



Fiscal Year 2019
Actuarial Valuation Report
for the
New York City
Employees' Retirement System

JUNE 30, 2017 (LAG) ACTUARIAL VALUATION

prepared by the
New York City
Office of the Actuary

2019



OFFICE OF THE ACTUARY

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SHERRY S. CHAN
CHIEF ACTUARY

November 12, 2019

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

Re: Fiscal Year 2019 Actuarial Valuation Report (Report)

Dear Trustees:

This Report presents the results of the June 30, 2017 (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 \$3,694,364,590 for Fiscal Year 2019 (i.e. for the period beginning July 1, 2018 and ending June 30, 2019). Calculations made for other purposes may differ significantly from those shown herein.

Results of the June 30, 2016 (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, 2017 (Lag) and June 30, 2016 (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, 2017 and June 30, 2016.

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.

A summary of the actuarial assumptions and methods used in the valuation of the Plan is shown in SECTION XII – ACTUARIAL ASSUMPTIONS AND METHODS. The assumptions and methods have changed from the prior valuation. These new assumptions and methods were presented in the 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 which was adopted by the Board of Trustees at the February 14, 2019 Board meeting.

The June 30, 2017 (Lag) actuarial valuation includes the cost for approximately 2,900 active members that were excluded from the Preliminary 2019 Employer Contribution due to a coding error in the census data and includes a change in the handling of the VSF offset due to escalation for Tier 3 22-year plan Correction members. Future VSF payments were previously offset by expected escalation on members' pensions. Beginning with this valuation, an offset for future escalation is no longer included.

The June 30, 2017 (Lag) actuarial valuation also includes a change in the allocation of pension contributions attributable to the New York City Off-Track Betting Corporation (OTB). OTB's prior unpaid contributions with interest have been amortized over 15 years (14 payments) beginning in the Fiscal Year 2019 and have been split evenly between the City and the State of New York. In addition, payments under the original amortization schedule have been split evenly between the City and State.

This report does not present Governmental Accounting Standards Board (GASB) results. The Office of the Actuary will publish Fiscal Year 2019 GASB67 and GASB68 results in a report later this calendar year, which will be available on the website of the Office of the Actuary (www.nyc.gov/actuary).

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/mm

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SECTION I – EXECUTIVE SUMMARY

This report presents the results of the June 30, 2017 (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 2019 (i.e. July 1, 2018 to June 30, 2019),
- 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 compared to the Actuarial Contribution in 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 preliminary SKIM amounts as determined by the Actuary in a letter dated October 26, 2017 to the Boards. 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. These and additional risks may be present for the Plan. A further discussion is 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, 2017 (Lag) actuarial valuation and, for comparative purposes, the June 30, 2016 (Lag) actuarial valuation.

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM		
SUMMARY OF VALUATION RESULTS		
Valuation Date	June 30, 2017 (Lag)	June 30, 2016 (Lag)
Fiscal Year	2019	2018
Funded Status		
1. Accrued Liability ¹	\$ 82,462,950,520	\$ 79,081,183,205
2. Actuarial Value of Assets (AVA) ²	<u>59,573,653,000</u>	<u>56,491,829,000</u>
3. Unfunded Accrued Liability (AVA Basis) (1. - 2.)	\$ 22,889,297,520	\$ 22,589,354,205
4. Funded Ratio (AVA Basis) (2. / 1.)	72.2%	71.4%
5. Market Value of Assets (MVA) ²	61,316,782,000	55,489,504,000
6. Unfunded Accrued Liability (MVA Basis) (1. - 5.)	\$ 21,146,168,520	\$ 23,591,679,205
7. Funded Ratio (MVA Basis) (5. / 1.)	74.4%	70.2%
Contribution³		
1. Normal Cost	\$ 1,549,996,638	\$ 1,497,608,947
2. Amortization of Unfunded Accrued Liability	2,068,281,195	1,798,287,352
3. Administrative Expenses	66,246,997	62,701,431
4. Interest on Late Employer Contributions	<u>9,839,760</u>	<u>18,426,443</u>
5. Actuarial Contribution (1. + 2. + 3. + 4.)	\$ 3,694,364,590	\$ 3,377,024,173
6. Statutory Contribution (5)	\$ 3,694,364,590	\$ 3,377,024,173
Participant Data		
1. Active Members		
a. Number	189,792	185,481
b. Annual Salary ⁴	\$ 14,065,241,654	\$ 13,216,539,355
c. Average Salary	\$ 74,109	\$ 71,255
2. Active Off Payroll Members ⁵	19,180	17,989
3. Terminated Vested Members	8,417	8,895
4. Retirees and Beneficiaries		
a. Number	150,419	147,514
b. Total Annual Benefits	\$ 4,381,985,938	\$ 4,179,496,621
c. Average Annual Benefit	\$ 29,132	\$ 28,333

¹ Includes unfunded VSF Accrued Liability.

² Actuarial Value of Assets and Market Value of Assets are rounded to the nearest thousand.

³ Including results for Variable Supplements Funds.

⁴ Salaries shown are 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.

⁵ Represents members no longer on payroll, but not otherwise classified.

