores relocated its flagship store from Rockefeller Center in 2012 to 333 West 34th Street, an office building owned by SL Green. Hotel development in the area also has been strong, including the opening of the Renaissance New York Hotel at 218 West 35th Street in 2016.

To the north of HY, there has also been strong development and investment activity. The 1,240-unit Gotham West residential complex was completed in 2014 at Eleventh Avenue and West 44th Street, adding a successful food hall to the neighborhood. In the same year, the Patrinely Group completed a 280-unit rental building at 564 West 44th Street. Nearby at 572 Eleventh Avenue, Moinian has completed foundations for a 165-unit market rate rental building. Further north, the Georgetown Companies and Pershing Square Capital are transforming an old auto dealership at 787 Eleventh Avenue into a 500,000 sf office building with amenities suitable as the headquarters for the hedge fund, and other high-end tenants.

Report Summary

New York City's Long-Term Growth as a Premier Office Location

The continued success of New York City's economy is dependent upon Manhattan retaining its status as a premier office location regionally, nationally, and globally. As noted herein, the HY rezoning was enacted to help ensure Manhattan's premier status and enable future expansion of its office market.

A long-term challenge to office development in Manhattan has been the limited new construction due to the cost of land and lack of large development sites in the existing office corridors. These factors hindered the development of large office buildings designed to meet tenant requirements for technologically advanced, large, column-free floor plates. HY's large commercial sites represent Midtown's major expansion area. In addition, Manhattan's continued growth of OUE[24], coupled with minimal existing development sites and few large new state-of-the-art office buildings, are expected to further increase demand for office space in Hudson Yards.

As presented in this report, Hudson Yards will help the City to meet this future demand for office space, with a projected 23.5 msf over the forecast period.

Development of the other uses targeted in the HY plan are further detailed in the respective chapters of Residential, Hotel and Retail.

Real Estate Demand Forecasts and Revenue Projections

Given the assumptions detailed below and in the subsequent chapters of this report, it is the opinion of Cushman & Wakefield that market demand can reasonably be expected to support new development in the Hudson Yards. Since the creation of the HY in 2005, the majority of planned infrastructure has been completed using the proceeds from the 2011 and 2006 bond issues. This includes the extension of the #7 subway line, and funding of Phase 1 of the Hudson Boulevard Park. The new infrastructure that was deemed essential to HY's development has resulted in 40 new real estate projects completed and many more under construction and planned.

In forecasting the future demand for real estate uses and in projecting building completions over the new forecast period of 2017 - 2047, Cushman & Wakefield relied upon a number of variables and assumptions. These include, but are not limited to, the economic and demographic forecasts provided by Moody's Analytics, and the completion of major public sector investments as previously described.

Building completions through 2016 totaled approximately 11.3 msf and the forecast for new real estate development in the Hudson Yards is projected to total 39.8 msf, as summarized below.

[24] Moody's Analytics OUE forecast in Chapter 2

Exhibit 1-6. Hudson Yards Development over past Decade and Forecast, 2006 – 2047

	HY Construction (msf)	
	Completed (2006-2016)	Forecast (2017-2047)
Office	1.9	23.5
Residential*	7.6	12.1
Hotel	1.8	2.4
Retail	0.0	1.8
Total	11.3	39.8

*Excludes renovations and projects substantially completed at time of rezoning totaling 0.8 msf.

Source: Moody's Analytics, Cushman & Wakefield, Inc.; Smith Travel Research
Note: sums may not add up due to rounding

According to the forecast, HY reaches its maximum development potential as permitted by the 2005 district zoning and the 2009 rezoning of the WRY. Notably, the forecast residential completions go beyond the maximum density permitted under zoning, and thus the forecast of residential is curtailed after 2028. Hotel completions reach maximum density in 2039, and are curtailed thereafter.

C&W's projections assumed that the existing zoning legislation remains in place throughout the forecast period. It is also assumed that future changes to applicable City zoning and tax incentive programs will not materially affect Manhattan's overall development potential. Significant changes to City zoning to create new markets that would be competitive with HY could potentially result in lower development in HY than forecast.

The demand projections were used in turn to determine the real estate tax revenues associated with development for each property type. The primary sources of revenues are the PILOT for commercial office development and the TEP for residential and hotel development. Because retail development is assumed to take place within office and residential buildings, it results in both PILOT and TEP revenues. Payments for development rights and other payments related to taxes on financing are expected to provide additional revenues, as noted previously.

Overview of Real Estate Report

The chapters that follow provide greater detail and analysis of the real estate demand generators, consequent annual forecast completions for the four property types, and the related assumptions and sources used to support the revenue projections. This update report also relies on the analysis and historic data included in the 2011 and 2006 reports, which are incorporated herein by reference. The Appendices in this report contain information related to office PILOT schedules and revenue detail, residential tax schedules and assessment projections, property tax rates, data sheets on the existing and under-construction office buildings, and hotel property type definitions. Each chapter considers the following factors:

- Midtown Manhattan's current conditions and the dynamic relationship between Midtown and Hudson Yards;
- Supply and demand characteristics, with an emphasis on the years since the 2011 report, the current environment, and expected future trends;
- Moody's Analytics demographic and economic forecasts as the basis for the forecast of new real estate inventory to be captured in the Hudson Yards over the forecast period of 2017-2047;
- Construction completions (in gross square feet) for each property type that would likely be captured in the Hudson Yards on an annual basis over the forecast period; and
- The reasonableness of all other real estate inputs and assumptions used in the revenue model and the reasonableness of the resulting projected future revenues that are estimated to result from the development of the Hudson Yards.

Note that the real estate data used in the analysis of market conditions is generally current through 2016 Q3. The forecast of demand, however, is based on annual data, and, therefore, considers data through 2015, consistent with the projections of economic data provided by Moody's Analytics.

Conclusion

Cushman & Wakefield prepared a real estate analysis based upon data provided by third parties (which are relied upon and assumed to be reasonable and accurate)[25] including forecasts provided by Moody's Analytics and tax methodology and calculations provided by New York City's Department of Finance, New York City's Office of Management and Budget, and the Hudson Yards Development Corporation. Cushman & Wakefield considers the revenue projections prepared by New York City's Office of Management and Budget to be reasonable, as presented in the following pages.

All projections are predicated on the realization of all underlying assumptions as described in the report, and are further subject to the limitations identified therein and in Chapter 1B. All assumptions and descriptions should be read in their entirety, within the appropriate text and exhibits of this report. Because such assumptions are subject to risks and uncertainties, actual results may differ materially from those forecasts expressed or implied by the report.

[25] Third party data is sourced throughout this report in the text and exhibits.

Chapter 1B. Limiting Conditions

"C&W" shall mean Cushman & Wakefield, Inc. or any of its affiliates that prepared the C&W Report.

1. The C&W Report is to be used in whole and not in part. No part of the C&W Report shall be used in conjunction with any other market study or report. Publication of the C&W Report or any portion, description or summary thereof without the prior written consent of C&W is prohibited. Except as may be otherwise stated in the letter of engagement to prepare it, the C&W Report may not be used by any person other than the party that engaged us, or for purposes other than that for which it was prepared. If the C&W Report is to be used in an offering memorandum or any other investment materials, its use is subject to the limitations and indemnification sections of the engagement letter to prepare said report. No part of the C&W Report shall be conveyed to the public through advertising, or used in any sales or promotional material without C&W's prior written consent.

2. The information in the C&W Report reflects data available at the date set forth therein and does not reflect data or changes subsequent to that date. Some of the data relied upon in this report was prepared prior to 2017. Other than as set forth below, the information contained in the C&W Report has been gathered by C&W from sources assumed to be reliable, including publicly available records. Because records of all transactions are not readily available, the information contained in the C&W Report may not reflect all transactions occurring in the geographic area discussed in the C&W Report. In addition, transactions that are reported may not be described accurately or completely in the publicly available records. C&W shall not be responsible for and does not warrant the accuracy or completeness of, or the assumptions underlying, any such information derived from such publicly available records (or information relating to transactions that were not reported).

3. C&W relied on information, reports, and tax revenue forecasts, calculations, and methodology provided by The City of New York ("NYC"), New York City Office of Management and Budget ("OMB"), the New York City Department of Finance ("DOF"), Hudson Yards Infrastructure Corporation ("HYIC"), Hudson Yards Development Corporation ("HYDC"), and Moody's Analytics ("MA"). MA was retained by HYIC to provide information with regard to certain demographic and economic analyses and forecasts, as were other third parties, for use within the C&W Report. C&W assumes no liability resulting from errors, omissions or any other inaccuracies with respect to the information provided by HYIC, HYDC, NYC, MA and any other third parties.

4. Tax data provided by the New York City Office of Management and Budget ("OMB") and the New York City Department of Finance ("DOF") are on a New York City Fiscal Year Basis. The City's Fiscal Year commences on July 1st of a Calendar year and ends on June 30th of the subsequent Calendar Year. For example, the City's Fiscal Year 2017 commences on July 1, 2016, and ends on June 30, 2017. In reviewing revenue estimates for modeling purposes, it is assumed that the forecast schedule of completions (which form part of the revenue estimates), which are on a Calendar Year basis, would fall within the corresponding City Fiscal Year ending as of June 30. Actual timing of completions, as well as the operation and timing of the City's assessment mechanism, may affect the revenue results.

5. In connection with the C&W Report, C&W makes numerous assumptions with respect to industry performance, general business and economic conditions, and other matters. Any estimates or approximations contained therein could reasonably be subject to different interpretations by other parties. Because predictions of future events are inherently subject to uncertainty, neither C&W, nor any other person can assume that such predicted rental rates, absorption, or other events will occur as outlined or predicted in the C&W Report. Reported asking rents for properties do not necessarily reflect the rental rates at which properties may actually be rented. In many instances, asking rents and actual rental rates differ significantly.

6. Changes in local, national, or global economic conditions will affect the markets described in the C&W Report. Therefore, C&W can give no assurance that occupancy, absorption levels, and rental rates as of the date of the C&W Report will continue or that such occupancy levels and rental rates will be attained at any time in the future. Forecasts of absorption rates, rental activity, and replacement costs are C&W's estimates as

of the date of the C&W Report. Actual future market conditions may differ materially from the forecasts and projections contained therein.

7. Many of the figures presented in this report have been generated using sophisticated computer models that make calculations based on numbers carried out to three or more decimal places. In the interest of simplicity, most numbers have been rounded. Thus, totals may not be completely accurate.

8. As the demand forecast is provided over a 31-year period and the revenue projections are made over a 31-year period, it is important to revisit all the assumptions and variables that are based on current market conditions, enabling legislation, zoning, and tax programs as these variables have an increased probability of changing over a longer forecast period.

9. Many of the variables associated with these forecasts, tax rates, incentive programs, and legislation are policy-driven. C&W is neither opining on nor predicting future policy changes. It is assumed that legislation relating to tax programs and PILOTs associated with revenues in the model will not change. It is also assumed that future development of other sites within the Hudson Yards Financing District ("HYFD") owned by the State of New York ("State") or Port Authority of New York and New Jersey ("PA") will not materially reduce revenue to the HYIC.

10. Among the assumptions on which projections of the revenues expected to be received by the HYIC were based is that owners of commercial sites in the Hudson Yards will either enter into PILOT agreements (as used in the C&W Report) with the New York City Industrial Development Agency ("IDA") or the Metropolitan Transportation Authority ("MTA") (relating to the Eastern Rail Yard and Western Rail Yard), or pay real property taxes to the City and make certain DIB payments (as used in the C&W Report) in exchange for the right to increase the size of their buildings. In addition to the IDA, the Empire State Development Corporation has statutory powers that may be utilized in the Hudson Yards, giving UDC the power to enter separately into agreements with developers to provide development incentives in exchange for reduction or elimination of real property taxes otherwise payable to the City without a PILOT agreement with the IDA, and to build larger buildings without making DIB payments. In addition, development on property owned by the State, MTA, or the PA in the Hudson Yards will not, by operation of law, result in real property tax revenues to the City or PILOT revenues to the HYIC, but could capture some of the demand projected by C&W for commercial and residential developments within the Hudson Yards and therefore could reduce the revenues payable to the HYIC.

11. In assessing the reasonableness of the projected growth rates of taxes used in the revenue model, C&W examined the data from an historical perspective by comparing the projected growth rates in taxes with their historic average growth rate between 1981 and 2016. The cyclicality of the economy and real estate markets could cause growth in any year to differ from the long-term projected growth rates used in the model. The analysis does not take into account the potential impact of a major economic shock other than those incorporated in the forecast provided by MA and assumes that growth will not deviate significantly from the historic long-term trends.

12. In the event that any party makes a claim against C&W or any of its affiliates or any of their respective officers or employees in connection with or in any way relating to the C&W Report, the maximum damages recoverable from C&W or any of its affiliates or their respective officers or employees shall be the amount of the monies actually collected by C&W for this assignment, and under no circumstances shall any claim for consequential damages be made. Any opinions and conclusions expressed by the C&W professionals during this assignment are representations made as employees and not as individuals. C&W's responsibility is limited to HYIC and use of the C&W Report by third parties shall be solely at the risk of said third parties.

13. C&W does not take any responsibility for, or make any representations with respect to, the reasonableness or appropriateness of coverage projections for any debt instruments issued relating to Hudson Yards.

14. C&W is part of a national network of affiliated companies providing real estate services. As such, from time to time, C&W and its affiliates may have provided and in the future may provide real estate related services, including brokerage and leasing agent services, to HYIC, for whom it prepared the C&W Report.

Chapter 2. The New York City Economic Outlook

Moody's Analytics Report

MOODY'S
ANALYTICS

January 2017

HUDSON YARDS

The New York City Economic Outlook

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Executive Summary

The report and forecasts that follow are an update of the New York City outlook first produced by Moody's Analytics for the Hudson Yards Infrastructure Corp. in 2006, and most recently updated in 2011. The forecast is an update of a long-term cyclical economic forecast for New York City and the surrounding region, and the report focuses primarily on the Moody's Analytics baseline forecast for the New York City metro division—the core of the larger region.

» This update of the recession (cyclical) scenario forecast for the region incorporates new historical data received since the last update in 2011, along with updated assumptions about the long- and short-run growth path of the U.S. and New York City economies. Additionally, improvements to the underlying models that have been made since 2011 are now reflected in the cyclical scenario.

» The incorporation of new historical data has shifted the level of the forecast and the timing of the projected recessions from the previous forecast. Job growth in both the national and regional economies has proven resilient, and the forecast reflects that although the strong pace of job gains will slow, net hiring will remain solid through the end of the decade. However, with much of the expansion powered by lower-wage jobs, income and output growth will continue to disappoint. High-wage job creation has been plagued by softness in financial services, although tech will play an important role in driving wage growth. In addition, strong growth in the outer boroughs in recent years will translate to strong performance in the forecast years as well. As a result, Brooklyn, Queens and the Bronx are expected to be among the New York City region's best performers, along with Hudson County NJ. All represent lower-cost alternatives to Manhattan, and have become increasingly attractive for residents and firms.

» In the near-term outlook, New York City's expansion will persist for the next couple of years before the metro division settles into a more sustainable trajectory before the end of the decade. The long-run baseline forecast for the New York City metro division has not changed appreciably since the prior update. After the recovery period ends, New York City's job growth will trail that of the nation, while roughly tracking that of the Northeast.

» The cyclical scenario is based on the Moody's Analytics baseline outlook for the region and was constructed using a top-down method—first a national recession scenario was created, then it was fed through the state, metro area and, finally, county forecast models. The cyclical forecast for New York City and the surrounding region is county-based and covers 16 counties in New York, New Jersey and Connecticut. It was constructed over a 40-year time horizon with the first forecast period in late 2016 and the final forecast period in 2056. Overlaid on the baseline forecast was the assumption that the national and regional economies would experience a recession every 9½ years, similar in length and magnitude to the average of the three most recent recessions in 1990-1991, 2001 and 2007-2009. The first recession begins in 2019, with three subsequent recessions in 2029, 2038 and 2048.

» Forecasts of key economic variables, including office-using employment, were provided for use by Cushman & Wakefield in the development of commercial and residential real estate forecasts and analysis of these markets discussed in subsequent chapters; detailed office-using industries in financial services, professional/business services, information, and federal and state government were aggregated to create the office-using employment industry. More details about the office-using employment category can be found in Appendix Table 4.

The New York City Economic Outlook

BY ADAM KAMINS

New York City's economy has been flying high in recent years, and though it has begun a gradual descent toward equilibrium growth, there is still plenty of air beneath its wings. The metro division[1] emerged from the Great Recession earlier than its peers, with employment returning to its prerecession peak within three years, far earlier than the U.S. This was all the more remarkable because its most important historical driver—financial services—has been stagnant for much of that time. Even as the nation's major global financial institutions, which are headquartered in New York City, returned to profitability, stricter capital requirements and a long adjustment to the controls imposed by the Dodd-Frank regulations held back net hiring. Despite this, a thriving real estate market and emerging tech sector combined with strong consumer industries not only pointed the Big Apple in the right direction, but generated jobs at a pace rarely reached since tracking began in 1990.

In recent years, however, signs have emerged that the current expansion is entering a new phase. The pace of payroll gains slowed, accompanied by a pickup in hourly wages, consistent with a tightening labor market. Around the same time, the unemployment rate began to settle at just under 5%, supporting the notion that little slack labor supply remained. In 2016, most evidence points to slow but steady growth, even though unusually noisy household employment figures have introduced confusion; it is likely that the story will be more consistent once the Bureau of Labor Statistics completes its benchmark annual revisions in the spring.

The recent slowdown also looks far less troublesome when considered in context. With the recession not hitting the Big Apple nearly as hard as it did the U.S., and the local recovery taking hold more rapidly, the metro division remains well ahead of the nation. Payrolls sit nearly 10% above their prior peak as of late 2016 in New York City, more than twice the corresponding figure for the rest of the U.S.

The near-term outlook calls for continued deceleration in net hiring accompanied by a pickup in wages as the pendulum shifts more firmly toward workers. Hiring in tech will remain vital to generating high-wage jobs in the absence of robust Wall Street hiring, but mid- and low-wage sectors such as construction and leisure/hospitality will slow considerably.

One of the reasons for the slowdown is a moderation in the ultraluxury condominium market in Manhattan, as supply appears to have caught up with or exceeded demand from wealthy overseas buyers. And the office market is turning more mixed; prospects are solid for most of the metro division, but the traditional stronghold of Midtown is slowing, with effective rents moving lower, partly offsetting continued growth on Manhattan's West Side and in Midtown South.

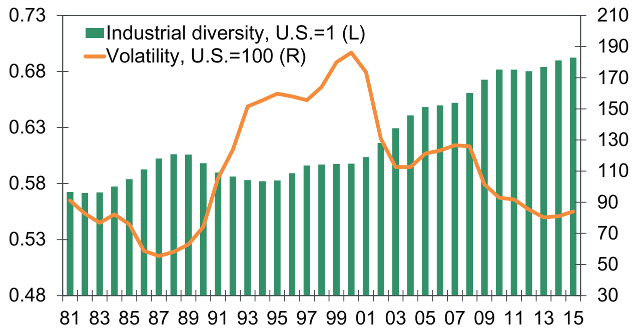
Consumer industries have also slowed of late, weighing on the short-term outlook as well. Leisure/hospitality has picked up the slack for retail, but signs of weakness are emerging in the hotel market and visitors are generally spending less. With numerous new hotels opening or planned, the landscape remains daunting. However, gradually increasing wages nationally and the dollar's eventual move toward par with its global counterparts will provide relief.

Longer term, growth in New York City will trail that of the U.S. but remain well ahead of the state and the Northeast. A highly skilled workforce will help to preserve above-average productivity growth, which will provide support for wages. Trade and financial flows, foreign immigration, visits by overseas travelers, and foreign investment will benefit the city over the long haul.

However, significant barriers to more rapid growth remain. High costs impede both residents and businesses from locating in the city, keeping a lid on gains. And New York faces continued fierce competition from other global financial and cultural centers. Further, risks are elevated by uncertainty surrounding the Trump administration's policies. The baseline forecast assumes that a damaging trade war and overly restrictive immigration policies will be averted. However, both have the potential to do outsize long-term damage to the Big Apple, given its intercon-

1 The New York City metropolitan division comprises 14 counties: Bergen, Hudson, Middlesex, Monmouth, Ocean and Passaic in Northern New Jersey; Westchester, Rockland and Orange north of the city; and the five counties/boroughs of New York City: Richmond, Queens, Kings, New York and Bronx.

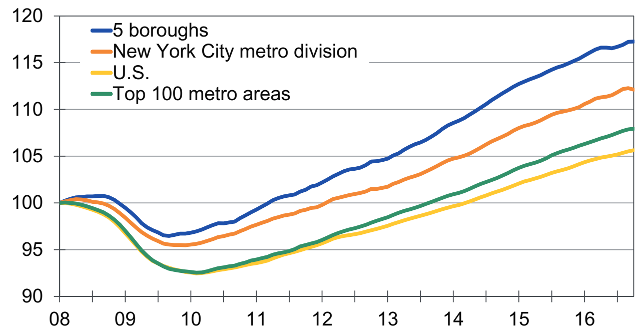
Chart 1: More Diversity, Less Severe Recessions



Source: Moody's Analytics

Chart 2: New York City Outperforms

Private sector payroll employment, 3-mo MA, Jan 2008=100



Sources: BLS, Moody's Analytics

nectedness with the global economy and its reliance on immigrant labor.

The report that follows describes New York City's recent economic performance, its near- and long-term prospects relative to the national economy, and the risks to this outlook. The report concludes with a discussion of the cyclical scenario and model methodology.

Recent Performance

Leading into 2008, recent history dictated that New York City endured deeper downturns and slower recoveries than the rest of the nation. Yet even with a financial crisis decimating the pivotal securities industry, the city persevered. Overall job losses during the Great Recession were not as steep as those experienced by the U.S. as a whole, thanks in part to a more resilient housing market that sheltered construction output and employment. New York City's superior performance dates back nearly a decade, as its economy rode the housing boom and unprecedented underwriting volumes and revenues on Wall Street led to very strong growth in the mid-2000s.

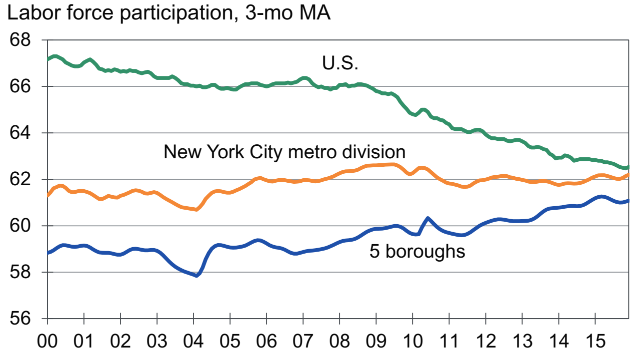
The city's sustained outperformance throughout the recession and its immediate aftermath is a testament to its increasingly diverse economy. Gains in such industries as leisure/hospitality played a vital role last decade, and the rise of high tech provided another pathway to lucrative jobs. As a result, the Moody's Analytics diversity index increased from less than 0.5 in the mid-1990s to nearly 0.7 in 2016, illustrating the degree to which the city has insulated itself from what at one time would have been devastating economic shocks. Similarly, volatility relative to the national labor market has dropped by half over a similar time horizon. The combination of a more diverse economy and wide-ranging policy interventions to ensure that the financial sector remained viable during the darkest days of the recession prevented a much deeper and long-lasting recession (see Chart 1).

The recession was slow to hit and less severe than in the rest of the nation, and its impacts were more quickly brushed off. Job growth has remained consistently higher than that of the U.S. throughout the ensuing recovery and expansion. Since the national recession ended in mid-2009, New York City has added about 50% more jobs than it would have had it grown at the national rate (see Chart 2 and Tables 1-3[2]). This has helped to support above-average personal income growth during that time. Similarly, while the unemployment rate has remained higher than that of the U.S., this was driven by labor force growth. As a result, the participation rate moved from more than 7 points below the U.S. figure a decade ago to within 1.5 percentage points as of late 2015 (see Chart 3). The gap has widened again in 2016, but this is due to a sharp decline in household employment, most of which will be revised away this spring.

Strong job creation combined with a less pronounced housing bubble than in the West and the South helped to slow the migration toward those regions in the immediate aftermath of the recession. As a result, population growth in the five boroughs—already well above average compared with the state and region—picked up further, supporting a surge in consumer industries. This kept employment afloat, but the low-paying nature of the jobs being created undermined their potential impact. For most of the current cycle, low-wage net job creation has led the way, with low-skill, part-time and seasonal jobs

Chart 3: Labor Force Participation Gap Closes

Labor force participation, 3-mo MA



Sources: BLS, Moody's Analytics

2 Recent economic performance tables for Manhattan are available in Tables 1-2 of the Appendix of this study.

Table 1: New York City Region* Monthly Economic Performance Statistics

	Oct 2015	Nov 2015	Dec 2015	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016
Establishment Employment (ths, SA)												
Total Employment	9,698.1	9,713.3	9,723.2	9,714.9	9,735.3	9,771.5	9,781.1	9,767.1	9,781.4	9,826.6	9,803.2	9,844.8
% change yr ago	*2.2*	*2.1*	*2.0*	*1.7*	*1.8*	*2.1*	*2.1*	*1.6*	*1.5*	*2.0*	*1.5*	*1.9*
Construction	375.3	383.0	383.3	384.8	387.0	393.8	389.0	391.7	392.0	391.0	387.3	390.9
% change yr ago	*3.6*	*5.5*	*5.2*	*5.7*	*6.4*	*7.9*	*5.3*	*4.9*	*4.5*	*4.3*	*3.2*	*4.3*
Manufacturing	392.6	391.0	391.8	394.0	395.3	393.5	392.5	392.1	393.1	394.8	393.6	394.7
% change yr ago	*0.4*	*0.0*	*0.1*	*0.8*	*1.2*	*0.8*	*0.5*	*0.4*	*0.5*	*0.7*	*0.6*	*0.9*
Trade, Transportation & Utilities	1,775.3	1,769.4	1,763.8	1,775.2	1,779.8	1,778.4	1,785.1	1,781.8	1,782.9	1,797.5	1,797.7	1,791.1
% change yr ago	*0.9*	*0.4*	*-0.1*	*0.5*	*0.7*	*0.6*	*1.0*	*0.5*	*0.4*	*1.2*	*1.1*	*0.9*
Retail Trade	995.3	985.0	977.6	987.5	989.9	988.6	991.3	989.3	989.6	994.5	989.4	985.3
% change yr ago	*0.5*	*-0.7*	*-1.5*	*-0.5*	*-0.3*	*-0.4*	*0.0*	*-0.6*	*-0.5*	*0.1*	*-0.5*	*-0.8*
Wholesale Trade	433.7	434.8	431.8	437.9	438.7	437.7	440.4	438.8	438.9	440.7	444.1	446.7
% change yr ago	*0.5*	*0.6*	*-0.1*	*1.2*	*1.4*	*1.1*	*1.8*	*1.2*	*1.1*	*1.4*	*2.1*	*2.6*
Transportation & Utilities	346.3	349.6	354.5	349.8	351.3	352.2	353.4	353.7	354.4	362.4	364.3	359.2
% change yr ago	*2.7*	*3.2*	*4.2*	*2.4*	*2.4*	*2.8*	*2.8*	*2.5*	*2.3*	*4.0*	*4.4*	*3.5*
Information Services	298.6	294.5	297.5	299.8	301.0	300.9	301.1	289.7	301.9	303.5	301.6	301.7
% change yr ago	*1.2*	*-0.1*	*0.5*	*1.2*	*1.8*	*1.8*	*2.0*	*-1.8*	*2.2*	*2.0*	*1.8*	*1.4*
Financial Services	809.2	807.9	806.1	806.7	807.8	809.9	811.2	809.6	807.4	810.8	810.2	812.5
% change yr ago	*2.1*	*1.7*	*1.3*	*1.2*	*1.4*	*1.6*	*1.5*	*1.0*	*0.6*	*0.7*	*0.4*	*0.7*
Professional & Business Services	1,559.3	1,559.6	1,562.0	1,561.7	1,559.6	1,567.7	1,564.3	1,567.5	1,564.5	1,565.9	1,564.2	1,570.9
% change yr ago	*3.6*	*3.3*	*3.1*	*2.5*	*2.1*	*2.5*	*1.8*	*1.6*	*1.3*	*1.4*	*1.2*	*1.4*
Education & Health Services	1,823.7	1,835.0	1,837.4	1,849.5	1,846.0	1,854.8	1,856.4	1,858.6	1,862.5	1,874.7	1,880.7	1,870.2
% change yr ago	*2.5*	*2.6*	*2.6*	*3.1*	*2.8*	*3.1*	*3.0*	*2.9*	*2.7*	*2.9*	*3.0*	*3.0*
Leisure & Hospitality Services	903.4	903.4	901.5	908.6	905.2	909.0	913.5	915.7	937.2	948.6	946.8	934.0
% change yr ago	*2.8*	*2.5*	*1.9*	*2.4*	*2.0*	*2.3*	*2.7*	*2.3*	*4.8*	*5.5*	*5.1*	*3.6*
Other Services	423.3	424.4	428.4	429.0	431.7	432.2	434.9	431.2	433.9	439.1	437.3	434.4
% change yr ago	*1.2*	*1.1*	*2.0*	*2.0*	*2.6*	*2.7*	*3.3*	*2.1*	*2.5*	*3.7*	*3.1*	*2.4*
Government	1,323.1	1,325.5	1,326.9	1,323.4	1,322.7	1,323.3	1,324.0	1,326.6	1,324.8	1,326.3	1,328.3	1,334.6
% change yr ago	*1.1*	*0.9*	*1.1*	*1.1*	*1.1*	*1.1*	*1.0*	*1.1*	*0.8*	*0.8*	*0.6*	*1.1*
Office-Using	2,854.8	2,851.7	2,857.0	2,857.5	2,846.4	2,866.4	2,868.9	2,861.4	2,867.9	2,875.5	2,878.0	2,883.0
% change yr ago	*2.4*	*2.1*	*1.9*	*1.7*	*1.0*	*1.6*	*1.5*	*1.2*	*1.2*	*1.3*	*1.2*	*1.4*
Unemployment Rate (%, SA)	4.9	4.8	4.8	4.8	4.7	4.7	4.7	4.7	4.8	4.9	5.0	5.2
Labor Force (ths)	10,378.8	10,397.3	10,401.8	10,418.9	10,448.3	10,480.8	10,481.2	10,444.6	10,390.2	10,336.0	10,293.0	10,327.0
% change yr ago	*0.7*	*0.8*	*0.6*	*0.7*	*0.9*	*1.2*	*1.2*	*0.8*	*0.4*	*-0.2*	*-0.6*	*-0.4*
Number of Unemployed (ths)	506.7	503.3	502.0	503.5	493.9	496.4	496.2	492.6	496.5	504.5	517.5	533.7
% change yr ago	*-19.2*	*-18.5*	*-18.0*	*-17.0*	*-17.7*	*-15.7*	*-13.9*	*-11.9*	*-8.0*	*-4.0*	*0.4*	*4.5*
Number of Employed (ths)	9,872.1	9,893.9	9,899.8	9,915.4	9,954.4	9,984.5	9,985.0	9,952.0	9,893.7	9,831.5	9,775.4	9,793.3
% change yr ago	*2.0*	*2.0*	*1.8*	*1.8*	*2.0*	*2.2*	*2.1*	*1.6*	*0.8*	*0.0*	*-0.7*	*-0.6*
Total Residential Permits (# of units YTD, NSA)	74,593	78,064	88,657	1,591	5,134	8,273	12,395	15,895	20,448	23,715	28,365	32,654
% change yr ago	*81.0*	*75.5*	*81.0*	*-53.7*	*-6.0*	*-28.7*	*-41.0*	*-57.4*	*-65.4*	*-62.0*	*-57.5*	*-53.1*
Single-family (# of units YTD, NSA)	9,304	10,351	11,349	694	1,295	2,381	3,360	4,279	5,253	6,215	7,093	7,987
% change yr ago	*-9.0*	*-7.3*	*-5.5*	*-12.8*	*-8.1*	*2.3*	*2.2*	*-0.6*	*-3.7*	*-2.7*	*-4.6*	*-4.6*
Multifamily (# of units YTD, NSA)	65,289	67,713	77,308	897	3,839	5,892	9,035	11,616	15,195	17,500	21,272	24,667
% change yr ago	*110.6*	*103.3*	*109.1*	*-66.0*	*-5.3*	*-36.5*	*-49.0*	*-64.8*	*-71.6*	*-68.8*	*-64.1*	*-59.8*
Avg Daily Room Rate ($, YTD)	262.9	256.6	259.1	185.5	185.9	202.1	215.3	230.0	237.9	238.3	237.7	247.8
% change yr ago	*1.6*	*-1.4*	*-1.6*	*-4.4*	*-5.9*	*-3.2*	*-3.4*	*-3.5*	*-3.3*	*-3.0*	*-2.9*	*-3.1*
Occupancy Rate (%, YTD)	85.5	84.8	84.7	70.4	73.2	77.4	79.6	81.5	82.8	83.8	84.4	85.1

*** In tables 1-4, the New York City region includes the New York City metro area and the Bridgeport CT metro area. The Dutchess-Putnam County NY metro division has been removed.**

Table 2: New York City Region Quarterly Economic Performance Statistics

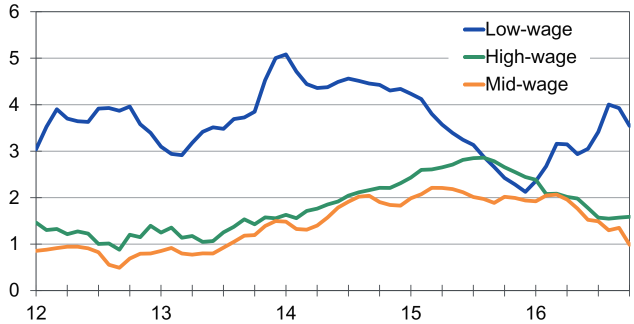
	2013Q3	2013Q4	2014Q1	2014Q2	2014Q3	2014Q4	2015Q1	2015Q2	2015Q3	2015Q4	2016Q1	2016Q2	2016Q3
Gross Metro Product (Constant $ bil, SAAR)	1,326.1	1,336.3	1,327.6	1,341.4	1,356.2	1,358.3	1,357.8	1,369.4	1,371.4	1,376.3	1,381.8	1,386.9	1,395.1
% change yr ago	*0.0*	*1.4*	*0.5*	*1.8*	*2.3*	*1.7*	*2.3*	*2.1*	*1.1*	*1.3*	*1.8*	*1.3*	*1.7*
Establishment Employment (ths, SA)													
Total Employment	9,262.6	9,317.8	9,344.7	9,411.1	9,463.7	9,515.7	9,560.7	9,608.4	9,654.0	9,711.5	9,740.6	9,776.5	9,824.9
% change yr ago	*1.8*	*2.2*	*1.8*	*2.0*	*2.2*	*2.1*	*2.3*	*2.1*	*2.0*	*2.1*	*1.9*	*1.8*	*1.8*
Construction	336.2	339.6	340.4	350.9	358.2	363.3	364.2	372.7	374.9	380.5	388.6	390.9	389.5
% change yr ago	*6.8*	*6.2*	*2.2*	*5.3*	*6.6*	*7.0*	*7.0*	*6.2*	*4.7*	*4.8*	*6.7*	*4.9*	*3.9*
Manufacturing	396.1	396.6	395.4	393.7	392.3	391.2	390.7	390.9	391.6	391.8	394.3	392.6	394.4
% change yr ago	*-0.6*	*-0.1*	*-0.2*	*-0.8*	*-1.0*	*-1.4*	*-1.2*	*-0.7*	*-0.2*	*0.2*	*0.9*	*0.4*	*0.7*
Trade, Transportation & Utilities	1,722.4	1,731.5	1,736.8	1,742.4	1,753.5	1,762.2	1,767.6	1,772.3	1,776.8	1,769.5	1,777.8	1,783.3	1,795.5
% change yr ago	*2.0*	*2.2*	*2.3*	*1.9*	*1.8*	*1.8*	*1.8*	*1.7*	*1.3*	*0.4*	*0.6*	*0.6*	*1.1*
Retail Trade	967.9	974.4	977.7	981.6	987.7	991.5	992.3	993.7	993.8	986.0	988.6	990.1	989.7
% change yr ago	*2.6*	*2.9*	*2.6*	*2.4*	*2.1*	*1.8*	*1.5*	*1.2*	*0.6*	*-0.6*	*-0.4*	*-0.4*	*-0.4*
Wholesale Trade	427.7	428.3	428.7	429.4	430.7	432.0	432.9	433.5	435.0	433.4	438.1	439.4	443.8
% change yr ago	*1.1*	*1.1*	*1.1*	*0.8*	*0.7*	*0.9*	*1.0*	*1.0*	*1.0*	*0.3*	*1.2*	*1.3*	*2.0*
Transportation & Utilities	326.8	328.7	330.5	331.5	335.1	338.7	342.4	345.1	348.0	350.1	351.1	353.8	361.9
% change yr ago	*1.2*	*1.4*	*2.7*	*1.8*	*2.6*	*3.0*	*3.6*	*4.1*	*3.9*	*3.4*	*2.5*	*2.5*	*4.0*
Information Services	293.7	294.7	294.5	293.9	294.7	295.3	295.8	295.2	297.0	296.9	300.6	297.6	302.2
% change yr ago	*2.0*	*2.5*	*2.7*	*1.3*	*0.4*	*0.2*	*0.5*	*0.4*	*0.8*	*0.5*	*1.6*	*0.8*	*1.8*
Financial Services	783.0	785.7	787.7	790.2	792.8	794.3	797.2	801.1	806.1	807.8	808.1	809.4	811.1
% change yr ago	*0.2*	*0.4*	*0.6*	*1.1*	*1.3*	*1.1*	*1.2*	*1.4*	*1.7*	*1.7*	*1.4*	*1.0*	*0.6*
Professional & Business Services	1,466.2	1,471.9	1,476.0	1,489.4	1,499.4	1,510.6	1,526.9	1,541.3	1,546.1	1,560.3	1,563.0	1,565.4	1,567.0
% change yr ago	*2.6*	*1.9*	*1.7*	*2.4*	*2.3*	*2.6*	*3.5*	*3.5*	*3.1*	*3.3*	*2.4*	*1.6*	*1.4*
Education & Health Services	1,711.8	1,729.9	1,734.5	1,750.9	1,770.5	1,786.1	1,796.8	1,807.5	1,821.2	1,832.0	1,850.1	1,859.2	1,875.2
% change yr ago	*2.0*	*3.1*	*2.4*	*2.7*	*3.4*	*3.3*	*3.6*	*3.2*	*2.9*	*2.6*	*3.0*	*2.9*	*3.0*
Leisure & Hospitality Services	837.7	850.6	858.2	866.7	870.3	881.6	887.6	893.1	900.7	902.8	907.6	922.2	943.1
% change yr ago	*4.1*	*5.8*	*5.2*	*4.6*	*3.9*	*3.7*	*3.4*	*3.1*	*3.5*	*2.4*	*2.3*	*3.3*	*4.7*
Other Services	406.3	408.1	410.8	414.3	416.1	419.4	420.8	422.2	424.0	425.4	431.0	433.3	436.9
% change yr ago	*1.3*	*1.3*	*1.7*	*2.6*	*2.4*	*2.8*	*2.4*	*1.9*	*1.9*	*1.4*	*2.4*	*2.6*	*3.1*
Government	1,304.3	1,309.3	1,306.8	1,310.3	1,311.3	1,311.5	1,309.2	1,312.3	1,319.2	1,325.2	1,323.1	1,325.1	1,329.7
% change yr ago	*-0.4*	*0.2*	*-0.6*	*0.0*	*0.5*	*0.2*	*0.2*	*0.2*	*0.6*	*1.0*	*1.1*	*1.0*	*0.8*
Office-using	2,736.0	2,744.3	2,753.8	2,766.1	2,781.1	2,795.1	2,816.5	2,829.6	2,841.6	2,854.5	2,856.7	2,866.0	2,876.8
% change yr ago	*1.3*	*1.2*	*1.4*	*1.6*	*1.7*	*1.9*	*2.3*	*2.3*	*2.2*	*2.1*	*1.4*	*1.3*	*1.2*
Unemployment Rate (%, SA)	7.7	7.3	6.9	6.5	6.2	6.0	5.8	5.4	5.0	4.9	4.8	4.7	5.0
Labor Force (ths)	10,238.8	10,226.7	10,239.7	10,253.9	10,277.5	10,319.2	10,352.1	10,355.6	10,357.2	10,392.6	10,449.3	10,438.6	10,318.6
% change yr ago	*0.2*	*-0.1*	*0.2*	*0.2*	*0.4*	*0.9*	*1.1*	*1.0*	*0.8*	*0.7*	*0.9*	*0.8*	*-0.4*
Number of Unemployed (ths)	787.7	743.8	703.0	668.4	636.9	619.0	598.4	558.3	517.3	504.0	497.9	495.1	518.6
% change yr ago	*-10.8*	*-13.7*	*-15.2*	*-16.9*	*-19.2*	*-16.8*	*-14.9*	*-16.5*	*-18.8*	*-18.6*	*-16.8*	*-11.3*	*0.3*
Number of Employed (ths)	9,451.1	9,483.0	9,536.7	9,585.5	9,640.6	9,700.2	9,753.8	9,797.3	9,840.0	9,888.6	9,951.4	9,943.6	9,800.1
% change yr ago	*1.2*	*1.2*	*1.5*	*1.7*	*2.0*	*2.3*	*2.3*	*2.2*	*2.1*	*1.9*	*2.0*	*1.5*	*-0.4*
Total Residential Permits (# of units YTD, NSA)	30,273	43,191	11,332	24,093	38,177	48,988	11,604	59,038	69,652	88,657	8,273	20,448	32,654
% change yr ago	*39.5*	*44.9*	*58.7*	*29.1*	*26.1*	*13.4*	*2.4*	*145.0*	*82.4*	*81.0*	*-28.7*	*-65.4*	*-53.1*
Single-family (# of units YTD, NSA)	7,782	11,094	2,564	5,931	9,207	12,007	2,328	5,454	8,368	11,349	2,381	5,253	7,987
% change yr ago	*39.9*	*45.5*	*42.8*	*27.7*	*18.3*	*8.2*	*-9.2*	*-8.0*	*-9.1*	*-5.5*	*2.3*	*-3.7*	*-4.6*
Multifamily (# of units YTD, NSA)	22,491	32,097	8,768	18,162	28,970	36,981	9,276	53,584	61,284	77,308	5,892	15,195	24,667
% change yr ago	*39.4*	*44.6*	*64.0*	*29.6*	*28.8*	*15.2*	*5.8*	*195.0*	*111.5*	*109.1*	*-36.5*	*-71.6*	*-59.8*
Existing Single-Family Home Sales (ths)	153.3	147.1	135.6	136.7	144.7	150.8	144.9	147.0	154.6	162.9	159.9	160.9	154.5
% change yr ago	*24.8*	*18.6*	*-0.8*	*-4.1*	*-5.6*	*2.5*	*6.9*	*7.6*	*6.8*	*8.0*	*10.4*	*9.4*	*-0.1*
House Prices (1995Q1=100, NSA)	218.1	219.1	221.1	224.5	226.1	227.6	230.5	233.2	235.3	235.7	238.3	241.0	242.8
% change yr ago	*1.2*	*1.8*	*2.3*	*3.1*	*3.7*	*3.9*	*4.2*	*3.9*	*4.1*	*3.6*	*3.4*	*3.4*	*3.2*
Median Existing-Home Sales Price (ths, SA)	396.8	397.7	395.3	393.5	401.5	397.7	397.8	393.5	384.8	383.9	386.2	389.2	389.8
% change yr ago	*3.8*	*2.9*	*3.5*	*-0.9*	*1.2*	*0.0*	*0.6*	*0.0*	*-4.2*	*-3.5*	*-2.9*	*-1.1*	*1.3*
Personal Income ($ mil)	1,273,862.9	1,285,454.4	1,304,797.9	1,319,582.4	1,339,005.1	1,354,957.4	1,354,954.3	1,385,855.4	1,402,845.0	1,404,941.6	1,410,635.3	1,424,978.9	1,434,554.1
% change yr ago	*2.1*	*-0.7*	*4.3*	*4.5*	*5.1*	*5.4*	*3.8*	*5.0*	*4.8*	*3.7*	*4.1*	*2.8*	*2.3*
Wages & Salaries ($ mil)	655,078.4	663,884.8	682,203.4	682,865.9	693,113.9	704,541.0	705,234.5	719,615.5	727,661.1	733,083.9	733,712.6	741,206.7	746,475.0
% change yr ago	*3.0*	*1.1*	*6.9*	*4.9*	*5.8*	*6.1*	*3.4*	*5.4*	*5.0*	*4.1*	*4.0*	*3.0*	*2.6*
Nonwage Income ($ mil)	618,784.4	621,569.8	622,594.7	636,716.5	645,891.2	650,416.5	649,719.6	666,239.8	675,183.9	671,857.7	676,922.8	683,772.2	*688,079.1*
% change yr ago	*1.1*	*-2.4*	*1.7*	*4.0*	*4.4*	*4.6*	*4.4*	*4.6*	*4.5*	*3.3*	*4.2*	*2.6*	*1.9*
Personal Bankruptcies (# 12-mo ending, SAAR)	40,344	40,664	39,515	38,415	37,604	36,269	36,104	35,074	34,302	33,848	34,113	34,137	33,714
% change yr ago	*-16.9*	*-10.4*	*-7.6*	*-7.6*	*-6.8*	*-10.8*	*-8.6*	*-8.7*	*-8.8*	*-6.7*	*-5.5*	*-2.7*	*-1.7*
Avg Daily Room Rate ($, YTD)	241.3	255.4	209.5	237.8	246.6	260.8	200.1	235.8	248.8	259.5	191.1	227.7	241.3
% change yr ago	*4.1*	*3.4*	*4.0*	*1.9*	*2.2*	*2.1*	*-4.5*	*-0.8*	*0.9*	*-0.5*	*-4.5*	*-3.4*	*-3.0*
Occupancy Rate (%, YTD)	83.7	84.6	73.1	80.6	83.8	84.8	72.3	80.8	84.3	85.0	73.7	81.3	84.4

Table 3: New York City Region Annual Economic Performance Statistics

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	5-yr avg annual % change
Gross Metro Product (Constant $ bil, SAAR)	1,224.2	1,259.4	1,268.8	1,236.2	1,239.6	1,282.0	1,285.9	1,322.2	1,325.4	1,345.9	1,368.7	1.3
% change yr ago	*4.0*	*2.9*	*0.8*	*(2.6)*	*0.3*	*3.4*	*0.3*	*2.8*	*0.2*	*1.6*	*1.7*	
Establishment Employment (ths, SA)												
Total Employment	8,905.9	9,001.9	9,125.2	9,152.4	8,842.4	8,831.4	8,950.1	9,089.4	9,246.0	9,433.8	9,633.7	1.8
% change yr ago	*0.8*	*1.1*	*1.4*	*0.3*	*(3.4)*	*(0.1)*	*1.3*	*1.6*	*1.7*	*2.0*	*2.1*	
Construction	353.3	367.8	381.0	379.4	331.9	308.1	309.7	316.6	335.5	353.2	373.1	3.9
% change yr ago	*0.9*	*4.1*	*3.6*	*(0.4)*	*(12.5)*	*(7.2)*	*0.5*	*2.3*	*6.0*	*5.3*	*5.6*	
Manufacturing	520.8	504.8	486.4	467.5	420.9	405.0	401.0	398.6	396.5	393.2	391.2	(0.7)
% change yr ago	*(3.1)*	*(3.1)*	*(3.6)*	*(3.9)*	*(10.0)*	*(3.8)*	*(1.0)*	*(0.6)*	*(0.5)*	*(0.8)*	*(0.5)*	
Trade, Transportation, & Utilities	1,705.0	1,716.7	1,732.3	1,723.4	1,638.2	1,640.1	1,665.9	1,691.4	1,715.7	1,748.7	1,771.6	1.6
% change yr ago	*0.3*	*0.7*	*0.9*	*(0.5)*	*(4.9)*	*0.1*	*1.6*	*1.5*	*1.4*	*1.9*	*1.3*	
Retail Trade	915.4	920.7	931.9	927.9	889.1	904.7	924.0	943.6	963.5	984.6	991.4	1.9
% change yr ago	*1.0*	*0.6*	*1.2*	*(0.4)*	*(4.2)*	*1.8*	*2.1*	*2.1*	*2.1*	*2.2*	*0.7*	
Wholesale Trade	458.7	460.2	461.4	456.7	425.6	417.0	419.9	424.0	426.5	430.2	433.7	0.8
% change yr ago	*(0.4)*	*0.3*	*0.3*	*(1.0)*	*(6.8)*	*(2.0)*	*0.7*	*1.0*	*0.6*	*0.9*	*0.8*	
Transportation & Utilities	330.9	335.9	339.0	338.8	323.5	318.4	322.0	323.8	325.7	333.9	346.4	1.7
% change yr ago	*(0.5)*	*1.5*	*1.0*	*(0.1)*	*(4.5)*	*(1.6)*	*1.1*	*0.6*	*0.6*	*2.5*	*3.7*	
Information Services	300.4	301.8	299.7	298.2	287.3	281.4	283.9	288.3	291.3	294.6	296.2	1.0
% change yr ago	*0.2*	*0.5*	*(0.7)*	*(0.5)*	*(3.7)*	*(2.0)*	*0.9*	*1.6*	*1.1*	*1.1*	*0.5*	
Financial Services	830.2	841.9	849.8	839.3	789.2	777.8	786.3	783.7	783.3	791.3	803.0	0.6
% change yr ago	*1.6*	*1.4*	*0.9*	*(1.2)*	*(6.0)*	*(1.4)*	*1.1*	*(0.3)*	*(0.1)*	*1.0*	*1.5*	
Professional & Business Services	1,339.8	1,364.8	1,402.7	1,411.2	1,327.2	1,337.2	1,383.1	1,425.8	1,460.9	1,493.9	1,543.7	2.9
% change yr ago	*1.1*	*1.9*	*2.8*	*0.6*	*(6.0)*	*0.8*	*3.4*	*3.1*	*2.5*	*2.3*	*3.3*	
Education & Health Services	1,458.4	1,489.5	1,519.2	1,551.0	1,580.2	1,612.7	1,640.0	1,672.4	1,710.0	1,760.5	1,814.4	2.4
% change yr ago	*1.7*	*2.1*	*2.0*	*2.1*	*1.9*	*2.1*	*1.7*	*2.0*	*2.3*	*3.0*	*3.1*	
Leisure & Hospitality Services	663.9	678.6	700.1	715.8	708.2	728.9	761.0	797.5	833.3	869.2	896.0	4.2
% change yr ago	*1.6*	*2.2*	*3.2*	*2.2*	*(1.1)*	*2.9*	*4.4*	*4.8*	*4.5*	*4.3*	*3.1*	
Other Services	382.1	381.7	387.8	387.2	379.5	379.9	388.4	399.7	405.5	415.2	423.1	2.2
% change yr ago	*1.9*	*(0.1)*	*1.6*	*(0.2)*	*(2.0)*	*0.1*	*2.2*	*2.9*	*1.5*	*2.4*	*1.9*	
Government	1,351.4	1,352.2	1,363.0	1,374.6	1,379.0	1,360.5	1,330.3	1,312.4	1,309.6	1,310.0	1,316.5	(0.6)
% change yr ago	*0.8*	*0.1*	*0.8*	*0.9*	*0.3*	*(1.3)*	*(2.2)*	*(1.3)*	*(0.2)*	*0.0*	*0.5*	
Office-Using	2,671.5	2,709.5	2,749.8	2,743.0	2,622.6	2,625.7	2,665.0	2,697.8	2,729.7	2,774.0	2,835.6	1.6
% change yr ago	*1.3*	*1.4*	*1.5*	*(0.3)*	*(4.4)*	*0.1*	*1.5*	*1.2*	*1.2*	*1.6*	*2.2*	
												5-yr avg
Unemployment Rate (%)	4.9	4.6	4.5	5.4	8.7	8.9	8.6	8.7	7.7	6.4	5.3	7.3
Labor Force (ths)	9,751.7	9,834.1	9,892.6	10,021.7	10,073.8	10,070.2	10,101.1	10,214.4	10,229.7	10,272.6	10,364.4	0.6
% change yr ago	*1.2*	*0.9*	*0.6*	*1.3*	*0.5*	*(0.0)*	*0.3*	*1.1*	*0.2*	*0.4*	*0.9*	
Number of Unemployed (ths)	474.5	447.0	439.9	540.3	873.0	894.3	866.7	883.7	791.1	656.8	544.5	(9.1)
% change yr ago	*(11.9)*	*(5.8)*	*(1.6)*	*22.8*	*61.6*	*2.4*	*(3.1)*	*2.0*	*(10.5)*	*(17.0)*	*(17.1)*	
Number of Employed (ths)	9,277.2	9,387.1	9,452.8	9,481.4	9,200.8	9,175.9	9,234.4	9,330.7	9,438.6	9,615.8	9,819.9	1.4
% change yr ago	*1.9*	*1.2*	*0.7*	*0.3*	*(3.0)*	*(0.3)*	*0.6*	*1.0*	*1.2*	*1.9*	*2.1*	
												5-yr avg
Total Residential Permits (# of units)	69,272	63,733	59,400	54,938	18,152	20,092	22,509	29,815	43,191	48,988	88,657	46,632
% change yr ago	*13.0*	*(8.0)*	*(6.8)*	*(7.5)*	*(67.0)*	*10.7*	*12.0*	*32.5*	*44.9*	*13.4*	*81.0*	
Single-family (# of units YTD, NSA)	22,410	18,394	14,095	9,942	7,022	7,932	6,717	7,623	11,094	12,007	11,349	9,758
% change yr ago	*(2.4)*	*(17.9)*	*(23.4)*	*(29.5)*	*(29.4)*	*13.0*	*(15.3)*	*13.5*	*45.5*	*8.2*	*(5.5)*	
Multifamily (# of units YTD, NSA)	46,862	45,339	45,305	44,996	11,130	12,160	15,792	22,192	32,097	36,981	77,308	36,874
% change yr ago	*22.1*	*(3.3)*	*(0.1)*	*(0.7)*	*(75.3)*	*9.3*	*29.9*	*40.5*	*44.6*	*15.2*	*109.1*	
												5-yr avg annual % change
Existing Single-Family Home Sales (ths)	246.7	228.5	162.4	122.5	121.3	123.2	115.5	121.8	144.9	141.9	152.3	
% change yr ago	*2.7*	*(7.4)*	*(28.9)*	*(24.6)*	*(1.0)*	*1.6*	*(6.3)*	*5.5*	*19.0*	*(2.1)*	*7.3*	4.7
House Prices (1995Q1=100)	246.6	266.4	265.4	251.7	235.3	227.0	220.1	215.7	217.8	224.8	233.7	
% change yr ago	*15.5*	*8.0*	*(0.4)*	*(5.2)*	*(6.5)*	*(3.5)*	*(3.1)*	*(2.0)*	*1.0*	*3.3*	*3.9*	0.6
Median Existing-Home Sales Price (ths)	448.9	471.8	472.6	438.5	382.1	395.2	381.6	381.5	393.4	397.0	390.0	
% change yr ago	*15.4*	*5.1*	*0.2*	*(7.2)*	*(12.9)*	*3.4*	*(3.4)*	*(0.0)*	*3.1*	*0.9*	*(1.8)*	(0.2)
Personal Income ($ mil)	952,174.5	1,028,095.1	1,100,658.1	1,125,403.5	1,085,569.4	1,122,232.5	1,187,243.7	1,251,723.8	1,268,308.5	1,329,585.7	1,387,149.0	
% change yr ago	*4.8*	*8.0*	*7.1*	*2.3*	*(3.5)*	*3.4*	*5.8*	*5.4*	*1.3*	*4.8*	*4.3*	4.3
Wages & Salaries ($ mil)	523,023.2	562,935.5	610,582.7	620,072.4	574,714.9	597,090.8	619,326.4	637,872.8	652,005.4	690,681.0	721,398.8	
% change yr ago	*5.0*	*7.6*	*8.5*	*1.6*	*(7.3)*	*3.9*	*3.7*	*3.0*	*2.2*	*5.9*	*4.5*	3.9
Nonwage Income ($ mil)	429,151.3	465,159.7	490,075.4	505,331.0	510,854.6	525,141.6	567,917.3	613,851.1	616,303.2	638,904.7	665,750.3	
% change yr ago	*4.5*	*8.4*	*5.4*	*3.1*	*1.1*	*2.8*	*8.2*	*8.1*	*0.4*	*3.7*	*4.2*	4.9
Personal Bankruptcies	93,804	21,679	31,144	41,563	55,512	60,460	55,068	45,376	40,664	36,269	33,848	
% change yr ago	*38.2*	*(76.9)*	*43.7*	*33.5*	*33.6*	*8.9*	*(8.9)*	*(17.6)*	*(10.4)*	*(10.8)*	*(6.7)*	(10.9)
Population (ths)	19,731.4	19,702.6	19,738.8	19,846.8	19,983.0	20,123.4	20,287.2	20,410.1	20,539.4	20,645.3	20,735.6	
% change yr ago	*(0.1)*	*(0.2)*	*0.2*	*0.6*	*0.7*	*0.7*	*0.8*	*0.6*	*0.6*	*0.5*	*0.4*	0.6
												5-yr avg
Net Migration (ths)	(253.6)	(235.3)	(162.0)	(14.7)	19.5	24.5	46.1	7.9	33.8	(2.9)	0.8	17.1

Chart 4: Hiring Tilts Back to Low-Wage Jobs

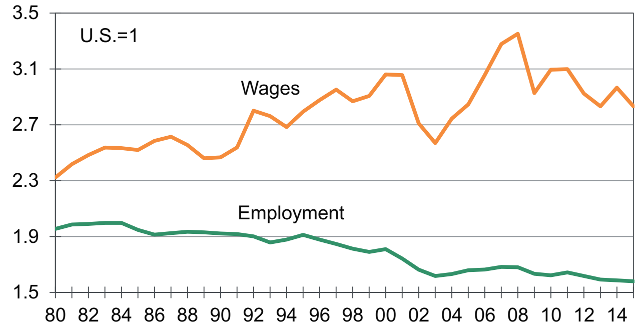
New York City employment, 3-mo MA, % change yr ago



Sources: BLS, Moody's Analytics

Chart 5: Finance Loses Jobs, Retains Wages

Financial services concentration in New York City relative to U.S.



Sources: BLS, BEA, Moody's Analytics

rising in the place of Wall Street positions lost during the recession (see Chart 4). Despite representing less than 20% of all jobs in New York City, consumer industries have accounted for nearly 30% of net employment gains since 2010.

The economy has held up nicely despite persistent weakness in pivotal financial services jobs. Securities industry employment has made up just a fraction of its losses from 2008 to 2013, when the aftermath of the recession and a harsher regulatory environment took their tolls on Wall Street. Modest job growth has resumed over the past few years as banks more fully adapt to the changing landscape brought on as Dodd-Frank regulations have gone into effect. However, with a higher share of resources devoted to activities such as compliance and stress testing, as opposed to more lucrative trading positions, the relative importance of a physical location in Lower Manhattan has diminished. This has given rise to an increasingly prominent securities industry presence in places such as Wilmington DE, which has become an attractive alternative for banks. Its share of finance jobs has increased markedly over the past two decades, mirroring trends in places such as St. Louis, Jacksonville FL, and Salt Lake City, all of which have attracted more banking jobs in recent years.

This has led to the resumption of a broad trend of finance jobs migrating out of New York City. However, though the relative share of industry jobs in the city diminishes compared with that for the rest of the U.S., the relative shares of wages and output are rising over the long run (see Chart 5). This indicates that many of the jobs leaving the city are lower-paying positions, and that the most productive and lucrative positions remain. JPMorgan, for example, recently moved more than 2,000 support positions to Jersey City after receiving $19 million in incentives

The fact that support positions, not trading ones, are more likely to leave represents good news for city and state coffers, given that New York depends more heavily than almost any other state on income tax revenue, and that a large share of that comes from Wall Street bonuses. Yet 2016 bonuses are expected to be in line with their lower 2015 levels, even though bank profits have improved. All told, this will again add up to slightly disappointing tax collections relative to prior years.

In an earlier era, prolonged weakness in finance would have been a death knell for New York City, but two sectors have been key in helping to overcome this: high tech and construction. White-collar technology jobs have surged since the recession, with the catch-all other information services category that includes a number of key tech firms almost doubling in size, ahead of the also-robust national pace. Other tech industries, such as data processing, have moved in the right direction in the Big Apple in recent years while declining nationally.

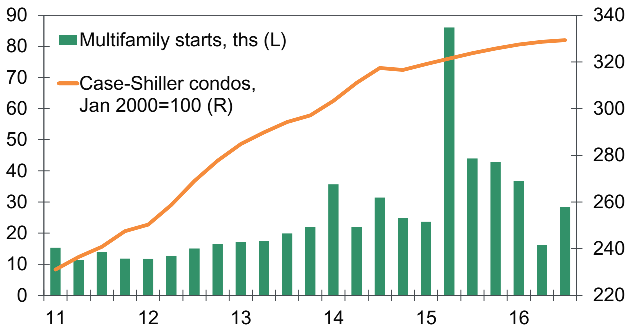
Google, Facebook and Twitter are among the companies that have established a sizable presence in "Silicon Alley," creating the types of high-wage, high-skill jobs that were traditionally the domain of finance. Numerous tech clusters have emerged throughout the city, but the Midtown South market has been at the heart of recent development, spurring record low vacancy rates for office space. Neighborhoods like SoHo and Chelsea have reaped the benefits, as has Lower Manhattan to a lesser extent. Tech academies have emerged throughout the city to better train workers, with the public sector and other institutions playing a major role. In early 2015 Mayor Bill de Blasio unveiled a $10 million public-private partnership to develop tech talent, and a new Cornell Tech campus on Roosevelt Island is under way, with the first buildings slated to open in mid-2017.

Although tech has emerged as a short- and long-term driver, construction has also filled a major gap in job creation throughout the expansion. Much of this has been driven by the residential market, fueled by solid demographics and a surge in overseas demand for ultraluxury properties in Manhattan. The latter has been fueled in part by uncertainty abroad, making the stability of New York City real estate an appealing safe haven asset. With wealthy overseas buyers willing to pay large cash sums for high-end properties, developers have been eager to take advantage. As a result, multifamily permit issuance and condominium prices skyrocketed in recent years. Combined with the sustained strength of Brooklyn's real estate market, this has allowed residential construction to thrive. This has kept construction payroll gains well ahead of the national pace for the better part of five years.

More recently, however, trouble signs have begun to emerge. The expiration of

Chart 6: More Supply Hurts Condo Price Growth

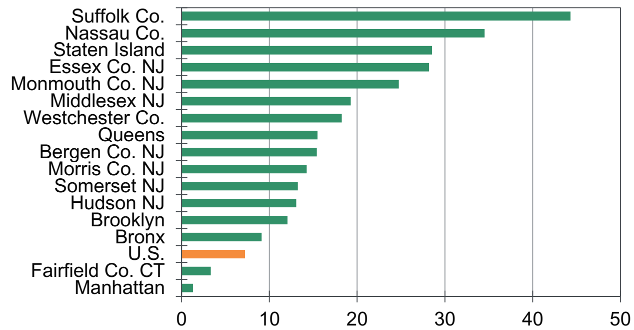
New York City metro division



Sources: Census Bureau, CoreLogic, Moody's Analytics

Chart 7: Foreclosures Are Elevated Outside NYC

Foreclosure inventory per 1,000 households, Nov 2016



Sources: RealtyTrac, Moody's Analytics

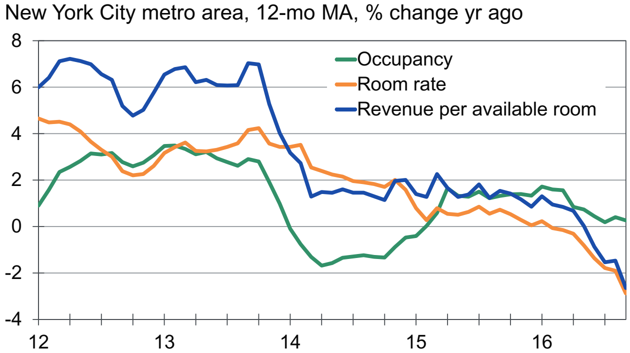
the 421-A tax credit caused many builders to file for permits last year while the state incentive was still intact, leading to a slowdown in issuance this year. Meanwhile, the influx of foreign capital and the resulting surge in building has increased the supply of high-end housing markedly, putting downward pressure on prices and keeping condos on the market longer (see Chart 6). Landlords are offering more incentives to potential tenants as apartment vacancy rates begin to creep higher following a multiyear decline. With this in mind, some developers are shifting their focus toward the middle of the market, building smaller, lower-priced units in hopes of appealing to a broader set of buyers. However, a slowdown in net migration will put downward pressure on prices in this segment as well. All told, recent developments are not yet enough to validate worries of a bubble, but they have pushed construction growth in New York City below that of the rest of the U.S. for just the second time since mid-2011.

Meanwhile, much of the extended metro area housing market remains hampered by extremely high foreclosure inventories. New Jersey remains the most foreclosure-plagued state in the nation, and New York is second, with Long Island in especially poor shape (see Chart 7). The states' judicial processes for clearing foreclosures are the longest in the nation, and relatively weak demographics mean that there is insufficient demand to offset this. As a result, price growth and construction have been hamstrung throughout the metro area.

Commercial construction in the city, meanwhile, has experienced a surge of its own. The Class A vacancy rate in Manhattan peaked in 2010 and has moved steadily lower as financial and professional services have gotten back on track. And lower-priced downtown has been helped by building at the World Trade Center complex. Tech in Midtown South has pushed vacancy rates lower than in any other submarket. Yet, as in the condo market, signs of weakness are emerging. Office vacancy rates have leveled off and though the number of nonresidential construction projects rose from September 2015 to 2016, their combined value fell by nearly a quarter.[3]

Chart 8: Lower Room Rates Weigh on Hotels

New York City metro area, 12-mo MA, % change yr ago



Sources: STR Inc., Moody's Analytics

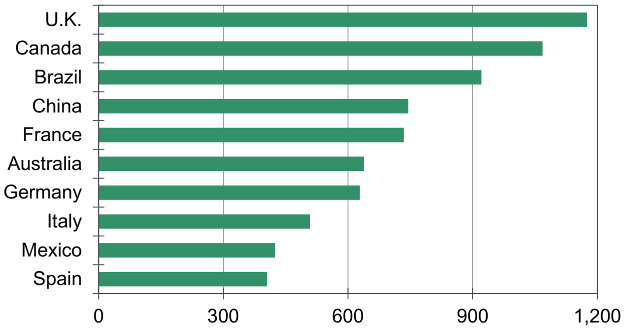
As the office market levels off a bit, the hotel segment is wrestling with challenges of its own. According to data from STR Inc. the average room rate and revenue per available room are moving in the wrong direction compared with year-ago levels (see Chart 8). There are numerous factors at play. One is cyclical, as the nations that attract the largest share of international visitors to New York City are coping with varying degrees of economic trouble, including weakness in China, a recession in Brazil, and Brexit-related uncertainty in the U.K. (see Chart 9). More broadly, an uneven global economy and strong dollar appear to be keeping visitor spending in check. However, the number of visitors to New York City is on the rise according to NYC & Co., which promotes tourism in the Big Apple.

An increasing supply of hotel rooms is also putting pressure on the industry. Some of this comes from traditional hotels, which have experienced an increase of nearly 30% in the number of rooms since 2009; this is highlighted by building in Brooklyn and Queens. But added pressure is coming from less traditional sources such as Airbnb, which has become an increasingly viable alternative for visitors. State legislation to limit short-term Airbnb rentals was recently passed, but initial indications are that it will not make

3 Dodge Data & Analytics, NYCEDC
http://www.nycedc.com/economic-data/november-2016-economic-snapshot

Chart 9: International Tourists May Spend Less

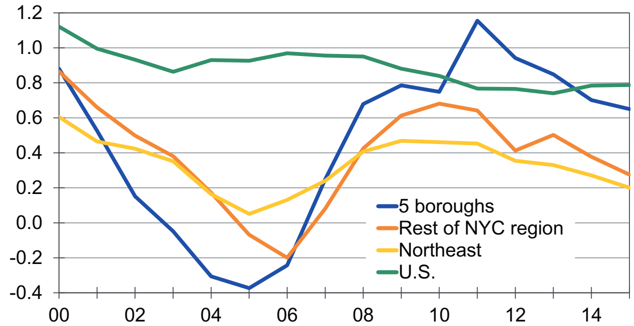
Country of origin for visitors to New York City, 2014, ths



Sources: NYC & Co., Moody's Analytics

Chart 10: NYC Outgrows Suburbs and Northeast

Population, % change yr ago



Sources: Census Bureau, Moody's Analytics

much of a dent given the relatively small drop in listings since the law was enacted.

Healthcare has also proven a stabilizing presence throughout the past cycle. Industry growth hardly missed a beat during the Great Recession, and despite slowing elsewhere, hospitals have been hiring at a robust clip of late. Even though the Affordable Care Act created uncertainty and fueled an increase in mergers as medical facilities sought to contain costs, healthcare in New York City has coped well, even accelerating over the past couple of years to pull roughly even with national growth.

Hospitals throughout the city have been bolstered by above-average population growth relative to the Northeast. Combined with solid enrollment in the state marketplace that was established by the Affordable Care Act, this has generated strong demand. Although the population skews young in the five boroughs, surrounding suburbs are generally home to an above-average share of seniors, many of whom seek specialized care at one of the city's world-class hospitals. These dynamics have prompted significant investment by numerous hospital networks. This includes New York-Presbyterian, which spent more than $500,000 on projects between 2014 and 2015. In addition, Northwell Health (formerly North Shore-LIJ), the state's second largest employer, has begun to expand beyond Long Island in hopes of establishing an increased New York City presence. All told, the New York Building Congress reports that hospitals in the five boroughs spent $6 billion on construction over the past two years.[4] This reflects a combination of the demand drivers described earlier along with the fact that a number of older facilities required upgrades and modernization.

Additional support is now coming from a public sector that is getting back on track after slogging through most of the current expansion. State and local government fell in the aftermath of the recession, as its vulnerability to lower securities industry income weighed on hiring. Efforts to close a sizable budget gap then led to severe funding cuts across the state. But solid city tax collections in recent years have contributed to significantly higher budgets. This has supported a pickup in local government payrolls, but tax collections have begun to slow again.

Trade, meanwhile, has proven a mixed bag. Volume at the Port of New York and New Jersey has been trending lower in recent years in large part because of the strong dollar. On the bright side, however, the port is slightly more import-reliant than average, and with goods from overseas relatively cheap, this has kept transportation and warehousing growth ahead of that for the nation.

Finally, demographics confer a major advantage on the Big Apple relative to the rest of the Northeast. Population growth in the five boroughs surged ahead of the national rate in the early part of the decade, but has since fallen just below as the West and South once again attract more people (see Chart 10). Prime working-age residents, however, are still coming to the city at an above-average clip, indicating that its job opportunities remain an important draw. Within the five boroughs, the Bronx has moved into the lead when it comes to net population growth, and Manhattan has slowed considerably in recent years as more residents are priced out and more condos sit vacant as investment properties. Outside of the five boroughs, Rockland County NY and Hudson County NJ are adding residents most rapidly. Long Island and Fairfield County CT, however, are losing ground.

Net migration into the New York City metro division has been positive since the recession, but hovered near zero in 2014 and 2015. International migration remained strong over the past two years, achieving its highest levels since tracking began in 2001. Domestic out-migration, however, has picked up after slowing considerably from 2011 to 2013. Interestingly, migration may be tilting slightly toward some northern and western suburbs, as the gap between the city and the rest of the metro division has narrowed over the past two years.

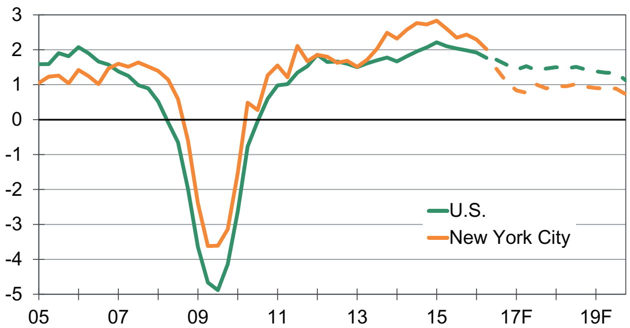
Near-term outlook

After spending much of the expansion running hotter than the U.S., New York City's economy will settle into a more sustainable pace in the coming years. The metro division recovered all of the jobs lost during the Great Recession remarkably quickly, returning to its prior peak by the summer of 2012, nearly

4 http://therealdeal.com/2016/12/02/citys-hospitals-spend-billions-amid-construction-surge/

Chart 11: City Will Fall Behind U.S. in Job Gains

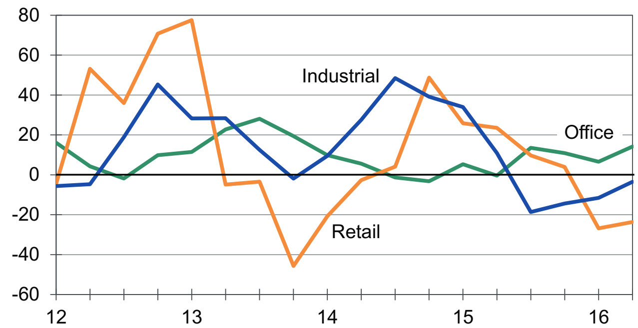
Payroll employment, % change yr ago



Sources: BLS, Moody's Analytics

Chart 12: Some Commercial Real Estate Slows

Price per square foot, % change yr ago



Sources: Real Capital Analytics, Moody's Analytics

two years ahead of the national economy. While the pace of gains has largely been unencumbered during most of the intervening four years, a noticeable slowdown in growth has begun to take hold. Net payroll gains, which have slipped from a peak of nearly 3% on a year-over-year basis to just shy of 2% will decline to 1% by this time in 2017 (see Chart 11). This reflects slower growth for numerous key drivers, including Wall Street, construction and tourism.

Although the unemployment rate has largely tracked that of the U.S. in recent years, it has historically run a bit higher in New York City. The gap between the two is likely to reopen in the short term as the strong recent run of labor force growth has increased the ranks of residents looking for work, pushing the unemployment rate slightly higher, to its current reading of just over 5%. Labor force growth will slow, consistent with an economy that is near full employment. The increasingly tight labor market will put upward pressure on wages, positioning personal income growth to accelerate slightly in 2017 before gradually softening, reflecting the national trend. Some evidence can already be seen in average hourly earnings data tracked by the BLS, indicating that incomes are currently picking up steam as firms find it increasingly difficult to find qualified workers.

Though all major sectors will move in the right direction in the coming years, there is a bit less uniformity than there was earlier in the cycle. Private services will rise tentatively, as the slower pace of net hiring in financial services is balanced in part by strength in professional services, keeping office-using employment moving in the right direction. Still, the surge of the past few years will give way to a more sustainable pace that tracks slightly below that of the U.S. The public sector's slow start to the expansion will keep fading in the rearview mirror, with state and local government adding jobs at a slightly faster rate, helped in part by significant city expenditures. Goods-producing industries, on the other hand, will slide into negative territory as a slowing real estate market keeps construction employment flat.

