



**Fiscal Year 2018**  
**Actuarial Valuation Report**  
for the  
**New York City Employees'**  
**Retirement System**

*JUNE 30, 2016 (LAG) ACTUARIAL VALUATION*

prepared by the  
**New York City**  
**Office of the Actuary**

**2018**



## OFFICE OF THE ACTUARY

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SHERRY S. CHAN  
CHIEF ACTUARY

July 11, 2019

Board of Trustees  
New York City Employees' Retirement System  
335 Adams Street, Suite 2300  
Brooklyn, NY 11201-3751

Re: Fiscal Year 2018 Actuarial Valuation Report (Report)

Dear Trustees:

This Report presents the results of the June 30, 2016 (Lag) actuarial valuation of the benefits under both the New York City Employees' Retirement System (NYCERS) Qualified Pension Plan and Group Life Insurance Plan (collectively, the Plan). These results form the basis for determining the statutorily-required contribution (Statutory Contribution) of \$3,377,024,173 for Fiscal Year 2018 (i.e. for the period beginning July 1, 2017 and ending June 30, 2018). Calculations made for other purposes may differ significantly from those shown herein.

Results of the June 30, 2015 (Lag) actuarial valuation are shown in this Report for comparative purposes. Other historical information that the Actuary believes useful is also included.

The June 30, 2016 (Lag) and June 30, 2015 (Lag) actuarial valuations are based upon census data as of those dates submitted by the Plan's administrative staff and the employer's payroll facilities. Financial information was provided by NYCERS and the Office of the Comptroller as of June 30, 2016 and June 30, 2015.

Consistent with Actuarial Standards of Practice, the Office of the Actuary has reviewed census data and financial information for consistency and reasonability but has not audited it. The accuracy of the results and calculations presented in this Report are dependent on the accuracy of this census data and financial information. To the extent any such data or information provided is materially inaccurate or incomplete, the results contained herein will require revision.

A summary of the benefits available under the terms of the Plan is shown in SECTION IX – SUMMARY OF PLAN PROVISIONS. The benefits under the Plan are unchanged from the prior valuation except for improvement of the Accidental Disability benefits for Tier VI Sanitation and Correction members. These benefit enhancements are expected to be funded through increased member contributions by those who elect the enhanced benefit.

The June 30, 2016 (Lag) actuarial valuation reflects the cost of the new Special Accidental Death Benefit (SADB) for Sanitation members and a change in valuing the Accidental Death Benefit (ADB) for those members who are eligible for SADB pursuant to Section 208(f) of the General Municipal Law.

The June 30, 2016 (Lag) actuarial valuation also reflects a change in the Disability provisions for Tier 3 22-Year Plan members of Sanitation and Correction. Since the members who elect the enhanced Disability benefit are assumed to pay the entire cost, there is no impact on the Fiscal Year 2018 Employer Contribution as a result of these changes.

The City of New York prepared its Fiscal Year 2018 financial statements in accordance with Governmental Accounting Standards Board (GASB) Statement No. 68 (GASB68). NYCERS prepared its Fiscal Year 2018 Comprehensive Annual Financial Report (CAFR) in accordance with GASB Statement No. 67 (GASB67). The Office of the Actuary published Fiscal Year 2018 GASB67 and GASB68 results in a Report dated September 28, 2018, which is available on the website of the Office of the Actuary ([www.nyc.gov/actuary](http://www.nyc.gov/actuary)). This report does not present GASB results.

I, Sherry S. Chan, am the Chief Actuary for, and independent of, the New York City Retirement Systems and Pension Funds. I am a Fellow of the Society of Actuaries, an Enrolled Actuary under the Employee Retirement Income and Security Act of 1974, a Member of the American Academy of Actuaries, and a Fellow of the Conference of Consulting Actuaries. I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. To the best of my knowledge, the results contained herein have been prepared in accordance with generally accepted actuarial principles and procedures and with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

Best Regards,



Sherry S. Chan, FSA, EA, MAAA, FCA  
Chief Actuary

SSC/eh

cc: Mr. Charles Barkley - New York City Employees' Retirement System  
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## SECTION I – EXECUTIVE SUMMARY

This report presents the results of the June 30, 2016 (Lag) actuarial valuation of the New York City Employees' Retirement System (NYCERS) and Group Life Insurance Plan (collectively, the Plan).

The purposes of the valuation are:

- To determine the actuarially-required contribution (Actuarial Contribution) for Fiscal Year 2018 (i.e. July 1, 2017 to June 30, 2018),
- To measure the funding progress of the Plan,
- To disclose the census data and financial information used in the valuation, and
- To disclose the actuarial assumptions and actuarial methods used to determine the Actuarial Contribution.

The Statutorily-required contribution (Statutory Contribution) is also shown and it has equaled the Actuarial Contribution in all historical years.

This Report does not provide financial and accounting information required by current GASB standards. That information is provided in a separate report.

All results are based on Final SKIM amounts as determined by the Actuary in the memo dated May 11, 2018 to the Board. All results are without regard to the Variable Supplements Funds, unless specifically noted.

Future measurements of this information may differ from current measurements for many reasons including, but not limited to, experience differing from economic or demographic assumptions, changes in actuarial assumptions and methods, and changes in applicable statute and plan provisions. The actuary's scope of work did not include an analysis of the range of such deviation.

Additional risks may be present for the Plan and are presented in SECTION VIII – RISK AND UNCERTAINTY for consideration.

## Table I-1 Executive Summary

Presented in **Table I-1** are the principal results of the June 30, 2016 (Lag) actuarial valuation and, for comparative purposes, the June 30, 2015 (Lag) actuarial valuation.

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM		
SUMMARY OF VALUATION RESULTS		
Valuation Date	June 30, 2016 (Lag)	June 30, 2015 (Lag)
Fiscal Year	2018	2017
<b>Funded Status</b>		
1. Accrued Liability	\$ 79,081,183,205	\$ 76,678,219,599
2. Actuarial Value of Assets (AVA) <sup>1</sup>	<u>56,491,829,000</u>	<u>53,573,694,000</u>
3. Unfunded Accrued Liability (AVA Basis) (1. - 2.)	\$ 22,589,354,205	\$ 23,104,525,599
4. Funded Ratio (AVA Basis) (2. / 1.)	71.4%	69.9%
5. Market Value of Assets (MVA) <sup>1</sup>	55,489,504,000	54,889,324,000
6. Unfunded Accrued Liability (MVA Basis) (1. - 5.)	\$ 23,591,679,205	\$ 21,788,895,599
7. Funded Ratio (MVA Basis) (5. / 1.)	70.2%	71.6%
<b>Contribution<sup>2</sup></b>		
1. Normal Cost	\$ 1,497,608,947	\$ 1,495,829,299
2. Unfunded Accrued Liability	1,798,287,352	1,760,369,634
3. Administrative Expenses	62,701,431	60,129,380
4. Interest on Late Employer Contributions	<u>18,426,443</u>	<u>11,864,269</u>
5. Actuarial Contribution (1. + 2. + 3. + 4.)	\$ 3,377,024,173	\$ 3,328,192,582
6. Statutory Contribution	\$ 3,377,024,173	\$ 3,328,192,582
<b>Participant Data</b>		
1. Active Members		
a. Number	185,481	185,758
b. Annual Salary <sup>3</sup>	\$ 13,216,539,355	\$ 12,917,466,528
c. Average Salary	\$ 71,255	\$ 69,539
2. Active/Inactive Members <sup>4</sup>	17,989	16,907
3. Terminated Vested Members	8,895	9,402
4. Retirees and Beneficiaries		
a. Number	147,514	144,526
b. Total Annual Benefits	\$ 4,179,496,621	\$ 3,999,820,502
c. Average Benefit	\$ 28,333	\$ 27,675

<sup>1</sup> Actuarial Value of Assets and Market Value of Assets are rounded to the nearest thousand.

<sup>2</sup> Including results for Variable Supplements Funds.

<sup>3</sup> Salaries shown are the base salary plus assumed overtime paid and reflect the impact of recent labor contract settlements and certain non-union salary increases with retroactive effective dates, if any.

<sup>4</sup> Represents members no longer on payroll, but not otherwise classified.



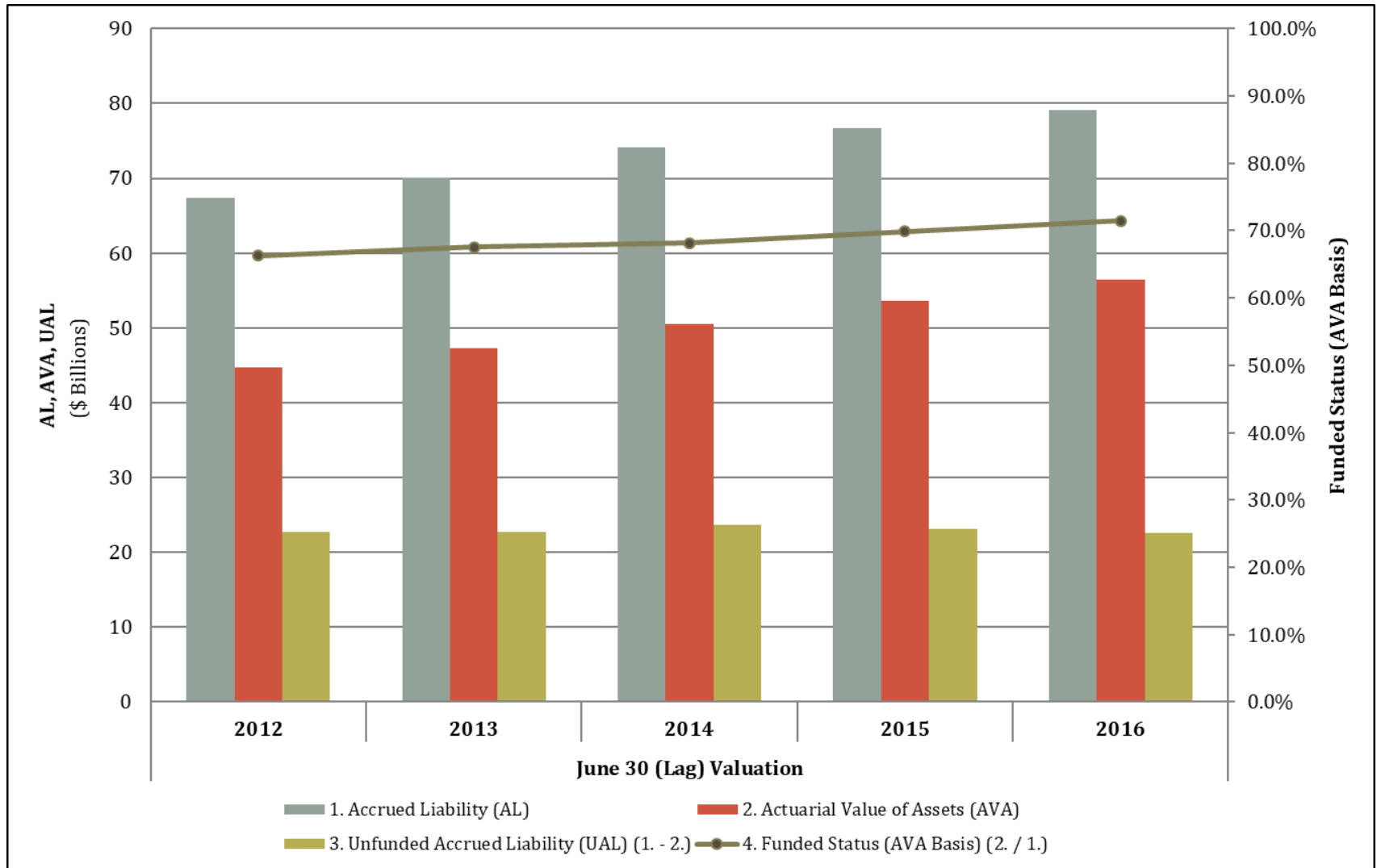
**Table I-2**  
**Actuarial Liabilities**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM		
ACTUARIAL LIABILITIES BY STATUS		
Valuation Date	June 30, 2016 (Lag)	June 30, 2015 (Lag)
Fiscal Year	2018	2017
<b>Accrued Liability</b>		
1. Active Members	\$ 33,499,238,864	\$ 32,903,528,289
2. Active/Inactive Members <sup>1</sup>	1,003,677,068	921,023,283
3. Terminated Vested Members	735,210,956	751,041,905
4. Retirees and Beneficiaries	<u>42,251,550,966</u>	<u>40,388,703,457</u>
5. Accrued Liability Pre-Adjustments (1. to 4.)	\$ 77,489,677,854	\$ 74,964,296,934
6. Actuarial Adjustments <sup>2</sup>	<u>1,591,505,351</u>	<u>1,713,922,665</u>
7. Total Accrued Liability (AL) (5. + 6.)	\$ 79,081,183,205	\$ 76,678,219,599
<b>Present Value of Benefits</b>		
1. Active Members	\$ 49,988,141,908	\$ 48,972,667,878
2. Active/Inactive Members <sup>1</sup>	1,003,677,068	921,023,283
3. Terminated Vested Members	735,210,956	751,041,905
4. Retirees and Beneficiaries	<u>42,251,550,966</u>	<u>40,388,703,457</u>
5. Present Value of Benefits (1. to 4.)	\$ 93,978,580,898	\$ 91,033,436,523
6. Actuarial Adjustments <sup>2</sup>	<u>1,776,864,370</u>	<u>1,891,164,567</u>
7. Total Present Value of Benefits (5. + 6.)	\$ 95,755,445,268	\$ 92,924,601,090

<sup>1</sup> Represents members no longer on payroll, but not otherwise classified.

<sup>2</sup> Includes unfunded VSF Accrued Liability and other actuarial loading adjustments.

Graph I-3  
Historical Funded Status



## SECTION II - MARKET AND ACTUARIAL VALUES OF ASSETS

Information on the Market Value of Assets (MVA) of the Plan is provided by the Office of the Comptroller. An Actuarial Asset Valuation Method (AAVM) is used to determine the Actuarial Value of Assets (AVA) of the Plan.

The Actuary reset the AVA to the MVA as of June 30, 2011. Beginning with the June 30, 2012 (Lag) actuarial valuation, the AAVM recognizes investment returns greater or less than expected over a period of six years. In accordance with this AAVM, actual Unexpected Investment Returns (UIR) are phased into the AVA at rates of 15%, 15%, 15%, 15%, 20%, and 20% per year (i.e. UIR is recognized at cumulative rates of 15%, 30%, 45%, 60%, 80%, and 100% over a period of six years).

UIR is defined as the excess of net investment return over the Expected Investment Return (EIR) based on the Actuarial Interest Rate (AIR) and the AVA, where EIR equals the sum of beginning-of-fiscal-year AVA plus one-half of net cash flow, multiplied by the AIR.

Beginning with the June 30, 2014 (Lag) actuarial valuation, the AVA is further constrained to be within a corridor of 80% to 120% of the market value.

**Table II-1**  
**Statement of Plan Net Assets as of June 30, 2016 and June 30, 2015**

(\$ Thousands)		
	June 30, 2016	June 30, 2015
<b>ASSETS</b>		
Cash	\$ 165,685	\$ 40,548
Receivables		
Investment Securities Sold	\$ 1,413,529	\$ 1,639,525
Member Loans	1,081,783	1,027,069
Transferable Earnings due from QPP to VSFs	(3,000)	(19,000)
Accrued Interest and Dividends	280,740	267,570
Other	<u>0</u>	<u>0</u>
Total Receivables	\$ 2,773,052	\$ 2,915,164
<b>INVESTMENTS AT FAIR VALUE</b>		
Fixed return funds		
Short-Term Investments		
U.S. Treasury Bills	\$ 11,073	\$ 393,360
Commercial Paper	739,639	831,425
Short-term Investment Fund	760,635	810,547
Discount Notes	59,860	486,281
Short term - Hedge Fund	0	25,500
Debt Securities		
U.S. Government and agency	4,289,153	5,368,727
Corporate and other	7,157,423	6,862,950
Promissory notes	0	0
Equity Securities	18,523,033	18,188,567
Alternative Investments	9,873,044	9,824,907
Collective Trust Funds		
International Equity	9,220,895	9,501,921
Domestic Equity	0	0
Mortgage Debt Security	607,685	492,104
Treasury Inflation Protected Securities	2,448,307	1,760,761
Fixed Income	1,022,145	1,006,025
Collateral From Securities Lending	<u>5,267,092</u>	<u>4,789,313</u>
Total Investments	\$ 59,979,984	\$ 60,342,388
<b>OTHER ASSETS</b>	<u>84,632</u>	<u>140,813</u>
<b>TOTAL ASSETS</b>	<b>\$ 63,003,353</b>	<b>\$ 63,438,913</b>
<b>LIABILITIES</b>		
Accounts Payable	\$ 177,887	\$ 142,067
Payable for Investment Securities Purchased	1,794,940	3,368,991
Accrued Benefits Payable	266,616	211,517
Amount due to Variable Supplements Funds	5,724	5,947
Due to other retirement systems	1,590	1,754
Security Lending	5,267,092	4,789,313
Accrued Transfers to VSFs	<u>0</u>	<u>30,000</u>
<b>TOTAL LIABILITIES</b>	<b>\$ 7,513,849</b>	<b>\$ 8,549,589</b>
<b>PLAN ASSETS HELD IN TRUST FOR PENSION BENEFITS</b>	<b>\$ 55,489,504</b>	<b>\$ 54,889,324</b>

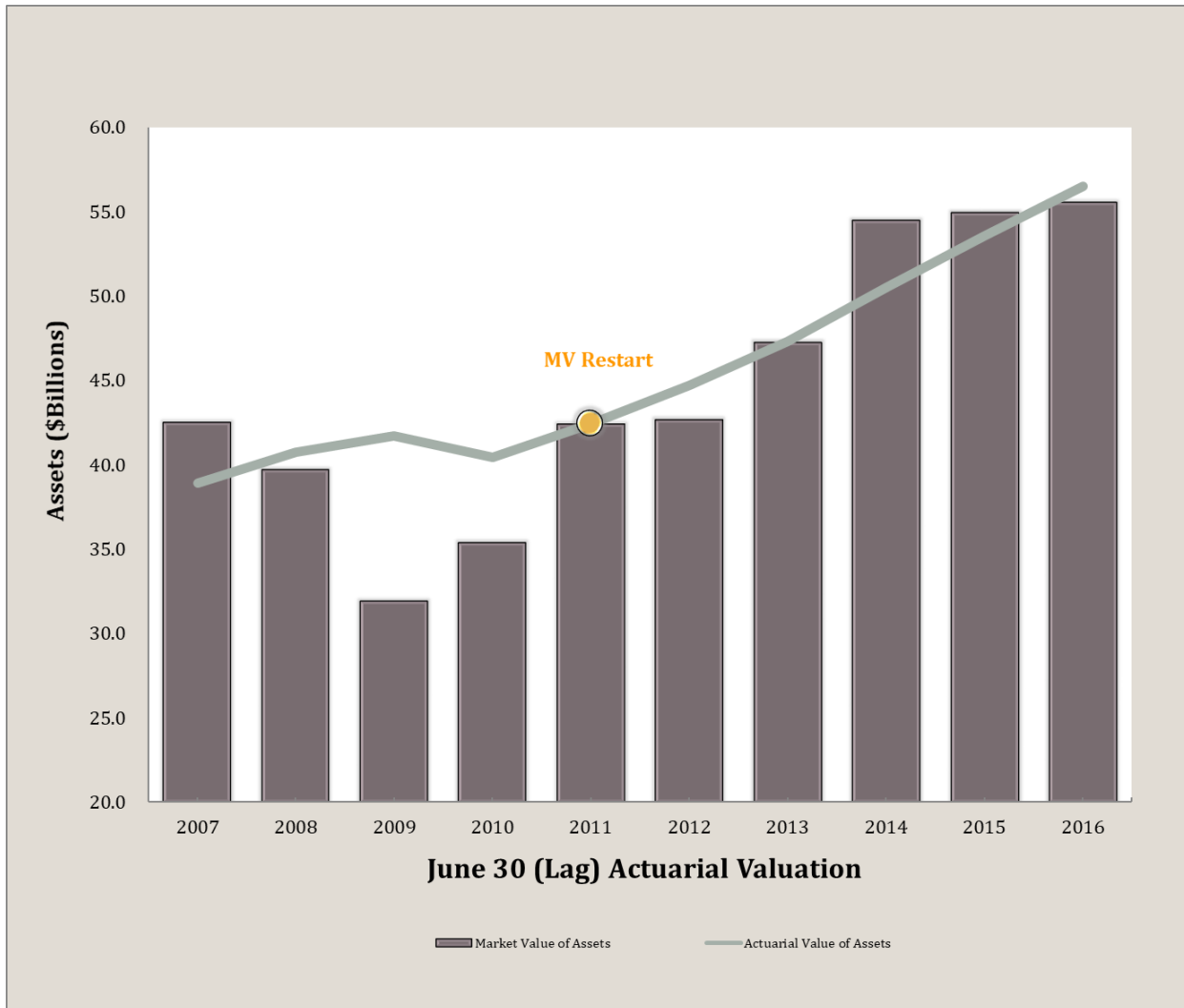
**Table II-2**  
**Statement of Changes in Plan Net Assets**

(\$ Thousands)		
	<b>June 30, 2016</b>	<b>June 30, 2015</b>
<b>ADDITIONS</b>		
Contributions		
Member Contributions	\$ 485,508	\$ 467,129
Employer Contributions	<u>3,365,454</u>	<u>3,160,258</u>
<b>Total Contributions</b>	<b>\$ 3,850,962</b>	<b>\$ 3,627,387</b>
Investment Income (Loss)		
Interest Income	\$ 692,773	\$ 635,747
Dividend Income	836,490	795,259
Net Appreciation (Depreciation) in Fair Value	<u>\$ (174,204)</u>	<u>\$ (50,658)</u>
Total Investment Income (Loss)	\$ 1,355,059	\$ 1,380,348
Less Investment Expenses	212,996	231,760
Net Income (Loss)	\$ 1,142,063	\$ 1,148,588
Securities Lending Transactions		
Securities Lending Income	\$ 31,719	\$ 28,196
Securities Lending Fees	<u>2,062</u>	<u>1,685</u>
Net Securities Lending Income (Loss)	<u>\$ 29,657</u>	<u>\$ 26,511</u>
<b>Net Investment Income (Loss)</b>	<b>\$ 1,171,720</b>	<b>\$ 1,175,099</b>
Other		
Other Income	<u>\$ 2,928</u>	<u>\$ 4,140</u>
<b>TOTAL ADDITIONS</b>	<b>\$ 5,025,610</b>	<b>\$ 4,806,626</b>
<b>DEDUCTIONS</b>		
Benefit Payments and Withdrawals	\$ 4,402,506	\$ 4,235,565
Payments to other retirement systems	\$ 7,440	\$ 7,142
Amount due to Variable Supplements Fund	\$ 11,525	\$ 11,918
Accrued Transfer to VSFs	\$ (52,724)	\$ 30,000
Administrative Expenses	<u>56,683</u>	<u>54,635</u>
<b>TOTAL DEDUCTIONS</b>	<b>\$ 4,425,430</b>	<b>\$ 4,339,260</b>
<b>NET INCREASE (DECREASE) IN PLAN NET ASSETS</b>	<b>\$ 600,180</b>	<b>\$ 467,366</b>
<b>PLAN NET ASSETS HELD IN TRUST FOR PENSION BENEFITS</b>		
Beginning of Year	\$ 54,889,324	\$ 54,421,958
End of Year	\$ 55,489,504	\$ 54,889,324

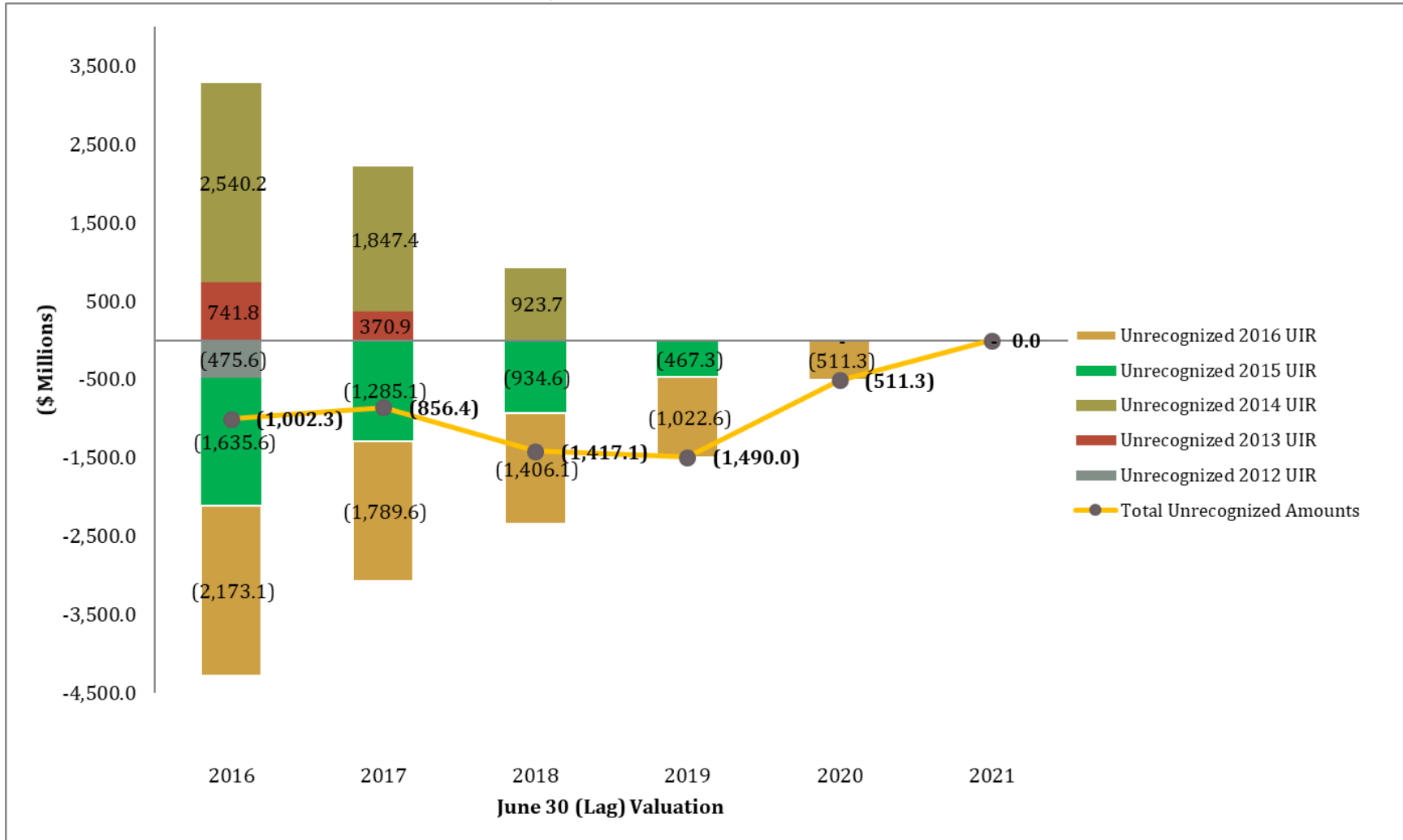
**Table II-3**  
**Development of Actuarial Value of Assets as of June 30, 2016 and June 30, 2015**

(\$ Thousands)		
Valuation Date	June 30, 2016	June 30, 2015
Market Value of Assets (MVA)		
Beginning of Year (BOY)	\$ 54,889,324	\$ 54,421,958
End of Year (EOY)	\$ 55,489,504	\$ 54,889,324
1. Contributions		
a. Employee	\$ 485,508	\$ 467,129
b. Employer	<u>3,365,454</u>	<u>3,160,258</u>
c. Total Contributions	\$ 3,850,962	\$ 3,627,387
2. Net Investment Income		
a. Investment Income	\$ 1,384,716	\$ 1,406,859
b. Investment Expenses	<u>(212,996)</u>	<u>(231,760)</u>
c. Total Net Investment Income	\$ 1,171,720	\$ 1,175,099
3. Cash Flow (Other)	\$ (4,475,226)	\$ (4,305,120)
4. Preliminary SKIM from NYCERS to COVSF - EOY	\$ 52,724	\$ (30,000)
5. Net Cash Flow (1.c. + 3. + 4.)	\$ (571,540)	\$ (707,733)
6. Average invested assets		
a. AVA @ BOY	\$ 53,573,694	\$ 50,505,971
b. 1/2 Net Cash Flow before SKIM ((1.c. + 3.) / 2)	<u>(312,132)</u>	<u>(338,867)</u>
c. Total	\$ 53,261,562	\$ 50,167,104
7. Expected Rate of Return (AIR)	7.00%	7.00%
8. Expected Investment Return (EIR) (6.c. x 7.)	\$ 3,728,309	\$ 3,511,697
9. Unexpected Investment Return (UIR) (2.c. - 8.)	\$ (2,556,589)	\$ (2,336,598)
10. AVA @ EOY		
a. AVA @ BOY (prior to corridor limit)	\$ 53,573,694	\$ 50,505,971
b. Net Cash Flow (5.)	(571,540)	(707,733)
c. Expected Investment Return (8.)	3,728,309	3,511,697
d. Phase in of UIR		
15% * UIR for prior year	(383,488)	(350,490)
15% * UIR for second prior year	(350,490)	692,771
15% * UIR for third prior year	692,771	278,193
15% * UIR for fourth prior year	278,193	(356,715)
20% * UIR for fifth prior year	(475,620)	N/A
20% * UIR for sixth prior year	<u>N/A</u>	<u>N/A</u>
Total	\$ (238,634)	\$ 263,759
e. Preliminary AVA (10.a. + 10.b. + 10.c. + 10.d.)	\$ 56,491,829	\$ 53,573,694
11. Corridor		
a. 80% of MVA	\$ 44,391,603	\$ 43,911,459
b. 120% of MVA	\$ 66,587,405	\$ 65,867,189
<b>12. Final AVA of EOY (10.e. bounded by 11.)</b>	<b>\$ 56,491,829</b>	<b>\$ 53,573,694</b>

Graph II-4  
Historical Market and Actuarial Value of Assets



**Graph II-5**  
**Future Recognition of UIR as of June 30, 2016**





## SECTION III - CONTRIBUTION DEVELOPMENT AND HISTORY

**Table III-1**  
**Statutory Contributions**

**Table III-1** shows the components of the Fiscal Year 2018 and the Fiscal Year 2017 Statutory Contributions.

COMPONENTS OF CURRENT AND PRIOR FISCAL YEAR STATUTORY CONTRIBUTIONS		
Valuation Date	June 30, 2016 (Lag)	June 30, 2015 (Lag)
Fiscal Year	2018	2017
Normal Cost <sup>1</sup>	\$ 1,497,608,947 <sup>2</sup>	\$ 1,495,829,299 <sup>3</sup>
Amortization of Unfunded Accrued Liability		
- Initial UAL	1,811,646,748	1,758,880,338
- 2011 (Gain)/Loss	(29,666,882)	(29,666,882)
- 2012 (Gain)/Loss	(7,384,090)	(7,384,090)
- 2013 (Gain)/Loss	9,838,580	9,838,580
- 2013 Transit Refunds	97,724	97,724
- 2014 (Gain)/Loss	(154,087,106)	(154,087,106)
- 2014 Assumption Change	233,084,501	233,084,501
- 2015 (Gain)/Loss	(50,393,431)	(50,393,431)
- 2016 (Gain)/Loss	(30,332,576)	NA
- 2016 Assumption Change	1,925,414	NA
- 2016 SADB	2,458,219	NA
- 2016 SADB Sanitation Retirees	10,433,043	NA
- 2016 SADB Sanitation Actives	667,208	NA
Total	1,798,287,352	1,760,369,634
Administrative Expenses	62,701,431	60,129,380
Interest on Late Employer Contributions	18,426,443	11,864,269
<b>Total Contribution to the New York City Employees' Retirement System</b>	<b>\$ 3,377,024,173</b>	<b>\$ 3,328,192,582</b>

<sup>1</sup> Includes amounts necessary, if any, to provide for financing of the Excess Benefit Plan established by Chapter 623/04.

<sup>2</sup> Includes \$12,089,333 for Group Life Insurance Plan.

<sup>3</sup> Includes \$12,047,242 for Group Life Insurance Plan.

**Table III-2**  
**Schedule of Unfunded Accrued Liability Bases**

The Initial Unfunded Accrued Liability (UAL) is being amortized over a closed 22-year period using Increasing Dollar Payments (IDP). Under IDP, amortization payments increase by 3.0% per year, consistent with the assumed rate of General Wage Increases. If all Actuarial Contributions are made, there will be no UAL at June 30, 2032, except for UAL arising from actuarial gains or losses, benefit changes, and changes in actuarial assumptions and methods. UALs established after June 30, 2010 are generally amortized using Level Dollar Payments (LDP) as follows:

- Benefit Changes – Over the remaining working lifetimes of those impacted, unless the amortization period is determined by statute.
- Assumption and/or Method Changes – Over a closed 20-year period.
- Actuarial Gains and Losses – Over a closed 15-year period.

Under the One-Year Lag methodology (OYLM), the number of payments is one less than the number of years in the amortization period (e.g. 14 payments over a closed 15-year amortization period).

**Table III-2** shows the Schedule of Unfunded Accrued Liability Bases as of June 30, 2016.

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM SCHEDULE OF UNFUNDED ACCRUED LIABILITY BASES (\$ Millions)						
Amortization Base	Date Established	Original Amount	Amortization Period/Method <sup>1</sup>	Amortization Payment	Years/ Payments Remaining	OYLM UAAL June 30, 2016
Initial UAL	6/30/10	\$ 22,502 <sup>2</sup>	22 Years	\$ 1,812	16/16	\$ 20,761 <sup>3</sup>
(Gain)/Loss	6/30/11	\$ (251)	15 Years	\$ (30)	10/10	\$ (216)
(Gain)/Loss	6/30/12	\$ (62)	15 Years	\$ (7)	11/11	\$ (57)
(Gain)/Loss	6/30/13	\$ 83	15 Years	\$ 10	12/12	\$ 81
Transit Refund	6/30/13	\$ <1	5 Years	\$ <1	2/2	\$ <1
(Gain)/Loss	6/30/14	\$ (1,303)	15 Years	\$ (154)	13/13	\$ (1,332)
Assumption Change <sup>4</sup>	6/30/14	\$ 2,329	20 Years	\$ 233	18/18	\$ 2,425
(Gain)/Loss	6/30/15	\$ (426)	15 Years	\$ (50)	14/14	\$ (456)
(Gain)/Loss	6/30/16	\$ (256)	15 Years	\$ (30)	15/14	\$ (256)
Assumption Change <sup>5</sup>	6/30/16	\$ 19	20 Years	\$ 2	20/19	\$ 19
SADB	6/30/16	\$ 21	15 Years	\$ 2	15/14	\$ 21
SADB Sanitation Retirees	6/30/16	\$ 34	5 Years	\$ 10	5/4	\$ 34
SADB Sanitation Actives	6/30/16	\$ 5	11 Years	\$ <1	11/10	\$ 5

<sup>1</sup> All amortizations are level dollar payments except for the initial UAL which is being amortized with payments increasing by 3.0% per year.

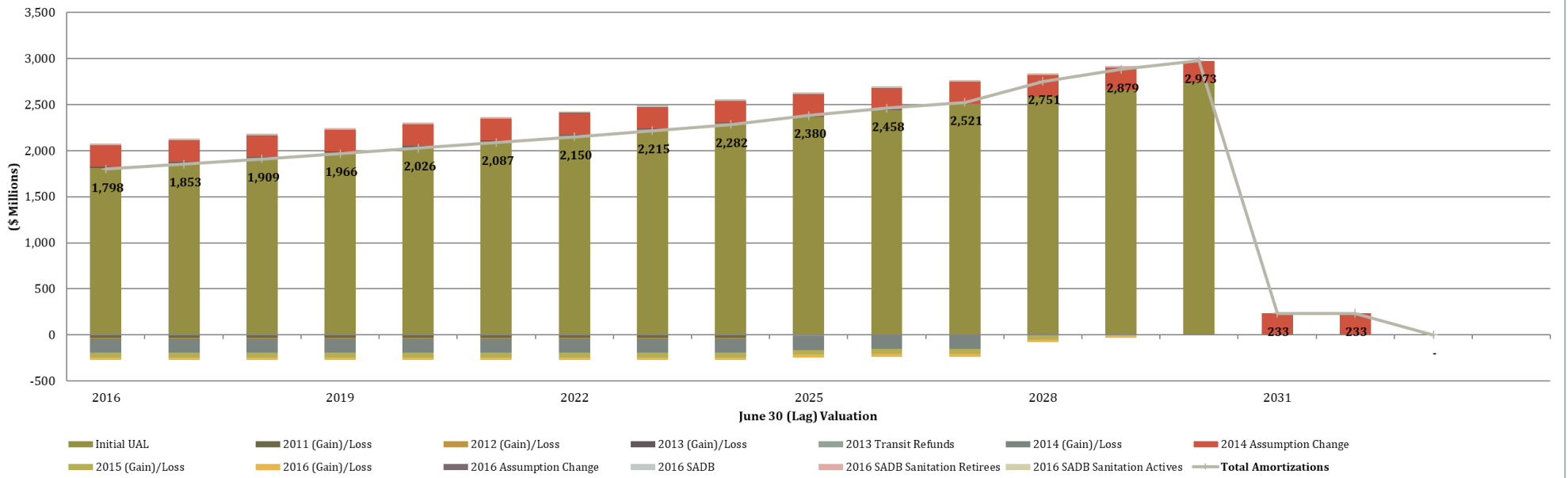
<sup>2</sup> Amount before reflecting adjustments under OYLM.

<sup>3</sup> Reflects adjustments under OLYM in year established

<sup>4</sup> Change in post retirement mortality assumptions including the change to the mortality improvement scale MP-2015.

<sup>5</sup> Change in Accidental rates for Tier 6 members of Sanitation and Corrections using a more empirical methodology.