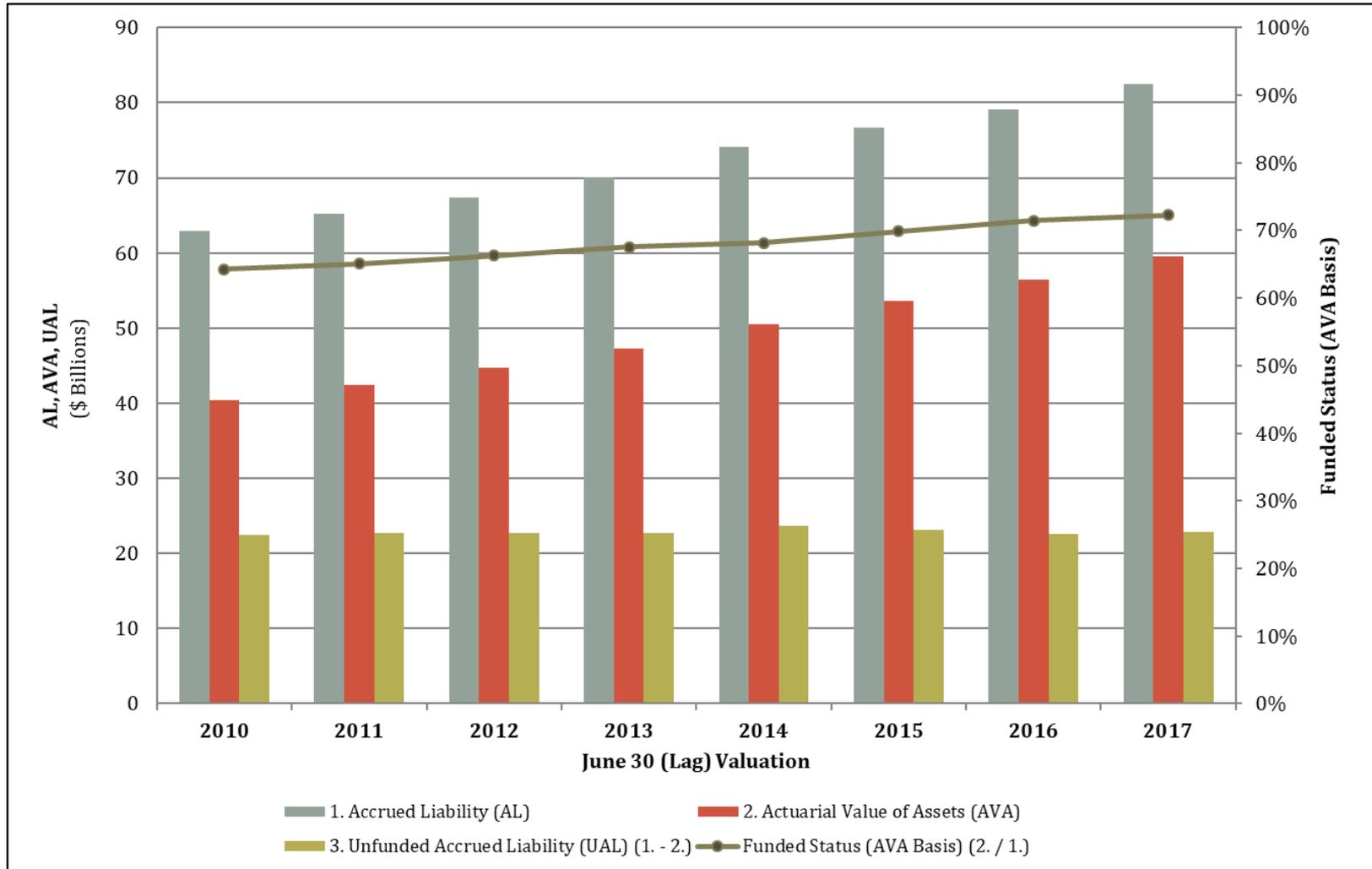
Table I-2
Actuarial Liabilities

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM		
ACTUARIAL LIABILITIES BY STATUS		
Valuation Date	June 30, 2017 (Lag)	June 30, 2016 (Lag)
Fiscal Year	2019	2018
Accrued Liability		
1. Active Members	\$ 34,700,754,747	\$ 33,499,238,864
2. Active Off Payroll Members ¹	958,262,237	1,003,677,068
3. Terminated Vested Members	718,581,597	735,210,956
4. Retirees and Beneficiaries	<u>44,626,280,561</u>	<u>42,251,550,966</u>
5. Accrued Liability Pre-Adjustments (1. to 4.)	\$ 81,003,879,142	\$ 77,489,677,854
6. Actuarial Adjustments ²	<u>1,459,071,378</u>	<u>1,591,505,351</u>
7. Total Accrued Liability (5. + 6.)	\$ 82,462,950,520	\$ 79,081,183,205
Present Value of Benefits		
1. Active Members	\$ 52,163,948,981	\$ 49,988,141,908
2. Active Off Payroll Members ¹	958,262,237	1,003,677,068
3. Terminated Vested Members	718,581,597	735,210,956
4. Retirees and Beneficiaries	<u>44,626,280,561</u>	<u>42,251,550,966</u>
5. Present Value of Benefits (1. to 4.)	\$ 98,467,073,376	\$ 93,978,580,898
6. Actuarial Adjustments ²	<u>1,641,844,599</u>	<u>1,776,864,370</u>
7. Total Present Value of Benefits (5. + 6.)	\$ 100,108,917,975	\$ 95,755,445,268

¹ Represents members no longer on payroll, but not otherwise classified.

² Includes unfunded VSF 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.

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. 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 expected rate of return and the AVA, where EIR equals the sum of beginning-of-fiscal-year AVA plus one-half of net cash flow, multiplied by the expected rate of return.

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

(\$ Thousands)		
	June 30, 2017	June 30, 2016
ASSETS		
Cash	\$ 163,875	\$ 165,685
Receivables		
Investment Securities Sold	\$ 687,047	\$ 1,413,529
Member Loans	1,102,986	1,081,783
Transferable Earnings due from QPP to VSFs	(281,000)	(3,000)
Accrued Interest and Dividends	301,680	280,740
Other	<u>0</u>	<u>0</u>
Total Receivables	\$ 1,810,713	\$ 2,773,052
INVESTMENTS AT FAIR VALUE		
Short-Term Investments		
U.S. Treasury Bills	\$ 37,090	\$ 11,073
Commercial Paper	422,635	739,639
Short-term Investment Fund	442,599	760,635
Discount Notes	188,544	59,860
Short term - Hedge Fund	0	0
Debt Securities		
U.S. Government and agency	7,261,949	4,289,153
Corporate and other	6,254,038	7,157,423
Promissory Notes	0	0
Equity Securities	18,956,882	18,523,033
Alternative Investments	9,258,954	9,873,044
Collective Trust Funds		
International Equity	13,655,017	9,220,895
Domestic Equity	0	0
Mortgage Debt Security	640,950	607,685
Treasury Inflation Protected Securities	2,531,110	2,448,307
Fixed Income	1,091,294	1,022,145
Collateral From Securities Lending	<u>7,034,093</u>	<u>5,267,092</u>
Total Investments	\$ 67,775,155	\$ 59,979,984
OTHER ASSETS	<u>93,948</u>	<u>84,632</u>
TOTAL ASSETS	\$ 69,843,691	\$ 63,003,353
LIABILITIES		
Accounts Payable	\$ 209,206	\$ 177,887
Payable for Investment Securities Purchased	955,572	1,794,940
Accrued Benefits Payable	321,457	266,616
Amount due to Variable Supplements Funds	5,493	5,724
Due to other Retirement Systems	1,088	1,590
Security Lending	7,034,093	5,267,092
Accrued Transfers to VSFs	<u>0</u>	<u>0</u>
TOTAL LIABILITIES	\$ 8,526,909	\$ 7,513,849
PLAN ASSETS HELD IN TRUST FOR PENSION BENEFITS	\$ 61,316,782	\$ 55,489,504