Weakness in construction can be traced largely to a slowing housing market outside of the five boroughs. Although foreclosure inventories will eventually come down, they will remain a major weight on house prices outside of the five boroughs. This will largely negate upward price pressure associated with a pickup in demand as households tilt toward single-family homes in the suburbs. Meanwhile, condo price growth will decelerate as well, as the glut of ultraluxury condos in the city catches up with the top of the market. With many builders shifting their focus a tier or two lower, the changing composition of the housing market will weigh on price growth. Housing starts and completions will disappoint in 2017, in part because of the decline in permits that took place in 2016 after the 421-A tax credit expired. If, as is being discussed, the credit is renewed in some form, it could provide a small jolt to builders; but the bigger factor in slower building is that developers essentially borrowed against future permit issuance in 2015, anticipating the tax credit's expiration.

Commercial markets will provide something of a backstop, but rent growth is likely to slow in Midtown, historically considered the prime office market in the city. Midtown South has moved to the fore in terms of prices and desirability, thanks to high tech, and signs point to more development there. Meanwhile, a drop in industrial and retail prices combined with downward pressure on the hotel market indicates trouble on the horizon for numerous commercial property types (see Chart 12).

Softness in the coming years will not be limited to blue-collar jobs, as financial services payrolls will be relatively flat through the end of the decade. Increased volatility will remain a drag, as the anti-trade and globalization waves sweeping much of the West increases risk. Recent election results in Europe, including the Brexit referendum in the spring, indicate that far-right parties have been emboldened, increasing the risk of a potentially devastating euro zone crackup. The election of President Trump represents another manifestation of this trend. The specifics of his policies are just beginning to take shape, but one of the more significant short-term risks for the finance industry is the potential for a trade war, which would hurt companies' bottom lines and lead to significant stock price declines. In addition, the administration's spending plans would increase inflationary pressures, potentially forcing the Federal Reserve to raise interest rates more quickly than anticipated. This could also introduce volatility into financial markets, which would flow into bank profits.

Yet there is also reason to believe that finance may exceed expectations. First, banks are already leaner than they were before the Great Recession, and tighter regulations mean that capital reserves are far larger than they were leading into the financial crisis. This should help to buffer the impact of major stock market losses. Additionally, if Brexit causes jobs and capital to flow out of the U.K., New York City stands to benefit as London's primary rival for the title of global financial capital (see Chart 13).

Travel and tourism-related job growth, meanwhile, will remain an important driver despite numerous hurdles in the coming years. The Big Apple has consistently exceeded expectations in terms of the number of visitors, with the total expected to surpass 60 million in 2016 despite the weight of a strong dollar and global weakness on international visits. Combine this with an expected surge in hotel openings, and leisure/hospitality will manage to stay afloat. In addition, the recent slowdown in spending, which has hurt stores and led to a sharp drop in Broadway ticket sales, will abate as the dollar depreciates, helping retail to get back on track. Yet an overbuilt hotel market means that room rates are likely to keep trending lower, putting workers in the hospitality industry at risk of being laid off.

Another reason that consumer industries will decelerate is that population growth, while remaining well above the state and regional averages, will moderate further. As recently as a decade ago, the five boroughs were shedding residents. But the boom in millennials, many of whom prefer cities to suburbs, moved New York City not only back into positive territory, but also ahead of the U.S. The city remains ahead of the rest of the metro division, but a lack of affordable housing has narrowed the gap. Further, as young adults age into their 30s and 40s, many will be compelled to move to suburbs as school quality, land availability and other factors become more important. Robust international immigration will support growth in the five boroughs, bolstering the condo and apartment markets; but a moderate slowdown in international migration is now probable with immigration laws to be more tightly enforced under President Trump. However, should some of the more inflammatory rhetoric around mass deportations lead to more extreme policy measures, New York City would be hit especially hard.

Long-term outlook

The long-run forecast for the New York City metro division has not changed appreciably since the last update. Although the gap between New York City and the rest of the nation will widen in the short run as the Big Apple economy retreats from an unsustainable pace, the two will converge again in the long run. Ultimately, job growth will trail that of the nation by less than half a percentage point, a respectable rate for a large, mature economy. Over the next 30 years, personal income will expand at 3.8%, while annualized real GDP growth will hover between 1.7% and 2%. Both of these figures are slightly below the U.S. average and recent history, but that is to be expected with recent rates pushed higher by nearly record job growth. Productivity growth will remain stronger than that of the nation thanks to New York's abundance of high-wage, high-skill industries. This will allow firms to produce more output with fewer workers.

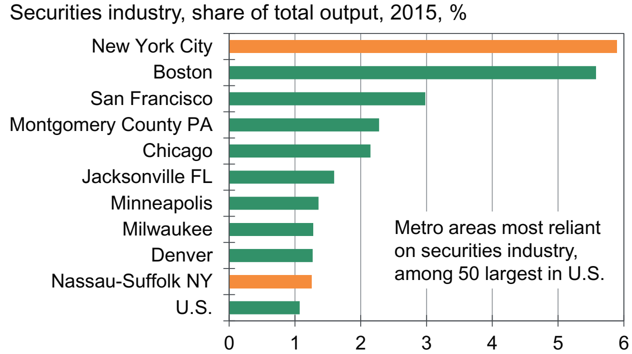
While the labor market and most broad economic indicators look similar, the demographics forecast has grown a bit more favorable since the last update. Many of the twenty- and thirtysomethings who are responsible for the booming New York City population will eventually move out, but a larger share will choose to remain. This reflects a few long-term shifts. First, the age at which individuals marry and have children is rising, making urban living more appealing to a larger group of single men and women. Second, a larger share of millennials are opting to live in the city even after settling down and having children. Although this still represents a minority, more housing options for families are becoming available, especially in the outer boroughs, coinciding with reduced crime rates in many neighborhoods. Finally, total population gains for the metro division appear even more favorable when considering that metro divisions have been redefined since the 2011 report, with the New York City division adding three counties that are growing at or above the national rate: Middlesex and Monmouth (NJ) and Orange County (NY). All told, the baseline forecast calls for approximately 2 million additional residents by 2046.

Still, population and household growth will remain slower than that of the rest of the nation. The aging of the large baby boom generation into their retirement years will support out-migration from New York City as retirees move to southern and southwestern destinations. There is already steady migration of older New York City residents to these destinations, and the outflows will accelerate in coming decades. Relatively slow population gains will weigh on job and household growth.

Yet the long-term demographic picture will remain quite favorable compared with that for the rest of the Northeast. This will be due in large part to New York City's position as the nation's premier global gateway city. The city's global links are evident in its status as a global financial center, through trade and tourism, as home to the headquarters of large multinational corporations, through

Chart 13: Brexit Could Benefit NYC Most

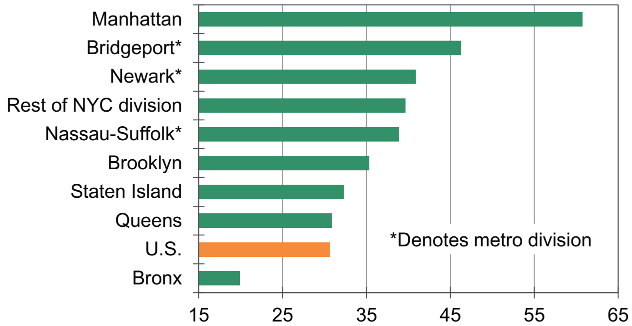
Securities industry, share of total output, 2015, %



Sources: BEA, Moody's Analytics

Chart 14: Workforce Remains an Advantage

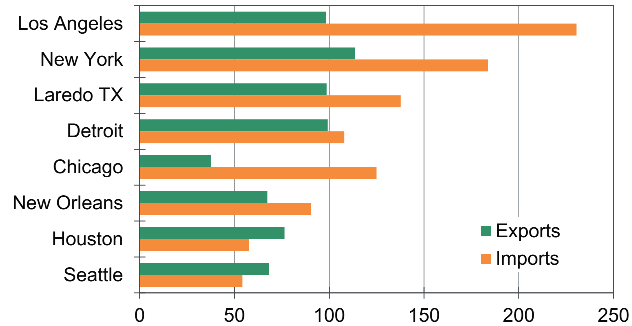
Share of adults with a college degree or higher, 2015, %



Sources: Census Bureau, Moody's Analytics

Chart 15: Only LA Is More Important for Trade

YTD through Oct 2016, $ bil



Sources: Census Bureau, Moody's Analytics

foreign direct investment, and through strong foreign immigration.

New York City will remain the nation's and the global economy's preeminent financial center, with most major global financial institutions maintaining a sizable presence in Manhattan. Nearly 6% of the nation's financial services employment is located within the five boroughs, and 15% of the income earned in the industry nationwide accrues to those working in New York City.

Though financial regulatory reform in the U.S. has weighed on revenue growth in New York City-based financial institutions and threatens to continue to do so, restrictions remain less severe than in London. Combined with potential long-term issues in securing workers and accessing the European marketplace in the aftermath of the Brexit vote, this should give New York City an advantage in attracting firms and workers, whose pay is linked to revenue growth. Further, if the Republican takeover of Congress and the presidency results in a rollback of Dodd-Frank regulations, this could provide an additional jolt to earnings. This leads to significant downside risk, however, as reduced regulation will likely re-introduce additional volatility and uncertainty into the financial system, hurting New York City banks down the road.

Firms will continue to invest in New York City largely because of its highly productive and educated workforce (see Chart 14). Of the roughly 3,000 counties in the U.S., only Arlington County VA boats a higher share of college-educated residents than Manhattan. According to the 2009 American Community Survey, more than 60% of Manhattanites over the age of 25 hold at least a bachelor's degree. This amounts to more than 750,000 residents in Manhattan alone, with Brooklyn not far behind at more than 600,000.

New York will also remain a key link between the U.S. and global economies through international trade. The New York customs district, which includes the states of New York and New Jersey, trails only Los Angeles-Long Beach in the value of traded goods handled in the U.S. and leads the way in terms of exports in 2016 (see Chart 15). The Port of New York and New Jersey is the largest port on the eastern seaboard, with inland and coastal feeder routes throughout the region.

Similarly, the Big Apple will remain a gateway for international migration. No other metro area in the U.S. receives as large a net inflow of international migrants each year. This gives New York City a strong link to the world's labor markets, giving local firms an edge in attracting skilled workers who might be in short supply domestically.

Foreign direct investment also generally follows immigration flows. Foreign businesses draw upon the contacts and labor pool created by their expatriates. Foreign affiliates employ more than 400,000 in the state of New York; this accounts for about 6.7% of FDI employment, which is higher than the state's share of total employment. It is likely that most of those workers are located in New York City.

Despite these advantages, very high relative business costs will constrain New York City's long-term growth prospects. Business costs, as measured by the cost of labor, electricity, office rents, and tax burdens, are more than 50% higher than the national average. Relative costs have risen substantially in recent years and are well above those in surrounding competing economies in New Jersey and Connecticut. New York City's costs relative to surrounding areas are not expected to worsen considerably over the forecast period, but they are not expected to improve either. Tax burdens and electricity costs in particular will remain very high and detract somewhat from the competitive advantage that the metro area has in terms of its labor pool.

Cyclical scenario

A cyclical scenario is constructed under the assumption that there will be a national recession every 9½ years. This is consistent with recent economic history, with national recessions beginning at the start of the 1980s, 1990s and 2000s. The future recessions, which begin in 2019, 2029, 2038 and 2048, are assumed to be similar in cause, severity and length as the average of the three most recent recessions in 1990-1991, 2001 and 2007-2009.

After each recession in the cyclical scenario, the economy returns to its approximate baseline level so that employment, output and income resemble the baseline forecast during expansions.

This scenario is based on recessions at the national level that are then used to derive the cyclical forecast at the county level, based on the influence of the national recession on the regional economy. Although the national economy is the most important determinant of local business cycles, adjustments to the regional cyclical forecasts were made to ensure that the projected recessions matched the average of the past three recessions locally.

The first recession occurs in the second half of 2019; this assumes that the current expansion has about 2½ years left to run, which would leave it just short of the 1990s expansion, the longest in history. The first recession results in a job loss of a little bit less than 4% from peak to trough across the entire region[5], leaving total employment about 400,000 lower than in the baseline scenario by 2021, when job losses stop. About 30% of the job losses occur in Manhattan. Subsequent recessions are similar in their effect relative to the baseline (see Table 4 and Appendix Table 3).

Each recession is then followed by a recovery period before stronger growth returns the economy to long-term growth trends.

Unlike employment and other economic variables, population projections in the cyclical scenario are unchanged relative to the baseline at the regional level. During the past three recessions, there has been no discernable impact of the recessions on the region's population growth. The decline in population growth following the 2001 recession was likely a reaction to the 9/11 attacks as much as it was to the slow recovery in the region's economy following the recession.

However, household formation slows in response to each downturn, consistent with potential homebuyers and renters doubling or tripling up, and young adults finding it more practical to move back in with their parents.

Forecast methodology

The forecasts presented in this study are based on simulations of the Moody's Analytics model system of the national, state and metropolitan area economies. This section of the study describes this model system in detail.

Specification

The Moody's Analytics model system has a number of important characteristics, including:

- The model system is output and employment based. Output is available quarterly at the state level, and provides the most complete picture of what is taking place in a regional economy. For metro areas and counties, output is calculated based on employment shares by industry.
- At the regional level, employment data are the most reliable, consistent, timely and detailed source of economic information. Moreover, data analogous to the National Income and Product Accounts are unavailable at the regional level.
- The model system has a wide range of variables beyond the standard economic, demographic and financial variables measuring activity in construction markets, loan and deposit activity, and credit quality.

A description of the national and regional submodels of the model system will be presented in the discussion that follows.

National model

In the broadest sense, aggregate economic activity is determined by the intersection of the economy's aggregate demand and supply functions. In the short run, fluctuations in economic activity are primarily determined by shifts in aggregate demand. The level of resources and technology available for production are taken as given. Prices and wages adjust slowly to equate aggregate demand and supply.

In the longer term, changes in aggregate supply determine the economy's growth potential. The rate of expansion of the resource and technology base of the economy is the principal determinant of economic growth. The national model is specified to reflect the interaction between aggregate demand and supply, placing it squarely in the neo-Keynesian tradition.

The discussion that follows describes the national-state level linkages and how the model measures and captures the interrelationships between aggregate demand, aggregate supply, and the price adjustment process.

National and state linkages

An important feature of the national model is that national economic, demographic and financial variables in the model system are in part determined by state-level variables.

Personal income, which is largely determined at the state level, in turn drives the consumption equations of the National Income and Product Accounts, a purely national level measure of economic activity.

The other components of the NIPA are either determined exogenously (for example, government spending) or modeled as a function of consumption and investment.

Monetary and fiscal policy, international economic conditions, and financial market conditions are also determined at the national level.

The most important national-level variables that in turn influence state-level economic conditions include interest rates, federal government spending and tax policy, consumer and producer prices, and corporate profitability.

Regional submodel

The major sectors of the state and metropolitan area submodels include an output sector, a labor market sector, a personal income sector, and a demographic sector. These are discussed below.

Labor market sector

The labor market sector determines payroll employment, household employment, the labor force, the number of unemployed, and the rate of unemployment. Payroll employment is modeled at roughly a two-digit NAICS level, with the exception of manufacturing, which uses slightly more detailed aggregates. The employment equations are specified differently depending on whether the sectors are export-oriented or locally oriented activities.

For all sectors, the starting point involves a forecast of state-level GPO (gross product originating) derived from that sector. This

5 The region includes 16 counties in the New York City, Nassau-Suffolk, Newark NJ, and Bridgeport CT metro areas or divisions.

Table 4: New York City Region Cyclical Economic Outlook

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Avg annual growth 2026-2035	Avg annual growth 2036-2045
Establishment Employment (ths, SA)												
Total Employment	9,780.7	9,872.1	9,964.9	10,049.4	9,824.1	9,731.1	9,921.6	10,187.7	10,322.2	10,371.1	0.6	0.6
% change yr ago	*1.5*	*0.9*	*0.9*	*0.9*	*(2.2)*	*(1.0)*	*2.0*	*2.7*	*1.3*	*0.5*		
Construction	387.9	388.1	397.0	406.1	374.6	353.9	369.9	398.8	411.8	412.6	0.7	1.5
% change yr ago	*4.0*	*0.1*	*2.3*	*2.3*	*(7.8)*	*(5.5)*	*4.5*	*7.8*	*3.3*	*0.2*		
Manufacturing	392.2	389.6	387.8	385.4	371.9	363.1	363.9	367.9	367.1	362.6	(0.9)	(0.7)
% change yr ago	*0.2*	*(0.7)*	*(0.5)*	*(0.6)*	*(3.5)*	*(2.3)*	*0.2*	*1.1*	*(0.2)*	*(1.2)*		
Trade, Transportation & Utilities	1,785.1	1,800.6	1,816.0	1,825.5	1,779.8	1,760.0	1,785.6	1,824.2	1,839.4	1,840.2	0.3	0.4
% change yr ago	*0.8*	*0.9*	*0.9*	*0.5*	*(2.5)*	*(1.1)*	*1.5*	*2.2*	*0.8*	*0.0*		
Retail Trade	987.1	993.3	1,006.5	1,014.3	986.9	975.2	990.5	1,014.1	1,024.3	1,025.9	0.4	0.8
% change yr ago	*(0.4)*	*0.6*	*1.3*	*0.8*	*(2.7)*	*(1.2)*	*1.6*	*2.4*	*1.0*	*0.2*		
Wholesale Trade	440.3	441.4	443.3	445.6	436.3	431.8	438.4	447.5	451.1	451.4	0.3	(0.1)
% change yr ago	*1.5*	*0.3*	*0.4*	*0.5*	*(2.1)*	*(1.0)*	*1.5*	*2.1*	*0.8*	*0.1*		
Transportation & Utilities	357.6	365.9	366.2	365.7	356.6	353.0	356.7	362.5	364.0	362.9	(0.1)	(0.2)
% change yr ago	*3.2*	*2.3*	*0.1*	*(0.1)*	*(2.5)*	*(1.0)*	*1.0*	*1.7*	*0.4*	*(0.3)*		
Information Services	299.8	304.2	307.1	308.9	303.7	301.8	305.2	310.3	312.4	312.4	0.3	0.3
% change yr ago	*1.2*	*1.5*	*1.0*	*0.6*	*(1.7)*	*(0.6)*	*1.1*	*1.7*	*0.7*	*(0.0)*		
Financial Services	807.5	807.5	808.6	809.4	797.9	794.3	802.5	813.9	819.3	821.2	0.6	0.6
% change yr ago	*0.6*	*-*	*0.1*	*0.1*	*(1.4)*	*(0.5)*	*1.0*	*1.4*	*0.7*	*0.2*		
Professional & Business Services	1,562.0	1,585.0	1,617.8	1,648.1	1,592.9	1,561.6	1,610.9	1,690.1	1,740.0	1,764.9	1.5	1.2
% change yr ago	*1.2*	*1.5*	*2.1*	*1.9*	*(3.4)*	*(2.0)*	*3.2*	*4.9*	*3.0*	*1.4*		
Education & Health Services	1,858.7	1,876.4	1,893.4	1,911.6	1,882.9	1,881.8	1,918.6	1,966.3	1,989.6	1,998.7	0.7	0.2
% change yr ago	*2.4*	*1.0*	*0.9*	*1.0*	*(1.5)*	*(0.1)*	*2.0*	*2.5*	*1.2*	*0.5*		
Leisure & Hospitality Services	929.4	952.4	962.4	971.3	954.1	950.0	969.7	991.8	1,003.4	1,009.3	0.7	0.9
% change yr ago	*3.7*	*2.5*	*1.1*	*0.9*	*(1.8)*	*(0.4)*	*2.1*	*2.3*	*1.2*	*0.6*		
Other Services	432.7	436.1	438.1	439.6	427.8	423.3	429.1	438.0	441.2	440.4	0.0	0.2
% change yr ago	*2.3*	*0.8*	*0.5*	*0.3*	*(2.7)*	*(1.1)*	*1.4*	*2.1*	*0.7*	*(0.2)*		
Government	1,326.2	1,330.5	1,334.9	1,341.7	1,336.8	1,339.6	1,364.5	1,384.5	1,396.3	1,407.1	0.5	0.4
% change yr ago	*0.7*	*0.3*	*0.3*	*0.5*	*(0.4)*	*0.2*	*1.9*	*1.5*	*0.9*	*0.8*		
Office-Using	2,869.3	2,894.6	2,917.3	2,941.0	2,956.4	2,960.5	2,968.3	2,979.3	2,990.3	3,001.9	0.5	0.6
% change yr ago	*1.2*	*0.9*	*0.8*	*0.8*	*0.5*	*0.1*	*0.3*	*0.4*	*0.4*	*0.4*		
Personal Income ($ mil)	1,430,238.1	1,489,650.1	1,553,298.6	1,625,311.0	1,635,031.9	1,664,508.3	1,766,960.4	1,878,363.8	1,961,454.4	2,031,276.0	4.0	4.0
% change yr ago	*3.1*	*4.2*	*4.3*	*4.6*	*0.6*	*1.8*	*6.2*	*6.3*	*4.4*	*3.6*		
Population (ths)	20,810.3	20,883.1	20,955.4	21,027.5	21,100.8	21,176.2	21,254.9	21,337.4	21,423.3	21,512.2	0.5	0.4
% change yr ago	*0.4*	*0.4*	*0.4*	*0.3*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*		
Households (ths)	7,705.4	7,757.6	7,809.3	7,864.2	7,915.7	7,954.5	7,998.8	8,046.9	8,103.8	8,163.1	0.6	0.5
% change yr ago	*0.5*	*0.7*	*0.7*	*0.7*	*0.7*	*0.5*	*0.6*	*0.6*	*0.7*	*0.7*		
											Period avg	**Period avg**
Net Migration (ths)	(32.5)	(36.3)	(38.3)	(39.6)	(39.3)	(37.3)	(33.7)	(29.3)	(24.8)	(20.5)	12.0	22.5

is modeled using sector-specific drivers discussed below, as well as a convergence term in order to capture the fact that, over time, regional per capita output tends to approach that of the U.S.

Export-oriented sectors

The export-oriented sectors include those businesses that sell goods or services outside the state. For many states, manufacturing, mining and agriculture are generally export based. In certain states (for example, New York and California) financial and business services are export based, as are transportation and communication. Those businesses considered to be export based are more closely linked to national-level variables. The income generated from these businesses provides an important source of demand for the state's locally oriented sector.

Although manufacturing has become increasingly less important in determining state economic fortunes, it remains a predominant export-oriented sector for many states. Employment in each manufacturing industry is modeled using a combination of variables to reflect intermediate demand for the goods produced by the industry, final demand for the goods produced by the industry, and the relative costs of doing business in each state.

Some manufacturing industries are more dependent on final demand than on intermediate demand. A proxy variable for final demand, usually real personal income or population, is therefore included in some manufacturing equations.

To account for the impact of labor productivity growth on jobs, the relationship between employment and GDP is captured in all equations. This is especially important to manufacturing given the increased productivity associated with the factory sector over the past half-century or so. As a result, although manufacturing output levels may be increasing, employment gains may be limited by the increased importance of automation.

Over the past quarter century, an increasing number of service businesses have become more export oriented. These industries vary substantially across states. In New Jersey and New York, for example, financial services, business services, transportation services and communication services are sold throughout the U.S. and overseas. In Connecticut, insurance services are export oriented. In Florida and New York, tourism is a large and important export-based sector. Activity in these industries relies on national and international economic conditions.

Depending on the state, certain service industries are treated as export-oriented. In these cases, output is modeled as a function of a national level variable that will proxy for national demand for the state's services.

Locally oriented sectors

The local sector in most states is generally composed of service-oriented businesses. Local industries can include construction, wholesale and retail trade, business and health services, state and local government, and utilities. These are oftentimes support services, providing the necessary infrastructure for export sectors and the local population. Their equations are modeled as a function of a demand proxy (for example, real personal income, population, and relevant export sector activity), and the corresponding national trajectory for the industry.

Real disposable personal income is the most commonly used proxy, either alone or in combination with population, for the level of demand for local services. It is one of the best measures of aggregate economic activity at the state level, ultimately reflecting wages and salaries, transfer payments, and nonwage income. Since employment levels in the local economy are an important determinant of wages and salaries in a region, this introduces an important simultaneity into the state models. In other words, personal income is a function of employment, and certain employment categories are a function of income. Population levels are also an important determinant of the demand for certain local services including government services and transportation services. This adds another degree of simultaneity in the model system given that migration flows, which influence population growth, are influenced by employment opportunities, and certain employment categories are modeled as a function of population.

Household employment is calculated based on the unemployment rate and the labor force. The unemployment rate is modeled using the specific relationship between the national rate and that of each state, as well state output. The labor force is determined by the working-age population and the historical rate of labor force participation. The working-age population is determined through an identity based on total population. The rate of labor force participation is driven largely by population changes in the context of prior participation rates. The number of unemployed and household employment are calculated as identities from the household employment and labor force projections. Note that household and payroll employment can vary over the business cycle given changes in the number of people holding multiple jobs and the number of self-employed.

Personal income sector

The personal income sector comprises eight components. Wages and salaries, the largest income category, is modeled as a function of employment and a wage rate. State real wage rates for each of the categories are estimated as a function of national real wage rates; relative unemployment rates, which will capture the impact of relative labor market tightness on wage growth; and a measure of relative labor productivity growth.

Other labor income is estimated as a function of wages and salaries. To reflect the rapid growth in this category of income over the past two decades due to rising medical costs and nonwage benefits, a variable representing the national ratio of other labor income to total wages and salaries is added as an explanatory variable in the equation.

The remaining income components are modeled primarily as a function of national-level variables. Considering that the Bureau of Economic Analysis derives state historical income estimates from shared national totals, this provides an accurate specification for the equations of many of the smaller income categories. State-level variables are included in several of these equations such as business proprietor's income, since most unincorporated businesses are heavily dependent on local demand.

Demographic sector

The demographic sector of the state models plays an integral role in the model structure. Population growth is an important determinant of local economic conditions as well as construction and consumer spending. Population growth is in turn dependent on economic activity as the availability of job opportunities influences migration flows between states.

The economic explanation of regional migration flows is that labor will move from low-wage, less-developed areas to high-wage areas where economic opportunities are greater. The relationship between migration and regional economic development is oftentimes less certain, however, as households often prefer to maintain family and social ties. In periods of slack national economic activity, mobility generally declines as people are less willing to risk a move and as businesses reduce the number of employee transfers. Migration flows also respond to nonpecuniary factors such as a more pleasant climate.

Births, deaths, population, net migration, and the number of households are determined in the demographic sector. State birthrates and death rates are available from the National Center for Health Statistics. Projections of birthrates and death rates by state will depend on national-level projections provided by the Census Bureau. State population forecasts are determined by the national population forecast taken as given from the Census Bureau. Net migration is the difference between the overall change in population and the natural rate of increase in the population (births minus deaths).

The change in the number of households by state is determined by population growth, a national household-to-population ratio, and a relative disposable income term. The national variable captures the impact of social factors such as divorce rates on household formations, while the income term captures the impact of economic conditions on the rate of household formations.

County forecasts

The forecasting system is also used to provide county forecasts for a wide range of economic and demographic variables. These variables include net migration; population; households; labor force; unemployment rate; wages and salaries; nonwage personal income; single-family and multifamily residential permits; office, commercial and industrial permit values; and retail sales.

Projections of these county-level variables are intended to provide accurate structural or long-term projections. The county forecasts are benchmarked to the Moody's Analytics model system for the nation, states and metro areas. Although regional analysts examine each metro area and state forecast, individual company or other nonsystematic forecast shocks are not individually accounted for at the county level. Note also that, in general, historical data are sparser and are updated less frequently at the county level.

For all variables, the basic forecast methodology for county-level concepts is to extend past county versus metro growth trends to the metro-level projections obtained from the Moody's Analytics model system. In general, the difference between growth rates at the county and metro level is dampened to allow mean reversion in approximately 20 years, and all county projections are constrained to add up to the metro totals. When the county is not contained within a metro area, the summation constraints are imposed at the state level.

Data notes

The definition and source data for the principal variables in the model system are described in the discussion that follows.

Gross product

Gross product is the gross market value of goods and services produced in an economy. Gross state product is the analogue to gross domestic product or GDP at the national level and is calculated to be the sum of 1) compensation of employees; 2) farm and nonfarm proprietors' income with inventory valuation adjustment and capital consumption allowances; 3) indirect business taxes and nontax liability; and 4) capital charges, primarily corporate profits with inventory valuation adjustments and capital consumption adjustments. It is available for the nation and all states. Moody's Analytics produces its own estimates of gross metro product by sharing gross state product down to counties using employment shares and then summing the county GDP estimates back up to the metro area definitions. Real gross product is the chained 2009 dollar value of GDP.

Sources: Bureau of Economic Analysis, Moody's Analytics

Establishment employment

Monthly employment data are collected from the survey of payroll records of business establishments. The data relate to all workers, full or part time, who receive pay during the payroll period that includes the 12th day of the month. Data are available for the nation, states, metro areas, and some large county aggregates. Where necessary, seasonally adjusted versions of all employment series are calculated and used to generate forecasts.

Sources: Bureau of Labor Statistics, Moody's Analytics

Unemployment rate

The unemployment rate represents the number of unemployed as a percent of the civilian labor force. Data are compiled from the Current Population Survey each month. The criteria for defining an individual as unemployed require that the person be actively seeking employment, has been laid off and is waiting to be called back to a job, or is waiting to report to a new job scheduled to start within 30 days. Data are available for the nation and all subnational regions. Data are available for the nation, states, metro areas, and some large county aggregates. Where necessary, seasonally adjusted values are calculated and used to generate forecasts.

Sources: Bureau of Labor Statistics, Moody's Analytics

Personal income

Personal income includes wage and salary disbursements; dividends, interest, rents and royalties; transfer payments; other labor income; and proprietors' income. The data represent income based on place of residence. It is available for all subnational areas. Real personal income is also calculated using the chained 2009 2009 dollar value of personal income.

Sources: Bureau of Economic Analysis, Moody's Analytics

Population

Data represent estimated July 1 resident population in noncensus years and actual April 1 resident population during a census year. Age cohort data are published annually. The age cohort of 35-44 is considered to be in its primary homebuying years. All series are converted to quarterly by placing the annual value into the second quarter and in-filling the intervening quarters using a linear interpolation.

Sources: Census Bureau, Moody's Analytics

Net migration

Net migration represents the difference between the number of individuals moving to a state and the number of individuals leaving the state. The net migration data include both domestic residents and legal foreign migrants to a state. Net migration data are also available from the Internal Revenue Service.

Sources: Census Bureau, Moody's Analytics

Households

A household consists of all the persons who occupy a housing unit. A house, apartment or other group of rooms, or a single room, is regarded as a housing unit when it is occupied or intended for occupancy as separate living quarters. That is, when the occupants do not live and eat with any other persons in the structure and there is direct access from the outside or through a common hall. A household includes the related family members and all the unrelated persons, if any, such as lodgers, foster children, wards, or employees who share the housing unit. A person living alone in a housing unit is also counted as a household. Data are available for states and metropolitan areas.

Households are estimated for intercensal years based on the person per household calculated from U.S. Energy Information data on the number of residential electricity customers. This is used to proxy for household formations. Levels are obtained by applying the ratio of persons per household to total population estimates from the Census Bureau.

Sources: Census Bureau, Moody's Analytics

Office-using employment

The definition of office-using employment used in this study is based on those industries that, in aggregate, tend to employ most or all of their employees in office settings (see Appendix 4 for detailed definition). It is certainly possible, if not likely, that what is true for the industry as a whole is not applicable (or may be more applicable) to the specific functions of an industry located in a particular region, whether it be a metro area or a county.

This is especially true for Manhattan, which is unique among counties in the U.S. Manhattan has a concentration of office space and an economic environment that generates economies of scope and scale with relation to office-using tasks. Thus, for example, the publishing industry in Manhattan contains a much higher concentration of editors, management, and other office-using functions and a much lower concentration of physical output than would be true anywhere else in the country.

Appendix Table 1: Manhattan Quarterly Economic Performance Statistics

	2013Q3	2013Q4	2014Q1	2014Q2	2014Q3	2014Q4	2015Q1	2015Q2	2015Q3	2015Q4	2016Q1	2016Q2	2016Q3
Establishment Employment (ths, SA)													
Total Employment	2,348.7	2,363.5	2,379.1	2,394.9	2,410.7	2,425.8	2,439.8	2,452.8	2,464.7	2,475.6	2,485.4	2,494.4	2,502.9
% change yr ago	*2.0*	*2.2*	*2.4*	*2.6*	*2.6*	*2.6*	*2.6*	*2.4*	*2.2*	*2.1*	*1.9*	*1.7*	*1.6*
Construction	34.5	34.6	34.7	34.8	35.2	35.8	36.6	37.3	38.0	38.6	39.0	39.2	39.1
% change yr ago	*6.3*	*4.7*	*3.0*	*1.9*	*2.1*	*3.5*	*5.5*	*7.2*	*8.1*	*7.8*	*6.6*	*4.9*	*2.9*
Manufacturing	25.5	25.2	25.0	25.0	25.3	25.7	26.3	26.8	27.1	27.1	27.0	26.8	26.7
% change yr ago	*(4.2)*	*(4.9)*	*(4.6)*	*(3.4)*	*(1.0)*	*2.2*	*5.2*	*7.1*	*7.1*	*5.3*	*2.7*	*0.3*	*(1.2)*
Trade, Transportation & Utilities	278.7	280.4	281.6	282.0	281.3	279.6	277.5	275.6	274.6	274.7	275.4	276.4	277.3
% change yr ago	*2.5*	*2.5*	*2.3*	*1.8*	*0.9*	*(0.3)*	*(1.5)*	*(2.3)*	*(2.4)*	*(1.8)*	*(0.7)*	*0.3*	*1.0*
Retail Trade	163.4	164.7	165.8	166.4	166.2	165.3	164.1	162.9	161.9	161.3	161.1	161.1	161.1
% change yr ago	*3.2*	*3.1*	*3.0*	*2.6*	*1.7*	*0.4*	*(1.0)*	*(2.1)*	*(2.6)*	*(2.4)*	*(1.8)*	*(1.1)*	*(0.5)*
Wholesale Trade	79.9	79.8	79.7	79.5	79.3	79.3	79.3	79.6	79.9	80.4	80.9	81.4	81.7
% change yr ago	*1.7*	*1.2*	*0.4*	*(0.3)*	*(0.7)*	*(0.7)*	*(0.4)*	*0.1*	*0.8*	*1.5*	*2.0*	*2.3*	*2.3*
Transportation & Utilities	35.4	35.8	36.2	36.2	35.8	35.0	34.0	33.2	32.8	33.0	33.4	33.9	34.4
% change yr ago	*1.0*	*2.5*	*3.5*	*3.3*	*1.2*	*(2.3)*	*(6.0)*	*(8.4)*	*(8.4)*	*(5.8)*	*(1.8)*	*2.3*	*4.8*
Information Services	156.0	157.5	159.1	160.5	161.5	162.1	162.4	162.7	163.3	164.2	165.3	166.5	167.7
% change yr ago	*2.3*	*2.9*	*3.4*	*3.7*	*3.5*	*2.9*	*2.1*	*1.4*	*1.1*	*1.3*	*1.8*	*2.3*	*2.7*
Financial Services	358.7	360.5	362.8	365.5	368.4	371.1	373.3	375.0	375.9	376.1	375.8	375.4	375.3
% change yr ago	*(0.4)*	*0.4*	*1.3*	*2.1*	*2.7*	*2.9*	*2.9*	*2.6*	*2.1*	*1.4*	*0.7*	*0.1*	*(0.2)*
Professional & Business Services	526.9	531.2	535.9	541.3	547.9	555.3	562.7	569.1	573.8	576.8	578.6	580.1	582.0
% change yr ago	*3.5*	*3.4*	*3.4*	*3.6*	*4.0*	*4.5*	*5.0*	*5.1*	*4.7*	*3.9*	*2.8*	*1.9*	*1.4*
Education & Health Services	331.8	333.6	335.3	336.9	338.5	340.1	341.9	344.2	347.1	350.4	353.9	357.1	359.6
% change yr ago	*2.9*	*2.6*	*2.4*	*2.2*	*2.0*	*1.9*	*2.0*	*2.2*	*2.5*	*3.0*	*3.5*	*3.7*	*3.6*
Leisure & Hospitality Services	264.3	268.0	271.9	275.5	278.3	280.4	282.0	283.6	285.7	288.3	291.2	294.2	297.1
% change yr ago	*3.5*	*4.1*	*4.8*	*5.4*	*5.3*	*4.6*	*3.7*	*3.0*	*2.6*	*2.8*	*3.3*	*3.7*	*4.0*
Other Services	107.6	108.5	109.5	110.4	111.0	111.3	111.5	111.7	112.2	113.0	113.9	114.7	115.2
% change yr ago	*1.5*	*2.0*	*2.7*	*3.2*	*3.2*	*2.6*	*1.8*	*1.2*	*1.1*	*1.6*	*2.2*	*2.7*	*2.7*
Government	264.0	263.4	262.8	262.4	262.6	263.2	264.1	265.1	266.0	266.7	267.2	267.6	267.8
% change yr ago	*(0.5)*	*(0.5)*	*(0.7)*	*(0.7)*	*(0.5)*	*(0.1)*	*0.5*	*1.0*	*1.3*	*1.3*	*1.2*	*0.9*	*0.7*
Office-Using	1,004.6	1,011.4	1,018.9	1,027.2	1,036.2	1,045.4	1,053.9	1,061.1	1,066.2	1,069.3	1,071.0	1,072.4	1,074.2
% change yr ago	*1.8*	*2.1*	*2.5*	*2.8*	*3.1*	*3.4*	*3.4*	*3.3*	*2.9*	*2.3*	*1.6*	*1.1*	*0.8*
Unemployment Rate (%)	7.4	7.0	6.7	6.3	5.9	5.5	5.2	4.9	4.7	4.5	4.4	4.4	4.5
Labor Force (ths)	906.5	908.8	911.5	914.7	918.5	922.7	926.9	930.6	933.4	935.3	936.0	935.8	934.6
% change yr ago	*0.9*	*0.9*	*1.0*	*1.1*	*1.3*	*1.5*	*1.7*	*1.7*	*1.6*	*1.4*	*1.0*	*0.6*	*0.1*
Number of Unemployed (ths)	66.9	63.9	60.7	57.4	54.1	50.9	48.1	45.6	43.7	42.3	41.6	41.4	41.9
% change yr ago	*(7.9)*	*(11.5)*	*(14.6)*	*(17.2)*	*(19.2)*	*(20.4)*	*(20.9)*	*(20.5)*	*(19.2)*	*(16.9)*	*(13.5)*	*(9.3)*	*(4.1)*
Number of Employed (ths)	839.6	844.9	850.8	857.3	864.4	871.8	878.8	884.9	889.8	892.9	894.4	894.3	892.7
% change yr ago	*1.6*	*2.0*	*2.3*	*2.7*	*3.0*	*3.2*	*3.3*	*3.2*	*2.9*	*2.4*	*1.8*	*1.1*	*0.3*
Total Residential Permits (# of units)	3,438	4,856	1,809	2,850	4,356	5,435	1,154	10,914	11,971	12,612	297	803	2,579
% change yr ago	*70.4*	*108.6*	*218.5*	*64.7*	*26.7*	*11.9*	*(36.2)*	*283.0*	*174.8*	*132.1*	*(74.3)*	*(92.6)*	*(78.5)*
Multifamily	3,437	4,855	1,808	2,849	4,355	5,434	1,154	10,910	11,967	12,608	297	803	2,575
% change yr ago	*70.7*	*108.9*	*218.3*	*64.7*	*26.7*	*11.9*	*(36.2)*	*282.9*	*174.8*	*132.0*	*(74.3)*	*(92.6)*	*(78.5)*
Personal Income ($ mil)	238,480.6	243,464.4	248,566.9	252,312.2	253,362.2	251,668.2	248,740.0	246,165.6	245,403.4	246,901.6	249,908.4	253,566.9	257,118.1
% change yr ago	*2.8*	*4.6*	*6.4*	*7.3*	*6.2*	*3.4*	*0.1*	*(2.4)*	*(3.1)*	*(1.9)*	*0.5*	*3.0*	*4.8*
Wages & Salaries ($ mil)	258,718.3	266,153.0	274,432.9	281,529.8	285,624.5	286,360.5	285,197.8	283,756.0	283,527.9	285,081.6	287,921.3	291,458.6	295,184.4
% change yr ago	*1.9*	*5.1*	*8.6*	*10.8*	*10.4*	*7.6*	*3.9*	*0.8*	*(0.7)*	*(0.5)*	*1.0*	*2.7*	*4.1*
Personal Bankruptcies	1,445.3	1,331.0	1,211.6	1,113.7	1,061.0	1,055.9	1,074.9	1,092.3	1,084.3	1,044.7	987.3	927.4	878.7
% change yr ago	*(14.8)*	*(18.1)*	*(23.3)*	*(27.1)*	*(26.6)*	*(20.7)*	*(11.3)*	*(1.9)*	*2.2*	*(1.1)*	*(8.2)*	*(15.1)*	*(19.0)*
Population (ths)	1,631.9	1,633.1	1,634.3	1,635.8	1,637.7	1,639.9	1,642.1	1,644.0	1,645.5	1,646.4	1,647.0	1,647.6	1,648.5
% change yr ago	*0.4*	*0.3*	*0.3*	*0.3*	*0.4*	*0.4*	*0.5*	*0.5*	*0.5*	*0.4*	*0.3*	*0.2*	*0.2*
Net Migration (ths)	(1.0)	(2.7)	(4.1)	(4.5)	(3.5)	(1.2)	1.4	3.1	3.0	1.1	(1.7)	(4.3)	(5.6)

Appendix Table 2: Manhattan Annual Economic Performance Statistics

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	5-yr avg Annual % change
Establishment Employment (ths, SA)												
Total Employment	2,161.9	2,208.9	2,263.1	2,286.1	2,192.0	2,192.1	2,246.4	2,296.7	2,343.0	2,402.8	2,458.4	2.3
% change yr ago	*1.5*	*2.2*	*2.5*	*1.0*	*(4.1)*	*-*	*2.5*	*2.2*	*2.0*	*2.6*	*2.3*	
Construction	30.3	32.5	35.9	38.1	34.2	31.1	30.9	32.2	34.2	35.1	37.6	4.0
% change yr ago	*0.6*	*7.5*	*10.5*	*6.0*	*(10.4)*	*(9.0)*	*(0.4)*	*4.2*	*6.2*	*2.6*	*7.2*	
Manufacturing	41.9	38.3	37.1	35.0	28.6	26.4	25.9	26.5	25.7	25.3	26.8	0.4
% change yr ago	*(6.5)*	*(8.5)*	*(3.2)*	*(5.7)*	*(18.2)*	*(8.0)*	*(1.6)*	*2.3*	*(3.1)*	*(1.7)*	*6.2*	
Trade, Transportation & Utilities	254.8	260.0	266.5	266.6	251.7	254.8	263.4	271.0	277.8	281.1	275.6	1.6
% change yr ago	*1.8*	*2.0*	*2.5*	*0.0*	*(5.6)*	*1.3*	*3.4*	*2.9*	*2.5*	*1.2*	*(2.0)*	
Retail Trade	134.0	138.6	144.1	145.4	138.5	144.0	150.4	157.5	162.9	165.9	162.5	2.5
% change yr ago	*4.0*	*3.4*	*4.0*	*0.9*	*(4.8)*	*4.0*	*4.5*	*4.7*	*3.4*	*1.9*	*(2.0)*	
Wholesale Trade	86.3	85.9	86.0	84.7	78.3	76.5	78.1	78.5	79.7	79.4	79.8	0.8
% change yr ago	*(1.0)*	*(0.5)*	*0.1*	*(1.5)*	*(7.5)*	*(2.3)*	*2.0*	*0.5*	*1.5*	*(0.3)*	*0.5*	
Transportation & Utilities	34.5	35.6	36.4	36.5	34.9	34.3	34.9	35.0	35.3	35.8	33.2	(0.6)
% change yr ago	*0.8*	*3.1*	*2.5*	*0.3*	*(4.6)*	*(1.6)*	*1.6*	*0.5*	*0.8*	*1.4*	*(7.1)*	
Information Services	136.2	138.0	140.0	142.4	137.9	140.5	147.2	152.0	155.5	160.8	163.2	3.0
% change yr ago	*2.4*	*1.3*	*1.5*	*1.7*	*(3.1)*	*1.9*	*4.8*	*3.2*	*2.4*	*3.4*	*1.5*	
Financial Services	365.6	376.6	386.0	384.1	358.2	353.4	363.2	361.2	358.8	367.0	375.1	1.2
% change yr ago	*1.8*	*3.0*	*2.5*	*(0.5)*	*(6.8)*	*(1.4)*	*2.8*	*(0.6)*	*(0.7)*	*2.3*	*2.2*	
Professional & Business Services	470.7	487.1	504.0	513.3	478.0	476.9	490.9	507.0	524.7	545.2	570.6	3.7
% change yr ago	*2.7*	*3.5*	*3.5*	*1.8*	*(6.9)*	*(0.2)*	*2.9*	*3.3*	*3.5*	*3.9*	*4.7*	
Education & Health Services	286.2	294.3	299.9	300.8	304.6	309.8	313.3	321.3	330.6	337.7	345.9	2.2
% change yr ago	*0.5*	*2.8*	*1.9*	*0.3*	*1.3*	*1.7*	*1.1*	*2.6*	*2.9*	*2.1*	*2.4*	
Leisure & Hospitality Services	198.2	204.5	213.8	222.6	219.1	227.2	239.8	253.7	263.3	276.6	284.9	4.6
% change yr ago	*2.1*	*3.2*	*4.6*	*4.1*	*(1.6)*	*3.7*	*5.5*	*5.8*	*3.8*	*5.0*	*3.0*	
Other Services	101.3	101.2	102.5	103.0	101.5	100.6	102.1	105.6	107.4	110.5	112.1	2.2
% change yr ago	*2.6*	*(0.1)*	*1.3*	*0.5*	*(1.4)*	*(0.9)*	*1.4*	*3.4*	*1.8*	*2.9*	*1.4*	
Government	277.3	276.5	277.2	279.5	278.7	272.2	270.3	265.9	264.0	262.8	265.5	(0.5)
% change yr ago	*0.3*	*(0.3)*	*0.3*	*0.8*	*(0.3)*	*(2.4)*	*(0.7)*	*(1.6)*	*(0.7)*	*(0.5)*	*1.0*	
Office-Using	945.0	970.5	994.0	1,001.0	941.9	940.4	970.7	985.7	1,002.3	1,032.0	1,062.7	2.5
% change yr ago	*2.2*	*2.7*	*2.4*	*0.7*	*(5.9)*	*(0.2)*	*3.2*	*1.6*	*1.7*	*3.0*	*3.0*	
												5-yr avg
Unemployment Rate (%)	5.1	4.3	4.3	4.9	8.4	8.6	7.8	8.0	7.5	6.1	4.8	6.8
												5-yr avg Annual % change
Labor Force (ths)	902.7	909.1	917.6	931.6	931.6	881.2	882.2	897.2	905.6	916.9	931.6	1.1
% change yr ago	*2.1*	*0.7*	*0.9*	*1.5*	*-*	*(5.4)*	*0.1*	*1.7*	*0.9*	*1.2*	*1.6*	
Number of Unemployed (ths)	45.6	39.2	39.8	45.7	78.6	75.7	69.0	72.0	67.8	55.7	44.9	(9.5)
% change yr ago	*(16.6)*	*(14.1)*	*1.7*	*14.8*	*71.9*	*(3.8)*	*(8.9)*	*4.4*	*(5.8)*	*(17.8)*	*(19.4)*	
Number of Employed (ths)	857.1	869.9	877.7	885.9	853.0	805.6	813.3	825.3	837.8	861.1	886.7	1.9
% change yr ago	*3.4*	*1.5*	*0.9*	*0.9*	*(3.7)*	*(5.6)*	*1.0*	*1.5*	*1.5*	*2.8*	*3.0*	
												5-yr avg
Total Residential Permits (# of units)	8,493	8,790	9,520	9,700	1,363	704	2,535	2,328	4,856	5,380	12,267	5,473
% change yr ago	*86.5*	*3.5*	*8.3*	*1.9*	*(86.0)*	*(48.4)*	*260.1*	*(8.2)*	*108.6*	*10.8*	*128.0*	
Multifamily	8,490	8,788	9,514	9,697	1,363	704	2,534	2,324	4,855	5,379	12,263	5,471
% change yr ago	*86.4*	*3.5*	*8.3*	*1.9*	*(85.9)*	*(48.4)*	*259.9*	*(8.3)*	*108.9*	*10.8*	*128.0*	
												5-yr avg Annual % change
Median Existing-Home Sales Price (ths)	1,107.6	1,070.6	976.7	846.2	698.1	713.9	698.2	704.9	736.1	763.5	758.0	1.2
% change yr ago	*4.5*	*(3.3)*	*(8.8)*	*(13.4)*	*(17.5)*	*2.3*	*(2.2)*	*1.0*	*4.4*	*3.7*	*(0.7)*	
Personal Income ($ mil)	155,439.0	177,861.9	202,574.7	199,210.6	187,916.4	202,927.2	217,131.2	230,397.6	237,686.0	251,491.1	246,793.8	4.0
% change yr ago	*9.8*	*14.4*	*13.9*	*(1.7)*	*(5.7)*	*8.0*	*7.0*	*6.1*	*3.2*	*5.8*	*(1.9)*	
Wages & Salaries ($ mil)	196,835.3	218,936.7	246,568.6	249,086.9	217,353.4	232,999.4	245,815.5	253,112.7	258,008.9	282,029.6	284,388.1	4.1
% change yr ago	*6.9*	*11.2*	*12.6*	*1.0*	*(12.7)*	*7.2*	*5.5*	*3.0*	*1.9*	*9.3*	*0.8*	
Personal Bankruptcies	8,139	1,251	1,617	1,936	2,650	2,673	2,367	1,780	1,470	1,110	1,074	(16.3)
% change yr ago	*62.7*	*(84.6)*	*29.3*	*19.7*	*36.9*	*0.9*	*(11.5)*	*(24.8)*	*(17.4)*	*(24.5)*	*(3.2)*	
Population (ths)	1,573.6	1,578.2	1,581.4	1,587.0	1,583.4	1,588.6	1,609.8	1,624.9	1,631.4	1,637.0	1,644.5	0.7
% change yr ago	*0.2*	*0.3*	*0.2*	*0.4*	*(0.2)*	*0.3*	*1.3*	*0.9*	*0.4*	*0.3*	*0.5*	
												5-yr avg
Net Migration (ths)	(16.7)	(6.1)	(15.7)	(4.6)	(13.6)	(4.3)	11.3	5.6	(0.5)	(3.3)	2.2	3.1

Appendix Table 3: Manhattan Cyclical Economic Outlook

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Avg annual growth 2026-2035	Avg annual growth 2036-2045
Establishment Employment (ths, SA)												
Total Employment	2,498.4	2,525.4	2,548.6	2,568.1	2,508.5	2,482.2	2,528.6	2,593.0	2,624.7	2,635.3	0.5	0.5
% change yr ago	*1.6*	*1.1*	*0.9*	*0.8*	*(2.3)*	*(1.1)*	*1.9*	*2.6*	*1.2*	*0.4*		
Construction	39.1	38.7	39.9	40.7	37.5	35.4	36.9	39.6	40.8	40.7	0.4	1.2
% change yr ago	*3.8*	*(1.1)*	*3.2*	*2.1*	*(8.0)*	*(5.6)*	*4.3*	*7.4*	*2.9*	*(0.1)*		
Manufacturing	26.8	26.6	26.5	26.2	25.2	24.6	24.6	24.8	24.6	24.3	(1.1)	(1.0)
% change yr ago	*0.0*	*(0.7)*	*(0.7)*	*(0.9)*	*(3.8)*	*(2.6)*	*(0.0)*	*0.8*	*(0.6)*	*(1.5)*		
Trade, Transportation & Utilities	276.7	278.8	281.1	282.2	274.7	271.0	274.4	279.4	280.8	280.2	(0.0)	0.2
% change yr ago	*0.4*	*0.7*	*0.8*	*0.4*	*(2.7)*	*(1.3)*	*1.3*	*1.8*	*0.5*	*(0.2)*		
Retail Trade	161.1	161.9	164.3	165.5	160.7	158.5	160.7	164.2	165.4	165.3	0.1	0.6
% change yr ago	*(0.9)*	*0.5*	*1.4*	*0.8*	*(2.9)*	*(1.4)*	*1.4*	*2.2*	*0.8*	*(0.1)*		
Wholesale Trade	81.5	82.0	82.1	82.1	80.4	79.4	80.4	81.5	81.7	81.5	(0.1)	(0.4)
% change yr ago	*2.1*	*0.7*	*0.1*	*0.1*	*(2.2)*	*(1.2)*	*1.2*	*1.4*	*0.3*	*(0.3)*		
Transportation & Utilities	34.1	34.8	34.7	34.6	33.5	33.1	33.3	33.7	33.7	33.4	(0.5)	(0.6)
% change yr ago	*2.6*	*2.1*	*(0.3)*	*(0.5)*	*(2.9)*	*(1.4)*	*0.7*	*1.2*	*(0.1)*	*(0.8)*		
Information Services	167.1	170.7	172.4	173.3	170.4	169.3	171.1	173.6	174.5	174.3	0.2	0.2
% change yr ago	*2.4*	*2.2*	*1.0*	*0.5*	*(1.7)*	*(0.6)*	*1.0*	*1.5*	*0.5*	*(0.1)*		
Financial Services	375.5	375.9	375.8	375.6	370.1	368.0	371.1	375.3	376.9	377.0	0.4	0.4
% change yr ago	*0.1*	*0.1*	*(0.0)*	*(0.1)*	*(1.5)*	*(0.6)*	*0.8*	*1.1*	*0.4*	*0.0*		
Professional & Business Services	581.3	591.2	603.2	614.0	591.8	578.7	596.7	625.9	643.8	652.1	1.3	1.1
% change yr ago	*1.9*	*1.7*	*2.0*	*1.8*	*(3.6)*	*(2.2)*	*3.1*	*4.9*	*2.9*	*1.3*		
Education & Health Services	358.0	363.4	365.9	368.6	362.1	361.2	367.6	375.9	379.3	380.0	0.4	(0.1)
% change yr ago	*3.5*	*1.5*	*0.7*	*0.7*	*(1.8)*	*(0.2)*	*1.8*	*2.3*	*0.9*	*0.2*		
Leisure & Hospitality Services	295.5	303.5	306.3	308.7	302.5	300.6	306.5	313.0	315.9	317.2	0.5	0.7
% change yr ago	*3.7*	*2.7*	*0.9*	*0.8*	*(2.0)*	*(0.6)*	*2.0*	*2.1*	*1.0*	*0.4*		
Other Services	114.8	115.3	115.6	115.8	112.7	111.4	112.6	114.4	114.9	114.4	(0.2)	(0.1)
% change yr ago	*2.4*	*0.4*	*0.3*	*0.1*	*(2.7)*	*(1.1)*	*1.1*	*1.7*	*0.4*	*(0.4)*		
Government	267.7	268.1	268.8	270.0	268.4	268.7	274.1	278.2	280.3	282.2	0.3	0.2
% change yr ago	*0.8*	*0.2*	*0.3*	*0.4*	*(0.6)*	*0.1*	*2.0*	*1.5*	*0.8*	*0.7*		
Office-Using	1,073.6	1,082.5	1,090.7	1,097.5	1,068.5	1,052.8	1,069.8	1,097.3	1,110.9	1,114.4	0.5	0.5
% change yr ago	*1.0*	*0.8*	*0.8*	*0.6*	*(2.6)*	*(1.5)*	*1.6*	*2.6*	*1.2*	*0.3*		
Personal Income ($ mil)	255,220.1	266,663.5	277,623.2	288,349.8	290,822.1	297,656.7	316,568.1	335,089.8	349,133.0	361,977.1	3.9	3.8
% change yr ago	*3.4*	*4.5*	*4.1*	*3.9*	*0.9*	*2.4*	*6.4*	*5.9*	*4.2*	*3.7*		
Population (ths)	1,648.2	1,653.3	1,658.9	1,663.5	1,667.4	1,671.9	1,677.0	1,682.3	1,687.9	1,693.8	0.4	0.4
% change yr ago	*0.2*	*0.3*	*0.3*	*0.3*	*0.2*	*0.3*	*0.3*	*0.3*	*0.3*	*0.4*		
Households (ths)	801.7	806.1	810.9	815.4	819.4	822.4	826.1	830.1	835.0	840.0	0.5	0.4
% change yr ago	*0.4*	*0.6*	*0.6*	*0.6*	*0.5*	*0.4*	*0.5*	*0.5*	*0.6*	*0.6*		
Net Migration (ths)	(4.3)	(3.0)	(2.5)	(3.6)	(4.3)	(3.7)	(3.1)	(2.8)	(2.3)	(2.0)	0.2	1.0

Appendix Table 4: Custom Office-Using Employment Definition

NAICS code	Industry title
5112	Software Publishers
512	Motion Picture and Sound Recording Industries
515	Broadcasting (except Internet)
5171	Wired Telecommunications Carriers
5172	Wireless Telecommunications Carriers (except Satellite)
5179	Other Telecommunications
518	Internet Service Providers, Web Search Portals, and Data Processing Services
52	Finance and Insurance
53	Real Estate and Rental and Leasing
5411	Legal Services
5412	Accounting, Tax Preparation, Bookkeeping and Payroll Services
5413	Architectural, Engineering and Related Services
5415	Computer Systems Design and Related Services
5416	Management, Scientific and Technical Consulting Services
5418	Advertising and Related Services
55	Management of Companies and Enterprises
5611	Office Administrative Services
5613	Employment Services
5614	Business Support Services
5615	Travel Arrangement and Reservation Services
6211	Offices of Physicians
6212	Offices of Dentists
6213	Offices of Other Health Practitioners
8131	Religious Organizations
8133	Social Advocacy Organizations
8134	Civic and Social Organizations
8139	Business, Professional, Labor, Political and Similar Organizations
GVF	Federal Government
GVS	State Government

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Moody's Analytics helps capital markets and credit risk management professionals worldwide respond to an evolving marketplace with confidence. With its team of economists, the company offers unique tools and best practices for measuring and managing risk through expertise and experience in credit analysis, economic research, and financial risk management. By offering leading-edge software and advisory services, as well as the proprietary credit research produced by Moody's Investors Service, Moody's Analytics integrates and customizes its offerings to address specific business challenges.

Concise and timely economic research by Moody's Analytics supports firms and policymakers in strategic planning, product and sales forecasting, credit risk and sensitivity management, and investment research. Our economic research publications provide in-depth analysis of the global economy, including the U.S. and all of its state and metropolitan areas, all European countries and their subnational areas, Asia, and the Americas. We track and forecast economic growth and cover specialized topics such as labor markets, housing, consumer spending and credit, output and income, mortgage activity, demographics, central bank behavior, and prices. We also provide real-time monitoring of macroeconomic indicators and analysis on timely topics such as monetary policy and sovereign risk. Our clients include multinational corporations, governments at all levels, central banks, financial regulators, retailers, mutual funds, financial institutions, utilities, residential and commercial real estate firms, insurance companies, and professional investors.

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Chapter 3. Office Market

Introduction and Findings

Cushman & Wakefield, Inc. has prepared an updated office analysis and forecast with emphasis on trends and data from year-end 2011 through the third quarter of 2016. This chapter analyzes the changes during this period concentrating on New York City and particularly Manhattan. All building sizes indicated in this chapter represent gross square feet (gsf) unless otherwise noted.

As the largest office market in the nation, New York City is the economic driver of the region. Over the past five years, since the 2011 report, Manhattan has continued to experience strong economic and employment growth, supporting continued commercial construction in both new and established market areas. The strength of Manhattan's office market continues to outperform the regional markets[26] in all key factors: occupied office space, net absorption, overall vacancy rates, and overall rents.

Hudson Yards, in turn, has emerged as a prime location of modern office skyscrapers in Midtown. With the completion and occupancy of 10 Hudson Yards in 2016, this 1.9 msf tower is the beacon of a new commercial corridor. Currently, three large towers are under construction in HY totaling over 5.9 msf, all of which have taken advantage of the PILOT program. An additional tower, 50 Hudson Yards, is likely to proceed into construction in 2017, due to a major anchor tenant commitment. Incentives in the district have been successful, in fact, the largest PILOT (40% reduction in taxes), that was available to the first 5 msf developed, has been fully subscribed.

To date 7.9 msf[27] of office buildings are completed or under construction in HY, as shown in the following table and map.

Exhibit 3-1. New Hudson Yards Office Buildings Completed and Under Construction

Site Number	Site Identifier	Office Area (SF)	Antipciated Completion Date	Key Tenants
1a	Site 729A/B - One Manhattan West (Brookfield)	1,908,301	2020	Skadden Arps Slate Meagher & Flom
2	Eastern Rail Yard (Related)			
	10 Hudson Yards	1,892,842	Completed	Coach & L'Oreal
	30 Hudson Yards	2,728,458	2019	Time Warner
	35 Hudson Yards[1]	130,632	2018	N/A
4	Site 705A - 55 Hudson Yards (Related)	1,269,852	2019	Milbank, Tweed, Hadley & McCloy
New Buildings Completed And Under Construction		7,930,085		

[1] 35 Hudson Yards is not included in the PILOT, as it will primarily be a residential and hotel tower with retail at the base

Source: Hudson Yards Development Corp., Cushman & Wakefield, Inc.

[26] Per *Hudson Yards Demand and Development Report 2006*, by Cushman & Wakefield, the regional markets are the following counties: New Jersey (Essex, Hudson, Bergen, Middlesex, Monmouth, Somerset), New York (Nassau, Suffolk, Westchester), and Fairfield, CT.
[27] Inclusive of the office space at 35 Hudson Yards.

Exhibit 3-1a Map of New Hudson Yards Office Buildings Completed and Under Construction

Source: Hudson Yards Infrastructure Corporation, Cushman & Wakefield, Inc.

View of Hudson Yards construction looking northeast from Twelfth Avenue and West 30th Street
(L to R: 55 Hudson Yards, 35 Hudson Yards, 30 Hudson Yards, Shops, and 10 Hudson Yards)

Source: Jason Nakleh, December 2016

Exhibit 3-2 shows the forecasted revenues for the four office developments including 10, 30 and 55 Hudson Yards, and One Manhattan West (inclusive of the 1.0 msf retail center, The Shops & Restaurants at Hudson Yards) within Hudson Yards completed or under construction as of December 2016.

Exhibit 3-2. Hudson Yards Expected PILOT Revenues for Under Construction and Completed Office Buildings as of December 2016, and Forecast 2017-2047

FY	Completed (GSF)	Under Construction (GSF)	Combined (GSF)	Building(s) Name	Revenues ($)*
2017	-	-	-		$10,946,590
2018	-	-	-		28,652,071
2019	-	3,998,310	3,998,310	30 & 55 HY	40,628,423
2020	-	1,908,301	1,908,301	One MW	93,829,199
2021	-	-	-		111,855,277
2022	-	-	-		115,658,467
2023	-	-	-		119,591,417
2024	-	-	-		123,564,703
2025	-	-	-		127,271,644
2026	-	-	-		131,089,794
2027	-	-	-		135,022,487
2028	-	-	-		139,073,162
2029	-	-	-		143,245,357
2030	-	-	-		147,542,718
2031	-	-	-		151,968,999
2032	-	-	-		156,528,069
2033	-	-	-		167,633,180
2034	-	-	-		177,513,880
2035	-	-	-		191,877,418
2036	-	-	-		225,263,477
2037	-	-	-		254,272,400
2038	-	-	-		279,692,626
2039	-	-	-		306,576,155
2040	-	-	-		332,158,166
2041	-	-	-		343,783,702
2042	-	-	-		355,816,131
2043	-	-	-		368,269,696
2044	-	-	-		381,159,135
2045	-	-	-		394,499,705
2046	-	-	-		408,307,194
2047	-	-	-		422,597,946
Total	**-**	**5,906,611**	**5,906,611**	**-**	**$6,385,889,189**

HY = Hudson Yards; MW = Manhattan West

**Revenues are for NYC Fiscal Year.* *GSF = Gross Square Feet*

Note: Revenues are inclusive of 10 Hudson Yards, a 1.9 msf office building completed in 2016

Shaded bars represent recessionary years per Moody's Analytics
Source: New York City Office of Management and Budget, Moody's Analytics, and Cushman & Wakefield

The forecast period (2017–2047) of office building completions and associated revenues, inclusive of the revenues in Exhibit 3-2, is summarized in Exhibit 3-2a. The analysis is detailed in the following text.

Exhibit 3-2a. Hudson Yards Expected Annual Office Buildings Completions and PILOT Revenues, and Forecast 2017 – 2047[28]

FY	Completions (GSF)	Under Construction (GSF)	Combined (GSF)	Revenues ($)*
2017	-	-	-	$10,946,590
2018	-	-	-	28,652,071
2019	-	3,998,310	3,998,310	40,628,423
2020	-	1,908,301	1,908,301	93,829,199
2021	730,780	-	730,780	111,855,277
2022	937,528	2,623,294	3,560,822	115,658,467
2023	-	-	-	131,112,307
2024	-	-	-	193,590,693
2025	-	-	-	199,748,544
2026	-	-	-	206,103,385
2027	1,449,337	-	1,449,337	212,597,687
2028	707,326	-	707,326	218,975,618
2029	322,097	-	322,097	253,632,245
2030	537,823	-	537,823	275,569,000
2031	776,072	-	776,072	291,141,169
2032	944,651	-	944,651	312,460,945
2033	-	-	-	346,827,495
2034	-	-	-	385,470,115
2035	-	-	-	406,349,590
2036	1,106,759	-	1,106,759	446,388,436
2037	1,405,892	-	1,405,892	482,155,328
2038	426,392	-	426,392	547,969,238
2039	638,362	-	638,362	637,471,018
2040	639,184	-	639,184	694,941,854
2041	1,292,668	-	1,292,668	747,642,514
2042	-	-	-	803,568,734
2043	-	-	-	883,975,416
2044	-	-	-	919,481,311
2045	-	-	-	956,680,179
2046	2,193,908	-	2,193,908	995,246,530
2047	819,028	-	819,028	1,036,652,296
Total	**14,927,807**	**8,529,905**	**23,457,711**	**$12,987,321,678**

**Revenues are for NYC Fiscal Year.* *GSF = Gross Square Feet*

Note that the revenues include the 1.9 msf 10 Hudson Yards and the 1.0 msf shopping center, which is included in the projection of office revenues.

Shaded bars represent recessionary years per Moody's Analytics

Source: New York City Office of Management & Budget, New York City Department of Finance, Moody's Analytics, and Cushman & Wakefield, Inc.

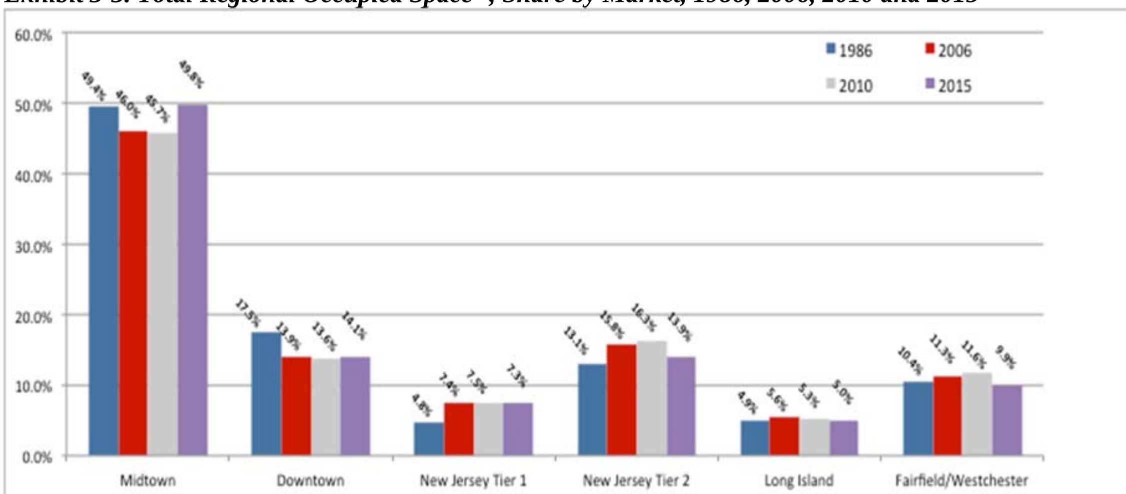
[28] Refer to Summary of Assumptions and Risks for more detail, after exhibit 3-31.

Overview of Study Area

In 2006, there was concern that Manhattan was losing its share of regional office employment due to the lack of new state-of–the-art buildings, minimal large development sites, and limited developer/tenant incentives. Although New York City remained the economic driver of the metro area, these limiting conditions appeared to constrain the future growth of this crucial economic underpinning of the City's economy.

As illustrated in Exhibit 3-3, Midtown Manhattan was losing its share of regional occupied space between 1986 and 2006. As of year-end 2015, however, Midtown has strongly outperformed the other market areas.

Exhibit 3-3. Total Regional Occupied Space[29], Share by Market, 1986, 2006, 2010 and 2015



Source: Cushman & Wakefield, Inc.

The 2005 creation of the Special Hudson Yards District was a major step towards addressing Manhattan's trend of declining occupied space between 1986 and 2006. The district's rezoning aimed to address existing supply constraints and encourage redevelopment of this large 46-block area through various tax and financial incentives for eligible properties.

Manhattan, as the nation's largest office market comprised of 447 million rentable square feet (mrsf) of inventory[30], includes the two major market areas of Midtown and Downtown. Almost 336 mrsf, or 75% of the inventory, is located in Midtown. In contrast to the regional assessment of the prior reports, the strength and growth of Manhattan's office market supports an emphasis on competitive markets within the City. The 2017 forecast methodology targeted these competitive City markets in terms of supply and employment trends to determine the forecast of office development in the HY.

[29] Occupied space is not available for lease.

[30] As of December 2016. Includes both owner- and tenant-occupied buildings, greater than 50,000 sf. The square footage is shown as rentable SF (defined by the landlord/owner) that averages 37% greater than usable SF (actual space a tenant can occupy). Usable area is a measurement made by the landlord based upon standards recommended by the Real Estate Board of New York (REBNY). Typically, usable area equals gross building area excluding vertical penetrations such as stairwells, elevator shafts, elevator machines and risers, fire towers and courtyards including the nominal four inch enclosing walls but including elevator lobbies, restrooms and columns as usable square footage. The "loss" factor includes common area spaces like elevators, lobbies etc. In addition, in the current market, rentable SF is generally 15% greater than gross/physical building area.

New York City

Introduction

New York City is the headquarters of 48 Fortune 500 companies as of November 2016, of which 47 are located in Manhattan. This compares to 30 Fortune 500 companies in the 2011 report. Long known as the financial capital of the nation, Manhattan is home to the two largest stock exchanges in the world, the New York Stock Exchange and the NASDAQ Stock Market. It also houses many large financial institutions, including JPMorgan Chase & Co, Goldman Sachs, Citigroup, Barclay's, and Bank of America, as well as the telecommunications and media giants of Time Warner, Verizon, and CBS.

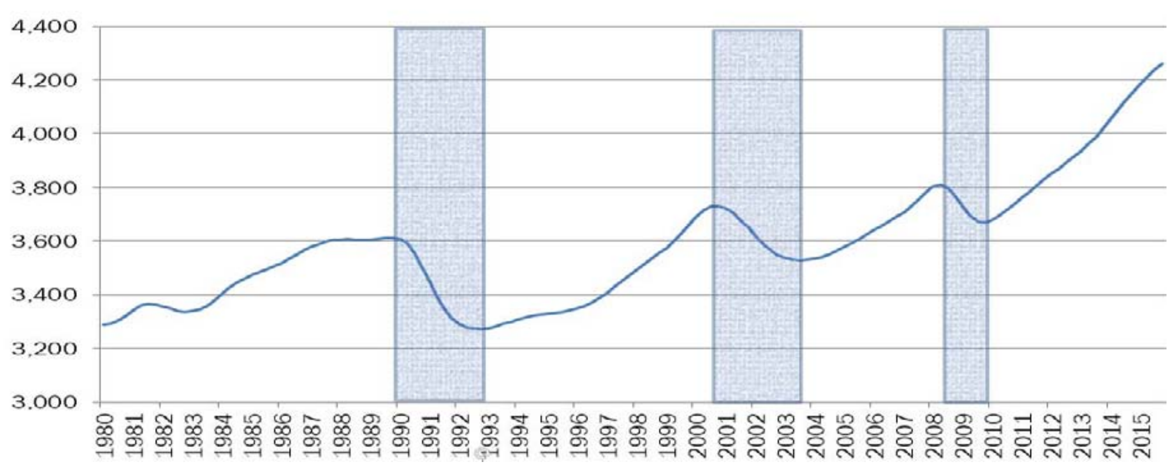
Since 2011, there has been a structural change to key base industries in New York City. Catering to the increase in millennial population, TAMI industries are among the fastest growing employers, further diversifying the office tenant base. As of October 2016, the millennial generation is the largest portion of the national workforce at 53.1 million workers, whereas Generation X consists of 49.5 million workers and the Baby Boomers consist of a declining 49.3 million workers. New York City has been the focal point of the job growth in the metro area over the past decade. The preferred borough for the millennial generation is Manhattan, as they currently make up over one-third of the population. This trend is likely to continue into the near future and the City is expected to continue to act as a magnet to the young professional workers that companies are seeking to hire.

Economic & Employment Growth

New York City's economy has expanded and continued to diversify since 2011. As further detailed in Moody's Analytics' economic forecast (Chapter 2), New York City has experienced phenomenal growth over the past five years, and going forward, is expected to experience slower, but steady growth.

Past economic cycles in New York City from 1980 to 2015, have been characterized by three recessions, as shown in Exhibit 3-4. The longest downturn was experienced between 1990-1994, in contrast to the shorter, although deeper, national recession of 2009-2010.

Exhibit 3-4. Total New York City Nonfarm Employment, 1980 – 2015



Note: Vertical (Y) axis represents Total Nonfarm Payroll, (000's, seasonally adjusted)
Shaded bars represent recessionary periods
Source: U.S. Bureau of Labor Statistics, Moody's Analytics, Cushman & Wakefield, Inc.

Since the recession of 2009-2010, TAMI industries have been one of the biggest consumers of office space in Manhattan, accounting for over 65% of leasing in 2015, in contrast to less than 18% in 2006. Tech industries have become one of the City's biggest growth drivers. Fast-growing and well-paying companies like Microsoft, eBay, Yahoo!, Google, Facebook, Twitter, BuzzFeed, and LinkedIn have been expanding, while smaller tech firms and startups are popping up in "Silicon Alley"[31] and other areas of the City. Notable among these are Etsy, Shutterstock, Kickstarter, MongoDB, Gilt Groupe, and Tumblr. City government is helping to nurture the growth with economic development and education initiatives. As a result, Cornell, New York University, Columbia, and Carnegie Mellon are all opening or expanding tech-oriented campuses in the City, in an effort to meet the need for highly educated workers. In addition to technology companies, advertising and media firms including Conde Nast, MediaMath, and Vaynermedia, have also fueled demand for office space.