**Graph III-3**  
**Remaining UAL Base Amortizations as of June 30, 2016**



**Table III-4**  
**Reconciliation of Outstanding UAL Bases**

June 30 (Lag) Valuation Date	Amounts (\$ Thousands) Remaining to be Amortized, as of						
	2010	2011	2012	2013	2014	2015	2016
Initial Unfunded, June 30, 2010	\$ 20,194,114	\$ 21,607,703	\$ 21,550,811	\$ 21,442,855	\$ 21,278,846	\$ 21,053,406	\$ 20,760,737
- 2010 ERI		7,140	7,640	5,919	4,078	2,108	0
- 2011 (Gain)/Loss		(250,821)	(268,378)	(256,477)	(243,742)	(230,117)	(215,537)
- 2012 (Gain)/Loss			(62,429)	(66,799)	(63,837)	(60,668)	(57,276)
- 2013 (Gain)/Loss				83,181	89,004	85,057	80,834
- 2013 Transit Refunds				320	342	265	183
- 2014 (Gain)/Loss					(1,302,740)	(1,393,930)	(1,332,117)
- 2014 Assumption Change					2,328,933	2,491,958	2,425,291
- 2015 (Gain)/Loss						(426,054)	(455,878)
- 2016 (Gain)/Loss							(256,449)
- 2016 Assumption Change							19,238
- 2016 SADB							20,783
- 2016 SADB Sanitation Retirees							34,163
- 2016 SADB Sanitation Actives							4,530
<b>Sum of Outstanding Amortization Amounts</b>	<b>\$ 20,194,114</b>	<b>\$ 21,364,022</b>	<b>\$ 21,227,644</b>	<b>\$ 21,208,999</b>	<b>\$ 22,090,884</b>	<b>\$ 21,522,025</b>	<b>\$ 21,028,502</b>

June 30 (Lag) Valuation Date	2010	2011	2012	2013	2014	2015	2016
1. Accrued Liability (AL)	\$ 62,935,267	\$ 65,269,251	\$ 67,417,018	\$ 70,028,252	\$ 74,123,437	\$ 76,678,220	\$ 79,081,183
2. Actuarial Value of Assets (AVA)	40,433,344	42,409,059	44,676,721	47,282,884	50,505,971	53,573,694	56,491,829
3. Unfunded Accrued Liability (UAL) (1. - 2.)	22,501,923	22,860,192	22,740,297	22,745,368	23,617,466	23,104,526	22,589,354
4. PV 1-year Adjusted Employer Contribution	2,307,809	1,397,601	1,411,790	1,433,172	1,424,839	1,474,561	1,446,072
5. PV Future Administrative Expense Reimbursement	0	98,569	100,863	103,197	101,743	107,940	114,780
<b>6. Adjusted UAL (3. - 4. - 5.)</b>	<b>\$ 20,194,114</b>	<b>\$ 21,364,022</b>	<b>\$ 21,227,644</b>	<b>\$ 21,208,999</b>	<b>\$ 22,090,884</b>	<b>\$ 21,522,025</b>	<b>\$ 21,028,502</b>

**Table III-5**  
**Actuarial and Statutory Contribution History**

**Table III-5** compares the Statutory Contributions to the Actuarial Contributions for Fiscal Years 2009 through 2018.

(\$ Thousands)			
Fiscal Year Ended June 30	Actuarial Contribution Certified	Statutory Contribution Contributed	Percentage of Actuarial Contribution Contributed
2009	\$ 2,150,438	\$ 2,150,438	100.0%
2010	2,197,717	2,197,717	100.0%
2011	2,387,216	2,387,216	100.0%
2012	3,017,004	3,017,004	100.0%
2013	3,046,845	3,046,845	100.0%
2014	3,114,068	3,114,068	100.0%
2015	3,160,258	3,160,258	100.0%
2016	3,365,454	3,365,454	100.0%
2017	3,328,193	3,328,193	100.0%
2018	3,377,024	3,377,024	100.0%

**Table III-6**  
**City Rates: Contributions as a Percentage of Salary**

**Table III-6** shows the City Rates defined to be the contributions as a percentage of salary for the Fiscal Years 2009 through 2018.

CITY RATES (\$ Thousands)			
Fiscal Year Ended June 30	Actuarial Contribution	Salary <sup>1</sup> at Time = 1.0	City Rate
2009	\$ 2,150,438	\$ 10,454,191	20.6%
2010	2,197,717	10,977,797	20.0%
2011	2,387,216	11,466,215	20.8%
2012	3,017,004	11,813,062	25.5%
2013	3,046,845	11,955,093	25.5%
2014	3,114,068	12,183,011	25.6%
2015	3,160,258	12,314,958	25.7%
2016	3,365,454	12,336,979	27.3%
2017	3,328,193	12,555,242	26.5%
2018	3,377,024	12,834,130	26.3%

<sup>1</sup>Includes the impact of recent labor contract settlements and certain non-union salary increases with retroactive effective dates, if any.

## SECTION IV - RESULTS BY CONTRIBUTING ENTITY

**Table IV-1**  
**Employer Contributions by Obligor: Transit Authority and Housing Authority**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM							
SUMMARY OF EMPLOYER CONTRIBUTION BY OBLIGOR: TRANSIT AUTHORITY AND HOUSING AUTHORITY							
Valuation Date	June 30, 2016 (Lag)						
Fiscal Year	2018						
Obligor	NYC Transit Authority: CP Engineers	NYC Transit Authority: Transit Police	NYC Transit Authority: Others	NYC Transit Authority Subtotal	NYC Housing Authority: Housing Police	NYC Housing Authority: Others	NYC Housing Authority Subtotal
<b>Contribution</b>							
1. Normal Cost	\$ 8,421,675	\$ 0	\$ 320,925,972	<b>\$ 329,347,647</b>	\$ 0	\$ 60,478,099	<b>\$ 60,478,099</b>
2. Amortization of Unfunded Accrued Liability	18,673,062	24,992,427	399,850,848	<b>443,516,337</b>	10,417,811	90,352,061	<b>100,769,872</b>
3. Administrative Expenses	337,308	373,722	12,528,473	<b>13,239,503</b>	159,768	3,579,713	<b>3,739,481</b>
4. Interest on Late Employer Contributions	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
5. Actuarial Contribution (1. + 2. + 3. +4.)	<b>\$ 27,432,045</b>	<b>\$ 25,366,149</b>	<b>\$ 733,305,293</b>	<b>\$ 786,103,487</b>	<b>\$ 10,577,579</b>	<b>\$ 154,409,873</b>	<b>\$ 164,987,452</b>

**Table IV-2**  
**Employer Contributions by Obligor: All**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM							
SUMMARY OF EMPLOYER CONTRIBUTION BY OBLIGOR							
Valuation Date	June 30, 2016 (Lag)						
Fiscal Year	2018						
Obligor	NYC Transit Authority Subtotal	NYC Housing Authority Subtotal	NYC Health and Hospitals Corporation	Triborough Bridge and Tunnel Authority	NYC Off-Track Betting Corporation	NYC Housing Development Corporation	NYC School Construction Authority
<b>Contribution</b>							
1. Normal Cost	\$ 329,347,647	\$ 60,478,099	\$ 231,765,486	\$ 13,926,221	\$ 0	\$ 1,144,263	\$ 647,746
2. Amortization of Unfunded Accrued Liability	443,516,337	100,769,872	252,254,629	24,576,305	12,319,536	556,466	1,016,463
3. Administrative Expenses	13,239,503	3,739,481	10,669,274	495,682	269,184	23,521	18,120
4. Interest on Late Employer Contributions	0	0	12,645,856	0	5,780,587	0	0
5. Actuarial Contribution (1. + 2. + 3. +4.)	<u>\$ 786,103,487</u>	<u>\$ 164,987,452</u>	<u>\$ 507,335,245</u>	<u>\$ 38,998,208</u>	<u>\$ 18,369,307</u>	<u>\$ 1,724,250</u>	<u>\$ 1,682,329</u>
Obligor	State Judiciary Employees	NYC Municipal Water Authority	CUNY Senior Colleges	Correction	Sanitation	All Others (i.e. New York City)	Total
<b>Contribution</b>							
1. Normal Cost	\$ 0	\$ 123,113	\$ 23,609,941	\$ 180,754,123	\$ 133,824,025	\$ 521,988,283	<b>\$ 1,497,608,947</b>
2. Amortization of Unfunded Accrued Liability	1,359,053	(13,888)	19,953,951	199,424,285	159,986,773	582,567,570	<b>1,798,287,352</b>
3. Administrative Expenses	20,036	2,265	1,263,684	3,653,761	3,306,870	26,000,050	<b>62,701,431</b>
4. Interest on Late Employer Contributions	0	0	0	0	0	0	<b>18,426,443</b>
5. Actuarial Contribution (1. + 2. + 3. +4.)	<u>\$ 1,379,089</u>	<u>\$ 111,490</u>	<u>\$ 44,827,576</u>	<u>\$ 383,832,169</u>	<u>\$ 297,117,668</u>	<u>\$ 1,130,555,903</u>	<b>\$ 3,377,024,173</b>



**Table IV-3**  
**Accrued Liabilities by Obligor: Transit Authority and Housing Authority**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM							
SUMMARY OF LIABILITY BY STATUS AND OBLIGOR: TRANSIT AUTHORITY AND HOUSING AUTHORITY							
Valuation Date	June 30, 2016 (Lag)						
Fiscal Year	2018						
Obligor	NYC Transit Authority: CP Engineers	NYC Transit Authority: Transit Police	NYC Transit Authority: Others	NYC Transit Authority Subtotal	NYC Housing Authority: Housing Police	NYC Housing Authority: Others	NYC Housing Authority Subtotal
<b>Accrued Liability</b>							
1. Active Members	\$ 315,930,904	\$ 0	\$ 8,015,650,507	<b>\$ 8,331,581,411</b>	\$ 0	\$ 1,762,082,451	<b>\$ 1,762,082,451</b>
2. Active/Inactive Members <sup>1</sup>	6,537,937	0	185,682,782	<b>192,220,719</b>	0	63,396,220	<b>63,396,220</b>
3. Terminated Vested Members	5,784,672	0	97,770,176	<b>103,554,848</b>	0	51,654,143	<b>51,654,143</b>
4. Retirees and Beneficiaries	367,114,306	561,754,200	9,287,557,149	<b>10,216,425,655</b>	246,426,704	2,099,388,531	<b>2,345,815,235</b>
5. Accrued Liability Pre-Adjustments (1. to 4.)	\$ 695,367,819	\$ 561,754,200	\$ 17,586,660,614	<b>\$ 18,843,782,633</b>	\$ 246,426,704	\$ 3,976,521,345	<b>\$ 4,222,948,049</b>
6. Actuarial Adjustments <sup>2</sup>	0	57,563,543	27,000,000	<b>84,563,543</b>	38,306,351	0	<b>38,306,351</b>
7. Total Accrued Liability (5. + 6.)	\$ 695,367,819	\$ 619,317,743	\$ 17,613,660,614	<b>\$ 18,928,346,176</b>	\$ 284,733,055	\$ 3,976,521,345	<b>\$ 4,261,254,400</b>
<b>Present Value of Future Benefits</b>							
1. Active Members	\$ 384,121,063	\$ 0	\$ 11,329,427,832	<b>\$ 11,713,548,895</b>	\$ 0	\$ 2,431,275,846	<b>\$ 2,431,275,846</b>
2. Active/Inactive Members <sup>1</sup>	6,537,937	0	185,682,782	<b>192,220,719</b>	0	63,396,220	<b>63,396,220</b>
3. Terminated Vested Members	5,784,672	0	97,770,176	<b>103,554,848</b>	0	51,654,143	<b>51,654,143</b>
4. Retirees and Beneficiaries	367,114,306	561,754,200	9,287,557,149	<b>10,216,425,655</b>	246,426,704	2,099,388,531	<b>2,345,815,235</b>
5. Present Value of Benefits (1. to 4.)	\$ 763,557,978	\$ 561,754,200	\$ 20,900,437,939	<b>\$ 22,225,750,117</b>	\$ 246,426,704	\$ 4,645,714,740	<b>\$ 4,892,141,444</b>
6. Actuarial Adjustments <sup>2</sup>	0	57,563,543	27,000,000	<b>84,563,543</b>	38,306,351	0	<b>38,306,351</b>
7. Total Present Value of Future Benefits (5. + 6.)	\$ 763,557,978	\$ 619,317,743	\$ 20,927,437,939	<b>\$ 22,310,313,660</b>	\$ 284,733,055	\$ 4,645,714,740	<b>\$ 4,930,447,795</b>

<sup>1</sup> Represents members no longer on payroll, but not otherwise classified.

<sup>2</sup> Includes unfunded VSF Accrued Liability and other actuarial loading adjustments.

**Table IV-4**  
**Accrued Liabilities by Obligor: All**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM							
SUMMARY OF LIABILITY BY STATUS AND OBLIGOR							
Valuation Date	June 30, 2016 (Lag)						
Fiscal Year	2018						
Obligor	NYC Transit Authority Subtotal	NYC Housing Authority Subtotal	NYC Health and Hospitals Corporation	Triborough Bridge and Tunnel Authority	NYC Off-Track Betting Corporation	NYC Housing Development Corporation	NYC School Construction Authority
<b>Accrued Liability</b>							
1. Active Members	\$ 8,331,581,411	\$ 1,762,082,451	\$ 4,769,894,601	\$ 374,311,365	\$ 0	\$ 16,911,891	\$ 22,821,918
2. Active/Inactive Members <sup>1</sup>	192,220,719	63,396,220	140,438,563	6,734,861	302,739	573,898	304,654
3. Terminated Vested Members	103,554,848	51,654,143	141,438,686	7,596,192	22,096,856	102,654	1,060,054
4. Retirees and Beneficiaries	<u>10,216,425,655</u>	<u>2,345,815,235</u>	<u>5,495,071,240</u>	<u>545,883,438</u>	<u>304,149,424</u>	<u>12,264,017</u>	<u>18,530,486</u>
5. Accrued Liability Pre-Adjustments (1. to 4.)	\$ 18,843,782,633	\$ 4,222,948,049	\$ 10,546,843,090	\$ 934,525,856	\$ 326,549,019	\$ 29,852,460	\$ 42,717,112
6. Actuarial Adjustments <sup>2</sup>	<u>84,563,543</u>	<u>38,306,351</u>	<u>0</u>	<u>9,000,000</u>	<u>0</u>	<u>0</u>	<u>0</u>
7. Total Accrued Liability (5. + 6.)	<u>\$ 18,928,346,176</u>	<u>\$ 4,261,254,400</u>	<u>\$ 10,546,843,090</u>	<u>\$ 943,525,856</u>	<u>\$ 326,549,019</u>	<u>\$ 29,852,460</u>	<u>\$ 42,717,112</u>
<b>Present Value of Future Benefits</b>							
1. Active Members	\$ 11,713,548,895	\$ 2,431,275,846	\$ 7,284,972,073	\$ 523,830,361	\$ 0	\$ 27,591,055	\$ 27,767,719
2. Active/Inactive Members <sup>1</sup>	192,220,719	63,396,220	140,438,563	6,734,861	302,739	573,898	304,654
3. Terminated Vested Members	103,554,848	51,654,143	141,438,686	7,596,192	22,096,856	102,654	1,060,054
4. Retirees and Beneficiaries	<u>10,216,425,655</u>	<u>2,345,815,235</u>	<u>5,495,071,240</u>	<u>545,883,438</u>	<u>304,149,424</u>	<u>12,264,017</u>	<u>18,530,486</u>
5. Present Value of Benefits (1. to 4.)	\$ 22,225,750,117	\$ 4,892,141,444	\$ 13,061,920,562	\$ 1,084,044,852	\$ 326,549,019	\$ 40,531,624	\$ 47,662,913
6. Actuarial Adjustments <sup>2</sup>	<u>84,563,543</u>	<u>38,306,351</u>	<u>0</u>	<u>9,000,000</u>	<u>0</u>	<u>0</u>	<u>0</u>
7. Total Present Value of Future Benefits (5. + 6.)	<u>\$ 22,310,313,660</u>	<u>\$ 4,930,447,795</u>	<u>\$ 13,061,920,562</u>	<u>\$ 1,093,044,852</u>	<u>\$ 326,549,019</u>	<u>\$ 40,531,624</u>	<u>\$ 47,662,913</u>
Obligor	State Judiciary Employees	NYC Municipal Water Authority	CUNY Senior Colleges	Correction	Sanitation	All Others (i.e. New York City)	Total
<b>Accrued Liability</b>							
1. Active Members	\$ 0	\$ 1,776,310	\$ 517,597,493	\$ 2,352,978,848	\$ 2,057,717,042	\$ 13,291,565,534	\$ 33,499,238,864
2. Active/Inactive Members <sup>1</sup>	0	36,230	19,353,300	107,197,068	35,998,942	437,119,874	1,003,677,068
3. Terminated Vested Members	0	0	7,161,297	36,987,452	12,548,175	351,010,599	735,210,956
4. Retirees and Beneficiaries	<u>18,709,194</u>	<u>692,370</u>	<u>370,836,040</u>	<u>5,311,785,329</u>	<u>4,070,331,096</u>	<u>13,541,057,442</u>	<u>42,251,550,966</u>
5. Accrued Liability Pre-Adjustments (1. to 4.)	\$ 18,709,194	\$ 2,504,910	\$ 914,948,130	\$ 7,808,948,697	\$ 6,176,595,255	\$ 27,620,753,449	\$ 77,489,677,854
6. Actuarial Adjustments <sup>2</sup>	<u>0</u>	<u>0</u>	<u>6,000,000</u>	<u>1,205,562,216</u>	<u>128,693,732</u>	<u>119,379,509</u>	<u>1,591,505,351</u>
7. Total Accrued Liability (5. + 6.)	<u>\$ 18,709,194</u>	<u>\$ 2,504,910</u>	<u>\$ 920,948,130</u>	<u>\$ 9,014,510,913</u>	<u>\$ 6,305,288,987</u>	<u>\$ 27,740,132,958</u>	<u>\$ 79,081,183,205</u>
<b>Present Value of Future Benefits</b>							
1. Active Members	\$ 0	\$ 3,105,428	\$ 788,403,287	\$ 4,080,181,746	\$ 3,492,693,237	\$ 19,614,772,261	\$ 49,988,141,908
2. Active/Inactive Members <sup>1</sup>	0	36,230	19,353,300	107,197,068	35,998,942	437,119,874	1,003,677,068
3. Terminated Vested Members	0	0	7,161,297	36,987,452	12,548,175	351,010,599	735,210,956
4. Retirees and Beneficiaries	<u>18,709,194</u>	<u>692,370</u>	<u>370,836,040</u>	<u>5,311,785,329</u>	<u>4,070,331,096</u>	<u>13,541,057,442</u>	<u>42,251,550,966</u>
5. Present Value of Benefits (1. to 4.)	\$ 18,709,194	\$ 3,834,028	\$ 1,185,753,924	\$ 9,536,151,595	\$ 7,611,571,450	\$ 33,943,960,176	\$ 93,978,580,898
6. Actuarial Adjustments <sup>2</sup>	<u>0</u>	<u>0</u>	<u>6,000,000</u>	<u>1,390,921,235</u>	<u>128,693,732</u>	<u>119,379,509</u>	<u>1,776,864,370</u>
7. Total Present Value of Future Benefits (5. + 6.)	<u>\$ 18,709,194</u>	<u>\$ 3,834,028</u>	<u>\$ 1,191,753,924</u>	<u>\$ 10,927,072,830</u>	<u>\$ 7,740,265,182</u>	<u>\$ 34,063,339,685</u>	<u>\$ 95,755,445,268</u>

<sup>1</sup> Represents members no longer on payroll, but not otherwise classified.

<sup>2</sup> Includes unfunded VSP Accrued Liability and other actuarial loading adjustments.

**Table IV-5**  
**Participant Data by Obligor: Transit Authority and Housing Authority**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM							
SUMMARY OF PARTICIPANT DATA BY OBLIGOR: TRANSIT AUTHORITY AND HOUSING AUTHORITY							
Valuation Date	June 30, 2016 (Lag)						
Fiscal Year	2018						
Obligor	NYC Transit Authority: CP Engineers	NYC Transit Authority: Transit Police	NYC Transit Authority: Others	NYC Transit Authority Subtotal	NYC Housing Authority: Housing Police	NYC Housing Authority: Others	NYC Housing Authority Subtotal
<b>Participant Data</b>							
1. Active Members							
a. Number	900	0	37,767	38,667	0	9,914	9,914
b. Annual Salary <sup>1</sup>	\$ 88,784,421	\$ 0	\$ 3,001,478,852	\$ 3,090,263,273	\$ 0	\$ 628,478,856	\$ 628,478,856
c. Average Salary	\$ 98,649	\$ 0	\$ 79,474	\$ 79,920	\$ 0	\$ 63,393	\$ 63,393
2. Active/Inactive Members <sup>2</sup>	39	0	2,393	2,432	0	1,015	1,015
3. Terminated Vested Members	49	0	1,045	1,094	0	620	620
4. Retirees and Beneficiaries							
a. Number	948	2,145	30,703	33,796	917	8,997	9,914
b. Total Annual Benefits	\$ 37,778,743	\$ 64,196,639	\$ 954,315,444	\$ 1,056,290,826	\$ 28,639,443	\$ 206,329,784	\$ 234,969,227
c. Average Annual Benefit	\$ 39,851	\$ 29,929	\$ 31,082	\$ 31,255	\$ 31,232	\$ 22,933	\$ 23,701

<sup>1</sup> Salaries shown are base salary plus assumed overtime and reflect the impact of recent labor contract settlements and certain non-union salary increases with retroactive effective dates, if any.

<sup>2</sup> Represents members no longer on payroll, but not otherwise classified.

**Table IV-6**  
**Participant Data by Obligor: All**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM							
SUMMARY OF PARTICIPANT DATA BY OBLIGOR							
Valuation Date	June 30, 2016 (Lag)						
Fiscal Year	2018						
Obligor	NYC Transit Authority Subtotal	NYC Housing Authority Subtotal	NYC Health and Hospitals Corporation	Triborough Bridge and Tunnel Authority	NYC Off-Track Betting Corporation	NYC Housing Development Corporation	NYC School Construction Authority
<b>Participant Data</b>							
1. Active Members							
a. Number	38,667	9,914	32,322	1,311	0	97	55
b. Annual Salary <sup>1</sup>	\$ 3,090,263,273	\$ 628,478,856	\$ 2,227,734,680	\$ 126,573,449	\$ 0	\$ 9,029,679	\$ 6,268,836
c. Average Salary	\$ 79,920	\$ 63,393	\$ 68,923	\$ 96,547	\$ 0	\$ 93,089	\$ 113,979
2. Active/Inactive Members <sup>2</sup>	2,432	1,015	3,910	94	4	10	4
3. Terminated Vested Members	1,094	620	1,807	64	295	1	7
4. Retirees and Beneficiaries							
a. Number	33,796	9,914	23,198	1,376	1,246	27	38
b. Total Annual Benefits	\$ 1,056,290,826	\$ 234,969,227	\$ 539,769,699	\$ 51,969,556	\$ 30,438,581	\$ 1,157,165	\$ 1,706,089
c. Average Annual Benefit	\$ 31,255	\$ 23,701	\$ 23,268	\$ 37,769	\$ 24,429	\$ 42,858	\$ 44,897
Obligor	State Judiciary Employees	NYC Municipal Water Authority	CUNY Senior Colleges	Correction	Sanitation	All Others (i.e. New York City)	Total
<b>Participant Data</b>							
1. Active Members							
a. Number	0	10	4,350	8,815	7,338	82,602	185,481
b. Annual Salary <sup>1</sup>	\$ 0	\$ 1,015,014	\$ 238,430,426	\$ 759,133,694	\$ 663,846,082	\$ 5,465,765,366	\$ 13,216,539,355
c. Average Salary	\$ 0	\$ 101,501	\$ 54,812	\$ 86,118	\$ 90,467	\$ 66,170	\$ 71,255
2. Active/Inactive Members <sup>2</sup>	0	2	769	625	170	8,954	17,989
3. Terminated Vested Members	0	0	100	244	65	4,598	8,895
4. Retirees and Beneficiaries							
a. Number	115	1	2,034	11,287	11,407	53,075	147,514
b. Total Annual Benefits	\$ 3,377,223	\$ 63,875	\$ 38,592,398	\$ 449,011,297	\$ 404,004,762	\$ 1,368,145,923	\$ 4,179,496,621
c. Average Annual Benefit	\$ 29,367	\$ 63,875	\$ 18,974	\$ 39,781	\$ 35,417	\$ 25,778	\$ 28,333

<sup>1</sup> Salaries shown are base salary plus assumed overtime and reflect the impact of recent labor contract settlements and certain non-union salary increases with retroactive effective dates, if any.

<sup>2</sup> Represents members no longer on payroll, but not otherwise classified.

## SECTION V - (GAIN)/LOSS ANALYSIS

**Table V-1**  
**Development of Experience (Gain)/Loss**

**Table V-1** develops the asset and liability (Gain)/Loss between the June 30, 2015 (Lag) actuarial valuation and the June 30, 2016 (Lag) actuarial valuation.<sup>1</sup>

DEVELOPMENT OF EXPERIENCE (GAIN) / LOSS	
June 30, 2016	
(\$ Thousands)	
1.	Expected Accrued Liability (AL)
	a. AL at June 30, 2015
	\$ 76,873,488
	b. Total Normal Cost and Administrative Expenses at June 30, 2015
	1,899,538
	c. Interest on 1.a. and 1.b. to June 30, 2016
	5,514,111
	d. Fiscal Year 2016 Benefit Payments with Interest to June 30, 2016
	(4,650,884)
	e. Expected AL at June 30, 2016
	\$ 79,636,253
2.	Actual AL at June 30, 2016 before changes <sup>2</sup>
	\$ 79,074,823
3.	Expected Total Actuarial Value of Assets (AVA)
	a. Total at June 30, 2015
	\$ 53,768,962
	b. Interest on 3.a. to June 30, 2016
	3,763,827
	c. Total Contributions Paid in Fiscal Year 2016
	3,850,962
	d. Interest on 3.c. to June 30, 2016
	132,504
	e. Fiscal Year 2016 Benefit Payments with Interest to June 30, 2016 (1.d.)
	(4,650,884)
	f. Expected Total at June 30, 2016
	\$ 56,865,371
4.	Actual Total AVA at June 30, 2016
	\$ 56,560,390
5.	Liability (Gain) / Loss (2. - 1.e.)
	\$ (561,430)
6.	Actuarial Asset (Gain) / Loss (3.f. - 4.)
	\$ 304,981
7.	Total Actuarial (Gain) / Loss (5. + 6.)
	\$ (256,449)

<sup>1</sup> Includes results for Variable Supplements Funds.

<sup>2</sup> Enhanced ADR and SADB.

## SECTION VI - SCHEDULE OF FUNDING PROGRESS

A schedule of funding progress is provided below. This schedule of funding progress was previously required by GASB 25, which has been superseded by GASB 67, and is provided for historical context. These liability and asset measures are used to develop the Actuarial Contribution and are not suitable for other purposes including, but not limited to, settlement of plan obligations.

**Table VI-1**  
**Schedule of Funding Progress**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM (\$ Thousands)						
June 30 (Lag) Valuation Date	(1) Actuarial Value of Assets (AVA)	(2) Accrued Liability (AL)	(3) Unfunded AL (UAL) (2) - (1)	(4) Funded Ratio (1) / (2)	(5) Covered Payroll	(6) UAL as a % of Covered Payroll (3) / (5)
2007	38,925,725	49,253,216	10,327,491	79.0%	10,761,963	96.0%
2008	40,722,228	51,114,399	10,392,171	79.7%	11,305,974	91.9%
2009	41,710,159	53,052,658	11,342,499	78.6%	11,880,994	95.5%
2010	40,433,344	62,935,267	22,501,923	64.2%	12,101,417	185.9%
2011	42,409,059	65,269,251	22,860,192	65.0%	12,233,573	186.9%
2012	44,676,721	67,417,018	22,740,297	66.3%	12,478,130	182.2%
2013	47,282,884	70,028,252	22,745,368	67.5%	12,642,483	179.9%
2014	50,505,971	74,123,437	23,617,466	68.1%	12,672,387	186.4%
2015	53,573,694	76,678,220	23,104,526	69.9%	12,917,467	178.9%
2016	56,491,829	79,081,183	22,589,354	71.4%	13,216,539	170.9%

Effective June 30, 2010, AL is based on the Entry Age Normal cost method. Previously, the Frozen Initial Liability Cost method was used. Salaries reflect the impact of recent labor contract settlements and certain non-union salary increases with retroactive effective dates, if any.

## SECTION VII - VARIABLE SUPPLEMENTS FUNDS (VSF)

NYCERS administers the Correction Officers' Variable Supplements Fund (COVSF), Housing Police Officer's Variable Supplements Fund (HPOVSF), Housing Police Superior Officers' Variable Supplements Fund (HPSOVSF), Transit Police Officer's Variable Supplements Fund (TPOVSF), and the Transit Police Superior Officers' Variable Supplements Fund (TPSOVSF).

They operate pursuant to the provisions of Title 13, Chapter 1 of the Administrative Code of the City of New York (ACCNYS) and provide supplemental benefits as follows:

**COVSF:** Retired Members of the Uniformed Correction Force (UCF). To be eligible to receive benefits, members of the UCF must retire, on or after July 1, 1999 with at least 20 or 25 years of service depending on the underlying plan, and be receiving a service retirement benefit from NYCERS.

**HPOVSF:** NYCERS retirees who retired for service, with 20 or more years of service as Housing Police Officers and who retired on or after July 1, 1987.

**HPSOVSF:** NYCERS retirees who retired for service, with 20 or more years of service as Housing Police Superior Officers and who retired on or after July 1, 1987.

**TPOVSF:** NYCERS retirees who retired for service, with 20 or more years of service as Transit Police Officers and who retired on or after July 1, 1987.

**TPSOVSF:** NYCERS retirees who retired for service, with 20 or more years of service as Transit Police Superior Officers and who retired on or after July 1, 1987.



**Table VII-1**  
**VSF Accrued Liability**

Valuation Date	June 30, 2016	June 30, 2015
<b>COVSF</b>		
Active	\$ 324,939,445	\$ 338,122,856
Retiree	<u>933,183,951</u>	<u>945,692,528</u>
Total	\$ 1,258,123,396	\$ 1,283,815,384
<b>HPOVSF</b>		
Active	\$ 0	\$ 0
Retiree	<u>16,005,793</u>	<u>17,273,511</u>
Total	\$ 16,005,793	\$ 17,273,511
<b>HPSOVSF</b>		
Active	\$ 0	\$ 0
Retiree	<u>22,300,558</u>	<u>23,282,499</u>
Total	\$ 22,300,558	\$ 23,282,499
<b>TPOVSF</b>		
Active	\$ 0	\$ 0
Retiree	<u>32,689,073</u>	<u>34,279,665</u>
Total	\$ 32,689,073	34,279,665
<b>TPSOVSF</b>		
Active	\$ 0	\$ 0
Retiree	<u>24,874,470</u>	<u>26,294,582</u>
Total	\$ 24,874,470	\$ 26,294,582

**Table VII-2**  
**VSF Member Data**

VARIABLE SUPPLEMENTS FUNDS		
MEMBERS INCLUDED IN THE JUNE 30, 2016 (Lag) AND THE JUNE 30, 2015 (Lag) ACTUARIAL VALUATIONS		
	June 30, 2016	June 30, 2015
<b>COVSF</b>		
Actives		
Number	8,815	8,466
Average Age	41.04	41.88
Retirees		
Number	7,424	6,850
Average Age	57.22	56.54
<b>HPOVSF</b>		
Actives		
Number	0	0
Average Age	0	0
Retirees		
Number	160	170
Average Age	73.19	72.56
<b>HPSOVSF</b>		
Actives		
Number	0	0
Average Age	0	0
Retirees		
Number	220	224
Average Age	72.69	71.72
<b>TPOVSF</b>		
Actives		
Number	0	0
Average Age	0	0
Retirees		
Number	325	333
Average Age	73.02	72.14
<b>TPSOVSF</b>		
Actives		
Number	0	0
Average Age	0	0
Retirees		
Number	247	255
Average Age	72.98	72.08

**Table VII-3**  
**VSF Statement of Assets**

(\$ Thousands)				
Valuation Date	June 30, 2016		June 30, 2015	
	MVA <sup>1</sup>	AVA	MVA <sup>2</sup>	AVA
<b>COVSF</b>	\$ 46,942	\$ 68,561	\$ 179,399	\$ 195,268
<b>HPOVSF</b>	0	0	0	0
<b>HPSOVSF</b>	0	0	0	0
<b>TPOVSF</b>	0	0	0	0
<b>TPSOVSF</b>	0	0	0	0
<b>TOTAL</b>	\$ 46,942	\$ 68,561	\$ 179,399	\$ 195,268

<sup>1</sup> Includes Accrued Benefits Payable of \$41,925,000 for COVSF.

<sup>2</sup> Includes Accrued Benefits Payable of \$39,693,000 for COVSF.

**Table VII-4**  
**Development of VSF Actuarial Value of Assets as of June 30, 2016**

(\$ Thousands)	
	<b>COVSF</b>
1. Market Value of Assets (MVA) (Net of Accrued Benefits Payable)	
a. Beginning of Year (BOY)	\$ 139,706
b. End of Year (EOY)	\$ 5,017
2. Contributions	
a. Employee	\$ 0
b. Employer	<u>0</u>
c. Total Contributions	\$ 0
3. Benefit Payments and Other Cash Flow	\$ (79,917)
4. Preliminary SKIM from NYCERS to VSFs - EOY	\$ (52,724)
5. Net Cash Flow (2.c. + 3. + 4.)	\$ (132,642)
6. Net Investment Income	
a. Investment Income	\$ 185
b. Investment Expenses	<u>0</u>
c. Total Net Investment Income	\$ 185
7. Average invested assets	
a. AVA @ BOY	\$ 195,268
b. 1/2 Net Cash Flow before SKIM ((2.c. + 3.) / 2)	<u>(39,959)</u>
c. Total	\$ 155,310
8. Expected Rate of Return (AIR)	7.00%
9. Expected Investment Return (EIR) (7.c. x 8.)	\$ 10,872
10. Unexpected Investment Return (UIR) (6.c. - 9.)	\$ (10,687)
11. Preliminary AVA @ EOY	
a. AVA @ BOY	\$ 195,268
b. Net Cash Flow (5.)	(132,642)
c. Expected Investment Return (9.)	10,872
d. Phase in of UIR	
15% * UIR for prior year	(1,603)
15% * UIR for second prior year	(2,027)
15% * UIR for third prior year	(416)
15% * UIR for fourth prior year	(394)
20% * UIR for fifth prior year	(497)
20% * UIR for sixth prior year	<u>0</u>
Total	\$ (4,937)
e. AVA (11.a. + 11.b. + 11.c. + 11.d.)	\$ 68,561
<b>12. Final AVA at EOY</b>	<b>\$ 68,561</b>

**Table VII-5**  
**SKIM Calculation as of June 30, 2016**

For details, see Summary of VSF Actuarial Assumptions and Methods.

(\$ Thousands)	Final
<b>Total NYCERS Pension Fund</b>	
1. FY2016 Equity Earnings	\$ 145,214
2. FY2016 Hypothetical Earnings	\$ 847,260
3. FY2016 Excess Earnings (1. - 2.)	\$ (702,046)
4. Deficit at June 30, 2015	0
5. Hypothetical Interest Rate (HIR)	2.324%
6. Deficit with interest (4. x (1+HIR))	0
7. Potential SKIM (3. - 6.)	0
<b>COVSF</b>	
<b>Allocations to VSF - NA<sup>1</sup></b>	
8. Allocation Percentage	NA
9. Potential SKIM (7. x 8.)	NA
10. Accumulated Benefit Obligation	NA
11. MVA Prior to SKIM	\$ 46,942
12. ABO Gate = (10. - 11.)	NA
<b>13. SKIM Payable (Lesser of 9 and 12, not less than zero)</b>	<b>NA</b>
14. Rounded Estimate, for FY16 Financial Statements	<u>NA</u>

<sup>1</sup> Not calculated due to no potential SKIM.

## Summary of VSF Plan Provisions

### **A.** Eligibility

Service Retirement with at least 20 years of allowable service on or after July 1, 1999 for COVSF and on or after July 1, 1987 for HPOVSF, HPSOVSF, TPOVSF, and TPSOVSF. This benefit is not payable to disability retirees, vested retirees, or beneficiaries of members who die while eligible for service retirement.

### **B.** Benefits

The benefit is currently \$12,000 per year, prorated in the first year and in the year of death based on the number of full months of retirement. The month of retirement and the month of death are not included in these two prorations. COVSF payments prior to Calendar Year 2019 are only paid if the assets in the COVSF are sufficient to pay the full amount due to all eligible retirees.

### **C.** Cost of Living Benefits

Any Auto COLA payable to a retiree reduces VSF benefits by an amount equal to such Auto COLA until the attainment of age 62.

### **D.** Form of Payment

Life annuity payable annually on or about December 15 for the current calendar year.

## Summary of VSF Actuarial Assumptions and Methods

Assumptions not detailed below are as described in SECTION XII – ACTUARIAL ASSUMPTIONS AND METHODS (2016 A&M).

1. **COLA:** 1.5% per year for Auto COLA, used to estimate future COLA on the first \$18,000 of NYCERS benefits which, in general, reduces benefits payable by the Fund until age 62.
2. **Actuarial Asset Valuation Method:** Information on the Market Value of Assets (MVA) of the Variable Supplements Funds (VSF) is provided by the Office of the Comptroller. The same Actuarial Asset Valuation Method (AAVM) is used to determine the Actuarial Value of Assets (AVA) of the COVSF, HPOVSF, HPSOVSF, TPOVSF, and TPSOVSF as is used to determine the AVA of the Plan. For more information, see SECTION II – MARKET AND ACTUARIAL VALUES OF ASSETS.
3. **Liability Method:** The obligations of NYCERS to the COVSF, HPOVSF, HPSOVSF, TPOVSF, and TPSOVSF are recognized through a methodology where the PV of future VSF transfers from NYCERS to the COVSF, HPOVSF, HPSOVSF, TPOVSF, and TPSOVSF is included directly as an actuarial liability of NYCERS. This amount is computed as the excess, if any, of the PV of benefits of the COVSF, HPOVSF, HPSOVSF, TPOVSF, and TPSOVSF over the AVA of the COVSF, HPOVSF, HPSOVSF, TPOVSF, and TPSOVSF, respectively. Under EAN, a portion of the PV of future VSF transfers is reflected in the PV of future normal costs and a portion is reflected in the UAL.
4. **SKIM Calculation:** The ACCNY provides that the NYCERS transfer to COVSF a fraction of certain excess earnings on NYCERS equity investments, where such fraction reflects the ratio of Uniformed Correction member salaries to the salaries of all active members of the NYCERS. The earnings to be transferred are the amount by which earnings on equity investments exceed what the earnings would have been had such funds been invested at the Hypothetical Interest Rate, less any negative Cumulative Earnings Differentials and other limitations, determined as follows:
  - a. *Hypothetical Interest Rate:* 115% of the average of monthly yields of 10-year U.S. Treasury Notes
  - b. *Hypothetical Fixed Income Securities Earnings:* Investment earnings had equities been invested in fixed income securities earning the Hypothetical Interest Rate
  - c. *Earnings Differential:* Difference between actual equity investment earnings and Hypothetical Fixed Income Securities Earnings

- d. *Cumulative Earnings Differential*: The current year's positive Earnings Differential, offset by any negative Earnings Differentials from prior years accumulated with interest at the corresponding year's Hypothetical Interest Rate

Under Chapter 255 of the Laws of 2000, the NYCERS is required to make transfers to HPOVSF, HPSOVSF, TPOVSF, and TPSOVSF sufficient to meet their annual benefit payments.



## SECTION VIII - RISK AND UNCERTAINTY

The Fiscal Year 2018 employer contribution is based on the census data reported as of June 30, 2016 and on actuarial assumptions and methods adopted by the Board of Trustees during Fiscal Year 2012 and enacted by the New York State Legislature as Chapter 3 of the Laws of 2013 (the 2012 A&M), with revisions made to the post-retirement mortality assumptions and to the AAVM during Fiscal Year 2016 (the 2016 A&M).

The funded status of NYCERS depends highly on the realization of the actuarial assumptions used, as well as certain demographic characteristics of the Plan and other exogenous factors. Many of the risks faced by the Plan are described in fuller detail below; quantifying these risks for the Plan is beyond the scope of this valuation but may be undertaken in future years.