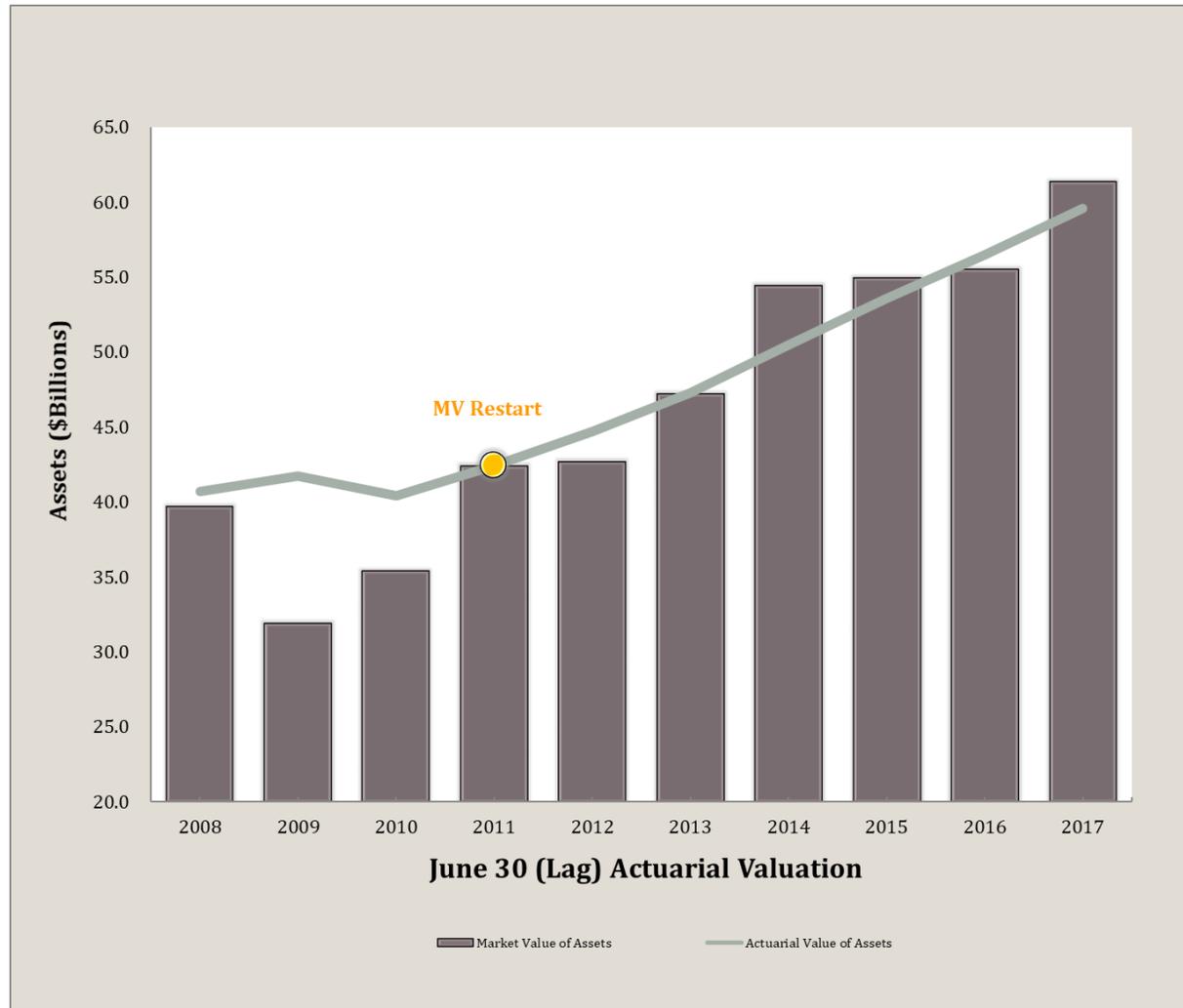
Table II-2
Statement of Changes in Plan Net Assets

(\$ Thousands)		
	June 30, 2017	June 30, 2016
ADDITIONS		
Contributions		
Member Contributions	\$ 513,514	\$ 485,508
Employer Contributions	<u>3,328,193</u>	<u>3,365,454</u>
Total Contributions	\$ 3,841,707	\$ 3,850,962
Investment Income (Loss)		
Interest Income	\$ 753,789	\$ 692,773
Dividend Income	931,480	836,490
Net Appreciation (Depreciation) in Fair Value	<u>5,489,457</u>	<u>\$ (174,204)</u>
Total Investment Income (Loss)	\$ 7,174,726	\$ 1,355,059
Less Investment Expenses	223,756	212,996
Net Income (Loss)	\$ 6,950,970	\$ 1,142,063
Securities Lending Transactions		
Securities Lending Income	\$ 33,703	\$ 31,719
Securities Lending Fees	<u>2,369</u>	<u>2,062</u>
Net Securities Lending Income (Loss)	<u>\$ 31,334</u>	<u>\$ 29,657</u>
Net Investment Income (Loss)	\$ 6,982,304	\$ 1,171,720
Other		
Other Income	<u>\$ 3,266</u>	<u>\$ 2,928</u>
TOTAL ADDITIONS	\$ 10,827,277	\$ 5,025,610
DEDUCTIONS		
Benefit Payments and Withdrawals	\$ 4,635,020	\$ 4,402,506
Payments to other Retirement Systems	\$ 8,087	\$ 7,440
Amount due to Variable Supplements Fund	\$ 11,297	\$ 11,525
Accrued Transfer to VSFs	\$ 285,924	\$ (52,724)
Administrative Expenses	<u>59,671</u>	<u>56,683</u>
TOTAL DEDUCTIONS	\$ 4,999,999	\$ 4,425,430
NET INCREASE (DECREASE) IN PLAN NET ASSETS	\$ 5,827,278	\$ 600,180
PLAN NET ASSETS HELD IN TRUST FOR PENSION BENEFITS		
Beginning of Year	\$ 55,489,504	\$ 54,889,324
End of Year	\$ 61,316,782	\$ 55,489,504

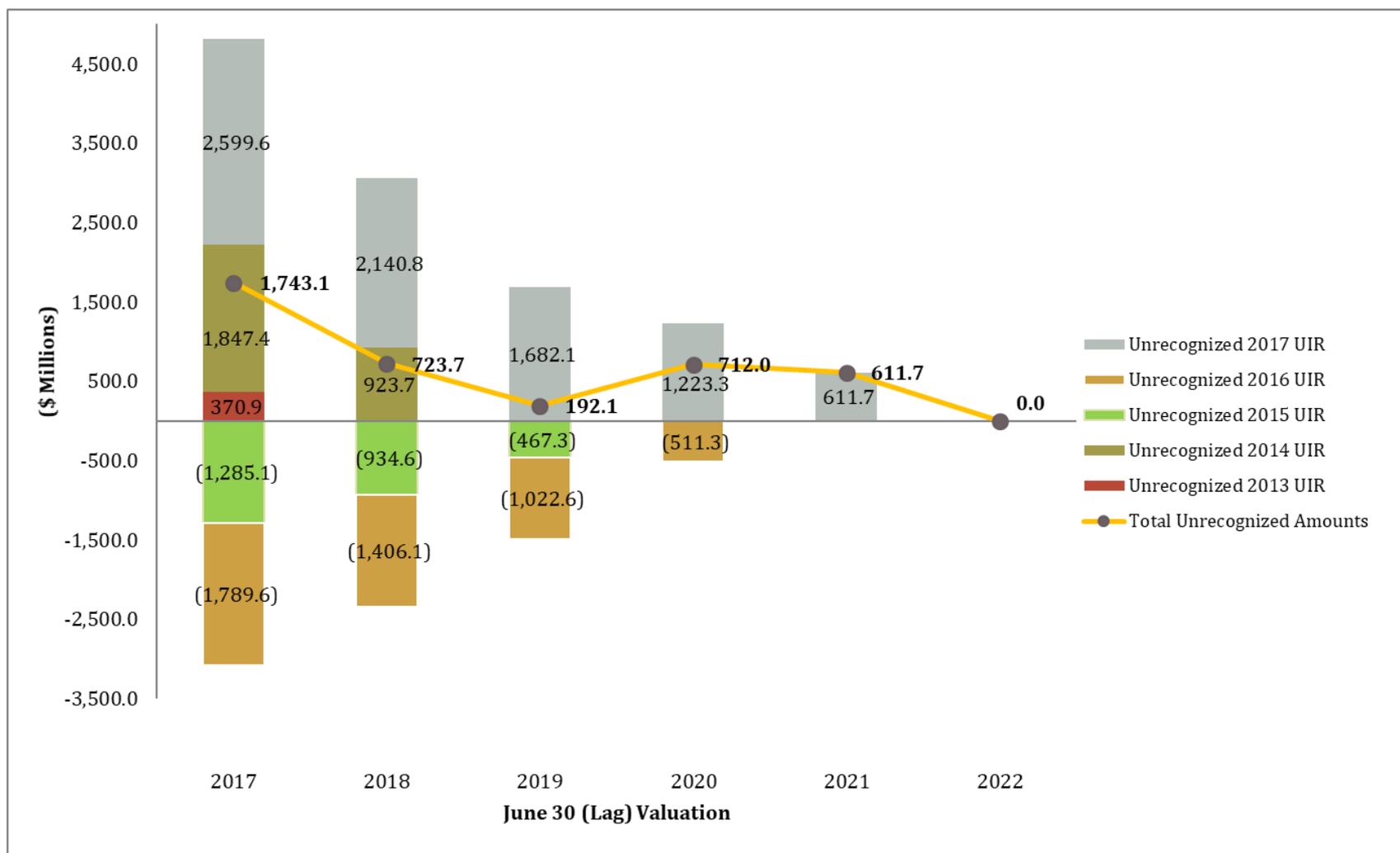
Table II-3
Development of Actuarial Value of Assets