As of year-end 2015, leasing activity in Manhattan indicated that Financial Service[32] leases, while still the largest share, accounted for a smaller percentage of all leasing compared to 2006. Conversely, TAMI leasing activity has increased its share to 26.8%.

Exhibit 3-5. Manhattan Leasing by Industry Sector, 2006 and 2015

Manhattan Leasing by Industry		
Industry	**% of Leasing-2015***	**% of Leasing-2006***
Amusement/Arts/Entertainment	1.2%	1.4%
Financial Services	28.9%	42.3%
Health Services	2.2%	0.6%
Legal Services	8.3%	12.2%
Manufacturing	0.7%	2.6%
Professional Services	7.9%	3.9%
Public Sector	5.6%	8.8%
Real Estate	8.0%	3.5%
Retail/Wholesale	10.4%	6.8%
TAMI	26.8%	17.8%

**Leases signed over 10,000 SF NRA*

Source: Cushman & Wakefield, Inc.

Since 2011, the majority of office construction has occurred in Midtown. Large building completions[33] total 4.3 msf, including such buildings as 10 Hudson Yards, the International Gem Tower on West 47th Street, and 7 Bryant Park. 10 Hudson Yards represents 44% of Midtown's new construction since 2011.

Brooklyn

Since 2011, the office market in Brooklyn has grown in tandem with the significant residential growth the borough has experienced. As an evolving smaller New York City office market, Brooklyn's inventory equates to a modest 7.5% of Manhattan's building stock, or 10% of Midtown and 30% of the stock in Downtown. The following table compares Brooklyn to Midtown and Downtown Manhattan office statistics as of year-end 2015.

[31] Generally bounded by 23rd Street to the north, Park Avenue South to the east, 14th Street to the south, and Sixth Avenue to the west.
[32] Finance and insurance industry sectors comprise establishments primarily engaged in financial transactions (transactions involving the creation, liquidation, or change in ownership of financial assets) and/or in facilitating financial transactions, as defined by US Census NAICS (North American Industry Codes).
[33] Includes only buildings greater than 100,000 sf

Exhibit 3-6. Brooklyn and Manhattan Office Markets, Year-End 2015

Qtr	SUBMARKET	NUMBER OF BUILDINGS*	INVENTORY (SF)*	TOTAL AVAILABLE SPACE (SF)**	TOTAL VACANCY RATE**	TOTAL WTD. AVG. RENTAL RATE**	YEAR-TO-DATE LEASING ACTIVITY**
Q4 2015	Brooklyn	203	33,378,195	1,815,409	6.6%	$39.24	N/A
Q4 2015	Downtown Manhattan	215	111,216,193	8,268,037	9.4%	$59.58	4,433,718
Q4 2015	Midtown	1,411	333,870,320	25,211,499	8.2%	$75.51	23,766,207

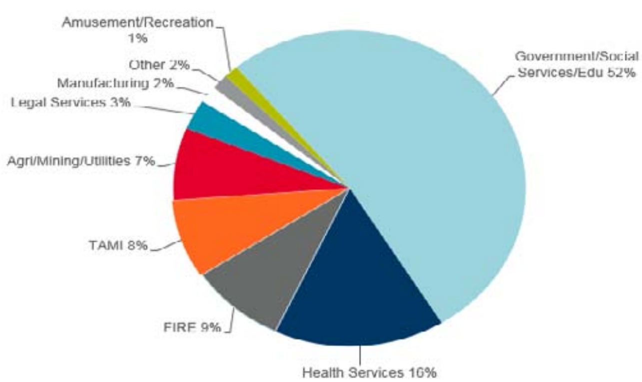
* Inclusive of owner and tenant occupied properties
** Non-owner occupied properties
Inventory is inclusive of all classes; vacancy rate is inclusive of space available for sublease.

Source: Cushman & Wakefield, Inc.

Brooklyn's vacancy rate is 6.6%, reflecting the strong demand for space in the borough. Class A office space is primarily located in the Downtown Brooklyn submarket. The office stock in other neighborhoods is generally older Class B and C buildings. Notable areas include DUMBO[34], the Brooklyn Navy Yard, and Industry City in Greenwood/Sunset Park. The office space in these neighborhoods does not typically attract large institutional tenants. Due to the increased commuting time from Long Island, Westchester, New Jersey, and Connecticut, most employees working in the Brooklyn office market live within the borough.

The majority of tenants leasing office space in Brooklyn occupy four industry sectors – Government, Healthcare, FIRE (Finance, Insurance, and Real Estate), and TAMI. Similar to Manhattan, Brooklyn has also experienced a large amount of leasing to co-working uses. A significant amount of leasing activity in Brooklyn consists of start-up companies or businesses relocating from another office space within Brooklyn. The following table presents a breakdown of the tenant industry in Downtown Brooklyn, the largest and most mature submarket within Brooklyn.

Exhibit 3-7. Downtown Brooklyn Leasing by Tenant Industry Sectors, 2015



Source: Cushman & Wakefield, Inc.

An estimated 6.0 mrsf of both ground-up and redevelopment office space is proposed to be delivered in Brooklyn between 2017 and 2019. This includes the redevelopment at the Brooklyn Navy Yard (Building 77 - 1.0 mrsf; Dock 72 – 556,000 rentable square feet (rsf)– 40% of which is pre-leased to WeWork; and Admirals Row – 285,000 rsf). It is important to note that only 775,000 rsf of the proposed space has been pre-leased, and not all of the proposed space has commenced construction.

[34] DUMBO is defined as the area "Down Under the Manhattan Bridge Overpass", that also includes a portion of land near the Brooklyn Bridge.

Other recent and notable new supply includes the redevelopment of Industry City in Greenwood/Sunset Park, as well as the Empire Stores, and the cluster of buildings previously owned by the Jehovah's Witnesses in DUMBO/Brooklyn Heights. Tenants in these areas include WeWork, Etsy, Time, the Brooklyn Nets, and West Elm.

Along with the growth of the residential market, the Brooklyn office market has continued to expand. Overall, however, due to the lack of institutional quality product, the size of the market, and increased regional commuting time, the market is not considered to be direct competition to the Class A Manhattan office market.

Manhattan Office Market Supply

Manhattan's office building inventory, although enormous in size, is mostly comprised of older buildings. Of the 215.9 mrsf of new inventory built between 1960 and 2015, 55.5% was built prior to 1980. To date in the 21st century, 27.6 mrsf has been constructed, representing a modest 12.8% of all new buildings constructed since 1960, and only 6.2% of the overall 447 mrsf inventory. Approximately 66.0% of the office stock in Midtown is considered Class A office space, mostly constructed prior to 1990.

Several notable Midtown companies have either decided to relocate or are considering a move to Downtown and west Midtown. Time Inc. previously relocated to its new headquarters at 225 Liberty Street. The Associated Press, Citigroup, and SportsNet New York (SNY) will all be headed to locations in lower Manhattan. Law firm Milbank, Tweed, Hadley & McCloy signed a letter of intent to occupy 250,000 sf at 55 Hudson Yards in Midtown. The firm will relocate from its current offices at 28 Liberty Street in Downtown. Penguin Random House will unite its divisions under one roof beginning 2019, by relocating employees from the SoHo offices to its namesake Random House Tower headquarters at 1745 Broadway. Generally, there are no boundaries between office districts anymore. This bodes well for the Hudson Yards district, as it exemplifies the trend that tenants are willing to move out of established office markets to take advantage of state-of-the-art buildings and emerging submarkets.

The strong demand for office space over the past five years has resulted in rising rents and declining vacancy. User demand for state-of-the-art, barrier free, and environmentally and spatially efficient office space, with broad and strong technical capabilities, has resulted in a surge of new construction and major renovations of existing buildings. Companies have been using space more efficiently in recent years, with decreased space requirements per employee. This push towards efficiency has been driven both by economic reasons and a desire for greater collaboration.

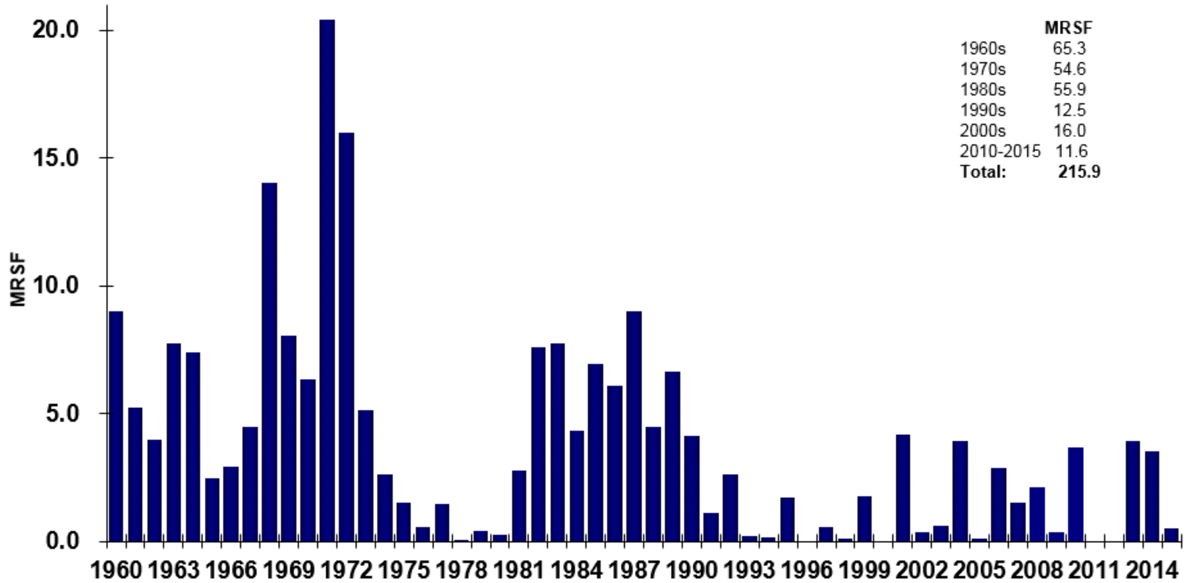
New construction features extremely efficient and functional floor plates to maximize value to tenants. Tenants need less space due to the proposed floor plate efficiency. Flexible floor plates allow for a multitude of uses and customization as opposed to the fixed planning of a typical older Midtown building.

The locations with concentrated development activity are Hudson Yards in Midtown and the World Trade Center in Downtown. Beyond Hudson Yards, there are no large undeveloped areas in Midtown where significant new Class A office construction could occur. East of Fifth Avenue, Midtown has no large development sites except those that can be achieved through assemblage and tear down of smaller antiquated buildings[35].

Reviewing the economic cycles since 1960, new office construction occurred in four expansion periods of 1960-1972, 1982-1990, 2005-2008, and 2013-2014, as shown in Exhibit 3-8.

[35] Since 2013, there have been plans to consider rezoning portions of east Midtown to encourage and enable additional development, as discussed in Manhattan's future supply.

Exhibit 3-8. Manhattan Office New Construction, 1960-2015



Source: Cushman & Wakefield, Inc.

The New York Building Congress estimated $43.1 billion in construction spending in 2016[36], a 26.0% increase over 2015's construction spending of $34.3 million (total value of all construction projects). 2016 marked the first time in which construction spending has eclipsed the $40 billion threshold. Construction spending is anticipated to continue to remain at these levels, with projections indicating construction spending of $42.1 billion in 2017 and $42.3 billion in 2018.

The recent large increase in construction spending was fueled by a continued wave of major residential development projects as well as the start of five major office towers in Manhattan (30 Hudson Yards, 425 Park Avenue, 390 Park Avenue, One Vanderbilt, and One Manhattan West). From commencement to completion, these numerous construction projects will encompass 83 msf of new and existing floor space (inclusive of all property types), an increase of 38 msf from 2014. Approximately 25 msf involves non-residential construction[37]. The New York Building Congress estimates non-residential construction spending will increase 27% in 2016, rising to $13.4 billion. This would account for 31.0% of overall construction spending.

As noted in the 2006 and 2011 reports, there has not been a major development expansion to come close to matching those of the mid-1960s through the early 1970s, and 1980s periods. This pattern continues, in spite of strong market fundamentals in the subsequent expansion periods, including post 2012. This scarcity of space and strong employment growth has resulted in the increase of 2016 Q3 Manhattan Class A asking rents to $79.47 per rentable square foot (prsf), with an overall vacancy rate of 9.8%, as compared to $66.09 prsf and 9.6% overall vacancy at year-end 2011.

Numerous high-profile development projects are in various stages in the development pipeline and will contribute to Manhattan construction spending into the future. These include the Hudson Yards district, the World Trade Center, and the Roosevelt Island campus.

[36] The New York Building Congress analyzed construction data from Dodge Data & Analytics.
[37] Inclusive of office, institutional development, government buildings, sports/entertainment venues, and hotels

Midtown

Midtown Manhattan remains the nation's largest business district with an inventory of 336 mrsf, and is increasingly more diverse in its employee mix.

One Vanderbilt Avenue, under construction by SL Green, will be a 58-story skyscraper directly west of Grand Central Station. Occupying a full city block, the 1.7 msf building is the largest new office construction underway in east Midtown.

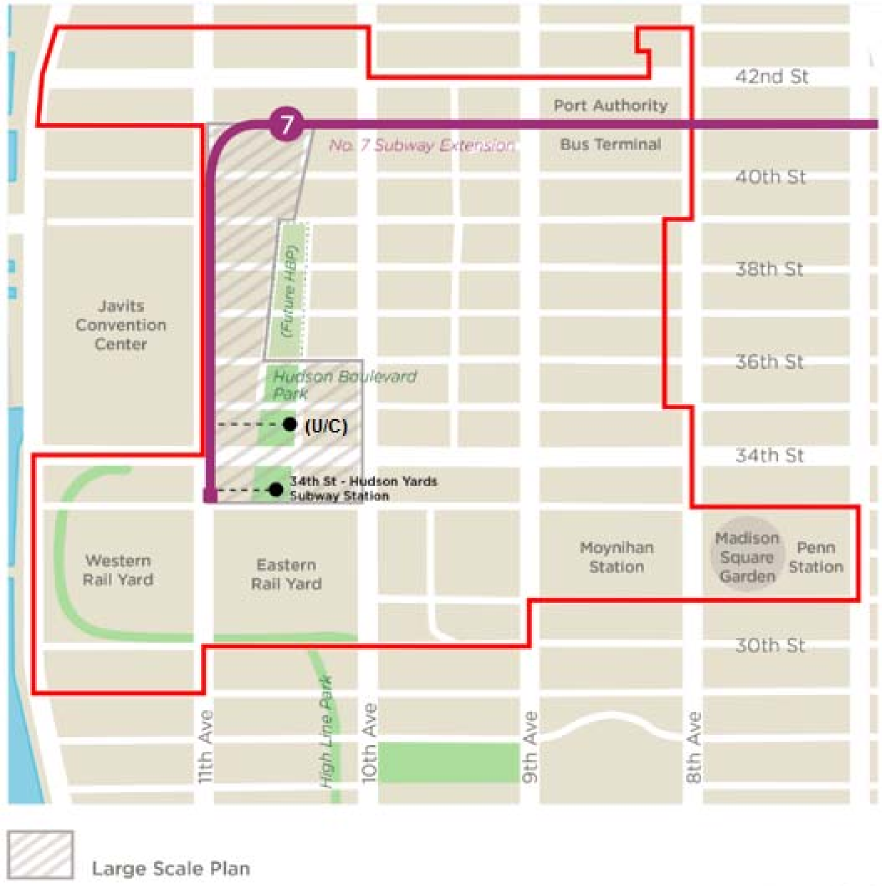
Additionally, several existing office buildings from the 1950s through 1990s have either completed or are under renovation and upgrade including 1271 and 1345 Sixth Avenue, 4 Times Square, 90 and 280 Park Avenue, 437 Madison Avenue, 560 and 575 Lexington Avenue, 10 East 53^{rd} Street, and 450 West 33^{rd} Street, now known as Five Manhattan West in the HY district.

Cornell University and The Technion – Israel Institute of Technology broke ground on their Roosevelt Island campus in January 2014. The $2.0 billion project, which won the City's "Applied Sciences NYC" competition, will add some 2.0 msf of academic, residential, and commercial space over the next two decades. Phase 1 includes a student and staff residential building, a research and small business incubator, the Bloomberg Center academic building, and a planned hotel and conference center. Although not adding significant new office space competitive to Midtown's inventory, graduates will likely fuel additional employment growth impacting other commercial and residential development. Phase 1 is expected to open in summer 2017. Upon completion, the new campus will house approximately 2,000 students and 280 faculty members, and is expected to create 8,000 permanent jobs by 2037.

Hudson Yards

In 2006, the HY district was an ambitious development plan enabled by a major rezoning and financial incentives (as shown in Exhibit 3-9). Five years later in 2011, considerable hotel and residential buildings had been constructed. As of 2016, the primary component of the plan, new office development, was underway, firmly establishing the burgeoning strength of this new west Midtown market.

Exhibit 3-9. Hudson Yards Financing District



Source: Hudson Yards Development Corporation, 2010, Cushman & Wakefield, Inc.

The first large office tower, 10 Hudson Yards, initiated by a consortium of Related and Oxford, is located at the southeast corner of the Eastern Rail Yard. Coach, Inc.'s (Coach) commitment for approximately 40% of the space in 2011 supported the development. Tenant interest in the HY district has surged with completion of this first new 1.9 msf, 52-story glass tower. The building was also the first in HY to take advantage of the deepest financial incentive, a 40% abatement of property taxes. The tower's other major tenants include L'Oréal USA, SAP, Boston Consulting Group, Sidewalk Labs, Intersection, and Vaynermedia, demonstrating the diversity of tenants drawn to this new district.

Upon completion of the development of the rail yards, Related estimates there will be a total of 9.3 msf of office space, plus nine residential towers, a hotel, and a shopping center of approximately 1.0 msf anchored by Neiman Marcus. Amenities include a 5-acre plaza on the ERY, scheduled to open in 2018, and an observation deck within 30 Hudson Yards. The complex will host the "Shed"[38] on the ERY. Related has commissioned a 15-story structure as the plaza's centerpiece. Designed by Thomas Heatherwick, the top of the basket shaped "Vessel" will be accessible via 1,500 steps. The WRY is zoned for mixed-use development, consisting of primarily residential buildings, an office building, support retail, and a public school. Some preliminary site work has been undertaken on the WRY but vertical development is not expected to commence until after completion of its platform.

[38] The Shed is to be used for multiple community and cultural activities.

Brookfield Properties is currently building One Manhattan West, a 1.9 msf tower rising on a pedestal above West 33rd Street and Ninth Avenue. The anchor tenant is the law firm Skadden, Arps, Slate, Meagher & Flom. The National Hockey League (NHL) recently announced a 160,000 rsf lease. Similar to Related's development, Manhattan West also occupies a superblock partially built over rail yards. Planned for completion in 2020, the site will include office buildings, an 844-unit residential tower nearing completion, a boutique hotel, a public 2-acre plaza, and 240,000 sf of retail and restaurants. Brookfield Properties is also planning to construct Two Manhattan West, an office tower which will contain 1.9 msf. Additionally, 424 West 33rd Street, to be known as the Lofts, is under renovation. Five Manhattan West is a renovation of the office building formerly known as 450 West 33rd Street with approximately 1.4 msf. Currently 83% occupied, upon expiration of a significant number of leases in 2017 and beyond, the landlord will begin re-tenanting this building.

Other notable proposed office buildings in the HY include Tishman Speyer's planned 2.6 msf office tower at 66 Hudson Boulevard (northwest corner of Tenth Avenue and West 34th Street) and a 1.8 msf tower at 3 Hudson Boulevard (northeast corner of 11th Avenue and West 34th Street) to be developed by the Moinian Group. Neither of these buildings has secured pre-leasing and therefore, significant development has not commenced.

The strong leasing activity in Hudson Yards is evidence of the market trend of tenants moving from east Midtown to HY. Large media, fashion, technology, financial and legal firms, as well as smaller tenants have moved or signed leases for new buildings under construction in the HY. News of tenants moving west to HY has alerted existing Midtown landlords of the growing user demand for state-of-the art Class A office space. Announced in December 2016, BlackRock's lease for 850,000 sf at 50 Hudson Yards, further illustrates the significant appeal this new neighborhood has for major tenants. Although not shown in the following table, 50 Hudson Yards is assumed to commence construction in 2017 based upon its recent executed lease.

Exhibit 3-10 highlights notable tenants that occupy or that have committed to office space within Hudson Yards.

Exhibit 3-10 Hudson Yards Office Users in Buildings completed or under construction, as of 2016 Q3 (Shown in Rentable Square Feet)

Address/ Tenant	Move-in Date	Office Size (SF)	% of Bldg Office Space	Rental Rate Range PSF	Tenant's Prior Location	Tenant Industry
10 Hudson Yards (1.8 msf)						
Coach	Q2 2015	713,957	40%	$63.00 - $83.00	Midtown	Fashion
L'Oreal	Q2 2015	422,946	23%		Midtown	Personal Care
SAP	Q1 2016	148,123	8%		Midtown	Enterprise Software
VaynerMedia	Q1 2016	70,216	4%		Midtown	Advertising
Boston Consulting Group	Q1 2016	198,740	11%		Midtown	Management Consulting
Sidewalk Labs & Intersection	Q1 2016	68,948	4%		Downtown	Urban Planning
55 Hudson Boulevard (1.4 msf)						
Boies, Schiller & Flexner LLP	Q3 2018	109,114	8%	$82.50 - $92.50	Midtown	Law Firm
Milbank, Tweed, Hadley & McCloy	Q3 2018	257,817	18%		Downtown	Law Firm
Point72	Q3 2018	176,366	13%		Midtown	Financial Services
MarketAxess	Q3 2018	83,000	6%		Midtown	Financial Services
One Manhattan West (2.1 msf)						
Skadden Arps Slate Meagher & Flom	Upon Completion	604,784	29%	$75.00 - $100.00	Midtown	Law Firm
NHL	Upon Completion	160,000	8%		Midtown	Sports
30 Hudson Yards (2.7 msf)						
Time Warner	N/A	1,418,000	53%	Mostly Condo Interests	Midtown	Telecommunications
Related	N/A	213,483	8%		Midtown	Real Estate
KKR	N/A	343,000	13%		Midtown	Private Equity
Oxford Properties	N/A	45,000	2%		Midtown	Real Estate
DNB Bank	N/A	44,517	2%		Midtown	Financial Services
Wells Fargo	N/A	501,650	19%		Midtown	Financial Services

Source: Cushman & Wakefield, Inc.

View of #7 Subway Station, Hudson Boulevard Park, and 35 and 55 Hudson Yard (under construction)

View looking east of Five Manhattan West, Manhattan West residential tower, and One Manhattan West (under construction)

Source: Jason Nakleh, December 2016

Downtown

Since 2011, Downtown has continued to rebuild from the tragic losses of 9/11. Downtown has expanded its diversity of residential and commercial real estate properties framed within the Hudson River, New York Harbor and East River. As an office market, Downtown retains a mix of financial and professional private sector firms and public sector agencies at city, state and national levels. The redeveloped World Trade Center (WTC) site is the area's largest single block of new commercial development. Office buildings, the 9/11 Memorial & Museum, and a park anchor the WTC. The WTC offers integrated access to mass transit via the new Calatrava-designed transportation hub, which links to the recently redeveloped Fulton Center. Opened in 2015, the transportation hub's "phoenix" or oculus shape is built of a steel mesh exterior. Its white marble interior includes a multi-level shopping center linking to nine subway lines and the PATH train to New Jersey. The hub connects to the WTC and Brookfield Place (formerly known as the World Financial Center). Brookfield Place includes four linked office towers, an interior Brookfield retail shopping center, a marina and a skating rink, all located within Battery Park City on the Hudson River.

Significant tenants including Conde Nast, the federal government, High 5 Games, xAd, and Moody's occupy One WTC, at 2.6 msf with approximately 1 mrsf available for lease. Four WTC, at 1.7 msf, is 78% leased. Notable tenants include The Port Authority of New York and New Jersey, The City of New York, Zurich American Insurance Company, Media Math, and Sterling Equities. It is reported that Spotify, currently located in Midtown, is considering leasing 350,000 rsf in the WTC complex. Other renovations in the Downtown market include Brookfield Place, 28 Liberty Street (formerly known as One Chase Manhattan Plaza), and 85 Broad Street.

Summary

In summary, recently completed and under construction office buildings total 8.7 msf, as shown below.

Exhibit 3-11. Recently Completed Office Buildings in Manhattan, Since 2011

Address		Office Area (SF)
860 Washington Street		97,368
855 Avenue of Americas		148,696
55 West 46th Street		253,913
51 Astor Place		347,826
7 Bryant Park		389,897
50 West 47th Street (Gem Tower)		431,905
250 West 55th Street		779,130
4 World Trade Center		1,739,130
10 Hudson Yards		1,892,842
One (1) World Trade Center		2,626,635
	Total	**8,707,342**

Source: Cushman & Wakefield, Inc.

New buildings under construction are shown in Exhibit 3-12

Exhibit 3-12. Manhattan - Under Construction Office Buildings with Expected Completion Dates

Under Development Sites		
Expected Completion Date / Location	**Address**	**Office Area (SF)**
2017		
Midtown	390 Madison Avenue	782,019
Midtown	787 Eleventh Avenue	209,621
Midtown	540 West 26th Street	144,804
Midtown	512 West 22nd Street	140,870
Midtown	57 Eleventh Avenue (Pier 57)	229,602
Midtown	412 West 15th Street	114,183
2018		
Midtown	55 Hudson Yards	1,269,852
Midtown	40 Tenth Avenue	113,043
Midtown	425 Park Avenue	571,913
Midtown	61 Ninth Avenue	100,000
Downtown	3 World Trade Center	2,166,836
2019		
Midtown	30 Hudson Yards	2,728,458
2020		
Midtown	One Vanderbilt	1,317,149
Midtown	One Manhattan West	1,908,301
2022		
Midtown	50 Hudson Yards*	2,623,294
	Total	14,419,944

*Based on executed anchor tenant lease, this site is assumed to commence construction in 2017.

Note:Only buildings greater than 100,000 SF

Source: Cushman & Wakefield, Inc.

Manhattan New Office Construction

Manhattan Large Development Sites

Exhibits 3-13 and 3-14 illustrate large development sites inclusive of HY and the potential rezoning of east Midtown as of 2016 Q3. Building size is generally based on current, as-of-right zoning. Midtown and Downtown combined have the capacity to accommodate growth of approximately 27.1 msf, as compared to the current existing 447 mrsf inventory.

Exhibit 3-13. Potential Development Sites in Manhattan zoned for over 100,000 sf as of 2016 Q3[39]

Future Development Pipeline			
Map Number	Address	Name/Developer	Office Size (SF)
	Midtown		
1	341 - 343 Madison Avenue	MTA site	866,123
2	740 Eighth Ave	Extell	869,565
3	550 West 20th Street/Women's Building	Goren Group	104,348
4	75 Ninth Avenue	Jamestown	208,696
5	Moynihan Station	Vornado/Related	511,304
6	Roosevelt Hotel	Pakistan International Airline Corporation	1,043,478
7	Potential East Midtown Rezoning	Various	6,700,000
8	Hudson Yards	Various	13,214,515
		Midtown Total	23,518,029
	Downtown		
9	2 WTC	Silverstein Properties	2,434,783
10	5 WTC	Lower Manhattan Development Corp	1,130,435
		Downtown Total	3,565,217
		Manhattan Total	27,083,247

Source: Cushman & Wakefield, Inc.

A map of the potential development sites listed is presented on the following page.

[39] Note that over time this list of sites will change due to alternative development scenarios, zoning changes, other governmental actions, and private market decisions.

Exhibit 3-14. Map of Potential Development Sites in Manhattan as of 2016 Q3

Source: Cushman & Wakefield, Inc.

Manhattan Future Office Supply

Manhattan's recent performance in terms of occupancy and new construction coupled with limited available development sites, provides the basis for analyzing how development in the Hudson Yards will affect Manhattan's ability to accommodate the future demand for office space.

Midtown

Based on an analysis of potential development sites, Midtown (excluding Hudson Yards and the potential Midtown East rezoning) has approximately 3.6 msf of space that could be developed as new office product. In 2011, Midtown had 14.5 msf. Some of the sites identified five years ago have been built or are under construction. The completed office buildings are 7 Bryant Park (1045 Avenue of the Americas), 250 West 55th Street, and 51 Astor Place. In addition, 221-225 West 57th Street is currently under construction as a luxury residential tower with Nordstrom as the anchor retail tenant. Sites not previously identified in the 2011 report include 550 West 20th Street and Moynihan Station.

Potential Midtown East Rezoning

Since 2013, plans to rezone the commercial core of east Midtown have been under consideration. This initiative stems from concern over the aging office stock and lack of development sites, as well as the area's decreasing office using employment (OUE). Midtown, which has long been considered the premier office district in Manhattan, has few state-of-the-art buildings, as contrasted with Hudson Yards and Downtown, which offer competitive new construction, as well as extensive access to mass transit.

The Midtown East rezoning of roughly 78 blocks would enable new office development via zoning and transferable development rights (TDRs) from landmarked buildings, as well as floor area ratio (FAR) bonuses from transit improvements. Up to an additional net 8.4 msf of new office buildings could be constructed based on 30 sites identified in the studies undertaken by the City. As the properties are currently occupied by commercial and residential uses, an owner/developer would likely redevelop a site only if financially feasible. For purposes of this analysis, it is assumed that the zoning will be approved within the next few years, and 6.7 msf of new office space could be constructed in the future. This number is based on 16 "projected" redevelopment sites as identified in the Draft EIS Scope of Services for the zoning[40].

East Midtown will also benefit from the MTA's two largest mass transit projects in the area that continue to move forward. The Second Avenue subway's phase one, from East 96th Street to East 63rd Street, opened in January 2017. The East Side Access tunnel to Grand Central, which will provide access for the Long Island Rail Road, is anticipated to be completed by 2022.

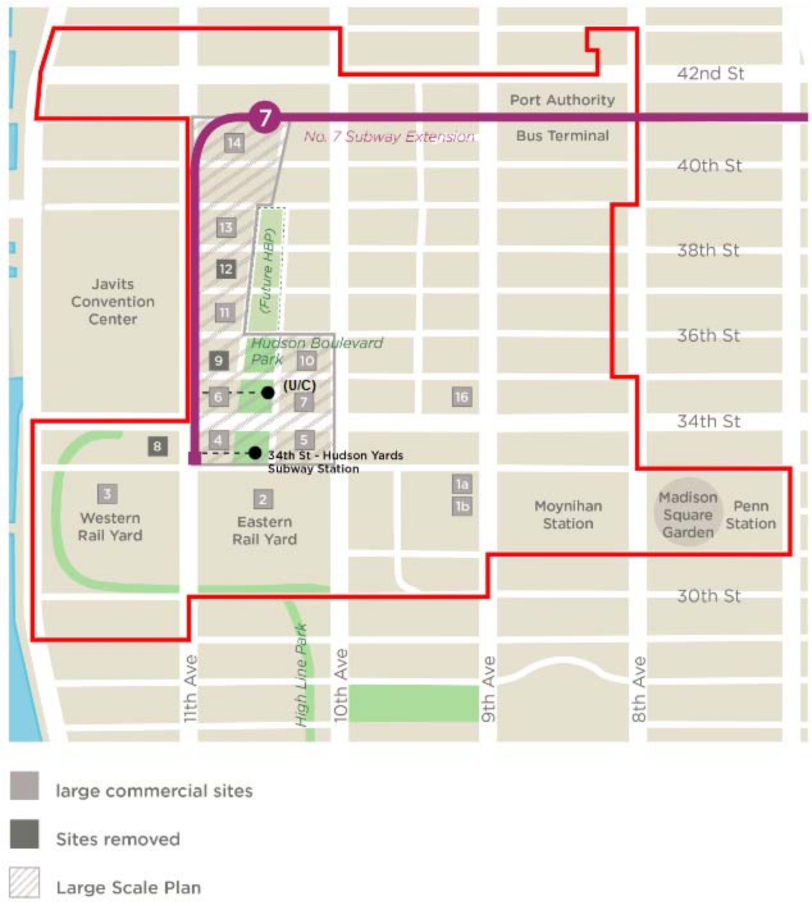
Hudson Yards Development Sites

In the 2011 report, it was estimated that the HY district had a total capacity for development of Class A office buildings of approximately 28.0 msf. This estimate was based on an analysis of the development potential of 15 large sites. Since that date, 10 Hudson Yards (on Site 2) has been completed, and three other buildings are under construction: One Manhattan West (Site 1A), 30 Hudson Yards (Site 2), and 55 Hudson Yards (Site 4). Additionally, based on a signed anchor tenant lease, 50 Hudson Yards (Site 5) has been removed from sites evaluated for future development since it is likely to commence construction in the near term.

[40] Greater Midtown East Rezoning Draft Scope of Work for Environmental Impact Statement, August 22, 2016

In this update, 10 large sites, as detailed on Exhibits 3-15 and 3-16 are evaluated for their development potential for Class A office space.

Exhibit 3-15. Large Commercial Sites within the Hudson Yards Finance District



Source: NYC Department of City Planning, Hudson Yards Development Corporation

Ownership, assemblage status, and other conditions have changed some of the evaluated sites resulting in adjustments to the estimated Class A office capacity, as updated and shown on the following table.[41]

Exhibit 3-16. Summary of Hudson Yards Large Commercial Sites

Site Number	Site Identifier	Lot Area (SF)	Max FAR	Max ZSF	ERY Transfer	Completed Assemblage	Residential FAR	Residential ZSF	Commercial ZSF	Commercial GSF
Farley Corridor										
1b	Site 729A/B - 2 Manhattan West (Brookfield) (1)	61,709				Yes			1,663,991	1,913,590
16	441 9th Avenue (2)	39,779	13.0	517,127	NA	Yes			517,127	594,696
MTA Rail yards (3)										
3	Western Rail Yard (WRY) (4)	570,000	10.0	5,700,000	NA	Yes	8.0	4,000,000	1,600,000	1,840,000
Four Corners (5) (6)										
6	Site 706A - 3 Hudson Blvd. (Moinian)	46,634	33.0	1,538,922	15.0	Yes			1,538,922	1,769,760
7	Site 706B - 66 Hudson Blvd. (Tishman Speyer)	67,452	33.0	2,225,916	15.0	Yes			2,225,916	2,559,803
Mid-Block Boulevard (7)										
10	Site 707B (Related/Spitzer/Madruga) (8)	57,956	24.0	1,390,944	6.0	Yes	6.0	347,736	1,043,208	1,199,689
11	Site 708A (Tishman Speyer) (9)	48,216	21.6	1,041,466	3.6	Yes	6.0	289,296	752,170	864,995
13	Site 710A (Rockrose) (10)	69,547	20.0	1,390,940	2.0	Yes	6.0	417,282	973,658	1,119,707
14	Site 1069A (Silverstein) (11)	83,160	20.0	1,663,200	2.0	Yes	6.0	498,960	1,164,240	1,338,876
PABT Area										
15	Site 1033B	25,587	14.0	358,218	NA	No	12.0		358,218	411,951
Total Evaluated Sites		**1,070,040**		**15,826,733**				**5,553,274**	**11,837,450**	**13,613,067**
Less Commercial Space Devoted To Retail in Four Corners, Mid-Block Boulevard and PABT Areas. (12)										**(398,552)**
Estimated Office Space Capacity If Mid-Block Boulevard sites Utilize Option to Develop 6.0 FAR Residential										**13,214,515**
Maximum Estimated Office Space Capacity (13)										**15,166,341**

(1) Site Number 1 or 729A/B was evaluated as two development sites (729A, 729B) in the 2006 Report, and as one development site in the 2011 Report after acquisition of the entire super-block bounded by 9th and Dyer Avenues and 31st and 33rd Streets by Brookfield. This site is now again divided into Site 1a- One Manhattan West which is under construction and presented in Exhibits 3-1a and 1b, and Site 1.2- Two Manhattan West.

(2) 441 9th Avenue is an existing Class B office building that was not evaluated as a prime development site in the prior reports due to its owner-occupied status. It has been reported that EmblemHealth is in contract to sell the building and will vacate the building allowing for its redevelopment.

(3) The MTA Rail Yards was shown in the 2011 Report as two development sites. Site 2 (ERY) is fully under construction and therefore is presented in Exhibits 3-1a and 1b.

(4) The Western Rail Yard site maximum FAR is 10.0, of which a maximum of 8.0 FAR may be used for residential development, a maximum of 8.0 FAR may be used for commercial development, and a maximum of 2.0 FAR may be used for a community facility. Analysis assumes, per developer Related's plan, that one office tower of approximately 1,600,000 zsf will be developed, with the balance of the site developed for retail, residential and community facility uses (100,000 zsf retail, 4,000,000 zsf residential). An approximately 120,000 sf school is planned for the site that does not count against the maximum site FAR.).

(5) Sites 4 and 5, known as 50 and 55 Hudson Yards, are under construction and are presented in Exhibits 3-1a and 1b.

(6) Zoning controls for the Four Corners area (Sub-area A2 of the Special Hudson Yards District) allows a maximum FAR of 33.0, of which up to 6.0 may be residential. Since these sites are immediately adjacent to the subway station and their owners have indicated that they are seeking to construct Class A office buildings this analysis assumes that the sites are developed to their full maximum FAR as commercial space. This includes use of the ERY transfer and the DIB.

(7) Zoning controls for the Mid-Block Boulevard area (Sub-areas A3-A5 of the Special Hudson Yards District) allows a maximum FAR of 20.0, 21.6 or 24.0, of which up to 6.0 FAR may be residential. Since these sites are further from the subway station, and some of the owners have indicated a strong preference for residential development this analysis considers that the likely commercial development may be so reduced. The maximum development capacity of the district if these sites are developed entirely for commercial space is also presented. This includes use of the ERY transfer and the DIB.

(8) Site 707B was indicated as partially assembled in the 2011 Report. This analysis assumes that one of the 4 parcels considered in the prior reports to comprise the potential development site is removed and that the owners of the remaining 3 parcels have an agreement in place to develop the site. Currently, Related is using its parcel as construction laydown for the Eastern Rail Yard project and the other two parcels are a vacant lot and a parking lot, respectively. It has been reported that Eliot Spitzer and Related are planning on partnering to build an apartment and office development.

(9) Site 708A was indicated as partially assembled in the 2011 Report. Tishman Speyer has acquired 2 of the 3 parcels within the development site, and the third parcel is removed from this analysis because the owner of that parcel has indicated plans to proceed with a residential/condo hotel project.

(10) Site 710A was indicated as partially assembled for development in the 2011 report. Subsequently, Rockrose acquired the final parcel in the development site completing the assemblage. Rockrose has filed an application with City Planning to develop an as-of-right 6.0 FAR residential building in advance of commercial development of the remainder of the site under the zoning provision that allows sites with a lot area in excess of 69,000 sf to do so. This includes use of the ERY transfer and the DIB.

(11) Silverstein Properties completed demolition of the former Mercedes-Benz dealership on Site 1069A in preparation for development. Silverstein has expressed a strong interest in developing residential uses at this site, including filing in an un-successful application in 2014 to rezone the site to a maximum residential FAR of 12.0, with the balance of the allowed 20.0 FAR proposed as retail and commercial space. This includes use of the ERY transfer and the DIB.

(12) This analysis assumes that 1.0 FAR of the maximum FAR in the Four Corners, Mid-Block Boulevard and PABT Areas is dedicated to retail.

(13) Estimated office development capacity of the evaluated sites of the potential for 6.0 FAR of residential uses in the Mid-Block Boulevard is excluded. This includes use of the ERY transfer and the DIB.

[41] Note that the site numbers such as 707B refer to HYDC site designations from 2006 - detailed information on each of these large sites is found in the Appendices of the 2006 and 2011 reports - current information on the sites is described herein

A summary of each site's status is highlighted below.

- *Site 1.* Manhattan West: The development status is discussed previously and shown in Exhibit 3-10. In the 2011 report, this superblock was evaluated as one development site. Since a portion of it is now designated as site 1a (One Manhattan West, under construction), this update only analyzes the remainder of the site designated as 1b (Two Manhattan West)
- *Site 2.* Eastern Rail Yard (ERY): The development status of the site is discussed previously and shown in Exhibit 3-1a.
- *Site 3.* MTA Western Rail Yard (WRY): Related has confirmed and refined its plans to develop the site substantially for residential uses, while continuing to propose development of the northeast corner of the site as a 1.5 to 2.0 msf office building, possibly with some retail and residential uses.
- *Site 6.* 706A or 3 Hudson Boulevard: The Moinian Group has proposed a 1.8 msf office tower.
- *Site 7.* 706B or 66 Hudson Boulevard: Tishman Speyer acquired the parcels from affiliates of Sherwood Equities and the Rosenthal family, and has announced plans to develop an approximately 2.6 msf office building marketed as The Spiral.
- *Site 10.* 707B: Related acquired the parcels fronting on the recently completed Hudson Boulevard Park and is currently using them as a construction staging area. To the east, Spitzer Enterprises acquired the mid-block parcels, and affiliates of developer Jorge Madruga acquired a ground lease on the parking lot at the corner of West 37th Street and Tenth Avenue. It has been reported that Related and Spitzer are partnering to build a combined office and residential development. A fourth parcel with an existing loft building within the potential development site was removed from consideration for the purposes of this evaluation.
- *Site 11.* 708A: Tishman Speyer acquired two of the three parcels in the development footprint and is reported to be planning to develop a Class A office building eventually, though possibly with a residential component. The owner of the third parcel, David Marks, has announced the intention to develop that parcel as a hotel, and therefore that lot has been removed from the sites analyzed for office development.
- *Site 13.* 710A: Rockrose completed the assemblage and has indicated an intention to develop a portion of the site for residential purposes (6.0 FAR out of the total allowed 20.0 FAR), while reserving the balance of the site for future office development.
- *Site 14.* 1069A: Silverstein Properties purchased the parcel from Mercedes-Benz USA and has demolished the former auto dealership building. Silverstein has taken steps to develop a portion of the site for residential uses, while reserving the balance for future office development.
- *Site 15.* 1033B: This is a smaller site located north of the Port Authority Bus Terminal. There are no known development plans for this site at this time.
- *Site 16.* 441 Ninth Avenue has been added to the inventory of potential large development sites in Hudson Yards. A contract of sale has been executed by owner-occupant EmblemHealth for this site, which is improved with an approximately 350,000 sf Class B office building at the corner of West 34th Street and Ninth Avenue. EmblemHealth plans to vacate the building within approximately one year, and the purchaser has indicated that it will redevelop the site as a Class A office building of almost 600,000 sf under current zoning.

Three sites analyzed in the 2011 Report have been removed from consideration for office development in this analysis.

- *Site 8.* 679C and *Site 9.* 707A are owned by affiliates of the NYS Convention Center Development Corporation (Javits). These sites are suitable for development of Class A office buildings, and in the 2011 Report it was noted that under agreements and practice it was likely that they would be developed consistent with a General Project Plan (GPP) in the case of Site 679C and under zoning in the case of Site 707A. Since the prior development plans for these sites are more than five years old and Javits has not announced its plans for their development, they have been removed from consideration in this analysis.
- *Site 12.* 709A's development footprint is comprised of eight parcels under separate ownership. The owners of two of these parcels have announced plans to develop their property as residential condominium/hotel projects, thus rendering the balance of the site unsuitable for development as a

Class A office building. Therefore, this site has been removed from consideration for office development in this analysis.

Other Potential Hudson Yards Redevelopment and Transportation Projects

As noted in the 2011 report, there are other large publicly controlled sites within the Hudson Yards district that may have relevance to the development potential of the area.

- Redevelopment of the Farley Post Office building into Moynihan Station has proceeded, with the re-designation of the joint venture between Vornado and Related as the developer. The plans announced in September 2016 for Moynihan Station include approximately 200,000 sf of retail space and 500,000 sf of office space. Redevelopment of Moynihan Station into a new passenger terminal for Long Island Railroad and Amtrak will benefit Manhattan as a whole, and the Hudson Yards district specifically.
- Plans for the redevelopment of the Port Authority Bus Terminal (PABT) remain in flux. There is consensus in both New York and New Jersey that the existing bus terminal facility is inadequate and cannot accommodate projected future growth in trans-Hudson River bus commutation. The Port Authority of New York and New Jersey (Port Authority) and political decision makers, however, have not been able to reach a consensus about a suitable replacement facility, whether in place, nearby on the West Side of Manhattan, in New Jersey, or a combination thereof. The Port Authority held an architectural design competition in 2016 to solicit proposals for a new facility, but in the fall of 2016 it announced that it was going to initiate a new planning process. While in the 2011 Report the redevelopment of the PABT site was presented among the inventory of future Class A office sites, due to this uncertainty it has been removed from consideration in this analysis.

Downtown

Downtown's primary development capacity remains the redevelopment of the World Trade Center. Tower 4, at 1.7 msf, was completed in 2013, and followed by the 2.6 msf Tower 1 in 2014. Currently, Tower 3, at 2.2 msf, is under construction with a 2018 expected completion. Towers 2 (2.4 msf) and Tower 5 (1.1 msf) are future development sites with a total capacity of 3.5 msf. When construction at the WTC is completed, the site will contain a total of 10.0 msf.

Future Development Sites Summary

Since the 2011 report, Hudson Yards has evolved as a major new district. The newly developed and under construction office towers have brought a diversity of new tenants to the area. In contrast to the rest of Midtown and Downtown Manhattan, HY currently offers the largest share of available large blocks of office space and development sites.

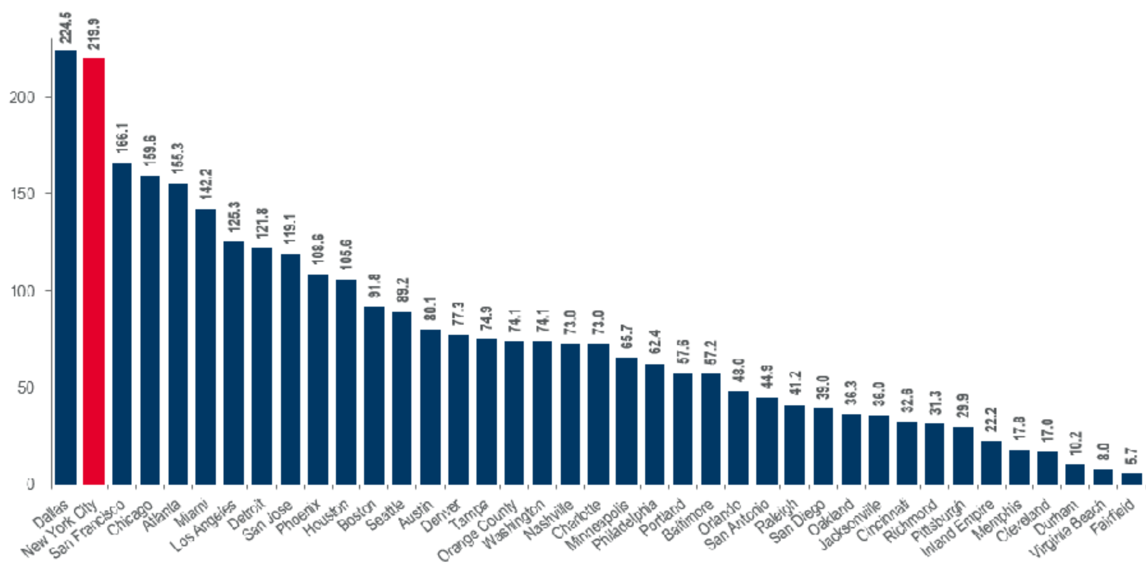
Office Space Demand

New York City

The driver of demand for office space is OUE. New York City employment is heavily weighted in office-using sectors, which comprise 32.3% of jobs as compared to 21.8% for the nation. This helps explain the high wages found throughout the New York metropolitan area. Furthermore, the City's abundance of service jobs has shielded it from the declines in manufacturing employment across the nation.

Since the trough of the 2009 recession, OUE growth in the New York metropolitan area has exceeded all other metro areas in the nation except Dallas, growing by almost 220,000, as shown below.

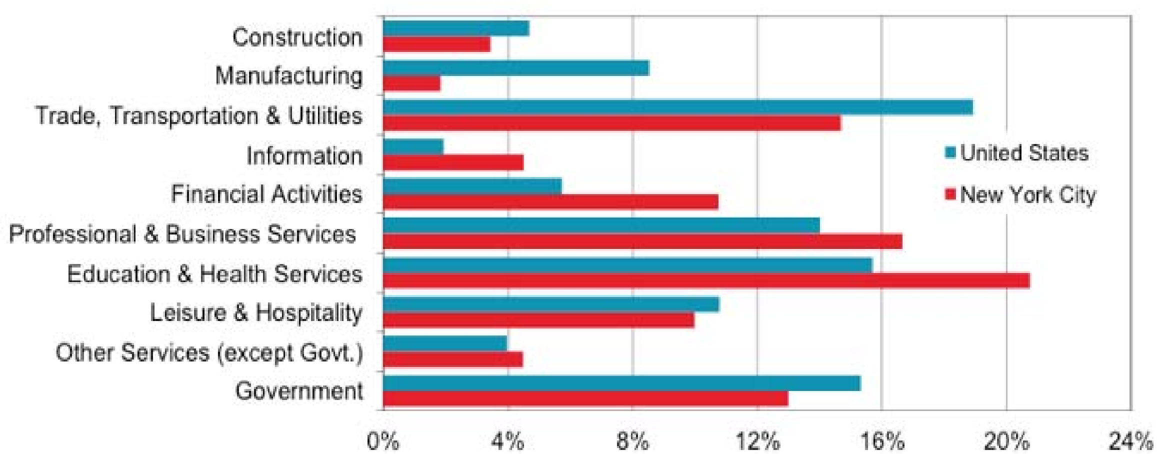
Exhibit 3-17. Office Using Employment Growth, Metropolitan Areas, October 2009 – September 2016



Vertical (Y) axis represents OUE increase from 2009 (000s)
Source: U.S. Bureau of Labor Statistics, Cushman & Wakefield, Inc.

Looking at employment by major industry sectors, New York City has a greater share of information services, financial activities, professional and business services, education and health services and other services than the nation.

Exhibit 3-18. Share of Employment by Sector, New York City vs. United States, 2016 Estimates



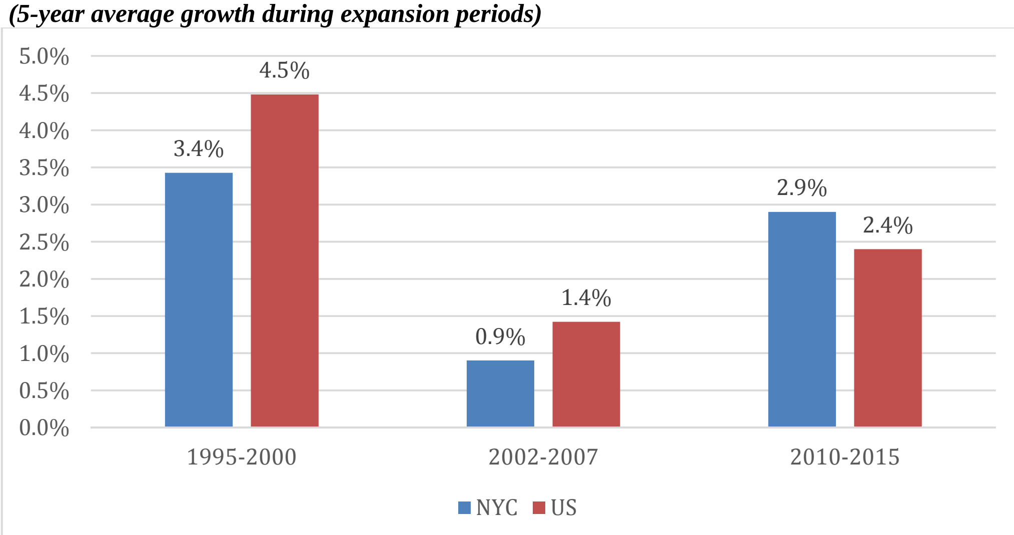
Source: Moody's Analytics, Cushman & Wakefield, Inc.

New York City has experienced extraordinary job growth over the past five years and has now outpaced the nation's job growth over much of the past decade. The City has long since recovered all of the jobs lost during the great recession of 2009-2010.

Job growth continues to be broad-based, with most major private sectors posting year-over-year gains. The City's employment growth throughout 2016 has been led by the following sectors: education/health services (which grew by 32,400 jobs, representing a growth rate of 3.7%), professional/business services (which added 24,700 jobs, a growth rate of 3.6%), leisure/hospitality (which added 11,700 additional jobs, a growth rate of 2.8%), information (which added 5,300 positions, a 2.8% increase), and financial activities (which added 4,700 jobs, a 1.0% growth rate). Over the same time period, the manufacturing sector added 1,300 jobs (a 1.7 % increase), while government employment increased by 3,300 jobs (a 0.6 % increase).

Focusing on OUE as described in Chapter 2, New York City experienced very strong growth between 2010 and 2015, averaging a five-year annual growth of 2.9% in contrast to the nation at 2.4%.

Exhibit 3-19. Office Using Employment Growth, NYC and US
(5-year average growth during expansion periods)

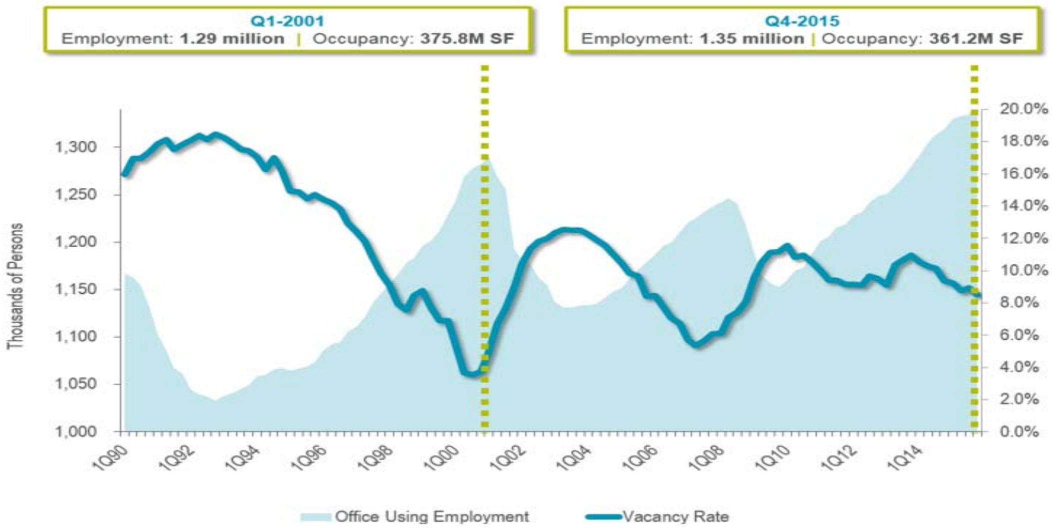


Source: Moody's Analytics, Cushman & Wakefield, Inc.

Manhattan

Between 2006 and 2016, total OUE in Manhattan grew by an annual average of 1.1%, compared to the nation's 0.7% annual average. The change in OUE impacts the overall vacancy rates. Exhibit 3-20 shows the low vacancy rates associated with high OUE in 2001, 2008 and 2015.

Exhibit 3-20 Manhattan OUE as compared to Overall Office Vacancy[42], 1990 through 2015



Shown in rentable square feet.
Source: Moody's Analytics and Cushman & Wakefield, Inc.

OUE leasing by industry sector illustrates the growth and diversity of Manhattan tenants, with a continued preference for Midtown versus Downtown. In 2006, 17.9 mrsf of new leases[43] were signed in Manhattan. Financial Services accounted for 7.6 mrsf or 42.3%, and TAMI industries were second at 3.2 mrsf or 17.8% of the total square footage. Combined, these two sectors leased almost 7.7 mrsf in Midtown versus 3.1 mrsf in Downtown.

Between 2011 and 2015, leasing of office space over 10,000 rsf reveals the diversity of Manhattan's OUE, led by the two largest sectors which together comprised 52% of leases signed - the TAMI sector at 26.2%, followed closely by Financial Services at 26.1%.

Leasing activity through 2016 Q3 totaled 13.4 mrsf[44] in Manhattan. TAMI leased 3.4 mrsf or 25.3%, and Financial Services leased 2.9 mrsf or 22.1% of the total square footage. As in 2006, these two sectors absorbed more in Midtown at 5.3 mrsf versus 1.2 mrsf in Downtown. These industry sectors also represent a significant share of HY leases to date.

[42] Overall vacancy includes vacant space offered for rent by landlords and space offered for sublease.
[43] New leases over 10,000 sf
[44] Ibid

Exhibit 3-21. Manhattan Midtown and Downtown Leasing by Tenant Industry Sector, 2006 and 2015

Manhattan Leasing by Industry				
Industry	2015 % Of Midtown Leasing*	2006 % Of Midtown Leasing*	2015 % Of Downtown Leasing*	2006 % Of Downtown Leasing*
Amusement/Arts/Entertainment	1.4%	1.8%	0.0%	0.4%
Financial Services	29.5%	39.2%	25.7%	51.4%
Health Services	1.7%	0.8%	5.4%	0.0%
Legal Services	9.5%	13.7%	1.3%	7.7%
Manufacturing	0.8%	3.5%	0.5%	0.0%
Professional Services	7.8%	3.8%	8.4%	4.0%
Public Sector	4.8%	6.4%	10.6%	15.7%
Real Estate	6.8%	3.7%	15.3%	3.0%
Retail/Wholesale	10.4%	8.9%	10.0%	0.8%
TAMI	27.4%	18.1%	22.8%	17.1%

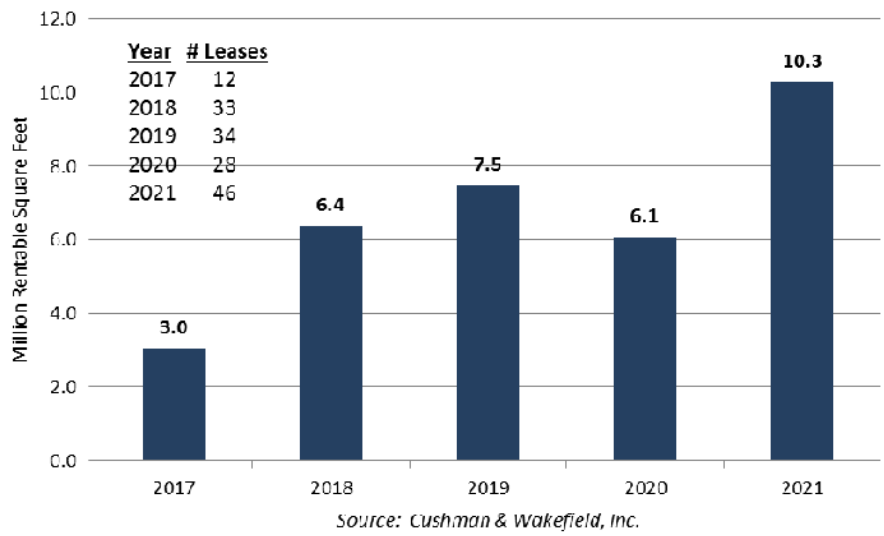
**Leases signed over 10,000 SF NRA*

Source: Cushman & Wakefield, Inc.

The diverse industry sectors, as compared to New York's historical reliance on financial services, limit exposure to a contraction in one specific industry.

Looking over the next five years, as of 2016 Q3, there are an estimated 33.2 mrsf of leases in excess of 100,000 rsf set to expire between 2017 and 2021, as shown in Exhibit 3-22. Although some tenants may choose to renew their existing leases, the availability of sites in HY could provide prospective tenants with options in new buildings with better physical and service amenities.

Exhibit 3-22. Office Leases (over 100,000 sf) in Manhattan Expiring Between 2017 and 2021



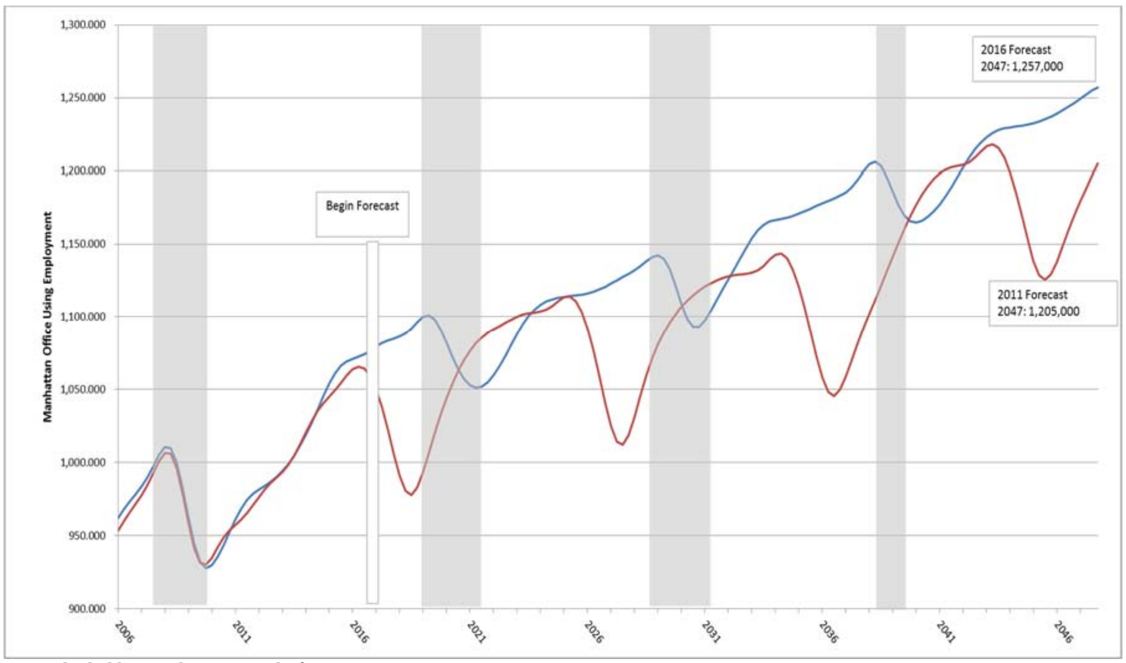
Forecast of Office Space Demand, 2017-2047

The forecast of office space demand for HY is based on the demand for space generated by the growth in OUE as provided by Moody's Analytics, and the supply of office space in Manhattan as detailed in the previous sections.

Office Using Employment Forecast

Over the forecast period, from 2017 through 2047, OUE for Manhattan is forecast to grow by approximately 167,000 employees total, equivalent to 0.5% on average per year. Moody's 2016 forecast presents lower OUE growth rates for Manhattan as compared to the 2011 average projected annual growth rate of 0.7%, as evidenced on the following chart.

Exhibit 3-23. Actual and Forecast Manhattan Office Using Employment, 2006-2046



Note: shaded bars indicate period of economic recession
Source: Moody's Analytics, Cushman & Wakefield, Inc.

The modest forecast average annual growth rate is due to Manhattan's market maturity as well as the high cost of living compared to much of the nation. Higher paid, more lucrative, and productive jobs are expanding in Manhattan, but lower paid jobs are moving to less expensive areas. TAMI industries growth is expected to remain strong, although financial services growth is likely to increase modestly. Both industry sectors, however, are the largest to lease space in Midtown and Hudson Yards to date, and are expected to continue to do so for the foreseeable future.

Several key aspects of the economic forecast provided by Moody's Analytics drive the demand results as discussed in Chapter 2. From a real estate perspective, and as seen in the 2011 report, a tenant "flight to quality" continues since the recession of 2009-2010 whereby Manhattan, and particularly Midtown, continues to maintain higher occupancy rates as compared to the region, as seen before in Exhibit 3-3.

Office Building Future Supply and Shares

Demand is estimated for office space using the projections for OUE. Of Manhattan's 360 mrsf of occupied office space, Midtown's share is 78% or 282 mrsf and Downtown's share is 79 mrsf, or 22%, as of 2016 Q3. Based on the preceding, a 75% share of future demand for space is applied to Midtown for future construction completions[45].

The share of HY's future net absorption (or change in occupied space) is based on its pro-rata share of Midtown as a whole. The ratio of potential available space in HY and Midtown is used to distribute the demand between the two submarkets as in the following Exhibit.

Exhibit 3-24. Net Absorption Capacity, Existing Midtown and Hudson Yards, 2016 Q3

Office Market / Submarket	2015 Occupied Space	2016 Q3 Available Space Per Vacancies			Capacity of Sites Under Construction & Large Development Sites(3)	Total Space Available Within Forecast Period(4)	Submarket Share of Overall Midtown
		Vacant Space	Less Frictional Vacancy(2)	Available for Absorption			
	(mrsf)	(mrsf)	(mrsf)	(mrsf)	(mgsf)	(mgsf)	
Existing Midtown	280.0	27.4	11.2	16.2	13.1	26.7	60.1%
Hudson Yards (1)	**1.7**	**0.1**	**0.1**	**0.0**	**18.4**	**17.7**	39.9%
Overall Midtown	281.7	27.5	11.3	16.2	31.6	44.4	

(1)Only includes 10 HY

(2) Frictional vacancy is the amount of vacant space for an office market's orderly operation, and is assumed to be a 4.0% threshold for this analysis.

(3) Capacity of sites under construction excludes space that has been pre-leased as of 2016 Q3

(4) Total space available over time for Existing Midtown is calculated as follows: Existing Midtown space available for absorption of 16.2 mrsf / 1.15 to convert to gross sf = 14.1 mgsf, plus 10.3 mgsf capacity of large under construction & MT existing development sites less 4% frictional vacancy = 26.7 mgsf. HY large sites capacity of 13.2 mgsf (as shown in Exhibit 3-16) plus 5.2 mgsf currently under development minus 4% frictional vacancy rate yields 17.7 mgsf available for HY.

mrsf= millions of rentable square feet

mgsf= millions of gross square feet

Source: Moody's Analytics, Cushman & Wakefield, Inc.

These shares should be viewed as long-term trends or target shares that reflect the future potential development in both HY and Midtown. Short-term market conditions could cause these shares to deviate from this long-term trend, and thus an additional adjustment was also imposed in this updated forecast. These considerations include an unanticipated recession or unknown municipal actions, among others.

The analysis between the two markets results in HY capturing 39.9% of overall Midtown's net absorption. Due to locational differences, a further 5% discount is applied to the HY share, resulting in a 38% share. As such, the demand analysis assumes HY will capture 38% of Midtown's future construction completions (which is 75% of overall construction completions, as discussed above).

[45] Midtown contains the vast majority of sites suitable for development of large Class A office buildings.

Forecast of Office Building Completions for Hudson Yards

Demand for space is predicated on the annual change in OUE, based on an average space utilization of 200 usable square feet per employee[46], with consideration given to the loss of existing inventory[47]. This projected demand is applied to the Midtown and Hudson Yards shares previously discussed.

Developers typically initiate construction based on recent and projected demand relative to the available supply, assuming the availability of construction financing and sources of equity. When vacancy rates are high and space readily available, new construction is unlikely to occur, and when the opposite is true, new construction is more likely to occur. Within the existing Midtown and HY submarkets, the maximum vacancy rate at which new construction is assumed to occur is based on historic construction patterns. The forecast of completions for HY are shown in Exhibit 3-25.

Exhibit 3-25. HY Expected Office Building Completions by Year

FY	Hudson Yards (msf)	Building(s) Name
2017	-	
2018	-	
2019	4.0	30 & 55 HY
2020	1.9	One MW
2021	0.7	
2022	3.6	
2023	-	
2024	-	
2025	-	
2026	-	
2027	1.4	
2028	0.7	
2029	0.3	
2030	0.5	
2031	0.8	
2032	0.9	
2033	-	
2034	-	
2035	-	
2036	1.1	
2037	1.4	
2038	0.4	
2039	0.6	
2040	0.6	
2041	1.3	
2042	-	
2043	-	
2044	-	
2045	-	
2046	2.2	
2047	0.8	
TOTAL	**23.5**	

HY = Hudson Yards; MW = Manhattan West

Note: Table does not include the 1.9 msf completed at 10 HY
Note: Sums may not add due to rounding
Shaded area represent recessionary periods as projected by Moody's Analytics.

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[46] Per a Cushman & Wakefield benchmarking survey, the average space per employee was 197 usable sf as of 2015.
[47] A review of conversions and demolitions of office buildings between 2006 and 2016, reflective of contraction and expansion periods, revealed a loss of inventory ranging from 0 msf to 2.0 msf per year.

The analysis projects 23.5 msf in likely construction completions in HY from 2017 to 2047, or an annual average of approximately 800,000 sf of new development per year. The pattern of construction completions follows Moody's Analytics forecast of OUE changes, and the cyclical behavior typically associated with Manhattan's real estate markets.

HY is positioned to capture the demand for new development likely to arise from the projected growth in Manhattan's OUE because of both its location and its planned and new mass transit access.

Real Estate Market Factors Used in Revenue Forecast

Comparable Property Taxes

A review of comparable property[48] taxes was undertaken to serve as the basis for computing full taxes in HY, adjusted for differences with existing Midtown inventory. The properties include nine Class A office buildings in Midtown constructed between 2002 and 2016. A review of the properties revealed an average tax burden of $20.44 psf, as detailed in the table below.

Exhibit 3-26. Comparable Office Buildings Tax Assessments, FY 2016/2017

		YEAR	GBA	TRANSITIONAL		ACTUAL			TAXES
	ADDRESS	BUILT	SQ. FT.	LAND	TOTAL	LAND	TOTAL	TAXES	PSF
1	430 West 15th Street	2016	85,202	$765,000	$12,016,985	$765,000	$12,042,000	$1,270,676	**$14.91**
2	7 Bryant Park (1045 Sixth Ave)	2015	426,000	$7,577,337	$78,434,125	$7,529,400	$78,386,188	$8,288,556	**$19.46**
3	330 Hudson Street	2013	351,759	$5,120,909	$46,516,138	$6,937,650	$54,592,200	$4,918,616	**$13.98**
4	51 Astor Place	2013	385,831	$6,061,500	$43,019,010	$6,480,000	$56,118,600	$4,548,830	**$11.79**
5	One Bryant Park	2005	2,245,112	$98,949,240	$632,806,380	$98,915,400	$771,809,400	$66,912,947	**$29.80**
6	300 Madison Avenue	2002	1,142,417	$29,075,760	$221,036,370	$40,491,900	$250,132,500	$23,372,386	**$20.46**
7	510 Madison Avenue	2007	292,663	$7,880,940	$53,213,850	$7,881,300	$82,218,150	$5,626,832	**$19.23**
8	505 Fifth Avenue	2004	251,043	$7,151,490	$80,155,520	$7,149,150	$91,322,100	$8,475,645	**$33.76**
9	250 West 55th Street	2008	843,564	$15,879,150	$163,716,365	$18,334,350	$172,704,600	$17,311,368	**$20.52**
	Minimum								**$11.79**
	Maximum								**$33.76**
	Average								**$20.44**

Source: New York City Department of Finance, Cushman & Wakefield, Inc.

While a newly constructed building, no significant reliance was placed on the real estate tax liability of 505 Fifth Avenue due to the boutique nature of the building and the significant percentage of revenue derived from retail tenants.

[48] Class A office buildings that do not benefit from any real estate tax incentives

Based on the above, it is reasonable to estimate real estate tax liabilities of $19.00 psf for new Class A office construction as of 2016 Q3. Factoring in the locational differences of HY as compared to existing Midtown, an additional discount is warranted, as discussed below.

Comparable Class A Rental Rates

A survey of 219 existing Midtown leases signed through third quarter 2016[49] was used in order to compare differences between prime Midtown office submarkets and others further west. Rental rates shown are "face" rents.

Considerate of the locational differences, the Midtown leases were divided into four groups that remain the same in 2016 as used in the 2011 and 2006 reports. Comparable submarkets include Grand Central, East Side/UN, West Side, and Sixth Avenue/Rockefeller Center, Pennsylvania Station, and Times Square South (the submarkets including HY and adjacent properties).

The 2006 and 2011 reports estimated achievable future office rents in HY by comparing rents in the Penn Station and Times Square South submarkets with the rents in comparable Midtown submarkets. The current analysis yielded a discount of 8.6% from the comparable Midtown submarkets to Penn Station and Times Square South. The average top tier leases from the submarkets indicate a discount of 1.8% from the comparable Midtown submarkets to Penn Station and Times Square South. An additional 5.0% rent discount[50] was applied to HY to reflect the locational disadvantage of moving to an evolving new market area. This updated analysis yielded discounts of 13.6% and 6.8%, as shown below.

Exhibit 3-27. Calculation of Rental Discount – Midtown Submarkets to Hudson Yards

Survey of 219 Midtown Leases YTD (Q1-Q3) 2016		
Comparable Midtown Markets	Average All Leases $ psf	Average Top Tier* $psf
Grand Central	$68.95	$78.89
East Side/UN**	$70.89	$96.43
West Side	$71.42	$79.64
6th Avenue/Rockefeller Center	$79.78	$95.69
Average	$73.97	$83.81
Pennsylvania Station-Times Square South	$68.13	$82.36
Discount From Pennsylvania Station-Times Square South to Comparable Midtown Markets	8.6%	1.8%
Hudson Yards @ additional 5 percent discount on rent	13.6%	6.8%

* Top Tier refers to the 10 leases signed with the highest face rents for each submarket.

** Note that the average of the Top Tier leases are pushed upward by one outlier at $140 psf. Without this lease the average drops to $83.06 psf.

Source: Cushman & Wakefield, Inc.

Utilizing a 10.0% discount (as supported by Exhibit 3-27), property taxes for new Class A office buildings in HY are estimated to be $17.10 psf ($19.00 x 90.0%).

49 Inclusive of Hudson Yards leasing

50 Same percentage discount as in the 2006 and 2011 reports

Comparable Property Taxes Growth Rates

In order to estimate the likely growth rate for HY full property taxes, a survey of property taxes for 18 buildings in Midtown is summarized in Exhibit 3-28. For consistency in the analysis, these are the same Class A properties used in the 2011 and 2006 reports. The average annual growth rate in taxes for Class 4 properties was 4.5% from 1981 through 2016, as compared to the former analyses, which indicated a 4.2% average annual growth rate in 2011, and 3.7% in 2006.