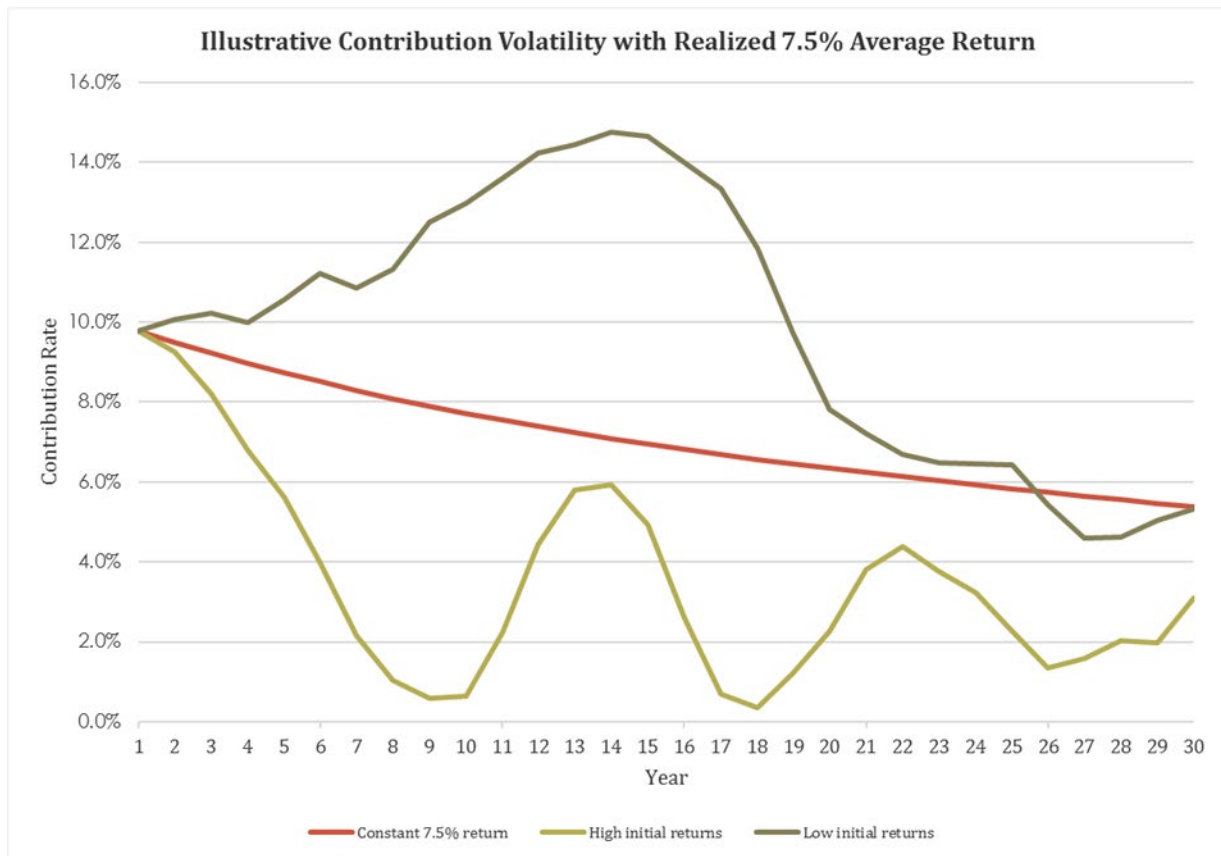
These risks have been separated, based on the Actuary's professional judgements, into high, medium, and low risks.

## High Risk Types

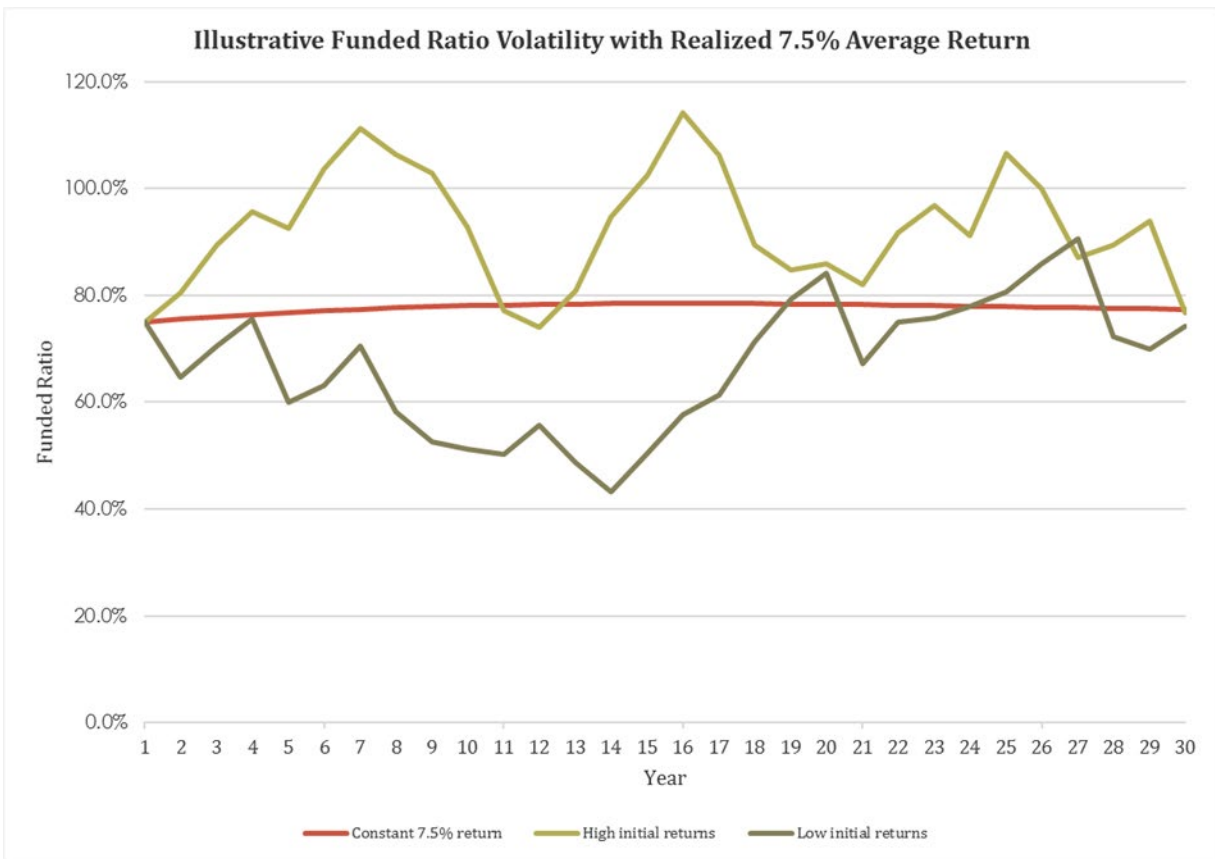
### Investment Risk

The most substantial risk for NYCERS is the investment risk that investment returns may be different than assumed. As risk-free investment return rates have fallen in recent decades, more aggressive asset allocations have become necessary to achieve long-term rates of return commensurate with the actuarial assumption of 7.0%.

This investment return volatility can contribute substantially to contribution and funded status volatility, even if the long-term investment return assumption of 7.0% is realized. While not yet available specifically for the Plan, recent research demonstrates this volatility based on a sample public plan with typical characteristics, a typical contribution policy, and a long-term return assumption of 7.5%, which can be realized in different patterns.<sup>1</sup> Similar scenario analysis could be done for NYCERS.



<sup>1</sup> Yin, Yimeng; Boyd, Don. Pension Simulation Project. *The Nelson A. Rockefeller Institute of Government*.



Note that these illustrations show volatility even if long-term expected rates of return are realized. Further risk exists that long-term expected rates of return may not be realized.

## Maturity Risk

With respect to future fiscal years, it should be noted that NYCERS is a mature retirement system. A mature retirement system has a significant ratio of retirees to active members and, usually, of assets to active member payroll and of Accrued Liability (AL) to active member payroll. These ratios, sometimes known as volatility ratios, for the Plan can be found in the chart below.

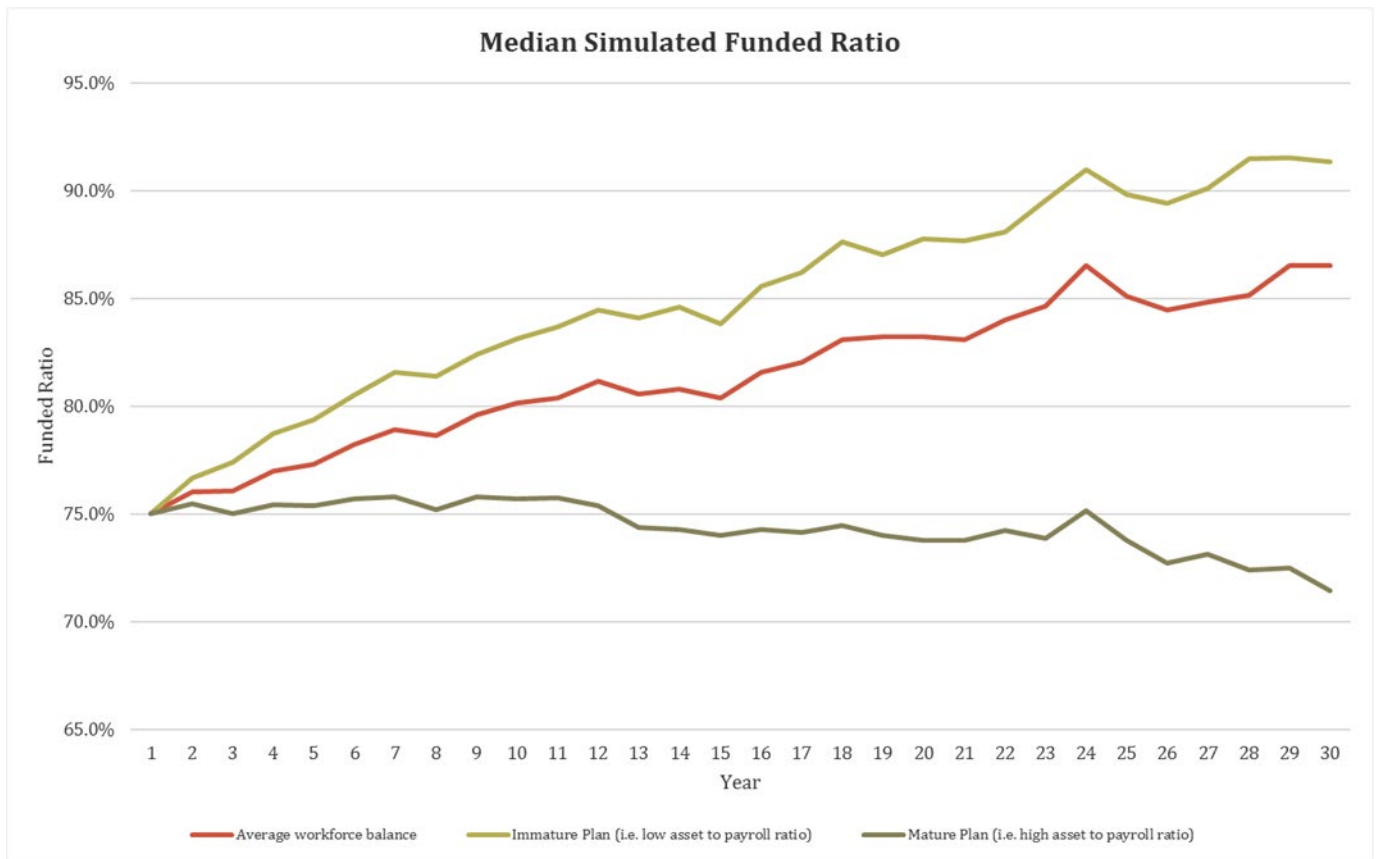
Valuation Date	June 30, 2016 (Lag)	June 30, 2015 (Lag)
Fiscal Year	2018	2017
<b>Volatility Ratios</b>		
1. Market Value of Assets (MVA)	\$ 55,489,504,000	\$ 54,889,324,000
2. Actuarial Value of Assets (AVA)	56,491,829,000	53,573,694,000
3. Accrued Liability	79,081,183,205	76,678,219,599
4. Active Salary	13,216,539,355	12,917,466,528
5. Asset Volatility Ratio (MVA basis) (1. / 4.)	4.2	4.2
6. Asset Volatility Ratio (AVA basis) (2. / 4.)	4.3	4.1
7. Liability Volatility Ratio (3. / 4.)	6.0	5.9

As a plan approaches maturity, Asset Volatility and Liability Volatility Ratios increase, and the plan becomes more sensitive to investment losses. The same percentage of investment losses in more mature plans can increase contributions as a percentage of payroll more so than in less mature plans. Generally, mature plans need to consider more conservative investment strategies. These ratios for the Plan are not yet overly high.

While not available specifically for the Plan, illustrative forecasts of sample plans of various maturities can demonstrate this effect.<sup>1</sup>

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<sup>1</sup> Boyd, Donald J. and Yin, Yimeng. "How Public Pension Plan Demographic Characteristics Affect Funding and Contribution Risk." Pension Simulation Project. *The Nelson A. Rockefeller Institute of Government*.



A plan's Support Ratio (i.e. the ratio of inactive participants to active participants) is another measure of maturity risk. A low Support Ratio implies that contributions are potentially low as a percentage of active payroll and support the benefit payments of few inactive participants. A high Support Ratio implies that contributions are potentially high as a percentage of active payroll and support the benefit payments of many inactive participants. Because the Plan's Support Ratio is low, contributions for active members form a larger proportion of the total actuarial contribution than in more mature pension funds (see Page 82).

## Medium Risk Types

### Interest Rate Risk

The Accrued Liability for the Plan depends heavily on the actuarial assumption used for future investment returns. While the returns themselves can produce substantial volatility, as detailed in Investment Risk above, the long-term rate of return assumption of 7.0% depends itself on the allocation of Plan assets.

If market conditions or the allocation of Plan assets no longer justifies a long-term rate of return assumption of 7.0%, a reduction in the Actuarial Interest Rate would significantly increase the Accrued Liability and Unfunded Accrued Liability of the Plan, as well as the Normal Cost and resulting contribution. While not on a funding basis, the sensitivity could be expected to be generally similar to the sensitivity reported for GASB 67/68 purposes.<sup>1</sup>

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM	
GASB 67/68 SENSITIVITY ANALYSIS AS OF JUNE 30, 2016	
Valuation Date	June 30, 2016
<b>Results at 7.0%</b>	
1. Total Pension Liability	\$ 79,839,134,898
2. Plan Fiduciary Net Position	55,542,313,000
3. Net Pension Liability (1. - 2.)	\$ 24,296,821,898
4. Funded Ratio (GASB Basis) (2. / 1.)	69.6%
<b>Results at 6.0%</b>	
1. Total Pension Liability	\$ 88,855,746,767
2. Plan Fiduciary Net Position	55,542,313,000
3. Net Pension Liability (1. - 2.)	\$ 33,313,433,767
4. Funded Ratio (GASB Basis) (2. / 1.)	62.5%
<b>Sensitivity Analysis for 1.0% Reduction in Interest Rate</b>	
1. Increase in Total Pension Liability	11.3%
2. Increase in Net Pension Liability	37.1%
3. Decrease in Funded Ratio	7.1%

<sup>1</sup> As disclosed in the fiscal year 2016 report for GASB 67/68, dated October 11, 2016.

### Inflation Risk

NYCERS faces risk in the event that inflation is higher than expected. Inflation is a key driver of the salary increase assumptions (affecting active members) and COLA assumptions (affecting both active members and pensioners/beneficiaries). This risk is not currently quantified but should be considered in future years.

### Longevity Risk

NYCERS faces risk in its assumption of future mortality rates. Actuarial experience studies were used to develop the base mortality rates assumed in the valuation; Society of Actuaries mortality improvement scale MP-2015 was subsequently applied to these base rates.<sup>1</sup>

This scale MP-2015 is an assumption regarding the *improvement* of future mortality rates as compared to mortality when the experience studies were completed. The scale was developed using large amounts of historical data from the Social Security Administration. Risk therefore exists that the mortality improvement inherent in the Plan population is higher than the improvement seen in the population provided by the Social Security Administration.

Furthermore, while the scale uses recent experience to develop short-term mortality improvement rates, an actuarial assumption is applied to long-term mortality improvement rates based on expert opinion. A rate of 1.0% is assumed, which the Society of Actuaries characterizes as “neither overly optimistic nor too pessimistic with respect to future longevity improvements.”<sup>2</sup> Risk to the Plan exists, however, if Plan mortality experience shows higher levels of long-term mortality improvement; expert opinion can in some cases be flawed, particularly when past experience is not indicative or predictive of future experience.

This longevity risk is not currently quantified but should be considered in future years.

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<sup>1</sup> Retirement Plans Experience Committee. “Mortality Improvement Scale MP-2015 Report” and “Mortality Improvement Scale MP-2014 report.” *Society of Actuaries*.

<sup>2</sup> Retirement Plans Experience Committee. “Mortality Improvement Scale BB Report” 5.5 Selection of 1.0% Long-Term Rate of Mortality Improvement. *Society of Actuaries*.

## Low Risk Types

### Credit/Solvency Risk

All public pension systems face credit risk in the event their sponsoring entities become unable to pay their debts and obligations. Credit rating agencies currently consider New York City bonds to be of high quality, and the Actuary believes the City and NYCERS face low solvency risk.

### Contribution Risk

Many public pension systems suffer from high contribution risk, wherein sponsoring governmental entities fail to make contributions as determined by the actuary under their funding policies. A recent study found that in 2010, the Annual Required Contribution<sup>1</sup> was not made for over 35% of the 110 public plans in the study.<sup>2</sup>

The New York City Retirement Systems and Pension Funds face low contribution risk. City benefits are constitutionally protected, and participating employers have generally historically contributed the actuarial contribution as certified by the Actuary. The Actuary believes the City will continue to do so in future years. See Table III-5 Actuarial and Statutory Contribution History risk may also increase in future years as the actuarial contribution determined for the Plan grows to be a larger part of the City budget. The five New York City Retirement Systems and Pension Funds currently require contributions of over 10% of the City's annual budget, and contribution risk may increase if this contribution rate becomes untenable.

### Agency Risk

Because of the long-term asset returns and the gradual amortization of unfunded liabilities, the long-term funded status of the Plan is expected to improve. Many public pension systems suffer from agency risk, wherein different stakeholders or agents want to influence the cost calculations in directions favorable to their interests. Agents may also downplay other risks (e.g. investment risk) to advance specific agendas.

In future years of higher funded status, this may become a higher risk to the Plan, as current taxpayers and plan members may receive preferential treatment over future taxpayers and plan members when considering changes in statute and plan provisions.

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<sup>1</sup> As defined at the time in GASB 25/27.

<sup>2</sup> Shnitser, Natalya. "Funding Discipline for U.S. Public Pension Plans: An Empirical Analysis of Institutional Design." *Iowa Law Review*, Vol. 100 (2015).



## SECTION IX – SUMMARY OF PLAN PROVISIONS

### A. Covered Employment

Membership in NYCERS is open to all employees of participating employers who are not eligible for membership in another retirement system. Membership in NYCERS may be voluntary or mandated. Participating Employers include the following:

<b>Employer</b>	<b>Abbreviation</b>
City of New York	NYC
City University of New York	CUNY
NYC Health and Hospitals Corporation	HHC
NYC Housing Authority	HA
NYC Housing Development Corporation	HDC
NYC Municipal Water Finance Authority	WFA
NYC School Construction Authority	SCA
NYC Transit Authority	TRN
NYC Triborough Bridge and Tunnel Authority	TBTA

NYCERS contains benefit plans that are grouped as follows:

<b>Group</b>	<b>Eligible Employees</b>	<b>Abbreviation</b>
General (GEN)	District Attorney Investigators	DAI
	Emergency Medical Technicians	EMT
	Fire Alarm Dispatchers	FAD
	Employed in a job title for special peace officers	SPO
	Employed in a job title for automotive service work	AUT
	Deputy Sheriffs	DSH
	Police Communication Technicians	PCT
	All others	OTH
Sanitation	Members of the uniformed force of the NYC Dept. of Sanitation (Uniformed Sanitation Force)	SAN
Transit	Employed in a Transit Operating Force position	TRN
TBTA	TBTA Officers, Sergeants, and Lieutenants employed in non-managerial positions	TBTA
Correction Officers	Members of the uniformed force of the NYC Dept. of Correction (Uniformed Correction Force)	COR

### B. Tier Membership

Tier membership is based on the date that the member joined NYCERS. The tier status of earlier membership in NYCERS or another New York City or New York State public employee retirement system is reflected, but only if the service associated with that membership is purchased and included in Credited Service.

<b>All Groups Except Correction Officers</b>	<b>Correction Officers</b>
<b>Tier 1:</b> Prior to July 1, 1973	<b>Tier 1:</b> Prior to July 1, 1973
<b>Tier 2:</b> July 1, 1973 through July 26, 1976	<b>Tier 2:</b> July 1, 1973 through July 26, 1976
<b>Tier 4:</b> July 27, 1976 through March 31, 2012. Members who joined before September 1, 1983 may elect certain grandfathered Tier 3 benefits.	<b>Tier 3:</b> July 27, 1976 through March 31, 2012
<b>Tier 6:</b> April 1, 2012	<b>Tier 6:</b> April 1, 2012

Unless otherwise noted, Tier 1 and Tier 2 provisions are hereafter omitted for brevity, as well as Tier 3 provisions for all groups other than Correction Officers.<sup>1</sup> Certain plans applicable to DAI, SAN, and COR Tier 6 members are denoted as Uniformed Tier 6 plans and DAI, SAN, and COR Tier 6 members are denoted as Uniformed Tier 6 members.

For more information about benefits, see the applicable summary plan descriptions. In the event of a conflict between this summary and applicable law, the applicable laws will govern.

### C. Basic Member Contributions

Basic Member Contributions (BMC) earn 5% per year interest compounded annually.

For COR Tier 3 members, all Tier 4 members, and Uniformed Tier 6 members, BMC details are shown in the table below:

<b>Group/Plan(s)</b>	<b>Contribution Rate</b>	<b>Period</b>
TRN 55/25 Tier 4 plans	2.0%	All service
Tier 3 and all other Tier 4 plans	3.0%	The first 10 years of service
Uniformed Tier 6 plans	3.0%	The first 25 years of service

For Tier 6 members other than Uniformed Tier 6 members, BMCs are made for all years of Credited Service according to the following schedule:

<b>Lookback Wages</b>	<b>BMC Contribution Rate</b>
Less than \$45,000	3.00%
\$45,000 up to \$55,000	3.50%
\$55,000 up to \$75,000	4.50%
\$75,000 up to \$100,000	5.75%
Greater than \$100,000	6.00%

<sup>1</sup> Approximately 0.5% of active members as of June 30, 2016 are members of Tier 1 and Tier 2.

The lookback wages used for determining the Tier 6 BMC contribution rate for a plan year are the actual wages earned two plan years prior to the plan year. A projected salary is used during the first 3 years of Credited Service. The BMC contribution rate was limited to 3% from April 1, 2012 through March 31, 2013.

#### D. Additional Member Contributions

Additional Member Contributions (AMC) including Additional Member Contributions for work in physically taxing employment (AMC-PT) earn 5% per year interest compounded annually. The AMC contribution rate as a percentage of Salary varies by plan in accordance with the following table:

Plan Description	AMC Rate	Years Required
Ch 96 55/25 plans	1.85% <sup>1</sup>	30
Ch 96 57/5 plans		
EMT 25-year plans	6.25%	30
FAD 25-year plans	6.00%	
PCT 25-year plans	6.00%	
DSH 25-year plans	6.75%	
SPO 25-year plans	6.25%	
AUT 25-year plans	4.83%	
SAN Tier 4	5.35%	20
SAN Tier 6 22-year revised plan	1.30%	25
COR Tier 3 20-year plan <sup>2</sup>	3.61% or 4.61%	20
COR Tier 6 22-year revised plan	0.80%	25
TBTA 50/20 plans <sup>2</sup>	5.50% or 6.00%	20
All others	None	N/A

#### E. Credited Service

Credited Service is comprised of Membership Service, Previous Service, Transferred Service, Part-time Service, and Military Service.

- Membership Service is service earned while a member of NYCERS.
- Previous Service is service earned prior to membership while employed by the City of New York, the State of New York, or any of its political subdivisions, or by another covered employer.
- Transferred Service is service earned as a member of another public retirement system in the City or State of New York.

<sup>1</sup> Members in physically-taxing classifications contribute 1.98% more.

<sup>2</sup> Contribution rate depends on member's job title.

- Military Service is service for qualified time served in one of the armed forces of the United States.
- Part-time Service is service that is prorated based on the number of hours or days worked in the year.

Previous Service, Transferred Service, and Military Service must be purchased to count as Credited Service. Payments made for purchasing Military Service are considered Employer contributions.

## **F. Salary**

Salary is based on the annual wages earned in covered employment including overtime pay. Some limitations apply for the Salary used to determine Final Average Salary.

**Tier 4:** Wages greater than 110% of the average of the previous two years are excluded for purposes of determining Final Average Salary.

**Tier 6:** Wages greater than 110% of the average of the previous four years are excluded for purposes of determining Final Average Salary. In addition, the following payments are also excluded from wages for purposes of determining Final Average Salary:

1. Wages greater than the annual salary paid to the Governor of the State of New York;
2. Lump sum payments for deferred compensation, sick leave, accumulated vacation or other credits for time not worked;
3. For Tier 6 members who are not Uniformed Tier 6 members, overtime greater than the overtime ceiling of \$15,000, effective April 1, 2012 and indexed annually by the Consumer Price Index (CPI-U);
4. Any form of termination pay;
5. Any additional compensation paid in anticipation of retirement; and
6. In the case of employees who receive wages from three or more employers in a twelve-month period, the wages paid by the third and each successive employer.

## **G. Final Average Salary**

Service retirement, early retirement, disability retirement and vested retirement benefits are based on Final Average Salary (FAS).

**Tier 4:** FAS is the highest average Salary earned in any three consecutive years or in the final 36 months of employment if greater.

**Tier 6:** FAS is the highest average Salary earned in any five consecutive years or in the final 60 months of employment if greater.

**H. Service Retirement**

1. Eligibility: The eligibility requirements for an unreduced service retirement are summarized in the table below:

<b>Tier(s)</b>	<b>Plan Description</b>	<b>Minimum Age</b>	<b>Minimum Service</b>
3	COR 20-year plan	N/A	20
3	COR 25-year plan	N/A	25
3	COR Basic 62/5 plan	62	5
4	Basic 62/5 plan	62	5
4	Chapter 96 55/25 plan <sup>1</sup>	55	25
4	Chapter 96 57/5 plan <sup>1</sup>	57	5
4	SAN Tier 4 regular	55	30
4	SAN 20-year plan	N/A	20
4 & 6	EMT, FAD, SPO, DSH, and PCT 25-year plans	N/A	25
4 & 6	AUT 25-year/age 50 plans	50	25
4 & 6	TRN 25-year/age 55 plans	55	25
4 & 6	TBT 20-year/age 50 plans	50	20
6	Uniformed plans	N/A	20
6	Basic 63/10 plan	63	10

Uniformed Tier 6 members are entitled to benefit escalation (defined elsewhere in this summary) if they work past 23 years, with full escalation applicable after 25 years of service.

2. Benefits:

<b>Tier</b>	<b>Plan Description</b>	<b>Benefit Formula</b>
4	Basic 62/5 plan	<u>If less than 20 years of Credited Service:</u> 1/60 times FAS times Credited Service <u>If 20 or more years of Credited Service:</u> Sum of 2.0% times FAS times Credited Service up to 30 years plus 1.5% times FAS times Credited Service greater than 30 years
4	Chapter 96 55/25	
4	Chapter 96 57/5	
4	SAN Tier 4 regular	
4 & 6	TRN 55/25 plan	

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<sup>1</sup> Members of Chapter 96 55/25 and 57/5 who work in a physically taxing employment are eligible for unreduced service retirement at age 50 with 25 years of service.

<b>Tier</b>	<b>Plan Description</b>	<b>Benefit Formula</b>
4	SAN 20-year plan	2.5% times FAS times Credited Service up to 20 years, plus 1.5% times Final Compensation <sup>1</sup> times additional Credited Service up to 10 more years
4 & 6	EMT, FAD, SPO, AUT, and PCT 25-year plans	2.0% times FAS times Credited Service up to 30 years
4 & 6	DSH 25-year plan	2.2% times FAS times Credited Service up to 25 years, plus 1.7% times FAS times additional Credited Service up to 5 more years
4 & 6	TBT 50/20 plan	2.5% times FAS times Credited Service up to 20 years, plus 1.5% times FAS times additional Credited Service up to 10 more years
3	COR 20-year plan	2.5% times FAS times Credited Service up to 20 years, plus 1.67% times FAS times additional Credited Service up to 10 more years
3	COR 25-year plan	50% times FAS
3	COR 62/5 plan	<u>If less than 20 years of Credited Service:</u> 1/60 times FAS times Credited Service Minus 50% of your Primary Social Security Benefit <u>If 20 or more years of Credited Service:</u> Sum of 2.0% times FAS times Credited Service up to 30 years Minus 50% of your Primary Social Security Benefit
6	Uniformed plans	2.1% times FAS times Credited Service up to 20 years, plus 4.0% times FAS times additional Credited Service up to 2 more years
6	Basic 63/10 plan	<u>If less than 20 years of Credited Service:</u> 1/60 times FAS times Credited Service <u>If 20 or more years of Credited Service:</u> 35% times FAS plus 2.0% times FAS times Credited Service greater than 20 years

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<sup>1</sup> Final Compensation here means FAS5 without the limitation that no year exceed 110% of the prior four-year average.

## I. Early Retirement

1. Eligibility: Not all plans provide for early retirement. However, certain participants may be eligible to elect early retirement under the Tier 3, Tier 4, or Tier 6 Basic plan. The eligibility requirements for early retirement plans are summarized in the table below:

<b>Tier</b>	<b>Plan Description</b>	<b>Minimum Age</b>	<b>Minimum Service</b>
3	COR Tier 3 Basic 62/5 Plan	55	5
4	Basic 62/5 plan	55	5
6	Basic 63/10 plan	55	10

2. Benefits:

The service benefit is reduced for early retirement based on the age at commencement.

- a. COR Tier 3 Basic 62/5 Plan:

The service retirement benefit is reduced by 1/180 for each of the first 24 months that the age at commencement precedes age 62, and further reduced 1/360 for each of the next 60 months that the age of commencement precedes age 60.

- b. Tier 4 Basic 62/5 Plan:

The service retirement benefit is reduced by 0.50% for each of the first 24 months that the age at commencement precedes age 62, and further reduced 0.25% for each of the next 60 months that the age of commencement precedes age 60. Tier 4 members with Tier 3 rights may elect early retirement based on the provisions of the Tier 3 Basic 62/5 Plan.

- c. Tier 6 Basic 63/10 Plan:

The service retirement benefit is reduced by 13/2400 for each month that the age of commencement precedes age 63.

## **J. Disability Retirement**

### 1. Accidental Disability (ADR)

- a. Eligibility: Accident in the performance of duties while a member.
- b. Benefits:
  - i. Most plans and most members: Greater of  $1/60$  times FAS times Credited Service or  $1/3$  times FAS. The member may elect a service retirement benefit, if eligible.
  - ii. Emergency medical technicians, deputy sheriffs, SAN Tier 6 22-year revised plan members, and COR Tier 6 22-year revised plan members:  $75\% \times \text{FAS}$

### 2. Ordinary Disability (ODR)

- a. Eligibility: 10 years of Credited Service and Accident while not in performance of duties.
- b. Benefits: Greater of  $1/60$  times FAS times Credited Service or  $1/3$  times FAS. The member may elect a service retirement benefit, if eligible.

## **K. Death Benefits**

### 1. Accidental Death Benefits – Active Members

- a. Eligibility: Death due to the performance of duties while an active member.
- b. Benefits: A monthly pension is payable to the beneficiary equal to 50% of  $1/12$  of annual wages earned during the year prior to death. The benefit is based on 50% of  $1/12$  of the annual wage rate if the member had less than one year of Credited Service.

### 2. Ordinary Death Benefits – Active and Terminated Vested Members

- a. Eligibility for active members: Death while not in the performance of duties.
- b. Eligibility for terminated vested members: 10 years of Credited Service.



- c. Death benefit for active members and members who retired from active service:

Refund of BMC and the employee portion of AMC with interest plus a salary-based death benefit. The salary-based death benefit is equal to one year's wages times completed years of Credited Service up to 3 years times an Adjustment Factor described in the table below:

<b>Year of Death</b>	<b>Adjustment Factor</b>
Pre-retirement	100%
Post-retirement - 1 <sup>st</sup> year	50%
Post-retirement - 2 <sup>nd</sup> year	25%
Post-retirement - 3 <sup>rd</sup> year and from then on	10% times the benefit in effect at age 60 or at retirement if earlier

The pre-retirement death benefit and post-retirement death benefit for the first two years of retirement are also reduced by another adjustment factor that is equal to 100% minus 5% times the lesser of 10 years and the number of years by which the age at commencement exceeds 60.

- d. Death benefit for terminated vested members and members who retired from terminated vested status:

Refund of BMC and the employee portion of AMC, if any, plus one half of the salary-based death benefit applicable to active and retired members described above.

- e. Form of Payment: Lump sum.

## **L. Vested Retirement After Termination**

- 1. Eligibility:

Tier 4 plans: 5 years of Credited Service.

Tier 6 plans: 10 years of Credited Service.

- 2. Benefits:

Tier 4 EMT, FAD, SPO, DSH, AUT, PCT 25-year plans: The service retirement benefit is payable when the member would have earned 25 years of Credited Service if he or she had continued working in covered employment.

All other Tier 4 plans: The service retirement benefit is payable at age 62.

Uniformed Tier 6 Plans: The service retirement benefit is payable when the member would have earned 20 years of Credited Service if he or she had continued working in covered employment.

Tier 6 Plans other than Uniformed Tier 6 Plans: The service retirement benefit is payable at age 63.

The benefit is not less than the annuity equivalent of the Basic Member Contributions.

## **M. Forms of Payment**

1. Normal Form of Payment: Single Life Annuity
2. Optional Forms of Payment: Joint and Survivor Annuities, Certain and Life Annuities, and Pop-up Annuities

Optional forms of payment are subject to actuarial reduction. The unreduced amount of the Normal Form is known as the maximum retirement allowance.

## **N. Cost of Living Adjustments (COLA)**

Annuity payments are increased annually on September 1<sup>st</sup>, but only after a pensioner has attained the applicable eligibility threshold. Some beneficiaries are not eligible for COLA increases. The COLA increase is equal to a base benefit times a COLA percentage. The COLA increase for a spouse receiving a joint & survivor annuity is one half of the COLA increase that would have been applicable to the member had he or she survived.

1. Eligibility Thresholds:
  - a. Service Retirement and Vested Retirement: The earlier of (i) and (ii):
    - i. Attainment of age 62 and 5 years since commencement
    - ii. Attainment of age 55 and 10 years since commencement
  - b. Disability Retirement: 5 years since commencement
  - c. Beneficiaries of an Accidental Death benefit: 5 years since commencement
2. Eligible beneficiaries: Spouses receiving a joint & survivor annuity. All others are non-eligible.
3. Base Benefit: The lesser of \$18,000 and the maximum retirement allowance plus the sum of prior years' COLA increases.

4. COLA percentage: 50% of the Consumer Price Index (CPI-U), not less than 1.0% and not greater than 3.0%.

## **O. Refund of Member Contributions**

Basic Member Contributions (BMC) and Additional Member Contributions (AMC) are refunded with interest under some circumstances. AMC include Additional Member Contributions for work in physically taxing employment (AMC-PT). Only the employee portion of AMC is refunded.

1. Non-vested termination: BMC and AMC are refunded with interest.
2. Vested termination: A member may elect a refund of BMC and AMC with interest in lieu of a pension benefit, but only if he or she has less than 10 years of Credited Service. A member of one of the Special Officers 25-year plans may elect a refund of AMC in lieu of remaining in the Special Officers 25-year plan if he or she terminates prior to earning 15 years of Credited Service as a special officer.
3. Ordinary death: BMC and the employee portion of AMC are refunded with interest.
4. Accidental death: The employee portion of AMC are refunded with interest.
5. Disability Retirement: The employee portion of AMC are refunded with interest.
6. Service Retirement: The employee portion of AMC including AMC-PT are refunded with interest if the member retires on or after age 62. For retirement prior to age 62, employee portion of AMC-PT are refunded if a member of the Chapter 96 55/25 plan retires on or after age 55 with 25 years of Credited Service or if a member of the Chapter 96 57/5 plan retires on or after age 57 with 25 years of Credited Service.
7. A member of one of the EMT, FAD, SPO, DSH plans may elect a refund of AMC in lieu of remaining in their respective 25-year plan if he retires prior to earning 15 years of Credited Service as a member of their respective 25-year plan. A member of one of the AUT, PCT plans may elect a refund of AMC in lieu of remaining in their respective 25-year plan if he or she retires prior to earning 5 years of Credited Service as a member of their respective 25-year plan.
8. Employee Portion of AMC: The employee portion of AMC is 50% for all plans that require AMC except that the employee portion is 100% for the Special Officers plans.

**P. Service and Early Retirement for General OTH, DAI and TRN Tier 1 and Tier 2 Members -**

1. Eligibility:

- a. General OTH Plans: Age 55 for Tier 1. Age 55 and 5 years of Credited Service for Tier 2.
- b. DAI 20-Year Plan: 20 years of Credited Service.
- c. DAI 25-Year Plan: 25 years of Credited Service.
- d. TRN Plans: Age 50 and 20 years of Credited Service for Tier 1. Age 55 and 25 years of Credited Service for Tier 2.

2. Benefits:

- a. General OTH Plans:
    - i. 55% times Final Average Salary, plus 1.70% times Final Average Salary times Credited Service greater than 25 years plus the annuity equivalent of employee contributions in excess of required contributions for 25 or more years of Credited Service; **or**
    - ii. 1.20% times Final Average Salary times Credited earned prior to 7/1/1968 plus 1.53% times Final Average Salary times Credited Service earned from 7/1/1968 plus the annuity equivalent of employee contributions for less than 25 years of Credited Service.
  - b. DAI 25-Year Plan: 55% times Final Average Salary, plus 1.70% times Final Average Salary times Credited Service greater than 25 years (for up to 7 years) plus the annuity equivalent of employee contributions in excess of required contributions for 25 or more years of Credited Service.
  - c. DAI 20-Year Plan: 50% times Final Average Salary, plus 1.67% times Salary for each year of Credited Service greater than 20 years (for up to 12 years) plus the annuity equivalent of employee contributions in excess of required contributions for 25 or more years of Credited Service.
  - d. TRN Plans: 50% times Final Average Salary, plus 1.50% times Final Average Salary times Credited Service greater than 20 years.
3. Final Average Salary: 1-year final average salary for Tier 1 members and 3-year final average salary for Tier 2 members.
4. Early Retirement: Tier 2 benefits are reduced for early commencement prior to age 62 based on the same factors applicable to the Basic Tier 4 62/5 plan.

5. Cost of Living Adjustments: Retirement benefits are increased by the same COLA applicable to Tier 4 retirement benefits.