(\$ Thousands)		
Valuation Date	June 30, 2017	June 30, 2016
1. Market Value of Assets (MVA)		
a. Beginning of Year (BOY)	\$ 55,489,504	\$ 54,889,324
b. End of Year (EOY)	\$ 61,316,782	\$ 55,489,504
2. Contributions		
a. Employee	\$ 513,514	\$ 485,508
b. Employer	<u>3,328,193</u>	<u>3,365,454</u>
c. Total Contributions	\$ 3,841,707	\$ 3,850,962
3. Net Investment Income		
a. Investment Income	\$ 7,206,060	\$ 1,384,716
b. Investment Expenses	<u>(223,756)</u>	<u>(212,996)</u>
c. Total Net Investment Income	\$ 6,982,304	\$ 1,171,720
4. Benefit Payments and Other Cash Flow	\$ (4,710,809)	\$ (4,475,226)
5. Preliminary Transferable Earnings from NYCERS to COVSF - EOY	\$ (285,924)	\$ 52,724
6. Net Cash Flow (2.c. + 4. + 5.)	\$ (1,155,026)	\$ (571,540)
7. Average Invested Assets		
a. AVA @ BOY	\$ 56,491,829	\$ 53,573,694
b. 1/2 Net Cash Flow before SKIM ((2.c. + 4.) / 2)	<u>(434,551)</u>	<u>(312,132)</u>
c. Total	\$ 56,057,278	\$ 53,261,562
8. Expected Rate of Return (AIR)	7.00%	7.00%
9. Expected Investment Return (EIR) (7.c. x 8.)	\$ 3,924,009	\$ 3,728,309
10. Unexpected Investment Return (UIR) (3.c. - 9.)	\$ 3,058,295	\$ (2,556,589)
11. Preliminary AVA @ EOY		
a. AVA @ BOY (prior to corridor limit)	\$ 56,491,829	\$ 53,573,694
b. Net Cash Flow (6.)	(1,155,026)	(571,540)
c. Expected Investment Return (9.)	3,924,009	3,728,309
d. Phase in of UIR		
15% * UIR for prior year	458,744	(383,488)
15% * UIR for second prior year	(383,488)	(350,490)
15% * UIR for third prior year	(350,490)	692,771
15% * UIR for fourth prior year	692,771	278,193
20% * UIR for fifth prior year	370,924	(475,620)
20% * UIR for sixth prior year	<u>(475,620)</u>	<u>N/A</u>
Total	\$ 312,841	\$ (238,634)
e. Preliminary AVA (11.a. + 11.b. + 11.c. + 11.d.)	\$ 59,573,653	\$ 56,491,829
12. Corridor		
a. 80% of MVA	\$ 49,053,426	\$ 44,391,603
b. 120% of MVA	\$ 73,580,138	\$ 66,587,405
13. Final AVA @ EOY (11.e. bounded by 12.)	\$ 59,573,653	\$ 56,491,829

Graph II-4
Historical Market and Actuarial Value of Assets



Graph II-5
Future Recognition of UIR as of June 30, 2017



SECTION III - CONTRIBUTION DEVELOPMENT AND HISTORY

Table III-1
Statutory Contributions

Table III-1 shows the components of the Fiscal Year 2019 and the Fiscal Year 2018 Statutory Contributions.

COMPONENTS OF CURRENT AND PRIOR FISCAL YEAR STATUTORY CONTRIBUTIONS		
Valuation Date	June 30, 2017 (Lag)	June 30, 2016 (Lag)
Fiscal Year	2019	2018
Normal Cost ¹	\$ 1,549,996,638	\$ 1,497,608,947
Amortization of Unfunded Accrued Liability		
- Initial UAL	1,865,996,150	1,811,646,748
- 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	0	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)	(30,332,576)
- 2016 Assumption Change	1,925,414	1,925,414
- 2016 SADB	2,458,219	2,458,219
- 2016 SADB Sanitation Retirees	10,433,043	10,433,043
- 2016 SADB Sanitation Actives	667,208	667,208
- 2017 (Gain)/Loss	(3,085,886)	NA
- 2017 COVSF Escalation Offset	154,027	NA
- 2017 Assumption Change	(98,976,687)	NA
- 2017 Method Change	81,714,634	NA
- 2017 Census Data Update	223,201,197	NA
- 2017 OTB - City of New York portion	6,367,440	NA
- 2017 OTB - State of New York portion	6,367,440	NA
Total	2,068,281,195	1,798,287,352
Administrative Expenses	66,246,997	62,701,431
Interest on Late Employer Contributions	9,839,760	18,426,443
Total Contribution to the New York City Employees' Retirement System	\$ 3,694,364,590	\$ 3,377,024,173

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

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. Increments to the UAL 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
Schedule of Unfunded Accrued Liability Bases (cont'd)

Table III-2 shows the Schedule of Unfunded Accrued Liability Bases as of June 30, 2017. Note that a change to the schedule at June 30, 2017 reduced amounts remaining to be amortized by the prior fiscal year's amortization payments, which are now included as a receivable in plan assets. This change has no impact on the determination of the amortization payments or the Employer Contribution.

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM SCHEDULE OF UNFUNDED ACCRUED LIABILITY BASES						
Amortization Base	Date Established	Original Amount	Amortization Years	Amortization Payment	Payments Remaining	OYLM UAL June 30, 2017
Initial UAL	6/30/10	\$ 20,194,114,494	22	\$ 1,865,996,150	14	\$ 18,643,203,427
(Gain)/Loss	6/30/11	\$ (250,820,523)	15	\$ (29,666,882)	8	\$ (171,257,184)
(Gain)/Loss	6/30/12	\$ (62,429,250)	15	\$ (7,384,090)	9	\$ (46,508,781)
(Gain)/Loss	6/30/13	\$ 83,180,893	15	\$ 9,838,580	10	\$ 66,803,490
(Gain)/Loss	6/30/14	\$ (1,302,739,151)	15	\$ (154,087,106)	11	\$ (1,117,014,737)
Assumption Change ¹	6/30/14	\$ 2,328,933,026	20	\$ 233,084,501	16	\$ 2,128,625,531
(Gain)/Loss	6/30/15	\$ (426,054,441)	15	\$ (50,393,431)	12	\$ (386,945,190)
(Gain)/Loss	6/30/16	\$ (256,448,676)	15	\$ (30,332,576)	13	\$ (245,076,474)
Assumption Change ²	6/30/16	\$ 19,238,347	20	\$ 1,925,414	18	\$ 18,723,663
SADB	6/30/16	\$ 20,783,169	15	\$ 2,458,219	13	\$ 19,861,542
SADB Sanitation Retirees	6/30/16	\$ 34,163,423	5	\$ 10,433,043	3	\$ 26,468,860
SADB Sanitation Actives	6/30/16	\$ 4,530,309	11	\$ 667,208	9	\$ 4,202,417
(Gain)/Loss	6/30/17	\$ (26,089,812)	15	\$ (3,085,885)	14	\$ (26,089,812)
COVSF Escalation Offset	6/30/17	\$ 1,497,838	19	\$ 154,027	18	\$ 1,497,838
Assumption Change ³	6/30/17	\$ (988,954,970)	20	\$ (98,976,687)	19	\$ (988,954,970)
Method Change ⁴	6/30/17	\$ 816,476,035	20	\$ 81,714,634	19	\$ 816,476,035
Census Data Update ⁵	6/30/17	\$ 730,881,413	5	\$ 223,201,197	4	\$ 730,881,413
OTB - City of New York portion	6/30/17	\$ 53,833,920	15	\$ 6,367,440	14	\$ 53,833,920
OTB - State of New York portion	6/30/17	\$ 53,833,920	15	\$ 6,367,440	14	\$ 53,833,920

¹ Change in post retirement mortality assumptions including the change to the mortality improvement scale MP-2015.