Exhibit 3-28. Select West Midtown Office Buildings Tax Survey, 1981 – 2016

	Year Built	Square Feet (GBA)	Low Taxes	High Taxes	Average Taxes	FY 2015/16	Annual Compound Rate of Change 1981-2016*
1177 Avenue of the Americas	1991	901,068	$6.83	$16.23	$10.60	$ 16.23	*3.4%*
825 Eighth Avenue	1989	1,596,521	$7.45	$16.85	$11.44	$ 16.17	*3.1%*
1325 Avenue of the Americas	1989	753,137	$6.05	$18.92	$12.77	$ 18.67	*3.7%*
120 West 45th Street	1989	426,065	$6.88	$15.70	$11.30	$ 15.70	*3.4%*
114 West 47th Street	1989	565,000	$5.16	$18.23	$12.37	$ 18.23	*5.2%*
750 Seventh Avenue	1988	561,139	$5.42	$16.41	$9.64	$ 16.41	*3.8%*
787 Seventh Avenue	1985	1,638,637	$3.87	$19.99	$11.08	$ 19.99	*5.6%*
1155 Avenue of the Americas	1984	734,668	$6.70	$16.18	$10.67	$ 16.18	*3.0%*
1211 Avenue of the Americas	1973	1,800,000	$4.18	$18.04	$9.98	$ 18.04	*4.4%*
1185 Avenue of the Americas	1972	1,041,350	$3.57	$18.02	$8.82	$ 18.02	*4.9%*
1114 Avenue of the Americas	1971	1,513,117	$2.72	$15.88	$7.91	$ 15.88	*5.3%*
1133 Avenue of the Americas	1969	1,039,529	$3.25	$13.68	$7.24	$ 13.68	*4.3%*
1345 Avenue of the Americas	1969	1,500,000	$4.65	$28.57	$12.41	$ 28.57	*5.5%*
1221 Avenue of the Americas	1969	2,508,386	$4.35	$18.48	$9.12	$ 18.48	*4.3%*
1290 Avenue of the Americas	1963	1,897,471	$3.19	$18.78	$10.65	$ 18.78	*5.3%*
1301 Avenue of the Americas	1963	1,482,208	$5.04	$20.55	$12.51	$ 20.06	*4.1%*
1285 Avenue of the Americas	1960	1,300,000	$2.40	$20.46	$12.90	$ 20.46	*6.5%*
1271 Avenue of the Americas	1957	1,962,900	$3.88	$16.43	$9.85	$ 16.43	*4.3%*
Minimum		426,065	$2.40	$13.68	$7.24	$ 13.68	*3.0%*
Maximum		2,508,386	$7.45	$28.57	$12.90	$ 28.57	*6.5%*
Average		**1,259,631**	**$4.75**	**$18.19**	**$10.62**	**$ 18.11**	***4.5%***

*Growth rate calculated from year built for properties constructed after 1981

Source: Cushman & Wakefield, Inc.

The updated 4.5% average annual compound growth rate in this survey is influenced by significant renovations over the life of the buildings. These renovations typically result in an increase in the potential gross revenue of a property and thus increases in real estate tax liability. Based on Exhibit 3-28 (tax survey), a projected annual tax growth rate of 3.5% is used in the office revenues forecast. For certain time periods, particularly during the forecast economic downturns, full taxes in HY could grow by less than the projected rate of 3.5%.

This conclusion also considers the long-term growth in Class 4 billable assessed value, as shown in Appendix C-2. During the 1990s economic downturn, billable assessed values for Class 4 properties declined on average by 2.9 percent from 1993 through 1998. Over a longer time horizon, however, the growth rate in Class 4 billable assessed values increased 5.2% percent from 1985 to 2017. This 5.2% growth is also influenced by the addition of new completions. Exhibit 3-28 (tax survey) and Appendix C-2, indicate that the projected annual

3.5% growth rate used in the revenue model would likely provide a sufficient margin to compensate for these downturns[51].

Revenues from Hudson Yards Forecast of Office Development, 2017 - 2047

Revenues associated with office development in HY are expected to account for approximately 46.4% of the overall revenues through 2047. The office development revenues are assumed to be collected in the form of payments in lieu of taxes (PILOT) pursuant to New York City's Industrial Development Agency's (IDA) Uniform Tax Exemption Program (UTEP)[52] amendment for Hudson Yards.

The revenue projections for office properties in HY assume that new building owners will make PILOT payments instead of paying property taxes. The PILOT payments provide a discount to full property taxes, and are set by the IDA pursuant to the HY UTEP amendment. As structured, PILOT payments will extend for a 15-year period following construction and then are subject to phase-out to the equivalent of full taxes over the ensuing five-year period.

Under the UTEP, commercial construction projects[53] in HY are divided into three zones with a PILOT discount ranging from 40% of full taxes for initial developers west of Tenth Avenue, to a 25% discount between Eighth and Tenth Avenue, and 15% for projects in later years throughout the district. There is no discount for properties east of Eighth Avenue, as shown on Exhibit 3-30.

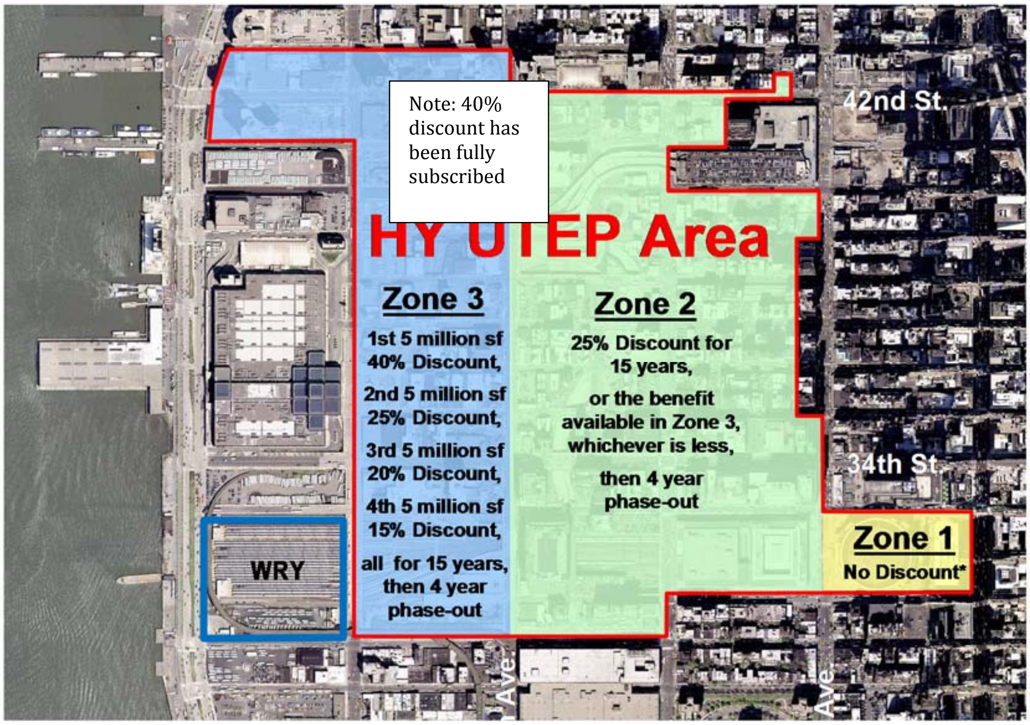
In order to qualify for the PILOT program, commercial projects must equal or exceed 90% of the maximum zoning floor area applicable to a development site (including available bonus floor area) as set forth in the Hudson Yards Special District Zoning Resolution. The IDA retains discretion to qualify a project that does not meet the size and density requirement for PILOT payments. Projects smaller than 1.0 million zoning square feet will not be considered as eligible. Given the projected demand and tax advantage offered by the PILOTs, developers to date have utilized the maximum zoning FAR, and it is assumed they will continue to do so.

Additionally, pursuant to an agreement between the City of New York and the MTA[54], the MTA agreed that development on both the ERY and WRY would be subject to a PILOT payment. The PILOT payment is in accordance with the UTEP for commercial office space, and is equivalent to real property taxes. The PILOT payment shall be paid to HYIC[55.]

The Hudson Yards development zones and a summary table of the PILOT schedule associated with each zone, as set in the UTEP, are provided in the following exhibits.

[51] The effect of market downturns is further mitigated by the assumption that all development in HY would take place with pre-leasing agreements as described in the demand forecast. Although tenant rollover has not been factored into the analysis, it is not expected to have a disproportionate effect on the Hudson Yards market relative to other submarkets.
[52] NYC IDA's UTEP, pages 3-45 to 3-49
[53] Designation of a commercial development project is at the sole discretion of the NYC IDA
[54] Metropolitan Transportation Authority, owner of the rail yards
[55] Rail Yards Agreement between the City of New York and the Metropolitan Transportation Authority, September 28, 2006

Exhibit 3-29. Development Zones Illustrating Percentage Discount to Actual Taxes Available for Office Buildings in the Hudson Yards UTEP Area



*Program provides fixed 3% annual increase for 15 years

Source: Hudson Yard Development Corporation, NYC Industrial Development Agency

View of Hudson Yards construction, looking east from Twelfth Avenue and West 33rd Street

Source: Jason Nakleh, December 2016

Exhibit 3-30. Hudson Yards Development PILOT Schedule and Zones

Zone 1- (East of Eighth Ave)			
• Years 1-4 following building completion - **Full taxes** • Years 5-19 - **3%** increase over previous year's payment • Year 20 and thereafter - **Full Taxes**			
Zone 2- (Between 8th Ave and 10th Ave)			
Until 10 million SF has been authorized in Zone 3 the following schedule shall apply: • Years 1-4 following building completion- **75%** of **Full Taxes** • Years 5-15 - **3%** increase over previous year's payment • Years 16-20 - **80%, 85%, 90%, 95%, 100%** of **Full Taxes** respectively	Once 10 million SF has been authorized in Zone 3, and until a total of 15 million SF has been authorized in Zone 3, the following schedule shall apply: • Years 1-4 following building completion- **80%** of **Full Taxes** • Years 5-15 - **3%** increase over previous year's payment • Years 16-20 - **84%, 88%, 92%, 96%, 100%** of **Full Taxes** respectively	Once a total of 15 million SF has been authorized in Zone 3 the following schedule shall apply: • Years 1-4 following building completion- **85%** of **Full Taxes** • Years 5-15 - **3%** increase over previous year's payment • Years 16-20 - **88%, 91%, 94%, 97%, 100%** of **Full Taxes** respectively	
Zone 3- (Between 10th Ave and 12th Ave)			
Category A Developments- 1st 5 million SF Authorized*	Category B Developments- 2nd 5 million SF Authorized	Category C Developments- 3rd 5 million SF Authorized	Category D Developments- 4th 5 million SF Authorized
• Years 1-4 following building completion- **60%** of full taxes • Years 5-15 - **3%** increase over previous year's payment • Years 16-20 - **68%, 76%, 84%, 92%, 100%** of **Full Taxes** respectively	• Years 1-4 following building completion- **75%** of full taxes • Years 5-15 - **3%** increase over previous year's payment • Years 16-20 - **80%, 85%, 90%, 95%, 100%** of **Full Taxes** respectively	• Years 1-4 following building completion- **80%** of full taxes • Years 5-15 - **3%** increase over previous year's payment • Years 16-20 - **84%, 88%, 92%, 96%, 100%** of **Full Taxes** respectively	• Years 1-4 following building completion- **85%** of full taxes • Years 5-15 - **3%** increase over previous year's payment • Years 16-20 - **88%, 91%, 94%, 97%, 100%** of **Full Taxes** respectively

* The Agency shall reduce the 5 million SF eligible for treatment as Zone 3 Category A Developments, or any remaining portion thereof, by an amount equal to the zoning floor area of any development on the blocks bounded by 30th St, 11th Ave, 34th St, and 12th Ave that would otherwise be eligible for benefits if it were within the Hudson Yards UTEP Area.

Source: Hudson Yards Development Corporation, New York City Industrial Development Agency

Hudson Yards Forecast Office PILOT Revenues

A detailed calculation of the forecast completions, related PILOT payments, and phase-out schedules based on the geographic boundaries in the PILOT schedule are provided in the supporting tables in Appendix A.

Total PILOT revenues of $13.0 billion are expected to increase from $28.7 million in 2018, with the completion of 10 Hudson Yards, to over $1.0 billion in 2047, after office completions have reached 23.5 msf through 2047. The annual forecast of expected office completions and revenues in the HY is shown in Exhibit 3-31.

Exhibit 3-31: Hudson Yards Expected PILOT Revenues for Under Construction and Completed Office Buildings as of December 2016, and Forecast 2017-2047

FY	Completed (GSF)	Under Construction (GSF)	Combined (GSF)	Building(s) Name	Revenues ($)*
2017	-	-	-		$10,946,590
2018	-	-	-		28,652,071
2019	-	3,998,310	3,998,310	30 & 55 HY	40,628,423
2020	-	1,908,301	1,908,301	One MW	93,829,199
2021	-	-	-		111,855,277
2022	-	-	-		115,658,467
2023	-	-	-		119,591,417
2024	-	-	-		123,564,703
2025	-	-	-		127,271,644
2026	-	-	-		131,089,794
2027	-	-	-		135,022,487
2028	-	-	-		139,073,162
2029	-	-	-		143,245,357
2030	-	-	-		147,542,718
2031	-	-	-		151,968,999
2032	-	-	-		156,528,069
2033	-	-	-		167,633,180
2034	-	-	-		177,513,880
2035	-	-	-		191,877,418
2036	-	-	-		225,263,477
2037	-	-	-		254,272,400
2038	-	-	-		279,692,626
2039	-	-	-		306,576,155
2040	-	-	-		332,158,166
2041	-	-	-		343,783,702
2042	-	-	-		355,816,131
2043	-	-	-		368,269,696
2044	-	-	-		381,159,135
2045	-	-	-		394,499,705
2046	-	-	-		408,307,194
2047	-	-	-		422,597,946
Total	**-**	**5,906,611**	**5,906,611**	**-**	**$6,385,889,189**

HY = Hudson Yards; MW = Manhattan West

**Revenues are for NYC Fiscal Year.* *GSF = Gross Square Feet*

Note: Revenues are inclusive of 10 Hudson Yards, a 1.9 msf office building completed in 2016

Exhibit 3-31a: Hudson Yards Expected Annual Office Buildings Completion and PILOT Revenues, 2017 – 2047

FY	Completions (GSF)	Under Construction (GSF)	Combined (GSF)	Revenues ($)*
2017	-	-	-	$10,946,590
2018	-	-	-	28,652,071
2019	-	3,998,310	3,998,310	40,628,423
2020	-	1,908,301	1,908,301	93,829,199
2021	730,780	-	730,780	111,855,277
2022	937,528	2,623,294	3,560,822	115,658,467
2023	-	-	-	131,112,307
2024	-	-	-	193,590,693
2025	-	-	-	199,748,544
2026	-	-	-	206,103,385
2027	1,449,337	-	1,449,337	212,597,687
2028	707,326	-	707,326	218,975,618
2029	322,097	-	322,097	253,632,245
2030	537,823	-	537,823	275,569,000
2031	776,072	-	776,072	291,141,169
2032	944,651	-	944,651	312,460,945
2033	-	-	-	346,827,495
2034	-	-	-	385,470,115
2035	-	-	-	406,349,590
2036	1,106,759	-	1,106,759	446,388,436
2037	1,405,892	-	1,405,892	482,155,328
2038	426,392	-	426,392	547,969,238
2039	638,362	-	638,362	637,471,018
2040	639,184	-	639,184	694,941,854
2041	1,292,668	-	1,292,668	747,642,514
2042	-	-	-	803,568,734
2043	-	-	-	883,975,416
2044	-	-	-	919,481,311
2045	-	-	-	956,680,179
2046	2,193,908	-	2,193,908	995,246,530
2047	819,028	-	819,028	1,036,652,296
Total	**14,927,807**	**8,529,905**	**23,457,711**	**$12,987,321,678**

**Revenues are for NYC Fiscal Year.* *GSF = Gross Square Feet*

Note that the revenues include the 1.9 msf 10 Hudson Yards and the 1.0 msf shopping center, which is included in the projection of office revenues.

Inclusive of revenues shown in Exhibit 3-31

Source: New York City Office of Management & Budget, New York City Department of Finance, Moody's Analytics, and Cushman & Wakefield, Inc.

Office Revenues Forecast – Summary of Assumptions and Risks

Projected Demand is defined in msf. The projections provided by C&W rely on underlying demographic and economic forecasts provided by Moody's Analytics (Chapter 2) that were used as inputs along with key real estate and zoning variables and assumptions on infrastructure improvements.

Development – As shown in Exhibit 3-31, new office development has been completed and is under construction in the rail yards as well as other sites, in zones 2 and 3 of the HY UTEP area. Future development is likely to continue north along Eleventh Avenue as well as Ninth Avenue. It is assumed that construction of a new building is completed in three years. Revenues are realized two years later, after the building is placed on City tax rolls.

Rent Differentials - The assumption is that rent differentials between Hudson Yards and Midtown are expected to decline as the Hudson Yards submarket continues to become more established, which is consistent with the experience in other emerging submarkets.

Growth Rates - Given the nature of the projected growth rates in PILOTs and assuming that the past performance of tax rates and assessments is indicative of future trends, the PILOT revenues associated with office development should be attainable, assuming the realization of all the underlying economic and real estate variables. As noted previously, for certain time periods, particularly during forecast economic downturns, full taxes are likely to grow by less than the projected rate of 3.5%. Over the longer 25-year period, however, the growth rates in both Class 4 billable assessed values (5.2% from 1985 to 2017, Appendix C-2) and market comparables (4.5% from 1981 to 2017, Exhibit 3-28) imply that the projected 3.5% growth rate used in the revenue model would likely compensate for these downturns.

Cushman & Wakefield prepared a real estate analysis based upon data provided by third parties (which are relied upon and assumed to be reasonable and accurate) including forecasts provided by Moody's Analytics and tax methodology and calculations provided by New York City's Department of Finance, New York City's Office of Management and Budget, and the Hudson Yards Development Corporation. Cushman & Wakefield considers the revenue projections prepared by New York City's Office of Management and Budget to be reasonable.

The revenues are contingent on the realization of all the economic and real estate assumptions and analyses, existing zoning, and completion of key infrastructure, and are subject to limiting conditions that are sourced or detailed herein and in Chapter 1.B Limiting Conditions.

Chapter 4. Residential Market

Introduction and Findings

Cushman & Wakefield's residential analysis and forecast uses the methodology applied in the 2011 and 2006 reports, updated with data from 2011 through 2016 Q3. The objective of the analysis is to forecast residential demand over the forecast period (2017 – 2047) for the Hudson Yards.

Since the rezoning of the HY and even earlier, new inventory in the area helped meet Manhattan's housing demand, and is expected to continue to do so in the future. As envisioned in 2006, this evolving area links with established west side residential neighborhoods from Battery Park City to the Upper West Side. Between 2005 and 2016, 21 new or renovated properties were completed in the Hudson Yards comprising 7.6 msf and roughly 7,853 units. This represents an increase of 2,580 units since the 2011 report. Two additional properties with 607 units predate the rezoning, but contribute to HYIC, plus an additional 10 projects, totaling 2,317 units, are currently under construction. Some of New York's best-known developers are active in HY, continuing its transformation into a 24/7, mixed-use community.

The forecast of residential completions and associated revenues is summarized in Exhibit 4-1. The forecast of completions is suspended after 2028, by which time, the maximum residential capacity in HY will have been met. The forecast indicates that the residential component is expected to generate $9.7 billion through 2047, with $6.2 billion of this amount generated from residential buildings already completed and scheduled to TEP, as shown on Exhibits 4-1 and 4-1a. The analysis is detailed in the following text.

Exhibit 4-1. Hudson Yards Expected Annual Revenues From Completed Projects, 2017 – 2047

FY	Revenues ($)
2017	$38,580,304
2018	39,280,934
2019	45,409,277
2020	47,228,328
2021	50,110,717
2022	52,016,072
2023	56,591,600
2024	70,271,815
2025	78,132,026
2026	93,796,369
2027	103,704,007
2028	121,601,081
2029	138,668,922
2030	159,284,447
2031	178,988,749
2032	202,638,670
2033	223,150,879
2034	232,044,052
2035	250,173,079
2036	260,164,072
2037	278,168,651
2038	289,295,398
2039	300,867,213
2040	312,901,902
2041	325,417,978
2042	338,434,697
2043	351,972,085
2044	366,050,968
2045	380,693,007
2046	395,920,728
2047	411,757,557
TOTAL	**$6,193,315,587**

Shaded bars represent recessionary years per Moody's Analytics
Source: New York City Office of Management and Budget, New York City Department of Finance, Hudson Yards Development Corporation, Moody's Analytics, US Census, Cushman & Wakefield, Inc.

Exhibit 4-1a. Residential Actual and Forecast of Completions and Revenues, 2017 - 2047

FY	Completions SF	Units	Revenues ($)
2017	1,375,281	1,440	$38,580,304
2018	1,227,489	642	45,254,638
2019	860,466	637	57,750,255
2020	801,890	594	65,960,379
2021	767,401	568	75,421,535
2022	604,821	448	83,056,389
2023	538,512	399	93,197,257
2024	1,007,010	746	116,901,943
2025	1,091,113	808	136,243,427
2026	1,317,594	976	166,314,830
2027	1,273,631	943	191,189,193
2028	1,263,740	936	224,967,608
2029			245,573,120
2030			269,867,823
2031			293,398,469
2032			321,027,788
2033			345,678,572
2034			358,875,862
2035			381,481,171
2036			396,127,497
2037			418,973,623
2038			435,135,578
2039			451,944,011
2040			469,424,781
2041			487,604,782
2042			506,511,983
2043			537,570,332
2044			570,271,306
2045			603,948,674
2046			638,948,953
2047			673,332,233
TOTAL	**12,128,949**	**9,138**	**$9,700,534,315**

Shaded bars represent recessionary years per Moody's Analytics
Note: 2017 and 2018 completions comprise of projects that are under construction. See Exhibit 4-15
Note: Completions are suspended after 2028 due to reaching the maximum residential capacity in the HY, as detailed in the Executive Summary
Inclusive of revenues presented in Exhibit 4-1.
Source: New York City Office of Management and Budget, New York City Department of Finance, Hudson Yards Development Corporation, Moody's Analytics, US Census, Cushman & Wakefield, Inc.

The analysis of residential demand for HY focuses on Manhattan as the prime competitive market, as well as the key driver of demand generators. Since the rezoning of the Hudson Yards Special District in 2005 and the Western Rail Yard in 2009, substantial new residential development has been and continues to be added to this new neighborhood accommodating some of Manhattan's current and future housing demand.

This chapter analyzes Manhattan's residential market conditions and the potential for new residential development in the Hudson Yards and includes:

- Overview update of 2011 – 2016 Q3 New York City housing market
- Review of the Manhattan housing market's recent trends and development
- Analysis of housing demand generators in New York City with a focus on Manhattan and Hudson Yards
- Forecast of housing demand and production for 2017 – 2047

Overview of the New York City Housing Market

New York City's housing market is the largest in the nation. It is composed of a complex and diverse group of properties, including single-family townhouses, low-rise walk-up buildings, luxury high-rise towers, and converted commercial buildings. The majority of the housing market consists of rental units.

The City's inventory of 3.4 million units is comparatively old with 64.9% of occupied buildings completed before 1960[56]. Additionally, as one of the premier cities of the world, New York City accommodates a secondary market of many non-residents who use the City as an address for business and social purposes, but who are not counted as part of its population.

Over the past five years, the strong economy and employment growth has continued to generate demand for housing throughout the City. Demand for both rental and for sale housing units in Manhattan remains strong. The for sale condominium market has seen pricing metrics that are the highest on record, driven by the strong economy, readily available financing, low interest rate environment, and foreign investors.

Additionally, over the past several years, at least 4,700 market rate rental units have been converted or are in the process of being converted to condominiums in Manhattan. Such conversions have offset increases to inventory of rental units. This inventory reduction, combined with the small pipeline of rental development, has pushed potential renters to Brooklyn and Queens. As a result, prime neighborhoods in these two boroughs have witnessed strong rental rate growth and high absorption rates.

Interestingly, demand for urban housing by the millennial age sector has been a major trend supporting the urbanization of multifamily housing. Manhattan and Brooklyn have the largest share of millennials[57] who reside in many of the hip new residential neighborhoods such as the Lower East Side in Manhattan. In the outer boroughs, there has been very strong demand for housing in neighborhoods such as Brooklyn's Williamsburg, Bedford-Stuyvesant, Bushwick, and Greenpoint, as well as Long Island City in Queens. In these formerly underdeveloped areas, that consist primarily of older commercial and residential building stock, developers are constructing new and renovating existing buildings to accommodate demand by this large segment of the City's population. Overall, these prime neighborhoods have witnessed strong rental rate growth and absorption rates but are not expected to negatively impact demand for residential units in Hudson Yards.

[56] U.S. Census, American Housing Survey 2014
[57] As of 2015, millennials comprised 34.9% of Manhattan's population, and 31.5% of Brooklyn's population.

Rental and Occupied Inventory

The most recent Housing and Vacancy Survey (HVS) of 2014[58] reports a total housing market of 3.4 million units, of which 64.0%, or approximately 2.2 million, are rental units. Many of these rental units are governed by rent stabilization and rent control regulations at state and city levels. Tax abatement and incentive plans historically played a large role in shaping New York City's residential housing development, as do zoning laws and designations of historic preservation districts. The table below provides an overview of the City's housing inventory between 1996 and 2014, based on the surveys conducted every three years. Total owner housing units in the City comprise 30.4% of the units in 2014, less than half the national rate of ownership of 63.5%[59].

Exhibit 4-2. New York City Housing Inventory, 1996 – 2014

Inventory	1996	1999	2002	2005	2008	2011	2014	% Change 2011-2014
Total Housing Units	**2,995,275**	**3,038,797**	**3,208,587**	**3,260,856**	**3,328,648**	**3,352,041**	**3,400,093**	1.4%
Total Owner Units	857,764	932,123	997,003	1,031,780	1,045,953	1,014,940	1,033,226	1.8%
Owner Occupied	834,183	915,126	981,814	1,010,370	1,019,365	984,066	1,015,299	3.2%
Vacant for Sale	23,581	16,997	15,189	21,410	26,588	30,875	17,926	-41.9%
Total Rental Units	2,027,421	2,017,701	2,084,769	2,092,363	2,144,652	2,172,634	2,184,297	0.5%
Renter Occupied	1,946,165	1,953,289	2,023,504	2,027,626	2,082,890	2,104,816	2,108,838	0.2%
Vacant for Rent	81,256	64,412	61,265	64,737	61,762	67,818	75,458	11.3%
Total Vacant Units Not Available	110,090	88,973	126,815	136,712	138,043	164,000	182,571	11.3%

Source: New York City Housing and Vacancy Surveys

Home ownership rates vary across the boroughs from a low of 24.8% percent in Manhattan to 64.6% and 44.3% for Staten Island and Queens, respectively, as illustrated in Exhibit 4-3.

Exhibit 4-3. New York City OCCUPIED Housing Units – Rental and Owner by Borough, 2014

				Breakdown of Rental Units					
	Total Units Occupied	Total Owner Occupied	Total Renter Occupied	Total Controlled	Total Stabilized	Mitchell LAMA	Public Housing	All Other government Assisted/ Regulated*	All Unregulated Renter Housing
Percentage	100.0%	32.5%	67.5%	1.28%	47.80%	2.15%	8.77%	2.01%	37.99%
	3,124,137	**1,015,299**	**2,108,838**	**27,039**	**1,008,097**	**45,311**	**184,853**	**42,335**	**801,203**
Bronx	482,315	102,231	380,084	1,146	228,534	6,660	51,054	11,734	80,956
Brooklyn	932,192	270,647	661,545	7,292	295,557	17,378	60,059	11,367	269,891
Manhattan	761,269	189,100	572,169	14,845	283,907	14,585	53,530	13,822	191,480
Queens	784,771	347,567	437,204	3,756	189,343	5,148	15,857	3,000	220,100
Staten Island	163,590	105,754	57,836	0	10,756	1,540	4,353	2,412	38,776

*Includes HUD-regulated, In Rem, Article 4, Loft Board, and Municipal Loan

Source: New York City Housing and Vacancy Survey 2014

The City's rental housing stock can be categorized according to the numerous types of regulations and subsidies governing these properties. Initial regulations were instituted at the federal level during World War II and subsequently adopted in 1947 at the state level. Rent regulation was augmented in 1972 by rent stabilization laws that limit yearly increases within parameters set annually by the New York City Rent Guidelines Board. Other categories of regulated rental units fall under the Mitchell LAMA and public housing programs run by New York State or the U.S government. Market rate rentals make up the remainder of the rental housing stock.

[58] The Housing and Vacancy Survey is conducted every three years by the New York City Department of Housing Preservation & Development. The most recent, Housing New York City 2014 report, by Elyzabeth Gaumer, Assistant Commissioner, and Shereee West PhD, Senior Housing Analyst.

[59] Quarterly Residential Vacancies and Homeownership Third Quarter 2016, US Census Bureau

In the 1990s, incentives available under the 80/20 program encouraged developers to build rental buildings that contained a mix of market rate rentals and low-income units. The impact of these regulations is most evident in Manhattan where 66.5% of the occupied rental market is regulated in some form or another, second only to the Bronx with 78.7% of occupied units regulated, as shown in Exhibit 4-3.

In contrast to the regulated rental units, there are 801,203[60] other types of occupied rental units Citywide, representing 38.0% of all occupied rental properties, and 25.6% of the occupied housing stock.

Vacancy Rates

The rental vacancy rates in New York City are consistently well below the national average. The City's vacancy rate is calculated triennially in the HVS to determine if a housing emergency exists. According to state law, a housing emergency may be declared when the citywide vacancy rate falls below 5.0%.

Over the course of the last six HVS reports from 1999 to 2014, the vacancy rate in the City consistently averaged below 4.0%, and was 3.5% as of 2014[61]. Over the same period, vacancy rates in the nation were generally double this rate and reached 7.0% in 2014[62].

Exhibit 4-4. New York City and Borough Rental Vacancy Rates, 1999 – 2014

New York City Rental Vacancy Rate

	1999	2002	2005	2008	2011	2014
Manhattan	2.6%	3.9%	3.8%	2.7%	2.8%	4.1%
Brooklyn	3.3%	2.7%	2.8%	2.3%	2.6%	3.1%
Queens	2.1%	1.8%	2.8%	3.3%	3.8%	2.7%
Bronx	5.0%	3.3%	2.6%	3.1%	3.2%	3.8%
Staten Island	5.8%	2.4%	-	6.4%	6.7%	5.5%
Overall New York City	3.2%	2.9%	3.1%	2.9%	3.1%	3.5%

Note: Staten Island vacancy rates come from a small sample, so are likely to have large sampling error

Source: U.S. Bureau of the Census; New York City Housing and Vacancy Surveys

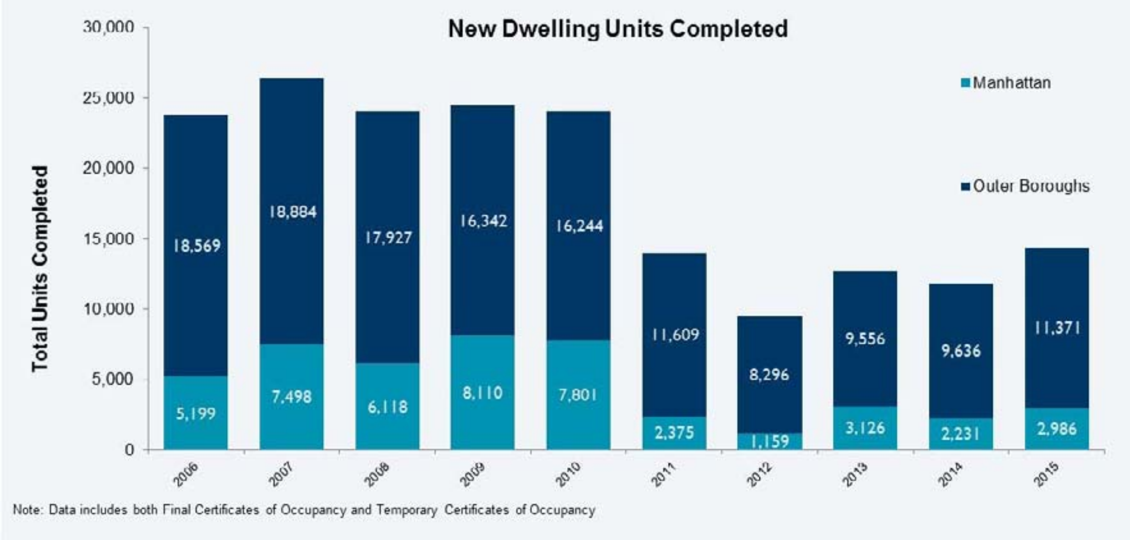
Recent Trends in New York City Housing

Growth in the City's housing market remains exceptionally strong and widespread across all five boroughs. Data on annual housing completions from the 2016 Housing Supply Report[63] indicates that over 62,000 new housing units were completed from 2011 through 2015 in New York City.

Exhibit 4-5 depicts the expansion years of 2006 and 2007 in which approximately 50,150 new housing units were completed throughout all five boroughs. The completions in 2009-2010 resulted from construction financing which was obtained prior to the recession, typically in the 2007-2008 period[64]. The lack of such financing during the 2008-2010 recession period resulted in a total of only 23,439 units completed in 2011 and 2012. This included only 3,534 units in Manhattan during a time period when the City's economy was experiencing very strong job growth.

[60] Inclusive of market rate, affordable, SRO, and other classifications of rental units
[61] The Housing and Vacancy Survey 2014
[62] US Census
[63] 2016 Housing Supply Report, published by New York City Rent Guidelines Board
[64] Following building permit approval, a new building is typically completed within 18-24 months.

Exhibit 4-5. New Housing Units Completed in New York City and Manhattan's Share, 2006-2015



Data from prior years is subject to adjustments based on current information.
Source: 2016 Housing Supply Report New York City Rent Guidelines Board

Overview of Manhattan's Housing Market

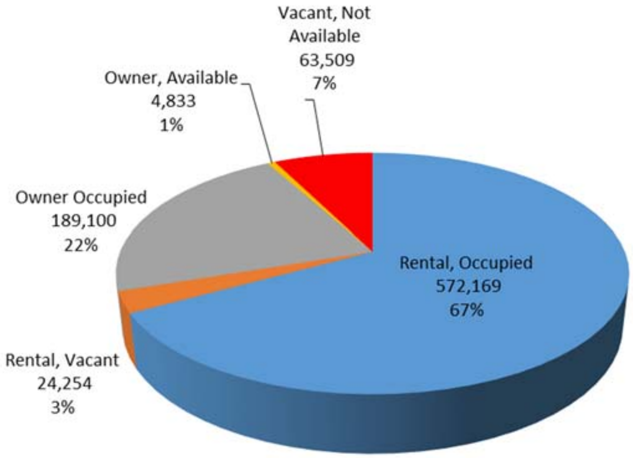
Residential development in Hudson Yards is expected to compete primarily with other development in Manhattan. A more detailed analysis of Manhattan's housing stock and the recent performance of the rental and for sale market is provided herein.

Composition of Manhattan's Housing Stock

Manhattan has very few single-family homes. Most Manhattan residents live in mid- or high-rise buildings in rental apartments that average less than 1,000 sf. Manhattan's occupied stock of 761,269 housing units remains heavily weighted towards rental units, which represent 75.2% of the occupied stock. Rent regulated units continue to comprise the majority of renter-occupied housing inventory for the borough at 380,689 units of the total occupied units.

Although rental units comprise the majority of Manhattan's housing stock, the share of owner-occupied units continues to rise. As of 2014, 22.0% of the total units in Manhattan were owner-occupied.

Exhibit 4-6: Share of Occupied Owner and Rental Units in Manhattan, 2014



Source: New York City Housing and Vacancy Survey 2014

Recent Trends in Manhattan's Housing Market

Over the past five years, Manhattan has continued to reflect the strong demand for housing. The number of building permits issued in each year has increased since the recession ended, although the volume of permits issued remains below historic averages. For example, the 5,435 permits issued in 2014 were fewer than those issued in any year during the expansion years of 2003 through 2008, but more than those issued in each year during the 2009 to 2013 time period[65]. The sharp increase in 2015 was driven in part by expiration of the state legislated 421-a tax exemption program, as well as the anticipated expiration or termination of the federal EB-5[66] incentive program. As such, developers rushed many potential projects through the approval process in order to secure these incentives. Permits issued through the first ten months of 2016[67] are considerably fewer with roughly 2,949 units in Manhattan, representing 24.0% of the 12,275 units overall in the City.

Housing demand overall has been very strong in New York City for decades. Manhattan's vacancy rate remains below 5.0%, and the existing housing stock is aging. The housing market is supply-constrained with high barriers to entry, including Manhattan's restrictive zoning, high construction costs, the density of buildings in general, and acquisition costs. The lack of construction financing, dating to late 2007 and continuing into 2011, curtailed the inventory completed and brought to market beginning in late 2010. Despite an increasing new development pipeline from 2011 through 2015, this represents only a small increase from the former peak of 8,110 units in 2009 as previously seen in Exhibit 4-5. A more recent impediment to housing development has been escalating land acquisition costs.

Demand for housing is generated by a primary market comprised of existing and new residents. In addition, secondary and tertiary demand is generated by suburban owners acquiring city pied-a-terres, as well as other domestic and international individuals or businesses that occupy housing in the City on an irregular basis. Since the 2011 report, the rise in the millennial demographic, many of whom work in the expanding TAMI and financial services industries, has increased demand for housing in an urban setting.

[65] New York City 2014 Housing Supply Report
[66] EB-5 is a federal program designed to stimulate the economy through job creation and immigrant capital investment in new commercial enterprises or troubled businesses.
[67] U.S. Census

Rental Market

Over the past five years, Manhattan's rental market has continued to maintain low vacancy rates and increasingly high rental rates. Manhattan's vacancy rate as reported in the HVS 2014 was 4.1%, as shown in Exhibit 4-4. Although this rate is higher than the 2011 survey rate of 2.8%, the vacancy rate is marginally above the 3.0 - 4.0% levels of the past two decades.

Rental rates for all unit types have increased over the past year, with studios witnessing the most significant growth. As illustrated in Exhibit 4-7, the average rent for one-bedroom and two-bedroom units increased by 1.1% and 1.2%, respectively, year-over-year, while the average rent for three-bedroom units rose by only 0.3%, according to Citi Habitats. The firm reports that the slowing rent growth among larger unit types coincided with an increase in the use of concessions. As of 2016 Q3, approximately 22% of leases included some type of concession. The rental market experienced a slowing growth pattern through 2016 Q3, which is not unusual following strong periods of rent growth.

Exhibit 4-7 Manhattan Rental Market Statistics, 2011 - 2016 Q3

	Q3 2016	Q2 2016	Quarterly % Change	Q3 2015	Annual % Change	Q3 2011	5-year % Change
Studio Rent	$2,366	$2,324	1.8%	$2,259	4.7%	$1,979	19.6%
One Bedroom Rent	$3,081	$3,114	-1.1%	$3,047	1.1%	$2,679	15.0%
Two Bedroom Rent	$4,127	$4,134	-0.2%	$4,078	1.2%	$3,707	11.3%
Three Bedroom Rent	$5,311	$5,322	-0.2%	$5,297	0.3%	$5,019	5.8%
Market-Wide Vacancy	1.82%	1.69%	-	1.51%	-	0.93%	-

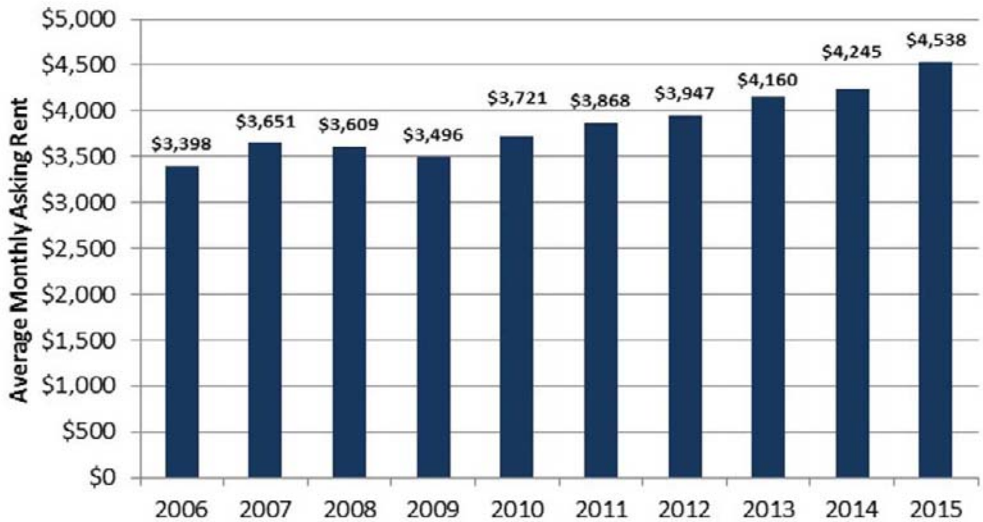
Source: Citi Habitats 2016

Average listings reached roughly 7,500 units in early 2009, before dropping below 4,000 units in late 2010. The average listing rental inventory has hovered around 5,900 units over the period of 2013 to 2015, gradually growing from the 2010 level, according to Prudential Douglas Elliman. As of 2016 Q3, there are a reported 7,517 units on the market.

Focusing on the Midtown West submarket as tracked by REIS[68] (inclusive of HY), monthly rental rates have continued to increase since 2011, rising from $3,868 to $4,538 in 2015, a 4.1% compounded annual growth rate, as shown on the following exhibit.

[68] *Midtown West Submarket Report, 3rd Quarter 2016* Reis, Inc. – submarket runs west of Park Avenue to the Hudson River, north to 59th Street and south to 14th Street. Reis tracks investment-grade market rate rental apartments.

Exhibit 4-8. Monthly Asking Apartment Rents, Midtown West, 2006 – 2015



Source: Reis, Inc., Cushman & Wakefield, Inc.

One of the main factors driving rental rate growth since the end of the recession has been the difficulty for many first-time homebuyers to enter the ownership market, particularly in Manhattan. This has been a result of the relatively low inventory of for sale product leading to rising prices. Consequently, these potential buyers are forced to remain in the rental market, driving competition for the existing rental inventory.

Prudential Douglas Elliman reports the average number of days that rental apartments are listed on the market, which peaked during the height of the past recession, in the fourth quarter of 2008 at 97 days. From this period through the first quarter of 2010, the average days on market ranged from 76 to 97 days. However, this metric substantially declined beginning in the second quarter of 2010. As of 2016 Q3, apartments stayed on the market for an average of 41 days[69].

According to Prudential Douglas Elliman, listing discounts for market-wide rentals more than doubled between the third and fourth quarters of 2008. This amount ultimately peaked at 9.5% during the second quarter of 2009. Since then, however, the average discount has largely stabilized between 1.0% and 5.0%. In the third quarter of 2016, apartments rented at a 2.2% discount to their listing price on average.

Exhibit 4-9. Manhattan Rental Market, 2011, 2015, 2016 Q2 and Q3

MANHATTAN RENTAL MARKET STATISTICS							
	Q3 2016	Q2 2016	Quarterly % Change	Q3 2015	Annual % Change	Q3 2011	5-year % Change
Days On Market	41	43	-4.7%	37	8.9%	58	-29.9%
Listing Inventory	7,517	7,007	7.3%	5,577	34.8%	4,605	63.2%
Listing Discount	2.2%	2.3%	-	1.3%	-	3.2%	-

Source: Prudential Douglas Elliman

Brokers expect the market to remain stable in the future, given the limited rental supply in the pipeline and higher land costs, which favors the construction of for sale product. The trend of developers converting buildings to condominium form of ownership is also a factor that will impact supply dynamics in the future.

[69] Prudential Douglas Elliman reports statistics on a monthly basis; Cushman & Wakefield has aggregated these stats to a quarterly basis.

Condominium and Cooperative Markets

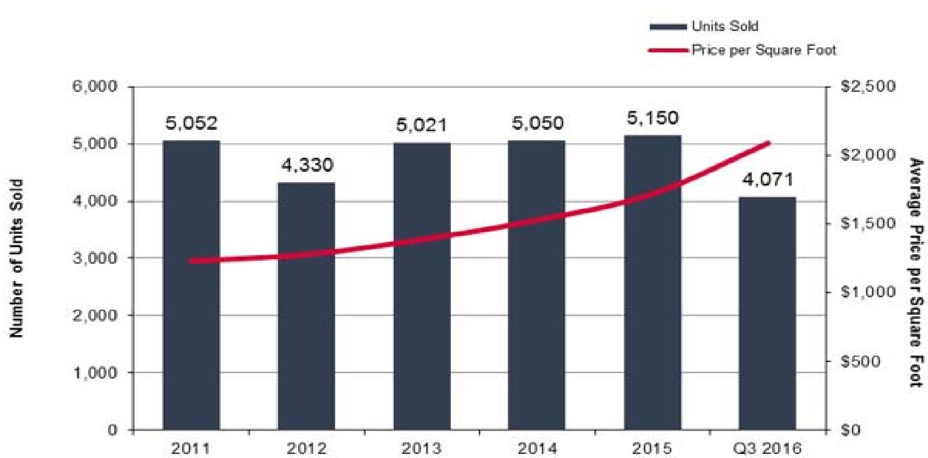
Condominiums and cooperative units comprise the vast majority of the 189,100[70] owner-occupied housing units in Manhattan, where single-family homes are an exception. Cooperative units encompass the bulk of these apartments (126,600), and are typically in excess of 60-years of age. Many luxury cooperatives are in pre-war style buildings with large format units. Owners of cooperative units are allocated shares in the corporation that owns the building. A purchaser receives a proprietary lease for the use of the apartment, often subject to other restrictions, including those that could affect liquidity, such as board approvals.

Condominium units (45,197) are purchased outright and a buyer is solely responsible for the apartment unit, meaning that the owner has the option to occupy the unit or rent it to an outside tenant (if permitted by the individual building's bylaws). Generally, buyers today prefer condominiums, as they own the unit rather than own shares in a corporation, and typically have more liquidity and fewer restrictions related to use and renovations. Most new for sale residential buildings are condominiums.

As a result of scarce construction financing in the period immediately following the most recent recession, there was little meaningful addition to the supply of condominiums in 2011 and 2012. Since 2013, condominium pricing has accelerated. This trend has been the result of sales inventory skewing towards more expensive product. Over the past five years, the average price for a condominium has increased from $1.65 million to $2.95 million according to Prudential Douglas Elliman, representing an increase of 78.5%. Similarly, Brown Harris Stevens reports that the average price per apartment has risen by 72.6% over that time period. Prudential Douglas Elliman reports strong growth for the median condominium price, showing a 52.4% increase over that time period.

The exhibit below shows fairly stable sales volume coupled with increasing prices per square foot since 2013, noting that 2016 numbers reflect activity only through Q3.

Exhibit 4-10. Manhattan Condominium Unit Sales, Volume and Price ($ psf), 2011 – 2016 Q3



Note: 2016 data reflects sales for nine months, versus annual data between 2011 and 2015
Source: The Douglas Elliman Report, Manhattan Sales 2011-2016

The number of new development units on the market declined from over 2,000 in 2010 to approximately 700 by the end of 2013. This trend occurred as increasing demand for condominium product met the relatively small development pipeline that resulted from the recession. Inventory began to rise in 2015, and remained fairly stable during the first half of 2015. In the second half of the year, however, new development listing inventory decreased significantly. Prudential Douglas Elliman reports that this recent trend was partially

[70] New York City Housing and Vacancy Survey 2014

caused by developers intentionally holding some units off the market. Inventory has gradually increased since that time period, with 973 units on the market as of 2016 Q3 as shown in the following exhibits.

Exhibit 4-11. New Development For Sale Units, Manhattan - Comparisons 2016 Q3, 2015 and 2011

New Development Market	Q3 2016	Q2 2016	Quarterly % Change	Q3 2015	Annual % Change	Q3 2011
Average Price / SF	$2,799	$2,577	8.6%	$2,111	32.6%	$1,231
Median Sales Price	$4,011,044	$2,693,271	48.9%	$2,048,341	95.8%	$1,100,000
Listing Inventory	973	990	-1.7%	765	27.2%	1,507

Source: Prudential Douglas Elliman; Cushman & Wakefield, Inc.

Exhibit 4-12. Manhattan New Condominium Development Inventory, Q2 2011–2016 Q3

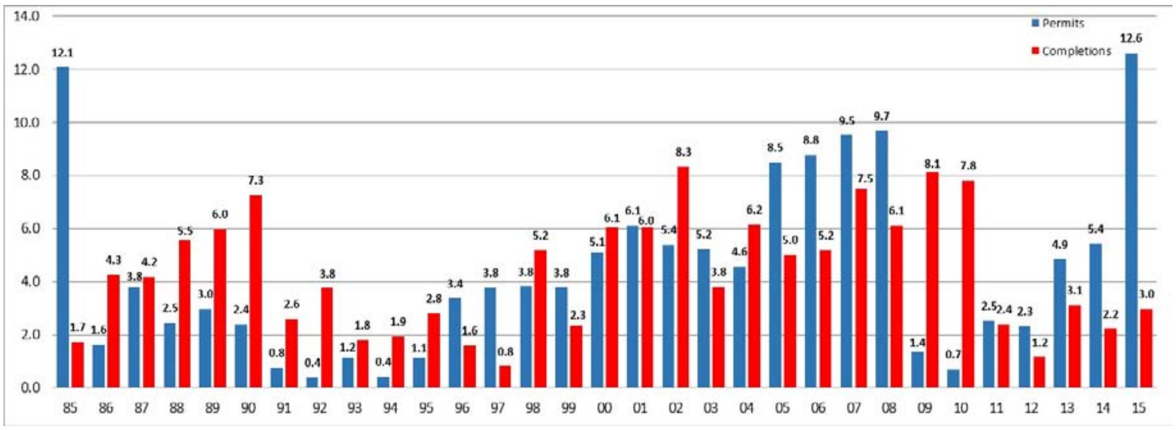
The major residential brokerage firms all report pricing metrics that are at or near the highest on record. In 2016, the market experienced a downturn in the number of ultra-luxury condominium sales, primarily due to global economic and political concerns. Sales of units priced under $5 million remain strong. New developments in the current market have also been well received with significant amounts of inventory being placed into contract during the construction period.

Development Trends

New supply is predicated on the issuance of building permits that lead to construction completions. Permits issued usually coincide with New York City’s economic growth cycles. In response to strong demand as well as the 421-a tax abatement program, between 2005 and 2008, 36,503 permits were issued in Manhattan. Following the onset of the recession, the number of permits issued in Manhattan fell drastically in 2009 and 2010, to 1,363 and 704 respectively. Permits issued rebounded to 12,612 in 2015 due primarily to the impending expiration of the 421-a program, which caused developers to seek approvals for projects before the program expired.

Subsequently, residential completions escalated following the expansion years of 2005-2008 reaching a high of 8,110 units in 2009. Completions fell dramatically to 1,159 units in 2012 and have only averaged 2,781 units annually through 2015, far less than the previous decade, as shown in Exhibit 4-13.

Exhibit 4-13. Permits Issued and New Residential Units Completed in Manhattan, 1985 – 2015 (in 1,000s)



Source: U.S. Census, New York City Department of City Planning, Cushman & Wakefield, Inc.

Two trends have heavily impacted development of rental units over the past several years. The first of these is the rising cost of land, making it difficult for a developer to purchase land and build rentals without subsidy. According to Halstead Property Development Marketing, only 1,738 units of rental housing were delivered in Manhattan in 2015. This represented a decrease of nearly 43% from the previous year. The second trend is the continued conversion of Manhattan rental buildings to condominium use.

Other factors that have also impacted development, particularly in Manhattan, are the City's restrictive zoning, and complications arising from new environmental regulations and building codes that impact changes in housing supply. Consequently, construction costs are typically far greater than the national average. These factors have significantly influenced the location and type of housing constructed, and, over the past few years, have resulted in an increasing preference by developers to construct luxury housing.

On average, 3,280 units were added annually from 2010 through 2015, well below the average of 4,237 units per year of the past 45 years. The residential market had experienced significant periods of similar slower average growth in the previous decades of the 1980s and 1990s, with five and eight years respectively of below average growth as shown in Exhibit 4-14.

Exhibit 4-14. Manhattan - Average Annual New Residential Completions by Decade, 1970 – 2015

Decade	Annual Average # Units	Number of Years below 4,237 Units
1970-1979	4,551	6
1980-1989	3,732	5
1990-1999	3,007	8
2000-2009	6,231	1
2010-2015*	3,280	5
Average 1970-2015	**4,237**	

* 6 Years

Source: 2016 Housing Supply Report, New York City Rent Guidelines Board

New building permits greatly declined between 2009 and 2012, which resulted in a significant decrease in the amount of supply entering the market between 2011 and 2014.

Hudson Yards Development, 2005 – 2016

Residential development was the first major new construction undertaken in the Hudson Yards district, even before the 2005 rezoning. Since that date, there has been a significant increase in building, with approximately 7,853 new or renovated residential units completed within HY, representing an increase of 2,580 units from the 5,273 total noted in the 2011 report. As shown in Exhibit 4-15, of the 7,853 units completed in the HY, approximately 6,276 are rental units and 1,577 are condominium units.

Today, HY is a cutting edge, vibrant and desirable west side residential and mixed-use neighborhood, framed by West 42nd Street to the north, Eighth Avenue to the east, and the High Line to the south. Particularly notable to the area is the completion of the #7 subway station at West 34th Street, which through connections at the Times Square and Grand Central stations, provides access to residents and employees to all north-south subway lines in Manhattan. The first office tower, 10 Hudson Yards, is occupied by a mix of tenants, and four additional towers are under construction, as further detailed in the Office Chapter. The adjacent Hudson Boulevard Park provides the first of several planned large open spaces for the neighborhood, along with additional amenities and other large west side development plans that are noted in the Executive Summary. The development progress in HY over the past five years has seen the area truly evolve into a neighborhood. This continued development is expected to further support new demand for housing, particularly from new employees who will occupy the large office buildings under construction.

The bulk of initial residential development has been clustered along West 42nd Street, and in the mid-West 30s blocks between Eighth and Tenth Avenues. Completed projects range from a 57-story luxury high rise to renovations of townhouses. Currently, 10 properties totaling over 3.0 msf and 2,317 units are under construction, plus 12 other developments noted as potential future sites, as shown in Exhibit 4-15. Some of the largest developments are underway or planned for the area around West 31st Street by Brookfield with 844 rental units, and Related's 545 West 30th Street with 391 condo and rental units.

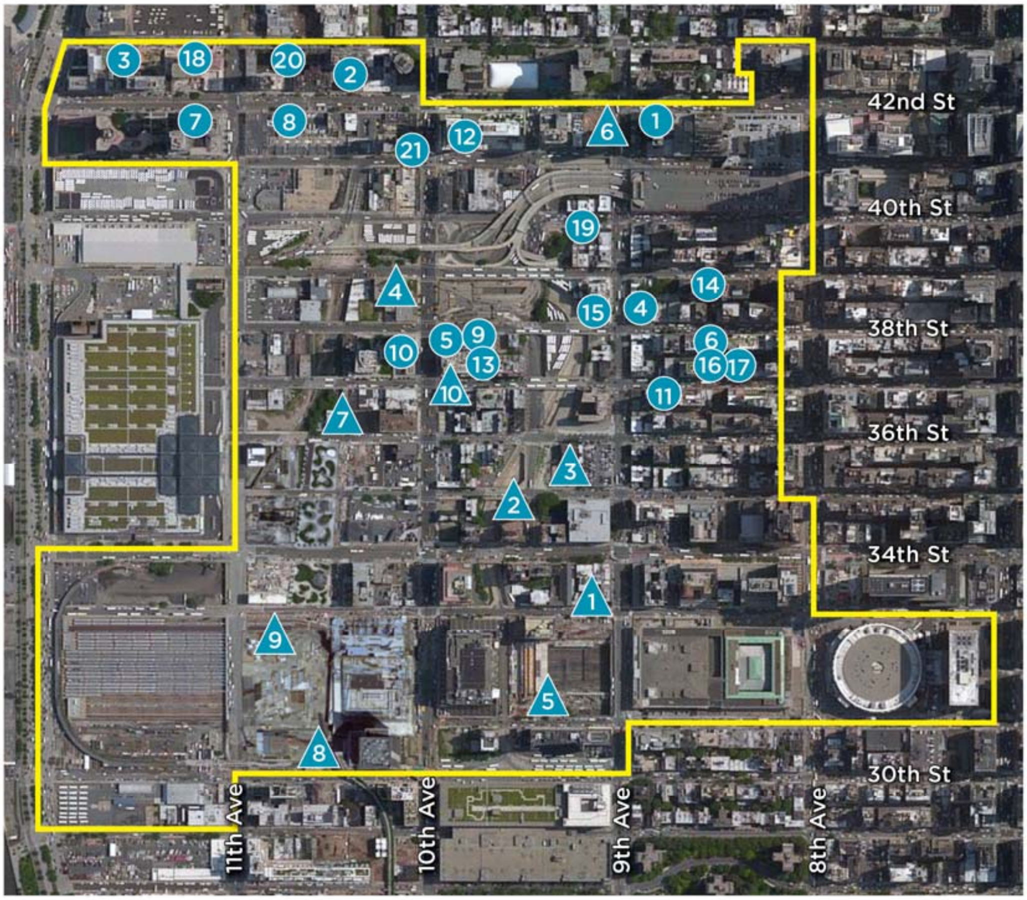
Exhibit 4-15. Residential Development within Hudson Yards Financing District, 2003- 2016 Q3

Developer/Owner	Building Name	Address	Use	SF*	Total # Units*	Completion Date (1)	Tax Exemption Periods
New Construction Projects Completed							
Extell	Orion	350 W. 42nd St.	Condo	508,695	555	2005	421-a 10 Yrs
Atlantic Development	Senior Living Options	521 W. 42nd St.	Affordable	94,132	73	2005	420c
Moinian Group	Atelier	635 W. 42nd St.	Condo	434,119	482	2006	421-a 10 Yrs
David Cohen	38Nine	502 9th Ave.	Condo	28,007	37	2008	421-a 10 Yrs
TF Cornerstone	455W37	455 W. 37th St.	Rental	440,709	399	2008	421-a 20 Yrs
Glenwood Management	Emerald Green	320 W. 38th St.	Rental	718,503	572	2009	421-a 20 Yrs
Silverstein Properties	Silver Towers	600 W. 42nd St.	Rental	1,049,441	1,362	2009	421-a 20 Yrs
Shao Lin Operating LLC	Deuce	534 W. 42nd St.	Condo	8,923	8	2009	421-a 10 Yrs
446 W. 38th Ltd.		446 West 38th Street	Rental	12,400	7	2009	N/A
TF Cornerstone	505W37	505 W. 37th St.	Rental	807,316	839	2010	421-a 20 Yrs
Lalezarian Developers Inc.	Townsend	350 W. 37th St.	Rental	170,978	210	2010	421-a 20 Yrs
Related Companies	MiMA	440 W. 42nd St.	Rental/Condo	1,147,432	972	2011	421-a 10 Yrs & 20 Yrs
Joy Construction/EQR	The Mantena	433 W. 37th St.	Rental	97,646	99	2012	421-a 10 Yrs
Glenwood Management	Crystal Green	330 West 39th Street	Rental	218,725	237	2013	421-a 20 Yrs
Assa	Galerie 515	511 9th Ave.	Rental	144,243	113	2014	421-a 10 Yrs
325 West 37th Street		325 West 37th Street	Rental	48,843	14	2015	N/A
Elk Investors	Sienna 37	321 W. 37th St.	Rental	82,354	78	2015	N/A
Moinian	SKY Rental	605 West 42nd St.	Rental	888,123	1,185	2016	421-a 20 Yrs
Extell Development	555 Tenth Avenue	555 Tenth Avenue	Rental	700,000	600	2016	N/A
Subtotal				**7,600,589**	**7,842**		
Renovation Projects Completed							
Dominique R. Singer		402 West 40th Street	Single Family	3,240	2	2006	N/A
43rd Partners Group LLC		552 W 43rd St.	Condo	12,030	9	2010	N/A
Subtotal				**15,270**	**11**		
Projects Substantially Completed At Time Of Rezoning That Make TEP Payments to HYIC (2)							
JD Carlisle	Olivia	315 W. 33rd St.	Rental	582,270	346	2003	N/A - expired
Equity Residential/Dermot	Hudson Crossings	400 W. 37th St.	Rental	214,594	261	2004	421-a 20 Yrs
Subtotal				**796,864**	**607**		
Total Residential Projects 2005-2016				**7,615,859**	**7,853**		
Total Residential Projects Contributing to HYIC As Of 12/2016				**8,412,723**	**8,460**		
Under Construction							
James Papionnou	Skylight House	411 9th Avenue	Rental	12,837	12	2017	
Joy Construction / Maddd Equities		445 West 35th Street	Rental likely	121,859	125	2017	
Joy Construction / Maddd Equities		411-421 West 35th	Rental likely	191,702	186	2017	
Shorenstein / Imperial		509 West 38th Street	Rental	243,689	225	2017	
Brookfield	Manhattan West	401 West 31st Street	Rental	586,322	844	2017	
Friedman Group / Landis Group	Pod Times Square	577 Ninth Avenue	Rental / Hotel	218,872	48	2017	
Lalezarian		515 West 36th Street	Rental	247,215	251	2018	
Related	15 Hudson Yards	545 West 30th Street	Condo / Rental	980,274	391	2018	
Related	35 Hudson Yards	560 West 33rd Street	Condo / Hotel / Office	413,990	137	2019	
Clinton Housing Development		480 Tenth Avenue	Affordable	N/A	98	2020	
Subtotal				**3,016,760**	**2,317**		
Other Potential Future Sites							
Happy Living		441 West 37th Street	Condo likely				
Chetrit		545 West 37th Street	Residential / Hotel				
BD Hotel		507 West 42nd Street	Rental				
Spitzer		451 Tenth Avenue	Office / Residential				
Spitzer		511 West 35th Street	Hotel / Residential				
Port Authority	-	431 West 33rd Street	Rental				
Siras / Kuafu	Hudson Rise	470 Eleventh Avenue	Residential / Hotel				
Rockrose Project		476 Eleventh Avenue	Rental				
Related		Western Rail Yard	Rental				
Related		Western Rail Yard	Condo				
McCourt		360 Tenth Avenue	Office / Residential				
Silverstein Properties		514 Eleventh Avenue	Rental				
Subtotal				-	-		

**SF & Number of Units may differ from 2011 Report due to updates provided by the Department of Finance*
(1) Refers to substantial construction completion
(2) Projects that were substantially completed prior to January 19, 2005 (date of Hudson Yards zoning adoption), but which had not obtained a Final Certificate of Occupancy as of that date, have their real property tax payments directed to HYIC in the form of Tax Equivalency Payments (TEP).

Note: 35 Hudson Yards is a mixed-use property comprised primarily of residential and hotel uses, with a small amount of office. It is therefore counted as a new building in both the residential and hotel chapters, with revenues allocated accordingly.
Source: Hudson Yards Development Corporation, New York City Office of Management & Budget, Cushman & Wakefield, Inc.

Exhibit 4-16. Residential Development within Hudson Yards Financing District



RESIDENTIAL

● *Completed 7.6 MSF*

1. 350 W 42nd St.
2. 521 W 42nd St.
3. 635 W 42nd St.
4. 502 9th Ave.
5. 455 W 37th St.
6. 320 W 38th St.
7. 600 W 42nd St.
8. 534 W 42nd St.
9. 446 W 38th St.
10. 505 W 37th St.
11. 350 W 37th St.
12. 440 W 42nd St.
13. 433 W 37th St.
14. 330 W 39th St.
15. 511 9th Ave.
16. 325 W 37th St.
17. 321 W 37th St.
18. 605 W 42nd St.
19. 402 W 40th St.
20. 552 W 43rd St
21. 555 Tenth Ave.

▲ *Under Construction 3.0 MSF*

1. 411 9th Ave.
2. 445 W 35th St.
3. 411-421 W 35th St.
4. 509 W 38th St.
5. 401 W 31st St.
6. 577 Ninth Ave.
7. 515 W 36th St.
8. 545 W 30th St.
9. 560 W 33rd St.
10. 480 Tenth Ave.

Note: 35 Hudson Yards comprises primarily of residential and hotel use. These are counted as separate buildings within each of their respective categories.
Source: Hudson Yards Development Corporation, Cushman & Wakefield, Inc.

HY is situated between two other expanding neighborhoods, Chelsea to the south and Clinton to the north. Both areas have seen new residential construction, as well as an increase in the expanding commercial corridors along Eighth, Ninth and Tenth Avenues.

Area amenities abound. The popularity of the High Line, an elevated park built on a former rail line running from Gansevoort Street to the southwestern edge of HY and to the Javits Center, has brought over 20 million visitors[71] to the area. The public-private partnership that developed the 1.45-mile park opened the first section in 2009 and the last in 2014. Friends of the High Line manage approximately 450 programs and events annually. The High Line's fame has been a major impetus for the many new residential high rises built along the park, including a hotel that straddles the park as well as adjacent commercial buildings. The new Whitney Museum, sited at the southern entry of the High Line, opened in 2015, bringing more visitors to the park and the greater HY area. These neighborhoods are further linked together via the Hudson River Park, the longest waterfront park in the nation at roughly four miles along the Hudson River from Chambers Street to West 59th Street. The park comprises public piers and a waterfront esplanade, and offers numerous recreational and educational activities including bike paths, dog parks, kayaking, carousels, playgrounds and ball fields. The park attracts over 17 million visitors a year.

Significant new employment generators in the surrounding areas include Google at 111 Eighth Avenue, and Coach and Sidewalk Labs & Intersection at 10 Hudson Yards. Additional tenants committed to moving to HY over the next two to three years include Milbank, Tweed, Hadley & McCloy, the National Hockey League (NHL), and Skadden Arps Slate Meagher & Flom, as further detailed in the Office Chapter.

Other amenities include the open space and parks to be constructed in the Eastern and Western Rail Yards, as well as Related's 1.0 million square foot shopping center anchored by Nieman Marcus. The increase in new developments and amenities continues to support the evolution of HY as a prime new residential enclave.

Incentives For New Housing

Government programs that provide incentives to develop new affordable housing units have been utilized to produce new housing in HY. Although expired, a revised 421-a program is expected to be reenacted in 2017, and is assumed to be available for all future eligible housing in HY.

421-a Tax Abatement Program

The 421-a tax abatement program is a state law administered by the City's Department of Housing, Preservation and Development to promote multi-family residential construction by providing a declining exemption on the increase in assessed value resulting from the improvement. As the program was set to expire on June 30, 2015, almost two-thirds of permits issued in Q2 were for projects expecting to use the 421-a abatements. When the program was extended through January 2016, permits for new buildings rose again in 2015 Q4.

The most recent version of a potential replacement for the 421-a program was proposed in Governor Cuomo's January 2017 financial plan, following negotiations between the Governor, the Real Estate Board of New York, and the Building and Construction Trades Council of Greater New York. The bill included additional options through which developers can receive enriched benefits.

Under the proposal, eligible rental development projects would receive tax abatement for 35 years, comprised of 100% abatement for 25 years, with an exemption for the next 10 years based on the percentage of affordable units built. In exchange for the abatement, developers would need to designate 25% to 30% of a project's

[71] Visitor numbers since opening in 2009, per *The High Line Fact Sheet* by The Friends of the High Line

residential units as affordable, and comply with the affordability regulations and restrictions for a period of 35 years.

In addition, developers building qualified projects with at least 300 units in Manhattan south of 96th Street or in the waterfront areas of Brooklyn and Queens must abide by a payroll and benefits schedule for construction workers. Developers in these areas that abide by the labor agreement will be entitled to a 35-year 100% abatement. The projects receiving the enriched benefits would need to comply with the affordability regulations for a period of 40 years.

The potential structure to this proposed 421-a legislation has yet to be approved by the New York State Legislature. In the meantime, new developments completed under the expired 421-a program are expected to contribute to HY revenues as the exemptions burn off.

It is assumed that any potential replacement of 421-a legislation will not be available to new condominium projects in Hudson Yards.

An additional consideration for a potential replacement program will be the current practice regarding a diminution of benefits for certain large commercial spaces. Presently, if a building contains space used for commercial, community facility, or accessory uses that exceed 12% of the aggregate floor area of the development (inclusive of below grade areas), there is a diminution in the benefits equal to the amount in excess of the 12% threshold. This does not include parking located up to 23 feet above curb level.

For the purposes of this analysis, it is assumed that the new program will be enacted and available to HY, and eligible projects will qualify for the 100% exemption for 25 years, and a 25% exemption for the next 10 years, for a total benefit period of 35 years.

Two-thirds of the total residential development is assumed to be rental units that receive the 421-a, 35-year tax abatement program. This ratio is consistent with the historic overall ratio of rental units to owner-occupied units in New York City.

Residential Forecast

Future demand for new housing is grounded in household growth as forecast by Moody's Analytics, a replacement factor to account for housing stock removed from inventory, socio-economic or "churning" mobility changes, and tertiary demand from non-resident second-home and business pied-a-terres.

Residential Demand Generators

Household population growth is typically the greatest demand generator for new housing units. For the nation as a whole, the relationship between new housing units and household formation has been fairly stable over time and has typically been close to 1.1 to 1.0, indicating a direct relationship between housing demand and households formed.

In Manhattan, however, the ratio between housing units and household formation has been more volatile. This implies that demand for new housing is driven by other factors in addition to household growth. Data on housing completions and household formation in the U.S. and Manhattan over the 45-year period from 1971 to 2015 is shown in Exhibit 4-17 and summarized in five time intervals.

Exhibit 4-17. Housing Completions & Change in Households, Manhattan & United States, 1971-2015

U.S.				
Period	Completed Units	Change in HH	Difference Completed Units Households	Ratio Completions/ Change Households
1971-2015	63,969,600	59,230,543	4,739,057	1.1
1971-1980	17,130,400	16,939,926	190,474	1.0
1981-1990	14,702,800	11,557,737	3,145,063	1.3
1991-2000	13,566,700	13,532,691	34,009	1.0
2001-2010	14,719,200	11,236,191	3,483,009	1.3
2011-2015*	3,850,500	5,963,998	(2,113,498)	0.6

Manhattan				
Period	Completed Units	Change in HH	Difference Completed Units Households	Ratio Completions/ Change Households
1971-2015	191,729	106,579	85,150	1.8
1971-1980	45,664	17,219	28,445	2.7
1981-1990	41,275	11,920	29,355	3.5
1991-2000	28,871	22,222	6,649	1.3
2001-2010	64,042	25,202	38,840	2.5
2011-2015*	11,877	30,016	(18,139)	0.4

*Due to the Decennial U.S. Census, data is not available for this time period, Moody's Analytics Household data was utilized

Source: Moody's Analytics, 2016 Housing Supply Report, Rent Guidelines Board, US Census

While the ratio of housing completions and household demand over the 1971 to 2015 period has averaged 1.1 for the nation, in Manhattan this ratio has averaged 1.8 due to the surge of new completions between 2001 and 2010[72]. This latter decade, inclusive of the expansion years prior to the recession, saw the ratio of completions to change in households increase to 2.5. The subsequent decline to 0.40, between 2011 and 2015, was likely the result of delayed completions following the recession. Over the time period 2001 – 2015, reflective of both economic downturn and expansion years, the ratio of completions to the change in households was 1.4. This discrepancy between household formation and housing completions can be attributed to three other factors examined on the following page. A qualitative analysis is used for these factors when quantitative data was unavailable.

[72] These years include development cycles as well as a substantial increase in permitting likely due to the change in the 421-a housing abatement program that occurred in 2007.

Replacement Housing

As previously noted, Manhattan's housing stock is considerably older than the rest of the U.S., with 60.9% of units constructed prior to 1960[73]. A portion of this stock is likely in need of replacement. Typically for the nation, a replacement standard for inadequate housing of 1.0% of the existing stock is used[74]. This standard may not be as applicable to Manhattan, given the unique characteristics and age of its housing stock, the legislative requirements regarding rent regulated tenants (who are entitled to a replacement unit when buildings are demolished), and landmark designation of historic buildings.

Second Homes

In addition to this replacement factor, a share of housing demand and completions in Manhattan is driven by non-resident demand for second homes. As a global city, Manhattan attracts many non-residents who may have homes here, but who do not necessarily establish residency in the City. Individual professionals and corporations own pied-a-terres in Manhattan without being residents. Additionally, since New York City residents are subject to personal income taxes, there are strong incentives for those who have multiple homes in the New York area to declare residency outside the City.

Approximately 7.0% of Manhattan's overall housing stock is not considered occupied due to factors relating to occasional uses such as pied-a-terres, vacation and seasonal homes. This number does not, however, necessarily include homeowners who for tax purposes maintain residency outside the City.

Churning of Housing Stock

New housing demand is also driven by "churning" and socio-economic upward mobility as households combine units together creating the need for larger accommodations. No known data is available to quantify this demand component.

Hudson Yards Residential Demand Forecast and Likely Construction

Forecast Demand Methodology

For the purposes of estimating future housing demand in Manhattan the aggregate ratio of housing completions to household formation was used as the key demand factor[75] in the forecast. A ratio of completions to change in households of 1.6 is used in the analysis. This reflects the approximate midpoint between the Manhattan ratio of completions to change in households from the entire historic period 1971-2015 of 1.8 and the Manhattan ratio of 1.4 from the more recent years of 2001-2015.

The methodology used is summarized below.

- The change in households in Manhattan, or net household formation, provided by Moody's Analytics was multiplied by the 1.6 ratio of completions to households to obtain Manhattan's overall estimated housing demand each year.
- Hudson Yards is assumed to capture an 8.0% share of Manhattan's future housing demand for the first five years of the forecast. In 2022, the share to HY is increased to 12.0%, and remains at that level for the remainder of the forecast.
- The 8.0% initial share considers that in the past five years, HY experienced significant development due to the former 421-a incentive program and lower land costs than some other areas.

[73] American Community Survey, 2015
[74] American Housing Survey, 2013
[75] The other factors discussed are more qualitative than quantitative estimates

- The 12.0% share beginning in 2022 is supported by Hudson Yard's completion of 5,540 units between 2006-2015, equaling 11.9% of Manhattan's total 46,603 units during that period. The increase in 2022 also considers the expected completion of approximately five office towers and 1.0 msf of destination retail space.
- Future construction is assumed to take place based on permits over a two-year period, resulting in units completed with an average construction period of 18 to 24 months.
- A weighted average of approximately 1,350 gross square feet (sf) per unit (inclusive of common hallway areas and other structures such as elevator shafts and HVACs) and amenity spaces such as swimming pools and gymnasiums, was used to obtain the total square footage of development. This was based on an average apartment size of 2,050 sf for condominium units and a smaller 1,000 sf per unit for 80/20 units, and assumes a two to one ratio of rental to condominium units[76].

Forecast Hudson Yards Residential Completions

The annual housing demand and completions are shown in Exhibit 4-18. The total forecast for residential construction from 2017 through 2028 is 9,138 units, or an approximate annual average of 762 units. The total forecast for residential construction over the entire forecast period is reflective of the significant increase in household growth as forecast by Moody's Analytics[77]. The forecast of 9,138 units, when combined with completions through 2016, would result in 16,991 new or renovated residential units in HY. The forecast of completions is suspended after 2028 due to the maximum residential capacity in HY as noted in the Executive Summary.