**Q. Service and Early Retirement for Tier 4 Members with Tier 3 Rights**

1. Eligibility: Age 55 and 5 years of Credited Service.
2. Benefits: Tier 4 members with Tier 3 rights may elect a Tier 3 benefit instead of a Tier 4 benefit. The benefit formula for Tier 3 is the same as the benefit formula for the Tier 4 Basic 62/5 plan except that (1) Credited Service under the Tier 3 benefit formula is capped at 30 years, (2) the Tier 3 benefit formula includes an offset starting at age 62 equal to 50% of the Primary Social Security benefit, and (3) the Tier 3 reduction factors for early commencement are less than the factors applicable to the Basic Tier 4 62/5 plan.
3. Cost of Living Adjustments:
  - a. COLA: The COLA provisions applicable to Tier 4 retirement benefits are not applicable to Tier 3 retirement benefits.
  - b. Escalation: Tier 3 retirement benefits may be adjusted annually by escalation.
    - i. Full Escalation: Benefits commencing on or after age 65 are eligible. It is equal to the lesser of 3% and the Consumer Price Index (CPI-U) for positive increases in the CPI-U and the greater of -3% and the Consumer Price Index (CPI-U) for negative increases in the CPI-U.
    - ii. Partial Escalation: Applicable for benefits commencing after age 62. It is equal to full escalation reduced by 1/36 times the number of months that the age at commencement precedes age 65. A Tier 3 retirement benefit cannot be less than the Tier 3 retirement benefit without escalation.

**R. Loans**

A member may borrow up to 75% of the accumulated Basic Member Contributions with interest. A member's unpaid loan balance will reduce his or her retirement benefit.

**S. Changes Since the Prior Valuation**

None.

## SECTION X - CHAPTER AMENDMENTS

The June 30, 2016 (Lag) actuarial valuation results reflect the following Chapter amendments from the prior five years.

- **Chapter 457 of the Laws of 2017** (Chapter 457/17) provided Special Accidental Death Benefits for eligible beneficiaries of Sanitation members pursuant to Section 208(f) of the General Municipal Law.
- **Chapter 41 of the Laws of 2016** (Chapter 41/16) provides up to three years of service credit to members of public retirement systems of the State of New York for military service. Chapter 41/16 removes the requirement that such military service occur during specified periods of hostilities. This law will be reflected in future valuations as participants request military service credit.
- **Chapter 438 of the Laws of 2016** (Chapter 438/16), enacted on November 14, 2016, amended Retirement and Social Security Law Section 43 to eliminate restrictions upon transferring between public retirement systems.
- **Chapter 510 of the Laws of 2015** (Chapter 510/15), clarifies for Tier 6 the definition of multiple employers for the purpose of exclusion of wages and changes the plan year for contributions from plan year April 1 to March 31 to plan year January 1 to December 31.
- **Chapter 427 of the Laws of 2014** (Chapter 427/14), amended Military Law Section 243-d, effective November 4, 2014, to provide non-contributory retirement service credit for members of the New York City Retirement Systems called to active military duty on or after September 11, 2001 and prior to January 1, 2006 who did not receive his or her full salary from a participating employer and is otherwise eligible to receive retirement service credit for such service.
- **Chapter 489 of the Laws of 2013** (Chapter 489/13) addressed limitations in existing disability provisions intended to protect public employees who suffered injuries or illnesses in WTC rescue, recovery, and cleanup operations.
- **Chapter 3 of the Laws of 2013** (Chapter 3/13), effective retroactive to July 1, 2011, enacted those 2012 A&M that require State legislation.
- **Chapter 18 of the Laws of 2012** (Chapter 18/12), placed certain limitations on the Tier 3 and Tier 4 benefits available to participants hired on and after April 1, 2012 in most New York State Public Employee Retirement Systems, including NYCERS, and is generally referred to as Tier 6.

## SECTION XI – SUBSEQUENT EVENTS

In February 2017, the City engaged Bolton to perform an actuarial audit of the five New York City Retirement Systems and Pensions Funds, serving as the Independent Actuary under Section 96 of the New York City Charter. The engagement includes, but is not limited to, contribution audits, experience studies, and administrative reviews of each system. Bolton released their reports for the actuarial audit on June 4, 2019. In conjunction with the findings, the Actuary issued a Report entitled, “Proposed Changes in Actuarial Assumptions and Methods Used in Determining Employer Contributions for Fiscal Years Beginning on and After July 1, 2018 for the New York City Employees’ Retirement System,” dated December 31, 2018. The actuarial assumptions and methods described in that report were adopted by the Board of Trustees at the February 14, 2019 Board meeting and are referred to as the “2019 A&M.” Note that this valuation report does not reflect the new 2019 A&M.

Approximately 2,900 NYCERS participants who transferred into NYCERS from other retirement systems were coded as members that had transferred out of NYCERS and hence were not included in the data used by the Office of the Actuary. The cost for these participants will be included in the Fiscal Year 2019 Employer Contribution.

## SECTION XII - ACTUARIAL ASSUMPTIONS AND METHODS

The February 10, 2012 report entitled, "Proposed Changes in Actuarial Assumptions and Methods For Determining Employer Contributions For Fiscal Years Beginning on and After July 1, 2011 For the New York City Employees' Retirement System" contains the 2012 A&M.

A memorandum dated December 3, 2015 to the Board of Trustees of NYCERS contains the revised probabilities of post-retirement mortality beginning with the June 30, 2014 (Lag) actuarial valuation.

In addition, beginning with the June 30, 2014 (Lag) actuarial valuation, the AVA is constrained to be within a corridor of 80% to 120% of market value.

The 2012 A&M, including the above changes to the probabilities of post-retirement mortality and the introduction of the AVA corridor, are referred to as the 2016 A&M.

The actuarial assumptions and a description of the actuarial methods follow.



**Table XII-1**  
**Active Retirement Rates**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM							
PROBABILITIES OF SERVICE RETIREMENT: GENERAL							
Age	Reduced Service Retirement	Unreduced Service Retirement For Members Who Did Not Elect an Improved Retirement Program			Unreduced Service Retirement For Members Who Did Elect an Improved Retirement Program		
		Year 1	Year 2	Ultimate	Year 1	Year 2	Ultimate
19	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
20	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
21	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
22	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
23	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
24	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
25	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
26	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
27	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
28	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
29	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
30	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
31	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
32	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
33	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
34	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
35	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
36	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
37	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
38	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
40	0.00%	20.00%	0.00%	0.00%	40.00%	0.00%	0.00%
41	0.00%	20.00%	15.00%	0.00%	40.00%	20.00%	0.00%
42	0.00%	20.00%	15.00%	10.00%	40.00%	20.00%	15.00%
43	0.00%	20.00%	15.00%	10.00%	40.00%	20.00%	15.00%
44	0.00%	20.00%	15.00%	10.00%	40.00%	20.00%	15.00%
45	0.00%	20.00%	15.00%	10.00%	40.00%	20.00%	15.00%
46	0.00%	20.00%	15.00%	10.00%	40.00%	20.00%	15.00%
47	0.00%	20.00%	15.00%	10.00%	40.00%	20.00%	15.00%
48	0.00%	20.00%	15.00%	10.00%	40.00%	20.00%	15.00%
49	0.00%	20.00%	15.00%	10.00%	40.00%	20.00%	15.00%
50	0.00%	20.00%	15.00%	10.00%	40.00%	20.00%	15.00%
51	0.00%	20.00%	15.00%	10.00%	40.00%	20.00%	15.00%
52	0.00%	20.00%	15.00%	10.00%	40.00%	20.00%	15.00%
53	0.00%	20.00%	15.00%	10.00%	40.00%	20.00%	15.00%
54	0.00%	20.00%	15.00%	10.00%	40.00%	20.00%	15.00%
55	2.00%	20.00%	15.00%	10.00%	40.00%	20.00%	15.00%
56	2.00%	20.00%	15.00%	10.00%	40.00%	20.00%	15.00%
57	2.00%	20.00%	15.00%	10.00%	40.00%	20.00%	15.00%
58	2.00%	20.00%	15.00%	10.00%	40.00%	20.00%	15.00%
59	3.00%	20.00%	15.00%	10.00%	40.00%	20.00%	15.00%
60	4.00%	20.00%	15.00%	10.00%	40.00%	20.00%	15.00%
61	5.00%	20.00%	15.00%	15.00%	40.00%	20.00%	15.00%
62	0.00%	30.00%	25.00%	20.00%	60.00%	25.00%	25.00%
63	0.00%	20.00%	15.00%	15.00%	40.00%	20.00%	20.00%
64	0.00%	20.00%	15.00%	15.00%	40.00%	20.00%	20.00%
65	0.00%	30.00%	25.00%	20.00%	60.00%	25.00%	25.00%
66	0.00%	20.00%	15.00%	15.00%	40.00%	20.00%	20.00%
67	0.00%	20.00%	15.00%	15.00%	40.00%	20.00%	20.00%
68	0.00%	20.00%	15.00%	15.00%	40.00%	20.00%	20.00%
69	0.00%	20.00%	15.00%	15.00%	40.00%	20.00%	20.00%
70+	NA	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

**Table XII-1**  
**Active Retirement Rates (cont'd)**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM							
PROBABILITIES OF SERVICE RETIREMENT: CORRECTION							
Age	Reduced Service Retirement	Unreduced Service Retirement For Members Who Did Not Elect an Improved Retirement Program			Unreduced Service Retirement For Members Who Did Elect an Improved Retirement Program		
		Year 1	Year 2	Ultimate	Year 1	Year 2	Ultimate
19	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
20	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
21	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
22	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
23	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
24	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
25	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
26	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
27	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
28	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
29	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
30	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
31	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
32	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
33	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
34	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
35	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
36	0.00%	60.00%	0.00%	0.00%	70.00%	0.00%	0.00%
37	0.00%	60.00%	20.00%	0.00%	70.00%	20.00%	0.00%
38	0.00%	60.00%	20.00%	20.00%	70.00%	20.00%	20.00%
39	0.00%	60.00%	20.00%	20.00%	70.00%	20.00%	20.00%
40	0.00%	60.00%	20.00%	20.00%	70.00%	20.00%	20.00%
41	0.00%	60.00%	20.00%	20.00%	70.00%	20.00%	20.00%
42	0.00%	60.00%	20.00%	20.00%	70.00%	20.00%	20.00%
43	0.00%	60.00%	20.00%	20.00%	70.00%	20.00%	20.00%
44	0.00%	60.00%	20.00%	20.00%	70.00%	20.00%	20.00%
45	0.00%	60.00%	20.00%	20.00%	70.00%	20.00%	20.00%
46	0.00%	60.00%	20.00%	20.00%	70.00%	20.00%	20.00%
47	0.00%	60.00%	20.00%	20.00%	70.00%	20.00%	20.00%
48	0.00%	60.00%	20.00%	20.00%	70.00%	20.00%	20.00%
49	0.00%	60.00%	20.00%	20.00%	70.00%	20.00%	20.00%
50	0.00%	60.00%	20.00%	20.00%	70.00%	20.00%	20.00%
51	0.00%	60.00%	20.00%	20.00%	70.00%	20.00%	20.00%
52	0.00%	60.00%	20.00%	20.00%	70.00%	20.00%	20.00%
53	0.00%	60.00%	20.00%	20.00%	70.00%	20.00%	20.00%
54	0.00%	60.00%	20.00%	20.00%	70.00%	20.00%	20.00%
55	2.00%	60.00%	20.00%	20.00%	70.00%	20.00%	20.00%
56	2.00%	60.00%	20.00%	20.00%	70.00%	20.00%	20.00%
57	2.00%	60.00%	20.00%	20.00%	70.00%	20.00%	20.00%
58	2.00%	60.00%	20.00%	20.00%	70.00%	20.00%	20.00%
59	3.00%	60.00%	20.00%	20.00%	70.00%	20.00%	20.00%
60	4.00%	60.00%	20.00%	20.00%	70.00%	20.00%	20.00%
61	5.00%	60.00%	30.00%	30.00%	70.00%	30.00%	30.00%
62	0.00%	60.00%	40.00%	40.00%	70.00%	40.00%	40.00%
63+	NA	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

**Table XII-1**  
**Active Retirement Rates (cont'd)**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM							
PROBABILITIES OF SERVICE RETIREMENT: SANITATION							
Age	Reduced Service Retirement	Unreduced Service Retirement For Members Who Did Not Elect an Improved Retirement Program			Unreduced Service Retirement For Members Who Did Elect an Improved Retirement Program		
		Year 1	Year 2	Ultimate	Year 1	Year 2	Ultimate
19	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
20	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
21	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
22	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
23	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
24	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
25	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
26	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
27	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
28	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
29	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
30	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
31	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
32	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
33	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
34	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
35	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
36	0.00%	40.00%	0.00%	0.00%	40.00%	0.00%	0.00%
37	0.00%	40.00%	20.00%	0.00%	40.00%	20.00%	0.00%
38	0.00%	40.00%	20.00%	20.00%	40.00%	20.00%	15.00%
39	0.00%	40.00%	20.00%	20.00%	40.00%	20.00%	15.00%
40	0.00%	40.00%	20.00%	20.00%	40.00%	20.00%	15.00%
41	0.00%	40.00%	20.00%	20.00%	40.00%	20.00%	15.00%
42	0.00%	40.00%	20.00%	20.00%	40.00%	20.00%	15.00%
43	0.00%	40.00%	20.00%	20.00%	40.00%	20.00%	15.00%
44	0.00%	40.00%	20.00%	20.00%	40.00%	20.00%	15.00%
45	0.00%	40.00%	20.00%	20.00%	40.00%	20.00%	15.00%
46	0.00%	40.00%	20.00%	20.00%	42.00%	20.00%	15.00%
47	0.00%	40.00%	20.00%	20.00%	44.00%	20.00%	15.00%
48	0.00%	40.00%	20.00%	20.00%	46.00%	20.00%	15.00%
49	0.00%	40.00%	20.00%	20.00%	48.00%	20.00%	15.00%
50	0.00%	40.00%	20.00%	20.00%	50.00%	20.00%	15.00%
51	0.00%	40.00%	20.00%	20.00%	52.00%	20.00%	15.00%
52	0.00%	40.00%	20.00%	20.00%	54.00%	20.00%	15.00%
53	0.00%	40.00%	20.00%	20.00%	56.00%	20.00%	15.00%
54	0.00%	40.00%	20.00%	20.00%	58.00%	20.00%	15.00%
55	2.00%	40.00%	20.00%	20.00%	60.00%	20.00%	15.00%
56	2.00%	40.00%	20.00%	20.00%	60.00%	20.00%	16.00%
57	2.00%	40.00%	20.00%	20.00%	60.00%	20.00%	17.00%
58	2.00%	40.00%	20.00%	20.00%	60.00%	20.00%	18.00%
59	3.00%	40.00%	20.00%	20.00%	60.00%	20.00%	19.00%
60	4.00%	40.00%	20.00%	20.00%	60.00%	20.00%	20.00%
61	5.00%	40.00%	30.00%	30.00%	60.00%	30.00%	25.00%
62	0.00%	60.00%	40.00%	40.00%	60.00%	40.00%	30.00%
63	0.00%	40.00%	30.00%	30.00%	40.00%	30.00%	20.00%
64	0.00%	40.00%	30.00%	30.00%	40.00%	30.00%	20.00%
65	0.00%	60.00%	40.00%	40.00%	60.00%	40.00%	30.00%
66	0.00%	40.00%	30.00%	30.00%	40.00%	30.00%	20.00%
67	0.00%	40.00%	30.00%	30.00%	40.00%	30.00%	20.00%
68	0.00%	40.00%	30.00%	30.00%	40.00%	30.00%	20.00%
69	0.00%	40.00%	30.00%	30.00%	40.00%	30.00%	20.00%
70+	NA	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

**Table XII-1**  
**Active Retirement Rates (cont'd)**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM								
PROBABILITIES OF SERVICE RETIREMENT: TBTA								
Age	For Members Who Did Not Elect an Improved Retirement Program				For Members Who Did Elect an Improved Retirement Program			
	Reduced Service Retirement	Unreduced Service Retirement			Reduced Service Retirement	Unreduced Service Retirement		
		Year 1	Year 2	Ultimate		Year 1	Year 2	Ultimate
19	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
20	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
21	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
22	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
23	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
24	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
25	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
26	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
27	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
28	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
29	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
30	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
31	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
32	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
33	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
34	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
35	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
36	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
37	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
38	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
40	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
41	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
42	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
43	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
44	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
45	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
46	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
47	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
48	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
49	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
50	0.00%	30.00%	0.00%	0.00%	0.00%	60.00%	0.00%	0.00%
51	0.00%	30.00%	20.00%	0.00%	0.00%	60.00%	30.00%	0.00%
52	0.00%	30.00%	20.00%	20.00%	0.00%	60.00%	30.00%	30.00%
53	0.00%	30.00%	20.00%	20.00%	0.00%	60.00%	30.00%	30.00%
54	0.00%	30.00%	20.00%	20.00%	0.00%	60.00%	30.00%	30.00%
55	2.00%	30.00%	20.00%	20.00%	0.00%	60.00%	30.00%	30.00%
56	2.00%	30.00%	20.00%	20.00%	0.00%	60.00%	30.00%	30.00%
57	2.00%	30.00%	20.00%	20.00%	0.00%	60.00%	30.00%	30.00%
58	2.00%	30.00%	20.00%	20.00%	0.00%	60.00%	30.00%	30.00%
59	3.00%	30.00%	20.00%	20.00%	0.00%	60.00%	30.00%	30.00%
60	4.00%	30.00%	20.00%	20.00%	0.00%	60.00%	30.00%	30.00%
61	5.00%	30.00%	30.00%	30.00%	0.00%	60.00%	30.00%	30.00%
62	0.00%	40.00%	40.00%	40.00%	0.00%	60.00%	40.00%	40.00%
63	0.00%	30.00%	30.00%	30.00%	0.00%	40.00%	30.00%	30.00%
64	0.00%	30.00%	30.00%	30.00%	0.00%	40.00%	30.00%	30.00%
65	0.00%	40.00%	40.00%	40.00%	0.00%	60.00%	40.00%	40.00%
66	0.00%	30.00%	30.00%	30.00%	0.00%	40.00%	30.00%	30.00%
67	0.00%	30.00%	30.00%	30.00%	0.00%	40.00%	30.00%	30.00%
68	0.00%	30.00%	30.00%	30.00%	0.00%	40.00%	30.00%	30.00%
69	0.00%	30.00%	30.00%	30.00%	0.00%	40.00%	30.00%	30.00%
70+	NA	100.00%	100.00%	100.00%	NA	100.00%	100.00%	100.00%

**Table XII-1**  
**Active Retirement Rates (cont'd)**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM				
PROBABILITIES OF SERVICE RETIREMENT: TRANSIT				
Age	Reduced Service Retirement	Unreduced Service Retirement		
		Year 1	Year 2	Ultimate
19	0.00%	0.00%	0.00%	0.00%
20	0.00%	0.00%	0.00%	0.00%
21	0.00%	0.00%	0.00%	0.00%
22	0.00%	0.00%	0.00%	0.00%
23	0.00%	0.00%	0.00%	0.00%
24	0.00%	0.00%	0.00%	0.00%
25	0.00%	0.00%	0.00%	0.00%
26	0.00%	0.00%	0.00%	0.00%
27	0.00%	0.00%	0.00%	0.00%
28	0.00%	0.00%	0.00%	0.00%
29	0.00%	0.00%	0.00%	0.00%
30	0.00%	0.00%	0.00%	0.00%
31	0.00%	0.00%	0.00%	0.00%
32	0.00%	0.00%	0.00%	0.00%
33	0.00%	0.00%	0.00%	0.00%
34	0.00%	0.00%	0.00%	0.00%
35	0.00%	0.00%	0.00%	0.00%
36	0.00%	0.00%	0.00%	0.00%
37	0.00%	0.00%	0.00%	0.00%
38	0.00%	0.00%	0.00%	0.00%
39	0.00%	0.00%	0.00%	0.00%
40	0.00%	25.00%	0.00%	0.00%
41	0.00%	25.00%	15.00%	0.00%
42	0.00%	25.00%	15.00%	15.00%
43	0.00%	25.00%	15.00%	15.00%
44	0.00%	25.00%	15.00%	15.00%
45	0.00%	25.00%	15.00%	15.00%
46	0.00%	25.00%	15.00%	15.00%
47	0.00%	25.00%	15.00%	15.00%
48	0.00%	25.00%	15.00%	15.00%
49	0.00%	25.00%	15.00%	15.00%
50	0.00%	25.00%	15.00%	15.00%
51	0.00%	25.00%	15.00%	15.00%
52	0.00%	25.00%	15.00%	15.00%
53	0.00%	25.00%	15.00%	15.00%
54	0.00%	25.00%	15.00%	15.00%
55	2.00%	25.00%	15.00%	15.00%
56	2.00%	25.00%	15.00%	15.00%
57	2.00%	25.00%	15.00%	15.00%
58	2.00%	25.00%	15.00%	15.00%
59	3.00%	25.00%	15.00%	15.00%
60	4.00%	30.00%	15.00%	15.00%
61	5.00%	40.00%	20.00%	20.00%
62	0.00%	50.00%	40.00%	40.00%
63	0.00%	40.00%	30.00%	30.00%
64	0.00%	40.00%	30.00%	30.00%
65	0.00%	50.00%	40.00%	40.00%
66	0.00%	40.00%	30.00%	30.00%
67	0.00%	40.00%	30.00%	30.00%
68	0.00%	40.00%	30.00%	30.00%
69	0.00%	40.00%	30.00%	30.00%
70+	NA	100.00%	100.00%	100.00%

**Table XII-2**  
**Active Withdrawal Rates**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM					
PROBABILITIES OF WITHDRAWAL FOR CAUSES OTHER THAN DEATH, DISABILITY, OR RETIREMENT					
Probabilities of Withdrawal					
Years of Service	General	Correction	Sanitation	TBTA	Transit
0	6.00%	5.00%	4.00%	4.00%	8.00%
1	5.00%	4.00%	2.00%	2.00%	4.00%
2	4.00%	3.00%	1.00%	1.00%	2.00%
3	3.00%	2.00%	1.00%	1.00%	1.50%
4	3.00%	1.50%	1.00%	1.00%	1.20%
5	3.00%	1.00%	1.00%	1.00%	1.00%
6	2.80%	0.90%	0.90%	1.00%	1.00%
7	2.60%	0.80%	0.80%	1.00%	1.00%
8	2.40%	0.70%	0.70%	1.00%	1.00%
9	2.20%	0.60%	0.60%	1.00%	1.00%
10	2.00%	0.50%	0.50%	1.00%	1.00%
11	1.90%	0.50%	0.50%	1.00%	0.90%
12	1.80%	0.50%	0.50%	1.00%	0.80%
13	1.70%	0.50%	0.50%	1.00%	0.70%
14	1.60%	0.50%	0.50%	1.00%	0.60%
15	1.50%	0.50%	0.50%	1.00%	0.50%
16	1.40%	0.50%	0.50%	1.00%	0.50%
17	1.30%	0.50%	0.50%	1.00%	0.50%
18	1.20%	0.50%	0.50%	1.00%	0.50%
19	1.10%	0.50%	0.50%	1.00%	0.50%
20+	1.00%	0.50%	0.50%	1.00%	0.50%

**Table XII-3**  
**Active Disability Rates**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM				
PROBABILITIES OF DISABILITY RETIREMENT: GENERAL				
	Ordinary Disability		Accidental Disability	
Age	Males	Females	Males	Females
19	0.20%	0.20%	0.04%	0.02%
20	0.20%	0.20%	0.04%	0.02%
21	0.20%	0.20%	0.04%	0.02%
22	0.20%	0.20%	0.04%	0.02%
23	0.20%	0.20%	0.04%	0.02%
24	0.20%	0.20%	0.04%	0.02%
25	0.20%	0.20%	0.04%	0.02%
26	0.20%	0.20%	0.04%	0.02%
27	0.20%	0.20%	0.04%	0.02%
28	0.20%	0.20%	0.04%	0.02%
29	0.20%	0.20%	0.04%	0.02%
30	0.20%	0.20%	0.04%	0.02%
31	0.22%	0.20%	0.04%	0.02%
32	0.24%	0.20%	0.04%	0.02%
33	0.26%	0.20%	0.04%	0.02%
34	0.28%	0.20%	0.04%	0.02%
35	0.30%	0.20%	0.04%	0.02%
36	0.32%	0.21%	0.04%	0.02%
37	0.34%	0.22%	0.04%	0.02%
38	0.36%	0.23%	0.04%	0.02%
39	0.38%	0.24%	0.04%	0.02%
40	0.40%	0.25%	0.04%	0.02%
41	0.42%	0.26%	0.04%	0.02%
42	0.44%	0.27%	0.04%	0.02%
43	0.46%	0.28%	0.04%	0.02%
44	0.48%	0.29%	0.04%	0.02%
45	0.50%	0.30%	0.04%	0.02%
46	0.52%	0.34%	0.04%	0.02%
47	0.54%	0.38%	0.04%	0.02%
48	0.56%	0.42%	0.04%	0.02%
49	0.58%	0.46%	0.04%	0.02%
50	0.60%	0.50%	0.04%	0.02%
51	0.62%	0.54%	0.04%	0.02%
52	0.64%	0.58%	0.04%	0.02%
53	0.66%	0.62%	0.04%	0.02%
54	0.68%	0.66%	0.04%	0.02%
55	0.70%	0.70%	0.04%	0.02%
56	0.70%	0.70%	0.04%	0.02%
57	0.70%	0.70%	0.04%	0.02%
58	0.70%	0.70%	0.04%	0.02%
59	0.70%	0.70%	0.04%	0.02%
60	0.70%	0.70%	0.04%	0.02%
61	0.70%	0.70%	0.04%	0.02%
62	0.70%	0.70%	0.04%	0.02%
63	0.70%	0.70%	0.04%	0.02%
64	0.70%	0.70%	0.04%	0.02%
65	0.70%	0.70%	0.04%	0.02%
66	0.70%	0.70%	0.04%	0.02%
67	0.70%	0.70%	0.04%	0.02%
68	0.70%	0.70%	0.04%	0.02%
69	0.70%	0.70%	0.04%	0.02%
70+	NA	NA	NA	NA

**Table XII-3**  
**Active Disability Rates (cont'd)**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM				
PROBABILITIES OF DISABILITY RETIREMENT: UNIFORMED GROUPS				
	Correction		Sanitation	
Age	Ordinary Disability	Accidental Disability	Ordinary Disability	Accidental Disability
19	0.10%	0.20%	0.10%	0.10%
20	0.10%	0.20%	0.10%	0.10%
21	0.10%	0.21%	0.10%	0.10%
22	0.10%	0.22%	0.10%	0.10%
23	0.10%	0.23%	0.10%	0.10%
24	0.10%	0.24%	0.10%	0.10%
25	0.10%	0.25%	0.10%	0.10%
26	0.10%	0.26%	0.12%	0.11%
27	0.10%	0.27%	0.14%	0.12%
28	0.10%	0.28%	0.16%	0.13%
29	0.10%	0.29%	0.18%	0.14%
30	0.10%	0.30%	0.20%	0.15%
31	0.12%	0.31%	0.22%	0.16%
32	0.14%	0.32%	0.24%	0.17%
33	0.16%	0.33%	0.26%	0.18%
34	0.18%	0.34%	0.28%	0.19%
35	0.20%	0.35%	0.30%	0.20%
36	0.22%	0.36%	0.32%	0.21%
37	0.24%	0.37%	0.34%	0.22%
38	0.26%	0.38%	0.36%	0.23%
39	0.28%	0.39%	0.38%	0.24%
40	0.30%	0.40%	0.40%	0.25%
41	0.32%	0.41%	0.42%	0.26%
42	0.34%	0.42%	0.44%	0.27%
43	0.36%	0.43%	0.46%	0.28%
44	0.38%	0.44%	0.48%	0.29%
45	0.40%	0.45%	0.50%	0.30%
46	0.42%	0.46%	0.52%	0.34%
47	0.44%	0.47%	0.54%	0.38%
48	0.46%	0.48%	0.56%	0.42%
49	0.48%	0.49%	0.58%	0.46%
50	0.50%	0.50%	0.60%	0.50%
51	0.52%	0.52%	0.62%	0.56%
52	0.54%	0.54%	0.64%	0.62%
53	0.56%	0.56%	0.66%	0.68%
54	0.58%	0.58%	0.68%	0.74%
55	0.60%	0.60%	0.70%	0.80%
56	0.62%	0.62%	0.72%	0.88%
57	0.64%	0.64%	0.74%	0.96%
58	0.66%	0.66%	0.76%	1.04%
59	0.68%	0.68%	0.78%	1.12%
60	0.70%	0.70%	0.80%	1.20%
61	0.72%	0.72%	0.82%	1.30%
62	0.74%	0.74%	0.84%	1.40%
63	NA	NA	0.86%	1.50%
64	NA	NA	0.88%	1.60%
65	NA	NA	0.90%	1.70%
66	NA	NA	0.92%	1.82%
67	NA	NA	0.94%	1.94%
68	NA	NA	0.96%	2.06%
69	NA	NA	0.98%	2.18%
70+	NA	NA	NA	NA



**Table XII-3**  
**Active Disability Rates (cont'd)**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM				
PROBABILITIES OF DISABILITY RETIREMENT: OTHERS				
	TBTA		Transit	
Age	Ordinary Disability	Accidental Disability	Ordinary Disability	Accidental Disability
19	0.40%	0.04%	0.10%	0.02%
20	0.40%	0.04%	0.10%	0.02%
21	0.40%	0.04%	0.10%	0.02%
22	0.40%	0.04%	0.10%	0.02%
23	0.40%	0.04%	0.10%	0.02%
24	0.40%	0.04%	0.10%	0.02%
25	0.40%	0.04%	0.10%	0.02%
26	0.40%	0.04%	0.10%	0.02%
27	0.40%	0.04%	0.10%	0.02%
28	0.40%	0.04%	0.10%	0.02%
29	0.40%	0.04%	0.10%	0.02%
30	0.40%	0.04%	0.10%	0.02%
31	0.40%	0.04%	0.12%	0.02%
32	0.40%	0.04%	0.14%	0.02%
33	0.40%	0.04%	0.16%	0.02%
34	0.40%	0.04%	0.18%	0.02%
35	0.40%	0.04%	0.20%	0.02%
36	0.40%	0.04%	0.22%	0.02%
37	0.40%	0.04%	0.24%	0.02%
38	0.40%	0.04%	0.26%	0.02%
39	0.40%	0.04%	0.28%	0.02%
40	0.40%	0.04%	0.30%	0.02%
41	0.40%	0.04%	0.32%	0.02%
42	0.40%	0.04%	0.34%	0.02%
43	0.40%	0.04%	0.36%	0.02%
44	0.40%	0.04%	0.38%	0.02%
45	0.40%	0.04%	0.40%	0.02%
46	0.40%	0.04%	0.42%	0.02%
47	0.40%	0.04%	0.44%	0.02%
48	0.40%	0.04%	0.46%	0.02%
49	0.40%	0.04%	0.48%	0.02%
50	0.40%	0.04%	0.50%	0.02%
51	0.40%	0.04%	0.52%	0.02%
52	0.40%	0.04%	0.54%	0.02%
53	0.40%	0.04%	0.56%	0.02%
54	0.40%	0.04%	0.58%	0.02%
55	0.40%	0.04%	0.60%	0.02%
56	0.40%	0.04%	0.60%	0.02%
57	0.40%	0.04%	0.60%	0.02%
58	0.40%	0.04%	0.60%	0.02%
59	0.40%	0.04%	0.60%	0.02%
60	0.40%	0.04%	0.60%	0.02%
61	0.40%	0.04%	0.60%	0.02%
62	0.40%	0.04%	0.60%	0.02%
63	0.40%	0.04%	0.60%	0.02%
64	0.40%	0.04%	0.60%	0.02%
65	0.40%	0.04%	0.60%	0.02%
66	0.40%	0.04%	0.60%	0.02%
67	0.40%	0.04%	0.60%	0.02%
68	0.40%	0.04%	0.60%	0.02%
69	0.40%	0.04%	0.60%	0.02%
70+	NA	NA	NA	NA

**Table XII-4**  
**Active Mortality Rates**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM							
PROBABILITIES OF ACTIVE MEMBER MORTALITY							
	General and Transit		General	Transit	Correction, Sanitation, TBTA <sup>1</sup>		
	Ordinary Death		Accidental Death	Accidental Death	Ordinary Death		Accidental Death
Age	Males	Females	All	All	Males	Females	All
19	0.040%	0.030%	0.000%	0.010%	0.050%	0.030%	0.010%
20	0.040%	0.030%	0.000%	0.010%	0.050%	0.030%	0.010%
21	0.040%	0.030%	0.000%	0.010%	0.050%	0.030%	0.010%
22	0.040%	0.030%	0.000%	0.010%	0.050%	0.030%	0.010%
23	0.040%	0.030%	0.000%	0.010%	0.050%	0.030%	0.010%
24	0.040%	0.030%	0.000%	0.010%	0.050%	0.030%	0.010%
25	0.040%	0.030%	0.000%	0.010%	0.040%	0.024%	0.010%
26	0.044%	0.032%	0.000%	0.010%	0.050%	0.030%	0.010%
27	0.048%	0.034%	0.000%	0.010%	0.050%	0.030%	0.010%
28	0.052%	0.036%	0.000%	0.010%	0.050%	0.030%	0.010%
29	0.056%	0.038%	0.000%	0.010%	0.050%	0.030%	0.010%
30	0.060%	0.040%	0.000%	0.010%	0.050%	0.030%	0.010%
31	0.064%	0.042%	0.000%	0.010%	0.050%	0.030%	0.010%
32	0.068%	0.044%	0.000%	0.010%	0.050%	0.030%	0.010%
33	0.072%	0.046%	0.000%	0.010%	0.050%	0.030%	0.010%
34	0.076%	0.048%	0.000%	0.010%	0.050%	0.030%	0.010%
35	0.080%	0.050%	0.000%	0.010%	0.050%	0.030%	0.010%
36	0.084%	0.052%	0.000%	0.010%	0.060%	0.036%	0.010%
37	0.088%	0.054%	0.000%	0.010%	0.070%	0.042%	0.010%
38	0.092%	0.056%	0.000%	0.010%	0.080%	0.048%	0.010%
39	0.096%	0.058%	0.000%	0.010%	0.090%	0.054%	0.010%
40	0.100%	0.060%	0.000%	0.010%	0.100%	0.060%	0.010%
41	0.110%	0.068%	0.000%	0.010%	0.110%	0.066%	0.010%
42	0.120%	0.076%	0.000%	0.010%	0.120%	0.072%	0.010%
43	0.130%	0.084%	0.000%	0.010%	0.130%	0.078%	0.010%
44	0.140%	0.092%	0.000%	0.010%	0.140%	0.084%	0.010%
45	0.150%	0.100%	0.000%	0.010%	0.150%	0.090%	0.010%
46	0.160%	0.110%	0.000%	0.010%	0.160%	0.096%	0.010%
47	0.170%	0.120%	0.000%	0.010%	0.170%	0.102%	0.010%
48	0.180%	0.130%	0.000%	0.010%	0.180%	0.108%	0.010%
49	0.190%	0.140%	0.000%	0.010%	0.190%	0.114%	0.010%
50	0.200%	0.150%	0.000%	0.010%	0.200%	0.120%	0.010%
51	0.220%	0.160%	0.000%	0.010%	0.210%	0.128%	0.010%
52	0.240%	0.170%	0.000%	0.010%	0.220%	0.136%	0.010%
53	0.260%	0.180%	0.000%	0.010%	0.230%	0.144%	0.010%
54	0.280%	0.190%	0.000%	0.010%	0.240%	0.152%	0.010%
55	0.300%	0.200%	0.000%	0.010%	0.250%	0.160%	0.010%
56	0.320%	0.210%	0.000%	0.010%	0.260%	0.168%	0.010%
57	0.340%	0.220%	0.000%	0.010%	0.270%	0.176%	0.010%
58	0.360%	0.230%	0.000%	0.010%	0.280%	0.184%	0.010%
59	0.380%	0.240%	0.000%	0.010%	0.290%	0.192%	0.010%
60	0.400%	0.250%	0.000%	0.010%	0.300%	0.200%	0.010%
61	0.420%	0.260%	0.000%	0.010%	0.320%	0.210%	0.010%
62	0.440%	0.270%	0.000%	0.010%	0.340%	0.220%	0.010%
63	0.460%	0.280%	0.000%	0.010%	0.360%	0.230%	0.010%
64	0.480%	0.290%	0.000%	0.010%	0.380%	0.240%	0.010%
65	0.500%	0.300%	0.000%	0.010%	0.400%	0.250%	0.010%
66	0.540%	0.320%	0.000%	0.010%	0.440%	0.280%	0.010%
67	0.580%	0.340%	0.000%	0.010%	0.480%	0.310%	0.010%
68	0.620%	0.360%	0.000%	0.010%	0.520%	0.340%	0.010%
69	0.660%	0.380%	0.000%	0.010%	0.560%	0.370%	0.010%
70+	NA	NA	NA	NA	NA	NA	NA

<sup>1</sup>Rates for Corrections become NA on and after 63 years of service.

**Table XII-5**  
**Service Retiree Mortality Rates**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM					
PROBABILITIES OF MORTALITY IN THE NEXT YEAR FOR SERVICE RETIREES IN THE JUNE 30, 2016 (LAG) VALUATION: PLAN GROUPS OTHER THAN HOUSING POLICE AND TRANSIT POLICE					
Age	Males	Females	Age	Males	Females
19	0.0201%	0.0121%	68	1.7189%	1.2370%
20	0.0211%	0.0122%	69	1.8200%	1.3031%
21	0.0227%	0.0130%	70	1.9248%	1.3660%
22	0.0241%	0.0138%	71	2.0926%	1.5265%
23	0.0258%	0.0149%	72	2.2666%	1.6863%
24	0.0272%	0.0160%	73	2.4473%	1.8449%
25	0.0284%	0.0174%	74	2.6339%	2.0027%
26	0.0300%	0.0189%	75	2.8272%	2.1592%
27	0.0314%	0.0204%	76	3.2696%	2.4549%
28	0.0333%	0.0223%	77	3.7263%	2.7536%
29	0.0357%	0.0242%	78	4.1972%	3.0540%
30	0.0391%	0.0263%	79	4.6851%	3.3564%
31	0.0456%	0.0325%	80	5.1881%	3.6583%
32	0.0521%	0.0381%	81	5.7341%	4.1289%
33	0.0582%	0.0430%	82	6.2881%	4.6076%
34	0.0638%	0.0469%	83	6.8485%	5.0947%
35	0.0696%	0.0507%	84	7.4144%	5.5889%
36	0.0730%	0.0535%	85	7.9854%	6.0929%
37	0.0762%	0.0566%	86	9.0625%	6.9582%
38	0.0796%	0.0597%	87	10.1865%	7.8220%
39	0.0840%	0.0634%	88	11.3608%	8.6925%
40	0.0904%	0.0674%	89	12.5840%	9.5648%
41	0.1253%	0.0716%	90	13.8632%	10.4405%
42	0.1580%	0.0783%	91	15.4852%	11.9474%
43	0.1896%	0.0873%	92	17.1034%	13.4176%
44	0.2207%	0.0994%	93	18.7153%	14.8777%
45	0.2524%	0.1151%	94	20.3691%	16.2589%
46	0.2813%	0.1343%	95	22.2136%	17.6157%
47	0.3105%	0.1569%	96	24.0153%	18.7657%
48	0.3396%	0.1825%	97	25.7797%	19.7956%
49	0.3686%	0.2116%	98	27.5766%	20.5720%
50	0.3971%	0.2431%	99	29.2286%	21.0838%
51	0.4672%	0.2806%	100	30.7448%	21.2423%
52	0.5435%	0.3201%	101	32.3665%	22.1344%
53	0.6253%	0.3608%	102	33.7861%	23.1735%
54	0.7119%	0.4018%	103	35.0826%	24.4013%
55	0.8014%	0.4420%	104	36.1722%	25.7784%
56	0.8681%	0.5009%	105	36.9822%	27.2744%
57	0.9299%	0.5593%	106	37.4491%	28.8471%
58	0.9847%	0.6169%	107	37.7175%	30.4676%
59	1.0316%	0.6732%	108	38.0028%	32.0883%
60	1.0706%	0.7296%	109	38.2863%	33.6686%
61	1.1588%	0.7888%	110	96.4196%	96.4583%
62	1.2363%	0.8354%	111	97.1087%	97.1672%
63	1.3067%	0.8825%	112	97.8219%	97.8611%
64	1.3714%	0.9360%	113	98.5792%	98.5792%
65	1.4334%	0.9970%	114	99.2823%	99.2823%
66	1.5265%	1.0662%	115	100.0000%	100.0000%
67	1.6211%	1.1477%			

Mortality Improvement Scale MP-2015 is applied to these rates to estimate future mortality improvement.