² Change in Accidental rates for Tier 3 22-year plan members of Sanitation and Corrections using a more empirical methodology.

³ Changes in demographic assumptions to better align with future experience and change to the mortality improvement scale MP-2018.

⁴ Refinements to valuation methodologies.

⁵ Fix a coding error in the census data.

Graph III-3
Remaining UAL Amortizations as of June 30, 2017

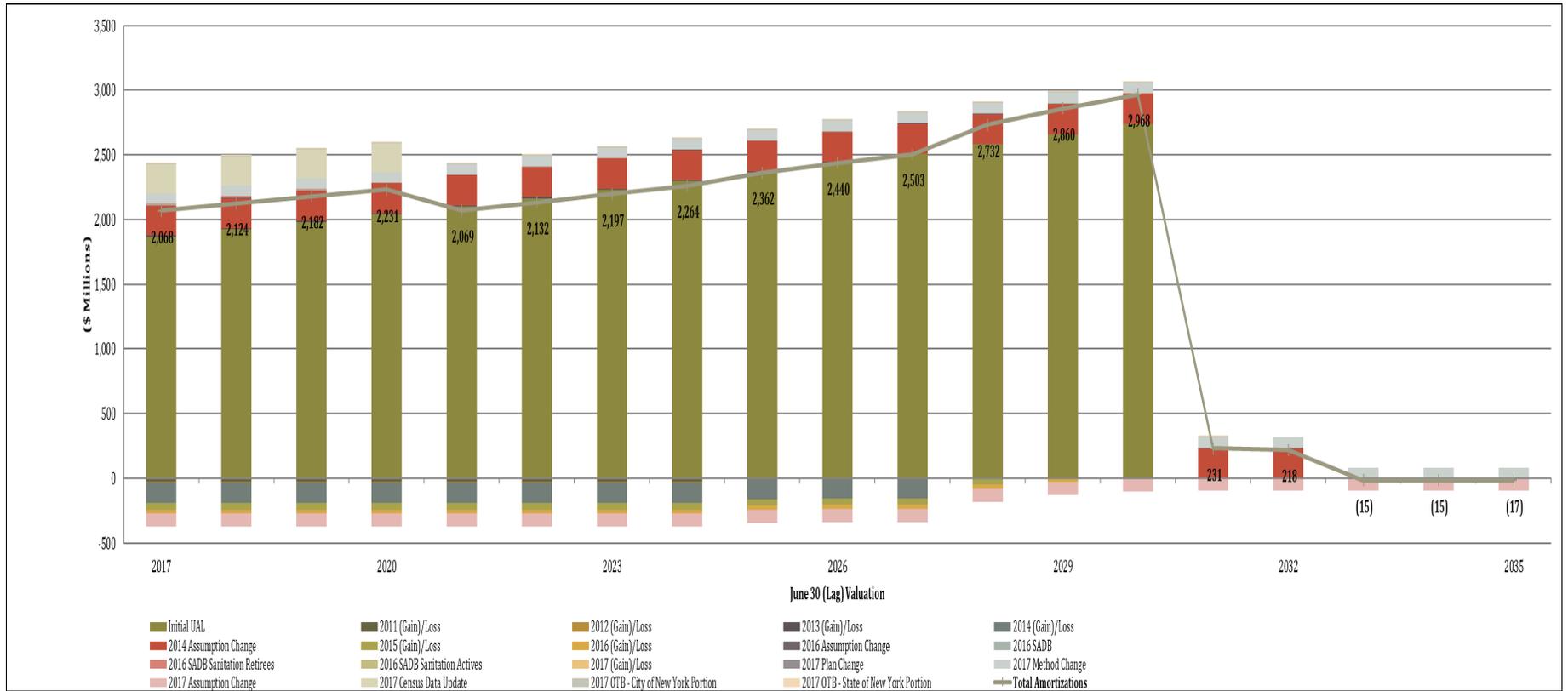


Table III-4
Reconciliation of Outstanding UAL Bases

June 30 (Lag) Valuation Date	Amounts (\$ Thousands) Remaining to be Amortized, as of							
	2010	2011	2012	2013	2014	2015	2016	2017 ¹
Initial Unfunded Accrued Liability, June 30, 2010	\$ 20,194,114	\$ 21,607,703	\$ 21,550,811	\$ 21,442,855	\$ 21,278,846	\$ 21,053,406	\$ 20,760,737	\$ 18,643,203
- 2010 ERI		7,140	7,640	5,919	4,078	2,108	0	0
- 2011 (Gain)/Loss		(250,821)	(268,378)	(256,477)	(243,742)	(230,117)	(215,537)	(171,257)
- 2012 (Gain)/Loss			(62,429)	(66,799)	(63,837)	(60,668)	(57,276)	(46,509)
- 2013 (Gain)/Loss				83,181	89,004	85,057	80,834	66,803
- 2013 Transit Refunds				320	342	265	183	0
- 2014 (Gain)/Loss					(1,302,740)	(1,393,930)	(1,332,117)	(1,117,015)
- 2014 Assumption Change					2,328,933	2,491,958	2,425,291	2,128,626
- 2015 (Gain)/Loss						(426,054)	(455,878)	(386,945)
- 2016 (Gain)/Loss							(256,449)	(245,076)
- 2016 Assumption Change							19,238	18,724
- 2016 SADB							20,783	19,862
- 2016 SADB Sanitation Retirees							34,163	26,469
- 2016 SADB Sanitation Actives							4,530	4,202
- 2017 (Gain)/Loss								(26,090)
- 2017 Removal of COVSF Escalation Offset								1,498
- 2017 Assumption Change								(988,955)
- 2017 Method Change								816,476
- 2017 Census Data Update								730,881
- 2017 OTB - City of New York portion								53,834
- 2017 OTB - State of New York portion								53,834
Sum of Outstanding Amortization Amounts	\$ 20,194,114	\$ 21,364,022	\$ 21,227,644	\$ 21,208,999	\$ 22,090,884	\$ 21,522,025	\$ 21,028,502	\$ 19,582,565

June 30 (Lag) Valuation Date	2010	2011	2012	2013	2014	2015	2016	2017
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	\$ 82,462,951
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	59,573,653
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	22,889,298
4. PV 1-year Adjusted Employer Contribution ²	2,307,809	1,397,601	1,411,790	1,433,172	1,424,839	1,474,561	1,446,072	3,246,879
5. PV Future Administrative Expense Reimbursement	0	98,569	100,863	103,197	101,743	107,940	114,780	59,854
6. Adjusted UAL (3. - 4. - 5.)	\$ 20,194,114	\$ 21,364,022	\$ 21,227,644	\$ 21,208,999	\$ 22,090,884	\$ 21,522,025	\$ 21,028,502	\$ 19,582,565

¹ Beginning at June 30, 2017, amounts remaining to be amortized have been reduced by the prior valuation year's amortization payments. When considered with (2) below, this change has no effect.