[76] This assumes that condominiums account for one-third of all units.
[77] *See Chapter 2.*

Exhibit 4-18. Hudson Yards Expected Housing Demand and Completions, 2017 – 2047

	Units Demand	Units Supply	Estimated Square Feet Completed
2017	637	1,440	1,375,281
2018	594	642	1,227,489
2019	568	637	860,466
2020	448	594	801,890
2021	399	568	767,401
2022	746	448	604,821
2023	808	399	538,512
2024	976	746	1,007,010
2025	943	808	1,091,113
2026	936	976	1,317,594
2027	*831*	*943*	1,273,631
2028	*686*	*936*	1,263,740
2029	-	-	-
2030	-	-	-
2031	-	-	-
2032	-	-	-
2033	-	-	-
2034	-	-	-
2035	-	-	-
2036	-	-	-
2037	-	-	-
2038	-	-	-
2039	-	-	-
2040	-	-	-
2041	-	-	-
2042	-	-	-
2043	-	-	-
2044	-	-	-
2045	-	-	-
2046	-	-	-
2047		-	-
Total 2017-2047	**8,574**	**9,138**	**12,128,949**

*Shaded gray bars represent recessionary periods

Note: 2017 and 2018 completions comprise of projects which are under construction. See Exhibit 4-15
Source: Moody's Analytics, 2014 Housing Supply Report, New York City Rent Guidelines Board, Cushman & Wakefield, Inc.

The demand results are driven by the assumptions on population and household formation growth provided by Moody's Analytics.

The residential buildings in Hudson Yards have created a direct connection to the residential neighborhoods of Chelsea, Clinton and the Upper West Side. The 2005 and 2009 zoning resolutions allow residential development in areas primarily east of the Hudson Boulevard Park, the Western Rail Yard, and portions designated in new mixed-use buildings, such as the building under construction at 35 Hudson Yards.

Taxes and revenues associated with residential development are expected to flow to the Hudson Yards Infrastructure Corporation (HYIC) in the form of Tax Equivalent Payments (TEP). This assumes developers will take advantage of the assumed new 421-a tax abatement program that provides for significant tax abatements for a period of 35 years for eligible projects. Seven of the earliest buildings that took advantage of the former 421-a program are coming off exemptions and beginning to pay TEP to HYIC, and one property, the Olivia at 315 West 33 Street, is paying full TEP as of FY 2016/2017[78], as previously illustrated in Exhibit 4-15.

Based on the analysis, C&W estimates potential completions of 12.1 msf of new residential space in the Hudson Yards by 2028. Revenues from residential development are expected to total more than $9.7 billion. The annual forecast of expected residential completions and revenues in the Hudson Yards is shown in Exhibit 4-20.

C&W incorporated the analysis, assumptions and factors detailed in this chapter in reviewing the revenues derived from new residential development in the Hudson Yards.

Residential Revenues Forecast - Methodology and Assumptions

Tax revenues associated with residential property development will accrue to HYIC in the form of TEP, and appropriated annually by the City Council[79]. Revenues associated with residential development are expected to account for over 34.6% of the overall $28.0 billion in revenues generated by HY construction completions and non-recurring revenues. These projections are the result of two major inputs into the City's revenue model used to calculate the revenues from 2017 to 2047.

Projected Demand is defined in msf and number of units as derived earlier in this chapter. The projections provided by C&W rely on underlying demographic and economic forecasts provided by Moody's Analytics (Chapter 2) that were used as inputs along with key real estate and zoning variables and assumptions on infrastructure improvements.

C&W incorporated the following assumptions and factors to support the revenue estimates for new residential development in the Hudson Yards.

<u>Infrastructure</u>: Projected demand includes availability and use of the #7 subway station, completed in 2015, and the adjacent Hudson Boulevard Park, phase one, from West 33rd to West 36th Streets. Other complementary amenities include the previously noted public spaces in the Manhattan West and Eastern and Western Rail Yards development, as well as Hudson River Park and The High Line.

<u>Zoning</u>: The projected demand assumes that zoning for the Hudson Yards District[80] regarding maximum FAR and DIB bonus remains in place throughout the analysis period. It is also assumed that future changes to City zoning will not materially affect Manhattan's overall development potential. Significant changes to zoning that affect competitive markets to Hudson Yards, other than those identified in this report, could potentially result in lower revenues than forecast.

Taxes were generated from new residential development in Hudson Yards by multiplying the projected new units by the projected taxes per unit.

[78] New York City Office of Management and Budget
[79] Pre-considered Res. No. 760 adopted by the City Council on January 19, 2005
[80] Refer to the New York City Zoning Resolution, Article IX. Special Purpose Districts, Chapter 3. Special Hudson Yards District

Tax Programs: C&W reviewed the assessment mechanism, tax policies[81] and incentive programs used to determine the tax rates and TEP payments in the revenue model.

Market Comparables: C&W reviewed relevant market comparables as shown in Exhibit 4-19 for condominium units and rental units used to determine projected taxes.

Hudson Yards Residential Property Tax Analysis

In order to compute the revenues associated with new residential development, estimates of land and building assessments for new residential properties (Class 2) in Hudson Yards were determined based on tax comparables of existing residential properties.

Exhibit 4-19 shows the comparables for 80/20 rental units and market rate condominiums. In the case of the 80/20 rental units, the comparable buildings used are located within or near HY, providing a direct comparison for future residential units in the district. For condominiums, comparables located in HY are limited and thus comparable buildings from other areas were also used and an average value was assigned.

[81] An overview of New York City property taxes and assessment mechanism is provided in Appendix C.

Exhibit 4-19. Manhattan Residential Condominium and Rental Comparables, 2016/2017

Building	Average MV** Per Unit	Average MV Per SF	Average AV** Per SF	Average Land AV Per SF***
Orion	$346,798	$412.38	$185.57	$3.01
38NINE	$279,944	$384.49	$173.02	$14.57
Atelier	$256,768	$321.43	$144.65	$20.37
Clinton West	$166,812	$261.37	$117.62	$12.16
The Link	$355,516	$367.01	$165.16	$2.45
Platinum	$417,518	$387.29	$174.28	$7.20
Dillon	$639,639	$450.68	$202.81	$51.80
The 505	$151,287	$221.89	$99.85	$17.17
Hudson Hill Condominium	$308,925	$242.25	$109.01	$29.76
Lumiere	$239,939	$301.06	$135.48	$18.61
100 Eleventh Avenue	$692,754	$352.37	$158.57	$38.38
200 Eleventh Avenue	$1,091,133	$385.90	$173.65	$7.83
Stella Tower	$498,882	$316.62	$142.48	$10.37
505 West 19th Street	$1,061,343	$464.04	$208.82	$62.51
231 10th Avenue	$720,864	$441.79	$198.81	$9.31
Walker Tower	$904,532	$302.47	$136.11	$7.42
Average	$508,291	**$350.82**	$157.87	**$29.48**

Hudson Yards 80/20 Rental Unit Comparables

Building	Average MV Per Unit	Average MV Per SF	Average AV Per SF	Average Land AV Per SF
Hudson Crossing	$215,598	$262.22	$118.00	$5.39
The Olivia	$532,742	$331.09	$148.99	$14.92
Emerald Green	$349,788	$278.47	$125.31	$18.79
River Place I	$178,040	$185.88	$83.65	$23.97
River Place II	$203,725	$254.22	$114.40	$26.67
455 West 37th Street	$202,662	$183.48	$82.57	$14.32
505 West 37th Street	$221,436	$230.13	$103.56	$22.30
Ohm	$277,115	$267.48	$120.37	$19.16
The Townsend	$267,781	$328.90	$148.00	$19.74
Abington House	$256,995	$290.29	$130.63	$12.82
Average	$270,588	**$261.22**	$117.55	**$19.19**

*Excludes retail components of mixed-use developments.

**MV=Market Value, AV=Assessed value as determined by the New York City Department of Finance

***The land assessed value for several comparables is below the typical range due to 421-a tax abatements and have been excluded in the analysis of an overall average.

Source: New York City Department of Finance, Hudson Yards Development Corporation, Cushman & Wakefield, Inc.

As shown in the preceding table, the analysis results in an implied Department of Finance average market value of $350.82 psf for condominiums and $261.22 psf for 80/20 rentals and average assessed land values of $29.48 and $19.19 psf, respectively.

Projected Growth Rates in Property Taxes

The revenue model assumes that market values (and therefore taxes since tax rates are held constant) grow by 4.0% annually over the forecast years, 2017 to 2047. Total taxes are obtained by multiplying the forecast market value psf by a constant assessment ratio of 45% and a constant tax rate of $12.892[82]. The portion exempt from total assessment by properties qualified under the prior 421-a program and the assumed new 421-a are subtracted from assessed values to determine total tax revenues associated with Class 2 properties.

[82] Based on 2016/2017 tax rate data provided by the New York City Department of Finance and Office of Management and Budget.

Hudson Yards Residential Tax Revenues

As shown in Exhibit 4-20a, the annual residential completions forecast and the revenues associated with residential development in Hudson Yards are expected to total 12.1 msf and $9.7 billion, respectively. This revenue is inclusive of $6.2 billion generated from residential buildings already completed and scheduled to TEP, as shown on Exhibit 4-20. Rental properties account for two-thirds of overall expected new units, and growth in tax revenues from the assumed new 421-a units is initially low because of the assumed longer exemption schedule.

Exhibit 4-20. Hudson Yards Expected Annual Revenues From Completed Projects, 2017 – 2047

FY	Revenues ($)
2017	$38,580,304
2018	39,280,934
2019	45,409,277
2020	47,228,328
2021	50,110,717
2022	52,016,072
2023	56,591,600
2024	70,271,815
2025	78,132,026
2026	93,796,369
2027	103,704,007
2028	121,601,081
2029	138,668,922
2030	159,284,447
2031	178,988,749
2032	202,638,670
2033	223,150,879
2034	232,044,052
2035	250,173,079
2036	260,164,072
2037	278,168,651
2038	289,295,398
2039	300,867,213
2040	312,901,902
2041	325,417,978
2042	338,434,697
2043	351,972,085
2044	366,050,968
2045	380,693,007
2046	395,920,728
2047	411,757,557
TOTAL	**$6,193,315,587**

Shaded bars represent recessionary years per Moody's Analytics
Source: New York City Office of Management and Budget, New York City Department of Finance, Hudson Yards Development Corporation, Moody's Analytics, US Census, Cushman & Wakefield, Inc.

Exhibit 4-20a. Residential Actual and Forecast of Completions and Revenues, 2017 - 2047

FY	Completions SF	Units	Revenues ($)
2017	1,375,281	1,440	$38,580,304
2018	1,227,489	642	45,254,638
2019	860,466	637	57,750,255
2020	801,890	594	65,960,379
2021	767,401	568	75,421,535
2022	604,821	448	83,056,389
2023	538,512	399	93,197,257
2024	1,007,010	746	116,901,943
2025	1,091,113	808	136,243,427
2026	1,317,594	976	166,314,830
2027	1,273,631	943	191,189,193
2028	1,263,740	936	224,967,608
2029			245,573,120
2030			269,867,823
2031			293,398,469
2032			321,027,788
2033			345,678,572
2034			358,875,862
2035			381,481,171
2036			396,127,497
2037			418,973,623
2038			435,135,578
2039			451,944,011
2040			469,424,781
2041			487,604,782
2042			506,511,983
2043			537,570,332
2044			570,271,306
2045			603,948,674
2046			638,948,953
2047			673,332,233
TOTAL	**12,128,949**	**9,138**	**$9,700,534,315**

Shaded bars represent recessionary years per Moody's Analytics
Note: 2017 and 2018 completions comprise of projects which are under construction. See Exhibit 4-15
Note: Completions are suspended after 2028 due to reaching the maximum residential capacity in the HY, as detailed in the Executive Summary
Inclusive of revenues presented in Exhibit 4-20.
Source: New York City Office of Management and Budget, New York City Department of Finance, Hudson Yards Development Corporation, Moody's Analytics, US Census, Cushman & Wakefield, Inc.

Residential Revenues Forecast – Summary of Assumptions and Risks

Demand - In assessing the revenue projections for residential property taxes, C&W provided the forecast for residential completions based on projections of households provided by Moody's Analytics.

421-a Program and other tax legislation – The projected feasibility of condominiums is not predicated on the incentives offered under the 421-a program. For rental buildings, feasibility assumes the availability of the new 421-a tax abatement program in 2017/2018. It is assumed in the City's revenue model that developers take advantage of the 421-a program for new rental construction and benefits would be backdated to fiscal year 2017 if enacted in 2018.

It is further assumed that the annual appropriation of revenues associated with new residential development is assigned to HYIC by the New York City Council. If this does not occur and the revenues are not appropriated to HYIC, future revenue streams are likely to be lower than shown in Exhibit 4-20.

Growth Rates - The assumption used in the revenue model of forecast growth rate in market values and assessments of 4.0% per year over the forecast period is reasonable, based on the 5.7% average growth rate in assessed value for Class 2 properties from 1985 to 2017 (Appendix C-2).

The economy's cyclical nature could cause growth in any given year to deviate from this long-term trend. The last five years of 2012-2016 saw a strong increase due to rising rental rates and sales prices, whereas tax revenues declined following the 1990s recession by 3.0% on average in the years 1993 through 1996.

Cushman & Wakefield prepared a real estate analysis based upon data provided by third parties (which are relied upon and assumed to be reasonable and accurate), including forecasts provided by Moody's Analytics and tax methodology and calculations provided by New York City's Department of Finance, New York City's Office of Management and Budget, and the Hudson Yards Development Corporation. Cushman & Wakefield considers the revenue projections prepared by New York City's Office of Management and Budget to be reasonable.

The revenues are contingent on the realization of all the economic and real estate assumptions and analyses, existing zoning, and completion of key infrastructure, and are subject to limiting conditions that are sourced or detailed herein and in Chapter 1.B Limiting Conditions.

Chapter 5. Hotel Market

Introduction and Findings

Cushman & Wakefield, Inc. has prepared an updated hotel market analysis and forecast with emphasis on trends and data from year-end 2011 through the third quarter of 2016. This chapter analyzes the changes during this period, concentrating on New York City and particularly Manhattan.

Between 2006 and 2011, Hudson Yards added 2,228 hotel rooms, or 892,000 sf (average room size of 401 sf). Hudson Yards has continued to grow as a vibrant hotel submarket extension of the larger Midtown hotel base. From 2011 to 2016, approximately 1,984 rooms and 858,000 sf have been added to the Hudson Yards (average room size of 432 sf). The increase in average room size is indicative of the maturing of the HY hotel market and that developers (and occupants) want more upscale boutique hotels[83] (which typically have larger rooms). These new hotels, fueled by both strong demand and readily available financing are examples of the recent development preference for limited-service and upscale boutique product that have multiplied throughout the City since 2006. In addition, demand has also been driven by the completion of 10 Hudson Yards, the continued leasing and construction of other office projects, the completion of the High Line, and the expansion/renovation of the Javits Convention Center.

The strong hotel market fundamentals position Hudson Yards to continue as an extension of Midtown's hotel growth. C&W estimates demand for approximately 2.4 msf of new hotel development and over 5,900 rooms, in Hudson Yards from 2017 through 2047, or about 25.7% of the projected overall increase of 22,947 hotel rooms for Manhattan. This forecast supply, when combi35 Hudson Yards, a ned with hotels built since 2006 and those currently under construction, would yield approximately 10,128 rooms and 4.1 msf of hotel inventory within HY.

TEP received to date and projected revenues presented herein are inclusive of TEP paid by six non-hotel properties in the HY. These properties include 424 West 33rd Street, 521-523 West 37th St, 505-507 West 38th Street, 405 West 39th Street, 501 10th Avenue, and 536 West 39th Street. Forecast revenues from TEP are expected to total almost $4.0 billion, increasing from approximately $35.2 million in 2017 to $195.1 million in 2047. Revenues from properties already paying TEP are expected to be $35.2 million in 2017, increasing to $73.9 million in 2047 (and are included in the Forecast).

C&W incorporated the analysis, assumptions and factors detailed in this chapter in reviewing the revenues derived from new hotel development in HY. The annual revenue forecast of completed hotel projects currently in the HY district and paying TEP and the forecast of expected hotel completions and revenues in the Hudson Yards are shown in Exhibits 5-1 and 5-1a, respectively.

[83] See Appendix D for a definition of hotel property types.

Exhibit 5-1 Hudson Yards Expected Annual Revenues From Completed Projects, 2017 – 2047

FY	Revenues ($)*
2017	$35,240,118
2018	36,121,121
2019	37,024,149
2020	37,949,753
2021	38,898,497
2022	39,870,959
2023	40,867,733
2024	41,889,427
2025	42,936,662
2026	44,010,079
2027	45,110,331
2028	46,238,089
2029	47,394,041
2030	48,578,892
2031	49,793,365
2032	51,038,199
2033	52,314,154
2034	53,622,008
2035	54,962,558
2036	56,336,622
2037	57,745,037
2038	59,188,663
2039	60,668,380
2040	62,185,089
2041	63,739,717
2042	65,333,209
2043	66,966,540
2044	68,640,703
2045	70,356,721
2046	72,115,639
2047	73,918,530
Total Through 2047	**$1,621,054,985**

Shaded bars represent recessionary years per Moody's Analytics
Source: New York City Office of Management & Budget, NYC Department of Finance, Smith Travel Research, and Cushman & Wakefield, Inc.

Exhibit 5-1a Hudson Yards Expected Annual Hotel Buildings Completion and Revenues, 2017 – 2047[84]

FY	Completions (GSF)	Revenues ($)*
2017	872,304	$35,240,118
2018	629,078	36,121,121
2019	430,503	59,376,716
2020	83,066	77,384,095
2021	62,621	90,908,698
2022	-	95,473,632
2023	-	99,631,713
2024	-	102,122,506
2025	21,083	104,675,569
2026	21,293	107,292,458
2027	21,506	110,632,993
2028	21,721	114,080,243
2029	21,939	117,637,694
2030	22,158	121,308,949
2031	22,380	125,097,729
2032	-	129,007,879
2033	-	133,043,374
2034	22,603	136,369,458
2035	22,829	139,778,695
2036	23,058	144,154,490
2037	23,288	148,670,746
2038	23,521	153,332,072
2039	23,756	158,143,225
2040	-	163,109,127
2041	-	168,234,861
2042	-	172,440,733
2043	-	176,751,751
2044	-	181,170,545
2045	-	185,699,809
2046	-	190,342,304
2047	-	195,100,861
Total through 2047	**2,368,708**	**$3,972,334,166**

**Revenues are for NYC Fiscal Year.*

GSF = Gross Square Feet

Shaded bars represent recessionary years per Moody's Analytics
Source: New York City Office of Management & Budget, NYC Department of Finance, Smith Travel Research, and Cushman & Wakefield, Inc.

[84] The C&W forecast was suspended at 2039 due to the maximum hotel development capacity in HY.

The hotel market analysis focuses on the underlying fundamentals that support the demand for overnight accommodations in Manhattan, focusing on the 2006 – 2016 time period. Specifically, the study examines the expected penetration and resulting market share capture for hotel rooms located in the Hudson Yards district. Such development is expected to augment the recent and on-going development in Hudson Yards district as discussed herein.

This chapter reviews recent Manhattan hotel fundamentals, and analyzes the potential for new hotel development in HY, including:

- Overview of the New York City hotel market
- Updated 2011 – 2016 overview of Manhattan's hotel market, recent and current conditions
- Assessment of current supply and development trends
- Forecast of hotel demand for 2017 – 2047

New York City Hotel Market Overview

New York City, particularly Manhattan, is one of the most significant business and cultural capitals in the world, and is ranked first in the Global Cities Index[85]. New York City is one strongest hotel markets in both the nation and the world. As a global destination city, visitors are drawn to its many famous cultural and entertainment attractions. The City's hotel industry also gathers strength from Manhattan's status as the largest business center in the nation. Business and leisure travel generated by New York's marquee industries, including finance, advertising, media and technology, fashion, and its numerous educational, cultural and medical institutions, provide diverse demand throughout the year. New York City further benefits from substantial convention and association visitation at dedicated convention facilities, hotels, universities, and non-traditional venues.

New York City's tourism industry has been a major growth driver over the past several years. As reported by NYC & Company, the City visitor's bureau, in 2015, 58.5 million tourists visited the City, a 3.5% increase over the 2014. Additionally, in 2015 visitor spending increased to roughly $42.2 billion, or by 2.4% over the amount in 2014. This upward trend is expected to continue through 2016 and beyond and lends further support of the greater New York City area as a global financial, media, entertainment, and cultural hub which leads to high levels of hotel-room-night demand.

In addition to major leisure traveler attractions, Manhattan accounts for nearly two-thirds of New York City's total employment and contains the nation's largest Central Business District (CBD)[86]. The City's high visitation rate and resultant high economic activity translate into strong demand for hotel rooms. In fact, the occupancy levels of hotel rooms are typically among the highest in the nation. Manhattan's annual average hotel occupancy rate in 2015 was 86.3%, 20.7 percentage points higher than the national average of 65.6%, according to Smith Travel Research[87] (STR).

[85] The Global Cities Index conducted annually, by A.T. Kearney. New York City also ranked first in 2014 and 2015
[86] Manhattan's CBD comprises Midtown and Downtown, as defined in Chapter 3.
[87] Smith Travel Research (STR) is the market source for hotel related performance data in the United States

While the market can be subject to wide swings, as evidenced by the global financial crisis experienced in 2008-2009, revenue per available room (RevPAR)[88] in Manhattan has steadily increased towards the historical peak level of $258.32 achieved in 2008; despite the continued development of lodging facilities throughout the New York City area and the advent of home-sharing sites such as Airbnb.

As of year-end 2015, Manhattan had a total of approximately 89,338 hotel rooms out of the roughly 114,982 hotel rooms in New York City (inclusive of all five boroughs). These figures represent a 2.6% and a 3.2% increase, respectively, over the year-end 2014 supply. STR reported 92,736 rooms in Manhattan in 2016 Q2.

Looking at the nation's top 10 metropolitan markets as of 2016 Q2 in Exhibit 5-2, New York City is ranked first in terms of RevPAR and average daily rate (ADR), and is tied with the San Francisco area for the highest occupancy rate at 83.9%. Oahu Island (Hawaii), is virtually tied with New York and San Francisco with an occupancy rate of 83.8%. Manhattan's ADR of $254.71 and its RevPAR of $213.61 are 9.1% higher than the next closest market[89].

Exhibit 5-2. Hotel Occupancy, ADR, and RevPAR
Top 10 Metropolitan Markets in U.S., 2016 Q2

Market	Rooms	Occupancy	Average Rate	RevPAR
New York, NY	92,736	83.9%	$254.71	$213.61
San Francisco, CA	51,694	83.9%	$233.40	$195.72
Oahu Island, HI	28,156	83.8%	$218.12	$182.83
Miami-Hialeah, FL	52,637	79.7%	$212.14	$169.08
Los Angeles, CA	97,975	81.9%	$170.49	$139.60
Boston, MA	52,792	71.8%	$185.34	$133.14
Washington, DC-MD-VA	108,471	73.0%	$158.61	$115.84
San Diego, CA	61,084	76.8%	$150.24	$115.42
New Orleans, LA	38,715	72.4%	$159.22	$115.24
Anaheim-Santa Ana, CA	56,002	77.9%	$146.36	$113.97

Source: Smith Travel Research
Note: New York market in the above table refers to Manhattan only as of 2016 Q2

Since the 2011 study, the boroughs of Brooklyn and Queens have continued to capture much of the displaced demand as well as the airport-generated demand, but do not capture sufficient room-nights to have a material impact on Manhattan's overall performance. The New York City hotel market supply was estimated to have approximately 115,000 available rooms throughout all five boroughs as of 2016 Q2, with Manhattan accounting for approximately 92,736 rooms or more than 80.6% of the total room supply. Hotel development in HY would, therefore, be driven by dynamics within the Manhattan market, to which the following analysis is limited.

Investment activity for hotels in New York City since 2011 has remained strong, with 2015 representing what may be pointed to as the peak of the current cycle. According to the data from Real Capital Analytics (RCA) the average sale price per room in 2015 was $786,103, with over five hotels selling for more than $1,000,000 per room. While the number of hotels sold increased in 2016 by roughly 35.0%, the majority of the hotels changing hands consisted of limited service properties. As a result, total sales volume declined considerably, with an average price of $514,910 per room, highlighted by only two hotels that sold for over $1,000,000 per room; the Andaz 5th Avenue and JW Marriott Essex House.

[88] Revenue per available room (RevPAR) is total daily hotel room revenue divided by the number of available rooms - occupancy times average room rate is a close approximation of RevPAR.
[89] Note that Exhibit 5-2 refers to cities in contrast to Exhibits 5-4, 5-5, and 5-6 which are Manhattan only

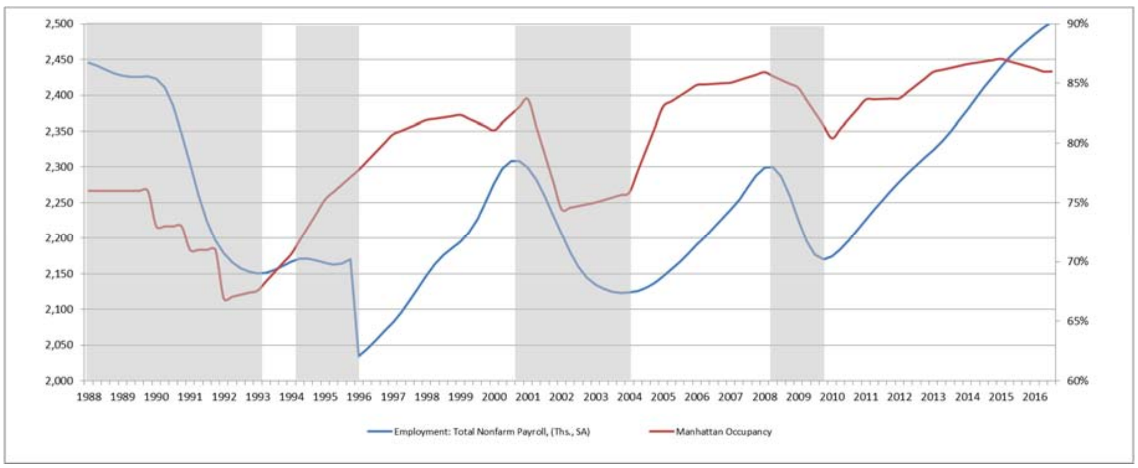
Foreign investment continues to be important for hotel transactions. Private and sovereign fund investors from the Middle East and China were active hotel buyers in 2015. Institutional buyers and private equity groups, however, are recognized as the leading acquirers of hotels in 2016. Manhattan remains the most active hotel transaction market in terms of volume. While activity has been somewhat impacted due to rising interest rates and increased supply, the New York City hotel market is expected to remain attractive due to the strong occupancy and RevPAR statistics.

Manhattan Hotel Market Overview

Hotel demand has been very strong in New York City, specifically in Manhattan, for decades. While overall demand for hotel rooms (or change in occupied rooms) is expected to grow, the current hotel room supply- even with many recent additions – is extremely tight. Manhattan is continuing to experience positive occupancy growth since the declines suffered from the 2008 through 2009 recession. As of year-end 2015, Manhattan occupancy reached almost 86.3%, just below the historic peak of 87.1% in 2014. Remarkably, the occupancy rate has remained higher than 80.0% since 2004[90].

Manhattan remains one of the world's most popular leisure and business traveler destinations. The visitor levels have closely followed the ups and downs of the economic cycles and employment figures, as shown below.

Exhibit 5-3. Manhattan Hotel Occupancy and Total Employment, 1987 – 2016 Q3



Shaded bars reflect recession periods.
Source: Smith Travel Research, Moody's Analytics, Cushman & Wakefield, Inc.

The hotel market weathered the last economic downturn fairly well even as the occupancy rate declined in 2008 and ADR dropped precipitously in 2009 to $236.90. Influenced by lower ADR, however, occupancy reversed course and quickly increased, with Manhattan ADR growing to $287.94 as of the end of 2015.

Over the past 20 years, the occupancy of available hotel rooms has held in the low to mid-80s% range with the exception of 2001 to 2003, following 9/11. Looking over the 30-year period of 1987 to 2016 (including the historic time frame considered in the 2006 and 2011 reports), occupancy has remained greater than 70.0% in all but two years. Partially due to declining hotel room supply from 2004 through 2006[91], coupled with a strong

[90] Based on New York City hotel statistics prepared by Smith Travel Research
[91] During this period, a number of hotels were demolished or converted to other uses including The Mayflower, The Plaza, The Mark and The Drake, as noted in the 2006 C&W report. Hotels are demolished based on antiquated structures or changes in the highest and best use of a specific site.

economy through late 2007, occupancy increased 10 percentage points from 2003 through 2007, as shown in Exhibit 5-4. Since 2012, occupancy has remained above 86.0%.

Exhibit 5-4. Manhattan Hotel Supply, Demand, Occupancy, Average Daily Rate and Revenue per Available Room, 1996 – 2016 Q3

Year	Supply (Units)	% Change	Demand (Room Nights)	% Change	Occ %	% Change	ADR	% Change	RevPAR	% Change
1996	57,038	-----	16,552,381	-----	79.5%	-----	$ 160.76	-----	$ 127.82	-----
1997	57,645	1.1%	17,149,435	3.6%	81.5%	2.5%	$ 176.72	9.9%	$ 144.04	12.7%
1998	57,545	-0.2%	17,168,464	0.1%	81.7%	0.3%	$ 197.16	11.6%	$ 161.16	11.9%
1999	59,612	3.6%	17,577,905	2.4%	80.8%	-1.2%	$ 207.54	5.3%	$ 167.67	4.0%
2000	60,867	2.1%	18,513,128	5.3%	83.3%	3.1%	$ 222.47	7.2%	$ 185.38	10.6%
2001	63,930	5.0%	17,371,914	-6.2%	74.4%	-10.7%	$ 194.58	-12.5%	$ 144.86	-21.9%
2002	65,615	2.6%	17,924,708	3.2%	74.8%	0.5%	$ 184.59	-5.1%	$ 138.16	-4.6%
2003	66,899	2.0%	18,503,037	3.2%	75.8%	1.2%	$ 180.26	-2.3%	$ 136.60	-1.1%
2004	66,589	-0.5%	20,087,767	8.6%	82.6%	9.1%	$ 200.10	11.0%	$ 165.38	21.1%
2005	65,594	-1.5%	20,263,129	0.9%	84.6%	2.4%	$ 231.22	15.6%	$ 195.69	18.3%
2006	64,753	-1.3%	19,917,863	-1.7%	84.3%	-0.4%	$ 265.66	14.9%	$ 223.88	14.4%
2007	65,857	1.7%	20,489,789	2.9%	85.2%	1.1%	$ 297.94	12.2%	$ 253.97	13.4%
2008	67,221	2.1%	20,686,963	1.0%	84.3%	-1.1%	$ 306.31	2.8%	$ 258.26	1.7%
2009	70,739	5.2%	20,708,842	0.1%	80.2%	-4.9%	$ 236.90	-22.7%	$ 190.01	-26.4%
2010	74,475	5.3%	22,688,885	9.6%	83.5%	4.1%	$ 256.34	8.2%	$ 213.96	12.6%
2011	78,811	5.8%	24,037,261	5.9%	83.6%	0.1%	$ 270.59	5.6%	$ 226.11	5.7%
2012	80,313	1.9%	25,199,080	4.8%	86.0%	2.9%	$ 277.49	2.5%	$ 238.53	5.5%
2013	82,402	2.6%	26,050,414	3.4%	86.6%	0.8%	$ 285.80	3.0%	$ 247.54	3.8%
2014	87,047	5.6%	27,660,150	6.2%	87.1%	0.5%	$ 292.05	2.2%	$ 254.25	2.7%
2015	89,338	2.6%	28,124,807	1.7%	86.3%	-0.9%	$ 287.94	-1.4%	$ 248.35	-2.3%
Avg Annual % Change		2.4%		2.8%		0.4%		3.1%		3.6%
2016 Q3	93,149	5.0%	21,864,837	5.2%	86.0%	0.2%	$ 265.32	-3.7%	$ 228.13	-3.5%

Source: Smith Travel Research.

The Manhattan hotel market has experienced fluctuations but displays a general upward trend over the last 20 years. RevPAR has increased 3.6% on a compound annual basis for Manhattan hotels, indicating a strong and steadily growing market.

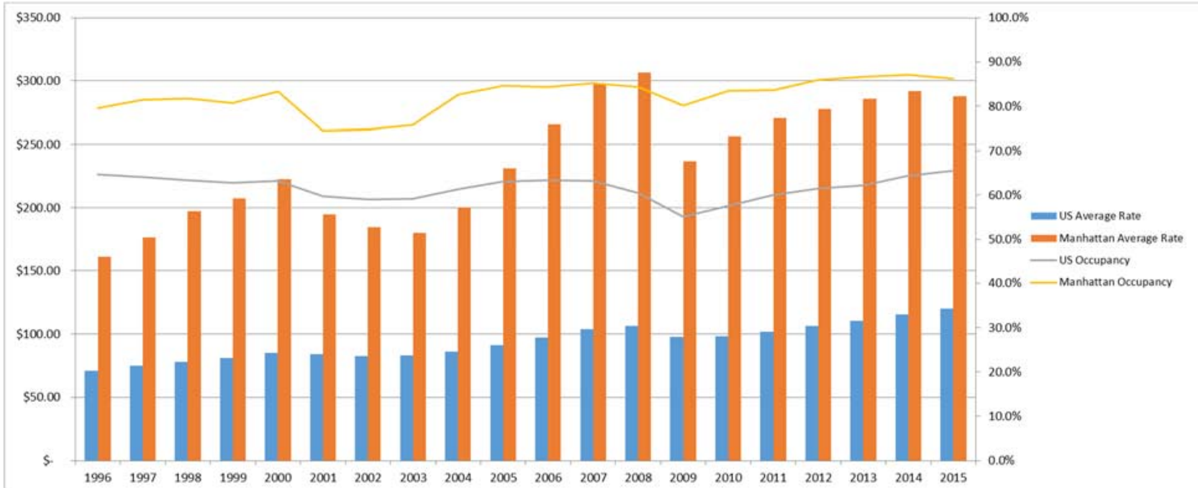
The market expanded from 1995 through 2000, before transitioning into a decline for three years. Subsequently, the market re-entered a growth phase until the beginning of the downturn in September 2008. While Manhattan remained insulated through 2008, the impact was significantly felt in 2009 with RevPAR declining by 26.4%. Since 2010, the market has rebounded swiftly with increases in supply and demand of 20.3% and 24.4%, respectively.

Since 2010, the Manhattan market has absorbed a significant amount of new supply (14,863 rooms). This has led hotel operators to focus on maintaining occupancy at the expense of ADR growth. In 2015, for the first time since 2009, supply marginally outpaced demand. Considering the market's history, this is not considered to be indicative of a long-term trend as applications for new hotels have dropped 77.3% from the peak amount in 2014. Furthermore, it is important to note that the redevelopment of the Waldorf-Astoria Hotel, expected to commence in March 2017, will remove over 1,400 guest rooms from Manhattan with approximately 300 returning as hotel rooms (estimated 2020) and the remainder will be converted to residential condominiums[92]. This decline in rooms is expected to benefit new hotel supply around Manhattan.

The strength of Manhattan's hotel market is illustrated again by comparing it to national averages as shown in Exhibit 5-5. Over the past 20 years, Manhattan has typically experienced faster and more protracted increases in ADR while maintaining occupancy levels longer and stronger than the nation as a whole. As of 2015, Manhattan's average ADR of $287.94 continues to far outpace the national average of $119.97.

[92] Other potential hotels that have been rumored for demolition include the Park Lane, the Roosevelt Hotel, and The Pennsylvania Hotel, however, no immediate plans have been announced for any of these hotels.

Exhibit 5-5. Hotel Occupancy and Average Daily Room Rate
Manhattan and the United States, 1996 – 2015



Source: Smith Travel Research, Cushman & Wakefield, Inc.

Between 2006 and 2016, Manhattan has witnessed a 41.2% increase in demand in the face of a 38.0% increase in supply, diminishing worries that growth in demand would not keep pace with that of supply.

Manhattan Hotel Submarkets and Development Trends

STR divides Manhattan into six hotel submarkets, namely: Midtown West/Times Square, Midtown East, Village/SoHo/Tribeca, Midtown South, Uptown, and Financial District. Notable information on each submarket is presented below and on the following pages.

Midtown West / Times Square

Most important to the Midtown West/Times Square hotel market is the commercial demand generated by the significant amount of occupied office space. Midtown West is defined as the area between West 41st and 59th Streets west of Fifth Avenue. Midtown contains many of the city's largest office buildings, retail stores, residential buildings, theaters, and hotels making it the busiest Central Business District in the United States. More than 2.3 million people work in Manhattan daily, with the majority in Midtown. In addition, thousands of international, regional and out-of-town visitors and tourists travel to Midtown to avail themselves of the myriad theatrical, tourist and entertainment offerings of the Broadway/Times Square Theater District. As of 2015, Midtown West experienced an ADR of $289.16 and accounts for 38.4% of Manhattan's hotel supply.

Midtown East

Also at the core of the Midtown Manhattan market is Midtown East, defined as the area between East 24th and 59th Streets east of Fifth Avenue. The submarket is home to many notable attractions, including: Grand Central Terminal, Chrysler Building, the United Nations complex, and St. Patrick's Cathedral. Of late, the hotel market in Midtown East has been overshadowed by submarkets like Midtown South and the Financial District, as well as the expansion of Hudson Yards. Notable to Midtown East is the previously discussed potential rezoning[93].

[93] See chapter 3

As of 2015, Midtown East experienced an ADR of $320.69 and accounts for 15.6% of Manhattan's hotel supply.

Village/SoHo/Tribeca

Village/SoHo/Tribeca is defined as the area between Worth and 20th Streets. The submarket is characterized primarily by its retail and residential development, but is also home to a high concentration of boutique and luxury hotels, producing the second highest ADR in Manhattan behind the Uptown Submarket. Attractions include: New York University, Washington Square Park, and several museums. As of 2015, Village/SoHo/Tribeca experienced an ADR of $311.02 and accounts for 9.1% of Manhattan's hotel supply.

Midtown South

Midtown South is defined as the area between 24th and 36th Streets spanning across Manhattan. Notable attractions include Madison Square Garden and the Empire State building. A significant portion of the HY is located within this submarket. Midtown South benefits from numerous cultural amenities, and a mix of office, retail, and residential uses. As of 2015, the Midtown South submarket experienced an ADR of $241.36 and accounts for 23.5% of Manhattan's hotel supply. In terms of occupancy, Midtown South ranked highest in Manhattan in 2015, at an average occupancy of 87.8%.

Uptown

Uptown is defined as the area north of 59th Street, running alongside Central Park and beyond. It has the highest ADR among all six of the Manhattan submarkets, due to the number of luxury hotels found in the area, most notably the Upper West Side and Upper East Side. Visitors come for attractions such as: Lincoln Center, Beacon Theatre, several museums, Columbia University, and Central Park. As of 2015, the Uptown submarket experienced an ADR of $354.84 and accounts for 7.0% of Manhattan's hotel supply.

Financial District

The Financial District (also referred to as the "Downtown" submarket) is defined as the area south of Chambers and Worth Streets and is home to many of New York City's major financial institutions, the New York Federal Reserve Bank, and the New York Stock Exchange. Attractions in the area include the Oculus, Battery Park City, and the 9/11 Memorial & Museum. As a result of the rapid decline in office occupancy at Downtown properties directly following September 11, 2001, the City initiated multiple business incentives in order to provide Downtown with a competitive advantage to retain current and attract new residents and businesses. As of 2015, the Financial District had 5,734 hotel rooms, a considerable increase over the 2,627 rooms recorded in 2006. This increase in hotel rooms, coupled with the addition of new retail and a significant number of residential buildings, has helped the area become a 24/7 community. As of 2015, the Financial District submarket experienced an ADR of $272.09 and accounts for 6.4% of Manhattan's hotel supply as of 2015.

The following tables illustrate the historical major operating metrics for these submarkets. The time frame includes two downturns when the Manhattan market suffered a three-year decline after 2001, and the deeper recession in 2008 through 2009. Overall, however, occupancy, ADR and RevPAR, have shown strong historical growth across all submarkets. Focusing on the 2011 – 2015 period, the Financial District has experienced the strongest supply change growing at an compounded annual rate of 7.96%.

Exhibit 5-6. Manhattan Hotel Supply, Demand, Occupancy, ADR and RevPAR Historic Trends by Submarket, 1995[94] – 2016 Q3

Midtown West / Times Square

Year	Supply (Units)	% Change	Demand (Room Nights)	% Change	Occ %	% Change	ADR	% Change	RevPAR	% Change
1995	26,138	-----	7,724,365	-----	81.0%	-----	$ 150.13	-----	$ 113.98	-----
1996	26,011	-0.5%	7,801,352	1.0%	82.2%	1.5%	$ 156.04	3.9%	$ 126.95	11.4%
1997	25,787	-0.9%	7,904,964	1.3%	84.0%	2.2%	$ 172.05	10.3%	$ 142.61	12.3%
1998	25,559	-0.9%	7,851,071	-0.7%	84.2%	0.2%	$ 189.04	9.9%	$ 160.18	12.3%
1999	25,953	1.5%	7,821,697	-0.4%	82.6%	-1.9%	$ 199.69	5.6%	$ 165.51	3.3%
2000	26,250	1.1%	8,180,926	4.6%	85.4%	3.4%	$ 228.95	14.7%	$ 186.91	12.9%
2001	27,412	4.4%	7,848,349	-4.1%	78.4%	-8.1%	$ 181.86	-20.6%	$ 148.70	-20.4%
2002	28,339	3.4%	7,963,486	1.5%	77.0%	-1.9%	$ 186.60	2.6%	$ 141.58	-4.8%
2003	29,052	2.5%	8,307,881	4.3%	78.3%	1.8%	$ 188.30	0.9%	$ 141.41	-0.1%
2004	28,692	-1.2%	8,848,479	6.5%	84.5%	7.8%	$ 213.27	13.3%	$ 169.19	19.6%
2005	28,138	-1.9%	8,754,992	-1.1%	85.2%	0.9%	$ 229.14	7.4%	$ 197.42	16.7%
2006	27,686	-1.6%	8,574,805	-2.1%	84.9%	-0.5%	$ 254.35	11.0%	$ 220.36	11.6%
2007	28,175	1.8%	8,853,650	3.3%	86.1%	1.5%	$ 302.42	18.9%	$ 252.16	14.4%
2008	28,615	1.6%	8,953,496	1.1%	85.7%	-0.4%	$ 303.80	0.5%	$ 257.53	2.1%
2009	28,750	0.5%	8,562,117	-4.4%	81.6%	-4.8%	$ 226.00	-25.6%	$ 192.83	-25.1%
2010	28,139	-2.1%	8,781,577	2.6%	85.5%	4.8%	$ 265.71	17.6%	$ 221.51	14.9%
2011	30,331	7.8%	9,299,381	5.9%	84.0%	-1.8%	$ 288.26	8.5%	$ 228.65	3.2%
2012	30,700	1.2%	9,804,614	5.4%	87.5%	4.2%	$ 277.79	-3.6%	$ 243.06	6.3%
2013	30,979	0.9%	9,901,748	1.0%	87.6%	0.1%	$ 287.41	3.5%	$ 251.68	3.5%
2014	33,234	7.3%	10,640,672	7.5%	87.7%	0.2%	$ 293.15	2.0%	$ 257.14	2.2%
2015	34,267	3.1%	10,896,502	2.4%	87.1%	-0.7%	$ 289.16	-1.4%	$ 251.91	-2.0%
Avg Annual % Change		1.4%		1.7%		0.4%		3.3%		4.0%
2016 Q3	35,283	3.5%	8,579,320	7.0%	89.1%	3.4%	$ 264.11	-4.3%	$ 235.24	-1.0%

Midtown East

Year	Supply (Units)	% Change	Demand (Room Nights)	% Change	Occ %	% Change	ADR	% Change	RevPAR	% Change
1996	12,930	-----	3,639,327	-----	77.1%	-----	$ 189.05	-----	$ 145.79	-----
1997	13,725	6.2%	3,916,812	7.6%	78.2%	1.4%	$ 212.48	12.4%	$ 166.12	13.9%
1998	14,241	3.8%	4,128,374	5.4%	79.4%	1.6%	$ 232.73	9.5%	$ 184.84	11.3%
1999	14,531	2.0%	4,214,388	2.1%	79.5%	0.0%	$ 244.01	4.8%	$ 193.89	4.9%
2000	14,531	0.0%	4,413,175	4.7%	83.2%	4.7%	$ 259.44	6.3%	$ 215.88	11.3%
2001	14,534	0.0%	3,843,115	-12.9%	72.4%	-12.9%	$ 227.70	-12.2%	$ 164.95	-23.6%
2002	14,410	-0.9%	4,023,584	4.7%	76.5%	5.6%	$ 215.10	-5.5%	$ 164.55	-0.2%
2003	14,387	-0.2%	4,007,825	-0.4%	76.3%	-0.2%	$ 206.26	-4.1%	$ 157.42	-4.3%
2004	14,239	-1.0%	4,200,873	4.8%	80.8%	5.9%	$ 228.39	10.7%	$ 184.61	17.3%
2005	14,402	1.1%	4,543,080	8.1%	86.4%	6.9%	$ 267.50	17.1%	$ 231.19	25.2%
2006	13,900	-3.5%	4,340,308	-4.5%	85.6%	-1.0%	$ 306.52	14.6%	$ 262.23	13.4%
2007	13,803	-0.7%	4,351,272	0.3%	86.4%	1.0%	$ 336.82	9.9%	$ 290.90	10.9%
2008	13,818	0.1%	4,321,025	-0.7%	85.7%	-0.8%	$ 346.94	3.0%	$ 297.24	2.2%
2009	13,832	0.1%	4,155,467	-3.8%	82.3%	-3.9%	$ 265.53	-23.5%	$ 218.55	-26.5%
2010	13,894	0.4%	4,259,272	2.5%	84.0%	2.0%	$ 285.83	7.6%	$ 240.07	9.8%
2011	14,067	1.2%	4,294,712	0.8%	83.6%	-0.4%	$ 301.77	5.6%	$ 252.41	5.1%
2012	14,163	0.7%	4,379,893	2.0%	84.7%	1.3%	$ 307.46	1.9%	$ 260.49	3.2%
2013	14,466	2.1%	4,483,225	2.4%	84.9%	0.2%	$ 313.81	2.1%	$ 266.44	2.3%
2014	14,600	0.9%	4,646,384	3.6%	87.2%	2.7%	$ 324.92	3.5%	$ 283.30	6.3%
2015	13,954	-4.4%	4,409,292	-5.1%	86.6%	-0.7%	$ 320.69	-1.3%	$ 277.62	-2.0%
Avg Annual % Change		0.4%		1.0%		0.6%		2.8%		3.4%
2016 Q3	14,423	3.5%	3,218,062	-1.8%	81.7%	-5.1%	$ 297.22	-3.2%	$ 242.92	-8.2%

[94] Due to a reconfiguration of Manhattan hotel submarkets by Smith Travel Research, not all submarket data commences in 1995.

Village/SoHo/Tribeca

Year	Supply (Units)	% Change	Demand (Room Nights)	% Change	Occ %	% Change	ADR	% Change	RevPAR	% Change
2001	3,120	----	812,928	----	71.4%	----	$ 274.20	----	$ 132.70	----
2002	3,095	-0.8%	827,781	1.8%	73.3%	2.6%	$ 179.69	-34.5%	$ 129.29	-2.6%
2003	3,187	3.0%	868,671	4.9%	74.7%	1.9%	$ 186.98	4.1%	$ 133.04	2.9%
2004	3,549	11.3%	1,076,325	23.9%	83.1%	11.3%	$ 237.81	27.2%	$ 159.46	19.9%
2005	3,686	3.9%	1,095,036	1.7%	81.4%	-2.0%	$ 212.10	-10.8%	$ 169.68	6.4%
2006	3,686	0.0%	1,125,234	2.8%	83.6%	2.8%	$ 270.67	27.6%	$ 220.31	29.8%
2007	3,813	3.4%	1,163,279	3.4%	83.6%	-0.1%	$ 311.69	15.2%	$ 252.00	14.4%
2008	4,332	13.6%	1,292,513	11.1%	81.7%	-2.2%	$ 342.55	9.9%	$ 251.99	0.0%
2009	5,360	23.7%	1,515,424	17.2%	77.5%	-5.2%	$ 280.69	-18.1%	$ 185.45	-26.4%
2010	5,915	10.4%	1,754,448	15.8%	81.3%	4.9%	$ 314.27	12.0%	$ 220.59	19.0%
2011	6,843	15.7%	2,069,331	17.9%	82.8%	1.9%	$ 340.19	8.2%	$ 238.95	8.3%
2012	7,071	3.3%	2,171,325	4.9%	84.1%	1.6%	$ 297.51	-12.5%	$ 250.30	4.8%
2013	7,618	7.7%	2,369,936	9.1%	85.2%	1.3%	$ 304.74	2.4%	$ 259.74	3.8%
2014	8,120	6.6%	2,526,433	6.6%	85.2%	0.0%	$ 309.36	1.5%	$ 263.71	1.5%
2015	8,168	0.6%	2,546,448	0.8%	85.4%	0.2%	$ 311.02	0.5%	$ 265.65	0.7%
Avg Annual % Change		10.3%		10.6%		0.3%		0.9%		5.1%
2016 Q3	8,637	6.5%	1,998,808	4.9%	84.8%	-1.5%	$ 295.11	-1.7%	$ 250.16	-3.2%

Midtown South

Year	Supply (Units)	% Change	Demand (Room Nights)	% Change	Occ %	% Change	ADR	% Change	RevPAR	% Change
1995	8,851	-----	2,357,143	-----	73.0%	-----	$ 108.65	-----	$ 80.39	-----
1996	9,053	2.3%	2,515,194	6.7%	76.1%	4.3%	$ 126.14	16.1%	$ 89.98	11.9%
1997	9,067	0.2%	2,650,820	5.4%	80.1%	5.2%	$ 133.73	6.0%	$ 101.64	13.0%
1998	9,277	2.3%	2,693,224	1.6%	79.5%	-0.7%	$ 147.62	10.4%	$ 115.56	13.7%
1999	9,650	4.0%	2,828,490	5.0%	80.3%	1.0%	$ 161.45	9.4%	$ 123.45	6.8%
2000	9,964	3.3%	2,903,336	2.6%	79.8%	-0.6%	$ 164.92	2.2%	$ 128.26	3.9%
2001	10,638	6.8%	2,631,252	-9.4%	67.8%	-15.1%	$ 134.46	-18.5%	$ 100.54	-21.6%
2002	10,855	2.0%	2,748,754	4.5%	69.4%	2.4%	$ 138.84	3.3%	$ 92.21	-8.3%
2003	10,810	-0.4%	2,785,749	1.3%	70.6%	1.8%	$ 132.94	-4.3%	$ 92.62	0.4%
2004	10,855	0.4%	3,269,963	17.4%	82.5%	16.9%	$ 172.55	29.8%	$ 121.33	31.0%
2005	10,734	-1.1%	3,264,011	-0.2%	83.3%	0.9%	$ 172.27	-0.2%	$ 143.78	18.5%
2006	11,063	3.1%	3,386,467	3.8%	83.9%	0.7%	$ 213.03	23.7%	$ 172.19	19.8%
2007	11,599	4.8%	3,586,812	5.9%	84.7%	1.0%	$ 251.34	18.0%	$ 201.05	16.8%
2008	11,922	2.8%	3,595,269	0.2%	82.6%	-2.5%	$ 249.76	-0.6%	$ 205.87	2.4%
2009	13,763	15.4%	3,977,548	10.6%	79.2%	-4.2%	$ 211.77	-15.2%	$ 151.57	-26.4%
2010	15,965	16.0%	4,892,152	23.0%	84.0%	6.0%	$ 251.76	18.9%	$ 171.84	13.4%
2011	17,043	6.7%	5,332,663	9.0%	85.7%	2.1%	$ 242.19	-3.8%	$ 190.47	10.8%
2012	17,654	3.6%	5,661,828	6.2%	87.9%	2.5%	$ 232.64	-3.9%	$ 204.41	7.3%
2013	18,880	6.9%	6,077,682	7.3%	88.2%	0.4%	$ 241.94	4.0%	$ 213.37	4.4%
2014	20,014	6.0%	6,486,680	6.7%	88.8%	0.7%	$ 246.25	1.8%	$ 218.66	2.5%
2015	20,964	4.7%	6,714,632	3.5%	87.8%	-1.2%	$ 241.36	-2.0%	$ 211.79	-3.1%
Avg Annual % Change		4.4%		5.4%		0.9%		4.1%		5.0%
2016 Q3	22,187	7.1%	5,274,107	6.1%	87.1%	-1.0%	$ 223.03	-3.8%	$ 194.20	-4.7%

Uptown

Year	Supply (Units)	% Change	Demand (Room Nights)	% Change	Occ %	% Change	ADR	% Change	RevPAR	% Change
1995	6,494	-----	1,878,547	-----	79.3%	-----	$ 169.86	-----	$ 130.49	-----
1996	6,684	2.9%	1,914,856	1.9%	78.5%	-1.0%	$ 191.53	12.8%	$ 147.47	13.0%
1997	6,706	0.3%	1,968,106	2.8%	80.4%	2.5%	$ 204.51	6.8%	$ 160.00	8.5%
1998	6,551	-2.3%	1,906,571	-3.1%	79.7%	-0.8%	$ 213.50	4.4%	$ 175.73	9.8%
1999	6,866	4.8%	1,904,970	-0.1%	76.0%	-4.7%	$ 233.28	9.3%	$ 177.48	1.0%
2000	7,022	2.3%	2,064,543	8.4%	80.5%	6.0%	$ 261.15	11.9%	$ 194.09	9.4%
2001	7,062	0.6%	1,880,837	-8.9%	73.0%	-9.4%	$ 192.15	-26.4%	$ 153.90	-20.7%
2002	7,062	0.0%	1,870,327	-0.6%	72.6%	-0.6%	$ 200.07	4.1%	$ 145.99	-5.1%
2003	6,933	-1.8%	1,877,395	0.4%	74.2%	2.2%	$ 194.85	-2.6%	$ 144.02	-1.3%
2004	6,669	-3.8%	1,925,630	2.6%	79.1%	6.6%	$ 235.35	20.8%	$ 181.52	26.0%
2005	6,062	-9.1%	1,827,774	-5.1%	82.6%	4.4%	$ 242.24	2.9%	$ 210.84	16.2%
2006	5,790	-4.5%	1,683,948	-7.9%	79.7%	-3.6%	$ 286.56	18.3%	$ 247.81	17.5%
2007	5,830	0.7%	1,714,832	1.8%	80.6%	1.1%	$ 350.99	22.5%	$ 277.74	12.1%
2008	5,898	1.2%	1,730,633	0.9%	80.4%	-0.2%	$ 347.85	-0.9%	$ 277.09	-0.2%
2009	6,067	2.9%	1,616,099	-6.6%	73.0%	-9.2%	$ 255.48	-26.6%	$ 199.65	-27.9%
2010	6,440	6.1%	1,802,404	11.5%	76.7%	5.1%	$ 335.27	31.2%	$ 230.52	15.5%
2011	6,306	-2.1%	1,814,128	0.7%	78.8%	2.8%	$ 318.73	-4.9%	$ 249.60	8.3%
2012	6,159	-2.3%	1,822,286	0.4%	81.1%	2.8%	$ 325.29	2.1%	$ 263.69	5.6%
2013	5,801	-5.8%	1,778,008	-2.4%	84.0%	3.6%	$ 338.79	4.2%	$ 284.47	7.9%
2014	6,201	6.9%	1,864,792	4.9%	82.4%	-1.9%	$ 348.62	2.9%	$ 287.24	1.0%
2015	6,250	0.8%	1,844,478	-1.1%	80.8%	-1.9%	$ 354.84	1.8%	$ 286.89	-0.1%
Avg Annual % Change		-0.2%		-0.1%		0.1%		3.8%		4.0%
2016 Q3	6,252	0.4%	1,382,210	1.0%	81.0%	0.6%	$ 328.46	-1.1%	$ 266.00	-0.6%

Financial District (Downtown)

Year	Supply (Units)	% Change	Demand (Room Nights)	% Change	Occ %	% Change	ADR	% Change	RevPAR	% Change
1996	2,360	-----	681,652	-----	79.1%	-----	$ 162.14	-----	$ 128.32	-----
1997	1,930	-18.2%	575,319	-15.6%	81.7%	3.2%	$ 180.47	11.3%	$ 148.89	16.0%
1998	1,917	-0.7%	589,224	2.4%	84.2%	3.1%	$ 200.83	11.3%	$ 169.13	13.6%
1999	2,612	36.3%	808,360	37.2%	84.8%	0.7%	$ 213.32	6.2%	$ 180.86	6.9%
2000	1,993	-23.7%	615,281	-23.9%	84.6%	-0.2%	$ 217.34	1.9%	$ 193.44	7.0%
2001	1,904	-4.5%	547,452	-11.0%	78.8%	-6.9%	$ 207.81	-4.4%	$ 161.23	-16.6%
2002	1,853	-2.7%	490,776	-10.4%	72.6%	-7.9%	$ 185.56	-10.7%	$ 134.67	-16.5%
2003	2,530	36.6%	655,516	33.6%	71.0%	-2.2%	$ 190.18	2.5%	$ 135.00	0.2%
2004	2,585	2.2%	766,497	16.9%	81.2%	14.4%	$ 207.58	9.2%	$ 168.62	24.9%
2005	2,573	-0.5%	778,236	1.5%	82.9%	2.0%	$ 236.94	14.1%	$ 196.34	16.4%
2006	2,627	2.1%	807,101	3.7%	84.2%	1.6%	$ 270.98	14.4%	$ 228.05	16.2%
2007	2,637	0.4%	819,944	1.6%	85.2%	1.2%	$ 308.69	13.9%	$ 262.97	15.3%
2008	2,636	-0.1%	794,027	-3.2%	82.5%	-3.1%	$ 323.44	4.8%	$ 266.96	1.5%
2009	2,967	12.6%	882,187	11.1%	81.5%	-1.3%	$ 241.12	-25.4%	$ 196.40	-26.4%
2010	4,122	38.9%	1,199,032	35.9%	79.7%	-2.2%	$ 253.58	5.2%	$ 202.09	2.9%
2011	4,221	2.4%	1,227,046	2.3%	79.6%	-0.1%	$ 261.39	3.1%	$ 208.18	3.0%
2012	4,566	8.2%	1,359,134	10.8%	81.6%	2.4%	$ 269.39	3.1%	$ 219.71	5.5%
2013	4,656	2.0%	1,439,815	5.9%	84.7%	3.9%	$ 276.08	2.5%	$ 233.88	6.5%
2014	4,878	4.8%	1,495,189	3.8%	84.0%	-0.9%	$ 281.05	1.8%	$ 236.01	0.9%
2015	5,734	17.5%	1,713,455	14.6%	81.9%	-2.5%	$ 272.09	-3.2%	$ 222.77	-5.6%
Avg Annual % Change		4.8%		5.0%		0.2%		2.8%		2.9%
2016 Q3	6,367	12.2%	1,412,330	13.6%	81.3%	1.2%	$ 253.91	-4.1%	$ 206.32	-2.9%

Source: Smith Travel Research, Cushman & Wakefield, Inc.

Sharing Economy

Much has been reported about the growing trend in sharing access to goods and services through community based on-line services such as HomeAway, Airbnb, Flipkey, VacationRentals.com, and Connecting Rentals Worldwide, to name a few. Most significant to the Manhattan lodging industry is the emergence of Airbnb. While the direct impact is difficult to measure, research firm STR, using data provided directly by Airbnb, recently found little evidence to support declining hotel revenues due to the expansion of Airbnb product in Manhattan. STR also found that the majority of Airbnb product in Manhattan, based on pricing, potentially competes with only 13.0% of the Manhattan hotel market, pointing to the economy/midscale class as the most vulnerable hotel product. Additionally, and likely more importantly, the study found that the length of stay for Airbnb product was typically seven nights or more. With only 4.0% of the Manhattan lodging market positioned as extended stay product, Airbnb appears to be competing with a small slice of the overall hotel market.

While some market participants believe there is a negative impact on hotel demand, Airbnb still lacks a critical mass that would enable more meaningful analysis and conclusions. Airbnb's competitive advantage is its user-friendly on-line platform, which enables peer-to-peer based sharing. Although Airbnb has been successful in fueling collaborative consumption, relative to traditional hotel product, Airbnb is extremely fragmented and decentralized. As a result, there is little control over the customer experience and the quality of product could vary significantly from one unit to another. These two issues alone are certainly a detractor for consumers looking to visit Manhattan for only a couple of nights.

Midtown West Area Hotel Development

Manhattan experienced a significant amount of new supply in the period between 2011 and 2016. In Chelsea[95] and Midtown West, the area that includes the Hudson Yards, 33 new hotels with 7,511 rooms were completed between 2011 and 2016, as shown in Exhibit 5-7. It is important to note that the Yotel, with 713 rooms, accounts for almost 10.0% of the new supply. The trend, as noted in the 2006 and 2011 C&W reports, of boutique or smaller hotels, typically comprised of 100 to 300 rooms, has continued. Twenty-six of the hotels listed have fewer than 300 rooms, ranging from luxury properties such as the Viceroy New York and the Park Hyatt to midscale such as the Yotel New York. The OUT NYC and The NoMad Hotel are representative independent properties. The HY district is a burgeoning hotel destination as confirmed by its 30.8% share (8 new hotels) of the Midtown West and Chelsea new inventory.

[95] While STR includes the Chelsea neighborhood within the Midtown South subdistrict, given its proximity to Hudson Yards, this neighborhood has also been included in the analysis.

Exhibit 5-7. New Hotel Openings in Midtown West and Chelsea, 2011-2016

Segment	Hotel Name	Brand	Rooms	Open Date	Address
Luxury					
Open	Viceroy New York	Viceroy	240	2013	120 W. 57th Street
Open	Park Hyatt New York	Hyatt	210	2014	153 W. 57th Street
Upper Upscale					
Open	Hyatt Times Square	Hyatt	487	2013	135 W. 45th Street
Open	Millennium Premier Hotel New York	Millennium	124	2014	133 W. 44th Street
Open	Renaissance New York Midtown Hotel	Renaissance	348	2016	218 W. 35th Street
Upscale					
Open	Courtyard New York Manhattan Times Square West	Marriott	224	2013	307 W. 37th Street
Open	Courtyard New York Manhattan Chelsea	Marriott	273	2013	135 W. 30th Street
Open	Hilton Garden Inn	Hilton	401	2014	237 W. 54th Street
Open	citizenM New York Times Square	citizenM	230	2014	218 W. 50th Street
Open	Homewood Suites	Hilton	293	2014	312 W. 37th Street
Open	Ascend Collection The Paul	Ascend Collection	122	2015	32 W. 29th Street
Open	Cambria hotel & suites New York Chelsea	Cambria hotel & suites	135	2015	123 W. 28th Street
Open	EVEN Hotels Times Square South	EVEN Hotels	150	2015	321 W. 35th Street
Open	Innside by Melia NoMad	Innside by Melia	313	2016	132-142 W. 27th Street
Open	RIU Plaza New York Times Square	RIU Hotel	647	2016	305 W. 46th Street
Upper Midscale					
Open	Tryp by Wyndham	Wyndham	173	2012	345 W. 35th Street
Open	Comfort Inn Midtown West New York	Choice	89	2013	548 W. 48th Street
Open	Fairfield Inn & Suites	Marriott	239	2013	325 W. 33rd Street
Open	Holiday Inn Express Manhattan Midtown West	IHG	177	2013	538 W. 48th Street
Open	Holiday Inn New York City Times Square	IHG	271	2015	585 8th Avenue
Open	Fairfield Inn & Suites	Marriott	230	2016	538 W. 58th Street
Midscale					
Open	Yotel New York @ Times Square	Yotel	713	2011	570 10th Avenue
Independents					
Open	Dream Hotel Downtown		314	2011	355 W. 17th Street
Open	Hotel Americano		56	2011	518 W. 27th Street
Open	The OUT NYC		105	2012	510 W. 42nd Street
Open	The NoMad Hotel		168	2012	1170 Broadway
Open	Refinery Hotel		197	2013	63 W. 38th Street
Open	WestHouse Hotel New York		172	2013	201 W. 55th Street
Open	Cassa Times Square Hotel & Residences		87	2014	515 9th Avenue
Open	Ameritania Hotel		223	2014	230 W. 54th Street
Open	Moderne		37	2012	243 W. 55th Street
Open	Da Vinci Hotel		20	2015	244 W. 56th Street
Open	Riff Chelsea		43	2011	300 W. 30th Street
TOTAL			**7,511**		

Properties in blue are within the Hudson Yards Financing District.
Source: NYC & Co., Smith Travel Research, Cushman & Wakefield, Inc.

Looking forward, it is evident that this development trend will likely continue over the next few years, as illustrated by the product pipeline shown in Exhibit 5-8. The 30 hotels, of which 16 are in the HY, include a range of product types. Twenty hotels, representing 66.7% of this total, are expected to have fewer than 300 rooms each.

Exhibit 5-8. New Hotel Pipeline Midtown West and Chelsea, 2017 – 2019

Segment	Hotel Name	Brand	Rooms	Projected Opening	Address
Luxury					
Under Construction	Equinox Hotel New York Hudson Yards	Equinox	223	2019	35 Hudson Yards
Planning	Six Senses	Six Senses	137	2019	11th Avenue & West 26th Street
Upper Upscale					
Final Planning	Renaissance New York	Marriott	330	2017	112 W. 25th Street
Under Construction	Pestana CR7 New York	Pestana	400	2018	338 W. 39th Street
Planning	Hard Rock Hotel International New York	Hard Rock	445	2019	159 W. 48th Street
Upscale					
Under Construction	Four Points by Sheraton Manhattan	Sheraton	148	2017	444 10th Avenue
Under Construction	Hyatt House New York Chelsea	Hyatt	150	2017	815 Avenue Of The Americas
Under Construction	DoubleTree New York Times Square West	Marriott	612	2017	350 W. 40th Street
Under Construction	Crowne Plaza New York	IHG	251	2017	320 W. 36th Street
Under Construction	Hilton Garden Inn	Hilton	250	2017	326-330 W. 37th Street
Under Construction	AC Hotels by Marriott	Marriott	296	2017	W. 40th Street & 8th Avenue
Final Planning	aloft Hotel New York Midtown	Starwood	176	2017	25 W. 38th Street
Under Construction	Springhill Suites	Marriott	280	2018	334-344 W. 36th Street
Under Construction	Courtyard New York Manhattan Midtown South	Marriott	399	2018	461 W. 34th Street
Final Planning	aloft Hotel New York Chelsea North	Starwood	438	2019	450 11th Avenue
Planning	Hyatt Place	Hyatt	500	2019	351-353 W. 38th Street
Upper Midscale					
Under Construction	MOXY New York	Marriott	618	2017	485 7th Avenue
Final Planning	Comfort Inn New York	Choice	88	2017	337 W. 36th Street
Final Planning	MOXY New York City	Marriott	349	2017	105 W. 28th Street
Under Construction	Fairfield Inn Midtown Manhattan 36th St	Marriott	286	2018	334-344 W. 36th Street
Planning	Comfort Inn & Suites New York	Choice	60	2019	439 W. 54th Street
Planning	TownePlace Suites Times Square	Marriott	114	2019	324 W. 44th Street
Midscale					
Under Construction	La Quinta Inn & Suites Manhattan	La Quinta Inns & Suites	79	2018	333 W. 38th Street
Independent					
Under Construction	POD 42ND Street		510	2017	400 W. 42nd Street
Under Construction	Unnamed Hotel		287	2017	310 West 40th Street
Under Construction	Tao Hotel		158	2017	414 W. 15th Street
Final Planning	Unnamed Hotel		180	2017	245-247 W. 34th Street
Planning	Commune Times Square		254	2018	250 W. 49th Street
Planning	Dream Times Square		243	2018	560 7th Avenue
Final Planning	Unnamed Hotel		174	2018	342 W. 39th Street
TOTAL			**8,435**		

Properties in blue are within the Hudson Yards Financing District.

Source: NYC & Co., Smith Travel Research, Cushman & Wakefield, Inc.

Hudson Yards

New hotel development in Hudson Yards is aligned with the overall expansive development of Midtown hotels over the past decade, and that continues to date. Revitalization of Times Square and the Theatre District, and the development of the Times Square office submarket in the late 1980s that has extended to Eighth Avenue, set the stage for hotel development further west. New residential projects and other amenities such as the Hudson River Park and the High Line further contributed to this western expansion.

New hotels in HY have helped meet the growing demand for overnight lodging accommodations, and are expected to continue to do so going forward. As shown in Exhibits 5-9 and 5-10, between 2011 and 2016, eight new hotels comprising 1,984 rooms were completed in Hudson Yards. These properties included the well-known brands of Courtyard by Marriott, Fairfield Inn by Marriott, and Homewood Suites by Hilton and independent hotels such as The OUT NYC and Casa Times Square Hotel & Residences. In June 2011, the 713-room cabin-style Yotel, the first U.S. outpost of a British concept, opened as part of the Related Companies MiMA mixed-use development at 570 Tenth Avenue and West 42nd Street. Additional new hotels under construction include the Equinox Hotel at 35 Hudson Yards, Pestana CR7 at 338 West 39th Street, and Crowne Plaza New York at 320 West 36th Street.

Exhibit 5-9. Hotel Development in Hudson Yards, 2006 – 2016

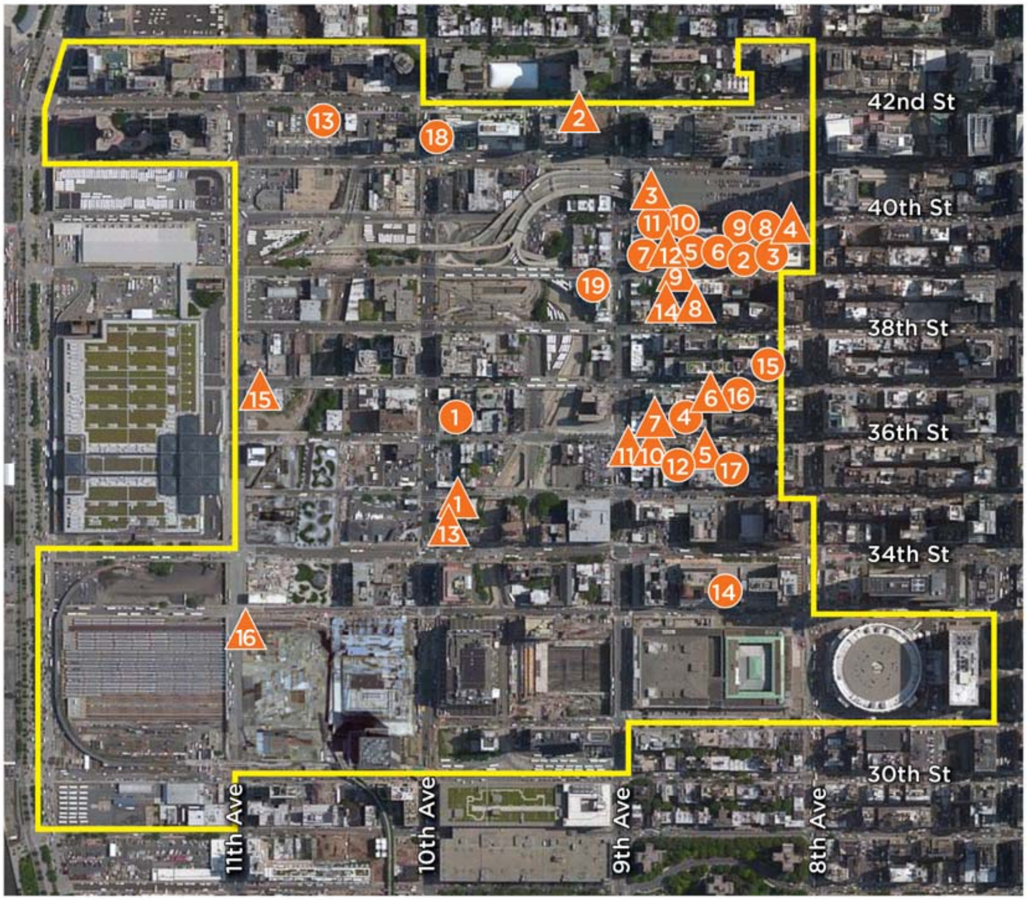
Site #	Name	Address	Size (SF)	No. Rooms	Completion Date (1)
Hotels Opened 2006 through 2010					
1	GEM Hotel	449 W. 36th Street	16,667	40	2006
2	Element NY Times Square South	309 W. 39th Street	138,440	346	2006
3	Comfort Inn	305 W. 39th Street	30,000	79	2007
4	Wyndham Garden Hotel	341 W. 36th Street	81,000	224	2008
5	Candlewood Suites	341 W. 39th Street	85,706	188	2009
6	Hampton Inn	337 W. 39th Street	71,072	184	2009
7	Holiday Inn Express	343 W. 39th Street	74,128	210	2009
8	Four Points by Sheraton	326 W. 40th Street	98,738	248	2009
9	Fairfield Inn	330 W. 40th Street	97,942	244	2009
10	Staybridge Suites	334 W. 40th Street	131,921	310	2010
11	Distrikt Hotel	342 W. 40th Street	66,705	155	2010
		Subtotal	**892,319**	**2,228**	
Hotels Opened 2011 through 2016					
12	Yotel New York @ Times Square	570 10th Avenue (2)	235,000	713	2011
13	Tryp by Wyndham	345 W. 35th Street	93,090	173	2012
14	The OUT NYC	510 W. 42nd Street	78,333	105	2012
15	Fairfield Inn & Suites	325 W. 33rd Street	120,639	239	2013
16	Courtyard by Marriott	307 W. 37th Street	102,824	224	2013
17	Homewood Suites	312 W. 37th Street	119,685	293	2014
18	Cassa Times Square Hotel & Residences	515 9th Avenue (2)	45,000	87	2014
19	EVEN Hotels Times Square South	321 W. 35th Street	63,363	150	2015
		Subtotal	**857,934**	**1,984**	
Hotels Under Construction					
20	Four Points by Sheraton Manhattan	444 10th Avenue	70,000	111	2017
21	POD 42nd Street	400 W. 42nd Street	217,513	510	2017
22	DoubleTree New York Times Square West	350 W. 40th Street	177,000	612	2017
23	Unnamed Hotel	310 W. 40th Street	143,500	287	2017
24	Crown Plaza	320 West 36th Street	100,000	251	2017
25	Hilton Garden Inn	326-330 W. 37th Street	125,000	250	2017
26	Comfort Inn New York	337 W. 36th Street	39,291	88	2017
27	La Quinta Inn & Suites Manhattan 38th Street	333 W. 38th Street	35,219	79	2018
28	Pestana CR7 New York	338 W. 39th Street	130,000	400	2018
29	Springhill Suites New York	334-344 W. 36th Street	102,803	280	2018
30	Fairfield Inn Midtown Manhattan	334-344 W. 36th Street	105,006	286	2018
31	Unnamed Hotel	342 W. 39th Street	56,550	174	2018
32	Courtyard New York Manhattan Midtown South	461 W. 34th Street	199,500	399	2018
33	Hyatt Place	351-353 W. 38th Street	125,000	500	2019
34	aloft Hotel New York Chelsea North	450 11th Avenue	100,000	438	2019
35	Equinox Hotel New York Hudson Yards	35 Hudson Yards	205,503	223	2019
		Subtotal	**1,931,885**	**4,888**	
Total Existing and Under Construction Hotel Projects in HY As Of 2016			**3,682,138**	**9,100**	

(1) Refers to substantial construction completion.
(2) Hotel rooms noted for information purposes. Due to configuration of the buildings, revenue is accounted for under Residential revenue.