**Table XII-5**  
**Service Retiree Mortality Rates (cont'd)**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM					
PROBABILITIES OF MORTALITY IN THE NEXT YEAR FOR SERVICE RETIREES IN THE JUNE 30, 2016 (LAG) VALUATION: HOUSING POLICE AND TRANSIT POLICE					
Age	Males	Females	Age	Males	Females
19	0.0201%	0.0121%	68	1.4111%	0.9860%
20	0.0211%	0.0122%	69	1.5882%	1.0799%
21	0.0227%	0.0130%	70	1.7737%	1.1725%
22	0.0241%	0.0138%	71	1.9680%	1.3541%
23	0.0258%	0.0149%	72	2.1713%	1.5452%
24	0.0272%	0.0160%	73	2.4162%	1.7447%
25	0.0284%	0.0174%	74	2.6714%	1.9540%
26	0.0300%	0.0189%	75	2.9373%	2.1858%
27	0.0314%	0.0204%	76	3.2148%	2.4470%
28	0.0333%	0.0223%	77	3.5041%	2.7022%
29	0.0357%	0.0242%	78	3.9641%	2.9995%
30	0.0391%	0.0263%	79	4.4446%	3.2900%
31	0.0454%	0.0317%	80	4.9441%	3.6096%
32	0.0515%	0.0364%	81	5.3726%	4.1073%
33	0.0573%	0.0404%	82	5.8075%	4.6242%
34	0.0626%	0.0433%	83	6.6015%	5.1609%
35	0.0678%	0.0460%	84	7.4033%	5.6226%
36	0.0706%	0.0477%	85	8.2128%	6.0537%
37	0.0726%	0.0496%	86	9.0318%	6.8113%
38	0.0747%	0.0514%	87	9.8575%	7.6037%
39	0.0774%	0.0536%	88	11.1716%	8.4026%
40	0.0817%	0.0562%	89	12.4980%	9.1475%
41	0.0901%	0.0597%	90	13.8437%	10.0064%
42	0.0985%	0.0653%	91	15.4068%	11.3729%
43	0.1072%	0.0729%	92	17.0051%	12.6896%
44	0.1164%	0.0828%	93	18.6274%	14.0272%
45	0.1264%	0.0959%	94	20.3158%	15.5173%
46	0.1372%	0.1120%	95	22.1014%	16.7734%
47	0.1488%	0.1307%	96	23.9542%	18.0286%
48	0.1612%	0.1522%	97	25.7511%	19.1941%
49	0.1744%	0.1735%	98	27.5665%	20.1367%
50	0.1885%	0.1876%	99	29.2540%	20.8473%
51	0.2539%	0.2008%	100	30.7448%	21.2257%
52	0.3215%	0.2114%	101	32.3665%	22.1344%
53	0.3905%	0.2201%	102	33.7861%	23.1735%
54	0.4604%	0.2827%	103	35.0826%	24.4013%
55	0.5030%	0.3385%	104	36.1722%	25.7784%
56	0.5620%	0.3893%	105	36.9822%	27.2744%
57	0.6185%	0.4353%	106	37.4491%	28.8471%
58	0.6702%	0.4570%	107	37.7175%	30.4676%
59	0.7164%	0.4923%	108	38.0028%	32.0883%
60	0.7570%	0.5259%	109	38.2863%	33.6686%
61	0.8264%	0.5588%	110	39.4196%	36.4583%
62	0.8929%	0.5885%	111	39.71087%	37.1672%
63	0.9590%	0.6198%	112	39.78219%	37.8611%
64	1.0252%	0.6850%	113	39.5792%	38.5792%
65	1.0936%	0.7510%	114	39.2823%	39.2823%
66	1.1657%	0.8271%	115	100.0000%	100.0000%
67	1.2419%	0.9039%			

Mortality Improvement Scale MP-2015 is applied to these rates to estimate future mortality improvement.

**Table XII-6**  
**Disabled Retiree Mortality Rates**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM					
PROBABILITIES OF MORTALITY IN THE NEXT YEAR FOR DISABLED RETIREES IN THE JUNE 30, 2016 (LAG) VALUATION: GENERAL, TBTA, AND TRANSIT PLAN GROUPS					
Age	Males	Females	Age	Males	Females
19	0.4004%	0.3621%	68	3.4556%	2.7153%
20	0.4178%	0.3795%	69	3.4920%	2.7821%
21	0.4540%	0.4176%	70	3.5425%	2.8655%
22	0.4932%	0.4592%	71	3.7362%	2.9334%
23	0.5353%	0.5017%	72	3.9537%	3.1912%
24	0.5805%	0.5528%	73	4.1964%	3.4816%
25	0.6286%	0.6065%	74	4.4641%	3.7097%
26	0.6791%	0.6621%	75	4.7589%	3.9801%
27	0.7324%	0.7276%	76	5.1624%	4.2498%
28	0.7870%	0.8051%	77	5.6061%	4.5156%
29	0.8407%	0.8825%	78	6.0914%	4.8599%
30	0.8915%	0.9308%	79	6.6244%	5.2831%
31	0.9380%	0.9665%	80	7.2049%	5.7750%
32	0.9787%	1.0070%	81	7.8341%	6.3116%
33	1.0118%	1.0452%	82	8.5178%	6.8921%
34	1.0425%	1.0738%	83	9.2606%	7.5207%
35	1.0661%	1.0977%	84	10.0658%	8.1987%
36	1.0822%	1.1178%	85	10.9387%	8.8788%
37	1.0931%	1.1320%	86	11.6188%	9.5550%
38	1.1011%	1.1451%	87	12.1113%	10.2613%
39	1.1089%	1.1600%	88	12.7402%	10.8690%
40	1.1204%	1.1720%	89	13.3978%	11.9028%
41	1.1330%	1.1848%	90	14.0918%	13.3527%
42	1.1535%	1.2073%	91	15.7618%	14.8741%
43	1.1834%	1.2416%	92	17.6425%	16.2337%
44	1.2237%	1.2840%	93	19.4842%	17.4617%
45	1.2754%	1.3499%	94	21.3190%	18.5393%
46	1.3394%	1.4268%	95	23.1722%	19.6267%
47	1.4135%	1.5139%	96	24.9286%	20.3987%
48	1.5189%	1.5985%	97	26.5846%	20.7790%
49	1.6356%	1.6951%	98	28.2002%	20.9462%
50	1.7632%	1.7823%	99	29.5880%	21.9484%
51	1.9423%	1.8930%	100	30.7448%	22.1222%
52	2.1347%	1.9824%	101	32.3665%	22.6470%
53	2.3402%	2.0585%	102	33.7861%	23.1735%
54	2.5542%	2.1623%	103	35.0826%	24.4013%
55	2.7706%	2.2478%	104	36.1722%	25.7784%
56	2.8735%	2.3329%	105	36.9822%	27.2744%
57	2.9582%	2.4156%	106	37.4491%	28.8471%
58	3.0200%	2.5172%	107	37.7175%	30.4676%
59	3.0592%	2.5168%	108	38.0028%	32.0883%
60	3.0781%	2.5156%	109	38.2863%	33.6686%
61	3.1514%	2.5179%	110	96.4196%	96.4583%
62	3.2163%	2.5132%	111	97.1087%	97.1672%
63	3.2824%	2.5203%	112	97.8219%	97.8611%
64	3.3535%	2.6122%	113	98.5792%	98.5792%
65	3.4369%	2.6281%	114	99.2823%	99.2823%
66	3.4284%	2.6375%	115	100.0000%	100.0000%
67	3.4341%	2.6668%			

Mortality Improvement Scale MP-2015 is applied to these rates to estimate future mortality improvement.

**Table XII-6**  
**Disabled Retiree Mortality Rates (cont'd)**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM					
PROBABILITIES OF MORTALITY IN THE NEXT YEAR FOR DISABLED RETIREES IN THE JUNE 30, 2016 (LAG) VALUATION: CORRECTION AND SANITATION PLAN GROUPS					
Age	Males	Females	Age	Males	Females
19	0.3640%	0.3546%	68	2.3235%	1.8023%
20	0.3714%	0.3643%	69	2.4648%	1.9384%
21	0.3948%	0.3936%	70	2.6256%	2.0768%
22	0.4198%	0.4174%	71	2.8378%	2.2297%
23	0.4461%	0.4459%	72	3.0757%	2.3981%
24	0.4738%	0.4809%	73	3.3419%	2.5826%
25	0.5029%	0.5162%	74	3.6376%	2.8177%
26	0.5327%	0.5518%	75	3.9658%	3.0962%
27	0.5634%	0.5940%	76	4.3499%	3.3844%
28	0.5940%	0.6441%	77	4.7760%	3.6795%
29	0.6228%	0.6922%	78	5.2461%	4.0499%
30	0.6484%	0.7160%	79	5.7673%	4.4516%
31	0.6700%	0.7294%	80	6.3411%	4.9198%
32	0.6868%	0.7460%	81	7.0084%	5.4358%
33	0.6979%	0.7603%	82	7.6854%	6.0004%
34	0.7069%	0.7670%	83	8.3705%	6.6190%
35	0.7107%	0.7703%	84	9.0621%	7.3345%
36	0.7097%	0.7711%	85	9.7600%	8.0111%
37	0.7053%	0.7676%	86	10.8356%	8.6365%
38	0.6992%	0.7633%	87	11.9204%	9.3074%
39	0.6931%	0.7606%	88	13.0176%	9.9855%
40	0.6894%	0.7563%	89	14.1249%	10.9744%
41	0.6867%	0.7524%	90	15.2495%	12.1005%
42	0.6886%	0.7547%	91	17.1449%	13.2523%
43	0.6961%	0.7640%	92	18.9905%	14.3413%
44	0.7094%	0.7781%	93	20.7658%	15.4517%
45	0.7288%	0.8059%	94	22.5064%	17.3419%
46	0.7441%	0.8393%	95	24.2371%	19.3010%
47	0.7641%	0.8751%	96	25.6593%	20.3987%
48	0.7994%	0.9134%	97	27.0236%	20.7790%
49	0.8388%	0.9418%	98	28.4079%	20.9462%
50	0.8817%	0.9706%	99	29.6433%	21.9484%
51	0.9548%	0.9963%	100	30.7448%	22.1222%
52	1.0326%	1.0167%	101	32.3665%	22.6470%
53	1.1149%	1.0293%	102	33.7861%	23.1735%
54	1.1993%	1.0629%	103	35.0826%	24.4013%
55	1.2833%	1.0873%	104	36.1722%	25.7784%
56	1.3695%	1.1113%	105	36.9822%	27.2744%
57	1.4505%	1.1342%	106	37.4491%	28.8471%
58	1.5231%	1.1659%	107	37.7175%	30.4676%
59	1.5868%	1.1995%	108	38.0028%	32.0883%
60	1.6417%	1.2334%	109	38.2863%	33.6686%
61	1.7111%	1.2699%	110	36.4196%	36.4583%
62	1.7773%	1.3036%	111	37.1087%	39.1672%
63	1.8455%	1.3442%	112	37.8219%	42.0861%
64	1.9178%	1.4183%	113	38.5792%	45.2792%
65	1.9988%	1.4949%	114	39.2823%	48.7823%
66	2.0925%	1.5919%	115	100.0000%	100.0000%
67	2.1997%	1.6908%			

Mortality Improvement Scale MP-2015 is applied to these rates to estimate future mortality improvement.

**Table XII-6**  
**Disabled Retiree Mortality Rates (cont'd)**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM					
PROBABILITIES OF MORTALITY IN THE NEXT YEAR FOR DISABLED RETIREES IN THE JUNE 30, 2016 (LAG) VALUATION: HOUSING POLICE AND TRANSIT POLICE					
Age	Males	Females	Age	Males	Females
19	0.0288%	0.0141%	68	1.7829%	1.1608%
20	0.0300%	0.0149%	69	1.9688%	1.3301%
21	0.0323%	0.0166%	70	2.1777%	1.5158%
22	0.0352%	0.0186%	71	2.4165%	1.7109%
23	0.0380%	0.0208%	72	2.6659%	1.9155%
24	0.0415%	0.0231%	73	2.9443%	2.1421%
25	0.0451%	0.0256%	74	3.2170%	2.3993%
26	0.0492%	0.0284%	75	3.5010%	2.6837%
27	0.0536%	0.0313%	76	3.9811%	2.9817%
28	0.0586%	0.0347%	77	4.4587%	3.2541%
29	0.0636%	0.0378%	78	4.9546%	3.5753%
30	0.0689%	0.0409%	79	5.3829%	4.0741%
31	0.0742%	0.0440%	80	5.8162%	4.5929%
32	0.0793%	0.0469%	81	6.5681%	5.1337%
33	0.0862%	0.0498%	82	7.3658%	5.6004%
34	0.0899%	0.0514%	83	8.1731%	6.0712%
35	0.0939%	0.0535%	84	8.9339%	6.8738%
36	0.0983%	0.0555%	85	9.8107%	7.6781%
37	0.1036%	0.0578%	86	11.1871%	8.4328%
38	0.1099%	0.0600%	87	12.4403%	9.1758%
39	0.1215%	0.0630%	88	13.7755%	10.0374%
40	0.1325%	0.0678%	89	15.3248%	11.3305%
41	0.1436%	0.0745%	90	16.9079%	12.6282%
42	0.1552%	0.0830%	91	18.5118%	13.9489%
43	0.1677%	0.0941%	92	20.0567%	14.9678%
44	0.1812%	0.1081%	93	21.9315%	16.0409%
45	0.1965%	0.1249%	94	23.7553%	17.1707%
46	0.2061%	0.1447%	95	25.3782%	18.2303%
47	0.2162%	0.1670%	96	27.3314%	19.2382%
48	0.2267%	0.1915%	97	28.9930%	20.1699%
49	0.2964%	0.2222%	98	30.2883%	20.8495%
50	0.3648%	0.2562%	99	32.0879%	21.2940%
51	0.4317%	0.2825%	100	33.4990%	21.4632%
52	0.4961%	0.3313%	101	34.5697%	22.1344%
53	0.5288%	0.3708%	102	35.6330%	23.1735%
54	0.5702%	0.4271%	103	36.4423%	24.4013%
55	0.6129%	0.4834%	104	36.9101%	25.7784%
56	0.6741%	0.5272%	105	37.1787%	27.2744%
57	0.7274%	0.5393%	106	37.4491%	28.8471%
58	0.7748%	0.5568%	107	37.7175%	30.4676%
59	0.8606%	0.5905%	108	38.0028%	32.0883%
60	0.9374%	0.6186%	109	38.2863%	33.6686%
61	1.0101%	0.6459%	110	96.4196%	96.4583%
62	1.0794%	0.7070%	111	97.1087%	97.1672%
63	1.1410%	0.7675%	112	97.8219%	97.8611%
64	1.2164%	0.8373%	113	98.5792%	98.5792%
65	1.2874%	0.9079%	114	99.2823%	99.2823%
66	1.4359%	0.9841%	115	100.0000%	100.0000%
67	1.6055%	1.0724%			

Mortality Improvement Scale MP-2015 is applied to these rates to estimate future mortality improvement.

**Table XII-7**  
**Beneficiary Mortality Rates**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM					
PROBABILITIES OF BENEFICIARY MORTALITY IN THE NEXT YEAR IN THE JUNE 30, 2016 (LAG) VALUATION: ALL PLAN GROUPS					
Age	Males	Females	Age	Males	Females
19	0.0201%	0.0121%	68	1.7189%	1.2370%
20	0.0211%	0.0122%	69	1.8200%	1.3031%
21	0.0227%	0.0130%	70	1.9248%	1.3660%
22	0.0241%	0.0138%	71	2.0926%	1.5265%
23	0.0258%	0.0149%	72	2.2666%	1.6863%
24	0.0272%	0.0160%	73	2.4473%	1.8449%
25	0.0284%	0.0174%	74	2.6339%	2.0027%
26	0.0300%	0.0189%	75	2.8272%	2.1592%
27	0.0314%	0.0204%	76	3.2696%	2.4549%
28	0.0333%	0.0223%	77	3.7263%	2.7536%
29	0.0357%	0.0242%	78	4.1972%	3.0540%
30	0.0391%	0.0263%	79	4.6851%	3.3564%
31	0.0456%	0.0325%	80	5.1881%	3.6583%
32	0.0521%	0.0381%	81	5.7341%	4.1289%
33	0.0582%	0.0430%	82	6.2881%	4.6076%
34	0.0638%	0.0469%	83	6.8485%	5.0947%
35	0.0696%	0.0507%	84	7.4144%	5.5889%
36	0.0730%	0.0535%	85	7.9854%	6.0929%
37	0.0762%	0.0566%	86	9.0625%	6.9582%
38	0.0796%	0.0597%	87	10.1865%	7.8220%
39	0.0840%	0.0634%	88	11.3608%	8.6925%
40	0.0904%	0.0674%	89	12.5840%	9.5648%
41	0.1253%	0.0716%	90	13.8632%	10.4405%
42	0.1580%	0.0783%	91	15.4852%	11.9474%
43	0.1896%	0.0873%	92	17.1034%	13.4176%
44	0.2207%	0.0994%	93	18.7153%	14.8777%
45	0.2524%	0.1151%	94	20.3691%	16.2589%
46	0.2813%	0.1343%	95	22.2136%	17.6157%
47	0.3105%	0.1569%	96	24.0153%	18.7657%
48	0.3396%	0.1825%	97	25.7797%	19.7956%
49	0.3686%	0.2116%	98	27.5766%	20.5720%
50	0.3971%	0.2431%	99	29.2286%	21.0838%
51	0.4672%	0.2806%	100	30.7448%	21.2423%
52	0.5435%	0.3201%	101	32.3665%	22.1344%
53	0.6253%	0.3608%	102	33.7861%	23.1735%
54	0.7119%	0.4018%	103	35.0826%	24.4013%
55	0.8014%	0.4420%	104	36.1722%	25.7784%
56	0.8681%	0.5009%	105	36.9822%	27.2744%
57	0.9299%	0.5593%	106	37.4491%	28.8471%
58	0.9847%	0.6169%	107	37.7175%	30.4676%
59	1.0316%	0.6732%	108	38.0028%	32.0883%
60	1.0706%	0.7296%	109	38.2863%	33.6686%
61	1.1588%	0.7888%	110	96.4196%	96.4583%
62	1.2363%	0.8354%	111	97.1087%	97.1672%
63	1.3067%	0.8825%	112	97.8219%	97.8611%
64	1.3714%	0.9360%	113	98.5792%	98.5792%
65	1.4334%	0.9970%	114	99.2823%	99.2823%
66	1.5265%	1.0662%	115	100.0000%	100.0000%
67	1.6211%	1.1477%			

Mortality Improvement Scale MP-2015 is applied to these rates to estimate future mortality improvement.



**Table XII-8  
Salary Scale**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM

ANNUAL RATES OF SALARY INCREASE

Years of Service	General		Correction		Sanitation		TBTA		Transit	
	Merit Increase	Salary Scale	Merit Increase	Salary Scale	Merit Increase	Salary Scale	Merit Increase	Salary Scale	Merit Increase	Salary Scale
0	6.00%	9.00%	11.00%	14.00%	4.00%	7.00%	8.00%	11.00%	16.00%	19.00%
1	5.00%	8.00%	10.00%	13.00%	6.00%	9.00%	7.00%	10.00%	11.00%	14.00%
2	4.00%	7.00%	9.00%	12.00%	8.00%	11.00%	6.00%	9.00%	7.00%	10.00%
3	3.00%	6.00%	8.00%	11.00%	13.00%	16.00%	5.00%	8.00%	4.00%	7.00%
4	2.50%	5.50%	46.00%	49.00%	32.00%	35.00%	4.00%	7.00%	2.00%	5.00%
5	2.00%	5.00%	1.20%	4.20%	22.00%	25.00%	3.00%	6.00%	1.00%	4.00%
6	1.90%	4.90%	1.40%	4.40%	1.40%	4.40%	2.00%	5.00%	0.50%	3.50%
7	1.80%	4.80%	1.60%	4.60%	1.60%	4.60%	1.00%	4.00%	0.50%	3.50%
8	1.70%	4.70%	1.80%	4.80%	1.80%	4.80%	0.80%	3.80%	0.50%	3.50%
9	1.60%	4.60%	3.20%	6.20%	3.20%	6.20%	0.60%	3.60%	0.50%	3.50%
10	1.50%	4.50%	2.00%	5.00%	2.00%	5.00%	0.50%	3.50%	0.50%	3.50%
11	1.50%	4.50%	1.90%	4.90%	1.90%	4.90%	0.50%	3.50%	0.50%	3.50%
12	1.50%	4.50%	1.80%	4.80%	1.80%	4.80%	0.50%	3.50%	0.50%	3.50%
13	1.50%	4.50%	1.70%	4.70%	1.70%	4.70%	0.50%	3.50%	0.50%	3.50%
14	1.50%	4.50%	2.90%	5.90%	2.90%	5.90%	0.50%	3.50%	0.50%	3.50%
15	1.50%	4.50%	1.50%	4.50%	1.50%	4.50%	0.50%	3.50%	0.50%	3.50%
16	1.45%	4.45%	1.40%	4.40%	1.40%	4.40%	0.50%	3.50%	0.50%	3.50%
17	1.40%	4.40%	1.30%	4.30%	1.30%	4.30%	0.50%	3.50%	0.50%	3.50%
18	1.35%	4.35%	1.20%	4.20%	1.20%	4.20%	0.50%	3.50%	0.50%	3.50%
19	1.30%	4.30%	2.40%	5.40%	2.40%	5.40%	0.50%	3.50%	0.50%	3.50%
20	1.25%	4.25%	1.00%	4.00%	1.00%	4.00%	0.50%	3.50%	0.50%	3.50%
21	1.20%	4.20%	0.90%	3.90%	0.90%	3.90%	0.50%	3.50%	0.50%	3.50%
22	1.15%	4.15%	0.80%	3.80%	0.80%	3.80%	0.50%	3.50%	0.50%	3.50%
23	1.10%	4.10%	0.70%	3.70%	0.70%	3.70%	0.50%	3.50%	0.50%	3.50%
24	1.05%	4.05%	0.60%	3.60%	0.60%	3.60%	0.50%	3.50%	0.50%	3.50%
25+	1.00%	4.00%	0.50%	3.50%	0.50%	3.50%	0.50%	3.50%	0.50%	3.50%

**Table XII-9  
Overtime**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM		
OVERTIME ASSUMPTION: GROUPS OTHER THAN CORRECTION		
<b>Plan Group</b>	<b>Overtime Type</b>	<b>Assumption</b>
General	All Overtime	4.00%
Sanitation	Baseline	12.00%
	Dual Service	16.00%
	Dual Disability	8.00%
TBTA	Baseline	20.00%
	Dual Service: FAS 1 benefits	30.00%
	Dual Service: Other benefits	24.00%
	Dual Disability: FAS 1 benefits	15.00%
	Dual Disability: Other benefits	18.00%
Transit	Baseline	8.00%
	Dual Service: Tier 1	12.00%
	Dual Service: Others	10.00%
	Dual Disability	6.00%

**Table XII-9**  
**Overtime (cont'd)**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM			
OVERTIME ASSUMPTION: CORRECTION			
	<b>Correction</b>		
<b>Years of Service</b>	<b>Baseline and Dual Service</b>	<b>Dual Disability: Tier 1</b>	<b>Dual Disability: Others</b>
0	10.00%	5.00%	8.00%
1	10.00%	5.00%	8.00%
2	10.00%	5.00%	8.00%
3	10.00%	5.00%	8.00%
4	10.00%	5.00%	8.00%
5	10.00%	5.00%	8.00%
6	10.00%	5.00%	8.00%
7	10.00%	5.00%	8.00%
8	10.00%	5.00%	8.00%
9	10.00%	5.00%	8.00%
10	10.00%	5.00%	8.00%
11	10.00%	5.00%	8.00%
12	10.00%	5.00%	8.00%
13	10.00%	5.00%	8.00%
14	10.00%	5.00%	8.00%
15	10.00%	5.00%	8.00%
16	11.00%	6.00%	9.00%
17	12.00%	7.00%	10.00%
18	13.00%	8.00%	11.00%
19	14.00%	9.00%	12.00%
20+	15.00%	10.00%	13.00%

## Additional Assumptions and Methods

1. **Marital Assumption:** All active members are assumed to be married and females are assumed to be three years younger than their male spouses.
2. **Credited Service:** Calculated in whole year increments for valuation purposes.
3. **Loans:** Except for Death Benefits, it is assumed that eligible members take the maximum allowable loan at retirement.
4. **Actuarial Interest Rate:** 7.0% per annum, net of investment expenses.
5. **COLA:** Based on an assumed long-term Consumer Price Index Inflation rate of 2.5% per year, 1.5% per year for Auto COLA, 2.5% per year for Escalation.
6. **Actuarial Asset Valuation Method (AAVM):**

The Actuary reset the Actuarial Value of Assets to market value as of June 30, 2011.

Beginning with the June 30, 2012 (Lag) actuarial valuation, the AAVM recognizes investment returns greater or less than expected over a period of six years.

In accordance with this AAVM, actual Unexpected Investment Returns (UIR) are phased into the Actuarial Value of Assets (AVA) at rates of 15%, 15%, 15%, 15%, 20%, and 20% per year (i.e. cumulative rates of 15%, 30%, 45%, 60%, 80%, and 100% over a period of six years).

Beginning with the June 30, 2014 (Lag) actuarial valuation, the AVA is constrained to be within a corridor of 80% to 120% of the market value.

For more information, see SECTION II – MARKET AND ACTUARIAL VALUES OF ASSETS.

7. **Actuarial Cost Method:** Beginning with the June 30, 2010 (Lag) actuarial valuation, the Entry Age Normal (EAN) cost method of funding is used by the Actuary to calculate the contribution required of the employer under the 2016 A&M.

Under this method, the Present Value (PV) of Future Benefits (PVFB) of each individual included in the actuarial valuation is allocated on a level basis over the earnings between the age a member enters the plan and assumed exit age(s). The employer portion of this PVFB allocated to a valuation year is the Normal Cost. The portion of this PVFB not provided for at a valuation date by the PV of Future Normal Costs or future member contributions is the Accrued Liability (AL).

The excess, if any, of the AL over the Actuarial Value of Assets (AVA) is the Unfunded Accrued Liability (UAL).

Under this method, actuarial gains and losses, as they occur, reduce and increase the UAL, respectively, and are explicitly identified and amortized.

Increases or decreases in obligations due to benefit changes, actuarial assumption changes, and actuarial method changes are also explicitly identified and amortized.

Under EAN, the explicit UALs that are developed each year are generally financed over fixed periods. Ideally, these periods are reasonably consistent with the expected future working lifetimes of all active participants. For more information see Page 12.

Under EAN, the employer normal cost remains constant as a percentage of payroll and changes gradually over time for the entire Plan as the characteristics of the members change (e.g. more Tier 6 active members decrease the average employer normal cost).

8. **Lump Sum Death Benefits:** Liabilities for group life lump sum death benefits are calculated under the One-Year Term Cost method.
9. **Allowances for Administrative Expenses:** The Employer Contribution for a fiscal year is increased by the interest-adjusted amount of administrative expenses paid from NYCERS during the second prior fiscal year.
10. **WTC Disability and Death Benefits:** For actuarial valuations beginning June 30, 2014 and after, obligations attributable to the WTC Disability Law and to the WTC Death Benefits Law are determined through the use of explicit assumptions in the 2016 A&M, and through estimation techniques for post-retirement reclassifications.
11. **One-Year Lag Methodology (OYLM):** One-Year Lag methodology uses a June 30, XX-2 valuation date to determine Fiscal Year XX employer contributions.

This methodology requires adjustments to determine Fiscal Year XX employer contributions as follows:

Present Value of Future Salary (PVFS): The PVFS at June 30, XX-2 is reduced by the value of salary projected to be paid during Fiscal Year XX-1.

Salary for Determining Employer Normal Contributions: Salary used to determine the employer Normal Contribution is the salary projected to be paid during Fiscal Year XX to members on payroll at June 30, XX-2.

UAL Payments: For determining the UAL payments for Fiscal Year XX, and to be consistent with the OYLM, the UAL as of June 30, XX-2 is adjusted by the discounted value of employer normal cost paid during Fiscal Year XX-1 and the discounted value of Administrative Expenses reimbursed during Fiscal Years XX-1 and XX.

12. **Excess Benefit Plan:** The valuation includes liabilities and costs, if any, associated with the Excess Benefit Plan administered by the NYCERS in the case that members exceed the Internal Revenue Code Section 415 limitation.

## SECTION XIII – SUMMARY OF DEMOGRAPHIC DATA

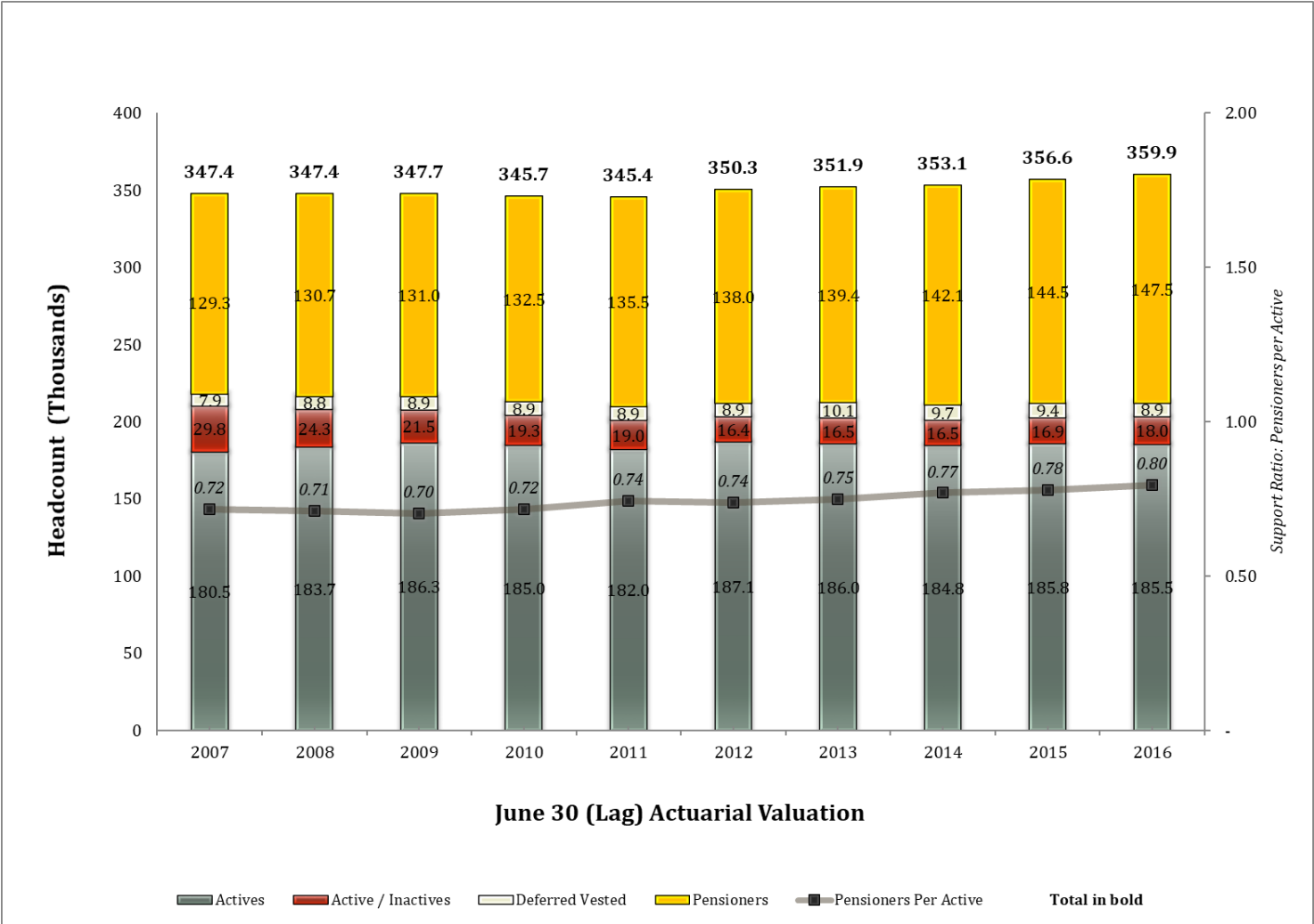
The June 30, 2016 (Lag) and June 30, 2015 (Lag) actuarial valuations are based upon census data as of those dates submitted by the Plan’s administrative staff and the employer’s payroll facilities. Financial information was provided by the Office of the Comptroller as of June 30, 2016 and June 30, 2015.

Consistent with Actuarial Standards of Practice, the Office of the Actuary has reviewed census data and financial information for consistency and reasonability but has not audited it. The accuracy of the results and calculations contained in this Report are dependent on the accuracy of this census data and financial information. To the extent any such data or information provided is materially inaccurate or incomplete, the results contained herein will require revision.

**Table XIII-1  
Status Reconciliation**

CHANGES IN THE NUMBER OF ACTIVES AND PENSIONERS DURING THE FISCAL YEAR CLASSIFIED BY STATUS										
Status	(1) Active Members	(2) Active/ Inactive	(3) Deferred Vested	(4) Service Pension	(5) Ordinary Disability	(6) Accidental Disability	(7) Accidental Death	(8) Other Beneficiary	(9) Pensioners Subtotal (4) to (8)	(10) Grand Total (1) + (2) + (3) + (9)
<b>Number at June 30, 2015</b>	<b>185,758</b>	<b>16,907</b>	<b>9,402</b>	115,626	9,892	4,429	139	14,440	<b>144,526</b>	<b>356,593</b>
New Entrants	10,396	52	159	310	31	5	10	174	530	11,137
Rehire	3,207	(1,719)	(313)	0	0	0	0	0	0	1,175
Leaving Active Payroll	(7,027)	7,027	0	0	0	0	0	0	0	0
Vested Termination	(98)	(258)	356						0	0
Non-Vested Termination / Cashout	(1,289)	(2,909)	(152)						0	(4,350)
Accidental Death (from Active)	(1)	0	0	0	0	0	1	0	1	0
Ordinary Death (from Active)	(28)	(4)	(49)	0	0	0	0	0	0	(81)
Service Retirement	(5,144)	(847)	(506)	6,497	0	0	0	0	6,497	0
Ordinary Disability Retirement	(253)	(242)	(2)	0	497	0	0	0	497	0
Accidental Disability Retirement	(40)	(18)	0	0	0	58	0	0	58	0
Reclassifications	0	0	0	(46)	445	(444)	13	32	0	0
Death with Beneficiary	0	0	0	(729)	(113)	(11)	0	853	0	0
Death without Beneficiary	0	0	0	(3,242)	(297)	(108)	(5)	(847)	(4,499)	(4,499)
Off Pension Payroll	0	0	0	(41)	(14)	(1)	0	(40)	(96)	(96)
Net Change	(277)	1,082	(507)	2,749	549	(501)	19	172	2,988	3,286
<b>Number at June 30, 2016</b>	<b>185,481</b>	<b>17,989</b>	<b>8,895</b>	118,375	10,441	3,928	158	14,612	<b>147,514</b>	<b>359,879</b>

Graph XIII-2  
Headcount Summary by Status



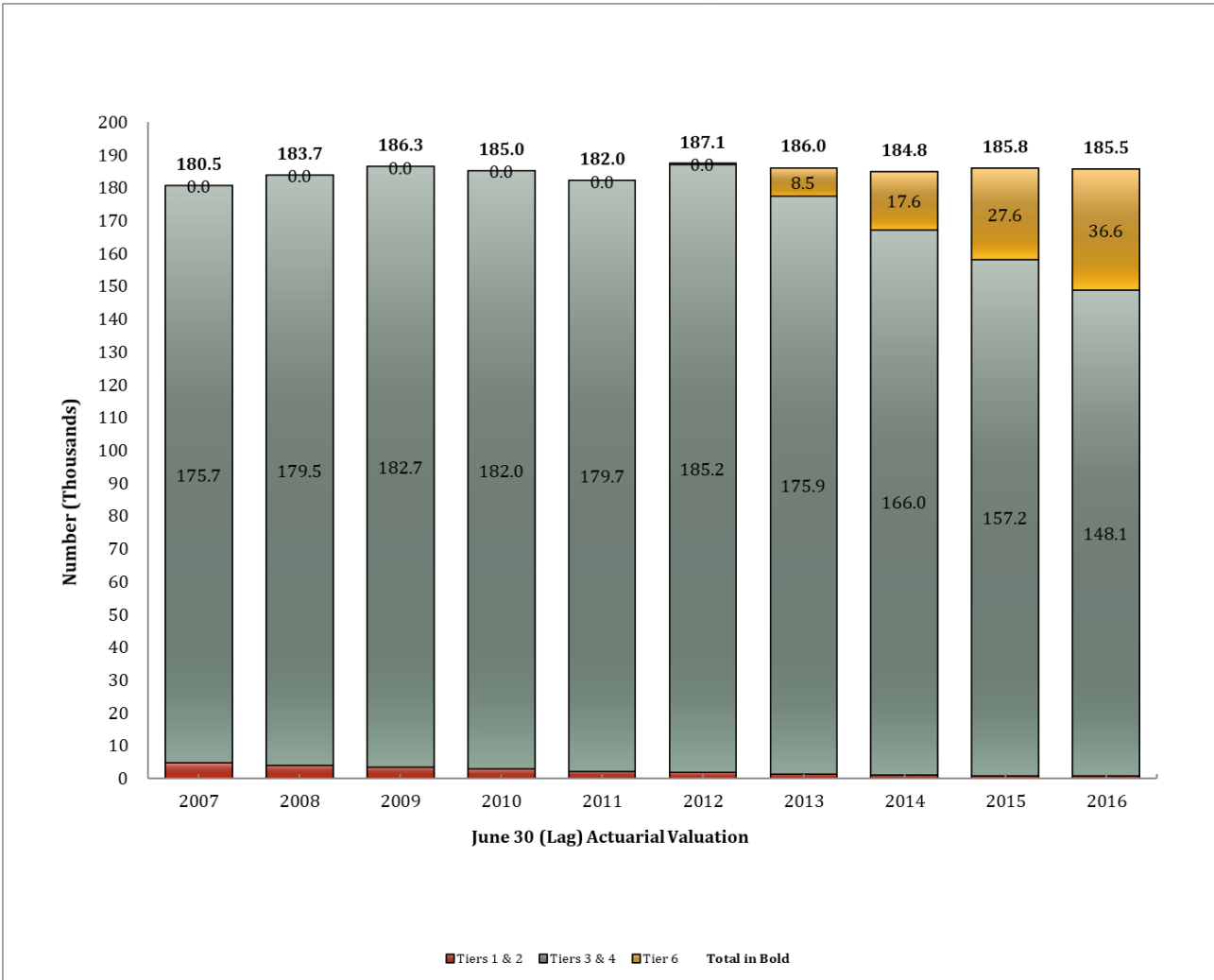


**Table XIII-3**  
**Summary of Active Membership**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM		
ACTIVE MEMBERS INCLUDED IN THE JUNE 30, 2016 (LAG) AND THE JUNE 30, 2015 (LAG) ACTUARIAL VALUATIONS		
	June 30, 2016 (Lag)	June 30, 2015 (Lag)
Number		
Males	102,095	102,085
Females	83,386	83,673
Total	185,481	185,758
Annual Salary <sup>1</sup>		
Males	\$ 7,827,800,111	\$ 7,673,506,428
Females	5,388,739,244	5,243,960,100
Total	\$ 13,216,539,355	\$ 12,917,466,528
Average Salary <sup>1</sup>		
Males	\$ 76,672	\$ 75,168
Females	64,624	62,672
Total Average	\$ 71,255	\$ 69,539
Average Age		
Males	48.1	48.1
Females	48.0	47.9
Total Average	48.1	48.0
Average Past Service		
Males	12.9	13.0
Females	12.3	12.2
Total Average	12.6	12.6

<sup>1</sup>Salaries reflect the impact of recent labor contract settlements and certain non-union salary increases with retroactive effective dates, if any.