² Beginning at June 30, 2017, the PV 1-year Adjusted Employer Contribution includes amounts used to pay UAL bases and one year of administrative expenses. When considered with (1) above, this change has no effect.

Table III-5
Actuarial and Statutory Contribution History

Table III-5 compares the Statutory Contributions to the Actuarial Contributions for Fiscal Years 2010 through 2019.

(\$ Thousands)			
Fiscal Year Ended June 30	Actuarial Contribution Certified	Statutory Contribution Contributed	Percentage of Actuarial Contribution Contributed
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%
2019	3,694,365	3,681,747	99.7%

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 2010 through 2019.

CITY RATES (\$ Thousands)			
Fiscal Year Ended June 30	Actuarial Contribution	Salary ¹ at Beginning of Fiscal Year	City Rate
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%
2019	3,694,365	13,845,279	26.7%

¹Includes 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, 2017 (Lag)						
Fiscal Year	2019						
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
Contribution							
1. Normal Cost	\$ 8,611,465	\$ 0	\$ 373,322,923	\$ 381,934,388	\$ 0	\$ 54,986,915	\$ 54,986,915
2. Amortization of Unfunded Accrued Liability	21,879,962	25,859,071	441,918,242	489,657,275	10,691,839	94,388,225	105,080,064
3. Administrative Expenses	349,599	372,474	13,246,770	13,968,843	158,499	3,678,267	3,836,766
4. Interest on Late Employer Contributions	0	0	0	0	0	0	0
5. Actuarial Contribution (1. + 2. + 3. + 4.)	\$ 30,841,026	\$ 26,231,545	\$ 828,487,935	\$ 885,560,506	\$ 10,850,338	\$ 153,053,407	\$ 163,903,745

Table IV-2
Employer Contributions by Obligor: All

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM							
SUMMARY OF EMPLOYER CONTRIBUTION BY OBLIGOR							
Valuation Date	June 30, 2017 (Lag)						
Fiscal Year	2019						
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
Contribution							
1. Normal Cost	\$ 381,934,388	\$ 54,986,915	\$ 220,811,473	\$ 14,182,541	\$ 0	\$ 1,094,149	\$ 754,353
2. Amortization of Unfunded Accrued Liability	489,657,275	105,080,064	273,772,098	30,412,511	25,235,224	883,909	2,242,857
3. Administrative Expenses	13,968,843	3,836,766	11,032,461	519,806	0	25,396	20,713
4. Interest on Late Employer Contributions	0	0	9,837,858	0	0	0	0
5. Actuarial Contribution (1. + 2. + 3. + 4.)	<u>\$ 885,560,506</u>	<u>\$ 163,903,745</u>	<u>\$ 515,453,890</u>	<u>\$ 45,114,858</u>	<u>\$ 25,235,224</u>	<u>\$ 2,003,454</u>	<u>\$ 3,017,923</u>
Obligor	State Judiciary Employees	NYC Municipal Water Authority	CUNY Senior Colleges	Correction	Sanitation	All Others (i.e. New York City)	Total
Contribution							
1. Normal Cost	\$ 0	\$ 99,278	\$ 23,560,757	\$ 221,783,064	\$ 113,951,930	\$ 516,837,790	\$ 1,549,996,638
2. Amortization of Unfunded Accrued Liability	1,339,900	(25,121)	20,356,064	237,965,623	148,759,076	732,601,715	\$ 2,068,281,195
3. Administrative Expenses	17,111	2,341	1,368,318	4,029,848	3,418,184	28,007,210	\$ 66,246,997
4. Interest on Late Employer Contributions	0	1,902	0	0	0	0	\$ 9,839,760
5. Actuarial Contribution (1. + 2. + 3. + 4.)	<u>\$ 1,357,011</u>	<u>\$ 78,400</u>	<u>\$ 45,285,139</u>	<u>\$ 463,778,535</u>	<u>\$ 266,129,190</u>	<u>\$ 1,277,446,715</u>	<u>\$ 3,694,364,590</u>

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, 2017 (Lag)						
Fiscal Year	2019						
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
Accrued Liability							
1. Active Members	\$ 325,215,346	\$ 0	\$ 8,313,753,109	\$ 8,638,968,455	\$ 0	\$ 1,758,762,848	\$ 1,758,762,848
2. Active Off Payroll Members ¹	4,380,741	0	155,847,054	160,227,795	0	55,307,439	55,307,439
3. Terminated Vested Members	4,981,391	0	92,705,154	97,686,545	0	53,182,842	53,182,842
4. Retirees and Beneficiaries	386,669,524	539,722,050	9,727,870,051	10,654,261,625	237,254,011	2,217,180,580	2,454,434,591
5. Accrued Liability Pre-Adjustments (1. to 4.)	\$ 721,247,002	\$ 539,722,050	\$ 18,290,175,368	\$ 19,551,144,420	\$ 237,254,011	\$ 4,084,433,709	\$ 4,321,687,720
6. Actuarial Adjustments ²	257,101	55,372,210	25,112,962	80,742,273	36,563,970	5,199,152	41,763,122
7. Total Accrued Liability (5. + 6.)	\$ 721,504,103	\$ 595,094,260	\$ 18,315,288,330	\$ 19,631,886,693	\$ 273,817,981	\$ 4,089,632,861	\$ 4,363,450,842
Present Value of Future Benefits							
1. Active Members	\$ 393,824,925	\$ 0	\$ 12,519,434,336	\$ 12,913,259,261	\$ 0	\$ 2,388,195,243	\$ 2,388,195,243
2. Active Off Payroll Members ¹	4,380,741	0	155,847,054	160,227,795	0	55,307,439	55,307,439
3. Terminated Vested Members	4,981,391	0	92,705,154	97,686,545	0	53,182,842	53,182,842
4. Retirees and Beneficiaries	386,669,524	539,722,050	9,727,870,051	10,654,261,625	237,254,011	2,217,180,580	2,454,434,591
5. Present Value of Benefits (1. to 4.)	\$ 789,856,581	\$ 539,722,050	\$ 22,495,856,595	\$ 23,825,435,226	\$ 237,254,011	\$ 4,713,866,104	\$ 4,951,120,115
6. Actuarial Adjustments ²	257,101	55,372,210	25,112,962	80,742,273	36,563,970	5,199,152	41,763,122
7. Total Present Value of Future Benefits (5. + 6.)	\$ 790,113,682	\$ 595,094,260	\$ 22,520,969,557	\$ 23,906,177,499	\$ 273,817,981	\$ 4,719,065,256	\$ 4,992,883,237

¹ Represents members no longer on payroll, but not otherwise classified.