Note: 35 Hudson Yards is a mixed-use property comprised primarily of residential and hotel uses, with a small amount of office. It is therefore counted as a new building in both the residential and hotel chapters, with revenues allocated accordingly.

The pipeline of hotels in 2017-2019 is strong, with 2,021 rooms planned for completion in 2017. This added supply is due to the maturing of the market, and will be a complement to the office and residential uses currently being added to HY.

Exhibit 5-10. Hotel Development in Hudson Yards, 2006 – 2016



HOTEL

Completed *1.8 MSF*

1. 449 W 36th St.
2. 309 W 39th St.
3. 305 W 39th St.
4. 341 W 36th St.
5. 341 W 39th St.
6. 337 W 39th St.
7. 343 W 39th St.
8. 326 W 40th St.
9. 330 W 40th St.
10. 334 W 40th St.
11. 342 W 40th St.
12. 345 W 35th St.
13. 510 W 42nd St.
14. 325 W 33rd St.
15. 307 W 37th St.
16. 312 W 37th St.
17. 321 W 35th St.
18. 570 10th Ave.
19. 515 9th Ave.

Under Construction *1.9 MSF*

1. 444 10th Ave.
2. 400 W 42nd St.
3. 350 W 40th St.
4. 310 W 40th St.
5. 320 W 36th St.
6. 326-330 W 37th St.
7. 337 W 36th St.
8. 333 W 38th St.
9. 338 W 39th St.
10. 334-344 W 36th St.
11. 334-344 W 36th St.
12. 342 W 39th St.
13. 461 W 34th St.
14. 351-353 W 38th St.
15. 450 11th Ave.
16. 35 Hudson Yards

Note: 35 Hudson yards comprises primarily of residential and hotel use. These are counted as separate buildings within each of their respective categories.

Hudson Yards Hotel Demand Forecast and Likely Construction

New hotel development is predicated on growth in hotel demand (or change in occupied rooms), as well as the replacement of older inventory. In the 2006 C&W report, the three primary demand generators of business, meeting/group/convention center, and leisure travelers, were quantified by capture rate and combined to determine cumulative demand for hotel rooms that could be supported in Hudson Yards. This methodology was appropriate to assess the feasibility and potential for a totally under-developed area. A different methodology, as detailed below, was adopted for both the 2011 and current forecast. As background support, the demand sectors are highlighted below.

- Leisure travelers comprise the greatest share of visitors to New York City, totaling 46.0 million in 2015. International visitors account for approximately 20% of overall leisure and business visitation[96].
- Meeting, group, and convention visitors attending events at the Javits Center, Piers 92 and 94, and major hotels like the Hilton, Sheraton and Marriott, and other venues totaled more than 247,000 room-nights in 2015. These visitors generated more than $292 million. There were 664 meetings booked in 2015, showing an almost 5% increase over 2014[97]. Over 6.1 million delegates visited NYC, up from 6.0 million in 2014.
- Another key to a lodging market's success is the presence of a vibrant office market, which generates commercial room night demand. Office-using employment is the main growth driver in New York City's office market and is primarily made up of the financial services, business and professional services and the TAMI sectors. As noted in the Office chapter, the City's OUE is projected to increase by almost 167,000 employees over the forecast period. In 2015, hotels booked 33.7 million room-nights, a 3.7% increase over 2014[98]. Business travelers totaled 12.3 million in 2015[99].

The Jacob K. Javits Convention Center

The Javits Center hosts events such as the New York International Auto Show and the New York Comic Con. Opened in 1986, the center spans from 34th to 40th Streets along Eleventh Avenue in Manhattan's Far West Side, occupying 1.8 msf of space. The Javits Center offers 840,000 sf of flexible exhibition space and can accommodate any size event. Operated and maintained by the New York Convention Center Operating Corporation, Javits plays a crucial role in driving the New York economy, generating $2.0 billion in economic activity and supporting 17,700 jobs in 2015. Recently completed was a 5-year, $460.0 million renovation noted for the construction of the 110,000 sf Javits North exhibit hall, boosting the exhibit space to its current 840,000 sf, and installation of the largest green roof in the Northeast.

In 2016, Governor Cuomo unveiled a planned expansion of the Javits Center, aimed at significantly increasing the convention center's potential as an economic engine and maximize its ability to host more high-profile events from around the world. The expansion includes spending $1.6 billion to add an additional 1.2 msf of space to the north end of the existing facility and build a roof terrace for outdoor events. More specifically, the expansion will include 500,000 sf of contiguous space on Level 3, a 58,000 square foot ballroom, a garage, and a rooftop terrace and pavilion overlooking the Hudson River, which can accommodate up to 1,500 guests for outdoor events. The project will serve as a catalyst for new job creation, new business opportunities and enhanced revenue for the hotel, restaurant, tourism and transportation industries. It is projected to generate $393.0 million in additional annual economic activity each year, and support 4,000 new full-time, 2,000 part-time, and 3,100 construction jobs, as well as leading to an additional 200,000 hotel room nights a year.

Recognizing that HY is now on its way to being an established area closely integrated into the Midtown West/Times Square submarket, C&W used a standard methodology based on an analysis of the historic supply growth triggered by demand growth of Manhattan's inventory.

[96] NYC & Co, Annual Summary 2015
[97] Ibid
[98] Ibid
[99] Ibid

Forecast Methodology

The forecast focuses on the change in supply for hotel rooms reflective of demand or the change in occupied available rooms. Over the past 29 years, inclusive of several expansion and recession cycles, Manhattan's hotel room supply has increased by 36,655 rooms from 52,683 in 1987 to 89,338 in 2015, representing an average annual growth rate of 1.90% or 1,309 rooms. For the 24 years from 1987 through 2010, the study period of the 2011 report, and prior to the recent growth in upscale boutique and limited-service hotels, the average annual growth rate was 1.4% or 928 rooms. For the 20 years from 1987 through 2006, the study period of the 2006 report, and prior to the recent growth in upscale boutique and limited-service hotels, the average annual growth rate was 1.0% or 525 rooms. This increase is largely due to the uptick in tourism and hotel demand throughout Manhattan.

The past development periods include 1999 – 2003 when supply grew by 7,287 rooms, representing an annual average 2.9% growth rate. This expansion included the Westin Times Square and boutique hotels like the W Times Square and Bryant Park Hotel. Between 2007 and 2015, hotel supply in Manhattan grew by 23,481 rooms, or an average annual rate of 3.9%, driven by a proliferation of independent upscale boutique and limited-service product.

During economic recessions, supply growth tends to continue for a year or more after the first signs of a downturn, due to the typical two-year construction periods for hotel projects. Inventory declines are typically due to a lagged recession effect, as well as to other factors, such as conversions to other uses and the demolition of hotel properties. Between 2003 and 2006, these factors contributed to a total supply drop of 2,146 rooms at an average annual decline of 1.08% or 715 rooms.

For the initial three-year period of the forecast from 2017 to 2019, the growth rate is based on the known supply of projects in planning or under construction. Consistent with Moody's Analytics' forecast of a recession commencing in 2019, supply growth comes to a halt, lagged by one year to accommodate projects under construction. Subsequent to the anticipated recessions, a 1.0% average annual growth rate was used to project hotel room growth over the remainder of the forecast period, again with no growth during the recessionary periods. While this rate is significantly lower than the historical averages, it considers the strong growth over the past decade, and the downward pressure this historical growth puts on future supply growth.

This results in an estimated hotel room supply growth for Manhattan of 17,115 by 2039, representing an average annual growth of 0.74%.

Hudson Yards is assumed to capture an initial 15.0% share of the overall growth in hotel supply. This is based on its 26.4% share of overall Manhattan hotel room completions from 2006 through 2016, along with considerations given to the recent and under-construction increase in supply. The capture rate is projected to decline to 5.0% in 2020 after the first forecast recession, recognizing the 2.2 msf planned for 2017 through 2019 and that hotel development will experience competition from other uses as the district continues to mature.

The C&W forecast was suspended at 2039 due to the maximum hotel development capacity in HY, as described in the Executive Summary. The C&W forecast results in approximately 5,916 new hotel rooms or almost 2.4 msf[100] of inventory in Hudson Yards from 2017 through 2039, which is about 34.6% of the projected overall increase of 17,115 hotel rooms for Manhattan for this time period, as shown in Exhibit 5-11.

[100] Using an average room size of 425 sf, based on a blend of 300 sf per room for limited service, and larger rooms for full service/ convention hotels

***Exhibit 5-11. Hotel Sector Forecast of Completions by Rooms and Square Feet to 2047*[101]**

	Manhattan Room Inventory	Annual Change in Inventory	HY Rooms Started	HY Rooms Completed	HY SF	2016 FORECAST
2006	64,753	-1.3%	NA	386	155,107	
2007	65,857	1.7%	NA	79	30,000	
2008	67,221	2.1%	NA	224	81,000	*Actual*
2009	70,739	5.2%	NA	1,074	427,586	
2010	74,475	5.3%	NA	465	198,626	
2011	78,811	5.8%	NA	713	235,000	
2012	80,313	1.9%	225	278	171,423	
2013	82,402	2.6%	313	463	223,463	
2014	87,047	5.6%	697	380	164,685	
2015	89,338	2.6%	2109	150	63,363	
2016	91,095	2.0%	1618	0	-	
2017	96,927	6.4%	1161	2,109	872,304	*Under-Construction*
2018	98,230	1.3%	195	1,618	629,078	
2019	99,212	1.0%	147	1,161	430,503	
2020	99,212	0.0%	0	195	83,066	
2021	99,212	0.0%	0	147	62,621	
2022	99,212	0.0%	0	0	-	
2023	100,204	1.0%	50	0	-	
2024	101,206	1.0%	50	0	-	
2025	102,218	1.0%	51	50	21,083	*Forecast*
2026	103,240	1.0%	51	50	21,293	
2027	104,273	1.0%	52	51	21,506	
2028	105,315	1.0%	52	51	21,721	
2029	106,369	1.0%	53	52	21,939	
2030	106,369	0.0%	0	52	22,158	
2031	106,369	0.0%	0	53	22,380	
2032	107,432	1.0%	53	0	-	
2033	108,507	1.0%	54	0	-	
2034	109,592	1.0%	54	53	22,603	
2035	110,688	1.0%	55	54	22,829	
2036	111,794	1.0%	55	54	23,058	
2037	112,912	1.0%	56	55	23,288	
2038	114,041	1.0%	56	55	23,521	
2039	114,041	0.0%	0	56	23,756	
2040	-				-	
2041	-				-	
2042	-				-	
2043	-				-	
2044	-				-	
2045	-				-	
2046	-				-	
2047						
Forecast Total Through 2039		**0.7%**		**1,028**	**436,823**	
Actual Completed to Date				**4,212**	**1,750,253**	
Forecast and Under Construction Through 2039				**5,916**	**2,368,708**	
Total Completed and Forecast by 2039				**10,128**	**4,118,961**	

Source: Smith Travel Research, Cushman & Wakefield, Inc.

[101] Refer to Exhibit 5-9 for under hotels construction in Hudson Yards

Hotel Revenues Forecast- Methodology and Assumptions

Revenues associated with hotel development are expected to account for approximately 14.2% of the overall revenues. These projections are the result of two major inputs into the City's revenue model used to calculate the forecast revenues from 2017 to 2047.

Projected Demand is defined in msf and number of hotel rooms as derived in the previous section. The projections provided by C&W rely on underlying economic forecasts provided by Moody's Analytics (Chapter 2) as well as other sector demand generators as detailed in this chapter. These projections were used as inputs along with key real estate and zoning variables and assumptions on infrastructure improvements.

C&W incorporated the following assumptions and factors to support the revenues for new hotel development in the Hudson Yards.

<u>Zoning</u>: The projected demand assumes that the existing zoning legislation[102] regarding building FAR and DIB bonus remains in place throughout the analysis period. It is also assumed that future changes to City zoning will not materially affect Manhattan's overall development potential. Significant changes to zoning by creating competitive markets to Hudson Yards other than those identified in this report could potentially result in lower revenues than forecast.

Taxes were calculated using the forecast for hotel completions derived in Exhibit 5-11 by the projected tax psf. The forecast square footage of hotel completions is multiplied by taxes of approximately $25.00 psf based on comparable hotel taxes in fiscal year 2016 - 2017 shown in Exhibit 5-12. It is assumed that tax revenues associated with hotel development will be paid as TEP to HYIC and are, therefore, subject to annual appropriations by the New York City Council.

<u>Tax Programs</u>: C&W reviewed the assessment mechanism, tax policies[103] and incentive programs used to determine the tax rates and payments in the revenue model.

<u>Market Comparables</u>: C&W provided relevant market comparables in Exhibit 5-12 to help derive a comparable tax rate for new hotel development in the Hudson Yards. Based on market comparables tax rate, the average $25.00 psf, was applied to the projected Hudson Yards hotel development.

[102] Special Hudson Yards Special District, Zoning Amendment adopted by City Council N040500(A) ZRM, 19 January 2005, plus the Western Rail Yard, rezoned by City Council 21 December 2009

[103] An overview of New York City property taxes and assessments is provided in Appendix C.

Exhibit 5-12. Midtown Hotel Tax Comparables, Fiscal Year 2016/2017

Brand/Name	Address	Square Feet	Rooms	Assessed Value 2016	Taxes	Tax Per SF
Gem	449 W 36 St	12,340	40	$ 2,516,330	$ 266,076.73	$ 21.56
Comfort Inn	305 W 39 St	27,238	79	$ 5,499,040	$ 581,468	$ 21.35
Wyndham Garden	341 W 36 St	81,000	224	$ 18,569,540	$ 1,963,543	$ 24.24
Candlewood	341 W 39 St	85,706	188	$ 14,965,390	$ 1,582,440	$ 18.46
Hampton Inn	337 W 39 St	71,072	184	$ 15,277,900	$ 1,615,485	$ 22.73
Four Points	326 W 40 St	98,738	248	$ 24,305,473	$ 2,570,061	$ 26.03
Fairfield Inn	330 W 40 St	97,942	244	$ 25,241,860	$ 2,669,074	$ 27.25
Holiday Inn Express	343 W 39 St	74,128	210	$ 17,164,540	$ 1,814,978	$ 24.48
Element	309 W 39 St	138,440	346	$ 34,952,400	$ 3,695,867	$ 26.70
Staybridge	334 W 40 St	131,921	310	$ 33,855,170	$ 3,579,846	$ 27.14
Distrikt	342 W 40 St	66,705	155	$ 14,688,590	$ 1,553,172	$ 23.28
	Total 2016/2017	885,230	2,228	$ 207,036,233	$ 21,892,011	$ 24.73

Source: New York City Department of Finance, Cushman & Wakefield, Inc.

Growth Rates: To project the revenues over the forecast period, the revenue model assumes constant growth rates for taxes from 2017 through 2047. These taxes are assumed to grow at a conservative 2.5% annual growth rate, significantly lower than the historic average for Class 4 properties. This level of growth considers the significant increase in real estate taxes for hotel properties between 2011 and 2016. The growth rate is considered to provide a sufficient margin to compensate for downturns during the forecast period.

Cushman & Wakefield prepared a real estate analysis based upon data provided by third parties (which are relied upon and assumed to be reasonable and accurate) including forecasts provided by Moody's Analytics and tax methodology and calculations provided by New York City's Department of Finance, New York City’s Office of Management and Budget, and the Hudson Yards Development Corporation. Cushman & Wakefield considers the revenue projections prepared by New York City’s Office of Management and Budget to be reasonable.

The revenues are contingent on the realization of all the economic and real estate assumptions, analyses, existing zoning, and completion of key infrastructure, and limiting conditions that are sourced or detailed herein and in Chapter 1.B. Limiting Conditions.

As shown in Exhibit 5-13a, revenues from TEP are expected to total over $3.9 billion, increasing from approximately $35.0 million in 2017 to $195.1 million in 2047. Revenues from properties already paying TEP are expected to be $35.2 million in 2017, increasing to $73.9 million in 2047.

Exhibit 5-13 Hudson Yards Expected Annual Revenues From <u>Completed Projects</u>, 2017 – 2047

FY	Revenues ($)*
2017	$35,240,118
2018	36,121,121
2019	37,024,149
2020	37,949,753
2021	38,898,497
2022	39,870,959
2023	40,867,733
2024	41,889,427
2025	42,936,662
2026	44,010,079
2027	45,110,331
2028	46,238,089
2029	47,394,041
2030	48,578,892
2031	49,793,365
2032	51,038,199
2033	52,314,154
2034	53,622,008
2035	54,962,558
2036	56,336,622
2037	57,745,037
2038	59,188,663
2039	60,668,380
2040	62,185,089
2041	63,739,717
2042	65,333,209
2043	66,966,540
2044	68,640,703
2045	70,356,721
2046	72,115,639
2047	73,918,530
Total Through 2047	**$1,621,054,985**

Shaded bars represent recessionary years per Moody's Analytics
Source: New York City Office of Management & Budget, NYC Department of Finance, Smith Travel Research, and Cushman & Wakefield, Inc.

Exhibit 5-13a Hudson Yards Expected Annual Hotel Buildings Completion and Revenues, 2017 – 2047[104]

FY	Completions (GSF)	Revenues ($)*
2017	872,304	$35,240,118
2018	629,078	36,121,121
2019	430,503	59,376,716
2020	83,066	77,384,095
2021	62,621	90,908,698
2022	-	95,473,632
2023	-	99,631,713
2024	-	102,122,506
2025	21,083	104,675,569
2026	21,293	107,292,458
2027	21,506	110,632,993
2028	21,721	114,080,243
2029	21,939	117,637,694
2030	22,158	121,308,949
2031	22,380	125,097,729
2032	-	129,007,879
2033	-	133,043,374
2034	22,603	136,369,458
2035	22,829	139,778,695
2036	23,058	144,154,490
2037	23,288	148,670,746
2038	23,521	153,332,072
2039	23,756	158,143,225
2040	-	163,109,127
2041	-	168,234,861
2042	-	172,440,733
2043	-	176,751,751
2044	-	181,170,545
2045	-	185,699,809
2046	-	190,342,304
2047	-	195,100,861
Total through 2047	**2,368,708**	**$3,972,334,166**

**Revenues are for NYC Fiscal Year.*

GSF = Gross Square Feet

Shaded bars represent recessionary years per Moody's Analytics
Source: New York City Office of Management & Budget, NYC Department of Finance, Smith Travel Research, and Cushman & Wakefield, Inc.

[104] The C&W forecast was suspended at 2039 due to the maximum hotel development capacity in HY.

Exhibit 5-13: Hudson Yards Expected Annual Hotel Buildings Completion and Revenues, 2017 – 2047

Date	Completions (GSF)	Revenues*
2017	872,304	$ 35,240,118
2018	629,078	$ 36,121,121
2019	430,503	$ 59,376,716
2020	83,066	$ 77,384,095
2021	62,621	$ 90,908,698
2022	-	$ 95,473,632
2023	-	$ 99,631,713
2024	-	$ 102,122,506
2025	21,083	$ 104,675,569
2026	21,293	$ 107,292,458
2027	21,506	$ 110,632,993
2028	21,721	$ 114,080,243
2029	21,939	$ 117,637,694
2030	22,158	$ 121,308,949
2031	22,380	$ 125,097,729
2032	-	$ 129,007,879
2033	-	$ 133,043,374
2034	22,603	$ 136,369,458
2035	22,829	$ 139,778,695
2036	23,058	$ 144,154,490
2037	23,288	$ 148,670,746
2038	23,521	$ 153,332,072
2039	23,756	$ 158,143,225
2040	-	$ 163,109,127
2041	-	$ 168,234,861
2042	-	$ 172,440,733
2043	-	$ 176,751,751
2044	-	$ 181,170,545
2045	-	$ 185,699,809
2046	-	$ 190,342,304
2047	-	$ 195,100,861
Total through 2047	**2,368,708**	**$3,972,334,166**

**Revenues are for NYC Fiscal Year.*

GSF = Gross Square Feet

Source: New York City Office of Management & Budget, New York City Department of Finance, Smith Travel Research, and Cushman & Wakefield, Inc.

Chapter 6. Retail Market

Introduction and Forecast Summary

This chapter presents an overview of retail activity and trends in Manhattan over the five years since the 2011 report. The objective of this chapter is to project the amount of supportable new retail space over the forecast period in the Hudson Yards.

New York City, and Manhattan in particular, is one of the world's greatest shopping districts, and contains three of the most expensive retail corridors in the United States[105]. These include the exclusive and highly touted Upper Fifth Avenue (between 50th and 59th Streets), Madison Avenue, and Lower Fifth Avenue. Manhattan's SoHo district, ranked fifth among these corridors, continues to maintain its status as one of the world's leading retail markets. Other retail markets include the heavily trafficked bargain-hunter and mass-market corridors of 14th and 34th Streets, where moderately priced retailers are congregated, and the newer, trendier areas of the Lower East Side, Nolita, West Chelsea, and the Meatpacking district.

Manhattan's retail market, beyond the few traditional large department stores, is somewhat unusual in that most of the retail space is street-level[106] with either office or residential space above, in contrast to the national norm that predominantly consists of open-air suburban-style strip centers and enclosed regional malls.

For most retailers, the selection of a Manhattan location is driven by visibility, maximum frontage, and signage potential. And unlike suburban shopping, the City's vast public transportation system allows residents and visitors to frequent stores more easily than driving to and from shopping centers.

Despite the dominance of street-level retail, a number of other vertical retail venues have opened over the past 10-15 years. One of the first large vertical retail venue was The Shops at Columbus Circle, a 348,000 sf multi-level shopping center completed in 2004 as part of the mixed-use twin towers at Columbus Circle developed by The Related Companies. In addition, many big-box retailers have renovated the nineteenth century former department stores along Sixth Avenue; and numerous multi-level stores were added in new residential condominium towers that are rising throughout the borough.

Tourism is a key driver of New York City's retail market. In 2015, New York City reached a record high of nearly 58.5 million visitors, representing a 3.5% increase over 2014[107]. The popular visitor activities of shopping and dining represented 38.1% of overall visitor expenditures, as reported in 2014[108].

In the years since the 2006 report, the HY district has seen extensive new construction including residential properties comprising over 7,853 new units, of which 2,580 were built since the 2011 report. Over the same decade, 19 new hotels with 4,212 new rooms were built, of which seven hotels containing 1,984 rooms were built since the 2011 report. The residents and visitors occupying these buildings greatly expand the potential customer base for retail uses. Additionally, with completion of the first office tower in 2016, and three more buildings under construction, the expanded daytime population further increases the customer base.

New retail in the Hudson Yards will likely be an extension of the dense pedestrian traffic flow along West 42nd and West 34th Street, and the Eighth Avenue corridor from Penn Station to the Port Authority Bus Terminal and Times Square. As part of the mixed-use development of the Eastern Rail Yard, a 1.0 msf retail center now under construction, known as The Shops & Restaurants at Hudson Yards, is sited adjacent to the office towers of 10 Hudson Yards and 30 Hudson Yards. Completion is expected by 2019 with Neiman Marcus anchoring the center. The Texas-based luxury specialty store had been looking in the Manhattan market for many years,

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[105] "The 20 Most Expensive Shopping Streets in the US", Janna Herron, The Fiscal Times, December 7, 2015 - boundaries may differ from those reported by Cushman & Wakefield, Inc.
[106] Street-level retail sometimes includes below grade and second floor space, depending on the retailer's needs.
[107] NYC & Company, the City's official marketing, tourism, and partnership organization, analyzes and reports visitor statistics -2015 are the latest annual visitor numbers available.
[108] The 2015 statistics are not yet available.

and its commitment to the HY location was a significant factor in transforming the project from an office development to an urban destination.

Residential and office buildings in the Hudson Yards offer retail amenities aimed at providing tenants and owners' convenient places to shop. For example, TF Cornerstone's rental towers at 505 West 37th Street are built with several retail spaces, the largest of which is the full block-front space occupied by New York Knicks Hall of Famer Walt "Clyde" Frazier's eponymous restaurant and bar. Nearby at 455 West 37th Street are Duane Reade, Odyssey Wine & Spirits, and Jenny's Marketplace. At the MiMA residential tower at 440 West 42nd Street, Fika coffeehouse, Drybar, Kava Cafe, and Treehaus, a new grocer and food hall, occupy the retail space. Further west, Silver Towers at 600 West 42nd Street has leased space to Sunac Market, and at 605 West 42nd Street, Moinian's Sky tower has leased 60,000 sf to Volvo for an auto dealership. In 2014, the addition of Brooklyn Fare, at 431 West 37th Street, brought gourmet and artisanal food products, butcher and fish shops, and a fine dining option at its Chef's Table. Additionally, retail space is currently available at the base of Five Manhattan West. As is the case throughout most of Manhattan, much of HY retail development is expected to be at street-level in commercial and residential buildings.

Based on the market analysis that follows, C&W estimates potential completions of 1.8 msf of new retail space in the Hudson Yards by 2047. Revenues[109] associated with retail development are projected to come to $259 million, growing from approximately $98,000 in 2019 to $24.6 million in 2047 as shown in Exhibit 6-1.

C&W incorporated the analysis, assumptions and factors detailed in this chapter in reviewing the revenues derived from new retail development in the Hudson Yards.

[109] The forecast retail space is based on a share of the office and residential completions as further detailed in this chapter, and is additional space generating additional revenues.

Exhibit 6-1. Retail Sector Forecast of Completions and Revenues, 2017- 2047

FY	Completions (SF)	Revenues ($)
2017	-	
2018	-	
2019	1,028,395	$97,969
2020	26,462	192,922
2021	49,440	510,801
2022	50,898	844,365
2023	17,771	1,389,285
2024	33,231	2,237,095
2025	36,007	2,464,937
2026	43,481	2,735,681
2027	89,858	3,448,550
2028	65,045	4,121,919
2029	10,629	5,072,697
2030	17,748	6,072,014
2031	25,610	6,683,766
2032	31,173	7,479,994
2033	-	7,834,405
2034	-	8,199,427
2035	-	8,565,493
2036	36,523	9,216,464
2037	46,394	10,113,683
2038	14,071	11,429,418
2039	21,066	13,001,027
2040	21,093	13,987,382
2041	42,658	15,430,418
2042	-	16,195,866
2043	-	17,069,927
2044	-	18,271,861
2045	-	19,556,714
2046	72,399	22,318,406
2047	27,028	24,623,930
Total	**1,806,982**	**$259,166,417**

Shaded bars represent recessionary years per Moody's Analytics
Source: New York City's Office of Management and Budget, New York City Department of Finance, Hudson Yards Development Corporation, Cushman & Wakefield, Inc.

Overview of Manhattan's Retail Market

As one of the world's premier shopping destinations, Manhattan offers retail experiences for all budgets. Demand for retail space in the Hudson Yards is expected to evolve in tandem with the commercial and residential development presented in the preceding chapters. New retail uses in the Hudson Yards are expected to complement Manhattan's existing retail market and extend Midtown retail corridors. This chapter presents an overview of Manhattan's retail venues and trends as well as retail demand as follows:

- Overview of the Manhattan retail market
- Summary of Manhattan's recent performance
- Overview of demand generators in Manhattan and specifically in Hudson Yards
- Forecast of retail demand in Hudson Yards for 2017-2047

Fifth and Madison Avenues, and East 57th Street located in Midtown, anchor Manhattan's retail core. Famous names abound ranging from high-end retailers like Saks Fifth Avenue and Bergdorf Goodman, to world-renowned jewelers including Tiffany & Co. and Cartier. European fashion boutiques include Christian Dior, Prada, and Hermes along with well-known American retailers including Brooks Brothers and Nike. Other large retailers like Uniqlo, H&M, POLO Ralph Lauren, Tommy Hilfiger, Zara, Versace and Victoria's Secret have established or expanded their U.S. presence with large stores on Fifth Avenue.

From Park Avenue to the west side of Midtown, the major retail middle-market locations are very much transit-oriented. Grand Central Station, Pennsylvania Station and the Port Authority Bus Terminal (PABT), are regional transportation centers with extensive retail operations within each building. Located near Penn Station, West 34th Street is one of Manhattan's busiest pedestrian corridors, and home to Macy's (generating $1 billion in annual revenues). Other popular retailers include Old Navy, Sephora, Footlocker, H&M, Victoria's Secret and Banana Republic. The Times Square area, which is located between PABT and Grand Central Station, features entertainment, retail, and restaurants that are among the highest grossing food venues in Manhattan. The Bowtie district, from West 42nd to West 48th Streets on Broadway and Seventh Avenue, has the highest grossing revenues in Manhattan and is the busiest commercial/retail corridor in terms of pedestrian counts. These corridors are among the most sought after Manhattan locations by national mass-market retailers.

Throughout Manhattan, numerous retail submarkets provide for a variety of retailers servicing local residents and visitors. Most are street-level retail spaces, some augmented with connecting second floor and/or below-grade floors.

In the past 15-20 years, larger "big box" suburban type retailers have entered the market, including Kmart, Bed, Bath & Beyond, Container Store, Marshall's, T.J. Maxx, Lowe's, Century 21, and Home Depot. These large-scale stores are comparable to those found in suburban locations. Typically these retailers are located on main retail corridors such as Broadway and 14th Street, 23rd Street and most notably Sixth Avenue.

Manhattan's newest retail area is located Downtown in the iconic white marble Oculus, known as the Westfield World Trade Center. This 291,000 sf center opened in 2016 as a major visual landmark noting the redevelopment of the World Trade Center after 9/11. The center is fully leased with a range of tenants, including Stuart Weitzman, Michael Kors, Breitling, Hugo Boss, Apple, and Eataly. The center is integrated with the new Fulton Street Transit Center that connects with PATH service, 12 subway lines, and west to the World Trade Center, 9/11 Memorial and Museum, and to Brookfield Place in Battery Park City.

New retail space at Brookfield Place, formerly the World Financial Center, opened in 2015. The 250,000 sf center includes the glass enclosed Winter Garden overlooking the Hudson River, and a 30,000 sf food marketplace known as Le District. Tenants include Saks Fifth Avenue, Gucci, Tory Burch, Bottega Venetta, Hermes, Theory, and Salvatore Ferragamo.

More evidence of Manhattan's prominence as one of the nation's premier retail markets is the entry of a major on-line retailer opening a brick-and-mortar store. In January 2017, Amazon announced its commitment to occupy 4,000 sf in The Shops at Columbus Circle by April/May. Like Neiman Marcus, rumors of this retailer's entry to the Manhattan market had been circulating for months.

Manhattan's Retail Rents-Global Rank

Manhattan commands the world's most expensive retail rents along Upper Fifth Avenue in Midtown as shown in Exhibit 6-2. This retail corridor has ranked first in luxury retail rents for many years, outpacing other well-known locations such as Causeway Bay in Hong Kong and New Bond Street in London. As of 2016 Q2, the Upper Fifth Avenue average rent was $3,000 psf.

Exhibit 6-2. Top 10 Most Expensive Retail Locations Globally, 2016 Q2

Exhibit 6-2. Top 10 Most Expensive Retail Locations Globally, 2016 Q2

Location	City	Country	Rent psf
Upper 5th Avenue (49th–60th Sts.)	New York	USA	$3,000
Causeway Bay	Hong Kong	Hong Kong	$2,878
Avenue des Champs Elysees	Paris	France	$1,368
New Bond Street	London	UK	$1,283
Ginza	Tokyo	Japan	$1,249
Via Montenapoleone	Milan	Italy	$1,239
Pitt Street Mall	Sydney	Australia	$968
Myeongdong	Seoul	S. Korea	$908
Bahnhofstrasse	Zurich	Switzerland	$868
Kohlmarkt	Vienna	Austria	$477

Source: Cushman & Wakefield, *Main Streets Across the World 2016/2017*

Manhattan's Retail Inventory

Manhattan's retail market is considered an anomaly when compared to other metropolitan retail markets. The relative lack of available retail sites requires retailers to utilize non-traditional space layouts. As noted previously, the majority of retail space within the Manhattan market is comprised of street-level units at the base of residential and commercial buildings. The lack of available space often incentivizes retailers to maximize their space with lower or mezzanine levels. Retail space users along major corridors typically will build out below-grade selling space while those in secondary markets utilize this space for storage.

The avenues within Manhattan's submarkets, as illustrated in Exhibit 6-3, form the concentration of the primary retail space with high visibility and pedestrian traffic. Residential and secondary retail/professional space is often on the streets that intersect with these avenues. The larger shopping centers, although the norm in most other metropolitan areas, are a relatively new small segment of overall retail, as highlighted previously.

Exhibit 6-3. Manhattan's Prime Retail Submarkets

1. **Upper Fifth Avenue** (between 49th and 60th Streets)
2. **Lower Fifth Avenue** (between 42nd and 49th Streets)
3. **Madison Avenue** (between East 57th and East 72nd Streets)
4. **Third Avenue** (between 57th and 79th Streets)
5. **Upper West Side** (on Broadway between West 60th and West 86th Streets, and on Columbus between West 66th and West 72nd Streets)
6. **Times Square** (on Broadway between West 42nd and West 47th Streets)
7. **Herald Square** (West 34th Street from Fifth Avenue to Seventh Avenue)
8. **Flatiron** (on Fifth Avenue between East 14th and East 23rd Streets, and Broadway between East 17th and East 23rd Streets)
9. **The Meatpacking District** (Gansevoort to West 16 Street and Ninth Avenue to West Street)
10. **SoHo** (Broadway to West Broadway, West Houston Street to Canal Street)
11. **Lower Manhattan** (Broadway, Wall Street and Fulton Street)

Source: Cushman & Wakefield, Inc.

Recent Performance of Manhattan's Retail Market

Over the past five years, average asking rents for ground floor retail space in the Manhattan submarkets tracked by Cushman & Wakefield have generally increased, reaching the most recent highs in late 2014 through mid-2015, as illustrated in Exhibit 6-4. However, they have more recently started to decline. As reported by the Real Estate Board of New York (REBNY)[110], the slowdown in global retail growth has led to less competition for space and more availability, causing rents in many corridors to adjust naturally. Asking ground floor retail rents have decreased for nine of the 11 Manhattan retail submarkets as of 2016 Q3[111]. Upper Fifth Avenue and Lower Manhattan's financial district were the two submarkets that had asking rental upticks year-over-year, closing at $2,982 and $418 psf, respectively.

Exhibit 6-4. Manhattan Retail Submarkets, Average Asking Ground Floor Rent ($ psf), 2011 – 2016 Q3

Manhattan Retail- Average Asking Ground Rent											
	Upper Fifth Avenue	Lower Fifth Avenue	Madison Avenue	Upper West Side	Third Avenue	Times Square	Flatiron	Meatpacking	SoHo	Herald Square	Lower Manhattan
2016 Q3	$2,982	$1,215	$1,422	$364	$298	$2,104	$377	$356	$523	$797	$418
2015	$3,370	$1,231	$1,601	$381	$298	$2,336	$446	$384	$541	$818	$423
2014	$3,683	$1,208	$1,602	$397	$298	$2,507	$417	$365	$517	$823	$406
2013	$3,063	$1,090	$1,356	$362	$259	$2,213	$383	$359	$480	N/A	$319
2012	$2,283	$1,011	$1,093	$361	$264	$2,283	$315	$266	$314	N/A	$212
2011	$2,388	$888	$1,001	$300	$228	$1,052	N/A	N/A	$304	N/A	N/A

Source: *Marketbeat Manhattan Retail Reports 2011 – 2016 Q3*, Cushman & Wakefield, Inc.

Retailers have become cautious of the historically high rental rates, which is the main reason behind the declining rental rates. There is growing consensus among many national retailers that e-commerce will continue to play an expanding role in sluggish store sales. This segment of the retail business now accounts for almost 8.4% of all retail sales nationally[112], and is anticipated to continue increasing. Landlords have started making adjustments by decreasing rents and/or increasing concessions. As reported in industry and general media, many are predicting a fracturing of the retail paradigm, as e-commerce becomes a more acceptable practice among younger consumers. Notwithstanding the overall trend, rental rates in some submarkets could see positive growth as retailers continue to take advantage of favorable conditions.

Available space in most submarkets has also increased, coupled with slower leasing velocity, as illustrated in Exhibit 6-5. This is the result of high occupancy costs that have discouraged many retailers from leasing new stores, and consequently the pool of tenants looking for space has become smaller as high rents have driven out many retailers in some submarkets.

Overall, however, the combination of population density and the steady influx of tourists enables the Manhattan retail market to endure down markets and recessions.

[110] New York Spring 2016 Retail Report, The Real Estate Board of New York

[111] *Manhattan Retail Market Statistics, Third Quarter 2016*, Cushman & Wakefield - In the 2011 report, seven submarkets were reported on, since then C&W has added four submarkets that are included herein to broaden the overview of Manhattan retail trends.

[112] *Quarterly Retail E-Commerce Sales 3rd Quarter 2016*, The Census Bureau of the Department of Commerce

Exhibit 6-5. Manhattan Retail Submarkets, Availability Rates, 2011 – 2016 Q3

Manhattan Retail- Availability Rates											
	Upper Fifth Avenue	Lower Fifth Avenue	Madison Avenue	Upper West Side	Third Avenue	Times Square	Flatiron	Meatpacking	SoHo	Herald Square	Lower Manhattan
2016 Q3	13.0%	29.3%	21.2%	11.3%	13.1%	22.2%	9.6%	23.4%	21.6%	22.4%	10.2%
2015	10.1%	29.3%	14.7%	11.3%	10.0%	15.5%	10.8%	20.3%	20.7%	19.0%	9.7%
2014	11.8%	23.1%	13.0%	8.5%	7.1%	15.6%	12.9%	19.6%	13.7%	10.7%	9.1%
2013	10.3%	27.7%	10.2%	6.4%	8.8%	11.1%	6.4%	17.6%	12.2%	N/A	8.6%
2012	5.9%	22.7%	13.0%	4.0%	7.1%	6.5%	5.9%	18.6%	8.8%	N/A	9.6%
2011	6.1%	11.9%	11.7%	4.6%	7.7%	5.3%	N/A	N/A	3.7%	N/A	N/A

Source: *Marketbeat Manhattan Retail Reports 2011 – 2016 Q3*, Cushman & Wakefield, Inc.

A sampling of recent activity is discussed below. Many of the new leases discussed were consummated within new residential buildings, reflecting the consumer's preference for ground floor retail.

The demographics of the Downtown submarket reflect strong buying power and the propensity for leisure/recreation expenditures, with 60% of residential units occupied by single tenants, non-related roommates, or unmarried couples (ages 18 to 44 years old)[113]. The Downtown Alliance hopes that these findings spur landlords to allocate more space for restaurant and retail tenants. In addition to the aforementioned Oculus and Brookfield Center, other retailers have committed to space in other new retail developments. Whole Foods signed a lease for a 44,000 sf store at One Wall Street, in the lower floors of the building, which is being converted into residential units. Nearby, the redevelopment of the South Street Seaport is underway by the Howard Hughes Corporation. The complex will comprise over 377,000 sf of leasable space within four blocks in the Fulton Market Block area inclusive of the new Seaport Food Hall in the Tin Building, plus Pier 17, that would incorporate existing tenants including Abercrombie & Fitch, and Guess.

In the Lower East Side, a sizeable development is Essex Crossing, a 1.9 msf mixed-use project. Recent leases include Trader Joe's for 30,000 sf at 145 Clinton Street and Regal Cinema for up to 65,000 sf at 115 Delancey Street. Nearby in the East Village, Target leased 27,300 sf at a newly constructed residential complex at 500 East 14th Street.

In Midtown, Nordstrom's flagship New York store is being constructed in the base of the 95-story tower at 225 West 57th Street known as Central Park Tower. Completion of the 285,000 sf store is expected mid-year 2018. Like Neiman Marcus, the nationally known retailer had been looking at Manhattan for years. Nordstrom will physically span four buildings from the flagship at street level at 5 Columbus Circle, plus four floors inside 1776 Broadway, and a men's store in 3 Columbus Circle.

Closer to Hudson Yards is the Meatpacking district that has evolved into a trendy shopping area, although rents remain lower year-over-year with a 5.6% decrease. The area continues to be an evening destination popular for restaurants, clubs, and bars.

Rising availability on a year-over-year basis in almost every major statistical retail submarket in Manhattan has created uncertainty in the market. Further compounding this uncertainty is sluggish leasing demand from retailers, whose overall margins continue to shrink and experience further pressure from e-commerce retailers. Despite the micro-market challenges in the near and medium term, the long-term outlook for the Manhattan retail market looks positive, with robust fundamentals including diverse employment, consumer spending, and overall tourism[114]. As asking rents reach equilibrium for retailers, demand is expected to improve and the overall volatility of the market to stabilize.

[113] The Downtown Alliance
[114] See Office and Residential Chapters regarding trends and forecasts

Hudson Yards Retail Demand Forecast and Likely Construction

Since the 2006 study, retail space in HY has generally evolved as expected – providing neighborhood services at street-level spaces for the influx of new residents, office employees, and hotel guests occupying the 12.1 msf of newly constructed and renovated buildings. The new retail spaces generally represent a small percentage of the overall property uses aligned with traditional new construction in Midtown.

The exception to the typical retail location at the base of residential and commercial buildings is the aforementioned under construction Shops and Restaurants at Hudson Yards. Neiman Marcus will anchor the shopping center, and approximately 60% of the space is leased to other retailers. There are expected to be other smaller retail venues within the ERY. The overall development program is somewhat similar in concept to the vertical retail center known as The Shops at Columbus Circle, which the firm co-developed and completed in 2004. Additional plans for the WRY call for approximately 50,000 sf of retail space across the site's eight buildings.

The forecast methodology employed in the 2011 report assumed that the retail space, based on historic and current practice, would be primarily accommodated in new commercial and residential buildings in the Hudson Yards. This assumption has been borne out by the additional development over the last five years, where, with the exception of The Shops and Restaurants at Hudson Yards and the planned 240,000 sf of retail in Manhattan West, retail development has been completed as part of larger residential and commercial structures.

New retail space in HY is expected to see a significant increase with the completion of the Shops at Hudson Yards planned for 2019. Complementary retail, more typical Manhattan, is expected to continue as an amenity in the development of new residential and office buildings.

A review of seven large office buildings constructed or under construction on the west side of Midtown between 1985 (as well as one in east Midtown) reveals that the average retail square footage constitutes 3.4% of the total. A similar review of 14 recent residential properties within and adjacent HY revealed an average retail component of 2.8% of the total building as shown in Exhibit 6-6.

The 21 properties' average retail space as a percentage of the total office and residential space is 3.3%. This percentage is used in the forecast, reflecting the norm of street level retail in most residential and commercial buildings.

Exhibit 6-6: Hudson Yards and Midtown Comparable Commercial and Residential Buildings with Retail Components

COMMERCIAL BUILDINGS

	Bldg A	Bldg B	Bldg C	Bldg D	Bldg E	Bldg F	Bldg G	**Total**
Office Space	1,534,292	1,133,665	572,086	1,529,012	1,814,068	1,514,521	2,864,795	**10,962,439**
Retail	82,818	36,440	32,533	55,208	47,379	111,911	20,005	**386,294**
Total	1,617,110	1,170,105	604,619	1,584,220	1,861,447	1,626,432	2,884,800	**11,348,733**
Retail % of Total	5.1%	3.1%	5.4%	3.5%	2.5%	6.9%	0.7%	**3.4%**

RESIDENTIAL BUILDINGS

	Bldg A	Bldg B	Bldg C	Bldg D	Bldg E	Bldg F	Bldg G	Bldg H	Bldg I	Bldg J	Bldg K	Bldg L	Bldg M	Bldg N	**Total**
Residential Space	381,835	807,807	601,843	76,330	74,974	323,102	830,000	463,375	222,923	586,322	266,481	475,064	839,487	744,192	**6,693,735**
Retail	11,467	21,979	12,918	10,622	2,997	15,718	4,583	45,320	22,930	2,504	7,139	6,414	16,041	10,000	**190,632**
Total	393,302	829,786	614,761	86,952	77,971	338,820	834,583	508,695	245,853	588,826	273,620	481,478	855,528	754,192	**6,884,367**
Retail % of Total	2.9%	2.6%	2.1%	12.2%	3.8%	4.6%	0.5%	8.9%	9.3%	0.4%	2.6%	1.3%	1.9%	1.3%	**2.8%**

Percentage of Retail Space to Total Space (Commerical and Residential)	**3.3%**

Source: Cushman & Wakefield, Inc.

The annual forecast of new retail space supply is derived by taking 3.3% of the forecast square footage of office and residential completions in that year as shown in Exhibit 6-7. Although, the 3.3% is applied to new office and residential completions, the share shown includes 1.0 msf shopping center, which thus increases the forecast share to 7.5% of total completions. This retail space, although based on a share of the office and residential completions, is additional space generating additional revenues. Hotels were excluded in the demand equation because recent hotels constructed in HY and surrounding areas have minimal retail space.

Exhibit 6-7. Forecast of Annual Retail space completions in SF, 2017-2047

Year	Office	Residential	Retail*
2017	-	1,375,281	-
2018	-	1,227,489	-
2019**	3,998,310	860,466	1,028,395
2020	1,908,301	801,890	26,462
2021	730,780	767,401	49,440
2022	3,560,822	604,821	50,898
2023	-	538,512	17,771
2024	-	1,007,010	33,231
2025	-	1,091,113	36,007
2026	-	1,317,594	43,481
2027	1,449,337	1,273,631	89,858
2028	707,326	1,263,740	65,045
2029	322,097	-	10,629
2030	537,823	-	17,748
2031	776,072	-	25,610
2032	944,651	-	31,173
2033	-	-	-
2034	-	-	-
2035	-	-	-
2036	1,106,759	-	36,523
2037	1,405,892	-	46,394
2038	426,392	-	14,071
2039	638,362	-	21,066
2040	639,184	-	21,093
2041	1,292,668	-	42,658
2042	-	-	-
2043	-	-	-
2044	-	-	-
2045	-	-	-
2046	2,193,908	-	72,399
2047	819,028	-	27,028
Total	**23,457,711**	**12,128,949**	**1,806,982**

*For any buildings under construction, the retail percentage is not applied

**Assumes the completion of the 1.0 msf of retail at The Shops & Restaurants at Hudson Yards

Shaded bars represent recessionary years per Moody's Analytics
Source: Cushman & Wakefield, Inc.

As shown in Exhibit 6-8, the annual retail square footage forecast and the revenues associated with retail development in Hudson Yards are expected to total from approximately $98,000 in 2019 to $24.6 million in 2047.

Exhibit 6-8. Annual Retail Completions and Revenues Forecast, 2017 – 2047

FY	Completions (SF)	Revenues ($)
2017	-	
2018	-	
2019	1,028,395	$97,969
2020	26,462	192,922
2021	49,440	510,801
2022	50,898	844,365
2023	17,771	1,389,285
2024	33,231	2,237,095
2025	36,007	2,464,937
2026	43,481	2,735,681
2027	89,858	3,448,550
2028	65,045	4,121,919
2029	10,629	5,072,697
2030	17,748	6,072,014
2031	25,610	6,683,766
2032	31,173	7,479,994
2033	-	7,834,405
2034	-	8,199,427
2035	-	8,565,493
2036	36,523	9,216,464
2037	46,394	10,113,683
2038	14,071	11,429,418
2039	21,066	13,001,027
2040	21,093	13,987,382
2041	42,658	15,430,418
2042	-	16,195,866
2043	-	17,069,927
2044	-	18,271,861
2045	-	19,556,714
2046	72,399	22,318,406
2047	27,028	24,623,930
Total	**1,806,982**	**$259,166,417**

Shaded bars represent recessionary years per Moody's Analytics
Source: New York City's Office of Management and Budget, Hudson Yards Development Corporation, Cushman & Wakefield, Inc.

The revenues exclude the 1.0 msf shopping center, which is included in the projection of office revenues.

Revenues from Retail Development - Methodology and Assumptions

Revenues associated with retail development are expected to account for approximately 0.9% of the overall revenues. These projections are the result of two major inputs into the City's revenue model used to calculate the revenues from 2017 to 2047.

Demand: Projected demand is defined in millions of square feet (msf). The forecast for retail demand assumes that it will be accommodated within the new office and residential buildings in Hudson Yards. The retail forecast is derived by taking 3.3% of both overall forecast office and residential square footage in each year[115].

The demand projections provided by C&W also rely on the underlying economic forecast provided by Moody's Analytics (Chapter 2). These projections were used as inputs along with key real estate and zoning variables and assumptions on infrastructure improvements.

C&W incorporated the following assumptions and factors to support the revenues for new retail development in the Hudson Yards.

Zoning: The projected demand assumes that the existing zoning legislation[116] regarding building FAR and DIB remains in place throughout the analysis period. It is also assumed that future changes to City zoning will not materially affect Manhattan's overall development potential. Significant changes to zoning by creating competitive markets to Hudson Yards other than those identified in this report could potentially result in lower revenues than forecast.

Taxes or PILOT's. Since the assessment of retail space within office and residential buildings is determined by the dominant use[117], the applicable PILOTs or TEP from office and residential development are applied to the retail portion within each to obtain the forecast total retail revenues in the Hudson Yards.

Growth Rates: To project the revenues over the forecast period, the revenue model assumes constant growth rates for taxes from 2017 through 2047. These taxes are assumed to grow at the same conservative rates used in the comparable office (3.5%) and residential (4%) forecasts depending on where the new retail is built as noted earlier.

Cushman & Wakefield prepared a real estate analysis based upon data provided by third parties (which are relied upon and assumed to be reasonable and accurate) including forecasts provided by Moody's Analytics and tax methodology and calculations provided by New York City's Department of Finance, New York City's Office of Management and Budget, and the Hudson Yards Development Corporation. Cushman & Wakefield considers the revenue projections prepared by New York City's Office of Management and Budget to be reasonable.

The revenues are contingent on the realization of all the economic and real estate assumptions and analyses, existing zoning, and completion of key infrastructure, and are subject to limiting conditions that are sourced or detailed herein and in Chapter 1.B Limiting Conditions.

[115] Based on surveys of comparable Midtown office and residential buildings ranging from 0.7% to 12.2% of total space allocated for retail uses, per Exhibit 6-6

[116] Special Hudson Yards District, Zoning Amendment adopted by City Council N040500(A) ZRM, 19 January 2005, New York City Zoning Resolution, Article IX. Special Purpose Districts, Chapter 3. Special Hudson Yards District

[117] According to information provided to Cushman & Wakefield, Inc. by the New York City Office of Management and Budget

Chapter 7. Non-Recurring Revenue

Introduction

As detailed in the 2006 and 2011 reports, additional revenues associated with the construction phase of development were expected to flow to Hudson Yards Infrastructure Corporation (HYIC). The sources of these revenues are one-time payments from developers to increase the maximum square footage allowed on certain sites, and payments in lieu of taxes associated with the financing of construction. As detailed in the prior chapters on office, residential, hotel, and retail, there has been a significant amount of development in HY since 2005, and this activity has resulted in the following non-recurring revenues to the HYIC.

Exhibit 7-1 Non-Recurring Revenues 2005 – 2016

District Improvement Fund Bonus (DIB):	$340,984,282
Eastern Rail Yards Transferable Development Rights (ERY TDRs):	$189,701,588
Payment in Lieu of Mortgage Recording Tax (PILOMRT):	$56,551,315
Combined:	$587,237,185

Source: Hudson Yards Infrastructure Corporation

As HY continues to be developed, it is expected that these mechanisms would generate additional non-recurring revenues to HYIC.

This chapter relied on information provided by the Hudson Yards Development Corporation (HYDC) and the New York City Office of Management & Budget (OMB) regarding all revenue forecasts, the available bonus and air rights, and overall development site densities.

Transfer Mechanisms

Two mechanisms were established in the 2005 rezoning to enable developers to achieve the maximum development envelope on certain sites within the district, including most of the large sites discussed in the Office Chapter.

- DIB – is a floor area ratio (FAR) bonus that can be obtained, up to a predetermined limit for each site, through payments to HYIC[118].
- ERY TDRs - can be purchased after the maximum DIB has been obtained on designated receiving sites (the eight blocks north of West 33rd Street between Tenth and Eleventh Avenues within the Large Scale Plan Area[119]) to achieve the maximum FAR on these sites[120].

The maximum density for each development site is defined in the Special Hudson Yards District zoning text, which establishes a base FAR for each site and the mechanisms for increasing FAR sequentially through the DIB and purchase of ERY TDRs[121].

[118] NYC Zoning Resolution section 93-31
[119] As defined in the New York City Zoning Resolution (Zoning Resolution), Section 93-03, Sub-Area A of the Special Hudson Yards District - generally the area is bound by West 30th Street, Eleventh Avenue, West 41st Street, Hudson Boulevard Park, and West 36th Street and Tenth Avenue
[120] NYC Zoning Resolution section 93-21 Floor Area Regulations in the Large-Scale Plan Sub-district A
[121] Refer to the New York City Zoning Resolution, Article IX - Special Purpose Districts, Chapter 3. Special Hudson Yards District, for a detailed discussion of zoning and air rights transfer mechanisms.

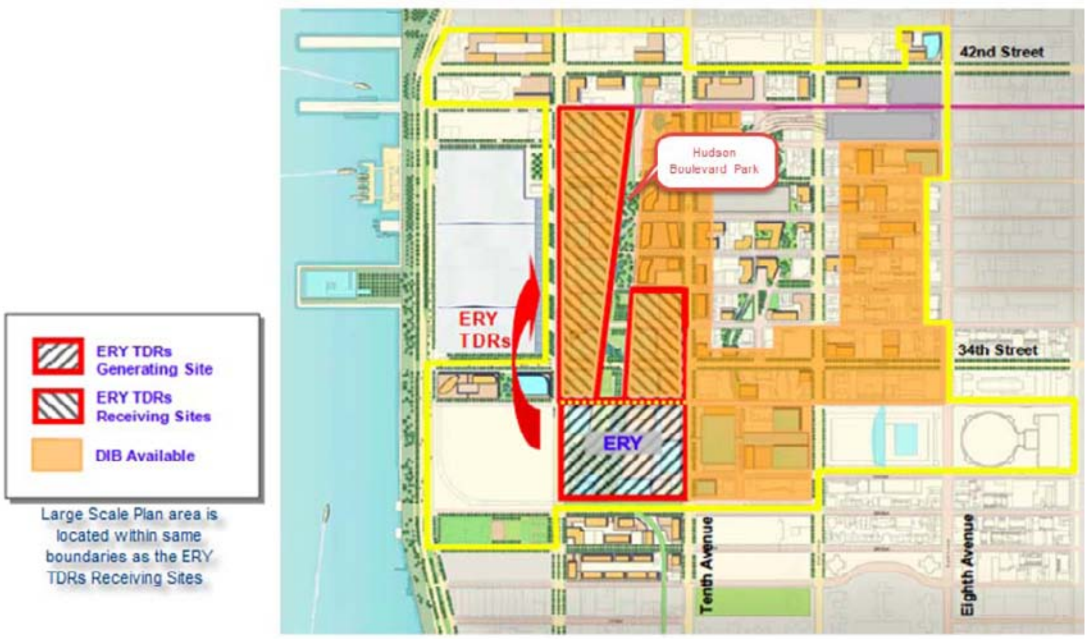
DIB

Large areas of the district, including areas zoned for both commercial and residential uses, are eligible for the DIB. The extent of the areas where the DIB applies is illustrated in Exhibit 7-2. The area is roughly bound by West 41st Street to the north, Eighth Avenue to the east, West 30th Street to the south, and Eleventh Avenue to the west. The DIB has been utilized to increase the FAR of developments such as One Manhattan West (office), and 555 Tenth Avenue (residential), among other buildings as shown in Exhibit 7-4.

ERY Transfers

As detailed in Exhibit 7-2, ERY transfers are available in the area bound by West 41st Street to the north, Hudson Boulevard Park and Tenth Avenue to the east, West 33rd Street to the south, and Eleventh Avenue to the west. As of December 2016, over 838,000 sf of ERY transfers have been purchased.

Exhibit 7-2. DIB and ERY TDRs Generating and Receiving Areas in the Hudson Yards

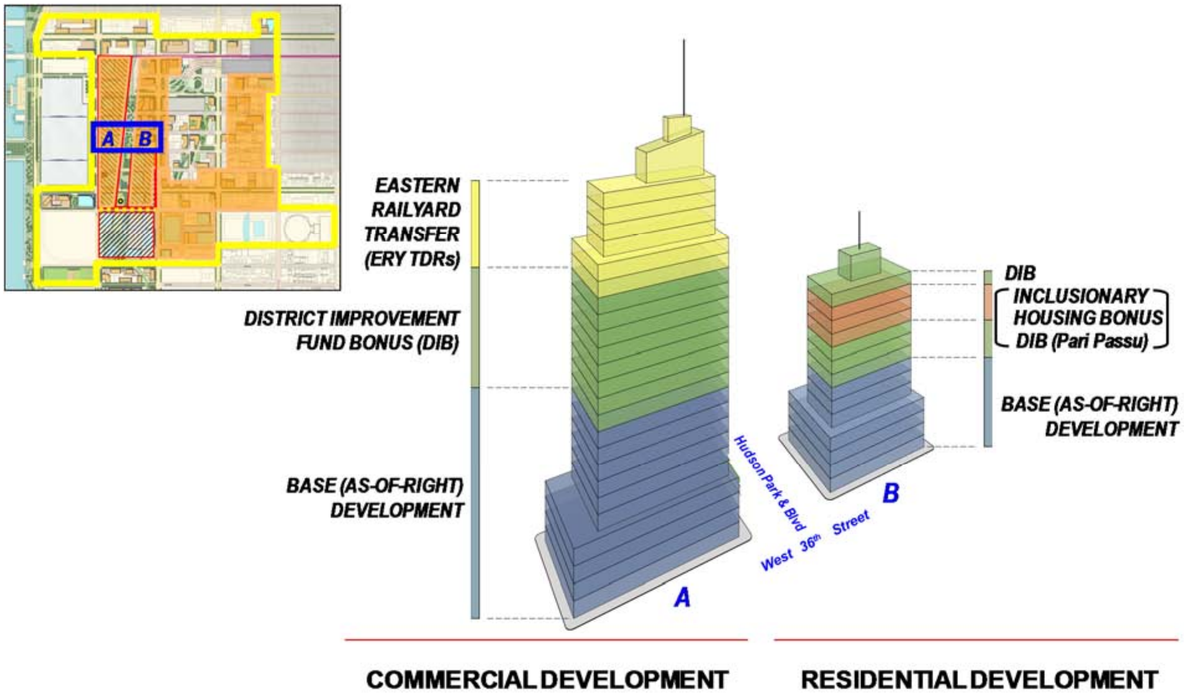


Source: Hudson Yards Development Corporation

Each site within the Large Scale Plan area and the adjacent medium density area along Tenth Avenue from West 33rd to West 41st Streets is governed by a zoning control regime that provides for a "stack" of development rights that must be obtained in a prescribed order. The "stack" is illustrated in Exhibit 7-3. On the sites that are predominantly zoned for commercial use (site A in Exhibit 7-3), the owner/developer may build as-of-right to a base FAR of 10.0, then may obtain additional development rights through payments pursuant to the DIB up to 18.0 FAR, and finally may reach the maximum of 20.0 to 33.0 FAR, depending on the site, through purchase of ERY TDRs.

On the sites that are zoned predominantly for residential use (site B in Exhibit 7-3), the owner/developer may build as-of-right to a predetermined base FAR (generally 6.5 FAR), then may increase the site's density through payments pursuant to the DIB, and must also acquire an equivalent amount of square footage through the City's Inclusionary Housing Bonus (IHB) program[122]. On certain sites, additional square footage may be acquired through the DIB alone, to achieve a maximum FAR of 13.0 to 15.0 depending on the site.

Exhibit 7-3. Illustration of Mechanisms to Increase Density (ERY TDRs, DIB, and IHB) in HY



Source: Hudson Yards Development Corporation

Owners within the Large Scale Plan and along Tenth Avenue may alternatively obtain the density increase otherwise achievable through the DIB by purchase of development rights from private property owners within the Phase 2 Hudson Boulevard Park[123]. The area is estimated to account for approximately 850,000 sf. that would otherwise be required to be obtained from the DIB. For the purpose of estimating the likely DIB revenues to HYIC, it is assumed that all development rights associated with the Phase 2 Area will be utilized, thus reducing by an equivalent amount required DIB square footage, and thus revenues flowing to HYIC.

[122] Per Hudson Yards Development Corporation, the Inclusionary Housing Bonus (IHB) is available on selected sites and provides developers with additional FAR in exchange for the creation of affordable housing - the Hudson Yards IHB program allows additional FAR through a combination of the DIB and IHB Program; maximum allowable FAR through the IHB Program on each site is established by the zoning resolution.

[123] See Sections 93-32 and 93-33 in the New York City Zoning Resolution, Article IX. Special Purpose Districts, Chapter 3 - Special Hudson Yards District for the zoning text defining the Phase 2 Hudson Park and Boulevard (now known as Hudson Boulevard Park) development rights transfer process

DIB

Utilization

In the 2011 report, it was estimated that developers would require approximately 6.6 msf of additional development rights pursuant to the DIB to complete the projected development in HY by 2041. During the subsequent five years, HY has developed consistently with this analysis, with developers generally utilizing the full DIB available to their sites. In addition, the Phase 2 Mechanism is being utilized by Tishman Speyer to facilitate its planned construction of the Hudson Boulevard Park segment between West 36th and West 37th Streets, adjacent to one of its properties (Site 11 in the Office Chapter)[124].

As exhibited in Exhibit 7-4, developers have purchased 2.9 msf of DIB rights as of December 2016, validating the market acceptance of the DIB mechanism.

Exhibit 7-4. Hudson Yards DIB Amounts and Payments, 2005 -2016

Applicant	Address	DIB Sqft	DIB Rate	Contribution	Month/Year
Unigroup Hotel LLC	326-332 W 40th	39,500	$100.00	$3,950,000	Sep-05
M & R Hotel Times Sq LLC	305 W 39th	2,576	100.00	257,600	Dec-05
Midtown West A LLC	455 W 37th	69,125	100.00	6,912,500	Jun-06
Metro Eleven Hotel LLC	337 W. 39th	27,982	106.48	2,979,502	Apr-07
Metro Eleven Hotel LLC	339 W. 39th	32,058	106.48	3,413,557	Apr-07
M & R Hotel 343 West LLC	343 W. 39th	30,060	106.48	3,200,789	Apr-07
West 38th Street LLC	310-328 38th (in SGCD)	123,438	106.48	13,143,625	Jun-07
Midtown West B LLC	505 W. 37th St.	168,054	106.48	17,894,390	Jun-07
Brisam Times Sq. LLC	309-13 W. 39th	59,250	106.48	6,308,940	Jun-07
RS 308 West 40 LLC	308 W. 40th	19,750	106.48	2,102,980	Jun-07
34-10 Development LLC	461-469 W. 34th	30,859	106.48	3,285,907	Jun-07
Mehta Family LLC	334 W. 40th	52,669	106.48	5,608,225	Jun-07
342 Property LLC	342 W. 40th St.	26,333	109.36	2,879,816	Dec-07
325 West 33rd Street Partners, LLC	325 W. 33rd St.	22,219	109.36	2,429,843	Mar-08
SBCO - NYC Nominee, LLC	307-311 W. 37th	14,813	109.36	1,619,895	Jun-08
Tower 37 LLC	350 W. 37th	39,088	114.83	4,488,418	Jul-08
Glenwood	330 W. 39th Street	89,076	114.47	4,634,807	Dec-10
Albanese Org.	312-318 W. 37th	19,948	118.59	2,365,574	Nov-11
Optima Real Estate	333 W. 38th St.	4,938	118.59	585,538	Mar-12
Landmark Realty LLC	321-325 W. 35th	10,579	120.61	1,275,885	Feb-13
Landmark Realty LLC	320-328 W. 36th	16,458	120.61	1,984,961	Feb-13
310 Group, LLC	310-312 W. 40th St.	39,500	120.61	4,764,095	Jul-13
37-11 Development, LLC	440-442 10th Ave.	14,802	122.78	1,817,390	Feb-14
H 8th Ave. Assoc.	585 8th Ave.	4,938	122.78	606,226	Mar-14
SNRP 37 West LLC	326-330 W. 37th	14,813	122.78	1,818,679	May-14
10th Ave. YYY, LLC	444 10th Ave.	14,826	122.78	1,820,336	Jun-14
HKONY West 36 LLC	337 W. 36th St	4,938	122.78	606,226	Jul-14
One Hudson Yards Owner LLC	380 11th Ave.	320,127	125.36	40,131,164	Dec-14
338 West LLC	338 W. 36th St.	24,688	125.36	3,094,825	Nov-14
HY 38 Owner LLC	509 W. 38th St.	79,920	125.36	10,018,740	Mar-15
BOP West 31st St. LLC	371 9th Ave./401-409 9th Ave.	740,348	125.36	92,810,025	Feb-15
NYHK West 40 LLC	346-354 W. 40th Street	79,000	125.36	9,903,440	Mar-15
Extell 4100 LLC	555 Tenth Ave.	243,446	125.36	30,518,391	Apr-15
Hudson 36 LLC	521, 517 and 513 W. 36th & 518 W. 37th	52,398	125.36	6,568,662	Jun-15
37-11 Development, LLC	450 11th Ave.	79,000	125.36	9,903,440	Jul-15
Panoramic Hudson LLC	537-545 W. 37th St.	138,250	125.36	17,331,020	Jul-15
451 10th Ave. LLC	451 10th Ave.	138,236	125.36	17,329,265	Jul-15
Due Milla Realty Group LLC	338 and 346 West 36 Street	4,938	125.49	619,607	Aug-16
Total		**2,892,937**		**$340,984,282**	

Source: Hudson Yards Infrastructure Corporation

[124] Presentation by Michelle Adams of Tishman Speyer to Manhattan Community Board 4 Land Use Committee, December 14, 2016

Availability

Based on the utilization of the DIB mechanism from 2005 through 2016 as detailed in Exhibit 7-4, it is anticipated that developers will continue to maximize use of the DIB. Consistent with the 2011 forecast, it is assumed that each development site will be built to the maximum allowed FAR. This assumption has been borne out by the office, residential, and hotel projects that have been constructed in HY over the last decade, which have generally been built to the maximum allowed FAR.

In estimating the quantity of the DIB that will be demanded annually to facilitate development in HY, the same methodology was employed as in the 2011 report. The estimated total DIB of 8.3 msf[125] has been reduced by the utilized DIB of 2.9 msf, and the estimated Phase 2 rights of 850,000 sf have been removed to show an estimated available DIB of 4.5 msf, as illustrated below.

Exhibit 7-5. Estimated DIB Square Feet Available

Estimated Total DIB SF Available 2006	8,291,481
DIB SF Used 2006-2016	(2,892,937)
SF from Phase 2 Hudson Boulevard Park Area	(850,000)
Estimated Remaining DIB Available	4,548,544

Source: Hudson Yards Development Corporation, Hudson Yards Infrastructure Corporation, Cushman & Wakefield, Inc.

In estimating the annual demand for DIB square footage, a pro-rata share, based on the annual completions by building use (i.e., office, residential, hotel, and retail), is applied annually to the estimated remaining DIB. Further, as the DIB is required to be purchased prior to issuance of a building permit, the forecast assumes that the DIB is acquired at the onset of construction, or three years prior to projected office completion (Chapter 3) and two years earlier than forecasted residential and hotel completion (Chapters 4 and 5, respectively). Exhibit 7-6 lists the DIB square footage throughout the forecast period.

[125] Source for initial DIB square footage for the district provided by Hudson Yards Development Corporation, illustrated by Cushman & Wakefield, Inc., in Exhibit 7-4 in 2011 Report

Exhibit 7-6. Estimated DIB Utilization

Year	Estimated DIB Absorption ZSF*
2017	0
2018**	713,551
2019	315,853
2020	122,181
2021	103,653
2022	193,830
2023	213,947
2024	492,529
2025	372,732
2026	303,857
2027	93,254
2028	133,244
2029	162,078
2030	5,809
2031	0
2032	4,212
2033	183,669
2034	239,009
2035	82,106
2036	110,489
2037	111,969
2038	213,483
2039	7,949
2040	0
2041	0
2042	0
2043	355,651
2044	13,490
2045	0
2046	0
2047	0
2048	0
2049	0
2050	0
Total	4,548,544

*ZSF= Zoning Square Feet

**Note 2018 includes the DIB associated with the construction of 50 HY. Due to the major lease commitment, Related is anticipated to begin the construction process in 2017. Due to timing uncertainty, DIB revenues for 50 HY were assigned to 2018.

Shaded bars represent recessionary years per Moody's Analytics
Source: Office of Management and Budget; Cushman & Wakefield, Inc.

Pricing

The zoning resolution established an initial DIB price of $100.00 psf for both residential and commercial development in January 2005. This is adjusted by action of the City Planning Commission each year at a rate equal to the percent change in the Consumer Price Index (CPI) for all urban consumers determined by the U.S. Bureau of Labor Statistics. As of August 2016, the DIB price reached $126.75 psf, as shown below.

Exhibit 7-7. Hudson Yards Annual District Improvement Bonus (DIB) Pricing

Effective Date	Price	% Change
8/1/2016	$126.75	1.00%
8/1/2015	$125.49	0.10%
8/1/2014	$125.36	2.10%
8/1/2013	$122.78	1.80%
8/1/2012	$120.61	1.70%
8/1/2011	$118.59	3.60%
8/1/2010	$114.47	1.10%
8/1/2009	$113.22	-1.40%
8/1/2008	$114.83	5.00%
8/1/2007	$108.36	2.70%
8/1/2006	$106.48	6.48%
8/1/2005	$100.00	

Source: NYC Department of City Planning

In the 2011 forecast the DIB price was increased at 2.1% annually, consistent with the projections of GDP by Moody's Analytics. This rate is also below the 3.0% annual average growth rate used in the 2006 report based on the land value increases from 1985 to 2005. For this report, the DIB rate is estimated to increase by 1.9%[126] annually through 2047, consistent with the projections of inflation by Moody's Analytics.

OMB calculated the resulting estimated revenues by multiplying the estimated annual DIB square footage by the inflated DIB payment amount in that year, as presented in Exhibit 7-11. In total, DIB revenues are forecast to be $703,654,237 through 2047, or 2.5% of the overall $28.0 billion.

ERY TDRs

Under an agreement between the City and the MTA, HYIC purchased a 50% interest in the ERY TDRs for $200 million with funds from its Fiscal 2007 Series A bond offering[127]. HYIC commenced a program to sell the ERY TDRs for use and development in the project area. HYIC was authorized to receive all proceeds of such ERY TDR sales until it recouped the $200 million plus financing costs, as determined by the rate of interest of the bonds. Upon receipt of the $200 million plus financing costs, all future ERY TDR sales proceeds flow to the MTA.

[126] Per Moody's Analytics, Chapter 2 - annualized real GDP growth will hover between 1.7% and 2.0%
[127] Per Hudson Yards Development Corporation

Under the purchase agreement, HYIC can market and price, without the approval of the MTA, 100% of the ERY TDRs, provided that the sale price of the ERY TDRs is equal to or greater than the price per square foot of the DIB[128] and that the sale occurs prior to September 2020. HYIC, acting through its agent HYDC, established a procedure for negotiating and completing sales of ERY TDRs[129].

HYIC has received nearly $190 million from the sale of its share of ERY TDRs, as of January 2017. As shown in Exhibit 7-11, it is assumed that HYIC will sell its remaining interest in TDRs in 2018 resulting $104 million of non-recurring revenue. This amount may increase/decrease if realized earlier/later due to less/more interest accrual[130].

As discussed in the Office Chapter, Site 7, also known as 50 Hudson Yards, is likely to commence construction in 2017. To maximize its development envelope, the site will require approximately 1.0 msf of ERY TDRs[131]. Upon sale of these TDRs, all future ERY TDR revenues will flow to the MTA. Therefore, this analysis does not consider ERY TDRs as a revenue source for HYIC beyond an estimated payment in 2018.

Mortgage Recording Tax

In addition to the revenues from the sale of DIB and ERY TDRs, a payment in-lieu of mortgage-recording tax (PILOMRT) applied to certain commercial properties in the Hudson Yards district provides additional revenue to HYIC. The mortgage recording tax is imposed on the recording of real estate mortgages throughout New York City. For mortgages on commercial properties exceeding $500,000, the City levies a tax of 1.75% and an additional 1.05% is levied by the State. Pursuant to the New York City Industrial Development Agency (NYCIDA) Hudson Yards Uniform Tax Exemption Policy (UTEP) Amendment[132], HYIC receives the revenues otherwise payable under this tax[133] on projects that obtain benefits under that program, as a payment in-lieu of taxes on the mortgage-recording tax (PILOMRT).

To date there have been eight PILOMRT payments to HYIC, totaling $56.6 million, from the financing of the office and retail buildings on the Eastern Rail Yard and at Manhattan West, as shown in Exhibit 7-8.

Exhibit 7-8. PILOMRT Transactions

Lessee	Address	Date	PILOMORT
Legacy Yards Tenant LLC	10 Hudson Yards	4/8/2013	$8,661,873
ERY Tenant LLC	30 Hudson Yards Tower	3/17/2014	$4,688,125
Retail Podium LLC	1 Manhattan West	1/20/2015	$160
Brookfield Office Properties	30 Hudson Yards Retail	12/8/2015	$7,682,267
Retail Podium LLC	30 Hudson Yards North Tower	12/11/2015	$1,875,000
Hudson Yards North Tower Tenant LLC	30 Hudson Yards Retail	12/11/2015	$12,938,604
Legacy Yards Tenant LLC	10 Hudson Yards	8/1/2016	$12,266,661
Retail Podium LLC	30 Hudson Yards Retail	10/25/2016	$8,438,625
Total			**$56,551,315**

Source: Hudson Yards Infrastructure Corporation

[128] For details relating to development of the MTA Rail Yards and transferable development rights refer to #7 Extension Memorandum of Understanding and Rail Yards Agreement: September 28, 2006, Agreement between Metropolitan Transportation Authority, NYC Transit Authority and MTA Capital Construction, and the City of New York, Hudson Yards Development Corporation and Hudson Yards Infrastructure Corporation

[129] Hudson Yards Development Corporation - ERY TDRs Disposition and Pricing Mechanism detail is available at www.hydc.org.

[130] As quantified by the New York City Office of Management and Budget

[131] Per Exhibit 7-4. Estimated Maximum FAR from DIB and ERY TDRs, 2011 Report

[132] Amendment to Uniform Tax Exemption Policy (UTEP) for Hudson Yards Commercial Construction Projects, as adopted by the New York City Industrial Development Agency, August 8, 2006

[133] Per the New York City Office of Management and Budget, a recent change in NYS law eliminated the ability of the IDA to exempt the portion of the Mortgage Recording tax dedicated to the MCTD. As a result HYIC receives 2.5% of the non-MTA properties. For properties belonging to the MTA, HYIC share of the PILOMRT is 75%.

In order to estimate the PILOMRT due from future commercial projects, the same methodology was employed as in the 2011 report. OMB calculated the estimated mortgage-recording tax by multiplying the projected square footage of commercial office and retail development for eligible projects (Chapters 3 and 6) by the expected cost of construction and the 2.8% tax rate.