**Graph XIII-4**  
**Active Membership by Tier**



**Table XIII-5**  
**Schedule of Active Member Salary Data**

<b>June 30 (Lag) Actuarial Valuation</b>	<b>Number</b>	<b>Annual Salary</b>	<b>Average Annual Salary</b>	<b>Percentage Increase/ (Decrease) In Avg. Salary</b>
2007	180,482	\$10,761,963,324	\$59,629	5.2%
2008	183,654	11,305,974,384	61,561	3.2%
2009	186,284	11,880,993,974	63,779	3.6%
2010	184,982	12,101,416,579	65,419	2.6%
2011	182,021	12,233,572,536	67,210	2.7%
2012	187,114	12,478,129,812	66,687	- 0.8%
2013	185,971	12,642,482,697	67,981	1.9%
2014	184,762	12,672,386,846	68,588	0.9%
2015	185,758	12,917,466,528	69,539	1.4%
2016	185,481	13,216,539,355	71,255	2.5%

Annualized covered payrolls used for the Fiscal Year 2012 Employer Contributions and subsequent years are based on revised actuarial assumptions enacted by Chapter 3/13 (i.e. the 2012 A&M).

Salaries reflect the impact of recent labor contract settlements and certain non-union salary increases with retroactive effective dates, if any.

**Table XIII-6**  
**Detailed Active Membership and Salaries by Group as of June 30, 2016**

AGE \ SVC	Transit Authority									
	UNDER 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & UP	ALL YEARS
<i>NUMBER:</i>										
UNDER 20	5	0	0	0	0	0	0	0	0	5
20 TO 24	173	12	0	0	0	0	0	0	0	185
25 TO 29	987	205	12	0	0	0	0	0	0	1,204
30 TO 34	1,727	653	152	71	0	0	0	0	0	2,603
35 TO 39	1,584	957	591	250	0	0	0	0	0	3,382
40 TO 44	1,289	1,002	861	981	140	13	0	0	0	4,286
45 TO 49	1,095	1,010	964	1,620	953	472	28	0	0	6,142
50 TO 54	919	907	970	1,762	1,316	1,733	701	61	0	8,369
55 TO 59	552	679	695	1,455	1,056	1,341	756	169	1	6,704
60 TO 64	237	351	418	936	639	649	437	201	13	3,881
65 TO 69	50	141	202	454	214	209	113	78	32	1,493
70 & UP	8	27	40	118	74	62	35	18	31	413
<b>TOTAL</b>	<b>8,626</b>	<b>5,944</b>	<b>4,905</b>	<b>7,647</b>	<b>4,392</b>	<b>4,479</b>	<b>2,070</b>	<b>527</b>	<b>77</b>	<b>38,667</b>

<i>SALARIES (IN THOUSANDS):</i>										
UNDER 20	237	0	0	0	0	0	0	0	0	237
20 TO 24	9,557	973	0	0	0	0	0	0	0	10,530
25 TO 29	61,073	15,306	940	0	0	0	0	0	0	77,320
30 TO 34	113,688	49,077	11,610	6,150	0	0	0	0	0	180,527
35 TO 39	107,193	74,012	46,402	20,675	0	0	0	0	0	248,281
40 TO 44	87,939	77,726	68,970	79,632	12,326	1,335	0	0	0	327,927
45 TO 49	75,417	78,941	78,188	133,286	81,545	42,490	2,694	0	0	492,560
50 TO 54	64,162	71,547	78,927	146,104	115,391	152,204	65,238	5,752	0	699,326
55 TO 59	39,394	53,507	56,825	120,654	91,677	118,298	68,322	15,649	108	564,434
60 TO 64	16,568	27,734	34,553	78,165	55,576	56,170	39,358	19,211	1,160	328,495
65 TO 69	3,701	10,965	16,347	37,777	18,276	17,965	10,319	7,203	3,247	125,797
70 & UP	583	2,225	3,485	9,750	6,274	5,215	2,891	1,622	2,783	34,828
<b>TOTAL *</b>	<b>579,511</b>	<b>462,013</b>	<b>396,248</b>	<b>632,192</b>	<b>381,065</b>	<b>393,677</b>	<b>188,821</b>	<b>49,437</b>	<b>7,299</b>	<b>3,090,263</b>

<i>AVERAGE SALARIES: **</i>										
UNDER 20	47,342	0	0	0	0	0	0	0	0	47,342
20 TO 24	55,242	81,117	0	0	0	0	0	0	0	56,921
25 TO 29	61,878	74,665	78,343	0	0	0	0	0	0	64,219
30 TO 34	65,830	75,157	76,384	86,624	0	0	0	0	0	69,353
35 TO 39	67,672	77,337	78,515	82,699	0	0	0	0	0	73,413
40 TO 44	68,223	77,571	80,105	81,174	88,042	102,663	0	0	0	76,511
45 TO 49	68,874	78,159	81,108	82,275	85,567	90,021	96,203	0	0	80,195
50 TO 54	69,817	78,883	81,368	82,919	87,683	87,827	93,065	94,292	0	83,561
55 TO 59	71,366	78,803	81,762	82,924	86,815	88,217	90,373	92,597	108,461	84,194
60 TO 64	69,907	79,013	82,664	83,510	86,973	86,549	90,063	95,579	89,242	84,642
65 TO 69	74,011	77,763	80,925	83,208	85,401	85,955	91,315	92,341	101,481	84,258
70 & UP	72,840	82,410	87,118	82,627	84,780	84,117	82,609	90,131	89,780	84,330
<b>TOTAL</b>	<b>67,182</b>	<b>77,728</b>	<b>80,785</b>	<b>82,672</b>	<b>86,763</b>	<b>87,894</b>	<b>91,218</b>	<b>93,808</b>	<b>94,794</b>	<b>79,920</b>

Note: Age is last birthday. Service is completed years.

\* Total may not add up due to rounding.

\*\* Average based on unrounded salary.

**Table XIII-6**  
**Detailed Active Membership and Salaries by Group as of June 30, 2016 (cont'd)**

AGE \ SVC	Housing Authority									
	UNDER 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & UP	ALL YEARS
<i>NUMBER:</i>										
UNDER 20	1	0	0	0	0	0	0	0	0	1
20 TO 24	131	3	0	0	0	0	0	0	0	134
25 TO 29	332	181	6	0	0	0	0	0	0	519
30 TO 34	335	254	71	5	0	0	0	0	0	665
35 TO 39	343	208	176	158	9	0	0	0	0	894
40 TO 44	255	207	241	277	210	11	0	0	0	1,201
45 TO 49	223	210	264	309	395	259	4	0	0	1,664
50 TO 54	168	196	239	342	362	436	107	3	0	1,853
55 TO 59	125	141	187	304	312	317	201	88	0	1,675
60 TO 64	50	78	114	204	168	145	100	70	10	939
65 TO 69	16	35	50	69	44	32	9	13	7	275
70 & UP	8	12	8	26	17	3	6	3	11	94
<b>TOTAL</b>	<b>1,987</b>	<b>1,525</b>	<b>1,356</b>	<b>1,694</b>	<b>1,517</b>	<b>1,203</b>	<b>427</b>	<b>177</b>	<b>28</b>	<b>9,914</b>

<i>SALARIES (IN THOUSANDS):</i>										
UNDER 20	30	0	0	0	0	0	0	0	0	30
20 TO 24	5,171	132	0	0	0	0	0	0	0	5,303
25 TO 29	14,318	8,729	296	0	0	0	0	0	0	23,343
30 TO 34	17,074	13,397	3,657	256	0	0	0	0	0	34,383
35 TO 39	18,125	12,103	10,729	9,201	698	0	0	0	0	50,856
40 TO 44	14,638	12,660	14,855	17,371	14,586	759	0	0	0	74,868
45 TO 49	13,270	12,828	16,454	19,917	28,021	18,790	332	0	0	109,611
50 TO 54	10,255	12,011	14,913	22,585	25,969	31,670	8,680	241	0	126,324
55 TO 59	7,531	8,586	12,251	20,166	22,922	22,741	15,625	6,287	0	116,108
60 TO 64	3,469	4,433	6,870	13,601	11,236	10,782	7,564	5,128	649	63,733
65 TO 69	1,136	2,080	3,283	4,813	2,855	2,348	730	859	512	18,616
70 & UP	175	358	485	1,773	1,123	210	383	158	637	5,303
<b>TOTAL *</b>	<b>105,191</b>	<b>87,316</b>	<b>83,792</b>	<b>109,684</b>	<b>107,411</b>	<b>87,299</b>	<b>33,314</b>	<b>12,673</b>	<b>1,798</b>	<b>628,479</b>

<i>AVERAGE SALARIES: **</i>										
UNDER 20	29,924	0	0	0	0	0	0	0	0	29,924
20 TO 24	39,473	44,019	0	0	0	0	0	0	0	39,575
25 TO 29	43,127	48,225	49,300	0	0	0	0	0	0	44,976
30 TO 34	50,966	52,743	51,503	51,210	0	0	0	0	0	51,704
35 TO 39	52,842	58,188	60,962	58,234	77,549	0	0	0	0	56,886
40 TO 44	57,403	61,158	61,637	62,711	69,458	69,006	0	0	0	62,338
45 TO 49	59,508	61,084	62,324	64,457	70,940	72,547	82,878	0	0	65,872
50 TO 54	61,040	61,281	62,397	66,038	71,739	72,637	81,123	80,315	0	68,173
55 TO 59	60,251	60,892	65,514	66,335	73,468	71,738	77,735	71,439	0	69,318
60 TO 64	69,381	56,832	60,260	66,673	66,884	74,361	75,642	73,255	64,901	67,873
65 TO 69	70,971	59,443	65,667	69,756	64,876	73,361	81,154	66,072	73,129	67,694
70 & UP	21,873	29,847	60,634	68,206	66,062	69,998	63,844	52,744	57,941	56,418
<b>TOTAL</b>	<b>52,940</b>	<b>57,257</b>	<b>61,794</b>	<b>64,748</b>	<b>70,805</b>	<b>72,568</b>	<b>78,019</b>	<b>71,597</b>	<b>64,224</b>	<b>63,393</b>

Note: Age is last birthday. Service is completed years.

\* Total may not add up due to rounding.

\*\* Average based on unrounded salary.

**Table XIII-6**  
**Detailed Active Membership and Salaries by Group as of June 30, 2016 (cont'd)**

<b>Health and Hospitals Corporation</b>										
<b>AGE \ SVC</b>	<b>UNDER 5</b>	<b>5-9</b>	<b>10-14</b>	<b>15-19</b>	<b>20-24</b>	<b>25-29</b>	<b>30-34</b>	<b>35-39</b>	<b>40 &amp; UP</b>	<b>ALL YEARS</b>
<i>NUMBER:</i>										
UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	156	1	0	0	0	0	0	0	0	157
25 TO 29	1,135	178	2	0	0	0	0	0	0	1,315
30 TO 34	1,478	942	150	4	0	0	0	0	0	2,574
35 TO 39	1,291	1,152	598	83	0	0	0	0	0	3,124
40 TO 44	1,181	1,098	802	278	34	1	0	0	0	3,394
45 TO 49	1,040	1,206	1,094	652	283	64	4	0	0	4,343
50 TO 54	1,047	1,193	1,229	1,059	612	310	52	0	0	5,502
55 TO 59	734	1,000	1,209	1,197	1,028	532	186	57	1	5,944
60 TO 64	350	657	843	831	686	464	183	93	31	4,138
65 TO 69	113	231	313	276	196	133	44	38	42	1,386
70 & UP	33	51	83	99	64	55	22	10	28	445
<b>TOTAL</b>	<b>8,558</b>	<b>7,709</b>	<b>6,323</b>	<b>4,479</b>	<b>2,903</b>	<b>1,559</b>	<b>491</b>	<b>198</b>	<b>102</b>	<b>32,322</b>

<i>SALARIES (IN THOUSANDS):</i>										
UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	8,749	39	0	0	0	0	0	0	0	8,788
25 TO 29	68,245	10,326	104	0	0	0	0	0	0	78,675
30 TO 34	88,315	58,880	8,772	276	0	0	0	0	0	156,244
35 TO 39	79,518	74,288	37,490	4,958	0	0	0	0	0	196,255
40 TO 44	74,910	73,994	54,631	18,968	2,464	89	0	0	0	225,055
45 TO 49	68,555	82,349	75,604	48,172	20,762	3,735	394	0	0	299,570
50 TO 54	70,291	77,899	83,254	78,499	49,020	21,219	3,732	0	0	383,913
55 TO 59	50,136	67,516	83,185	92,529	87,278	39,452	13,671	4,449	110	438,327
60 TO 64	26,160	45,645	58,404	63,938	56,101	34,856	13,468	7,236	2,364	308,172
65 TO 69	8,423	16,237	22,036	20,539	14,835	9,898	2,870	3,212	3,745	101,794
70 & UP	3,054	3,584	5,599	6,557	4,149	3,673	1,605	683	2,038	30,942
<b>TOTAL*</b>	<b>546,357</b>	<b>510,755</b>	<b>429,080</b>	<b>334,436</b>	<b>234,608</b>	<b>112,921</b>	<b>35,739</b>	<b>15,581</b>	<b>8,257</b>	<b>2,227,735</b>

<i>AVERAGE SALARIES: **</i>										
UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	56,082	38,743	0	0	0	0	0	0	0	55,971
25 TO 29	60,128	58,009	52,029	0	0	0	0	0	0	59,829
30 TO 34	59,753	62,506	58,483	69,086	0	0	0	0	0	60,701
35 TO 39	61,594	64,486	62,693	59,738	0	0	0	0	0	62,822
40 TO 44	63,429	67,390	68,118	68,230	72,461	88,793	0	0	0	66,310
45 TO 49	65,918	68,282	69,108	73,883	73,363	58,358	98,515	0	0	68,978
50 TO 54	67,136	65,297	67,741	74,125	80,098	68,447	71,775	0	0	69,777
55 TO 59	68,305	67,516	68,805	77,300	84,901	74,158	73,500	78,055	109,939	73,743
60 TO 64	74,743	69,474	69,281	76,941	81,780	75,121	73,595	77,811	76,273	74,474
65 TO 69	74,542	70,290	70,402	74,416	75,689	74,420	65,217	84,516	89,165	73,445
70 & UP	92,547	70,265	67,459	66,237	64,822	66,783	72,940	68,347	72,774	69,532
<b>TOTAL</b>	<b>63,842</b>	<b>66,254</b>	<b>67,860</b>	<b>74,668</b>	<b>80,816</b>	<b>72,432</b>	<b>72,789</b>	<b>78,690</b>	<b>80,951</b>	<b>68,923</b>

Note: Age is last birthday. Service is completed years.

\* Total may not add up due to rounding.

\*\* Average based on unrounded salary.

**Table XIII-6**  
**Detailed Active Membership and Salaries by Group as of June 30, 2016 (cont'd)**

<b>Triborough Bridge and Tunnel Authority</b>										
<b>AGE \ SVC</b>	<b>UNDER 5</b>	<b>5-9</b>	<b>10-14</b>	<b>15-19</b>	<b>20-24</b>	<b>25-29</b>	<b>30-34</b>	<b>35-39</b>	<b>40 &amp; UP</b>	<b>ALL YEARS</b>
<i>NUMBER:</i>										
UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	8	0	0	0	0	0	0	0	0	8
25 TO 29	27	15	0	0	0	0	0	0	0	42
30 TO 34	26	36	27	0	0	0	0	0	0	89
35 TO 39	20	33	75	25	0	0	0	0	0	153
40 TO 44	24	37	119	63	3	0	0	0	0	246
45 TO 49	18	31	87	61	33	23	1	0	0	254
50 TO 54	16	24	71	42	13	45	6	0	0	217
55 TO 59	13	7	47	50	21	19	25	3	0	185
60 TO 64	4	6	18	13	10	11	5	5	2	74
65 TO 69	1	1	5	11	4	5	2	0	1	30
70 & UP	1	0	2	5	1	2	1	1	0	13
<b>TOTAL</b>	<b>158</b>	<b>190</b>	<b>451</b>	<b>270</b>	<b>85</b>	<b>105</b>	<b>40</b>	<b>9</b>	<b>3</b>	<b>1,311</b>

<i>SALARIES (IN THOUSANDS):</i>										
UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	473	0	0	0	0	0	0	0	0	473
25 TO 29	1,996	1,253	0	0	0	0	0	0	0	3,248
30 TO 34	2,207	3,005	2,500	0	0	0	0	0	0	7,712
35 TO 39	1,513	2,726	6,971	2,491	0	0	0	0	0	13,701
40 TO 44	1,833	3,443	10,947	6,153	297	0	0	0	0	22,673
45 TO 49	1,461	2,803	8,088	5,867	3,512	2,499	84	0	0	24,316
50 TO 54	1,541	2,556	6,750	4,314	1,562	4,750	869	0	0	22,342
55 TO 59	1,374	652	4,767	5,196	2,294	1,918	2,842	258	0	19,301
60 TO 64	479	580	1,823	1,370	1,248	1,392	591	769	207	8,458
65 TO 69	46	115	441	1,272	409	471	155	0	64	2,973
70 & UP	164	0	218	467	111	258	73	84	0	1,375
<b>TOTAL *</b>	<b>13,086</b>	<b>17,132</b>	<b>42,506</b>	<b>27,131</b>	<b>9,434</b>	<b>11,287</b>	<b>4,615</b>	<b>1,112</b>	<b>271</b>	<b>126,573</b>

<i>AVERAGE SALARIES: **</i>										
UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	59,180	0	0	0	0	0	0	0	0	59,180
25 TO 29	73,909	83,524	0	0	0	0	0	0	0	77,343
30 TO 34	84,870	83,483	92,608	0	0	0	0	0	0	86,656
35 TO 39	75,667	82,593	92,945	99,639	0	0	0	0	0	89,548
40 TO 44	76,357	93,057	91,996	97,669	99,041	0	0	0	0	92,169
45 TO 49	81,161	90,432	92,966	96,187	106,437	108,647	84,483	0	0	95,731
50 TO 54	96,336	106,482	95,063	102,721	120,183	105,556	144,772	0	0	102,957
55 TO 59	105,670	93,073	101,436	103,920	109,259	100,932	113,664	86,131	0	104,329
60 TO 64	119,752	96,603	101,304	105,393	124,764	126,517	118,228	153,786	103,386	114,302
65 TO 69	45,820	115,157	88,179	115,675	102,329	94,164	77,661	0	63,739	99,117
70 & UP	163,601	0	108,892	93,330	110,923	129,048	73,427	84,483	0	105,766
<b>TOTAL</b>	<b>82,822</b>	<b>90,169</b>	<b>94,248</b>	<b>100,485</b>	<b>110,991</b>	<b>107,497</b>	<b>115,365</b>	<b>123,534</b>	<b>90,170</b>	<b>96,547</b>

Note: Age is last birthday. Service is completed years.

\* Total may not add up due to rounding.

\*\* Average based on unrounded salary.

**Table XIII-6**  
**Detailed Active Membership and Salaries by Group as of June 30, 2016 (cont'd)**

		CUNY Senior Colleges									
AGE \ SVC	UNDER 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & UP	ALL YEARS	
<i>NUMBER:</i>											
UNDER 20	0	0	0	0	0	0	0	0	0	0	
20 TO 24	37	0	0	0	0	0	0	0	0	37	
25 TO 29	217	33	0	0	0	0	0	0	0	250	
30 TO 34	208	172	26	0	0	0	0	0	0	406	
35 TO 39	139	153	117	12	0	0	0	0	0	421	
40 TO 44	113	150	128	55	10	1	0	0	0	457	
45 TO 49	113	138	149	116	53	4	0	0	0	573	
50 TO 54	109	118	159	107	73	56	10	0	0	632	
55 TO 59	87	135	133	124	72	64	31	6	0	652	
60 TO 64	57	104	120	107	62	43	34	7	0	534	
65 TO 69	29	46	67	51	22	22	10	5	10	262	
70 & UP	7	19	29	27	8	14	6	5	11	126	
<b>TOTAL</b>	<b>1,116</b>	<b>1,068</b>	<b>928</b>	<b>599</b>	<b>300</b>	<b>204</b>	<b>91</b>	<b>23</b>	<b>21</b>	<b>4,350</b>	

<i>SALARIES (IN THOUSANDS):</i>										
UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	1,252	0	0	0	0	0	0	0	0	1,252
25 TO 29	9,079	1,507	0	0	0	0	0	0	0	10,586
30 TO 34	9,732	9,342	1,455	0	0	0	0	0	0	20,528
35 TO 39	6,464	8,434	7,078	773	0	0	0	0	0	22,749
40 TO 44	6,240	8,554	7,628	3,340	752	64	0	0	0	26,578
45 TO 49	5,432	7,767	9,024	7,485	3,592	284	0	0	0	33,584
50 TO 54	5,162	6,198	8,915	6,660	5,485	4,090	547	0	0	37,056
55 TO 59	4,384	6,788	7,220	7,778	4,655	4,041	2,050	419	0	37,335
60 TO 64	2,885	4,839	6,245	5,781	3,384	2,571	2,335	645	0	28,686
65 TO 69	1,576	2,056	3,344	2,638	1,184	1,371	619	370	787	13,944
70 & UP	496	758	1,288	1,261	423	767	331	218	589	6,131
<b>TOTAL *</b>	<b>52,703</b>	<b>56,242</b>	<b>52,197</b>	<b>35,717</b>	<b>19,474</b>	<b>13,186</b>	<b>5,883</b>	<b>1,653</b>	<b>1,375</b>	<b>238,430</b>

<i>AVERAGE SALARIES: **</i>										
UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	33,840	0	0	0	0	0	0	0	0	33,840
25 TO 29	41,840	45,662	0	0	0	0	0	0	0	42,345
30 TO 34	46,786	54,314	55,956	0	0	0	0	0	0	50,563
35 TO 39	46,506	55,123	60,495	64,417	0	0	0	0	0	54,036
40 TO 44	55,223	57,029	59,596	60,722	75,207	63,666	0	0	0	58,158
45 TO 49	48,073	56,279	60,561	64,529	67,775	70,945	0	0	0	58,610
50 TO 54	47,358	52,524	56,068	62,242	75,132	73,027	54,739	0	0	58,633
55 TO 59	50,394	50,283	54,289	62,726	64,650	63,139	66,114	69,882	0	57,263
60 TO 64	50,617	46,533	52,044	54,030	54,576	59,780	68,682	92,201	0	53,719
65 TO 69	54,333	44,687	49,906	51,733	53,815	62,307	61,916	74,037	78,668	53,221
70 & UP	70,865	39,880	44,413	46,719	52,863	54,792	55,208	43,666	53,512	48,662
<b>TOTAL</b>	<b>47,225</b>	<b>52,661</b>	<b>56,246</b>	<b>59,628</b>	<b>64,914</b>	<b>64,639</b>	<b>64,643</b>	<b>71,879</b>	<b>65,491</b>	<b>54,812</b>

Note: Age is last birthday. Service is completed years.

\* Total may not add up due to rounding.

\*\* Average based on unrounded salary.



**Table XIII-6**  
**Detailed Active Membership and Salaries by Group as of June 30, 2016 (cont'd)**

AGE \ SVC	All Other Non-NYC Entities										
	UNDER 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & UP	ALL YEARS	
<i>NUMBER:</i>											
UNDER 20	0	0	0	0	0	0	0	0	0	0	0
20 TO 24	0	0	0	0	0	0	0	0	0	0	0
25 TO 29	0	0	0	0	0	0	0	0	0	0	0
30 TO 34	2	4	2	0	0	0	0	0	0	0	8
35 TO 39	2	3	1	0	0	0	0	0	0	0	6
40 TO 44	6	8	3	3	0	0	0	0	0	0	20
45 TO 49	6	8	8	5	3	2	0	0	0	0	32
50 TO 54	6	6	5	7	5	1	0	0	0	0	30
55 TO 59	3	5	10	4	3	6	2	1	0	0	34
60 TO 64	2	1	7	2	1	6	1	1	0	0	21
65 TO 69	0	1	2	5	0	0	0	0	0	0	8
70 & UP	0	0	1	1	0	1	0	0	0	0	3
<b>TOTAL</b>	<b>27</b>	<b>36</b>	<b>39</b>	<b>27</b>	<b>12</b>	<b>16</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>162</b>

<i>SALARIES (IN THOUSANDS):</i>											
UNDER 20	0	0	0	0	0	0	0	0	0	0	0
20 TO 24	0	0	0	0	0	0	0	0	0	0	0
25 TO 29	0	0	0	0	0	0	0	0	0	0	0
30 TO 34	139	368	196	0	0	0	0	0	0	0	703
35 TO 39	156	337	51	0	0	0	0	0	0	0	545
40 TO 44	399	771	245	255	0	0	0	0	0	0	1,670
45 TO 49	557	900	1,020	509	272	287	0	0	0	0	3,546
50 TO 54	453	519	414	960	576	141	0	0	0	0	3,063
55 TO 59	171	386	1,198	365	365	636	198	136	0	0	3,455
60 TO 64	153	70	683	224	135	782	141	135	0	0	2,322
65 TO 69	0	56	171	476	0	0	0	0	0	0	703
70 & UP	0	0	76	118	0	112	0	0	0	0	306
<b>TOTAL *</b>	<b>2,029</b>	<b>3,409</b>	<b>4,056</b>	<b>2,906</b>	<b>1,348</b>	<b>1,958</b>	<b>339</b>	<b>270</b>	<b>0</b>	<b>0</b>	<b>16,314</b>

<i>AVERAGE SALARIES: **</i>											
UNDER 20	0	0	0	0	0	0	0	0	0	0	0
20 TO 24	0	0	0	0	0	0	0	0	0	0	0
25 TO 29	0	0	0	0	0	0	0	0	0	0	0
30 TO 34	69,307	92,026	97,921	0	0	0	0	0	0	0	87,820
35 TO 39	78,200	112,409	51,480	0	0	0	0	0	0	0	90,851
40 TO 44	66,582	96,371	81,703	84,858	0	0	0	0	0	0	83,507
45 TO 49	92,859	112,552	127,535	101,787	90,832	143,360	0	0	0	0	110,812
50 TO 54	75,519	86,577	82,881	137,075	115,172	140,754	0	0	0	0	102,104
55 TO 59	57,141	77,254	119,825	91,244	121,554	106,060	98,820	135,743	0	0	101,627
60 TO 64	76,380	70,304	97,545	111,850	134,524	130,320	141,385	134,524	0	0	110,568
65 TO 69	0	55,970	85,651	95,186	0	0	0	0	0	0	87,900
70 & UP	0	0	76,336	118,029	0	111,781	0	0	0	0	102,049
<b>TOTAL</b>	<b>75,146</b>	<b>94,687</b>	<b>103,995</b>	<b>107,617</b>	<b>112,295</b>	<b>122,346</b>	<b>113,009</b>	<b>135,134</b>	<b>0</b>	<b>0</b>	<b>100,701</b>

Note: Age is last birthday. Service is completed years.

\* Total may not add up due to rounding.

\*\* Average based on unrounded salary.

**Table XIII-6**  
**Detailed Active Membership and Salaries by Group as of June 30, 2016 (cont'd)**

		New York City: Sanitation									
AGE \ SVC	UNDER 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & UP	ALL YEARS	
<i>NUMBER:</i>											
UNDER 20	0	0	0	0	0	0	0	0	0	0	
20 TO 24	1	0	0	0	0	0	0	0	0	1	
25 TO 29	289	74	11	0	0	0	0	0	0	374	
30 TO 34	508	298	375	0	0	0	0	0	0	1,181	
35 TO 39	376	292	560	279	1	0	0	0	0	1,508	
40 TO 44	220	171	458	484	60	0	0	0	0	1,393	
45 TO 49	134	113	293	463	174	31	0	0	0	1,208	
50 TO 54	62	54	137	353	126	206	19	2	0	959	
55 TO 59	18	12	67	150	64	135	22	6	0	474	
60 TO 64	3	4	18	56	20	36	39	10	2	188	
65 TO 69	0	1	5	9	9	8	6	1	3	42	
70 & UP	0	0	1	2	0	2	1	1	3	10	
<b>TOTAL</b>	<b>1,611</b>	<b>1,019</b>	<b>1,925</b>	<b>1,796</b>	<b>454</b>	<b>418</b>	<b>87</b>	<b>20</b>	<b>8</b>	<b>7,338</b>	

<i>SALARIES (IN THOUSANDS):</i>										
UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	46	0	0	0	0	0	0	0	0	46
25 TO 29	15,954	6,095	1,073	0	0	0	0	0	0	23,122
30 TO 34	28,452	26,114	36,862	0	0	0	0	0	0	91,428
35 TO 39	21,360	25,816	54,717	30,023	100	0	0	0	0	132,016
40 TO 44	12,114	15,214	44,747	50,743	6,670	0	0	0	0	129,488
45 TO 49	7,506	10,036	28,778	47,546	19,350	3,532	0	0	0	116,749
50 TO 54	3,481	4,846	13,310	36,547	13,446	23,811	2,195	263	0	97,899
55 TO 59	982	1,062	6,433	15,492	6,623	14,430	2,448	818	0	48,288
60 TO 64	204	339	1,719	5,583	2,094	3,776	4,646	1,180	227	19,769
65 TO 69	0	85	456	858	902	829	595	95	268	4,087
70 & UP	0	0	91	187	0	210	88	105	274	955
<b>TOTAL *</b>	<b>90,098</b>	<b>89,607</b>	<b>188,187</b>	<b>186,979</b>	<b>49,187</b>	<b>46,587</b>	<b>9,972</b>	<b>2,461</b>	<b>769</b>	<b>663,846</b>

<i>AVERAGE SALARIES: **</i>										
UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	45,867	0	0	0	0	0	0	0	0	45,867
25 TO 29	55,206	82,364	97,508	0	0	0	0	0	0	61,824
30 TO 34	56,007	87,630	98,300	0	0	0	0	0	0	77,416
35 TO 39	56,808	88,411	97,709	107,608	100,465	0	0	0	0	87,544
40 TO 44	55,066	88,968	97,701	104,841	111,162	0	0	0	0	92,956
45 TO 49	56,013	88,815	98,219	102,692	111,209	113,931	0	0	0	96,646
50 TO 54	56,150	89,737	97,151	103,531	106,715	115,586	115,549	131,651	0	102,084
55 TO 59	54,529	88,514	96,017	103,281	103,489	106,889	111,260	136,281	0	101,873
60 TO 64	67,843	84,834	95,488	99,702	104,719	104,893	119,129	118,000	113,518	105,152
65 TO 69	0	84,884	91,251	95,353	100,259	103,612	99,116	94,652	89,200	97,321
70 & UP	0	0	91,027	93,557	0	104,775	87,787	104,927	91,432	95,470
<b>TOTAL</b>	<b>55,927</b>	<b>87,936</b>	<b>97,759</b>	<b>104,109</b>	<b>108,340</b>	<b>111,453</b>	<b>114,617</b>	<b>123,028</b>	<b>96,117</b>	<b>90,467</b>

Note: Age is last birthday. Service is completed years.

\* Total may not add up due to rounding.

\*\* Average based on unrounded salary.

**Table XIII-6**  
**Detailed Active Membership and Salaries by Group as of June 30, 2016 (cont'd)**

New York City: Correction										
AGE \ SVC	UNDER 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & UP	ALL YEARS
<i>NUMBER:</i>										
UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	171	0	0	0	0	0	0	0	0	171
25 TO 29	783	159	0	0	0	0	0	0	0	942
30 TO 34	758	652	247	0	0	0	0	0	0	1,657
35 TO 39	393	419	544	108	0	0	0	0	0	1,464
40 TO 44	218	278	443	451	47	0	0	0	0	1,437
45 TO 49	120	185	340	529	177	129	0	0	0	1,480
50 TO 54	51	96	170	266	121	260	40	0	0	1,004
55 TO 59	21	23	75	119	54	132	44	11	0	479
60 TO 64	0	10	23	31	15	41	20	12	0	152
65 TO 69	0	1	7	6	0	7	1	3	2	27
70 & UP	0	1	1	0	0	0	0	0	0	2
<b>TOTAL</b>	<b>2,515</b>	<b>1,824</b>	<b>1,850</b>	<b>1,510</b>	<b>414</b>	<b>569</b>	<b>105</b>	<b>26</b>	<b>2</b>	<b>8,815</b>

<i>SALARIES (IN THOUSANDS):</i>										
UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	8,097	0	0	0	0	0	0	0	0	8,097
25 TO 29	40,176	11,617	0	0	0	0	0	0	0	51,793
30 TO 34	41,383	55,942	23,185	0	0	0	0	0	0	120,510
35 TO 39	21,350	36,822	51,893	11,047	0	0	0	0	0	121,112
40 TO 44	11,917	24,894	43,571	48,381	5,219	0	0	0	0	133,982
45 TO 49	6,700	16,808	33,638	56,320	19,672	15,366	0	0	0	148,504
50 TO 54	2,889	8,896	17,168	28,189	13,176	29,584	4,874	0	0	104,777
55 TO 59	1,215	2,163	7,534	12,486	6,066	14,674	5,287	1,206	0	50,632
60 TO 64	0	975	2,313	3,299	1,675	4,564	2,364	1,353	0	16,542
65 TO 69	0	100	711	625	0	851	111	332	222	2,951
70 & UP	0	102	130	0	0	0	0	0	0	232
<b>TOTAL*</b>	<b>133,727</b>	<b>158,319</b>	<b>180,143</b>	<b>160,347</b>	<b>45,809</b>	<b>65,039</b>	<b>12,636</b>	<b>2,891</b>	<b>222</b>	<b>759,134</b>

<i>AVERAGE SALARIES: **</i>										
UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	47,354	0	0	0	0	0	0	0	0	47,354
25 TO 29	51,310	73,066	0	0	0	0	0	0	0	54,982
30 TO 34	54,595	85,801	93,868	0	0	0	0	0	0	72,728
35 TO 39	54,325	87,881	95,391	102,288	0	0	0	0	0	82,727
40 TO 44	54,665	89,547	98,354	107,275	111,052	0	0	0	0	93,238
45 TO 49	55,837	90,853	98,936	106,464	111,142	119,117	0	0	0	100,341
50 TO 54	56,648	92,671	100,986	105,975	108,894	113,784	121,860	0	0	104,359
55 TO 59	57,869	94,030	100,449	104,926	112,334	111,167	120,168	109,664	0	105,703
60 TO 64	0	97,452	100,567	106,417	111,670	111,315	118,189	112,718	0	108,828
65 TO 69	0	99,882	101,594	104,168	0	121,507	110,730	110,579	111,135	109,309
70 & UP	0	102,336	130,006	0	0	0	0	0	0	116,171
<b>TOTAL</b>	<b>53,172</b>	<b>86,798</b>	<b>97,375</b>	<b>106,190</b>	<b>110,650</b>	<b>114,303</b>	<b>120,346</b>	<b>111,179</b>	<b>111,135</b>	<b>86,118</b>

Note: Age is last birthday. Service is completed years.

\* Total may not add up due to rounding.

\*\* Average based on unrounded salary.