² Includes unfunded VSF 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, 2017 (Lag)						
Fiscal Year	2019						
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
Accrued Liability							
1. Active Members	\$ 8,638,968,455	\$ 1,758,762,848	\$ 4,847,209,466	\$ 393,784,918	\$ 0	\$ 18,264,934	\$ 27,267,535
2. Active Off Payroll Members ¹	160,227,795	55,307,439	133,328,006	11,109,017	578,822	675,727	181,159
3. Terminated Vested Members	97,686,545	53,182,842	138,526,737	7,240,908	23,087,571	110,367	928,625
4. Retirees and Beneficiaries	10,654,261,625	2,454,434,591	5,900,999,675	572,002,228	295,417,344	15,072,147	20,425,225
5. Accrued Liability Pre-Adjustments (1. to 4.)	\$ 19,551,144,420	\$ 4,321,687,720	\$ 11,020,063,884	\$ 984,137,071	\$ 319,083,737	\$ 34,123,175	\$ 48,802,544
6. Actuarial Adjustments ²	80,742,273	41,763,122	23,424,750	2,428,502	107,753,541	0	57,134
7. Total Accrued Liability (5. + 6.)	\$ 19,631,886,693	\$ 4,363,450,842	\$ 11,043,488,634	\$ 986,565,573	\$ 426,837,278	\$ 34,123,175	\$ 48,859,678
Present Value of Future Benefits							
1. Active Members	\$ 12,913,259,261	\$ 2,388,195,243	\$ 7,212,632,577	\$ 542,245,879	\$ 0	\$ 29,479,050	\$ 33,391,516
2. Active Off Payroll Members ¹	160,227,795	55,307,439	133,328,006	11,109,017	578,822	675,727	181,159
3. Terminated Vested Members	97,686,545	53,182,842	138,526,737	7,240,908	23,087,571	110,367	928,625
4. Retirees and Beneficiaries	10,654,261,625	2,454,434,591	5,900,999,675	572,002,228	295,417,344	15,072,147	20,425,225
5. Present Value of Benefits (1. to 4.)	\$ 23,825,435,226	\$ 4,951,120,115	\$ 13,385,486,995	\$ 1,132,598,032	\$ 319,083,737	\$ 45,337,291	\$ 54,926,525
6. Actuarial Adjustments ²	80,742,273	41,763,122	23,424,750	2,428,502	107,753,541	0	57,134
7. Total Present Value of Future Benefits (5. + 6.)	\$ 23,906,177,499	\$ 4,992,883,237	\$ 13,408,911,745	\$ 1,135,026,534	\$ 426,837,278	\$ 45,337,291	\$ 54,983,659
Obligor	State Judiciary Employees	NYC Municipal Water Authority	CUNY Senior Colleges	Correction	Sanitation	All Others (i.e. New York City)	Total
Accrued Liability							
1. Active Members	\$ 0	\$ 1,783,858	\$ 531,221,095	\$ 2,543,898,496	\$ 2,041,207,239	\$ 13,898,385,903	\$ 34,700,754,747
2. Active Off Payroll Members ¹	0	109,661	16,902,075	104,803,801	32,222,041	442,816,694	958,262,237
3. Terminated Vested Members	0	0	6,027,407	32,345,848	12,525,542	346,919,205	718,581,597
4. Retirees and Beneficiaries	15,738,365	677,078	398,400,661	5,862,521,150	4,096,404,148	14,339,926,324	44,626,280,561
5. Accrued Liability Pre-Adjustments (1. to 4.)	\$ 15,738,365	\$ 2,570,597	\$ 952,551,238	\$ 8,543,569,295	\$ 6,182,358,970	\$ 29,028,048,126	\$ 81,003,879,142
6. Actuarial Adjustments ²	0	0	3,599,413	1,053,311,777	90,799,870	55,190,996	1,459,071,378
7. Total Accrued Liability (5. + 6.)	\$ 15,738,365	\$ 2,570,597	\$ 956,150,651	\$ 9,596,881,072	\$ 6,273,158,840	\$ 29,083,239,122	\$ 82,462,950,520
Present Value of Future Benefits							
1. Active Members	\$ 0	\$ 2,963,210	\$ 809,537,182	\$ 4,650,662,350	\$ 3,334,433,623	\$ 20,247,149,090	\$ 52,163,948,981
2. Active Off Payroll Members ¹	0	109,661	16,902,075	104,803,801	32,222,041	442,816,694	958,262,237
3. Terminated Vested Members	0	0	6,027,407	32,345,848	12,525,542	346,919,205	718,581,597
4. Retirees and Beneficiaries	15,738,365	677,078	398,400,661	5,862,521,150	4,096,404,148	14,339,926,324	44,626,280,561
5. Present Value of Benefits (1. to 4.)	\$ 15,738,365	\$ 3,749,949	\$ 1,230,867,325	\$ 10,650,333,149	\$ 7,475,585,354	\$ 35,376,811,313	\$ 98,467,073,376
6. Actuarial Adjustments ²	0	0	3,599,413	1,236,084,998	90,799,870	55,190,996	1,641,844,599
7. Total Present Value of Future Benefits (5. + 6.)	\$ 15,738,365	\$ 3,749,949	\$ 1,234,466,738	\$ 11,886,418,147	\$ 7,566,385,224	\$ 35,432,002,309	\$ 100,108,917,975

¹ Represents members no longer on payroll, but not otherwise classified.

² Includes unfunded VSF 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, 2017 (Lag)						
Fiscal Year	2019						
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
Participant Data							
1. Active Members							
a. Number	884	0	38,952	39,836	0	9,590	9,590
b. Annual Salary ¹	\$ 91,449,831	\$ 0	\$ 3,164,246,305	\$ 3,255,696,136	\$ 0	\$ 636,367,679	\$ 636,367,679
c. Average Salary	\$ 103,450	\$ 0	\$ 81,235	\$ 81,727	\$ 0	\$ 66,357	\$ 66,357
2. Active Off Payroll Members ²	35	0	2,418	2,453	0	1,027	1,027
3. Terminated Vested Members	45	0	979	1,024	0	581	581
4. Retirees and Beneficiaries							
a. Number	977	2,068	31,198	34,243	880	9,224	10,104
b. Total Annual Benefits	\$ 39,280,644	\$ 61,957,916	\$ 996,080,277	\$ 1,097,318,837	\$ 27,765,162	\$ 216,261,899	\$ 244,027,061
c. Average Annual Benefit	\$ 40,205	\$ 29,960	\$ 31,928	\$ 32,045	\$ 31,551	\$ 23,446	\$ 24,152

¹ Salaries shown are 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.

² 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, 2017 (Lag)						
Fiscal Year	2019						
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
Participant Data							
1. Active Members							
a. Number	39,836	9,590	31,224	1,293	0	96	65
b. Annual Salary ¹	\$ 3,255,696,136	\$ 636,367,679	\$ 2,259,387,580	\$ 130,046,839	\$ 0	\$ 9,686,834	\$ 7,859,318
c. Average Salary	\$ 81,727	\$ 66,357	\$ 72,361	\$ 100,578	\$ 0	\$ 100,905	\$ 120,913
2. Active Off Payroll Members ²	2,453	1,027	4,353	134	4	12	3
3. Terminated Vested Members	1,024	581	1,740	56	285	1	6
4. Retirees and Beneficiaries							
a. Number	34,243	10,104	23,936	1,403	1,211	32	41
b. Total Annual Benefits	\$ 1,097,318,837	\$ 244,027,061	\$ 577,428,288	\$ 53,715,725	\$ 30,072,330	\$ 1,348,268	\$ 1,828,448
c. Average Annual Benefit	\$ 32,045	\$ 24,152	\$ 24,124	\$ 38,286	\$ 24,833	\$ 42,133	\$ 44,596
Obligor	State Judiciary Employees	NYC Municipal Water Authority	CUNY Senior Colleges	Correction	Sanitation	All Others (i.e. New York City)	Total
Participant Data							
1. Active Members							
a. Number	0	10	4,605	9,568	7,497	86,008	189,792
b. Annual Salary ¹	\$ 0	\$ 944,058	\$ 258,733,799	\$ 869,196,387	\$ 697,365,811	\$ 5,939,957,213	\$ 14,065,241,654
c. Average Salary	\$ 0	\$ 94,406	\$ 56,185	\$ 90,844	\$ 93,019	\$ 69,063	\$ 74,109
2. Active Off Payroll Members ²	0	2	802	777	196	9,417	19,180
3. Terminated Vested Members	0	0	91	221	60	4,352	8,417
4. Retirees and Beneficiaries							
a. Number	95	1	2,099	11,808	11,225	54,221	150,419
b. Total Annual Benefits	\$ 2,822,278	\$ 64,055	\$ 40,894,582	\$ 486,097,253	\$ 408,250,525	\$ 1,438,118,288	\$ 4,381,985,938
c. Average Annual Benefit	\$ 29,708	\$ 64,055	\$ 19,483	\$ 41,167	\$ 36,370	\$ 26,523	\$ 29,132

¹ Salaries shown are 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.