Eligible projects are those that can apply to the NYCIDA to take advantage of its UTEP program to obtain a PILOT agreement. The mortgage-recording tax is levied upon financing and not construction completions, and therefore recognized in the year construction starts. In estimating the portion of development projects that will be subject to mortgage financing, 50% of all costs are assumed to be financed, lower than the 80% assumed in 2006, to reflect more conservative lending practices since the recession. This lower percentage also reflects the fact that some developers of the largest projects have access to alternative sources of funds other than traditional mortgage debt, such as the public equity markets and real estate and foreign investment funds.

Based on an analysis of the development budgets of recent large Class A office buildings in Manhattan, total development costs, inclusive of hard costs for labor and materials, soft costs and land acquisition costs, were estimated at $1,000 psf as of 2016. These costs are projected to grow at a 3.0% annual rate over the forecast period. Cushman & Wakefield compared this rate to the average growth rate in construction costs for New York City as measured by the Engineering News Record (ENR) Building Construction Index over the 32-year period from 1985 to 2016, as shown in Exhibit 7-10. The ENR growth rate of 3.43% is higher than the 3.0% forecast rate used in the revenue analysis, indicating a conservative assumption over the 30-year forecast period.

Exhibit 7-9. New York City Building Construction Cost Index, 1985-2016

Year	Building Cost Index
1985	3,076.19
1986	3,217.83
1987	3,369.28
1988	3,522.07
1989	3,712.20
1990	3,847.21
1991	3,997.91
1992	4,151.28
1993	4,349.20
1994	4,458.36
1995	4,557.44
1996	4,774.23
1997	4,880.61
1998	4,890.13
1999	5,147.21
2000	5,018.67
2001	5,330.03
2002	5,438.20
2003	5,583.09
2004	6,112.26
2005	6,304.51
2006	6,520.06
2007	6,571.53
2008	6,875.68
2009	6,816.18
2010	6,998.68
2011	7,242.73
2012	7,532.75
2013	7,692.00
2014	8,073.92
2015	8,640.45
2016	8,751.86
CAGR 1985-2016	3.43%

Source: Engineering News Record, Cushman & Wakefield, Inc.

Cumulative Non-Recurring Revenues

The cumulative revenues over the forecast period beginning in 2017 are $1.1 billion. As noted previously, based on the agreement between the City and the MTA, ERY payments are limited to $200 million in interest plus any financing cost. A summary of the revenues associated with the bonus FAR payments is shown on an annual basis in Exhibit 7-11.

Exhibit 7-10. Expected Revenues from ERY TDRs, DIB Payments and PILOMRT, 2017-2047

FY	DIB	ERY TDR	PILOMRT	Total
2017	$1,251,656	$0	$20,705,286	$21,956,942
2018	92,160,954	104,028,922	7,228,203	203,418,079
2019	41,570,153	0	35,746,282	77,316,435
2020	16,386,066	0	0	16,386,066
2021	14,165,355	0	0	14,165,355
2022	26,992,304	0	0	26,992,304
2023	30,359,756	0	0	30,359,756
2024	71,219,532	0	16,833,531	88,053,063
2025	54,920,990	0	8,610,966	63,531,956
2026	45,623,114	0	4,058,182	49,681,295
2027	14,267,829	0	6,979,440	21,247,269
2028	20,773,555	0	10,071,250	30,844,805
2029	25,749,140	0	12,626,708	38,375,848
2030	940,340	0	0	940,340
2031	0	0	0	0
2032	707,978	0	0	707,978
2033	31,460,888	0	16,861,933	48,322,821
2034	41,717,979	0	22,111,376	63,829,354
2035	14,603,519	0	7,009,515	21,613,034
2036	20,025,107	0	10,808,947	30,834,055
2037	20,678,995	0	10,822,860	31,501,855
2038	40,176,213	0	22,544,498	62,720,712
2039	1,524,291	0	0	1,524,291
2040	0	0	0	0
2041	0	0	0	0
2042	0	0	0	0
2043	73,536,221	0	44,356,589	117,892,810
2044	2,842,302	0	17,055,948	19,898,250
2045	0	0	0	0
2046	0	0	0	0
2047	0	0	0	0
Total	**$703,654,237**	**$104,028,922**	**$274,431,512**	**$1,082,114,671**

Source: New York City Office of Management and Budget, New York City Department of Finance, Hudson Yards Development Corporation, Cushman & Wakefield, Inc.

Cushman & Wakefield prepared a real estate analysis based upon data provided by third parties (which are relied upon and assumed to be reasonable and accurate) including forecasts provided by Moody's Analytics and tax methodology and calculations provided by New York City's Department of Finance, New York City's Office of Management and Budget, and the Hudson Yards Development Corporation. Cushman & Wakefield considers the revenue projections prepared by New York City's Office of Management and Budget to be reasonable, as shown in Exhibit 7-11.

The revenues are contingent on the realization of all the economic and real estate assumptions, analyses, existing zoning, and completion of key infrastructure, and are subject to limiting conditions that are sourced or detailed herein and in Chapter 1B Limiting Conditions.

APPENDICES

APPENDIX A: Supplemental Office Market Information

Note on Measurement of Office Space

There are several units of measurement typically used in developing, leasing and marketing Manhattan office space. The three units of measurement that are used in this report are zoning square footage (also known as Zoning Floor Area {ZFA}), gross square feet, and rentable square feet. The definitions of each unit and a table illustrating their relationship, as used in this report, are presented below.

1. Zoning square feet (ZSF) is the unit of measurement for purposes of determining the development capacity of a lot or area of a building under the New York City Zoning Resolution. It is code driven, and excludes certain portions of a building such as vertical circulation and mechanical space.
2. Gross square feet (GSF) is the unit of measurement applied to determine the physical size, or gross building area (GBA) of a building. It measures the actual total area of the building measured from the exterior of its walls (excluding unenclosed areas such as balconies, patios or courtyards.) The area of a building in gross square feet is often larger than its zoning square footage.
3. Rentable square feet (RSF) is the economic unit of measurement of a building by the landlord for which rent can be charged, and the units in which commercial real estate firms usually report their inventory, leasing activity and absorption statistics. Also referred to as net rentable area. In New York City the rentable area is usually larger than the gross building area.
4. Usable area is a measurement made by the landlord based upon standards recommended by the Real Estate Board of New York (REBNY). (Gross area excluding vertical penetrations such as stairwells, elevator shafts, elevator machines and risers, fire towers and courts including the nominal four inch enclosing walls but including elevator lobbies, restrooms and columns as usable square footage).

OFFICE PILOT SCHEDULES AND REVENUE DETAIL(Revenues provided by NYC Office of Management and Budget)

Note, highlighted boxes are when the PILOT phases out to full taxes.

Office Pilot 8-10th Avenue													
						2017	2018	2019	2020	2021	2022	2023	2024
					SF Built	1,908,301						730,780	684,495
		Expected Full Taxes	25 Percent Discount		Revenues								
	2017	17.10	12.83		2017	1,080,791	-	-	-	-	-	-	-
	2018	17.70	13.27		2018	1,118,618	-	-	-	-	-	-	-
	2019	18.32	13.74		2019	1,157,770	-	-	-	-	-	-	-
	2020	18.96	14.22		2020	18,722,955	-	-	-	-	-	-	-
	2021	19.62	14.72		2021	28,084,432	-	-	-	-	-	-	-
	2022	20.31	15.23		2022	29,067,388	-	-	-	-	-	-	-
	2023	21.02	15.77		2023	30,084,746	-	-	-	-	-	11,520,889	-
	2024	21.76	16.32		2024	31,137,712	-	-	-	-	-	11,924,121	11,168,896
	2025	22.52	16.89		2025	32,071,844	-	-	-	-	-	12,341,465	11,559,807
	2026	23.31	17.48		2026	33,033,999	-	-	-	-	-	12,773,416	11,964,400
	2027	24.12	18.09		2027	34,025,019	-	-	-	-	-	13,156,618	12,383,154
	2028	24.97	18.72		2028	35,045,769	-	-	-	-	-	13,551,317	12,754,649
	2029	25.84	19.38		2029	36,097,142	-	-	-	-	-	13,957,857	13,137,288
	2030	26.74	20.06		2030	37,180,057	-	-	-	-	-	14,376,592	13,531,407
	2031	27.68	20.76		2031	38,295,458	-	-	-	-	-	14,807,890	13,937,349
	2032	28.65	21.49		2032	39,444,322	-	-	-	-	-	15,252,127	14,355,470
	2033	29.65	22.24		2033	40,627,652	-	-	-	-	-	15,709,691	14,786,134
	2034	30.69	23.02		2034	41,846,481	-	-	-	-	-	16,180,981	15,229,718
	2035	31.76	23.82		2035	43,101,876	-	-	-	-	-	16,666,411	15,686,609
	2036	32.87	24.66		2036	50,187,969	-	-	-	-	-	17,166,403	16,157,207
	2037	34.03	25.52		2037	55,191,082	-	-	-	-	-	17,681,395	16,641,924
	2038	35.22	26.41		2038	60,482,933	-	-	-	-	-	20,588,276	17,141,181
	2039	36.45	27.34		2039	66,077,604	-	-	-	-	-	22,640,670	19,959,249
	2040	37.72	28.29		2040	71,989,811	-	-	-	-	-	24,811,510	21,948,937
	2041	39.04	29.28		2041	74,509,454	-	-	-	-	-	27,106,575	24,053,452
	2042	40.41	30.31		2042	77,117,285	-	-	-	-	-	29,531,900	26,278,397
	2043	41.83	31.37		2043	79,816,390	-	-	-	-	-	30,565,517	28,629,622
	2044	43.29	32.47		2044	82,609,964	-	-	-	-	-	31,635,310	29,631,659
	2045	44.80	33.60		2045	85,501,313	-	-	-	-	-	32,742,545	30,668,767
	2046	46.37	34.78		2046	88,493,859	-	-	-	-	-	33,888,535	31,742,173
	2047	48.00	36.00		2047	91,591,144	-	-	-	-	-	35,074,633	32,853,150

Office Pilot 8th to 10th avenue 40 % discount					2015	2016	2017
				SF Built	1,898,215	1,269,852	3,728,458
	Expected Full Taxes	40 Percent Discount		Revenues			
2017	17.10	10.26		2017	2,739,115	993,330	6,133,354
2018	17.70	10.62		2018	20,157,335	1,028,097	6,348,021
2019	18.32	10.99		2019	20,862,842	12,037,610	6,570,202
2020	18.96	11.38		2020	21,593,041	16,932,102	36,581,101
2021	19.62	11.77		2021	22,348,798	17,524,726	43,897,321
2022	20.31	12.19		2022	23,019,261	18,138,091	45,433,727
2023	21.02	12.61		2023	23,709,839	18,772,925	47,023,908
2024	21.76	13.05		2024	24,421,134	19,336,112	48,669,744
2025	22.52	13.51		2025	25,153,769	19,916,196	50,129,837
2026	23.31	13.98		2026	25,908,382	20,513,681	51,633,732
2027	24.12	14.47		2027	26,685,633	21,129,092	53,182,744
2028	24.97	14.98		2028	27,486,202	21,762,965	54,778,226
2029	25.84	15.50		2029	28,310,788	22,415,854	56,421,573
2030	26.74	16.05		2030	29,160,112	23,088,329	58,114,220
2031	27.68	16.61		2031	30,034,915	23,780,979	59,857,647
2032	28.65	17.19		2032	30,935,963	24,494,408	61,653,376
2033	29.65	17.79		2033	38,273,310	25,229,241	63,502,977
2034	30.69	18.41		2034	44,273,214	25,986,118	65,408,067
2035	31.76	19.06		2035	50,646,227	30,759,007	67,370,309
2036	32.87	19.72		2036	57,411,115	34,315,291	83,349,102
2037	34.03	20.42		2037	64,587,505	38,078,513	96,415,299
2038	35.22	21.13		2038	66,848,068	42,067,597	110,294,028
2039	36.45	21.87		2039	69,187,750	46,284,642	125,026,159
2040	37.72	22.63		2040	71,609,321	47,904,605	140,654,429
2041	39.04	23.43		2041	74,115,647	49,581,266	145,577,334
2042	40.41	24.25		2042	76,709,695	51,316,610	150,672,540
2043	41.83	25.10		2043	79,394,534	53,112,692	155,946,079
2044	43.29	25.97		2044	82,173,343	54,971,636	161,404,192
2045	44.80	26.88		2045	85,049,410	56,895,643	167,053,339
2046	46.37	27.82		2046	88,026,139	58,886,991	172,900,206
2047	48.00	28.80		2047	91,107,054	60,948,035	178,951,713

Office Pilot 10th to 12th Avenues 25%					2024	2025	2026	2027	2028	2029	2030	2031
				SF Built	2,876,327	-	-	-	-	1,449,337	707,326	31,528
	Expected Full Taxes	25 Percent Discount										
2017	17.10	12.83		2017	-	-	-	-	-	-	-	-
2018	17.70	13.27		2018	-	-	-	-	-	-	-	-
2019	18.32	13.74		2019	-	-	-	-	-	-	-	-
2020	18.96	14.22		2020	-	-	-	-	-	-	-	-
2021	19.62	14.72		2021	-	-	-	-	-	-	-	-
2022	20.31	15.23		2022	-	-	-	-	-	-	-	-
2023	21.02	15.77		2023	-	-	-	-	-	-	-	-
2024	21.76	16.32		2024	46,932,974	-	-	-	-	-	-	-
2025	22.52	16.89		2025	48,575,628	-	-	-	-	-	-	-
2026	23.31	17.48		2026	50,275,775	-	-	-	-	-	-	-
2027	24.12	18.09		2027	52,035,427	-	-	-	-	-	-	-
2028	24.97	18.72		2028	53,596,490	-	-	-	-	-	-	-
2029	25.84	19.38		2029	55,204,385	-	-	-	-	28,087,358	-	-
2030	26.74	20.06		2030	56,860,516	-	-	-	-	29,070,416	14,187,351	-
2031	27.68	20.76		2031	58,566,332	-	-	-	-	30,087,881	14,683,909	654,509
2032	28.65	21.49		2032	60,323,322	-	-	-	-	31,140,956	15,197,845	677,417
2033	29.65	22.24		2033	62,133,021	-	-	-	-	32,075,185	15,729,770	701,126
2034	30.69	23.02		2034	63,997,012	-	-	-	-	33,037,441	16,201,663	725,666
2035	31.76	23.82		2035	65,916,922	-	-	-	-	34,028,564	16,687,713	747,436
2036	32.87	24.66		2036	67,894,430	-	-	-	-	35,049,421	17,188,344	769,859
2037	34.03	25.52		2037	69,931,263	-	-	-	-	36,100,903	17,703,995	792,955
2038	35.22	26.41		2038	72,029,201	-	-	-	-	37,183,930	18,235,115	816,743
2039	36.45	27.34		2039	83,871,043	-	-	-	-	38,299,448	18,782,168	841,245
2040	37.72	28.29		2040	92,231,938	-	-	-	-	39,448,432	19,345,633	866,483
2041	39.04	29.28		2041	101,075,353	-	-	-	-	40,631,885	19,926,002	892,477
2042	40.41	30.31		2042	110,424,824	-	-	-	-	41,850,841	20,523,782	919,252
2043	41.83	31.37		2043	120,304,939	-	-	-	-	43,106,367	21,139,495	946,829
2044	43.29	32.47		2044	124,515,612	-	-	-	-	50,193,198	21,773,680	975,234
2045	44.80	33.60		2045	128,873,659	-	-	-	-	55,196,832	25,353,347	1,004,491
2046	46.37	34.78		2046	133,384,237	-	-	-	-	60,489,235	27,880,758	1,169,633
2047	48.00	36.00		2047	138,052,685	-	-	-	-	66,084,489	30,554,031	1,286,231

Office Pilot 10th to 12th 20%					2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
				SF Built	290,570	537,823	776,072	944,651	-	-	-	1,106,759	1,405,892	426,392	261,841
	Expected Full Taxes	20 Percent Discount		Revenues											
2017	17.10	13.68		2017	-	-	-	-	-	-	-	-	-	-	-
2018	17.70	14.16		2018	-	-	-	-	-	-	-	-	-	-	-
2019	18.32	14.65		2019	-	-	-	-	-	-	-	-	-	-	-
2020	18.96	15.17		2020	-	-	-	-	-	-	-	-	-	-	-
2021	19.62	15.70		2021	-	-	-	-	-	-	-	-	-	-	-
2022	20.31	16.25		2022	-	-	-	-	-	-	-	-	-	-	-
2023	21.02	16.82		2023	-	-	-	-	-	-	-	-	-	-	-
2024	21.76	17.40		2024	-	-	-	-	-	-	-	-	-	-	-
2025	22.52	18.01		2025	-	-	-	-	-	-	-	-	-	-	-
2026	23.31	18.64		2026	-	-	-	-	-	-	-	-	-	-	-
2027	24.12	19.30		2027	-	-	-	-	-	-	-	-	-	-	-
2028	24.97	19.97		2028	-	-	-	-	-	-	-	-	-	-	-
2029	25.84	20.67		2029	-	-	-	-	-	-	-	-	-	-	-
2030	26.74	21.39		2030	-	-	-	-	-	-	-	-	-	-	-
2031	27.68	22.14		2031	6,434,300	-	-	-	-	-	-	-	-	-	-
2032	28.65	22.92		2032	6,659,501	12,326,238	-	-	-	-	-	-	-	-	-
2033	29.65	23.72		2033	6,892,583	12,757,657	18,409,149	-	-	-	-	-	-	-	-
2034	30.69	24.55		2034	7,133,824	13,204,175	19,053,469	23,192,288	-	-	-	-	-	-	-
2035	31.76	25.41		2035	7,347,839	13,666,321	19,720,340	24,004,018	-	-	-	-	-	-	-
2036	32.87	26.30		2036	7,568,274	14,076,310	20,410,552	24,844,158	-	-	-	-	-	-	-
2037	34.03	27.22		2037	7,795,322	14,498,600	21,022,869	25,713,704	-	-	-	-	-	-	-
2038	35.22	28.17		2038	8,029,182	14,933,558	21,653,555	26,485,115	-	-	-	31,180,757	-	-	-
2039	36.45	29.16		2039	8,270,057	15,381,564	22,303,162	27,279,668	-	-	-	32,272,084	40,994,504	-	-
2040	37.72	30.18		2040	8,518,159	15,843,011	22,972,257	28,098,058	-	-	-	33,401,607	42,429,311	12,868,353	-
2041	39.04	31.24		2041	8,773,704	16,318,302	23,661,424	28,941,000	-	-	-	34,570,663	43,914,337	13,318,745	8,178,860
2042	40.41	32.33		2042	9,036,915	16,807,851	24,371,267	29,809,230	-	-	-	35,607,783	45,451,339	13,784,901	8,465,120
2043	41.83	33.46		2043	9,308,022	17,312,086	25,102,405	30,703,507	-	-	-	36,676,016	46,814,879	14,267,373	8,761,399
2044	43.29	34.63		2044	9,587,263	17,831,449	25,855,477	31,624,612	-	-	-	37,776,297	48,219,326	14,695,394	9,068,048
2045	44.80	35.84		2045	9,874,881	18,366,392	26,631,141	32,573,351	-	-	-	38,909,586	49,665,905	15,136,256	9,340,089
2046	46.37	37.10		2046	11,318,683	18,917,384	27,430,076	33,550,551	-	-	-	40,076,873	51,155,883	15,590,343	9,620,292
2047	48.00	38.40		2047	12,272,686	21,683,286	28,252,978	34,557,068	-	-	-	41,279,179	52,690,559	16,058,054	9,908,901

Office Pilot 10th to 12th 15%							
					2041	2042	2043
				SF Built	376,521	639,184	1,292,668
	Expected Full Taxes	15 Percent Discount		Revenues			
2017	17.10	14.54		2017	-	-	-
2018	17.70	15.04		2018	-	-	-
2019	18.32	15.57		2019	-	-	-
2020	18.96	16.12		2020	-	-	-
2021	19.62	16.68		2021	-	-	-
2022	20.31	17.26		2022	-	-	-
2023	21.02	17.87		2023	-	-	-
2024	21.76	18.49		2024	-	-	-
2025	22.52	19.14		2025	-	-	-
2026	23.31	19.81		2026	-	-	-
2027	24.12	20.50		2027	-	-	-
2028	24.97	21.22		2028	-	-	-
2029	25.84	21.96		2029	-	-	-
2030	26.74	22.73		2030	-	-	-
2031	27.68	23.53		2031	-	-	-
2032	28.65	24.35		2032	-	-	-
2033	29.65	25.20		2033	-	-	-
2034	30.69	26.09		2034	-	-	-
2035	31.76	27.00		2035	-	-	-
2036	32.87	27.94		2036	-	-	-
2037	34.03	28.92		2037	-	-	-
2038	35.22	29.93		2038	-	-	-
2039	36.45	30.98		2039	-	-	-
2040	37.72	32.07		2040	-	-	-
2041	39.04	33.19		2041	12,496,034	-	-
2042	40.41	34.35		2042	12,933,395	21,955,808	-
2043	41.83	35.55		2043	13,386,064	22,724,261	45,956,939
2044	43.29	36.80		2044	13,854,576	23,519,610	47,565,432
2045	44.80	38.08		2045	14,270,213	24,342,797	49,230,222
2046	46.37	39.42		2046	14,698,319	25,073,081	50,953,280
2047	48.00	40.80		2047	15,139,269	25,825,273	52,481,879

Datasheets of HY office buildings completed or under construction as of December 2016 are illustrated below (excluding 55 Hudson Yards, as construction is assumed to start in 2017).

One Manhattan West	
BUILDING RENDERING	

Renderings of One (right) and Two (left) Manhattan West

SITE INFORMATION	
HY Location	Site 729A/B – One Manhattan West
Street Address	One Manhattan West Southwest corner of Ninth Avenue and West 33rd Street
Owner	Brookfield
Building Type	Office
Year Completed	2020 - Projected
Number of Stories	67 (per owner)
Building Size (GBA)	1,908,301 sf
Percent Leased	36% as of December 2016
Tenants Signed	Skadden, Arps, Slate, Meagher & Flom; NHL

10 HUDSON YARDS	
PHOTO	
	
SITE INFORMATION	
HY Location	Eastern Rail Yard
Street Address	10 Hudson Yards Northwest corner of 10th Avenue and West 30th Street
Owner	Related and Oxford Properties Group
Building Type	Office
Year Completed	2015
Number of Stories	52 (per owner)
Building Size (GBA)	1,898,215 sf
Percent Leased	90% as of December 2016
Tenants Signed	BCG, Coach, L'Oréal, SAP and VaynerMedia

30 Hudson Yards	
BUILDING RENDERING	
	
SITE INFORMATION	
HY Location	Eastern Rail Yard
Street Address	30 Hudson Yards Southwest corner of Tenth Avenue and West 33rd Street
Owner	Related and Oxford Properties Group
Building Type	Office
Year Completed	2019 – Projected
Number of Stories	90 (per owner)
Building Size (GBA)	2,728,458 sf
Percent Leased	95% as of December 2016
Tenants Signed	Time Warner, Related, KKR, Oxford Properties Group, DNB Bank, Wells Fargo

55 Hudson Yards	
BUILDING RENDERING	
	
SITE INFORMATION	
HY Location	Eastern Rail Yard
APN	Block 705, Lot 1
Street Address	55 Hudson Yards
Owner	Related and Oxford
Building Type	Office
Year Completed	2019 - Projected
Number of Stories	50 (per owner)
Building Size (GBA)	1,269,852 sf
Percent Leased	45% as of December 2016
Tenants Signed	Boies, Schiller & Flexner LLP; Milbank, Tweed, Hadley & McCloy; Point72; MarketAxess

Appendix B: Residential Tax Schedules and Assessment Projections (Revenues provided by NYC Office of Management and Budget)

Taxable Assessed Value - 80/20	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
2017	133,187,601	-	-	-	-	-	-	-	-	-	-	-
2018	138,012,043	7,687,668	-	-	-	-	-	-	-	-	-	-
2019	152,464,611	7,687,668	7,937,669	-	-	-	-	-	-	-	-	-
2020	157,845,475	7,687,668	7,937,669	7,693,209	-	-	-	-	-	-	-	-
2021	173,690,516	7,687,668	7,937,669	7,693,209	7,656,819	-	-	-	-	-	-	-
2022	179,831,340	7,687,668	7,937,669	7,693,209	7,656,819	6,276,042	-	-	-	-	-	-
2023	206,008,209	7,687,668	7,937,669	7,693,209	7,656,819	6,276,042	5,811,497	-	-	-	-	-
2024	240,989,282	7,687,668	7,937,669	7,693,209	7,656,819	6,276,042	5,811,497	11,302,114	-	-	-	-
2025	288,876,202	7,687,668	7,937,669	7,693,209	7,656,819	6,276,042	5,811,497	11,302,114	12,735,876	-	-	-
2026	329,585,814	7,687,668	7,937,669	7,693,209	7,656,819	6,276,042	5,811,497	11,302,114	12,735,876	15,994,626	-	-
2027	389,033,302	7,687,668	7,937,669	7,693,209	7,656,819	6,276,042	5,811,497	11,302,114	12,735,876	15,994,626	16,079,387	-
2028	436,356,718	7,687,668	7,937,669	7,693,209	7,656,819	6,276,042	5,811,497	11,302,114	12,735,876	15,994,626	16,079,387	16,592,694
2029	546,405,840	7,687,668	7,937,669	7,693,209	7,656,819	6,276,042	5,811,497	11,302,114	12,735,876	15,994,626	16,079,387	16,592,694
2030	602,961,676	7,687,668	7,937,669	7,693,209	7,656,819	6,276,042	5,811,497	11,302,114	12,735,876	15,994,626	16,079,387	16,592,694
2031	727,833,458	7,687,668	7,937,669	7,693,209	7,656,819	6,276,042	5,811,497	11,302,114	12,735,876	15,994,626	16,079,387	16,592,694
2032	794,807,189	7,687,668	7,937,669	7,693,209	7,656,819	6,276,042	5,811,497	11,302,114	12,735,876	15,994,626	16,079,387	16,592,694
2033	922,834,834	7,687,668	7,937,669	7,693,209	7,656,819	6,276,042	5,811,497	11,302,114	12,735,876	15,994,626	16,079,387	16,592,694
2034	959,493,325	7,687,668	7,937,669	7,693,209	7,656,819	6,276,042	5,811,497	11,302,114	12,735,876	15,994,626	16,079,387	16,592,694
2035	1,066,499,064	7,687,668	7,937,669	7,693,209	7,656,819	6,276,042	5,811,497	11,302,114	12,735,876	15,994,626	16,079,387	16,592,694
2036	1,109,035,459	7,687,668	7,937,669	7,693,209	7,656,819	6,276,042	5,811,497	11,302,114	12,735,876	15,994,626	16,079,387	16,592,694
2037	1,212,332,779	7,687,668	7,937,669	7,693,209	7,656,819	6,276,042	5,811,497	11,302,114	12,735,876	15,994,626	16,079,387	16,592,694
2038	1,260,826,091	7,687,668	7,937,669	7,693,209	7,656,819	6,276,042	5,811,497	11,302,114	12,735,876	15,994,626	16,079,387	16,592,694
2039	1,311,259,134	7,687,668	7,937,669	7,693,209	7,656,819	6,276,042	5,811,497	11,302,114	12,735,876	15,994,626	16,079,387	16,592,694
2040	1,363,709,500	7,687,668	7,937,669	7,693,209	7,656,819	6,276,042	5,811,497	11,302,114	12,735,876	15,994,626	16,079,387	16,592,694
2041	1,418,257,880	7,687,668	7,937,669	7,693,209	7,656,819	6,276,042	5,811,497	11,302,114	12,735,876	15,994,626	16,079,387	16,592,694
2042	1,474,988,195	7,687,668	7,937,669	7,693,209	7,656,819	6,276,042	5,811,497	11,302,114	12,735,876	15,994,626	16,079,387	16,592,694
2043	1,533,987,723	96,074,730	7,937,669	7,693,209	7,656,819	6,276,042	5,811,497	11,302,114	12,735,876	15,994,626	16,079,387	16,592,694
2044	1,595,347,232	99,840,843	99,199,059	7,693,209	7,656,819	6,276,042	5,811,497	11,302,114	12,735,876	15,994,626	16,079,387	16,592,694
2045	1,659,161,121	103,757,600	103,087,645	96,143,986	7,656,819	6,276,042	5,811,497	11,302,114	12,735,876	15,994,626	16,079,387	16,592,694
2046	1,725,527,566	107,831,027	107,131,774	99,912,813	95,689,206	6,276,042	5,811,497	11,302,114	12,735,876	15,994,626	16,079,387	16,592,694
2047	1,794,548,668	112,067,392	111,337,668	103,832,394	99,440,206	78,433,285	5,811,497	11,302,114	12,735,876	15,994,626	16,079,387	16,592,694

Tax On Taxable Assessed Value - 80/20	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
2017	17,170,546	-	-	-	-	-	-	-	-	-	-	-
2018	17,792,513	991,094	-	-	-	-	-	-	-	-	-	-
2019	19,655,738	991,094	1,023,324	-	-	-	-	-	-	-	-	-
2020	20,349,439	991,094	1,023,324	991,809	-	-	-	-	-	-	-	-
2021	22,392,181	991,094	1,023,324	991,809	987,117	-	-	-	-	-	-	-
2022	23,183,856	991,094	1,023,324	991,809	987,117	809,107	-	-	-	-	-	-
2023	26,558,578	991,094	1,023,324	991,809	987,117	809,107	749,218	-	-	-	-	-
2024	31,068,338	991,094	1,023,324	991,809	987,117	809,107	749,218	1,457,069	-	-	-	-
2025	37,241,920	991,094	1,023,324	991,809	987,117	809,107	749,218	1,457,069	1,641,909	-	-	-
2026	42,490,203	991,094	1,023,324	991,809	987,117	809,107	749,218	1,457,069	1,641,909	2,062,027	-	-
2027	50,154,173	991,094	1,023,324	991,809	987,117	809,107	749,218	1,457,069	1,641,909	2,062,027	2,072,955	-
2028	56,255,108	991,094	1,023,324	991,809	987,117	809,107	749,218	1,457,069	1,641,909	2,062,027	2,072,955	2,139,130
2029	70,442,641	991,094	1,023,324	991,809	987,117	809,107	749,218	1,457,069	1,641,909	2,062,027	2,072,955	2,139,130
2030	77,733,819	991,094	1,023,324	991,809	987,117	809,107	749,218	1,457,069	1,641,909	2,062,027	2,072,955	2,139,130
2031	93,832,289	991,094	1,023,324	991,809	987,117	809,107	749,218	1,457,069	1,641,909	2,062,027	2,072,955	2,139,130
2032	102,466,543	991,094	1,023,324	991,809	987,117	809,107	749,218	1,457,069	1,641,909	2,062,027	2,072,955	2,139,130
2033	118,971,867	991,094	1,023,324	991,809	987,117	809,107	749,218	1,457,069	1,641,909	2,062,027	2,072,955	2,139,130
2034	123,697,879	991,094	1,023,324	991,809	987,117	809,107	749,218	1,457,069	1,641,909	2,062,027	2,072,955	2,139,130
2035	137,493,059	991,094	1,023,324	991,809	987,117	809,107	749,218	1,457,069	1,641,909	2,062,027	2,072,955	2,139,130
2036	142,976,851	991,094	1,023,324	991,809	987,117	809,107	749,218	1,457,069	1,641,909	2,062,027	2,072,955	2,139,130
2037	156,293,942	991,094	1,023,324	991,809	987,117	809,107	749,218	1,457,069	1,641,909	2,062,027	2,072,955	2,139,130
2038	162,545,700	991,094	1,023,324	991,809	987,117	809,107	749,218	1,457,069	1,641,909	2,062,027	2,072,955	2,139,130
2039	169,047,528	991,094	1,023,324	991,809	987,117	809,107	749,218	1,457,069	1,641,909	2,062,027	2,072,955	2,139,130
2040	175,809,429	991,094	1,023,324	991,809	987,117	809,107	749,218	1,457,069	1,641,909	2,062,027	2,072,955	2,139,130
2041	182,841,806	991,094	1,023,324	991,809	987,117	809,107	749,218	1,457,069	1,641,909	2,062,027	2,072,955	2,139,130
2042	190,155,478	991,094	1,023,324	991,809	987,117	809,107	749,218	1,457,069	1,641,909	2,062,027	2,072,955	2,139,130
2043	197,761,697	12,385,954	1,023,324	991,809	987,117	809,107	749,218	1,457,069	1,641,909	2,062,027	2,072,955	2,139,130
2044	205,672,165	12,871,481	12,788,743	991,809	987,117	809,107	749,218	1,457,069	1,641,909	2,062,027	2,072,955	2,139,130
2045	213,899,052	13,376,430	13,290,059	12,394,883	987,117	809,107	749,218	1,457,069	1,641,909	2,062,027	2,072,955	2,139,130
2046	222,455,014	13,901,576	13,811,428	12,880,760	12,336,252	809,107	749,218	1,457,069	1,641,909	2,062,027	2,072,955	2,139,130
2047	231,353,214	14,447,728	14,353,652	13,386,072	12,819,831	10,111,619	749,218	1,457,069	1,641,909	2,062,027	2,072,955	2,139,130

Taxable Assessed Value - Market Condo	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
2017	166,070,107	-	-	-	-	-	-	-	-	-	-	-
2018	166,680,274	38,648,857	-	-	-	-	-	-	-	-	-	-
2019	199,763,726	40,194,811	39,905,709	-	-	-	-	-	-	-	-	-
2020	208,492,781	41,802,604	41,501,938	38,676,717	-	-	-	-	-	-	-	-
2021	215,005,709	43,474,708	43,162,015	40,223,786	38,493,769	-	-	-	-	-	-	-
2022	223,644,244	45,213,696	44,888,496	41,832,737	40,033,519	31,552,072	-	-	-	-	-	-
2023	232,958,590	47,022,244	46,684,036	43,506,047	41,634,860	32,814,155	29,216,628	-	-	-	-	-
2024	304,091,503	48,903,134	48,551,397	45,246,289	43,300,255	34,126,721	30,385,293	56,820,067	-	-	-	-
2025	317,174,264	50,859,259	50,493,453	47,056,140	45,032,265	35,491,790	31,600,705	59,092,870	64,028,138	-	-	-
2026	397,969,018	52,893,630	52,513,191	48,938,386	46,833,555	36,911,462	32,864,733	61,456,584	66,589,263	80,411,130	-	-
2027	415,372,585	55,009,375	54,613,719	50,895,921	48,706,898	38,387,920	34,179,323	63,914,848	69,252,834	83,627,575	80,837,253	-
2028	506,872,271	57,209,750	56,798,267	52,931,758	50,655,174	39,923,437	35,546,496	66,471,442	72,022,947	86,972,678	84,070,743	83,417,846
2029	529,214,095	59,498,140	59,070,198	55,049,028	52,681,380	41,520,375	36,968,355	69,130,299	74,903,865	90,451,586	87,433,573	86,754,560
2030	632,567,703	61,878,065	61,433,006	57,250,989	54,788,636	43,181,190	38,447,090	71,895,511	77,900,020	94,069,649	90,930,916	90,224,743
2031	660,537,231	64,353,188	63,890,326	59,541,029	56,980,181	44,908,437	39,984,973	74,771,332	81,016,021	97,832,435	94,568,153	93,833,732
2032	777,009,986	66,927,316	66,445,939	61,922,670	59,259,388	46,704,775	41,584,372	77,762,185	84,256,662	101,745,732	98,350,879	97,587,082
2033	808,090,386	69,604,408	69,103,777	64,399,577	61,629,764	48,572,966	43,247,747	80,872,672	87,626,928	105,815,562	102,284,914	101,490,565
2034	840,414,001	72,388,585	71,867,928	66,975,560	64,094,954	50,515,884	44,977,657	84,107,579	91,132,005	110,048,184	106,376,310	105,550,187
2035	874,030,561	75,284,128	74,742,645	69,654,583	66,658,753	52,536,520	46,776,763	87,471,882	94,777,285	114,450,111	110,631,363	109,772,195
2036	908,991,784	78,295,493	77,732,351	72,440,766	69,325,103	54,637,981	48,647,834	90,970,758	98,568,377	119,028,116	115,056,617	114,163,083
2037	945,351,455	81,427,313	80,841,645	75,338,396	72,098,107	56,823,500	50,593,747	94,609,588	102,511,112	123,789,241	119,658,882	118,729,606
2038	983,165,513	84,684,405	84,075,311	78,351,932	74,982,031	59,096,440	52,617,497	98,393,972	106,611,556	128,740,810	124,445,237	123,478,790
2039	1,022,492,134	88,071,781	87,438,323	81,486,010	77,981,312	61,460,297	54,722,197	102,329,730	110,876,019	133,890,443	129,423,047	128,417,942
2040	1,063,391,819	91,594,653	90,935,856	84,745,450	81,100,565	63,918,709	56,911,085	106,422,920	115,311,059	139,246,060	134,599,969	133,554,660
2041	1,105,927,492	95,258,439	94,573,290	88,135,268	84,344,587	66,475,458	59,187,528	110,679,836	119,923,502	144,815,903	139,983,967	138,896,846
2042	1,150,164,591	99,068,776	98,356,222	91,660,679	87,718,371	69,134,476	61,555,029	115,107,030	124,720,442	150,608,539	145,583,326	144,452,720
2043	1,196,171,175	103,031,527	102,290,471	95,327,106	91,227,106	71,899,855	64,017,231	119,711,311	129,709,259	156,632,880	151,406,659	150,230,829
2044	1,244,018,022	107,152,789	106,382,090	99,140,190	94,876,190	74,775,849	66,577,920	124,499,763	134,897,630	162,898,196	157,462,925	156,240,062
2045	1,293,778,743	111,438,900	110,637,373	103,105,798	98,671,238	77,766,883	69,241,037	129,479,754	140,293,535	169,414,123	163,761,442	162,489,664
2046	1,345,529,893	115,896,456	115,062,868	107,230,030	102,618,087	80,877,558	72,010,678	134,658,944	145,905,276	176,190,688	170,311,900	168,989,251
2047	1,399,351,088	120,532,314	119,665,383	111,519,231	106,722,811	84,112,661	74,891,105	140,045,302	151,741,487	183,238,316	177,124,376	175,748,821

Tax On Taxable Assessed Value - Market Condo	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
2017	21,409,758	-	-	-	-	-	-	-	-	-	-	-
2018	21,488,421	4,982,611	-	-	-	-	-	-	-	-	-	-
2019	25,753,540	5,181,915	5,144,644	-	-	-	-	-	-	-	-	-
2020	26,878,889	5,389,192	5,350,430	4,986,202	-	-	-	-	-	-	-	-
2021	27,718,536	5,604,759	5,564,447	5,185,650	4,962,617	-	-	-	-	-	-	-
2022	28,832,216	5,828,950	5,787,025	5,393,076	5,161,121	4,067,693	-	-	-	-	-	-
2023	30,033,021	6,062,108	6,018,506	5,608,800	5,367,566	4,230,401	3,766,608	-	-	-	-	-
2024	39,203,477	6,304,592	6,259,246	5,833,152	5,582,269	4,399,617	3,917,272	7,325,243	-	-	-	-
2025	40,890,106	6,556,776	6,509,616	6,066,478	5,805,560	4,575,602	4,073,963	7,618,253	8,254,508	-	-	-
2026	51,306,166	6,819,047	6,770,001	6,309,137	6,037,782	4,758,626	4,236,921	7,922,983	8,584,688	10,366,603	-	-
2027	53,549,834	7,091,809	7,040,801	6,561,502	6,279,293	4,948,971	4,406,398	8,239,902	8,928,075	10,781,267	10,421,539	-
2028	65,345,973	7,375,481	7,322,433	6,823,962	6,530,465	5,146,930	4,582,654	8,569,498	9,285,198	11,212,518	10,838,400	10,754,229
2029	68,226,281	7,670,500	7,615,330	7,096,921	6,791,684	5,352,807	4,765,960	8,912,278	9,656,606	11,661,018	11,271,936	11,184,398
2030	81,550,628	7,977,320	7,919,943	7,380,798	7,063,351	5,566,919	4,956,599	9,268,769	10,042,871	12,127,459	11,722,814	11,631,774
2031	85,156,460	8,296,413	8,236,741	7,676,029	7,345,885	5,789,596	5,154,863	9,639,520	10,444,585	12,612,558	12,191,726	12,097,045
2032	100,172,127	8,628,270	8,566,210	7,983,071	7,639,720	6,021,180	5,361,057	10,025,101	10,862,369	13,117,060	12,679,395	12,580,927
2033	104,179,013	8,973,400	8,908,859	8,302,393	7,945,309	6,262,027	5,575,500	10,426,105	11,296,864	13,641,742	13,186,571	13,084,164
2034	108,346,173	9,332,336	9,265,213	8,634,489	8,263,122	6,512,508	5,798,520	10,843,149	11,748,738	14,187,412	13,714,034	13,607,530
2035	112,680,020	9,705,630	9,635,822	8,979,869	8,593,646	6,773,008	6,030,460	11,276,875	12,218,688	14,754,908	14,262,595	14,151,831
2036	117,187,221	10,093,855	10,021,255	9,339,064	8,937,392	7,043,928	6,271,679	11,727,950	12,707,435	15,345,105	14,833,099	14,717,905
2037	121,874,710	10,497,609	10,422,105	9,712,626	9,294,888	7,325,686	6,522,546	12,197,068	13,215,733	15,958,909	15,426,423	15,306,621
2038	126,749,698	10,917,514	10,838,989	10,101,131	9,666,683	7,618,713	6,783,448	12,684,951	13,744,362	16,597,265	16,043,480	15,918,886
2039	131,819,686	11,354,214	11,272,549	10,505,176	10,053,351	7,923,462	7,054,786	13,192,349	14,294,136	17,261,156	16,685,219	16,555,641
2040	137,092,473	11,808,383	11,723,451	10,925,383	10,455,485	8,240,400	7,336,977	13,720,043	14,865,902	17,951,602	17,352,628	17,217,867
2041	142,576,172	12,280,718	12,192,389	11,362,399	10,873,704	8,570,016	7,630,456	14,268,845	15,460,538	18,669,666	18,046,733	17,906,581
2042	148,279,219	12,771,947	12,680,084	11,816,895	11,308,652	8,912,817	7,935,674	14,839,598	16,078,959	19,416,453	18,768,602	18,622,845
2043	154,210,388	13,282,825	13,187,287	12,289,570	11,760,998	9,269,329	8,253,101	15,433,182	16,722,118	20,193,111	19,519,346	19,367,758
2044	160,378,803	13,814,137	13,714,779	12,781,153	12,231,438	9,640,102	8,583,225	16,050,510	17,391,002	21,000,835	20,300,120	20,142,469
2045	166,793,956	14,366,703	14,263,370	13,292,399	12,720,696	10,025,707	8,926,554	16,692,530	18,086,643	21,840,869	21,112,125	20,948,168
2046	173,465,714	14,941,371	14,833,905	13,824,095	13,229,524	10,426,735	9,283,617	17,360,231	18,810,108	22,714,504	21,956,610	21,786,094
2047	180,404,342	15,539,026	15,427,261	14,377,059	13,758,705	10,843,804	9,654,961	18,054,640	19,562,513	23,623,084	22,834,875	22,657,538

APPENDIX C: NEW YORK CITY PROPERTY TAXES

Introduction

The overview and detail on City property taxes is obtained from the *Tax Revenue Forecasting Documentation Fiscal Plan Fiscal Years 2015-2019*, prepared by the Office of Management and Budget. Additional information and data was supplied from the *Annual Report of New York City Property Tax Fiscal Year 2016* by the New York City Department of Finance, Division of Tax Policy, September 2016. OMB and DOF personnel provided further insight and clarification.

Overview

Under the current New York State Real Property Tax Law, all real property in the City is separated into four classes based upon use and type of building

- Class 1 property includes one, two and three family houses.
- Class 2 property consists of all other residential property, including coops, condos and rental buildings.
- Class 3 comprises utilities' real property
- Class 4 includes all other commercial property such as retail stores, hotels, office buildings and vacant land.

The majority of new development in Hudson Yards is expected to fall within Class 2 and Class 4.

The New York City property tax levy is determined as the final component in the City's budgetary process. The levy is the result of subtracting total expenses in the fiscal year[134] from all other projected sources of revenues (income and use taxes, fees and intergovernmental transfers). The difference equals the property tax levy that by statute results in a balanced budget as mandated by the state constitution.

The total property tax levy is distributed across the different property classes into class levies by a mechanism that incorporates base year shares, market value growth since the base year and physical changes since the base year. This calculation is made in accordance with regulations published by the New York State Office of Real Property Services pursuant to New York State Real Property Tax Law.

Class Shares x Total Tax Levy = Class Levy

Dividing the Class Levy by the Class billable assessed value derives the tax rates for each Class.

Class Levy / Class Billable Assessed Value = Class Tax Rate

Assessments

All properties are assessed each year and a tentative assessment for each property is produced in mid-January. Taxpayers are allowed to dispute their assessment by initiating an appeal with the tax commission. Adjustments are then reflected in the final roll which is published in May of each year.
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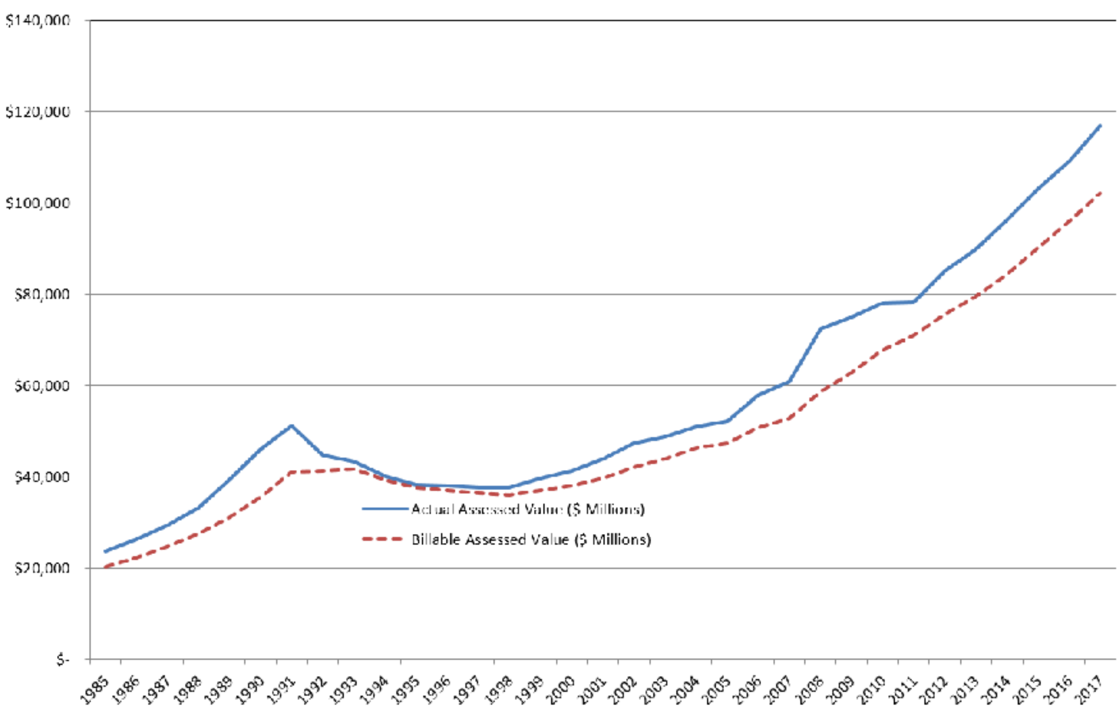
[134] Tax Revenue data provided by the New York City Office of Management and Budget and Department of Finance refers to the City fiscal year that anticipates the calendar year by six months running from July 1st to June 30th (i.e., FY2017 runs from July 1, 2016 to June 30, 2017).

Assessment increases due to equalization changes are subject to certain restrictions. For Class 1 properties, assessment increases are limited to 6.0% annually and no more than 20.0% over five years. Increases for small properties in Class 2 with fewer than 11 units are limited to 8.0% per year and 30.0% over five years. Assessment increases for all other Class 2 properties and all of Class 4 is not subject to any limitations.

Changes in assessments due to equalization changes for properties in Class 2 and Class 4, however, are phased in over a five-year time period at 20.0% per year. The phase-in period results in an interim assessment referred to as the transitional assessment. The lower of the actual or transitional assessed value is then used to determine the billable assessed value used to compute taxes (for Class 1 and Class 3 billable and actual assessments are identical). This formula has a twofold effect on Class 4 assessments as shown in Exhibit C-2.

In periods of market downturns and declining market assessments, billable assessment can continue to rise as a result of the pipeline effect. For example, during the market downturn in the early 1990s, even though market assessments and actual assessments began to decline in 1990, billable assessed value continued to increase, as the pipeline of assessment phase-ins from the strong years of 1985 to 1990 worked its way into the transitional assessment. It was only in 1994 that this pipeline effect capped and assessed and billable values converged. Conversely, in market upturns actual assessed value tends to outstrip billable assessments, since increases are phased in gradually to market. This is evident during the post-2000 period as illustrated below. The residual effect of this pipeline contributes to the relative stability of the real estate tax base.

Exhibit C-1: Class 4 Commercial Properties – Actual and Billable Assessed Value, 1985-2017



Source: NYC Department of Finance

Buildings under construction are assessed based on the percentage completed, for a maximum allowable three year construction period. During the construction period, a tentative assessment is made, using income and expense approach typically used in assessments (the assessment mechanism is discussed in further detail in the following section). During the three-year construction period the tentative or progress assessment for new buildings is not reflected in the final roll, but serves merely as a progress assessment. After the three year-construction period ends, properties are fully assessed based on the income approach. Demolition and alterations and changes in taxable status are not subject to the phase- in and are immediately assessed at market value.

Actual assessments and billable assessments for each property type are shown in the Exhibit C-2. Average annual growth rates are computed for the 32 fiscal years of 1985 to 2017. Overall actual assessed values for Class 2 and Class 4 properties experienced the highest rate of growth over the 25 years at 5.8% and 5.1%, respectively.

The growth in Class 4 assessments, however, has been more uneven than Class 2. Class 4 actual assessments experienced sharp declines in the early 1990s as the economic downturn caused vacancies to rise and rents to fall, particularly in the Downtown market. Furthermore, conversions of office space in Downtown and the boroughs from commercial to residential use also impacted the overall Class 4 assessment as part of the commercial stock was converted to residential usage. In contrast, following the 2001 downturn (fiscal year 2002), Class 4 assessments continued to rise as the effect of the downturn was mitigated by the scarce amount of inventory built during the 1990s and have continued to increase even through the 2009-2010 recession as the Manhattan market remained relatively healthy.

Exhibit C-2: Real Estate Property – Actual and Billable Assessed Value, 1985-2017

	Actual Assessed Value ($ Millions)					Billable Assessed Value ($ Millions)				
Year	Class 1	Class 2	Class 3	Class 4	Total	Class 1	Class 2	Class 3	Class 4	Total
1985	6,505.3	14,170.0	9,160.1	23,754.4	53,589.8	6,505.3	12,668.2	8,792.4	20,300.5	48,266.4
1986	6,776.9	15,411.4	10,058.0	26,326.6	58,572.9	6,776.9	13,548.7	9,798.2	22,346.1	52,469.9
1987	6,794.0	16,504.2	9,327.6	29,346.8	61,972.6	6,794.0	14,260.2	9,327.6	24,707.6	55,089.4
1988	7,204.5	18,333.4	8,829.7	33,132.3	67,499.9	7,204.5	15,542.9	8,829.7	27,534.4	59,111.5
1989	7,591.9	21,210.3	8,261.2	39,513.8	76,577.2	7,591.9	17,197.4	8,261.2	31,091.1	64,141.6
1990	7,995.1	24,381.1	7,366.6	46,103.8	85,846.6	7,995.1	19,169.2	7,366.6	35,523.0	70,053.9
1991	8,442.0	26,736.7	5,266.5	51,088.9	91,534.1	8,442.0	21,615.9	5,266.5	41,009.2	76,333.6
1992	8,676.8	25,354.4	4,965.5	44,614.3	83,611.0	8,676.8	23,557.2	4,965.5	41,268.1	78,467.6
1993	8,619.1	25,441.3	4,312.4	43,341.8	81,714.6	8,619.1	24,552.3	4,312.4	41,695.3	79,179.1
1994	8,521.3	24,447.9	6,309.8	40,017.5	79,296.5	8,521.3	24,079.9	6,309.8	39,266.5	78,177.5
1995	8,702.2	23,852.8	6,129.3	38,122.8	76,807.1	8,702.2	23,604.4	6,129.3	37,583.5	76,019.4
1996	8,871.5	24,308.9	6,140.2	38,102.9	77,423.6	8,871.5	23,751.2	6,140.2	37,088.7	75,851.6
1997	8,976.8	24,585.4	6,370.8	37,576.3	77,509.3	8,976.8	23,838.8	6,370.8	36,308.6	75,495.0
1998	9,164.4	25,351.0	6,548.9	37,706.0	78,770.3	9,164.4	24,228.8	6,548.9	36,078.6	76,020.7
1999	9,234.8	26,734.9	6,512.5	39,672.5	82,154.7	9,234.8	24,965.2	6,512.5	36,986.2	77,698.7
2000	9,424.7	28,524.5	6,619.5	41,299.3	85,868.0	9,424.7	26,126.4	6,619.5	37,918.8	80,089.4
2001	9,778.9	30,597.6	6,320.5	43,872.8	90,569.7	9,778.9	27,501.7	6,320.5	39,657.0	83,258.0
2002	10,096.6	33,653.8	6,530.8	47,205.2	97,486.4	10,096.6	29,674.9	6,530.8	41,987.3	88,289.6
2003	10,611.6	36,552.1	6,836.1	48,704.9	102,704.7	10,611.6	31,993.7	6,836.1	43,845.9	93,287.4
2004	11,132.5	37,738.2	7,021.6	50,897.1	106,789.4	11,132.5	34,151.9	7,021.6	46,328.4	98,634.4
2005	11,547.1	39,108.8	7,488.7	52,171.8	110,316.4	11,547.1	35,950.8	7,488.7	47,380.7	102,367.3
2006	12,146.9	43,941.4	8,501.9	57,891.4	122,481.6	12,146.9	38,630.6	8,501.9	50,734.6	110,014.1
2007	12,712.6	45,048.7	9,078.4	60,797.3	127,637.0	12,712.6	40,528.3	9,078.4	52,800.0	115,119.3
2008	13,289.3	51,260.2	8,725.2	72,311.2	145,585.9	13,289.3	43,751.6	8,725.2	58,695.3	124,461.4
2009	13,955.3	53,457.0	9,589.1	74,997.1	151,998.6	13,955.3	46,544.1	9,589.1	62,908.1	132,996.7
2010	14,417.8	55,055.0	10,450.8	78,029.1	157,952.6	14,417.8	49,267.8	10,450.8	67,712.2	141,848.5
2011	14,952.7	55,530.8	11,036.0	78,176.1	159,695.6	14,952.7	50,771.3	11,036.0	70,869.2	147,629.2
2012	15,293.9	60,102.9	10,875.3	85,083.5	171,355.6	15,293.9	53,697.0	10,875.3	75,550.2	155,416.4
2013	15,784.7	62,215.4	11,349.0	89,774.4	179,123.6	15,784.7	55,880.9	11,349.0	79,330.8	162,345.5
2014	16,229.0	65,564.7	12,244.5	96,158.9	190,197.2	16,229.0	58,921.5	12,244.5	84,352.6	171,747.5
2015	16,915.4	70,514.5	12,355.1	103,077.4	202,862.4	16,915.4	63,037.3	12,355.1	90,206.9	182,514.7
2016	17,727.6	77,316.8	13,476.6	109,121.6	217,642.6	17,727.6	67,943.2	13,476.6	96,038.0	195,185.4
2017	18,393.9	85,118.5	14,203.3	116,826.1	234,541.7	18,393.9	73,978.9	14,203.3	102,035.1	208,611.1
Average Annual Growth, 1985-2017										
	3.3%	**5.8%**	**1.4%**	**5.1%**	**4.7%**	**3.3%**	**5.7%**	**1.5%**	**5.2%**	**4.7%**

Source: New York City Department of Finance, Office of Management and Budget

Real Estate Property Class Shares

The total City property levy is distributed across the four property classes through Class shares. Class shares are updated annually to reflect the relative changes in market value among property classes. Relative changes in Class market value reflect both assessments increase in existing properties as well adjustments due to changes in the physical stock. These include changes due to new construction, demolition, alterations and reclassifications.

The current mechanism for adjusting Class shares accounts for changes in market value and physical stock and was first applied in 1992, using the change from the prior year (1991) as the base. Consequently the 1991 Class share is referred to as the base percentage. Under the current mechanism, higher relative changes in market values for a given property Class lead to a correspondingly higher overall share of the overall tax levy. As with assessments, increases in Class shares are capped. Any excess over this cap is redistributed to the remaining classes at the New York City Council's discretion.

The Class levy by property type is obtained by multiplying the total tax levy in each year by the respective Class shares. Historic data on Class shares and the Class levy are shown in Exhibit C-4. Class 1 and Class 2 shares combined have increased from an initial 37% of the overall levy to over 52%, while Class 4 has seen a corresponding decline in its share, reflecting the higher relative strength of the residential Class 1 and Class 2 markets. However, the Class 4 levy maintained an average growth rate of 3.8% as the overall property tax levy continued to rise by 4.7%.

Exhibit C-3: Property Class Shares and Class Levy, 1991-2017

	Total Levy	Class Shares				Class Levy $ millions			
Year	$millions	Class 1	Class 2	Class 3	Class 4	Class 1	Class 2	Class 3	Class 4
1991	7,743.00	10.92%	25.76%	10.34%	52.98%	845.5	1,994.60	800.6	4,102.30
1992	8,318.80	11.46%	28.00%	7.80%	52.74%	953	2,328.90	649.6	4,387.30
1993	8,392.50	11.28%	29.00%	6.57%	53.15%	946.9	2,433.40	551.8	4,460.40
1994	8,113.20	11.56%	30.78%	5.76%	51.90%	938.1	2,497.00	467.2	4,210.90
1995	7,889.80	11.92%	31.57%	5.98%	50.53%	940.1	2,490.90	472.1	3,986.70
1996	7,871.40	12.19%	32.61%	6.18%	49.01%	959.9	2,567.00	486.4	3,858.10
1997	7,835.10	12.47%	33.64%	6.37%	47.51%	977.4	2,635.80	499.5	3,722.50
1998	7,890.40	12.73%	33.92%	6.87%	46.48%	1,004.40	2,676.50	542.4	3,667.20
1999	8,099.30	12.96%	33.22%	7.08%	46.74%	1,049.80	2,690.60	573.1	3,785.90
2000	8,374.30	13.26%	34.08%	7.43%	45.23%	1,110.20	2,854.10	622.1	3,787.80
2001	8,730.30	13.50%	34.50%	7.63%	44.37%	1,178.40	3,012.10	666.2	3,873.60
2002	9,271.20	13.65%	34.94%	7.43%	43.98%	1,265.20	3,239.70	688.4	4,077.90
2003	10,688.80	13.87%	34.92%	7.41%	43.80%	1,482.80	3,732.10	792	4,681.80
2004	12,250.70	14.09%	35.56%	7.12%	43.23%	1,726.10	4,356.70	871.9	5,295.90
2005	12,720.00	14.69%	34.87%	7.39%	43.05%	1,868.00	4,435.80	940	5,476.20
2006	13,668.10	14.95%	35.43%	7.66%	41.96%	2,042.90	4,842.50	1046.5	5,736.20
2007	14,291.20	15.23%	36.51%	7.63%	40.63%	2,176.50	5,217.80	1090.1	5,806.80
2008	14,356.30	15.12%	36.72%	7.04%	41.13%	2,170.40	5,271.40	1010.1	5,904.40
2009	15,903.50	14.96%	37.21%	7.32%	40.51%	2,378.50	5,918.40	1163.9	6,442.70
2010	17,588.10	14.82%	37.47%	7.57%	40.14%	2,607.10	6,589.80	1331.7	7,059.50
2011	18,323.80	15.09%	37.42%	7.61%	39.88%	2,765.40	6,856.30	1394	7,308.10
2012	19,284.50	15.39%	37.81%	7.03%	39.77%	2,967.00	7,290.80	1356.4	7,670.40
2013	20,133.10	15.46%	36.97%	7.03%	40.54%	3,113.00	7,442.50	1416	8,161.70
2014	21,285.20	15.49%	36.75%	6.85%	40.91%	3,297.00	7,822.80	1457.4	8,708.10
2015	22,591.50	15.07%	36.18%	6.08%	42.66%	3,405.20	8,174.10	1374.5	9,637.70
2016	24,144.98	15.03%	36.55%	6.04%	42.38%	3,629.51	8,824.67	1,457.20	10,233.60
2017	$25,794.07	14.89%	37.26%	6.02%	41.83%	$3,841.31	$9,610.64	$1,552.98	$10,789.15
Average Growth 1991-2017									
	4.7%	1.2%	1.4%	-2.1%	-0.9%	6.0%	6.2%	2.6%	**3.8%**

Source: New York City Department of Finance, Office of Management and Budget

Real Estate Property Tax Rates

The tax rate for each Class is then obtained by dividing each Class's levy by its respective billable assessment. Tax rates for each property type are shown in Exhibit C-5 and summarized for 1991 through 2017. Prior to 2002, the average tax rate across classes was held constant by the action of the New York City Council and Mayor. Following the September 11, 2001, revenue shortfalls, the Mayor and the City Council enacted an 18.5% rate increase mid-year through fiscal year 2003. The Mayor and the City Council enacted a 7.5% rate cut in 2008 before reversing it mid-fiscal 2009.

Exhibit C-4: Property Tax Rates by Class, 1991-2017 (Per $100 of Assessed Values)[135]

Year	Class 1	Class 2	Class 3	Class 4	Citywide
1991	$9.920	$9.228	$15.200	$10.004	$10.135
1992	10.888	9.885	13.083	10.631	10.591
1993	10.888	9.91	12.794	10.698	10.591
1994	10.9	10.369	7.404	10.724	10.366
1995	10.694	10.552	7.702	10.608	10.366
1996	10.725	10.807	7.922	10.402	10.366
1997	10.785	11.056	7.84	10.252	10.366
1998	10.849	11.046	8.282	10.164	10.366
1999	10.961	10.739	8.8	10.236	10.366
2000	11.167	10.851	9.398	9.989	10.366
2001	11.255	10.847	10.54	9.768	10.366
2002	11.609	10.792	10.541	9.712	10.366
2003	11.936 / 14.160	10.564 / 12.517	10.607 / 12.565	9.776 / 11.580	10.366 / 12.283
2004	14.55	12.62	12.418	11.431	12.283
2005	15.094	12.216	12.553	11.558	12.283
2006	15.746	12.396	12.309	11.306	12.283
2007	16.118	12.737	12.007	10.997	12.283
2008	15.434	11.928	11.577	10.059	11.423
2009	15.605 / 16.787	12.139 / 13.503	11.698 / 12.577	9.870 / 10.612	11.423 / 12.283
2010	17.088	13.241	12.743	10.426	12.283
2011	17.3643	13.353	12.6312	10.3117	12.283
2012	18.205	13.433	12.473	10.152	12.283
2013	18.569	13.181	12.477	10.288	12.283
2014	19.191	13.145	11.902	10.323	12.283
2015	19.157	12.855	11.125	10.684	12.283
2016	19.554	12.883	10.813	10.656	12.283
2017	$19.991	$12.892	$10.934	$10.574	$12.283

Source: New York City Department of Finance, Office of Management and Budget

[135] For years 2003 and 2009, left figures indicate the tax rate for first half year and the right figures indicate the second half year tax rates.

Assessment Guidelines

Class 2 and all Class 4 properties are generally assessed as income-producing properties. All properties having assessed values greater than $40,000 are required to file RPIE (Real Property Income and Expense Statement) with the New York City Department of Finance. While other assessment formulas based on a sales approach and/or cost approach have been used in the past and are still used for select property types (gas stations, utilities) assessor guidelines established by the New York City Department of Finance have emphasized the income approach beginning in the early 1990s. Assessments are made for both buildings and the underlying land.

In the Assessor's income approach, operating expenses are subtracted from effective gross income to determine net operating income. Items excluded from income include interest income and real estate tax refunds. On the other hand, concessions and tenant improvements are deducted from income. Assessors prorate the cost of tenant improvements over a 15-year period intended to recapture the lifetime cycle of these improvements. Expense items such as depreciation, ground rents, and partnership and corporate taxes are excluded from deductible expenses. Mortgage principal and interest are also excluded from this calculation, since properties are valued as free from encumbrances.

Reported revenues and expenses are compared to what is typical for similar properties. Physical characteristics, amenities offered, and geographic locations are all factors considered in determining comparable properties for comparison purposes. Assessors examine deviations in reported income and expenses from what is typical for comparable buildings and markets and have the discretion of making adjustments. For example, reported income in Class 4 properties with vacancy rates exceeding 50% of the market average are adjusted upwards, treating "excess" vacant space as occupied at comparable or prorated rental rates.

Assessors also compare rent levels and income in comparable buildings to determine whether rents accurately reflect current market conditions. A mark to-market approach is used in assessing rental income. Properties that have higher rental incomes because of leases stipulated in more favorable times and that can expect rental rates to fall on renewal are assessed with adjusted capitalization rates.

Exhibit C-5 provides the fiscal year 2018 guidelines used in assessing Class 4 (which includes class A office buildings) properties in different Manhattan office submarkets. As shown, each submarket reflects a range of income, expense and capitalization rates values from which an overall market rate is determined. An overall submarket vacancy rate is also provided and used to determine a mark-up for excess vacancies.

The Department of Finance's (DOF) market value is determined by dividing net operating income by a capitalization rate. DOF employs the "Band of Investment" approach to develop the cap rates. The variables for cap rate calculations are: 1) the mortgage equity ratio – the ratio of the mortgage to the equity for a property; 2) the property's mortgage interest rate; and 3) a rate of return on owner's equity. DOF uses either the Aaa or Baa bond rate on or close to January 5th to estimate the owner's rate of return. In addition, consideration is given to the fact that a property as an asset class is considerably less liquid than a bond, and also the fact that a property unlike a bond requires the expenditure of resources in its management.

Exhibit C-5: Fiscal Year 2018 Assessment Roll Guidelines (in $PSF)
Class "A" Office Buildings

Plaza

	Low	Median	High	Vacancy Rate	Effective Tax Rate
Income	$73.14	$83.60	$105.82		
Expense	$25.71	$28.44	$33.99		
Expense Ratio	35%	34%	32%		
Cap Rate	6.89%	6.88%	6.86%		
Approximate Market Value Range	$407	$474	$618	11.33%	4.76%

Grand Central

	Low	Median	High	Vacancy Rate	Effective Tax Rate
Income	$61.08	$66.68	$74.20		
Expense	$25.21	$27.00	$29.36		
Expense Ratio	41%	40%	40%		
Cap Rate	7.11%	7.06%	7.00%		
Approximate Market Value Range	$302	$336	$381	11.33%	4.76%

Midtown West

	Low	Median	High	Vacancy Rate	Effective Tax Rate
Income	$60.00	$63.09	$70.16		
Expense	$22.82	$23.71	$25.71		
Expense Ratio	38%	38%	37%		
Cap Rate	6.93%	6.91%	6.87%		
Approximate Market Value Range	$318	$337	$382	11.33%	4.76%

Midtown South

	Low	Median	High	Vacancy Rate	Effective Tax Rate
Income	$50.84	$54.69	$63.29		
Expense	$19.43	$20.54	$22.93		
Expense Ratio	38%	38%	36%		
Cap Rate	8.07%	8.05%	8.01%		
Approximate Market Value Range	$245	$267	$316	11.33%	4.76%

Downtown Finance/WTC

	Low	Median	High	Vacancy Rate	Effective Tax Rate
Income	$42.36	$44.40	$47.32		
Expense	$18.56	$19.25	$20.23		
Expense Ratio	44%	43%	43%		
Cap Rate	7.99%	7.97%	7.95%		
Approximate Market Value Range	$187	$198	$213	11.33%	4.76%

Downtown Insurance/Civic Center

	Low	Median	High	Vacancy Rate	Effective Tax Rate
Income	$42.36	$44.40	$47.32		
Expense	$18.65	$19.35	$20.33		
Expense Ratio	44%	44%	43%		
Cap Rate	8.21%	8.20%	8.19%		
Approximate Market Value Range	$183	$193	$208	11.33%	4.76%

Income = Gross Income per sq.ft.
Expense =Total Expense per sq.ft.
Note: Square footage shown is gross.
Source: New York City Department of Finance – *FY' 2018 Guidelines for Properties Valued Based on the Income Approach, Including Office Buildings, Retail, and Residential Properties*

Appendix D – Hotel Property Types

Property Types & Pricing Classifications (per Smith Travel Research): Various product types and classes of hotels exist that attract different types of guests. There is no official classification system used industry-wide, although there are some main categories that are commonly accepted.

Luxury: A high-end product that offers the most in-room and on-property amenities, including meeting facilities, retail outlets and at least one on-site full service restaurant. Traditionally caters to the high profile business traveler or transient leisure traveler willing to pay very high rates. Represents top 15 percent average room rates. Examples include the Ritz Carlton, the Four Seasons, and Intercontinental.

Upper Upscale: These high quality full service properties have a slightly lower level of service then the luxury hotel. Represents next 15 percent of average room rates. Brands include Doubletree Hotels, Embassy Suites, Hilton Hotels, Marriott Hotels, and Millennium Hotels.

Upscale: This segment of hotels offers a high to moderate level of service and is typically full or select service. Represent pricing in same 15 percent as Upper Upscale. Brands include Courtyard by Marriott, Hilton Garden Inn, Four Points by Sheraton, and Wyndham Hotels.

Midscale: (with and without Food & Beverage): These hotels usually offer fitness and limited meeting facilities, and business amenities. Represents middle 30 percent of average room rates. Brands include Best Western, Clarion, and Doubletree Club (with food and beverage) and Candlewood Hotel, Fairfield Inn, Hampton Inn, and Holiday Inn (without food and beverage).

Economy and Budget: Limited service properties that do not provide on-site food and beverage amenities except for morning coffee and light breakfast. Represents lowest 40 percent of average room rates. Examples include Days Inn, Econo Lodge, and Extended Stay America.

Boutique: First introduced in the early 1980s in response to the increasing dominance of brands within the hotel industry, boutique hotels offers products and services that are unique to each property and market area. The success of the boutique hotel properties led to a rash of boutique hotel development in the late 1990s and early 2000s, with numerous boutique hotels opening in Manhattan, such as Morgans, Royalton and Hudson. With the introduction of Starwood's W brand, however, the boutique segment has been "mainstreamed" to some degree.

Convention: Convention hotels usually have more than 1,000 rooms and more than 50,000 sf of meeting space, with an average meeting space ratio of at least 75 sf per room. Although none of these exist in Manhattan, the closest such comparables are the Hilton NY and Sheraton Hotel and Towers in Midtown.

Headquarter Convention: Headquarters hotels are often built adjacent or connected to convention centers. This is considered an attractive amenity because convention planners often prefer to book conventions in cities and at centers where there is abundant nearby hotel supply.

Extended-Stay: These hotels usually provide fully furnished suite rooms with kitchenettes or full kitchens and laundry facilities and often quote weekly or monthly rates. Brands include Residence Inn by Marriott and Homewood Suites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APPENDIX F

FINANCIAL STATEMENTS OF THE CORPORATION

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HUDSON YARDS INFRASTRUCTURE CORPORATION

A COMPONENT UNIT OF THE CITY OF NEW YORK

Financial Statements
(Together with Independent Auditors' Report)

Years Ended June 30, 2016 and 2015

MARKS PANETH
ACCOUNTANTS & ADVISORS

HUDSON YARDS INFRASTRUCTURE CORPORATION

FINANCIAL STATEMENTS
(Together with Independent Auditors' Report)

YEARS ENDED JUNE 30, 2016 AND 2015

CONTENTS

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MARKS PANETH
ACCOUNTANTS & ADVISORS

INDEPENDENT AUDITORS' REPORT

To the Members of the Board of Directors of
Hudson Yards Infrastructure Corporation

We have audited the accompanying financial statements of the governmental activities of Hudson Yards Infrastructure Corporation ("HYIC"), a component unit of The City of New York, as of and for the years ended June 30, 2016 and 2015, which collectively comprise HYIC's basic financial statements as listed in the table of contents, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the governmental activities of Hudson Yards Infrastructure Corporation as of June 30, 2016 and 2015, and the respective changes in financial position thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 3 through 13 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audits of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Marks Paneth LLP

New York, NY
September 22, 2016

OVERVIEW OF THE FINANCIAL STATEMENTS

The following is a narrative overview and analysis of the financial activities of the Hudson Yards Infrastructure Corporation ("HYIC") as of June 30, 2016 and 2015 and for the years then ended. It should be read in conjunction with HYIC's government-wide financial statements, governmental funds financial statements and the notes to the financial statements. The financial statements consist of four parts: (1) management's discussion and analysis (this section); (2) the government-wide financial statements; (3) the governmental funds financial statements; and (4) the notes to the financial statements.

The government-wide financial statements, which include the statements of net position (deficit) and the statements of activities, are presented to display information about HYIC as a whole, in accordance with Governmental Accounting Standards Board ("GASB") standards. This is to provide the reader with a broad overview of HYIC's finances. The government-wide financial statements are prepared using the economic resources measurement focus and the accrual basis of accounting. Accordingly, revenue is recognized when earned and expenses are recorded when a liability is incurred, regardless of the timing of cash flows.

HYIC's governmental funds financial statements are presented using the current financial resources measurement focus and the modified accrual basis of accounting, in which revenue is recognized when it becomes susceptible to accrual; that is, when it becomes both measurable and available to finance expenditures in the current fiscal period. Expenditures are recognized when the related liability is incurred, except for principal and interest on bonds payable and liabilities on arbitrage rebate payable, which are recognized when due.

The reconciliations of the governmental funds balance sheets to the statements of net position (deficit) and reconciliation of the governmental funds statements of revenues, expenditures and changes in fund balances to the statements of activities are presented to assist the reader in understanding the differences between government-wide and governmental funds financial statements.

ORGANIZATIONAL OVERVIEW

HYIC's purpose is the financing of certain infrastructure improvements in the Hudson Yards area on the West Side of Manhattan (the "Project"). HYIC does not engage in the development directly, but finances the development which is spearheaded by the Hudson Yards Development Corporation ("HYDC") and carried out by existing public entities. The Project, is in an area generally bounded by Seventh and Eighth Avenues on the east, West 43rd Street on the north, Twelfth Avenue on the west and West 29th and 30th Streets on the south (the "Project Area"). The Project consists of: (1) design and construction of an extension of the No. 7 Subway from its terminus at Seventh Avenue and 41st Street to a new station at Eleventh Avenue and West 34th Street (the "Subway Extension"), (2) acquisition from the Metropolitan Transportation Authority ("MTA") of certain transferable development rights ("TDRs") over its rail yards between Tenth and Eleventh Avenues and between West 30th and West 33rd Streets ("Eastern Rail Yards" or "ERY"), (3) construction of the first phase of a system of parks, public open spaces, and streets in the Project Area ("Public Amenities") and (4) property acquisition for the Project. The subway extension began service in September 2015. Construction of Phase I of Hudson Park and Boulevard was completed and opened to the public also in September 2015.