**Table XIII-6**  
**Detailed Active Membership and Salaries by Group as of June 30, 2016 (cont'd)**

All Other New York City										
AGE \ SVC	UNDER 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & UP	ALL YEARS
<i>NUMBER:</i>										
UNDER 20	10	0	0	0	0	0	0	0	0	10
20 TO 24	1,106	10	0	0	0	0	0	0	0	1,116
25 TO 29	4,562	836	11	0	0	0	0	0	0	5,409
30 TO 34	4,502	3,336	512	7	0	0	0	0	0	8,357
35 TO 39	3,280	3,300	2,038	393	4	0	0	0	0	9,015
40 TO 44	2,319	2,763	2,344	1,316	172	5	0	0	0	8,919
45 TO 49	2,094	2,311	2,391	2,202	1,332	519	11	0	0	10,860
50 TO 54	1,698	2,027	2,150	2,288	2,404	2,132	608	34	0	13,341
55 TO 59	1,211	1,617	1,827	1,909	2,170	2,130	1,528	464	7	12,863
60 TO 64	637	934	1,153	1,236	1,346	1,312	994	500	128	8,240
65 TO 69	219	419	522	562	445	416	262	170	178	3,193
70 & UP	78	123	197	217	178	158	125	59	144	1,279
<b>TOTAL</b>	<b>21,716</b>	<b>17,676</b>	<b>13,145</b>	<b>10,130</b>	<b>8,051</b>	<b>6,672</b>	<b>3,528</b>	<b>1,227</b>	<b>457</b>	<b>82,602</b>

<i>SALARIES (IN THOUSANDS):</i>										
UNDER 20	274	0	0	0	0	0	0	0	0	274
20 TO 24	45,590	500	0	0	0	0	0	0	0	46,090
25 TO 29	220,682	44,624	725	0	0	0	0	0	0	266,031
30 TO 34	253,292	196,314	32,157	524	0	0	0	0	0	482,287
35 TO 39	198,658	212,427	134,123	27,083	291	0	0	0	0	572,582
40 TO 44	144,189	182,882	161,474	92,974	13,187	442	0	0	0	595,149
45 TO 49	127,390	150,339	163,398	152,527	100,044	41,183	970	0	0	735,852
50 TO 54	104,029	132,928	147,765	159,620	182,382	166,436	47,262	2,640	0	943,063
55 TO 59	73,995	102,601	124,468	134,055	166,567	163,713	120,236	34,522	566	920,723
60 TO 64	39,564	61,536	77,309	87,815	100,860	101,250	73,878	37,511	9,154	588,877
65 TO 69	13,158	28,282	34,543	40,646	33,045	31,129	18,798	13,350	14,494	227,445
70 & UP	4,076	7,801	12,331	14,028	12,666	11,138	8,431	4,635	12,287	87,393
<b>TOTAL*</b>	<b>1,224,897</b>	<b>1,120,235</b>	<b>888,294</b>	<b>709,273</b>	<b>609,041</b>	<b>515,292</b>	<b>269,575</b>	<b>92,658</b>	<b>36,500</b>	<b>5,465,765</b>

<i>AVERAGE SALARIES: **</i>										
UNDER 20	27,387	0	0	0	0	0	0	0	0	27,387
20 TO 24	41,221	50,022	0	0	0	0	0	0	0	41,300
25 TO 29	48,374	53,378	65,937	0	0	0	0	0	0	49,183
30 TO 34	56,262	58,847	62,806	74,897	0	0	0	0	0	57,711
35 TO 39	60,566	64,372	65,811	68,914	72,670	0	0	0	0	63,514
40 TO 44	62,177	66,190	68,888	70,649	76,669	88,363	0	0	0	66,728
45 TO 49	60,836	65,054	68,339	69,268	75,108	79,351	88,197	0	0	67,758
50 TO 54	61,266	65,579	68,728	69,764	75,866	78,066	77,734	77,653	0	70,689
55 TO 59	61,102	63,451	68,127	70,223	76,759	76,861	78,688	74,401	80,798	71,579
60 TO 64	62,110	65,885	67,051	71,048	74,933	77,173	74,324	75,022	71,513	71,466
65 TO 69	60,081	67,499	66,175	72,324	74,258	74,830	71,747	78,529	81,428	71,232
70 & UP	52,260	63,425	62,594	64,645	71,156	70,495	67,447	78,558	85,324	68,329
<b>TOTAL</b>	<b>56,405</b>	<b>63,376</b>	<b>67,577</b>	<b>70,017</b>	<b>75,648</b>	<b>77,232</b>	<b>76,410</b>	<b>75,516</b>	<b>79,869</b>	<b>66,170</b>

Note: Age is last birthday. Service is completed years.

\* Total may not add up due to rounding.

\*\* Average based on unrounded salary.

**Table XIII-6**  
**Detailed Active Membership and Salaries by Group as of June 30, 2016 (cont'd)**

		Total									
AGE \ SVC	UNDER 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & UP	ALL YEARS	
<i>NUMBER:</i>											
UNDER 20	16	0	0	0	0	0	0	0	0	16	
20 TO 24	1,783	26	0	0	0	0	0	0	0	1,809	
25 TO 29	8,332	1,681	42	0	0	0	0	0	0	10,055	
30 TO 34	9,544	6,347	1,562	87	0	0	0	0	0	17,540	
35 TO 39	7,428	6,517	4,700	1,308	14	0	0	0	0	19,967	
40 TO 44	5,625	5,714	5,399	3,908	676	31	0	0	0	21,353	
45 TO 49	4,843	5,212	5,590	5,957	3,403	1,503	48	0	0	26,556	
50 TO 54	4,076	4,621	5,130	6,226	5,032	5,179	1,543	100	0	31,907	
55 TO 59	2,764	3,619	4,250	5,312	4,780	4,676	2,795	805	9	29,010	
60 TO 64	1,340	2,145	2,714	3,416	2,947	2,707	1,813	899	186	18,167	
65 TO 69	428	876	1,173	1,443	934	832	447	308	275	6,716	
70 & UP	135	233	362	495	342	297	196	97	228	2,385	
<b>TOTAL</b>	<b>46,314</b>	<b>36,991</b>	<b>30,922</b>	<b>28,152</b>	<b>18,128</b>	<b>15,225</b>	<b>6,842</b>	<b>2,209</b>	<b>698</b>	<b>185,481</b>	

<i>SALARIES (IN THOUSANDS):</i>										
UNDER 20	541	0	0	0	0	0	0	0	0	541
20 TO 24	78,936	1,644	0	0	0	0	0	0	0	80,580
25 TO 29	431,524	99,457	3,138	0	0	0	0	0	0	534,118
30 TO 34	554,281	412,440	120,395	7,207	0	0	0	0	0	1,094,323
35 TO 39	454,338	446,965	349,455	106,250	1,089	0	0	0	0	1,358,097
40 TO 44	354,179	400,138	407,069	317,817	55,501	2,688	0	0	0	1,537,392
45 TO 49	306,288	362,770	414,192	471,630	276,772	128,165	4,474	0	0	1,964,291
50 TO 54	262,264	317,400	371,415	483,477	407,008	433,904	133,399	8,896	0	2,417,763
55 TO 59	179,183	243,261	303,882	408,721	388,447	379,904	230,677	63,744	784	2,198,603
60 TO 64	89,482	146,151	189,920	259,776	232,308	216,143	144,345	73,168	13,761	1,365,054
65 TO 69	28,039	59,976	81,333	109,645	71,506	64,860	34,196	25,420	23,339	498,312
70 & UP	8,548	14,828	23,703	34,142	24,745	21,583	13,802	7,507	18,608	167,466
<b>TOTAL *</b>	<b>2,747,600</b>	<b>2,505,029</b>	<b>2,264,502</b>	<b>2,198,665</b>	<b>1,457,376</b>	<b>1,247,247</b>	<b>560,894</b>	<b>178,735</b>	<b>56,492</b>	<b>13,216,539</b>

<i>AVERAGE SALARIES: **</i>										
UNDER 20	33,781	0	0	0	0	0	0	0	0	33,781
20 TO 24	44,271	63,247	0	0	0	0	0	0	0	44,544
25 TO 29	51,791	59,165	74,711	0	0	0	0	0	0	53,120
30 TO 34	58,076	64,982	77,078	82,839	0	0	0	0	0	62,390
35 TO 39	61,166	68,584	74,352	81,231	77,792	0	0	0	0	68,017
40 TO 44	62,965	70,028	75,397	81,325	82,102	86,709	0	0	0	71,999
45 TO 49	63,244	69,603	74,095	79,172	81,332	85,273	93,206	0	0	73,968
50 TO 54	64,343	68,686	72,400	77,655	80,884	83,781	86,454	88,962	0	75,775
55 TO 59	64,827	67,218	71,502	76,943	81,265	81,245	82,532	79,185	87,110	75,788
60 TO 64	66,777	68,135	69,978	76,047	78,829	79,846	79,617	81,388	73,985	75,139
65 TO 69	65,511	68,465	69,337	75,984	76,558	77,957	76,502	82,532	84,868	74,198
70 & UP	63,316	63,640	65,478	68,974	72,354	72,670	70,421	77,389	81,613	70,216
<b>TOTAL</b>	<b>59,325</b>	<b>67,720</b>	<b>73,233</b>	<b>78,100</b>	<b>80,394</b>	<b>81,921</b>	<b>81,978</b>	<b>80,912</b>	<b>80,934</b>	<b>71,255</b>

Note: Age is last birthday. Service is completed years.

\* Total may not add up due to rounding.

\*\* Average based on unrounded salary.

**Table XIII-7**  
**Detailed Reconciliation of Active Membership**

Transit Authority											
TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2016						TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2015					
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	42	4,167,599	99,229	72.7	44.1	45	4,357,970	96,844	71.4	44.0
1	F	6	462,948	77,158	72.2	45.7	9	683,513	75,946	68.8	44.6
		48	4,630,547	96,470	72.7	44.2	54	5,041,483	93,361	70.9	44.1
2	M	27	2,569,991	95,185	66.4	40.0	34	3,121,032	91,795	65.4	38.7
2	F	6	422,789	70,465	65.5	37.8	9	639,912	71,101	64.1	37.7
		33	2,992,780	90,690	66.2	39.7	43	3,760,944	87,464	65.1	38.5
4	M	25,536	2,166,429,894	84,838	52.4	17.6	26,939	2,235,311,432	82,977	51.8	17.0
4	F	5,011	381,105,978	76,054	50.3	17.2	5,267	392,873,256	74,591	49.7	16.6
		30,547	2,547,535,872	83,397	52.0	17.6	32,206	2,628,184,688	81,605	51.5	17.0
6	M	6,707	455,323,437	67,888	41.1	2.0	5,193	331,665,906	63,868	40.2	1.4
6	F	1,332	79,780,637	59,895	38.8	1.9	985	55,721,328	56,570	38.0	1.5
		8,039	535,104,074	66,564	40.7	2.0	6,178	387,387,234	62,704	39.8	1.4
<b>ALL</b>		<b>38,667</b>	<b>3,090,263,273</b>	<b>79,920</b>	<b>49.7</b>	<b>14.4</b>	<b>38,481</b>	<b>3,024,374,349</b>	<b>78,594</b>	<b>49.7</b>	<b>14.5</b>

JUNE 30, 2016 MEMBERS ALSO PRESENT AS OF JUNE 30, 2015						JUNE 30, 2015 MEMBERS ALSO PRESENT AS OF JUNE 30, 2016					
1	M	41	4,076,434	99,425	72.9	45.0	41	4,012,304	97,861	71.9	44.0
1	F	6	462,948	77,158	72.2	45.7	6	457,707	76,285	71.2	44.7
		47	4,539,382	96,583	72.8	45.1	47	4,470,011	95,107	71.8	44.1
2	M	27	2,569,991	95,185	66.4	40.0	27	2,526,395	93,570	65.4	39.5
2	F	6	422,789	70,465	65.5	37.8	6	418,458	69,743	64.5	36.8
		33	2,992,780	90,690	66.2	39.6	33	2,944,853	89,238	65.2	39.0
4	M	25,160	2,139,867,385	85,050	52.4	17.7	25,160	2,090,726,807	83,097	51.4	16.7
4	F	4,801	368,003,463	76,651	50.5	17.5	4,801	359,036,529	74,784	49.5	16.5
		29,961	2,507,870,848	83,705	52.1	17.7	29,961	2,449,763,336	81,765	51.1	16.7
6	M	4,902	343,736,743	70,122	41.2	2.4	4,902	313,578,464	63,969	40.2	1.4
6	F	894	55,972,427	62,609	39.1	2.5	894	50,485,699	56,472	38.1	1.5
		5,796	399,709,170	68,963	40.9	2.4	5,796	364,064,163	62,813	39.9	1.4
<b>ALL</b>		<b>35,837</b>	<b>2,915,112,180</b>	<b>81,344</b>	<b>50.4</b>	<b>15.3</b>	<b>35,837</b>	<b>2,821,242,363</b>	<b>78,724</b>	<b>49.4</b>	<b>14.3</b>

ADDITIONS DURING THE YEAR *						SEPARATIONS FROM MEMBERSHIP DURING THE YEAR *					
1	M	1	91,165	91,165	66.0	4.0	4	345,666	86,417	66.0	43.3
1	F	0	0	0	0.0	0.0	3	225,806	75,269	64.0	44.3
		1	91,165	91,165	66.0	4.0	7	571,472	81,639	65.1	43.7
2	M	0	0	0	0.0	0.0	7	594,637	84,948	65.4	35.4
2	F	0	0	0	0.0	0.0	3	221,454	73,818	63.3	39.3
		0	0	0	0.0	0.0	10	816,091	81,609	64.8	36.6
4	M	376	26,562,509	70,645	47.9	11.6	1,779	144,584,625	81,273	57.1	21.6
4	F	210	13,102,515	62,393	43.9	10.9	466	33,836,727	72,611	51.8	18.0
		586	39,665,024	67,688	46.5	11.4	2,245	178,421,352	79,475	56.0	20.8
6	M	1,805	111,586,694	61,821	40.6	0.7	291	18,087,442	62,156	39.4	1.1
6	F	438	23,808,210	54,357	38.3	0.7	91	5,235,629	57,534	37.4	1.4
		2,243	135,394,904	60,363	40.2	0.7	382	23,323,071	61,055	38.9	1.2
<b>ALL</b>		<b>2,830</b>	<b>175,151,093</b>	<b>61,891</b>	<b>41.5</b>	<b>2.9</b>	<b>2,644</b>	<b>203,131,986</b>	<b>76,828</b>	<b>53.6</b>	<b>18.1</b>

Note: Age is nearest birthday. Service is nearest year.

\* Separations and additions do not include members who joined after June 30, 2015 and are no longer members on June 30, 2016.

**Table XIII-7**  
**Detailed Reconciliation of Active Membership (cont'd)**

Housing Authority											
TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2016							TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2015				
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	8	475,732	59,467	73.0	42.5	9	536,062	59,562	71.4	41.6
1	F	5	249,319	49,864	69.6	46.0	6	313,896	52,316	68.2	45.0
		13	725,051	55,773	71.7	43.8	15	849,958	56,664	70.1	42.9
2	M	9	692,211	76,912	65.8	33.3	12	893,490	74,458	64.4	34.5
2	F	8	491,040	61,380	66.8	40.0	9	518,349	57,594	65.2	39.3
		17	1,183,251	69,603	66.2	36.1	21	1,411,839	67,230	64.8	36.6
4	M	5,047	356,874,516	70,710	50.5	17.8	5,382	372,783,966	69,265	49.8	17.1
4	F	3,194	186,340,591	58,341	50.2	16.4	3,443	192,605,527	55,941	49.4	15.5
		8,241	543,215,107	65,916	50.4	17.3	8,825	565,389,493	64,067	49.7	16.5
6	M	1,043	56,114,034	53,801	39.1	2.3	946	45,355,571	47,945	37.7	1.6
6	F	600	27,241,413	45,402	37.4	2.3	530	21,015,091	39,651	36.3	1.7
		1,643	83,355,447	50,734	38.5	2.3	1,476	66,370,662	44,967	37.2	1.6
<b>ALL</b>		<b>9,914</b>	<b>628,478,856</b>	<b>63,393</b>	<b>48.5</b>	<b>14.9</b>	<b>10,337</b>	<b>634,021,952</b>	<b>61,335</b>	<b>47.9</b>	<b>14.4</b>

JUNE 30, 2016 MEMBERS ALSO PRESENT AS OF JUNE 30, 2015							JUNE 30, 2015 MEMBERS ALSO PRESENT AS OF JUNE 30, 2016				
1	M	8	475,732	59,467	73.0	42.5	8	463,684	57,961	72.0	41.5
1	F	5	249,319	49,864	69.6	46.0	5	243,343	48,669	68.6	45.0
		13	725,051	55,773	71.7	43.8	13	707,027	54,387	70.7	42.8
2	M	9	692,211	76,912	65.8	33.3	9	675,563	75,063	64.8	32.3
2	F	8	491,040	61,380	66.8	40.0	8	479,104	59,888	65.8	39.0
		17	1,183,251	69,603	66.2	36.5	17	1,154,667	67,922	65.2	35.5
4	M	4,986	353,494,161	70,897	50.5	17.9	4,986	345,635,808	69,321	49.5	16.9
4	F	3,145	183,741,280	58,423	50.3	16.5	3,145	176,688,771	56,181	49.3	15.5
		8,131	537,235,441	66,072	50.4	17.4	8,131	522,324,579	64,239	49.4	16.4
6	M	859	46,753,406	54,428	38.6	2.6	859	40,841,740	47,546	37.6	1.6
6	F	451	20,805,575	46,132	37.5	2.7	451	17,977,755	39,862	36.5	1.7
		1,310	67,558,981	51,572	38.2	2.6	1,310	58,819,495	44,900	37.2	1.6
<b>ALL</b>		<b>9,471</b>	<b>606,702,724</b>	<b>64,059</b>	<b>48.8</b>	<b>15.4</b>	<b>9,471</b>	<b>583,005,768</b>	<b>61,557</b>	<b>47.8</b>	<b>14.4</b>

ADDITIONS DURING THE YEAR *							SEPARATIONS FROM MEMBERSHIP DURING THE YEAR *				
1	M	0	0	0	0.0	0.0	1	72,378	72,378	67.0	42.0
1	F	0	0	0	0.0	0.0	1	70,553	70,553	66.0	45.0
		0	0	0	0.0	0.0	2	142,931	71,466	66.5	43.5
2	M	0	0	0	0.0	0.0	3	217,927	72,642	63.3	41.0
2	F	0	0	0	0.0	0.0	1	39,245	39,245	61.0	42.0
		0	0	0	0.0	0.0	4	257,172	64,293	62.8	41.3
4	M	61	3,380,355	55,416	47.3	11.6	396	27,148,158	68,556	53.5	19.2
4	F	49	2,599,311	53,047	42.7	9.1	298	15,916,756	53,412	50.7	15.6
		110	5,979,666	54,361	45.2	10.5	694	43,064,914	62,053	52.3	17.6
6	M	184	9,360,628	50,873	41.7	0.8	87	4,513,831	51,883	38.7	1.4
6	F	149	6,435,838	43,194	37.1	0.9	79	3,037,336	38,447	35.0	1.4
		333	15,796,466	47,437	39.6	0.9	166	7,551,167	45,489	37.0	1.4
<b>ALL</b>		<b>443</b>	<b>21,776,132</b>	<b>49,156</b>	<b>41.0</b>	<b>3.3</b>	<b>866</b>	<b>51,016,184</b>	<b>58,910</b>	<b>49.4</b>	<b>14.7</b>

Note: Age is nearest birthday. Service is nearest year.

\* Separations and additions do not include members who joined after June 30, 2015 and are no longer members on June 30, 2016.

**Table XIII-7**  
**Detailed Reconciliation of Active Membership (cont'd)**

Health and Hospitals Corporation											
TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2016							TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2015				
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	23	1,966,998	85,522	69.3	43.9	28	2,203,306	78,690	68.4	42.9
1	F	38	3,001,206	78,979	69.7	40.8	48	3,711,664	77,326	68.8	39.7
		61	4,968,204	81,446	69.5	42.0	76	5,914,970	77,829	68.7	40.9
2	M	19	1,423,058	74,898	65.7	36.3	25	1,929,756	77,190	64.5	36.1
2	F	34	2,733,327	80,392	66.2	39.0	43	3,239,421	75,335	64.9	38.4
		53	4,156,385	78,422	66.0	38.1	68	5,169,177	76,017	64.8	37.5
4	M	7,893	562,088,972	71,214	51.7	12.8	8,371	576,862,380	68,912	51.0	12.0
4	F	18,787	1,295,146,342	68,938	51.6	13.0	19,922	1,323,521,855	66,435	50.9	12.2
		26,680	1,857,235,314	69,612	51.6	13.0	28,293	1,900,384,235	67,168	50.9	12.1
6	M	1,553	107,563,831	69,262	40.5	1.7	1,140	76,506,792	67,111	39.4	1.3
6	F	3,975	253,810,946	63,852	40.2	1.7	2,957	183,209,232	61,958	39.2	1.3
		5,528	361,374,777	65,372	40.3	1.7	4,097	259,716,024	63,392	39.3	1.3
<b>ALL</b>		<b>32,322</b>	<b>2,227,734,680</b>	<b>68,923</b>	<b>49.7</b>	<b>11.1</b>	<b>32,534</b>	<b>2,171,184,406</b>	<b>66,736</b>	<b>49.5</b>	<b>10.9</b>

JUNE 30, 2016 MEMBERS ALSO PRESENT AS OF JUNE 30, 2015							JUNE 30, 2015 MEMBERS ALSO PRESENT AS OF JUNE 30, 2016				
1	M	23	1,966,998	85,522	69.3	43.9	23	1,902,692	82,726	68.3	42.9
1	F	38	3,001,206	78,979	69.7	40.8	38	2,920,776	76,863	68.7	39.8
		61	4,968,204	81,446	69.5	42.0	61	4,823,468	79,073	68.5	41.0
2	M	19	1,423,058	74,898	65.7	36.3	19	1,382,039	72,739	64.7	35.4
2	F	34	2,733,327	80,392	66.2	39.0	34	2,650,395	77,953	65.2	38.0
		53	4,156,385	78,422	66.0	38.1	53	4,032,434	76,084	65.0	37.1
4	M	7,751	550,520,936	71,026	51.7	12.8	7,751	531,069,346	68,516	50.7	11.8
4	F	18,358	1,266,303,447	68,978	51.7	13.1	18,358	1,218,353,762	66,366	50.7	12.1
		26,109	1,816,824,383	69,586	51.7	13.0	26,109	1,749,423,108	67,005	50.7	12.0
6	M	992	69,548,906	70,110	40.6	2.3	992	65,285,890	65,812	39.6	1.3
6	F	2,517	163,462,975	64,944	40.7	2.3	2,517	154,311,226	61,308	39.7	1.3
		3,509	233,011,881	66,404	40.7	2.3	3,509	219,597,116	62,581	39.7	1.3
<b>ALL</b>		<b>29,732</b>	<b>2,058,960,853</b>	<b>69,251</b>	<b>50.5</b>	<b>11.9</b>	<b>29,732</b>	<b>1,977,876,126</b>	<b>66,523</b>	<b>49.5</b>	<b>10.9</b>

ADDITIONS DURING THE YEAR *							SEPARATIONS FROM MEMBERSHIP DURING THE YEAR *				
1	M	0	0	0	0.0	0.0	5	300,614	60,123	69.0	42.8
1	F	0	0	0	0.0	0.0	10	790,888	79,089	69.3	39.6
		0	0	0	0.0	0.0	15	1,091,502	72,767	69.2	40.7
2	M	0	0	0	0.0	0.0	6	547,717	91,286	63.8	38.3
2	F	0	0	0	0.0	0.0	9	589,026	65,447	63.7	39.8
		0	0	0	0.0	0.0	15	1,136,743	75,783	63.7	39.2
4	M	142	11,568,036	81,465	48.2	9.6	620	45,793,034	73,860	54.0	13.5
4	F	429	28,842,895	67,233	46.6	9.2	1,564	105,168,093	67,243	53.2	13.4
		571	40,410,931	70,772	47.0	9.3	2,184	150,961,127	69,121	53.4	13.4
6	M	561	38,014,925	67,763	40.4	0.7	148	11,220,902	75,817	38.5	1.3
6	F	1,458	90,347,971	61,967	39.3	0.7	440	28,898,006	65,677	36.5	1.3
		2,019	128,362,896	63,577	39.6	0.7	588	40,118,908	68,229	37.0	1.3
<b>ALL</b>		<b>2,590</b>	<b>168,773,827</b>	<b>65,164</b>	<b>41.2</b>	<b>2.6</b>	<b>2,802</b>	<b>193,308,280</b>	<b>68,989</b>	<b>50.1</b>	<b>11.1</b>

Note: Age is nearest birthday. Service is nearest year.

\* Separations and additions do not include members who joined after June 30, 2015 and are no longer members on June 30, 2016.



**Table XIII-7**  
**Detailed Reconciliation of Active Membership (cont'd)**

<b>Triborough Bridge and Tunnel Authority</b>											
<b>TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2016</b>							<b>TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2015</b>				
<b>TIER</b>	<b>GENDER</b>	<b>NUMBER</b>	<b>SALARY</b>	<b>AVG SAL</b>	<b>AVG AGE</b>	<b>AVG SVC</b>	<b>NUMBER</b>	<b>SALARY</b>	<b>AVG SAL</b>	<b>AVG AGE</b>	<b>AVG SVC</b>
1	M	2	267,233	133,617	63.0	41.0	2	261,997	130,999	62.0	43.0
1	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		2	267,233	133,617	63.0	41.0	2	261,997	130,999	62.0	43.0
2	M	1	69,760	69,760	62.0	42.0	2	205,808	102,904	63.5	41.0
2	F	0	0	0	0.0	0.0	2	158,021	79,011	64.5	26.0
		1	69,760	69,760	62.0	42.0	4	363,829	90,957	64.0	33.5
4	M	939	92,773,402	98,800	48.1	14.9	1,020	98,932,696	96,993	47.7	14.3
4	F	237	22,228,956	93,793	49.0	16.0	243	22,370,996	92,062	48.5	15.3
		1,176	115,002,358	97,791	48.3	15.1	1,263	121,303,692	96,044	47.8	14.5
6	M	96	8,126,678	84,653	39.4	1.8	68	5,927,629	87,171	40.5	1.3
6	F	36	3,107,420	86,317	38.4	2.5	30	2,442,018	81,401	36.9	1.9
		132	11,234,098	85,107	39.1	2.0	98	8,369,647	85,405	39.4	1.5
<b>ALL</b>		<b>1,311</b>	<b>126,573,449</b>	<b>96,547</b>	<b>47.4</b>	<b>13.8</b>	<b>1,367</b>	<b>130,299,165</b>	<b>95,318</b>	<b>47.3</b>	<b>13.6</b>

<b>JUNE 30, 2016 MEMBERS ALSO PRESENT AS OF JUNE 30, 2015</b>							<b>JUNE 30, 2015 MEMBERS ALSO PRESENT AS OF JUNE 30, 2016</b>				
1	M	2	267,233	133,617	63.0	41.0	2	261,997	130,999	62.0	43.0
1	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		2	267,233	133,617	63.0	41.0	2	261,997	130,999	62.0	43.0
2	M	1	69,760	69,760	62.0	42.0	1	71,175	71,175	61.0	41.0
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		1	69,760	69,760	62.0	42.0	1	71,175	71,175	61.0	41.0
4	M	926	91,740,868	99,072	48.2	14.9	926	89,119,672	96,242	47.2	13.9
4	F	226	21,184,563	93,737	49.1	16.2	226	20,683,734	91,521	48.1	15.2
		1,152	112,925,431	98,026	48.4	15.2	1,152	109,803,406	95,315	47.4	14.2
6	M	61	5,607,763	91,931	41.7	2.4	61	5,298,447	86,860	40.7	1.4
6	F	29	2,470,906	85,204	38.2	3.0	29	2,369,326	81,701	37.2	2.0
		90	8,078,669	89,763	40.6	2.6	90	7,667,773	85,197	39.6	1.6
<b>ALL</b>		<b>1,245</b>	<b>121,341,093</b>	<b>97,463</b>	<b>47.9</b>	<b>14.3</b>	<b>1,245</b>	<b>117,804,351</b>	<b>94,622</b>	<b>46.9</b>	<b>13.3</b>

<b>ADDITIONS DURING THE YEAR *</b>							<b>SEPARATIONS FROM MEMBERSHIP DURING THE YEAR *</b>				
1	M	0	0	0	0.0	0.0	0	0	0	0.0	0.0
1	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		0	0	0	0.0	0.0	0	0	0	0.0	0.0
2	M	0	0	0	0.0	0.0	1	134,633	134,633	66.0	41.0
2	F	0	0	0	0.0	0.0	2	158,021	79,011	64.5	26.0
		0	0	0	0.0	0.0	3	292,654	97,551	65.0	31.0
4	M	13	1,032,534	79,426	40.5	9.2	94	9,813,024	104,394	51.7	17.5
4	F	11	1,044,393	94,945	47.3	12.5	17	1,687,262	99,251	53.9	16.5
		24	2,076,927	86,539	43.6	10.7	111	11,500,286	103,606	52.1	17.3
6	M	35	2,518,915	71,969	35.3	0.7	7	629,182	89,883	38.1	0.9
6	F	7	636,514	90,931	39.0	0.6	1	72,692	72,692	29.0	1.0
		42	3,155,429	75,129	36.0	0.7	8	701,874	87,734	37.0	0.9
<b>ALL</b>		<b>66</b>	<b>5,232,356</b>	<b>79,278</b>	<b>38.7</b>	<b>4.3</b>	<b>122</b>	<b>12,494,814</b>	<b>102,417</b>	<b>51.4</b>	<b>16.6</b>

Note: Age is nearest birthday. Service is nearest year.

\* Separations and additions do not include members who joined after June 30, 2015 and are no longer members on June 30, 2016.

**Table XIII-7**  
**Detailed Reconciliation of Active Membership (cont'd)**

CUNY Senior Colleges											
TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2016							TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2015				
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	9	595,995	66,222	70.6	40.9	9	585,149	65,017	69.6	39.9
1	F	8	498,027	62,253	71.3	41.1	10	590,692	59,069	69.4	41.0
		17	1,094,022	64,354	70.9	41.0	19	1,175,841	61,886	69.5	40.5
2	M	4	221,932	55,483	72.5	40.8	5	296,899	59,380	69.6	39.8
2	F	5	329,128	65,826	68.0	39.2	7	508,816	72,688	69.3	38.9
		9	551,060	61,229	70.0	39.8	12	805,715	67,143	69.4	39.3
4	M	1,827	118,009,818	64,592	49.9	12.7	1,762	109,401,215	62,089	49.2	11.9
4	F	1,840	88,253,514	47,964	51.9	12.5	1,852	84,114,228	45,418	51.2	11.7
		3,667	206,263,332	56,249	50.9	12.6	3,614	193,515,443	53,546	50.2	11.8
6	M	354	18,005,390	50,863	39.1	2.4	380	16,861,789	44,373	36.9	1.4
6	F	303	12,516,622	41,309	39.7	2.4	305	10,616,732	34,809	38.7	1.4
		657	30,522,012	46,457	39.4	2.4	685	27,478,521	40,115	37.7	1.4
<b>ALL</b>		<b>4,350</b>	<b>238,430,426</b>	<b>54,812</b>	<b>49.3</b>	<b>11.2</b>	<b>4,330</b>	<b>222,975,520</b>	<b>51,496</b>	<b>48.4</b>	<b>10.4</b>

JUNE 30, 2016 MEMBERS ALSO PRESENT AS OF JUNE 30, 2015							JUNE 30, 2015 MEMBERS ALSO PRESENT AS OF JUNE 30, 2016				
1	M	9	595,995	66,222	70.6	40.9	9	585,149	65,017	69.6	39.9
1	F	8	498,027	62,253	71.3	41.1	8	481,361	60,170	70.3	40.5
		17	1,094,022	64,354	70.9	41.0	17	1,066,510	62,736	69.9	40.2
2	M	4	221,932	55,483	72.5	40.8	4	218,585	54,646	71.5	39.8
2	F	5	329,128	65,826	68.0	39.2	5	323,181	64,636	67.0	38.2
		9	551,060	61,229	70.0	39.9	9	541,766	60,196	69.0	38.9
4	M	1,608	102,361,881	63,658	50.4	13.0	1,608	100,577,788	62,548	49.4	12.0
4	F	1,674	78,533,879	46,914	52.4	12.8	1,674	75,906,544	45,344	51.4	11.8
		3,282	180,895,760	55,118	51.4	12.9	3,282	176,484,332	53,773	50.4	11.9
6	M	302	14,479,596	47,946	39.1	2.4	302	13,620,127	45,100	38.1	1.4
6	F	262	10,029,343	38,280	39.9	2.4	362	9,224,375	25,482	38.9	1.4
		564	24,508,939	43,456	39.5	2.4	564	22,844,502	40,504	38.5	1.4
<b>ALL</b>		<b>3,872</b>	<b>207,049,781</b>	<b>53,474</b>	<b>49.8</b>	<b>11.5</b>	<b>3,872</b>	<b>200,937,110</b>	<b>51,895</b>	<b>48.8</b>	<b>10.6</b>

ADDITIONS DURING THE YEAR *							SEPARATIONS FROM MEMBERSHIP DURING THE YEAR *				
1	M	0	0	0	0.0	0.0	0	0	0	0.0	0.0
1	F	0	0	0	0.0	0.0	2	109,331	54,666	66.0	43.0
		0	0	0	0.0	0.0	2	109,331	54,666	66.0	43.0
2	M	0	0	0	0.0	0.0	1	78,314	78,314	62.0	40.0
2	F	0	0	0	0.0	0.0	2	185,635	92,818	75.0	40.5
		0	0	0	0.0	0.0	3	263,949	87,983	70.7	40.4
4	M	219	15,647,937	71,452	46.7	10.3	154	8,823,427	57,295	47.6	11.1
4	F	166	9,719,635	58,552	47.1	10.1	178	8,207,684	46,111	49.9	11.2
		385	25,367,572	65,890	46.8	10.2	332	17,031,111	51,299	48.8	11.1
6	M	52	3,525,794	67,804	39.0	2.5	78	3,241,662	41,560	32.4	1.3
6	F	41	2,487,279	60,665	38.3	2.1	43	1,392,357	32,380	37.7	1.3
		93	6,013,073	64,657	38.7	2.3	121	4,634,019	38,298	34.3	1.3
<b>ALL</b>		<b>478</b>	<b>31,380,645</b>	<b>65,650</b>	<b>45.3</b>	<b>8.7</b>	<b>458</b>	<b>22,038,410</b>	<b>48,119</b>	<b>45.2</b>	<b>8.9</b>

Note: Age is nearest birthday. Service is nearest year.

\* Separations and additions do not include members who joined after June 30, 2015 and are no longer members on June 30, 2016.

**Table XIII-7**  
**Detailed Reconciliation of Active Membership (cont'd)**

All Other Non-NYC Entites											
		TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2016					TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2015				
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	0	0	0	0.0	0.0	1	160,082	160,082	69.0	47.0
1	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		0	0	0	0.0	0.0	1	160,082	160,082	69.0	47.0
2	M	1	118,029	118,029	70.0	18.0	1	112,030	112,030	69.0	17.0
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		1	118,029	118,029	70.0	18.0	1	112,030	112,030	69.0	17.0
4	M	70	8,056,315	115,090	53.2	15.9	68	7,665,105	112,722	53.0	15.2
4	F	91	8,139,185	89,442	51.0	11.3	97	8,345,946	86,041	49.8	10.2
		161	16,195,500	100,593	52.0	13.3	165	16,011,051	97,037	51.1	12.3
6	M	0	0	0	0.0	0.0	0	0	0	0.0	0.0
6	F	0	0	0	0.0	0.0	1	64,161	64,161	38.0	2.0
		0	0	0	0.0	0.0	1	64,161	64,161	38.0	2.0
<b>ALL</b>		<b>162</b>	<b>16,313,529</b>	<b>100,701</b>	<b>52.1</b>	<b>13.3</b>	<b>168</b>	<b>16,347,324</b>	<b>97,306</b>	<b>51.2</b>	<b>12.5</b>

JUNE 30, 2016 MEMBERS ALSO PRESENT AS OF JUNE 30, 2015							JUNE 30, 2015 MEMBERS ALSO PRESENT AS OF JUNE 30, 2016				
1	M	0	0	0	0.0	0.0	0	0	0	0.0	0.0
1	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		0	0	0	0.0	0.0	0	0	0	0.0	0.0
2	M	1	118,029	118,029	70.0	18.0	1	112,030	112,030	69.0	17.0
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		1	118,029	118,029	70.0	18.0	1	112,030	112,030	69.0	17.0
4	M	63	7,326,653	116,296	53.6	16.2	63	7,087,288	112,497	52.6	15.2
4	F	89	7,943,991	89,258	51.0	11.4	89	7,710,590	86,636	50.0	10.4
		152	15,270,644	100,465	52.1	13.4	152	14,797,878	97,354	51.1	12.4
6	M	0	0	0	0.0	0.0	0	0	0	0.0	0.0
6	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		0	0	0	0.0	0.0	0	0	0	0.0	0.0
<b>ALL</b>		<b>153</b>	<b>15,388,673</b>	<b>100,580</b>	<b>52.2</b>	<b>13.4</b>	<b>153</b>	<b>14,909,908</b>	<b>97,450</b>	<b>51.2</b>	<b>12.4</b>

ADDITIONS DURING THE YEAR *							SEPARATIONS FROM MEMBERSHIP DURING THE YEAR *				
1	M	0	0	0	0.0	0.0	1	160,082	160,082	69.0	47.0
1	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		0	0	0	0.0	0.0	1	160,082	160,082	69.0	47.0
2	M	0	0	0	0.0	0.0	0	0	0	0.0	0.0
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		0	0	0	0.0	0.0	0	0	0	0.0	0.0
4	M	7	729,662	104,237	49.3	13.1	5	577,817	115,563	57.4	15.4
4	F	2	195,194	97,597	50.5	5.5	8	635,356	79,420	46.9	8.0
		9	924,856	102,762	49.6	11.4	13	1,213,173	93,321	50.9	10.8
6	M	0	0	0	0.0	0.0	0	0	0	0.0	0.0
6	F	0	0	0	0.0	0.0	1	64,161	64,161	38.0	2.0
		0	0	0	0.0	0.0	1	64,161	64,161	38.0	2.0
<b>ALL</b>		<b>9</b>	<b>924,856</b>	<b>102,762</b>	<b>49.6</b>	<b>11.4</b>	<b>15</b>	<b>1,437,416</b>	<b>95,828</b>	<b>51.3</b>	<b>12.7</b>

Note: Age is nearest birthday. Service is nearest year.

\* Separations and additions do not include members who joined after June 30, 2015 and are no longer members on June 30, 2016.

**Table XIII-7**  
**Detailed Reconciliation of Active Membership (cont'd)**

New York City: Sanitation											
TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2016						TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2015					
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	4	361,025	90,256	70.5	45.8	5	467,835	93,567	68.8	44.2
1	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		4	361,025	90,256	70.5	45.8	5	467,835	93,567	68.8	44.2
2	M	5	497,744	99,549	65.0	34.4	4	403,602	100,901	65.0	41.8
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		5	497,744	99,549	65.0	34.4	4	403,602	100,901	65.0	41.8
4	M	5,608	560,926,494	100,023	44.6	14.5	5,916	576,510,349	97,449	44.1	14.0
4	F	158	14,894,337	94,268	45.5	14.3	166	15,478,193	93,242	45.5	14.0
		5,766	575,820,831	99,865	44.6	14.5	6,082	591,988,542	97,335	44.2	14.0
6	M	1,518	84,797,504	55,861	36.4	2.4	1,131	58,618,431	51,829	35.5	1.9
6	F	45	2,368,978	52,644	37.8	2.1	30	1,455,336	48,511	37.3	1.8
		1,563	87,166,482	55,769	36.5	2.4	1,161	60,073,767	51,743	35.6	1.9
<b>ALL</b>		<b>7,338</b>	<b>663,846,082</b>	<b>90,467</b>	<b>42.9</b>	<b>12.0</b>	<b>7,252</b>	<b>652,933,746</b>	<b>90,035</b>	<b>42.8</b>	<b>12.1</b>

JUNE 30, 2016 MEMBERS ALSO PRESENT AS OF JUNE 30, 2015						JUNE 30, 2015 MEMBERS ALSO PRESENT AS OF JUNE 30, 2016					
1	M	4	361,025	90,256	70.5	45.8	4	351,181	87,795	69.5	44.8
1	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		4	361,025	90,256	70.5	45.8	4	351,181	87,795	69.5	44.8
2	M	4	407,907	101,977	66.0	42.8	4	403,602	100,901	65.0	41.8
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		4	407,907	101,977	66.0	42.8	4	403,602	100,901	65.0	41.8
4	M	5,573	559,072,940	100,318	44.7	14.6	5,573	541,057,382	97,085	43.7	13.6
4	F	153	14,649,046	95,745	45.8	14.5	153	14,100,969	92,163	44.8	13.5
		5,726	573,721,986	100,196	44.7	14.6	5,726	555,158,351	96,954	43.7	13.6
6	M	1,093	64,256,230	58,789	36.6	3.0	1,093	56,744,933	51,917	35.6	2.0
6	F	29	1,601,826	55,235	38.3	2.8	29	1,403,692	48,403	37.3	1.8
		1,122	65,858,056	58,697	36.6	3.0	1,122	58,148,625	51,826	35.6	2.0
<b>ALL</b>		<b>6,856</b>	<b>640,348,974</b>	<b>93,400</b>	<b>43.4</b>	<b>12.7</b>	<b>6,856</b>	<b>614,061,759</b>	<b>89,566</b>	<b>42.4</b>	<b>11.7</b>

ADDITIONS DURING THE YEAR *						SEPARATIONS FROM MEMBERSHIP DURING THE YEAR *					
1	M	0	0	0	0.0	0.0	1	116,654	116,654	66.0	42.0
1	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		0	0	0	0.0	0.0	1	116,654	116,654	66.0	42.0
2	M	1	89,837	89,837	61.0	1.0	0	0	0	0.0	0.0
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		1	89,837	89,837	61.0	1.0	0	0	0	0.0	0.0
4	M	35	1,853,554	52,959	38.1	6.7	343	35,452,967	103,361	51.5	21.3
4	F	5	245,291	49,058	38.0	9.0	13	1,377,224	105,940	53.9	20.1
		40	2,098,845	52,471	38.1	7.0	356	36,830,191	103,456	51.6	21.2
6	M	425	20,541,274	48,332	36.1	2.5	38	1,873,498	49,303	34.8	1.6
6	F	16	767,152	47,947	36.8	2.1	1	51,644	51,644	37.0	1.0
		441	21,308,426	48,318	36.1	2.5	39	1,925,142	49,363	34.9	1.6
<b>ALL</b>		<b>482</b>	<b>23,497,108</b>	<b>48,749</b>	<b>36.3</b>	<b>2.9</b>	<b>396</b>	<b>38,871,987</b>	<b>98,162</b>	<b>50.0</b>	<b>19.3</b>

Note: Age is nearest birthday. Service is nearest year.