ORGANIZATIONAL OVERVIEW (continued)

HYIC fulfills its purpose through the issuance of bonds to finance the Project, including the operations of HYDC, and the collection of revenues to support its operations and service its debt. HYIC revenues include: (1) Interest Support Payments ("ISP") made by The City of New York (the "City") under the terms of the Support and Development Agreement ("Agreement") that obligates the City to pay to HYIC, subject to annual appropriation, ISPs on up to $3 billion of HYIC bonds in an amount equal to the difference between the amount of funds available to HYIC to pay interest on those bonds and the amount of interest due on such bonds; (2) payments in lieu of real estate taxes ("PILOT") that have been assigned to HYIC under agreements with the New York City Industrial Development Agency ("IDA"), the City, and the MTA, and that are to be made in accordance with agreements between developers and IDA and others ("PILOT Agreements"); (3) Tax Equivalency Payments ("TEP") made by the City under the terms of the Agreement, which obligates the City to pay to HYIC, subject to annual appropriation, the amount of real property taxes collected by the City on new development (including substantial rehabilitation of existing buildings) in the Project Area; (4) District Improvement Bonuses ("DIB") paid by private developers in exchange for the right to create additional density in the Project Area; and (5) payments in lieu of the mortgage recording tax ("PILOMRT") required to be made by private developers entering into PILOT Agreements. PILOT Agreements are expected to be entered into by developers because the PILOT payments during the first 19 years will be substantially lower than the real estate taxes that would otherwise be due. Interest earned on unspent bond proceeds is generally used for debt service, in accordance with the terms of the Trust Indenture between HYIC and US Bank dated December 1, 2006, as amended (the "Indenture").

Proceeds received by HYIC for sales of the TDRs (as discussed in Note 5), up to the amount of HYIC's investment (including the $200 million purchase price and interest costs thereon), will also be used by HYIC to support its operations and service its debt.

The Conversion Date is the date on which HYIC certifies that, for each of the two preceding fiscal years, HYIC's PILOT payments plus TEP revenues less HYIC's operating expenses ("Net Recurring Revenues") were not less than 125% of the maximum annual debt service on all then-outstanding senior bonds and not less than 105% of maximum annual debt service on all outstanding bonds calculated as of the Conversion Date. After the date on which bonds are first callable (February 15, 2017) and prior to the Conversion Date, all revenues received by HYIC in a fiscal year remaining after funding operating expenses and interest must be used to purchase or redeem senior bonds in advance of their maturity, except that, if, during such fiscal year, the City has made ISPs, then HYIC must first reimburse the City for such ISPs. Prior to the Conversion Date, HYIC is not obligated to make any payments of principal of its bonds prior to maturity unless and until HYIC receives revenues in amounts sufficient to make such payments. After the Conversion Date, HYIC must establish a schedule of sinking fund installments for all outstanding debt no later than June 30th of that year. Bonds issued by HYIC after the Conversion Date are not entitled to ISPs under the Agreement.

FINANCIAL HIGHLIGHTS AND OVERALL ANALYSIS—GOVERNMENT-WIDE FINANCIAL STATEMENTS (amounts in thousands, except as noted)

On December 21, 2006, HYIC issued its Fiscal 2007 Series A Senior Revenue Bonds ("FY07 Bonds") in the amount of $2 billion, to partially finance the Project. The FY07 Bonds are term bonds with semiannual interest payment dates beginning on August 15, 2007 and maturing on February 15, 2047. On October 26, 2011, HYIC issued its Fiscal 2012 Series A Senior Revenue Bonds ("FY12 Bonds") in the amount of $1 billion, to finance the remaining portion of the project. The FY12 Bonds are term bonds with semiannual interest payments beginning on February 15, 2012, and maturing on February 15, 2047. As discussed above, prior to the Conversion Date, HYIC is not obligated to make any payments of principal on the Bonds prior to maturity, unless and until – and to the extent that – HYIC receives revenues in amounts sufficient to make such payments.

The following summarizes the activities of HYIC for the years ended June 30, 2016, 2015 and 2014:

	2016	2015	2014	Change 2016 vs 2015	Change 2015 vs 2014
Revenues:					
Program revenue	$ 131,304	$ 246,251	$ 63,253	$ (114,947)	$ 182,998
Other revenue	2,034	33,626	41,495	(31,592)	(7,869)
Total revenues	133,338	279,877	104,748	(146,539)	175,129
Expenses:					
Project	56,032	98,799	268,597	(42,767)	(169,798)
Bond interest	142,425	129,359	140,393	13,066	(11,034)
Other	503	514	435	(11)	79
Total expenses	198,960	228,672	409,425	(29,712)	(180,753)
Change in net position	(65,622)	51,205	(304,677)	(116,827)	355,882
Net position (deficit) - beginning of year	(2,539,999)	(2,591,204)	(2,286,527)	51,205	(304,677)
Net position (deficit) - end of year	$ (2,605,621)	$ (2,539,999)	$ (2,591,204)	$ (65,622)	$ 51,205

Program revenue decreased in fiscal year 2016 by $114.9 million due to lower DIB collections than in the prior fiscal year. Other revenue decreased in fiscal year 2016 by $31.6 million mainly because ISP was not needed and therefore not collected in fiscal year 2016. Program revenue in fiscal year 2015 increased by $183 million due to the collection of more DIB, as development progresses in the Project Area. Other revenue decreased by $7.9 million in fiscal year 2015 because of $10.1 million less in ISP, which was offset by $2.5 million more of other non-recurring income.

FINANCIAL HIGHLIGHTS AND OVERALL ANALYSIS—GOVERNMENT-WIDE FINANCIAL STATEMENTS (amounts in thousands, except as noted) (continued)

Project expenses incurred during fiscal year 2016 were $56.0 million compared to fiscal year 2015 when HYIC incurred approximately $98.8 million. The $42.8 million decrease was primarily due to diminishing subway extension expenses as the subway construction nears completion. Project expenses incurred during fiscal year 2015 were approximately $98.8 million compared to fiscal year 2014 when HYIC incurred approximately $269 million. The $170 million decrease was due to $67.8 million less in subway extension expenses as the subway construction progresses to completion; and a $101 million decrease in land acquisition and public amenities costs comprised of a $73.9 million contingency liability accrual recorded in fiscal year 2014, which was decreased in fiscal year 2015 by $29.8 million due to settlement discussions and claimants submitting amended appraisals (see Note 6).

Changes in bond interest expense are related to changes in interest accrued on TDRs held by HYIC. Bond interest expense is offset by the interest cost of borrowed funds used to purchase the TDRs, which become part of the TDRs' asset value (see Note 5).

The following summarizes HYIC's assets, liabilities and net position (deficit) as of June 30, 2016, 2015 and 2014:

	2016	2015	2014	Change 2016 vs 2015	Change 2015 vs 2014
Assets:					
Non-capital	$ 610,325	$ 702,888	$ 693,927	$ (92,563)	$ 8,961
Total assets	610,325	702,888	693,927	(92,563)	8,961
Liabilities:					
Current liabilities	65,575	86,230	95,757	(20,655)	(9,527)
Long-term liabilities	3,144,855	3,154,166	3,187,424	(9,311)	(33,258)
Total liabilities	3,210,430	3,240,396	3,283,181	(29,966)	(42,785)
Deferred inflows of resources:					
Prepaid PILOT	5,516	2,491	1,950	3,025	541
Total deferred inflows of resources	5,516	2,491	1,950	3,025	541
Net position (deficit):					
Restricted	136,674	192,907	291,447	(56,233)	(98,540)
Unrestricted	(2,742,295)	(2,732,906)	(2,882,651)	(9,389)	149,745
Total net position (deficit)	$ (2,605,621)	$ (2,539,999)	$ (2,591,204)	$ (65,622)	$ 51,205

FINANCIAL HIGHLIGHTS AND OVERALL ANALYSIS—GOVERNMENT-WIDE FINANCIAL STATEMENTS (amounts in thousands, except as noted) (continued)

Total assets at the end of fiscal year 2016 were lower than fiscal year 2015 because bond proceeds were drawn down to pay the Project costs. The capital assets being financed by HYIC are owned by the City; therefore, they do not appear on the financial statements of HYIC. Total assets at June 30, 2015 increased by $9.0 million because earned revenue in fiscal year 2015 was more than HYIC incurred expenses.

Current liabilities at June 30, 2016, 2015 and 2014 were lower each year as project expenses decreased.

Long-term liabilities decreased in fiscal year 2016 by $9.3 million because of $7.2 million of condemnation settlement payments and $3.5 million of bond premium amortization, which was offset by $1.4 million of accrued interest on unsettled condemnation claims.

Long-term liabilities decreased in fiscal year 2015 because of a $29.8 million adjustment to the estimated accrued liability for those remaining claimants submitting amended appraisals in fiscal year 2015, as well as settlement discussions among the parties.

PILOT payments received for assessments owed in the following fiscal years are treated as prepaid amounts and reported as deferred inflows of resources. The large negative unrestricted net position balances at June 30, 2016, 2015 and 2014 were primarily due to the issuance of bonds that will be repaid from future revenues.

FINANCIAL HIGHLIGHTS AND OVERALL ANALYSIS—GOVERNMENTAL FUNDS FINANCIAL STATEMENTS (amounts in thousands, except as noted)

HYIC reports governmental activity using three funds: (1) a general fund ("GF"), (2) a debt service fund ("DSF"), and (3) a capital projects fund ("CPF").

The following summarizes the changes in the GF balances for the years ended June 30, 2016, 2015, and 2014:

	2016	2015	2014	Change 2016 vs 2015	Change 2015 vs 2014
Revenues:					
Program revenue	$ 725	$ 787	$ 788	$ (62)	$ (1)
Other revenue	14	4,681	10	(4,667)	4,671
Total revenues	739	5,468	798	(4,729)	4,670
Expenditures	503	514	435	(11)	79
Other financing sources (uses)	11,368	(278)	(363)	11,646	85
Net change in fund balances	11,604	4,676	-	6,928	4,676
Fund balance - beginning of year	4,996	320	320	4,676	-
Fund balance - end of year	$ 16,600	$ 4,996	$ 320	$ 11,604	$ 4,676

The amount of program revenue deposited in the GF was based on projected administrative expenditures. Other revenue is comprised of non-recurring application fees associated with PILOT agreements.

Operating expenditures between fiscal years fluctuates based on the allocated costs associated with management's time spent on conducting HYIC operations.

The increase in other financing sources (uses) in fiscal year 2016 was due to the transfer of non-recurring application fees from the DSF to the GF.

FINANCIAL HIGHLIGHTS AND OVERALL ANALYSIS—GOVERNMENTAL FUNDS FINANCIAL STATEMENTS (amounts in thousands, except as noted) (continued)

The following summarizes the changes in the DSF balances for the years ended June 30, 2016, 2015 and 2014:

	2016	2015	2014	Change 2016 vs 2015	Change 2015 vs 2014
Revenues:					
Program revenue	$ 130,579	$ 245,464	$ 62,465	$ (114,885)	$ 182,999
Other revenue	915	27,864	40,404	(26,949)	(12,540)
Total revenues	131,494	273,328	102,869	(141,834)	170,459
Expenditures	145,879	132,814	143,848	13,065	(11,034)
Other financing sources (uses)	(10,062)	1,100	1,412	(11,162)	(312)
Net change in fund balances	(24,447)	141,614	(39,567)	(166,061)	181,181
Fund balance - beginning of year	427,038	285,424	324,991	141,614	(39,567)
Fund balance - end of year	$ 402,591	$ 427,038	$ 285,424	$ (24,447)	$ 141,614

Program revenue decreased in fiscal year 2016 by $114.9 million due to lower DIB collections than in the prior fiscal year. Other revenue decreased in fiscal year 2016 by $26.9 million mainly because ISP was not collected in fiscal year 2016.

Program revenue in fiscal year 2015 increased by $183 million when compared to fiscal year 2014 because of the collection of $182 million more of DIB as new development progressed in the Project Area. The decrease in other revenue in fiscal year 2015 was due to $10.1 million less in ISP, as the collection of DIB, TEP, and PILOT provided greater offset to ISP than in the prior year.

Changes in expenditures are related to changes in interest accrued on TDRs held by HYIC. Expenditures are offset by the interest cost of borrowed funds used to purchase the TDRs, which become part of the TDRs' asset value (see Note 5).

Other financing sources (uses) decreased in fiscal year 2016 primarily because of the transfer of other non-recurring application fees from the DSF to the GF, as previously discussed.

FINANCIAL HIGHLIGHTS AND OVERALL ANALYSIS—GOVERNMENTAL FUNDS FINANCIAL STATEMENTS (amounts in thousands, except as noted) (continued)

The following summarizes the changes in the CPF balances for the years ended June 30, 2016, 2015 and 2014:

	2016	2015	2014	Change 2016 vs 2015	Change 2015 vs 2014
Revenues	$ 1,105	$ 1,081	$ 1,081	$ 24	$ -
Expenditures:					
Project costs	61,889	128,602	193,074	(66,713)	(64,472)
Other financing (uses)	(1,306)	(822)	(1,049)	(484)	227
Net change in fund balances	(62,090)	(128,343)	(193,042)	66,253	64,699
Fund balance - beginning of year	239,980	368,323	561,365	(128,343)	(193,042)
Fund balance - end of year	$ 177,890	$ 239,980	$ 368,323	$ (62,090)	$ (128,343)

The CPF revenues are comprised of interest earnings.

The decrease in project costs each year was due to declining subway expenditures as construction neared completion.

Other financing (uses) during fiscal years 2016, 2015 and 2014 reflected the transfer of interest collected on unspent bond proceeds from the CPF to the DSF, to be used to pay debt service, in accordance with the terms of the Indenture.

FINANCIAL HIGHLIGHTS AND OVERALL ANALYSIS—GOVERNMENTAL FUNDS FINANCIAL STATEMENTS (amounts in thousands, except as noted) (continued)

The following summarizes the GF assets, liabilities, and fund balances as of June 30, 2016, 2015 and 2014:

	2016	2015	2014	Change 2016 vs 2015	Change 2015 vs 2014
Assets:					
Cash equivalents and investments	$ 16,469	$ 4,862	$ 197	$ 11,607	$ 4,665
Prepaid insurance	152	154	154	(2)	-
Total assets	$ 16,621	$ 5,016	$ 351	$ 11,605	$ 4,665
Liabilities:	$ 21	$ 20	$ 31	$ 1	$ (11)
Fund Balances:					
Nonspendable prepaid insurance	152	154	154	(2)	-
Unassigned	16,448	4,842	166	11,606	4,676
Total fund balances	16,600	4,996	320	11,604	4,676
Total liabilities and fund balances	$ 16,621	$ 5,016	$ 351	$ 11,605	$ 4,665

The GF assets in fiscal years 2016 and 2015 increased by $11.6 million and $4.7 million, respectively due to the collection of application fees associated with PILOT agreements.

FINANCIAL HIGHLIGHTS AND OVERALL ANALYSIS—GOVERNMENTAL FUNDS FINANCIAL STATEMENTS (amounts in thousands, except as noted) (continued)

The following summarizes the DSF assets, liabilities, and fund balances as of June 30, 2016, 2015 and 2014:

	2016	2015	2014	Change 2016 vs 2015	Change 2015 vs 2014
Assets:					
Restricted cash equivalents and investments	$ 308,646	$ 237,998	$ 25,607	$ 70,648	$ 212,391
Transferable development rights	99,367	191,276	261,513	(91,909)	(70,237)
Due from capital projects fund	94	255	254	(161)	1
Total assets	$ 408,107	$ 429,529	$ 287,374	$ (21,422)	$ 142,155
Deferred inflows of resources:					
Prepaid PILOT	$ 5,516	$ 2,491	$ 1,950	$ 3,025	$ 541
Fund balances:					
Restricted	402,591	427,038	285,424	(24,447)	141,614
Total fund balances	402,591	427,038	285,424	(24,447)	141,614
Total deferred inflows of resources and fund balances	$ 408,107	$ 429,529	$ 287,374	$ (21,422)	$ 142,155

The change in total DSF assets is based on the difference between the collections of revenue and payment of debt service during the fiscal year.

HYIC received PILOT payments for assessments attributable to the next fiscal year; the prepaid amount is reported as a deferred inflows of resources.

FINANCIAL HIGHLIGHTS AND OVERALL ANALYSIS—GOVERNMENTAL FUNDS FINANCIAL STATEMENTS (amounts in thousands, except as noted) (continued)

The following summarizes the CPF assets, liabilities, and fund balances as of June 30, 2016, 2015 and 2014:

	2016	2015	2014	Change 2016 vs 2015	Change 2015 vs 2014
Assets:					
Restricted cash equivalents and investments	$ 185,691	$ 268,598	$ 406,456	$ (82,907)	$ (137,858)
Total assets	$ 185,691	$ 268,598	$ 406,456	$ (82,907)	$ (137,858)
Liabilities:					
Project	$ 7,707	$ 28,363	$ 37,879	$ (20,656)	$ (9,516)
Due to debt service fund	94	255	254	(161)	1
Total liabilities	7,801	28,618	38,133	(20,817)	(9,515)
Fund balances:					
Restricted	177,890	239,980	368,323	(62,090)	(128,343)
Total fund balances	177,890	239,980	368,323	(62,090)	(128,343)
Total liabilities and fund balances	$ 185,691	$ 268,598	$ 406,456	$ (82,907)	$ (137,858)

CPF assets on hand at June 30, 2016, 2015, and 2014 represented unspent bond proceeds. The decrease in fund balances each year reflected Project expenditures made during that year.

The decrease in Project expenditures resulted in the decrease of project liabilities in fiscal years 2016 and 2015.

This financial report is designed to provide a general overview of HYIC's finances. Questions concerning any of the information in this report or requests for additional financial information should be directed to Investor Relations, Hudson Yards Infrastructure Corporation, 255 Greenwich Street, New York, NY 10007.

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HUDSON YARDS INFRASTRUCTURE CORPORATION
(A Component Unit of The City of New York)

STATEMENTS OF NET POSITION (DEFICIT)
AS OF JUNE 30, 2016 AND 2015 (amounts in thousands)

	2016	2015
ASSETS:		
Unrestricted cash equivalents	$ 16,468	$ 4,862
Restricted cash equivalents	158,148	47,046
Restricted investments	336,175	459,550
Interest receivable	15	-
Prepaid insurance	152	154
Transferable development rights	99,367	191,276
Total assets	610,325	702,888
LIABILITIES:		
Project costs payable	7,316	26,006
Accrued expenses	21	20
Payable to The City of New York	346	2,233
Payable to Hudson Yards Development Corporation	45	124
Accrued bond interest payable	57,847	57,847
Contingent liabilities	41,216	47,073
Long-term debt:		
Portion due after one year	3,103,639	3,107,093
Total liabilities	3,210,430	3,240,396
DEFERRED INFLOWS OF RESOURCES:		
Prepaid PILOT	5,516	2,491
Total deferred inflows of resources	5,516	2,491
NET POSITION (DEFICIT):		
Restricted for capital projects	136,674	192,907
Unrestricted (deficit)	(2,742,295)	(2,732,906)
Total net position (deficit)	$ (2,605,621)	$ (2,539,999)

See notes to financial statements.

HUDSON YARDS INFRASTRUCTURE CORPORATION
(A Component Unit of The City of New York)

STATEMENTS OF ACTIVITIES
FOR THE YEARS ENDED JUNE 30, 2016 AND 2015 (amounts in thousands)

	2016	2015
REVENUES:		
District improvement bonus revenue	$ 45,183	$ 193,652
Tax equivalency payment revenue	58,656	48,563
PILOMRT revenue	22,496	-
PILOT revenue	4,969	4,036
Interest support payment revenue	-	28,047
Other revenue	29	4,681
Investment income	2,005	898
Total revenues	133,338	279,877
EXPENSES:		
Project - subway extension	38,600	107,412
Project - land acquisition and public amenities	16,335	(9,956)
Project - transfer to Hudson Yards Development Corporation	1,097	1,343
Bond interest	142,425	129,359
General and administrative	503	514
Total expenses	198,960	228,672
CHANGE IN NET POSITION	(65,622)	51,205
NET POSITION (DEFICIT) - Beginning of year	(2,539,999)	(2,591,204)
NET POSITION (DEFICIT) - End of year	$ (2,605,621)	$ (2,539,999)

See notes to financial statements.

HUDSON YARDS INFRASTRUCTURE CORPORATION

(A Component Unit of The City of New York)

GOVERNMENTAL FUNDS BALANCE SHEET
AS OF JUNE 30, 2016 (amounts in thousands)

	General Fund	Debt Service Fund	Capital Projects Fund	Total Governmental Funds
ASSETS:				
Unrestricted cash equivalents	$ 16,468	$ -	$ -	$ 16,468
Restricted cash equivalents	-	133,859	24,289	158,148
Restricted investments	-	174,775	161,400	336,175
Interest receivable	1	12	2	15
Due from capital projects fund	-	94	-	94
Prepaid insurance	152	-	-	152
Transferable development rights	-	99,367	-	99,367
Total assets	$ 16,621	$ 408,107	$ 185,691	$ 610,419
LIABILITIES:				
Project costs payable	$ -	$ -	$ 7,316	$ 7,316
Accounts payable	21	-	-	21
Due to debt service fund	-	-	94	94
Payable to The City of New York	-	-	346	346
Payable to Hudson Yards Development Corporation	-	-	45	45
Total liabilities	21	-	7,801	7,822
DEFERRED INFLOWS OF RESOURCES:				
Prepaid PILOT	-	5,516	-	5,516
Total deferred inflows of resources	-	5,516	-	5,516
FUND BALANCES:				
Nonspendable prepaid insurance	152	-	-	152
Restricted for:				
Debt service	-	402,591	-	402,591
Capital projects	-	-	177,890	177,890
Unassigned	16,448	-	-	16,448
Total fund balances	16,600	402,591	177,890	597,081
Total liabilities, deferred inflows of resources and fund balances	$ 16,621	$ 408,107	$ 185,691	$ 610,419

See notes to financial statements.

HUDSON YARDS INFRASTRUCTURE CORPORATION
(A Component Unit of The City of New York)

GOVERNMENTAL FUNDS BALANCE SHEET
AS OF JUNE 30, 2015 (amounts in thousands)

	General Fund	Debt Service Fund	Capital Projects Fund	Total Governmental Funds
ASSETS:				
Unrestricted cash equivalents	$ 4,862	$ -	$ -	$ 4,862
Restricted cash equivalents	-	10,612	36,434	47,046
Restricted investments	-	227,386	232,164	459,550
Due from capital projects fund	-	255	-	255
Prepaid insurance	154	-	-	154
Transferable development rights	-	191,276	-	191,276
Total assets	$ 5,016	$ 429,529	$ 268,598	$ 703,143
LIABILITIES:				
Project costs payable	$ -	$ -	$ 26,006	$ 26,006
Accounts payable	20	-	-	20
Due to debt service fund	-	-	255	255
Payable to The City of New York	-	-	2,233	2,233
Payable to Hudson Yards Development Corporation	-	-	124	124
Total liabilities	20	-	28,618	28,638
DEFERRED INFLOWS OF RESOURCES:				
Prepaid PILOT	-	2,491	-	2,491
Total deferred inflows of resources	-	2,491	-	2,491
FUND BALANCES:				
Nonspendable prepaid insurance	154	-	-	154
Restricted for:				
Debt service	-	427,038	-	427,038
Capital projects	-	-	239,980	239,980
Unassigned	4,842	-	-	4,842
Total fund balances	4,996	427,038	239,980	672,014
Total liabilities, deferred inflows of resources and fund balances	$ 5,016	$ 429,529	$ 268,598	$ 703,143

See notes to financial statements.

HUDSON YARDS INFRASTRUCTURE CORPORATION

(A Component Unit of The City of New York)

RECONCILIATIONS OF THE GOVERNMENTAL FUNDS BALANCE SHEETS TO THE STATEMENTS OF NET POSITION (DEFICIT)
AS OF JUNE 30, 2016 AND 2015 (amounts in thousands)

	2016	2015
Total fund balances - governmental funds	$ 597,081	$ 672,014
Amounts reported for governmental activities in the statements of net position (deficit) are different because:		
Bond premiums are reported as other financing sources in the governmental funds financial statements when received. However, in the statements of net position (deficit), bond premiums are reported as a component of bonds payable and amortized over the life of the bonds.	(103,639)	(107,093)
Some liabilities are not due and payable in the current period from currently available financial resources and are therefore not reported in the governmental funds financial statements, but are reported in the statements of net position (deficit). Those liabilities are:		
Bonds payable	(3,000,000)	(3,000,000)
Accrued bond interest payable	(57,847)	(57,847)
Contingent liabilities	(41,216)	(47,073)
Net position (deficit) - governmental activities	$ (2,605,621)	$ (2,539,999)

See notes to financial statements.

HUDSON YARDS INFRASTRUCTURE CORPORATION

(A Component Unit of The City of New York)

GOVERNMENTAL FUNDS STATEMENT OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES
FOR THE YEAR ENDED JUNE 30, 2016 (amounts in thousands)

	General Fund	Debt Service Fund	Capital Projects Fund	Total Governmental Funds
REVENUES:				
District improvement bonus revenue	$ -	$ 45,183	$ -	$ 45,183
Tax equivalency payment revenue	725	57,931	-	58,656
PILOMRT revenue	-	22,496	-	22,496
PILOT revenue	-	4,969	-	4,969
Other revenue	10	19	-	29
Investment income	4	896	1,105	2,005
Total revenues	739	131,494	1,105	133,338
EXPENDITURES:				
Project - subway extension	-	-	38,600	38,600
Project - land acquisition and public amenities	-	-	22,192	22,192
Project - transfers to Hudson Yards Development Corporation	-	-	1,097	1,097
Bond interest	-	145,879	-	145,879
General and administrative	503	-	-	503
Total expenditures	503	145,879	61,889	208,271
OTHER FINANCING SOURCES (USES):				
Transfers (from capital projects fund) to debt service fund	-	1,306	(1,306)	-
Transfer (from general fund) to debt service fund	(253)	253	-	-
Transfer (from debt service fund) to general fund	11,621	(11,621)	-	-
Total other financing sources (uses)	11,368	(10,062)	(1,306)	-
NET CHANGE IN FUND BALANCES	11,604	(24,447)	(62,090)	(74,933)
FUND BALANCES - beginning of year	4,996	427,038	239,980	672,014
FUND BALANCES - end of year	$ 16,600	$ 402,591	$ 177,890	$ 597,081

See notes to financial statements.

HUDSON YARDS INFRASTRUCTURE CORPORATION
(A Component Unit of The City of New York)

GOVERNMENTAL FUNDS STATEMENT OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES FOR THE YEAR ENDED JUNE 30, 2015 (amounts in thousands)

	General Fund	Debt Service Fund	Capital Projects Fund	Total Governmental Funds
REVENUES:				
District improvement bonus revenue	$ 787	$ 192,865	$ -	$ 193,652
Tax equivalency payment revenue	-	48,563	-	48,563
PILOT revenue	-	4,036	-	4,036
Interest support payment revenue	-	28,047	-	28,047
Other revenue	4,681	-	-	4,681
Investment income	-	(183)	1,081	898
Total revenues	5,468	273,328	1,081	279,877
EXPENDITURES:				
Project - subway extension	-	-	107,412	107,412
Project - land acquisition and public amenities	-	-	19,847	19,847
Project - transfers to Hudson Yards Development Corporation	-	-	1,343	1,343
Bond interest	-	132,814	-	132,814
General and administrative	514	-	-	514
Total expenditures	514	132,814	128,602	261,930
OTHER FINANCING SOURCES (USES):				
Transfers (from capital projects fund) to debt service fund	-	822	(822)	-
Transfer (from general fund) to debt service fund	(278)	278	-	-
Total other financing sources (uses)	(278)	1,100	(822)	-
NET CHANGE IN FUND BALANCES	4,676	141,614	(128,343)	17,947
FUND BALANCES - beginning of year	320	285,424	368,323	654,067
FUND BALANCES - end of year	$ 4,996	$ 427,038	$ 239,980	$ 672,014

See notes to financial statements.

HUDSON YARDS INFRASTRUCTURE CORPORATION
(A Component Unit of The City of New York)

RECONCILIATIONS OF THE GOVERNMENTAL FUNDS STATEMENTS OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES TO THE STATEMENTS OF ACTIVITIES FOR THE YEARS ENDED JUNE 30, 2016 AND 2015 (amounts in thousands)

	2016	2015
Net change in fund balances - total governmental funds	$ (74,933)	$ 17,947
Amount reported in the statements of activities are different because:		
Governmental funds financial statements report bond premiums as other financing source upon issuance. However, on the statements of activities, premiums are recognized as an offset of interest expense over the life of the bonds.	3,454	3,455
Contingent liabilities are reported on the statements of activities on the accrual basis. However, contingent expenditures are reported in the governmental funds financial statements when the incurred or paid.	5,857	29,803
Change in net position (deficit) - governmental activities	$ (65,622)	$ 51,205

See notes to financial statements.

1. ORGANIZATION

Hudson Yards Infrastructure Corporation ("HYIC") is a local development corporation established by The City of New York (the "City") under Article 14 of the Not-for-Profit Corporation Law of the State of New York. HYIC's purpose is the financing of certain infrastructure improvements in the Hudson Yards area on the West Side of Manhattan (the "Project"). The HYIC does not engage in development directly, but finances development spearheaded by Hudson Yards Development Corporation ("HYDC") and carried out by existing public entities. The Project is in an area generally bounded by Seventh and Eighth Avenues on the east, West 43rd Street on the north, Twelfth Avenue on the west and West 29th and 30th Streets on the south (the "Project Area"). The Project consists of: (1) design and construction of an extension of the No. 7 Subway from its terminus at Seventh Avenue and 41st Street to a new station at Eleventh Avenue and West 34th Street (the "Subway Extension"), (2) acquisition from the Metropolitan Transportation Authority ("MTA") of certain transferable development rights over its rail yards between Tenth and Eleventh Avenues and between West 30th and West 33rd Streets ("Eastern Rail Yards" or "ERY"), (3) construction of the first phase of a system of parks, public open spaces, and streets in the Project Area ("Public Amenities") and (4) property acquisition for the Project.

HYIC fulfills its purpose through the issuance of bonds to finance the Project, including the operations of HYDC, and the collection of revenues, including payments in lieu of taxes and district improvement bonuses from private developers and appropriations from the City, to support its operations and pay principal and interest on its outstanding bonds. HYIC is governed by the Board of Directors elected by its five members, all of whom are officials of the City. HYIC's Certificate of Incorporation requires the vote of an independent director as a condition to taking certain actions; the independent director would be appointed by the Mayor prior to any such actions. HYIC does not have any employees; its affairs are administered by employees of the City and of another component unit of the City, for which HYIC pays a management fee and overhead based on its allocated share of personnel and overhead costs.

Although legally separate from the City, HYIC is an instrumentality of the City and, accordingly, is included in the City's financial statements as a blended component unit, in accordance with the Governmental Accounting Standards Board ("GASB") standards.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Measurement Focus and Basis of Accounting

The government-wide financial statements of HYIC, which include the statements of net position (deficit) and the statements of activities, are presented to display information about the reporting entity as a whole, in accordance with GASB standards. The statements of net position (deficit) and the statements of activities are prepared using the economic resources measurement focus and the accrual basis of accounting. Revenues are recorded when earned and expenses are recorded when incurred, regardless of the timing of cash flows.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

HYIC's governmental funds financial statements are presented using the current financial resources measurement focus and the modified accrual basis of accounting. Revenue is recognized when it becomes susceptible to accrual, which is when it becomes both measurable and available to finance expenditures in the current fiscal period. Revenue is generally considered available if expected to be received within one year after period end. Expenditures are recognized when the related liability is incurred, except for principal and interest on bonds payable and estimated arbitrage rebate liability, which are recognized when due.

HYIC uses three governmental funds for reporting its activities: a General Fund ("GF"), a Debt Service Fund ("DSF") and a Capital Projects Fund ("CPF"). The DSF is used to account for the receipt and disbursement of resources – including Transferable Development Rights (see Note 5) - used to pay interest on and principal of long term debt. The CPF is used to account for the bond issuances and proceeds and for project expenditures. The GF is used to account for all financial resources not accounted for in the DSF or the CPF, generally those used or held for use for administrative expenditures and arbitrage rebate expenditures. HYIC accounts for the activities in the GF in accordance with the Trust Indenture between HYIC and US Bank dated December 1, 2006, as amended (the "Indenture").

Fund Balance

Fund balances are classified as either: 1) nonspendable, 2) restricted, 3) committed, 4) assigned, or 5) unassigned in accordance with governmental accounting standards.

Fund balance that cannot be spent because it is not in spendable form is defined as nonspendable. Resources constrained for debt service or redemption in accordance with HYIC's Trust Indenture, dated October 1, 2006 (the "Indenture") are classified as restricted on the statements of net position (deficit) and the governmental funds balance sheets.

The Board of Directors of HYIC ("Board") constitutes HYIC's highest level of decision-making authority. If and when resolutions are adopted by the Board that constrain fund balances for a specific purpose are accounted for and reported as committed for such purpose unless, and until, a subsequent resolution altering the commitment is adopted by the Board.

Fund balances, if and when constrained for use for a specific purpose based on the direction of any officer of HYIC duly authorized under its bond indenture to direct the movement of such funds, are accounted for and reported as assigned for such purpose. This assignment will remain, unless and until a subsequent authorized action by the same or another duly authorized officer, or by the Board, is taken which removes or changes the assignment.

When both restricted and unrestricted resources are available for use for a specific purpose, it is HYIC's policy to use restricted resources first then unrestricted resources as they are needed. When committed, assigned, or unassigned resources are available for use for a specific purpose, it is HYIC's policy to use committed resources first, then assigned resources, and then unassigned resources as they are needed.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Resources constrained for debt service or redemption in accordance with HYIC's Indenture are classified as restricted on the statements of net position (deficit) and the governmental funds balance sheets.

Cash Equivalents

Cash equivalents consist of money market funds and investments maturing within 90 days from the purchase date.

Capital Assets

HYIC is not the owner of the Project assets that are constructed or acquired with the proceeds of its bonds. Assets related to the parks and boulevard are property of the City. Assets related to the subway extension are owned by the City and leased to the New York City Transit Authority pursuant to a long-term lease, and are treated as assets of the New York City Transit Authority on its financial statements. Therefore, HYIC reports no infrastructure assets or construction work in progress.

For fixed assets used in the operations of HYIC, HYIC's policy is to capitalize the purchase of assets having a minimum useful life of five years and having a cost of more than $35 thousand. No such assets have been acquired.

Revenues

HYIC revenues include and will include:

(1) Interest Support Payments ("ISP") are made by the City under the terms of the Support and Development Agreement ("Agreement") that obligates the City to pay to HYIC, subject to annual appropriation, ISP on up to $3 billion of HYIC bonds issued prior to the Conversion Date (described below), for so long as such bonds are outstanding, in an amount equal to the difference between the amount of funds available to HYIC to pay interest on those bonds and the amount of interest due on such bonds;

(2) Payments in lieu of real estate taxes ("PILOT") which have been assigned to HYIC under agreements with the New York City Industrial Development Agency ("IDA"), the City, and the MTA, and that are to be made in accordance with agreements between developers and IDA and others ("PILOT Agreements");

(3) Tax Equivalency Payments ("TEP") are made by the City under the terms of the Agreement that obligates the City to pay to HYIC, subject to annual appropriation, the amount of real property taxes collected by the City on new development (including substantial rehabilitation of existing buildings) in the Project Area;

(4) District Improvement Bonuses ("DIB") paid by private developers in exchange for the right to create additional density in the Project Area;

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

(5) Payments in lieu of the mortgage recording tax ("PILOMRT") required to be made by private developers entering into PILOT Agreements; and

(6) Interest earned on unspent bond proceeds, which is generally used for debt service.

The Conversion Date is the date on which HYIC certifies that, for each of the two preceding fiscal years, HYIC's PILOT payments plus TEP revenues, less HYIC's operating expenses, ("Net Recurring Revenues") were not less than 125% of the maximum annual debt service on all then-outstanding senior bonds and not less than 105% of maximum annual debt service on all outstanding bonds calculated as of the Conversion Date. After the date on which bonds are first callable (February 15, 2017) and prior to the Conversion Date, all revenues received by HYIC in a fiscal year remaining after funding expenses and interest must be used to purchase or redeem senior bonds in advance of their maturity, after funding interest for the subsequent fiscal year, except that, if, during such fiscal year, the City has made ISPs, then HYIC must first reimburse the City for such ISPs. Prior to the Conversion Date, HYIC is not obligated to make any payments of principal on its bonds prior to maturity unless and until HYIC receives revenues in amounts sufficient to make such payments. After the Conversion Date, HYIC must establish a schedule of sinking fund installments for all outstanding debt no later than June 30th of that year. Bonds issued by HYIC after the Conversion Date are not entitled to ISPs under the Agreement.

Arbitrage Rebate

To maintain the exemption from Federal income tax of interest on bonds issued on December 21, 2006 and October 26, 2011, HYIC will fund amounts required to be rebated to the Federal Government pursuant to Section 148 of the Internal Revenue Code of 1986, as amended (the "Code"). The Code requires the payment to the United States Treasury of the excess of the amount earned on all obligations over the amount that would have been earned if the gross proceeds of the issue were invested at a rate equal to the yield on the issue, together with any earnings attributable to such excess. Construction funds, debt service funds or any other funds or accounts funded with proceeds of such bonds, including earnings, or pledged to or expected to be used to pay interest on such bonds are subject to this requirement. Payment is to be made after the end of the fifth bond year and after every fifth bond year thereafter, or within 60 days after retirement of the bonds.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Bond Premium and Issuance Costs

Bond premium is capitalized and amortized over the lives of the related debt using the interest method in the government-wide financial statements. The amounts of unamortized bond premium at June 30, 2016 and 2015 were $104 million and $107 million, respectively, which were net of accumulated amortization of $30.1 million and $26.7 million, respectively.

Use of Estimates

The preparation of financial statements in accordance with accounting principles generally accepted in the United States of America requires HYIC's management to make estimates and assumptions in determining the reported amounts of assets and liabilities as of the date of the financial statements and the reported amounts of revenues and expenditures during the reporting period. Actual results could differ from those estimates.

Recent Accounting Pronouncements

As a component unit of the City, HYIC implements new GASB standards in the same fiscal year as they are implemented by the City. The following are discussions of the standards requiring implementation in the current year and standards which may impact HYIC in future years.

- In June 2015, GASB issued Statement No. 73, *Accounting and Financial Reporting for Pension and Related Assets That Are Not within the Scope of GASB 68, and Amendments to Certain Provision of GASB 67 and GASB 68* ("GASB 73"). GASB 73 provides guidance on assets accumulated for pension plans that are not administered through a trust and provides clarity on certain provision of GASB 67 and GASB 68. The requirements for GASB 73 are effective for fiscal years beginning after June 15, 2015. The adoption of GASB 73 did not have an impact on HYIC's financial statements.
- In June 2015, GASB issued Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans* ("GASB 74"). GASB 74 establishes financial reporting standards to state and local governmental other postemployment benefit ("OPEB") plans. The requirements of GASB 74 are effective for fiscal years beginning after June 15, 2016. HYIC has not completed the process of evaluating GASB 74, but does not expect it to have an impact on HYIC's financial statements as it has no employees.
- In June 2015, GASB issued Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions* ("GASB 75"). GASB 75 establishes accounting and financial reporting standards for OPEB that is provided to employees of state and local governmental employees. The requirements of GASB 75 are effective for fiscal years beginning after June 15, 2017. HYIC has not completed the process of evaluating GASB 75, but does not expect it to have an impact on HYIC's financial statements as it has no employees.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

- In June 2015, GASB issued Statement No. 76, *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments* ("GASB 76"). GASB 76 reduces the GAAP hierarchy to two categories of authoritative GAAP and addresses the use of authoritative and nonauthoritative literature in the event that the accounting treatment for a transaction of other event is not specified within the source of authoritative GAAP. The requirements of GASB 76 are effective for fiscal years beginning after June 15, 2015. The adoption of GASB 76 did not have an impact on HYIC's financial statements.

- In August 2015, GASB issued Statement No. 77, *Tax Abatement Disclosures* ("GASB 77"). GASB 77 requires state and local governments for the first time to disclose information about tax abatement agreements. GASB 77 requires governments to disclose information about their own tax abatements separately from information about tax abatements that are entered into by other governments and reduce the reporting government's tax revenues. The requirements of GASB 77 are effective for fiscal years beginning after December 15, 2015. The adoption of GASB 77 did not have an impact on HYIC's financial statements as it does not enter into any such agreements.

- In December 2015, GASB issued Statement No. 78, *Pensions Provided Through Certain Multiple-Employer Defined Benefit Pension Plans* ("GASB 78"). GASB 78 amends the scope and applicability of Statement 68 to exclude pension plans provided to employees of state or local governmental employers through a cost-sharing multiple-employer defined benefit pension plan that (1) is not a state or local government pension plan, (2) is used to provide defined benefits both to employees of state or local governmental employers and to employees of employers that are not state or local governments, and (3) has no predominant state or local governmental employer (either individually or collectively with other state or local governmental employers that provide pension through the pension plan). The requirements of GASB 78 are effective for fiscal years beginning after December 15, 2015. The adoption of GASB 78 did not have an impact on HYIC's financial statements as it has no employees.

- In December 2015, GASB issued Statement No 79, *Certain External Investment Pools and Pool Participants* ("GASB 79"). GASB 79 will enhance comparability of financial statements among governments by establishing specific criteria used to determine whether a qualifying external investment pool may elect to use an amortized cost exception to fair value measurement. Those criteria will provide qualifying external investment pools and participants in those pools with consistent application of an amortized cost-based measurement for financial reporting purposes. That measurement approximates fair value and mirrors the operations of external investment pools that transact with participants at a stable net asset value per share. The requirements of GASB 79 are effective for fiscal years beginning after December 15, 2015. The adoption of GASB 79 did not have an impact on HYIC's financial statements as it has no such investments.

- In January 2016, GASB issued Statement No 80, *Blending Requirements for Certain Component Units* ("GASB 80"). GASB 80 provides clarity on how certain component units incorporated as not-for-profit corporations should be presented in the financial statements of the primary state or local government. The requirements of GASB 80 are effective for fiscal years beginning after June 15, 2016. The adoption of GASB 80 did not have an impact on HYIC's financial statements.

AS OF AND FOR THE YEARS ENDED JUNE 30, 2016 AND 2015 (continued) (amounts in thousands, except as noted)

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

- In March 2016, GASB issued Statement No 81, *Irrevocable Split Interest Agreements* ("GASB 81"). GASB 81 addresses the situations under which an irrevocable split-interest agreement constitutes an asset for accounting and financial reporting purposes when the resources are administered by a third party. GASB 81 also provides expanded guidance for circumstances in which the government holds the assets. The requirements of GASB 81 are effective for fiscal years beginning after December 15, 2016. The adoption of GASB 81 did not have an impact on HYIC's financial statements as it does not enter in such arrangements.

- In March 2016, GASB issued Statement No 82, *Pension Issues* ("GASB 82"). GASB 82 addresses practice issues raised during the implementation of the GASB's pension accounting and financial reporting standards for state and local governments. The requirements of GASB 82 are effective for fiscal years beginning after June 15, 2016. The adoption of GASB 82 did not have an impact on HYIC's financial statements as it has no employees.

3. CASH AND CASH EQUIVALENTS

As of June 30, 2016 and 2015, HYIC did not have any cash deposits on hand. Cash equivalents were comprised of Money Market Funds and commercial paper maturing within 90 days, primarily restricted for capital projects. HYIC's cash and cash equivalents consisted of the following at June 30, 2016 and 2015:

	2016	2015
Cash	$ -	$ -
Cash Equivalents (see Note 4)	174,616	51,908
Total Cash and Cash Equivalents	$ 174,616	$ 51,908

AS OF AND FOR THE YEARS ENDED JUNE 30, 2016 AND 2015 (continued) (amounts in thousands, except as noted)

4. INVESTMENTS

HYIC's investments consisted of the following at June 30, 2016 and 2015:

	2016	2015
Unrestricted:		
Money Market Funds	$ 16,468	$ 4,862
Total Unrestricted	16,468	4,862
Restricted for Debt Service:		
Money Market Funds	133,859	10,612
Federal National Mortgage Association discount note (maturing after one year)	-	75,621
U.S. Treasury Note (maturing within one year)	174,775	76,924
U.S. Treasury Note (maturing after one year)	-	74,841
Total Restricted for Debt Service	308,634	237,998
Restricted for Capital Projects:		
Money Market Funds	24,289	36,434
Commercial Paper (maturing after 90 days)	-	19,999
Federal Farm Credit Bank Bond (maturing after one year)	10,000	5,483
Federal Home Loan Bank medium term note (maturing after one year)	-	2,424
Federal National Mortgage Association medium term note (maturing after one year)	-	999
U.S. Treasury Note (maturing within one year)	144,179	-
U.S. Treasury Note (maturing after one year)	7,221	203,259
Total Restricted for Capital Projects	185,689	268,598
Total Investments including cash equivalents	510,791	511,458
Less amounts reported as cash equivalents (see Note 3)	(174,616)	(51,908)
Total Investments	$ 336,175	$ 459,550

4. INVESTMENTS (continued)

HYIC's management invests funds which are not immediately required for operations, debt service or capital project expenses. Each account of HYIC is held pursuant to the Indenture and may be invested in securities or categories of investments that are specifically enumerated as permitted investments for such account pursuant to the Indenture. Investments are reported at fair value using market prices in an active market as of the financial statement date.

Fair Value Hierarchy

HYIC categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure fair value of the assets. Level 1 inputs are quoted prices in an active market for identical assets; Level 2 inputs are significant other observable inputs; and Level 3 inputs are significant unobservable inputs.

HYIC has the following recurring fair value measurements as of June 30, 2016 and 2015:

- Money Market Funds are valued based on various market and industry inputs (Level 2 inputs).
- U.S. Treasury securities of $326 million and $355 million respectively, are valued using quoted market prices (Level 1 inputs).
- U.S. Agency securities of $10 million and $84.5 million respectively, are valued using a matrix pricing model (Level 2 inputs).
- Commercial paper of $0 million and $20.0 million respectively, are valued using a matrix pricing model (Level 2 inputs).

Custodial Credit Risk

Custodial credit risk is the risk that, in the event of the failure of the custodian, HYIC may not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. All investments are registered and are held by HYIC's agent in HYIC's name.

Credit Risk

All investments held by HYIC at June 30, 2016 and 2015 are obligations of, or guaranteed by, the United States of America; or are invested in Federal National Mortgage Association securities, and/or Federal Farm Credit Bank, which are rated by S&P AA+, Moody Aaa, and Fitch AAA; and Federal Home Loan Bank securities, which is rated by S&P AA+ and Moodys Aaa; money market funds which are rated by S&P AAA and Moodys Aaa; and commercial paper that is rated in the highest category by at least two rating agencies.

4. INVESTMENTS (continued)

Interest Rate Risk

HYIC's short term maturities are subject to minimal risk of fair value declines due to changes in market interest rates. Investments with longer terms are expected to be held until maturity thereby limiting the exposure from rising interest rates.

Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of HYIC's investments in a single issuer (5% or more). HYIC's investment policy places no limits on the amount HYIC may invest in any one issuer of eligible investments as defined in the Indenture. As of June 30, 2016, 98% of HYIC's investments are in eligible government obligations or in money market funds invested in eligible government obligations.

5. TRANSFERABLE DEVELOPMENT RIGHTS

HYIC acquired a 50% interest in Eastern Rail Yards Transferable Development Rights ("TDRs") for the purpose of resale, under an agreement among the City, the MTA, the Triborough Bridge and Tunnel Authority and the Long Island Rail Road Company ("TDR Agreement"). The purchase by developers of TDRs will permit the construction of buildings of larger size than would otherwise be permissible as-of-right under applicable zoning law. Proceeds received by HYIC for sales of the TDRs, up to the amount of HYIC's investment (including the $200 million total purchase price and interest costs thereon) will be used by HYIC to support its operations and service its debt. Under the terms of the TDR Agreement, HYIC made the initial installment payment of $100 million in fiscal year 2007, and was required to make three more annual payments of $33 million in September of 2007, 2008 and 2009 for this interest on which all the payments were made.

The full value of the TDRs, including, the full purchase price and HYIC's cost of funds, is reflected as an asset in the governmental funds balance sheets and in the statements of net position (deficit). The cost of funds is adjusted annually as an offset to interest expense/expenditures. In fiscal year 2015, the cost of funds borrowed and added to the TDR asset value was adjusted to be consistent with the manner in which the TDR proceeds are received.

During fiscal years 2016 and 2015, HYIC received proceeds of $99.2 million and $90.1 million, respectively, from the sale of TDRs. These amounts reduced the fiscal year 2016 and 2015 carrying amounts of the assets on the governmental funds balance sheets and in the statements of net position (deficit).

AS OF AND FOR THE YEARS ENDED JUNE 30, 2016 AND 2015 (continued) (amounts in thousands, except as noted)

6. LONG-TERM LIABILITIES

Changes in Long-term Liabilities

On December 21, 2006, HYIC issued the Series 2007A Bonds in the amount of $2 billion to partially finance the Project. The series 2007A bonds are term bonds with semiannual interest payment dates beginning on August 15, 2007 and maturing on February 15, 2047. On October 26, 2011, HYIC issued its Fiscal 2012 Series A Senior Revenue Bonds in the amount of $1 billion. HYIC has pledged all revenues and its proceeds from sales of TDRs to secure the bonds to finance the remaining portion of the Project. The Series 2012A bonds are term bonds with semiannual interest payments beginning on February 15, 2012, and maturing on February 15, 2047.

Interest on the Series 2007A Bonds and Series 2012A Bonds is payable semiannually on February 15 and August 15. Payments of principal on the Series 2007A Bonds and the Series 2012A Bonds will be made by HYIC from revenues and TDRs sale proceeds received as a result of development in the Hudson Yards Financing District. Prior to the Conversion Date (discussed in Note 2), HYIC is not obligated to make any payments of principal on the bonds prior to maturity unless and until – and to the extent that – HYIC receives revenues and TDRs sale proceeds in amounts sufficient to make such payments. After the first call date (February 15, 2017) for the bonds and prior to the Conversion Date, all revenues remaining after funding expenses and interest must be used to purchase or redeem Series bonds after funding interest for the subsequent fiscal year (except that, if the City has made ISPs during such fiscal year, then HYIC must first reimburse the City for such ISPs). The Indenture specifies that a schedule of sinking fund installments must be established for the bonds no later than the June 30th following the Conversion Date. The bonds bear interest at fixed rates ranging from 4.5% to 5.75%.

A summary of changes in outstanding bonds and other long-term debt during the year ended June 30, 2016 follows:

Series	Balance June 30, 2015	Year Ended June 30, 2016 Additions	Deletions	Balance June 30, 2016	Due Within One Year
Fiscal 2007 Series A	$ 2,000,000	$ -	$ -	$ 2,000,000	$ -
Fiscal 2012 Series A	1,000,000	-	-	1,000,000	-
Total before premium	3,000,000	-	-	3,000,000	-
Premium	107,093	-	(3,454)	103,639	-
Total Bonds Payable and Premium	$ 3,107,093	$ -	$ (3,454)	$ 3,103,639	$ -

AS OF AND FOR THE YEARS ENDED JUNE 30, 2016 AND 2015 (continued) (amounts in thousands, except as noted)

6. LONG-TERM LIABILITIES (continued)

A summary of changes in outstanding bonds and other long term debt during the year ended June 30, 2015 follows:

Series	Balance June 30, 2014	Year Ended June 30, 2015 Additions	Year Ended June 30, 2015 Deletions	Balance June 30, 2015	Due Within One Year
Fiscal 2007 Series A	$ 2,000,000	$ -	$ -	$ 2,000,000	$ -
Fiscal 2012 Series A	1,000,000	-	-	1,000,000	-
Total before premium	3,000,000	-	-	3,000,000	-
Premium	110,548	-	(3,455)	107,093	-
Total Bonds Payable and Premium	$ 3,110,548	$ -	$ (3,455)	$ 3,107,093	$ -

Debt service requirements on bonds, including principal and interest, at June 30, 2016, are as follows:

Years Ended June 30,	Principal	Interest	Total
2017	$ -	$ 153,125	$ 153,125
2018	-	153,125	153,125
2019	-	153,125	153,125
2020	-	153,125	153,125
2021	-	153,125	153,125
2022 to 2026	-	765,625	765,625
2027 to 2031	-	765,625	765,625
2032 to 2036	-	765,625	765,625
2037 to 2041	-	765,625	765,625
2042 to 2046	-	765,625	765,625
2047	3,000,000	153,125	3,153,125
Totals	$ 3,000,000	$ 4,746,875	$ 7,746,875

6. LONG-TERM LIABILITIES (continued)

Claims and Litigation

During fiscal year 2010, the City began receiving appraisals from claimants with pending claims for additional compensation for the City's acquisitions of their interests within the Project Area. Although the City is the condemnor of property interest for the Project, the Corporation is responsible for funding any payments ultimately determined to be payable on such claims.

In September 2011 (fiscal year 2012), the New York State Supreme Court (the "Court") issued a determination that the Claimants' appraisals had relied upon an erroneous zoning assumption. The Claimants appealed the Court's determination to the Appellate Division, First Department, which, in May 2013, affirmed the lower court's decision. As of the fiscal years ending June 30, 2013 and 2012, the Claimants did not submit amended appraisals. In view of the aforesaid determination by the Courts rejecting the Claimants' appraisals, the Corporation's potential liability as of June 30, 2013 and 2012, if any, with respect to these claims was not estimable and as such any accrued estimated liabilities were removed from HYIC's financial statements.

In June 2014, the Claimants submitted amended appraisals to the City based on the appropriate zoning assumptions for the majority of the properties and the City was informed that the balance of amended appraisals for the remaining properties would be submitted in fiscal year 2015. In view of these events and based on a range of typical outcomes of prior City condemnation cases, it may be reasonable to assume that certain of the Project condemnation claims may result in awards greater or less than 150 percent of the City's appraised values. As such, the contingent liability was estimated at the lesser of the new appraised value or 50 percent of the City's appraised value, plus 6 percent simple interest from the date of the condemnation. As of June 30, 2014, the estimated contingent liability was approximately $73.9 million. In addition, as of June 30, 2014, other claimants, who were not a party to the above proceedings, filed suit related to valuations as part of condemnation proceedings.

In fiscal year 2015, the balance of amended appraisals for the properties was submitted. As such, the contingent liability was recalculated based on 50% of the City's Appraised Value and the interest calculated at 6% simple interest from the date the property was condemned plus 18% for potential legal fees under NY EDPL §701. However, in some cases, the difference between the City and Claimant's Vesting Appraisal Amount was less than the 50% of the aggregate amount of the City's appraised value so the difference was used as the contingent liability. Therefore, as of June 30, 2015, the estimated contingent liability was approximately $47.1 million.

As of June 30, 2016, the contingent liability was adjusted for settled cases and accrued interest, which resulted in an estimated contingency liability of $41.2 million. The estimate may be revised as further information is obtained and as pending cases are litigated or settled.

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APPENDIX G-1

FORM OF SERIES 2017A BONDS APPROVING OPINION

May 30, 2017

Hudson Yards Infrastructure Corporation
255 Greenwich Street, 6th Floor
New York, New York 10007

Ladies and Gentlemen:

We have examined a record of proceedings relating to the issuance of $2,108,465,000 aggregate principal amount of Second Indenture Revenue Bonds, Fiscal 2017 Series A (Tax-Exempt) (the "Fiscal 2017 Series A Bonds"), by the Hudson Yards Infrastructure Corporation (the "Corporation"), a local development corporation organized by The City of New York (the "City") under the Not-for-Profit Corporation Law of the State of New York.

The Fiscal 2017 Series A Bonds are issued under and pursuant to a Second Trust Indenture, by and between the Corporation and U.S. Bank National Association, as trustee (the "Trustee"), dated as of May 1, 2017 (the "Master Indenture"), and a First Supplemental Trust Indenture, dated as of May 1, 2017, by and between the Corporation and the Trustee, authorizing the issuance of the Fiscal 2017 Series A Bonds (the "First Supplemental Trust Indenture", which, together with the Master Indenture are collectively referred to herein as the "Indentures"). Unless otherwise defined herein, capitalized terms used herein have the respective meanings given to them in the Indentures.

The Fiscal 2017 Series A Bonds are part of an issue of bonds of the Corporation (the "Bonds"), which the Corporation has established and created under the terms of the Master Indenture and is authorized to issue from time to time for the purposes authorized by the Master Indenture, as then in effect, and without limitation as to amount, except as provided in the Indentures or as may be limited by law.

Simultaneously with the issuance of the Fiscal 2017 Series A Bonds, the Corporation is issuing $33,295,000 aggregate principal amount of Second Indenture Revenue Bonds, Fiscal 2017 Series B (Taxable) (the "Fiscal 2017 Series B Bonds") pursuant to the Master Indenture and a Second Supplemental Trust Indenture, dated as of May 1, 2017, by and between the Corporation and the Trustee. The Corporation is authorized to issue Bonds, in addition to the Fiscal 2017 Series A Bonds and the Fiscal 2017 Series B Bonds, only upon the terms and conditions set forth in the Master Indenture and such Bonds, when issued, will, with the Fiscal 2017 Series A Bonds and the Fiscal 2017 Series B Bonds, be entitled to the equal benefit, protection and security of the provisions, covenants and agreements of the Master Indenture.

The Fiscal 2017 Series A Bonds are dated the date hereof. Interest on the Fiscal 2017 Series A Bonds is payable semiannually on February 15 and August 15 of each year beginning on August 15, 2017. The Fiscal 2017 Series A Bonds will mature on the respective dates and in the respective principal amounts and bear interest at the respective rates per annum set forth below:

Maturity (February 15)	Principal Amount	Interest Rate	Maturity (February 15)	Principal Amount	Interest Rate
2022	$ 7,425,000	3.00%	2032	$ 3,510,000	3.00%
2022	35,265,000	5.00	2032	65,485,000	5.00
2023	8,200,000	4.00	2033	72,375,000	5.00
2023	36,475,000	5.00	2034	75,995,000	5.00
2024	7,730,00	4.00	2035	79,795,000	5.00
2024	39,095,000	5.00	2036	34,140,000	4.00
2025	4,095,000	4.00	2036	49,640,000	5.00
2025	44,995,000	5.00	2037	87,630,000	5.00
2026	630,000	4.00	2038	18,770,000	3.50
2026	50,875,000	5.00	2038	39,950,000	5.00
2027	1,490,000	4.00	2039	95,955,000	5.00
2027	52,585,000	5.00	2042	317,625,000	5.00
2028	56,760,000	5.00	2044	237,935,000	4.00
2029	59,600,000	5.00	2045	126,150,000	5.00
2030	62,580,000	5.00	2047	270,000,000	4.00
2031	65,710,000	5.00			

The Fiscal 2017 Series A Bonds are to be issued in the form of fully registered Bonds in denominations of $5,000 or integral multiples thereof. The Fiscal 2017 Series A Bonds are numbered from one upward in order of issuance.

The Fiscal 2017 Series A Bonds are subject to redemption prior to maturity as provided in the First Supplemental Trust Indenture.

The Fiscal 2017 Series A Bonds are being issued for the purposes authorized and permitted by the Indentures, including to refund certain outstanding obligations of the Corporation and to pay certain costs in connection with the issuance of the Fiscal 2017 Series A Bonds. The Corporation has entered into: (i) a DIB Assignment and Agreement, dated as of December 1, 2006, and amended and restated as of May 1, 2017, by and between the City and the Corporation, (the "DIB Assignment Agreement"), pursuant to which the City has assigned to the Corporation its rights in and to the payments of contributions to the Hudson Yards District Improvement Fund established pursuant to Section 93-31 of the City's zoning resolution (the "DIB Payments"); (ii) a PILOT Assignment and Agreement, dated as of December 1, 2006, and amended and restated as of May 1, 2017, by and among the City, the New York City Industrial Development Agency (the "IDA") and the Corporation (the "PILOT Assignment Agreement"), pursuant to which the City and the IDA have assigned to the Corporation their rights in and to certain payments in lieu of ad valorem real property taxes (the "PILOT Payments") and payments made in lieu of any mortgage recording taxes; and (iii) an Amended and Restated Hudson Yards Support and Development Agreement, dated as of December 1, 2006, and amended and restated as of May 1, 2017, by and among the City, the Hudson Yards Development Corporation and the Corporation (the "Support and Development Agreement"), pursuant to which the City has agreed to make certain Tax Equivalency Payments and Interest Support Payments (each as defined in the Support and Development Agreement) to the Corporation. The DIB Assignment Agreement, the PILOT Assignment Agreement and the Support and Development Agreement are each, individually, hereinafter referred to as an "Agreement" and are, collectively, referred to as the "Agreements." The Corporation, in consideration for such assignments and agreements, has agreed to issue its Bonds and apply the net proceeds for the purposes permitted by the Master Indenture. In rendering the opinions expressed herein, we have assumed that the parties will perform their respective covenants, agreements and obligations in and under the Indentures and the Agreements in all material respects.

We are of the opinion that:

1. The Corporation has been duly formed and is validly existing as a local development corporation under the Not-For-Profit Corporation Law of the State of New York, with the right and lawful authority and power to enter into the Indentures and to issue its Bonds thereunder, including the Fiscal 2017 Series A Bonds.

2. The Indentures have been duly authorized, executed and delivered by the Corporation and are legal, valid and binding obligations of the Corporation enforceable against the Corporation in accordance with their terms.

3. The Fiscal 2017 Series A Bonds have been duly and validly authorized and issued in accordance with the laws of the State, and in accordance with the Indentures. The Fiscal 2017 Series A Bonds are legal, valid and binding special obligations of the Corporation payable as provided in the Indentures, are enforceable in accordance with their terms and the terms of the Indentures and are entitled to the equal benefits of the Master Indenture.

4. The Corporation has the right and lawful authority and power to enter into the Agreements and each Agreement has been duly authorized, executed and delivered by the Corporation and constitutes a legal, valid and binding obligation of the Corporation enforceable against the Corporation in accordance with its terms.

5. The Internal Revenue Code of 1986 (the "Code") sets forth certain requirements which must be met subsequent to the issuance and delivery of the Fiscal 2017 Series A Bonds for interest thereon to be and remain excluded from gross income for federal income tax purposes. Noncompliance with such requirements could cause the interest on the Fiscal 2017 Series A Bonds to be included in gross income for federal income tax purposes retroactive to the date of issue of the Fiscal 2017 Series A Bonds. Pursuant to the Indentures and the Tax Certificate as to Arbitrage and the Provisions of Sections 103 and 141-150 of the Internal Revenue Code of 1986 (the "Tax Certificate"), the Corporation has covenanted to comply with the applicable requirements of the Code in order to maintain the exclusion of the interest on the Fiscal 2017 Series A Bonds from gross income for federal income tax purposes pursuant to Section 103 of the Code. In addition, the Corporation has made certain representations and certifications in the Indentures and the Tax Certificate. We have not independently verified the accuracy of those certifications and representations.

Under existing law, assuming compliance with the tax covenants described herein and the accuracy of the aforementioned representations and certifications, interest on the Fiscal 2017 Series A Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Code. We are also of the opinion that such interest is not treated as a preference item in calculating the alternative minimum tax imposed under the Code with respect to individuals and corporations. Interest on the Fiscal 2017 Series A Bonds is, however, included in the adjusted current earnings of certain corporations for purposes of computing the alternative minimum tax imposed on such corporations.

6. Interest on the Fiscal 2017 Series A Bonds is exempt from personal income taxes imposed by the State of New York or any political subdivision of the State of New York (including The City of New York), assuming compliance with the tax covenants and the accuracy of the representations and certifications described in paragraph 5 herein.

The opinions contained in paragraphs 2, 3 and 4 above are qualified to the extent that the enforceability of the Indentures, the Fiscal 2017 Series A Bonds, and the Agreements may be limited by bankruptcy, insolvency, moratorium, reorganization or other laws affecting creditors' rights generally or as to the availability of any particular remedy.

Except as stated in paragraphs 5 and 6 above, we express no opinion as to any other federal, state or local tax consequences of the ownership or disposition of the Fiscal 2017 Series A Bonds. Furthermore, we express no opinion as to any federal, state or local tax law consequences with respect to the Fiscal 2017 Series A Bonds, or the interest thereon, if any action is taken with respect to Fiscal 2017 Series A Bonds or the proceeds thereof upon the advice or approval of other counsel.

In connection with the delivery of this opinion, we are not passing upon the authorization, execution and delivery of any document or agreement by any party other than the Corporation. We have assumed the due authorization, execution and delivery of the Indentures and the Agreements by each of the other parties thereto.

Very truly yours,

APPENDIX G-2

FORM OF SERIES 2017B BONDS APPROVING OPINION

May 30, 2017

Hudson Yards Infrastructure Corporation
255 Greenwich Street, 6th Floor
New York, New York 10007

Ladies and Gentlemen:

We have examined a record of proceedings relating to the issuance of $33,295,000 aggregate principal amount of Second Indenture Revenue Bonds, Fiscal 2017 Series B (Taxable) (the "Fiscal 2017 Series B Bonds"), by the Hudson Yards Infrastructure Corporation (the "Corporation"), a local development corporation organized by The City of New York (the "City") under the Not-for-Profit Corporation Law of the State of New York.

The Fiscal 2017 Series B Bonds are issued under and pursuant to a Second Trust Indenture, by and between the Corporation and U.S. Bank National Association, as trustee (the "Trustee"), dated as of May 1, 2017 (the "Master Indenture"), and a Second Supplemental Trust Indenture, dated as of May 1, 2017, by and between the Corporation and the Trustee, authorizing the issuance of the Fiscal 2017 Series B Bonds (the "Second Supplemental Trust Indenture", which, together with the Master Indenture are collectively referred to herein as the "Indentures"). Unless otherwise defined herein, capitalized terms used herein have the respective meanings given to them in the Indentures.

The Fiscal 2017 Series B Bonds are part of an issue of bonds of the Corporation (the "Bonds"), which the Corporation has established and created under the terms of the Master Indenture and is authorized to issue from time to time for the purposes authorized by the Master Indenture, as then in effect, and without limitation as to amount, except as provided in the Indentures or as may be limited by law.

Simultaneously with the issuance of the Fiscal 2017 Series B Bonds, the Corporation is issuing $2,108,465,000 aggregate principal amount of Second Indenture Revenue Bonds, Fiscal 2017 Series A (Tax-Exempt) (the "Fiscal 2017 Series A Bonds") pursuant to the Master Indenture and a First Supplemental Trust Indenture, dated as of May 1, 2017, by and between the Corporation and the Trustee. The Corporation is authorized to issue Bonds, in addition to the Fiscal 2017 Series A Bonds and the Fiscal 2017 Series B Bonds, only upon the terms and conditions set forth in the Master Indenture and such Bonds, when issued, will, with the Fiscal 2017 Series A Bonds and the Fiscal 2017 Series B Bonds, be entitled to the equal benefit, protection and security of the provisions, covenants and agreements of the Master Indenture.

The Fiscal 2017 Series B Bonds are dated the date hereof. Interest on the Fiscal 2017 Series B Bonds is payable semiannually on February 15 and August 15 of each year beginning on August 15, 2017. The Fiscal 2017 Series B Bonds will mature on February 15, 2038 and bear interest at the rate of 3.875% per annum.

The Fiscal 2017 Series B Bonds are to be issued in the form of fully registered Bonds in denominations of $5,000 or integral multiples thereof. The Fiscal 2017 Series B Bonds are numbered from one upward in order of issuance.

The Fiscal 2017 Series B Bonds are subject to redemption prior to maturity as provided in the Second Supplemental Trust Indenture.

The Fiscal 2017 Series B Bonds are being issued for the purposes authorized and permitted by the Indentures, including to refund certain outstanding obligations of the Corporation and to pay certain costs in connection with the issuance of the Fiscal 2017 Series B Bonds. The Corporation has entered into: (i) a DIB Assignment and Agreement, dated as of December 1, 2006, and amended and restated as of May 1, 2017, by and between the City and the Corporation, (the "DIB Assignment Agreement"), pursuant to which the City has assigned to the Corporation its rights in and to the payments of contributions to the Hudson Yards District Improvement Fund established pursuant to Section 93-31 of the City's zoning resolution (the "DIB Payments"); (ii) a PILOT Assignment and Agreement, dated as of December 1, 2006, and amended and restated as of May 1, 2017, by and among the City, the New York City Industrial Development Agency (the "IDA") and the Corporation (the "PILOT Assignment Agreement"), pursuant to which the City and the IDA have assigned to the Corporation their rights in and to certain payments in lieu of ad valorem real property taxes (the "PILOT Payments") and payments made in lieu of any mortgage recording taxes; and (iii) an Amended and Restated Hudson Yards Support and Development Agreement, dated as of December 1, 2006, and amended and restated as of May 1, 2017, by and among the City, the Hudson Yards Development Corporation and the Corporation (the "Support and Development Agreement"), pursuant to which the City has agreed to make certain Tax Equivalency Payments and Interest Support Payments (each as defined in the Support and Development Agreement) to the Corporation. The DIB Assignment Agreement, the PILOT Assignment Agreement and the Support and Development Agreement are each, individually, hereinafter referred to as an "Agreement" and are, collectively, referred to as the "Agreements." The Corporation, in consideration for such assignments and agreements, has agreed to issue its Bonds and apply the net proceeds for the purposes permitted by the Master Indenture. In rendering the opinions expressed herein, we have assumed that the parties will perform their respective covenants, agreements and obligations in and under the Indentures and the Agreements in all material respects.

We are of the opinion that:

1. The Corporation has been duly formed and is validly existing as a local development corporation under the Not-For-Profit Corporation Law of the State of New York, with the right and lawful authority and power to enter into the Indentures and to issue its Bonds thereunder, including the Fiscal 2017 Series B Bonds.

2. The Indentures have been duly authorized, executed and delivered by the Corporation and are legal, valid and binding obligations of the Corporation enforceable against the Corporation in accordance with their terms.

3. The Fiscal 2017 Series B Bonds have been duly and validly authorized and issued in accordance with the laws of the State, and in accordance with the Indentures. The Fiscal 2017 Series B Bonds are legal, valid and binding special obligations of the Corporation payable as provided in the Indentures, are enforceable in accordance with their terms and the terms of the Indentures and are entitled to the equal benefits of the Master Indenture.

4. The Corporation has the right and lawful authority and power to enter into the Agreements and each Agreement has been duly authorized, executed and delivered by the Corporation and constitutes a legal, valid and binding obligation of the Corporation enforceable against the Corporation in accordance with its terms.

5. Interest on the Fiscal 2017 Series B Bonds is <u>not</u> excluded from gross income for Federal income tax purposes under Section 103 of the Internal Revenue Code of 1986.

6. Interest on the Fiscal 2017 Series B Bonds is <u>not</u> exempt from personal income taxes imposed by the State of New York or any political subdivision thereof (including The City of New York).

The opinions contained in paragraphs 2, 3 and 4 above are qualified to the extent that the enforceability of the Indentures, the Fiscal 2017 Series B Bonds, and the Agreements may be limited by bankruptcy, insolvency, moratorium, reorganization or other laws affecting creditors' rights generally or as to the availability of any particular remedy.

Except as stated in the paragraphs 5 and 6 above, we express no opinion as to any other Federal, state or local tax consequences of the ownership or disposition of the Fiscal 2017 Series B Bonds. Furthermore, we express no opinion as to any Federal, state or local tax law consequences with respect to the Fiscal 2017 Series B Bonds, or the interest thereon, if any action is taken with respect to the Fiscal 2017 Series B Bonds or the proceeds thereof upon the advice or approval of other counsel.

In connection with the delivery of this opinion, we are not passing upon the authorization, execution and delivery of any document or agreement by any party other than the Corporation. We have assumed the due authorization, execution and delivery of the Indentures and the Agreements by each of the other parties thereto.

Very truly yours,

APPENDIX H

MANDATORY SINKING FUND INSTALLMENTS FOR UNREFUNDED SERIES 2012A BONDS

Upon the issuance of the Series 2017 Bonds, the Corporation will establish a schedule of redemption for each unrefunded Series 2012A Bond to be made from mandatory sinking fund installments beginning February 15, 2018, on a substantially level debt service basis to maturity in 2047 as described below. See "SECTION III: PLAN OF FINANCE – Impact of Refunding on Unrefunded Series 2012A Bonds Post-Closing"

CUSIP**:	44420P DL5*	44420P DH4	44420P DJ0	
February 15,	5.75%	5.25%	5.00%	Total Principal
2018	$3,610,000	$4,185,000	$700,000	$8,495,000
2019	3,805,000	4,415,000	735,000	8,955,000
2020	4,015,000	4,650,000	775,000	9,440,000
2021	4,235,000	4,905,000	815,000	9,955,000
2022	4,470,000	5,170,000	860,000	10,500,000
2023	4,710,000	5,450,000	910,000	11,070,000
2024	4,960,000	5,750,000	960,000	11,670,000
2025	5,235,000	6,060,000	1,010,000	12,305,000
2026	5,515,000	6,395,000	1,065,000	12,975,000
2027	5,815,000	6,740,000	1,125,000	13,680,000
2028	6,140,000	7,105,000	1,180,000	14,425,000
2029	6,465,000	7,495,000	1,250,000	15,210,000
2030	6,820,000	7,900,000	1,320,000	16,040,000
2031	7,195,000	8,335,000	1,385,000	16,915,000
2032	7,585,000	8,785,000	1,465,000	17,835,000
2033	8,000,000	9,260,000	1,545,000	18,805,000
2034	8,425,000	9,770,000	1,630,000	19,825,000
2035	8,895,000	10,295,000	1,715,000	20,905,000
2036	9,375,000	10,860,000	1,810,000	22,045,000
2037	9,890,000	11,450,000	1,905,000	23,245,000
2038	10,420,000	12,075,000	2,015,000	24,510,000
2039	10,995,000	12,730,000	2,120,000	25,845,000
2040	11,590,000	13,420,000	2,240,000	27,250,000
2041	12,220,000	14,155,000	2,355,000	28,730,000
2042	12,880,000	14,925,000	2,490,000	30,295,000
2043	13,590,000	15,735,000	2,620,000	31,945,000
2044	14,325,000	16,590,000	2,765,000	33,680,000
2045	15,100,000	17,495,000	2,920,000	35,515,000
2046	15,925,000	18,450,000	3,075,000	37,450,000
2047	16,795,000	19,450,000	3,240,000	39,485,000
	$259,000,000	$300,000,000	$50,000,000	$609,000,000

* This CUSIP represents the unrefunded portion of the Series 2012A 5.75% Term Bonds due February 15, 2047, which had an original CUSIP of 44420P DG6. The CUSIP for the prerefunded portion will be 44420P DK7.

** The CUSIP numbers listed above are being provided solely for the convenience of Bondholders and the Corporation makes no representation with respect to such numbers nor undertakes any responsibility for their accuracy now or at any time in the future.

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HUDSON YARDS INFRASTRUCTURE CORPORATION • SECOND INDENTURE REVENUE BONDS, FISCAL 2017 SERIES A (TAX-EXEMPT) AND FISCAL 2017 SERIES B (TAXABLE)

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