\* Separations and additions do not include members who joined after June 30, 2015 and are no longer members on June 30, 2016.

**Table XIII-7**  
**Detailed Reconciliation of Active Membership (cont'd)**

New York City: Correction											
		TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2016					TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2015				
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	1	110,866	110,866	65.0	44.0	2	216,684	108,342	66.5	44.0
1	F	1	111,403	111,403	66.0	43.0	1	112,715	112,715	65.0	42.0
		2	222,269	111,135	65.5	43.5	3	329,399	109,800	66.0	43.3
2	M	0	0	0	0.0	0.0	0	0	0	0.0	0.0
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		0	0	0	0.0	0.0	0	0	0	0.0	0.0
4	M	3,416	336,560,171	98,525	44.4	14.0	3,718	371,410,719	99,895	44.2	13.9
4	F	3,095	302,177,481	97,634	43.2	13.6	3,293	325,242,455	98,768	43.0	13.4
		6,511	638,737,652	98,101	43.9	13.8	7,011	696,653,174	99,366	43.7	13.7
6	M	1,468	76,645,447	52,211	33.0	1.9	938	47,993,721	51,166	33.2	1.7
6	F	834	43,528,326	52,192	33.1	1.9	514	26,245,128	51,061	33.3	1.7
		2,302	120,173,773	52,204	33.1	1.9	1,452	74,238,849	51,129	33.2	1.7
<b>ALL</b>		<b>8,815</b>	<b>759,133,694</b>	<b>86,118</b>	<b>41.0</b>	<b>10.7</b>	<b>8,466</b>	<b>771,221,422</b>	<b>91,096</b>	<b>41.9</b>	<b>11.6</b>

JUNE 30, 2016 MEMBERS ALSO PRESENT AS OF JUNE 30, 2015							JUNE 30, 2015 MEMBERS ALSO PRESENT AS OF JUNE 30, 2016				
1	M	1	110,866	110,866	65.0	44.0	1	111,981	111,981	64.0	43.0
1	F	1	111,403	111,403	66.0	43.0	1	112,715	112,715	65.0	42.0
		2	222,269	111,135	65.5	43.5	2	224,696	112,348	64.5	42.5
2	M	0	0	0	0.0	0.0	0	0	0	0.0	0.0
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		0	0	0	0.0	0.0	0	0	0	0.0	0.0
4	M	3,316	331,146,142	99,863	44.6	14.2	3,316	328,707,781	99,128	43.6	13.2
4	F	2,986	296,345,700	99,245	43.5	13.8	2,986	292,745,799	98,039	42.5	12.8
		6,302	627,491,842	99,570	44.1	14.0	6,302	621,453,580	98,612	43.1	13.0
6	M	821	46,280,783	56,371	34.4	2.8	821	42,231,539	51,439	33.4	1.8
6	F	460	25,892,724	56,289	34.4	2.7	460	23,618,297	51,344	33.4	1.7
		1,281	72,173,507	56,342	34.4	2.8	1,281	65,849,836	51,405	33.4	1.8
<b>ALL</b>		<b>7,585</b>	<b>699,887,618</b>	<b>92,273</b>	<b>42.5</b>	<b>12.1</b>	<b>7,585</b>	<b>687,528,112</b>	<b>90,643</b>	<b>41.5</b>	<b>11.1</b>

ADDITIONS DURING THE YEAR *							SEPARATIONS FROM MEMBERSHIP DURING THE YEAR *				
1	M	0	0	0	0.0	0.0	1	104,703	104,703	69.0	45.0
1	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		0	0	0	0.0	0.0	1	104,703	104,703	69.0	45.0
2	M	0	0	0	0.0	0.0	0	0	0	0.0	0.0
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		0	0	0	0.0	0.0	0	0	0	0.0	0.0
4	M	100	5,414,029	54,140	37.8	7.9	402	42,702,938	106,226	49.1	19.7
4	F	109	5,831,781	53,503	35.7	8.0	307	32,496,656	105,852	48.2	19.2
		209	11,245,810	53,808	36.7	7.9	709	75,199,594	106,064	48.7	19.5
6	M	647	30,364,664	46,931	31.3	0.7	117	5,762,182	49,249	31.9	1.3
6	F	374	17,635,602	47,154	31.4	0.8	54	2,626,831	48,645	32.4	1.2
		1,021	48,000,266	47,013	31.4	0.8	171	8,389,013	49,059	32.0	1.3
<b>ALL</b>		<b>1,230</b>	<b>59,246,076</b>	<b>48,168</b>	<b>32.3</b>	<b>2.0</b>	<b>881</b>	<b>83,693,310</b>	<b>94,998</b>	<b>45.5</b>	<b>16.0</b>

Note: Age is nearest birthday. Service is nearest year.

\* Separations and additions do not include members who joined after June 30, 2015 and are no longer members on June 30, 2016.

**Table XIII-7**  
**Detailed Reconciliation of Active Membership (cont'd)**

All Other New York City											
TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2016						TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2015					
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	140	13,048,888	93,206	71.4	44.3	174	15,763,248	90,593	70.3	43.0
1	F	161	11,431,074	71,000	69.3	43.5	200	13,953,609	69,768	68.4	42.8
		301	24,479,962	81,329	70.3	43.8	374	29,716,857	79,457	69.3	42.9
2	M	131	11,034,263	84,231	58.6	29.4	154	12,702,367	82,483	58.7	29.9
2	F	141	9,686,885	68,701	60.5	33.1	165	11,031,513	66,858	59.9	33.7
		272	20,721,148	76,181	59.6	31.3	319	23,733,880	74,401	59.3	31.9
4	M	29,931	2,303,434,984	76,958	50.8	15.1	32,092	2,365,798,821	73,719	50.0	14.3
4	F	35,390	2,228,638,719	62,974	49.8	14.9	37,610	2,263,996,900	60,197	49.0	14.1
		65,321	4,532,073,703	69,382	50.3	15.0	69,702	4,629,795,721	66,423	49.5	14.2
6	M	8,663	478,447,900	55,229	37.2	1.8	6,509	331,682,589	50,958	36.4	1.4
6	F	8,045	410,042,653	50,969	37.7	1.7	5,919	279,179,597	47,167	36.8	1.4
		16,708	888,490,553	53,178	37.4	1.8	12,428	610,862,186	49,152	36.6	1.4
<b>ALL</b>		<b>82,602</b>	<b>5,465,765,366</b>	<b>66,170</b>	<b>47.8</b>	<b>12.5</b>	<b>82,823</b>	<b>5,294,108,644</b>	<b>63,921</b>	<b>47.7</b>	<b>12.5</b>
<b>JUNE 30, 2016 MEMBERS ALSO PRESENT AS OF JUNE 30, 2015</b>						<b>JUNE 30, 2015 MEMBERS ALSO PRESENT AS OF JUNE 30, 2016</b>					
1	M	140	13,048,888	93,206	71.4	44.3	140	12,468,566	89,061	70.4	43.3
1	F	161	11,431,074	71,000	69.3	43.4	161	11,122,058	69,081	68.3	42.4
		301	24,479,962	81,329	70.3	43.8	301	23,590,624	78,374	69.3	42.8
2	M	129	10,922,793	84,673	59.1	29.8	129	10,473,684	81,191	58.1	28.9
2	F	132	9,218,670	69,838	60.9	34.3	132	8,863,985	67,151	59.9	33.6
		261	20,141,463	77,170	60.0	32.1	261	19,337,669	74,091	59.0	31.3
4	M	29,580	2,281,430,586	77,127	50.8	15.2	29,580	2,186,235,480	73,909	49.8	14.2
4	F	34,589	2,185,324,243	63,180	50.0	15.1	34,589	2,086,054,704	60,310	49.0	14.1
		64,169	4,466,754,829	69,609	50.4	15.1	64,169	4,272,290,184	66,579	49.4	14.1
6	M	5,718	329,009,688	57,539	37.7	2.4	5,718	292,933,514	51,230	36.7	1.4
6	F	5,135	268,548,585	52,298	38.2	2.4	5,135	241,584,306	47,047	37.2	1.4
		10,853	597,558,273	55,059	37.9	2.4	10,853	534,517,820	49,251	36.9	1.4
<b>ALL</b>		<b>75,584</b>	<b>5,108,934,527</b>	<b>67,593</b>	<b>48.7</b>	<b>13.5</b>	<b>75,584</b>	<b>4,849,736,297</b>	<b>64,164</b>	<b>47.7</b>	<b>12.5</b>
<b>ADDITIONS DURING THE YEAR *</b>						<b>SEPARATIONS FROM MEMBERSHIP DURING THE YEAR *</b>					
1	M	0	0	0	0.0	0.0	34	3,294,682	96,902	70.1	41.8
1	F	0	0	0	0.0	0.0	39	2,831,551	72,604	68.9	44.4
		0	0	0	0.0	0.0	73	6,126,233	83,921	69.5	43.2
2	M	2	111,470	55,735	28.5	4.5	25	2,228,683	89,147	61.5	35.3
2	F	9	468,215	52,024	53.3	15.7	33	2,167,528	65,683	59.9	34.2
		11	579,685	52,699	48.8	13.6	58	4,396,211	75,797	60.6	34.7
4	M	351	22,004,398	62,691	46.7	9.3	2,512	179,563,341	71,482	52.2	15.9
4	F	801	43,314,476	54,076	44.5	8.9	3,021	177,942,196	58,902	49.7	13.9
		1,152	65,318,874	56,700	45.2	9.0	5,533	357,505,537	64,613	50.9	14.8
6	M	2,945	149,438,212	50,743	36.2	0.6	791	38,749,075	48,987	34.2	1.4
6	F	2,910	141,494,068	48,623	36.8	0.6	784	37,595,291	47,953	34.3	1.3
		5,855	290,932,280	49,690	36.5	0.6	1,575	76,344,366	48,473	34.2	1.3
<b>ALL</b>		<b>7,018</b>	<b>356,830,839</b>	<b>50,845</b>	<b>37.9</b>	<b>2.0</b>	<b>7,239</b>	<b>444,372,347</b>	<b>61,386</b>	<b>47.5</b>	<b>12.3</b>

Note: Age is nearest birthday. Service is nearest year.

\* Separations and additions do not include members who joined after June 30, 2015 and are no longer members on June 30, 2016.

**Table XIII-7**  
**Detailed Reconciliation of Active Membership (cont'd)**

		Total									
		TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2016					TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2015				
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	229	20,994,336	91,678	71.3	44.0	275	24,552,333	89,281	70.2	43.1
1	F	219	15,753,977	71,936	69.5	43.0	274	19,366,089	70,679	68.5	42.3
		448	36,748,313	82,027	70.4	43.5	549	43,918,422	79,997	69.3	42.7
2	M	197	16,626,988	84,401	61.2	32.1	237	19,664,984	82,975	61.0	32.5
2	F	194	13,663,169	70,429	62.1	34.7	235	16,096,032	68,494	61.5	35.0
		391	30,290,157	77,468	61.7	33.4	472	35,761,016	75,765	61.2	33.8
4	M	80,267	6,505,154,566	81,044	50.6	15.7	85,268	6,714,676,683	78,748	50.0	15.0
4	F	67,803	4,526,925,103	66,766	50.1	14.5	71,893	4,628,549,356	64,381	49.4	13.7
		148,070	11,032,079,669	74,506	50.4	15.2	157,161	11,343,226,039	72,176	49.7	14.4
6	M	21,402	1,285,024,221	60,042	38.4	1.9	16,305	914,612,428	56,094	37.7	1.5
6	F	15,170	832,396,995	54,871	38.2	1.8	11,271	579,948,623	51,455	37.4	1.4
		36,572	2,117,421,216	57,897	38.3	1.9	27,576	1,494,561,051	54,198	37.6	1.4
<b>ALL</b>		<b>185,481</b>	<b>13,216,539,355</b>	<b>71,255</b>	<b>48.1</b>	<b>12.6</b>	<b>185,758</b>	<b>12,917,466,528</b>	<b>69,539</b>	<b>48.0</b>	<b>12.6</b>

		JUNE 30, 2016 MEMBERS ALSO PRESENT AS OF JUNE 30, 2015					JUNE 30, 2015 MEMBERS ALSO PRESENT AS OF JUNE 30, 2016				
1	M	228	20,903,171	91,681	71.4	44.2	228	20,157,554	88,410	70.4	43.2
1	F	219	15,753,977	71,936	69.5	43.0	219	15,337,960	70,036	68.5	42.0
		447	36,657,148	82,007	70.4	43.6	447	35,495,514	79,408	69.4	42.6
2	M	194	16,425,681	84,668	61.6	32.5	194	15,863,073	81,768	60.6	31.7
2	F	185	13,194,954	71,324	62.5	35.6	185	12,735,123	68,839	61.5	34.9
		379	29,620,635	78,155	62.0	34.0	379	28,598,196	75,457	61.0	33.2
4	M	78,963	6,416,961,552	81,265	50.7	15.8	78,963	6,220,217,352	78,774	49.7	14.8
4	F	66,021	4,422,029,612	66,979	50.2	14.7	66,021	4,251,281,402	64,393	49.2	13.7
		144,984	10,838,991,164	74,760	50.5	15.3	144,984	10,471,498,754	72,225	49.5	14.3
6	M	14,748	919,673,115	62,359	38.9	2.5	14,748	830,534,654	56,315	37.9	1.5
6	F	9,777	548,784,361	56,130	38.7	2.4	9,777	500,974,676	51,240	37.7	1.4
		24,525	1,468,457,476	59,876	38.8	2.4	24,525	1,331,509,330	54,292	37.8	1.4
<b>ALL</b>		<b>170,335</b>	<b>12,373,726,423</b>	<b>72,643</b>	<b>48.9</b>	<b>13.5</b>	<b>170,335</b>	<b>11,867,101,794</b>	<b>69,669</b>	<b>47.9</b>	<b>12.5</b>

		ADDITIONS DURING THE YEAR *					SEPARATIONS FROM MEMBERSHIP DURING THE YEAR *				
1	M	1	91,165	91,165	66.0	4.0	47	4,394,779	93,506	69.5	42.3
1	F	0	0	0	0.0	0.0	55	4,028,129	73,239	68.5	43.5
		1	91,165	91,165	66.0	4.0	102	8,422,908	82,578	69.0	42.9
2	M	3	201,307	67,102	39.3	3.3	43	3,801,911	88,417	62.7	36.4
2	F	9	468,215	52,024	53.3	15.7	50	3,360,909	67,218	61.6	35.6
		12	669,522	55,794	49.8	12.6	93	7,162,820	77,020	62.1	36.0
4	M	1,304	88,193,014	67,633	46.3	10.1	6,305	494,459,331	78,423	53.5	17.9
4	F	1,782	104,895,491	58,864	44.6	9.3	5,872	377,267,954	64,249	50.8	14.4
		3,086	193,088,505	62,569	45.3	9.6	12,177	871,727,285	71,588	52.2	16.2
6	M	6,654	365,351,106	54,907	37.4	0.7	1,557	84,077,774	54,000	35.6	1.3
6	F	5,393	283,612,634	52,589	37.2	0.7	1,494	78,973,947	52,861	35.2	1.3
		12,047	648,963,740	53,869	37.3	0.7	3,051	163,051,721	53,442	35.4	1.3
<b>ALL</b>		<b>15,146</b>	<b>842,812,932</b>	<b>55,646</b>	<b>39.0</b>	<b>2.5</b>	<b>15,423</b>	<b>1,050,364,734</b>	<b>68,104</b>	<b>49.0</b>	<b>13.5</b>

Note: Age is nearest birthday. Service is nearest year.

\* Separations and additions do not include members who joined after June 30, 2015 and are no longer members on June 30, 2016.

**Table XIII-8**  
**Summary of Non-Pensioner Membership as of June 30, 2016**

STATUS	TIER 1		TIER 2		TIER 4		TIER 6		ALL TIERS	
	NUMBER	SALARY	NUMBER	SALARY	NUMBER	SALARY	NUMBER	SALARY	NUMBER	SALARY
<i>MALES:</i>										
ACTIVES	229	20,994,336	197	16,626,988	80,267	6,505,154,566	21,402	1,285,024,221	102,095	7,827,800,111
INACTIVES	9	636,560	21	1,331,307	6,261	365,453,050	1,833	88,137,124	8,124	455,558,041
VESTED	9	291,528	14	633,346	4,258	220,613,159	1	129,174	4,282	221,667,207
<b>ALL STATUS</b>	<b>247</b>	<b>21,922,424</b>	<b>232</b>	<b>18,591,641</b>	<b>90,786</b>	<b>7,091,220,775</b>	<b>23,236</b>	<b>1,373,290,519</b>	<b>114,501</b>	<b>8,505,025,359</b>
<i>FEMALES:</i>										
ACTIVES	219	15,753,977	194	13,663,169	67,803	4,526,925,103	15,170	832,396,995	83,386	5,388,739,244
INACTIVES	15	948,055	9	575,744	8,083	443,760,285	1,758	86,414,444	9,865	531,698,528
VESTED	4	189,118	13	450,613	4,595	224,651,911	1	104,895	4,613	225,396,537
<b>ALL STATUS</b>	<b>238</b>	<b>16,891,150</b>	<b>216</b>	<b>14,689,526</b>	<b>80,481</b>	<b>5,195,337,299</b>	<b>16,929</b>	<b>918,916,334</b>	<b>97,864</b>	<b>6,145,834,309</b>
<i>TOTAL:</i>										
ACTIVES	448	36,748,313	391	30,290,157	148,070	11,032,079,669	36,572	2,117,421,216	185,481	13,216,539,355
INACTIVES	24	1,584,615	30	1,907,051	14,344	809,213,335	3,591	174,551,568	17,989	987,256,569
VESTED	13	480,646	27	1,083,959	8,853	445,265,070	2	234,069	8,895	447,063,744
<b>ALL STATUS</b>	<b>485</b>	<b>38,813,574</b>	<b>448</b>	<b>33,281,167</b>	<b>171,267</b>	<b>12,286,558,074</b>	<b>40,165</b>	<b>2,292,206,853</b>	<b>212,365</b>	<b>14,650,859,668</b>



**Table XIII-9**  
**Summary of Pensioner Membership**

Group	June 30, 2016 (Lag)					June 30, 2015 (Lag)				
	Number	Annual Amounts Payable				Number	Annual Amounts Payable			
		Pensioners	Designated Annuitants	Supplementation	Total		Pensioners	Designated Annuitants	Supplementation	Total
Service Pensioners	118,375	\$ 3,380,089,000	\$ 0	\$ 227,327,348	\$ 3,607,416,348	115,626	\$ 3,216,013,491	\$ 0	\$ 230,306,191	\$ 3,446,319,682
Ordinary Disability Pensioners	10,441	170,164,377	0	22,412,420	192,576,797	9,892	158,710,862	0	21,523,851	180,234,713
Accidental Disability Pensioners	3,928	127,687,163	0	21,367,743	149,054,906	4,429	128,661,113	0	22,650,155	151,311,268
Accidental Death Pensioners	158	5,911,361	0	435,271	6,346,632	139	3,706,480	0	447,799	4,154,279
Other Beneficiaries	14,612	190,701,673	2,974,653	30,425,612	224,101,938	14,440	182,969,770	3,075,441	31,755,349	217,800,560
<b>Total</b>	<b>147,514</b>	<b>\$ 3,874,553,574</b>	<b>\$ 2,974,653</b>	<b>\$ 301,968,394</b>	<b>\$ 4,179,496,621</b>	<b>144,526</b>	<b>\$ 3,690,061,716</b>	<b>\$ 3,075,441</b>	<b>\$ 306,683,345</b>	<b>\$ 3,999,820,502</b>

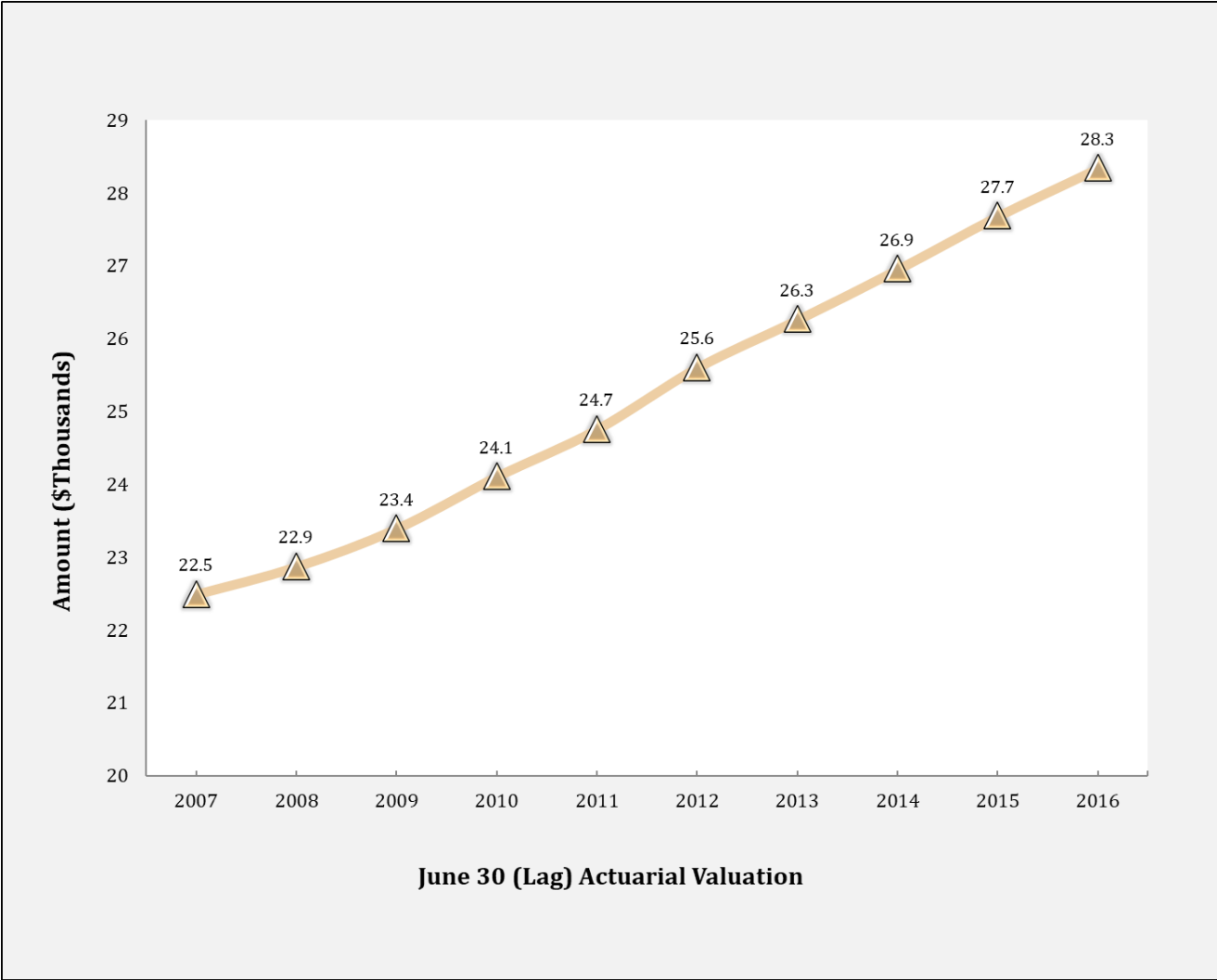
**Table XIII-10**  
**Distribution of Pension Benefits by Cause and Age as of June 30, 2016**

AGE	MALE			FEMALE			TOTAL		
	NUMBER	BENEFITS	AVERAGE	NUMBER	BENEFITS	AVERAGE	NUMBER	BENEFITS	AVERAGE
<i>SERVICE RETIREMENT:</i>									
UNDER 30	0	0	0	0	0	0	0	0	0
30 TO 34	0	0	0	0	0	0	0	0	0
35 TO 39	0	0	0	0	0	0	0	0	0
40 TO 44	27	1,246,516	46,167	5	232,665	46,533	32	1,479,181	46,224
45 TO 49	573	27,911,471	48,711	307	14,021,388	45,672	880	41,932,859	47,651
50 TO 54	2,489	113,847,382	45,740	944	41,926,549	44,414	3,433	155,773,931	45,375
55 TO 59	5,153	218,553,231	42,413	2,257	75,752,085	33,563	7,410	294,305,316	39,717
60 TO 64	10,713	413,736,982	38,620	5,884	167,184,034	28,413	16,597	580,921,016	35,002
65 TO 69	15,376	559,647,616	36,397	10,131	277,101,120	27,352	25,507	836,748,736	32,805
70 TO 74	13,899	460,715,833	33,147	8,844	224,224,860	25,353	22,743	684,940,693	30,117
75 TO 79	10,818	324,014,502	29,951	6,634	147,684,301	22,262	17,452	471,698,803	27,028
80 TO 84	6,953	186,754,980	26,860	4,366	83,081,702	19,029	11,319	269,836,682	23,839
85 TO 89	4,454	114,934,762	25,805	3,267	56,645,017	17,339	7,721	171,579,779	22,222
90 & UP	2,511	59,328,089	23,627	2,770	38,871,263	14,033	5,281	98,199,352	18,595
<b>TOTAL</b>	<b>72,966</b>	<b>2,480,691,364</b>	<b>33,998</b>	<b>45,409</b>	<b>1,126,724,984</b>	<b>24,813</b>	<b>118,375</b>	<b>3,607,416,348</b>	<b>30,474</b>
<i>ORDINARY DISABILITY:</i>									
UNDER 30	0	0	0	1	16,400	16,400	1	16,400	16,400
30 TO 34	3	97,748	32,583	2	21,025	10,513	5	118,773	23,755
35 TO 39	22	544,159	24,735	17	399,171	23,481	39	943,330	24,188
40 TO 44	75	1,804,951	24,066	46	888,762	19,321	121	2,693,713	22,262
45 TO 49	271	5,942,131	21,927	184	3,188,210	17,327	455	9,130,341	20,067
50 TO 54	675	14,544,256	21,547	469	8,695,540	18,541	1,144	23,239,796	20,315
55 TO 59	1,116	23,033,567	20,639	741	12,814,681	17,294	1,857	35,848,248	19,304
60 TO 64	1,230	24,369,707	19,813	810	14,088,879	17,394	2,040	38,458,586	18,852
65 TO 69	1,309	24,870,553	19,000	656	10,198,745	15,547	1,965	35,069,298	17,847
70 TO 74	962	18,356,255	19,081	428	6,188,781	14,460	1,390	24,545,036	17,658
75 TO 79	564	10,201,482	18,088	263	3,339,537	12,698	827	13,541,019	16,374
80 TO 84	235	3,955,566	16,832	109	1,307,785	11,998	344	5,263,351	15,300
85 TO 89	137	2,184,200	15,943	42	383,297	9,126	179	2,567,497	14,344
90 & UP	46	840,762	18,277	28	300,647	10,737	74	1,141,409	15,424
<b>TOTAL</b>	<b>6,645</b>	<b>130,745,337</b>	<b>19,676</b>	<b>3,796</b>	<b>61,831,460</b>	<b>16,289</b>	<b>10,441</b>	<b>192,576,797</b>	<b>18,444</b>
<i>ACCIDENTAL DISABILITY:</i>									
UNDER 30	0	0	0	0	0	0	0	0	0
30 TO 34	15	631,503	42,100	3	114,397	38,132	18	745,900	41,439
35 TO 39	48	2,216,743	46,182	5	272,692	54,538	53	2,489,435	46,970
40 TO 44	101	5,333,638	52,808	17	657,563	38,680	118	5,991,201	50,773
45 TO 49	222	10,918,854	49,184	65	3,108,899	47,829	287	14,027,753	48,877
50 TO 54	453	20,893,783	46,123	99	3,924,042	39,637	552	24,817,825	44,960
55 TO 59	391	17,009,847	43,503	85	3,366,896	39,611	476	20,376,743	42,808
60 TO 64	431	18,072,133	41,931	58	2,215,713	38,202	489	20,287,846	41,488
65 TO 69	574	20,095,631	35,010	24	765,154	31,881	598	20,860,785	34,884
70 TO 74	560	17,254,352	30,811	30	778,906	25,964	590	18,033,258	30,565
75 TO 79	342	10,423,075	30,477	21	438,660	20,889	363	10,861,735	29,922
80 TO 84	181	5,228,123	28,885	17	280,244	16,485	198	5,508,367	27,820
85 TO 89	124	3,562,968	28,734	8	142,876	17,860	132	3,705,844	28,075
90 & UP	44	1,173,800	26,677	10	174,414	17,441	54	1,348,214	24,967
<b>TOTAL</b>	<b>3,486</b>	<b>132,814,450</b>	<b>38,099</b>	<b>442</b>	<b>16,240,456</b>	<b>36,743</b>	<b>3,928</b>	<b>149,054,906</b>	<b>37,947</b>

**Table XIII-10**  
**Distribution of Pension Benefits by Cause and Age as of June 30, 2016 (cont'd)**

AGE	MALE			FEMALE			TOTAL		
	NUMBER	BENEFITS	AVERAGE	NUMBER	BENEFITS	AVERAGE	NUMBER	BENEFITS	AVERAGE
<i>ACCIDENTAL DEATH:</i>									
UNDER 30	0	0	0	0	0	0	0	0	0
30 TO 34	0	0	0	1	22,165	22,165	1	22,165	22,165
35 TO 39	0	0	0	2	49,347	24,674	2	49,347	24,674
40 TO 44	1	16,567	16,567	2	65,593	32,797	3	82,160	27,387
45 TO 49	3	138,509	46,170	9	357,674	39,742	12	496,183	41,349
50 TO 54	2	69,465	34,733	16	760,804	47,550	18	830,269	46,126
55 TO 59	0	0	0	14	605,108	43,222	14	605,108	43,222
60 TO 64	4	210,046	52,512	26	966,677	37,180	30	1,176,723	39,224
65 TO 69	6	252,813	42,136	25	1,053,798	42,152	31	1,306,611	42,149
70 TO 74	0	0	0	15	571,204	38,080	15	571,204	38,080
75 TO 79	2	113,002	56,501	14	729,372	52,098	16	842,374	52,648
80 TO 84	1	23,942	23,942	8	193,739	24,217	9	217,681	24,187
85 TO 89	0	0	0	4	113,246	28,312	4	113,246	28,312
90 & UP	0	0	0	3	33,561	11,187	3	33,561	11,187
<b>TOTAL</b>	<b>19</b>	<b>824,344</b>	<b>43,387</b>	<b>139</b>	<b>5,522,288</b>	<b>39,729</b>	<b>158</b>	<b>6,346,632</b>	<b>40,169</b>
<i>OTHER BENEFICIARIES:</i>									
UNDER 30	0	0	0	0	0	0	0	0	0
30 TO 34	0	0	0	1	14,234	14,234	1	14,234	14,234
35 TO 39	1	9,021	9,021	4	95,028	23,757	5	104,049	20,810
40 TO 44	0	0	0	2	34,796	17,398	2	34,796	17,398
45 TO 49	1	13,647	13,647	22	457,675	20,803	23	471,322	20,492
50 TO 54	15	288,776	19,252	73	1,532,131	20,988	88	1,820,907	20,692
55 TO 59	47	1,084,867	23,082	178	4,045,354	22,727	225	5,130,221	22,801
60 TO 64	108	2,018,441	18,689	498	10,901,027	21,890	606	12,919,468	21,319
65 TO 69	213	2,759,246	12,954	976	20,366,142	20,867	1,189	23,125,388	19,449
70 TO 74	238	3,264,721	13,717	1,322	24,693,937	18,679	1,560	27,958,658	17,922
75 TO 79	225	3,076,786	13,675	1,624	28,488,260	17,542	1,849	31,565,046	17,071
80 TO 84	177	1,675,010	9,463	1,898	30,995,624	16,331	2,075	32,670,634	15,745
85 TO 89	182	1,470,188	8,078	2,219	34,493,914	15,545	2,401	35,964,102	14,979
90 & UP	336	1,925,533	5,731	4,252	50,397,580	11,853	4,588	52,323,113	11,404
<b>TOTAL</b>	<b>1,543</b>	<b>17,586,236</b>	<b>11,397</b>	<b>13,069</b>	<b>206,515,702</b>	<b>15,802</b>	<b>14,612</b>	<b>224,101,938</b>	<b>15,337</b>
<i>ALL PENSIONERS AND BENEFICIARIES:</i>									
UNDER 30	0	0	0	1	16,400	16,400	1	16,400	16,400
30 TO 34	18	729,251	40,514	7	171,821	24,546	25	901,072	36,043
35 TO 39	71	2,769,923	39,013	28	816,238	29,151	99	3,586,161	36,224
40 TO 44	204	8,401,672	41,185	72	1,879,379	26,102	276	10,281,051	37,250
45 TO 49	1,070	44,924,612	41,986	587	21,133,846	36,003	1,657	66,058,458	39,866
50 TO 54	3,634	149,643,662	41,179	1,601	56,839,066	35,502	5,235	206,482,728	39,443
55 TO 59	6,707	259,681,512	38,718	3,275	96,584,124	29,491	9,982	356,265,636	35,691
60 TO 64	12,486	458,407,309	36,714	7,276	195,356,330	26,849	19,762	653,763,639	33,082
65 TO 69	17,478	607,625,859	34,765	11,812	309,484,959	26,201	29,290	917,110,818	31,311
70 TO 74	15,659	499,591,161	31,904	10,639	256,457,688	24,105	26,298	756,048,849	28,749
75 TO 79	11,951	347,828,847	29,105	8,556	180,680,130	21,117	20,507	528,508,977	25,772
80 TO 84	7,547	197,637,621	26,188	6,398	115,859,094	18,109	13,945	313,496,715	22,481
85 TO 89	4,897	122,152,118	24,944	5,540	91,778,350	16,566	10,437	213,930,468	20,497
90 & UP	2,937	63,268,184	21,542	7,063	89,777,465	12,711	10,000	153,045,649	15,305
<b>TOTAL</b>	<b>84,659</b>	<b>2,762,661,731</b>	<b>32,633</b>	<b>62,855</b>	<b>1,416,834,890</b>	<b>22,541</b>	<b>147,514</b>	<b>4,179,496,621</b>	<b>28,333</b>

Graph XIII-11  
Pensioner Average Benefits



**Table XIII-12**  
**Reconciliation of Pensioner and Beneficiary Data**

SCHEDULE OF PENSIONERS AND BENEFICIARIES ADDED TO AND REMOVED FROM THE ROLLS								
(June 30 Lag) Actuarial Valuation	Added to Rolls		Removed from Rolls		End of Year Rolls		% Increase in Annual Allowances	Average Annual Allowances
	Number	Annual Allowances <sup>1</sup>	Number	Annual Allowances	Number	Annual Allowances <sup>2</sup>		
2007	6,580	236,949,056	6,088	105,839,523	129,281	2,906,243,512	4.7%	22,480
2008	6,999	222,985,559	5,616	142,159,662	130,664	2,987,069,409	2.8%	22,861
2009	5,821	147,278,673	5,454	70,493,395	131,031	3,063,854,687	2.6%	23,383
2010	6,997	201,129,110	5,541	72,297,965	132,487	3,192,685,832	4.2%	24,098
2011	8,564	261,133,473	5,583	101,421,090	135,468	3,352,398,215	5.0%	24,747
2012	7,628	274,865,758	5,109	95,823,182	137,987	3,531,440,791	5.3%	25,593
2013	7,334	244,447,724	5,922	116,360,332	139,399	3,659,528,183	3.6%	26,252
2014	8,132	276,606,560	5,436	107,547,552	142,095	3,828,587,191	4.6%	26,944
2015	8,219	289,143,851	5,788	117,910,540	144,526	3,999,820,502	4.5%	27,675
2016	8,407	295,570,322	5,419	115,894,203	147,514	4,179,496,621	4.5%	28,333

<sup>1</sup> Amounts shown include changes due to benefit finalization, changes in benefit type (e.g. Service to Accident Disability), COLA increases, and other changes.

<sup>2</sup> Allowances shown are those used in the actuarial valuation as of the Year End date and are not adjusted for anticipated changes due to finalization of benefit calculations or contract settlements.

## APPENDIX: ACRONYMS AND ABBREVIATIONS

2012 A&M	Actuarial Assumptions and Methods enacted by Chapter 3/13
2016 A&M	2012 A&M with changes proposed by the Actuary and adopted by Board of Trustees during Fiscal Year 2016
2019 A&M	Actuarial Assumptions and Methods proposed by the Actuary and adopted by the Board of Trustees during Fiscal Year 2019
AAVM	Actuarial Asset Valuation Method
ACCNYS	Administrative Code of the City of New York
AIR	Actuarial Interest Rate
AL	Accrued Liability
AMC	Additional Member Contribution(s)
AMC-PT	Additional Member Contribution(s) for Physically-Taxing Employment
AVA	Actuarial Value of Assets
BMC	Basic Member Contribution(s)
CAFR	Comprehensive Annual Financial Report
COLA	Cost-of-Living Adjustment
EAN	Entry Age Normal cost method
EIR	Expected Investment Return
FAS	Final Average Salary
FS	Final Salary
GASB	Governmental Accounting Standards Board
GASB25	Governmental Accounting Standards Board Statement No. 25
GASB67	Governmental Accounting Standards Board Statement No. 67
GASB68	Governmental Accounting Standards Board Statement No. 68
IRC	Internal Revenue Code
MVA	Market Value of Assets
NYCERS	New York City Employees' Retirement System
OYLM	One-Year Lag Methodology
PT	Physically-Taxing Employment
PV	Present Value
PVFB	Present Value of Future Benefits
PVFC	Present Value of Future Normal Costs
PVFS	Present Value of Future Salary
UAL	Unfunded Accrued Liability
UIR	Unexpected Investment Return
WTC	World Trade Center