² 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, 2016 (Lag) actuarial valuation and the June 30, 2017 (Lag) actuarial valuation.¹

DEVELOPMENT OF EXPERIENCE (GAIN) / LOSS	
June 30, 2017	
(\$ Thousands)	
1. Expected Accrued Liability (AL)	
a. AL at June 30, 2016	\$ 79,149,744
b. Total Normal Cost and Administrative Expenses at June 30, 2016	1,916,919
c. Interest on 1.a. and 1.b. to June 30, 2017	5,674,666
d. Fiscal Year 2017 Benefit Payments with Interest to June 30, 2017	<u>(4,808,902)</u>
e. Expected AL at June 30, 2017	\$ 81,932,427
2. Actual AL at June 30, 2017 before changes ²	\$ 82,148,824
3. Expected Total Actuarial Value of Assets (AVA)	
a. Total AVA at June 30, 2016	\$ 56,560,390
b. Interest on 3.a. to June 30, 2017	3,959,227
c. Total Contributions Paid in Fiscal Year 2017	3,841,707
d. Interest on 3.c. to June 30, 2017	132,186
e. Fiscal Year 2017 Benefit Payments with Interest to June 30, 2017 (1.d.)	<u>(4,808,902)</u>
f. Expected Total AVA at June 30, 2017	\$ 59,684,608
4. Actual Total AVA at June 30, 2017	\$ 59,927,095
5. Liability (Gain) / Loss (2. - 1.e.)	\$ 216,397
6. Actuarial Asset (Gain) / Loss (3.f. - 4.)	\$ (242,487)
7. Total Actuarial (Gain) / Loss (5. + 6.)	\$ (26,090)

¹ Includes results for Variable Supplements Funds.

² Removal of COVSF Escalation Offset, Method Change, Assumption Change, Census Data Update, and OTB's prior unpaid contributions.

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)
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%
2017	59,573,653	82,462,951	22,889,298	72.2%	14,065,242	162.7%

Effective June 30, 2010, AL is based on the Entry Age Normal cost method. Previously, the Frozen Initial Liability cost method was used. Salaries shown are base salaries 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.

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

(\$ Thousands)		
Valuation Date	June 30, 2017	June 30, 2016
COVSF		
Active	\$ 310,484	\$ 324,939
Retiree	<u>1,077,413</u>	<u>933,184</u>
Total	\$ 1,387,897	\$ 1,258,123
HPOVSF		
Active	\$ 0	\$ 0
Retiree	<u>15,061</u>	<u>16,006</u>
Total	\$ 15,061	\$ 16,006
HPSOVSF		
Active	\$ 0	\$ 0
Retiree	<u>21,503</u>	<u>22,301</u>
Total	\$ 21,503	\$ 22,301
TPOVSF		
Active	\$ 0	\$ 0
Retiree	<u>31,292</u>	<u>32,689</u>
Total	\$ 31,292	32,689
TPSOVSF		
Active	\$ 0	\$ 0
Retiree	<u>24,080</u>	<u>24,874</u>
Total	\$ 24,080	\$ 24,874
Total VSF AL	\$ 1,479,833	\$ 1,353,993

Table VII-2
VSF Member Data

VARIABLE SUPPLEMENTS FUNDS		
MEMBERS INCLUDED IN THE JUNE 30, 2017 (Lag) AND THE JUNE 30, 2016 (Lag) ACTUARIAL VALUATIONS		
	June 30, 2017	June 30, 2016
COVSF		
Actives		
Number	9,568	8,815
Average Age	39.92	41.04
Retirees		
Number	7,858	7,424
Average Age	57.93	57.22
HPOVSF		
Actives		
Number	0	0
Average Age	0	0
Retirees		
Number	153	160
Average Age	74.17	73.19
HPSOVSF		
Actives		
Number	0	0
Average Age	0	0
Retirees		
Number	215	220
Average Age	73.58	72.69
TPOVSF		
Actives		
Number	0	0
Average Age	0	0
Retirees		
Number	315	325
Average Age	73.89	73.02
TPSOVSF		
Actives		
Number	0	0
Average Age	0	0
Retirees		
Number	243	247
Average Age	73.96	72.98

Table VII-3
VSF Statement of Assets

(\$ Thousands)				
Valuation Date	June 30, 2017 ¹		June 30, 2016	
	MVA ²	AVA	MVA ³	AVA
COVSF	\$ 332,683	\$ 353,441	\$ 46,942	\$ 68,561
HPOVSF	0	0	0	0
HPSOVSF	0	0	0	0
TPOVSF	0	0	0	0
TPSOVSF	0	0	0	0
TOTAL	\$ 332,683	\$ 353,441	\$ 46,942	\$ 68,561

¹ The June 30, 2017 COVSF assets include preliminary SKIM amounts determined by the Actuary.

² Includes Accrued Benefits Payable of \$44,519,000 for COVSF.

³ Includes Accrued Benefits Payable of \$41,925,000 for COVSF.

Table VII-4
Development of COVSF Actuarial Value of Assets

(\$ Thousands)		
Valuation Date	June 30, 2017	June 30, 2016
1. Market Value of Assets (MVA) (Net of Accrued Benefits Payable)		
a. Beginning of Year (BOY)	\$ 5,017	\$ 139,706
b. End of Year (EOY)	\$ 288,165	\$ 5,017
2. Contributions		
a. Employee	\$ 0	\$ 0
b. Employer	<u>0</u>	<u>0</u>
c. Total Contributions	\$ 0	\$ 0
3. Benefit Payments and Other Cash Flow	\$ (31)	\$ (79,917)
4. Preliminary Transferable Earnings from NYCERS to COVSF - EOY	\$ 285,924	\$ (52,724)
5. Net Cash Flow (2.c. + 3. + 4.)	\$ 285,893	\$ (132,642)
6. Net Investment Income		
a. Investment Income	\$ (153)	\$ 185
b. Investment Expenses	<u>0</u>	<u>0</u>
c. Total Net Investment Income	\$ (153)	\$ 185
7. Average Invested Assets		
a. AVA @ BOY	\$ 68,561	\$ 195,268
b. 1/2 Net Cash Flow before SKIM ((2.c. + 3.) / 2)	<u>(15)</u>	<u>(39,959)</u>
c. Total	\$ 68,546	\$ 155,310
8. Expected Rate of Return (AIR)	7.00%	7.00%
9. Expected Investment Return (EIR) (7.c. x 8.)	\$ 4,798	\$ 10,872
10. Unexpected Investment Return (UIR) (6.c. - 9.)	\$ (4,951)	\$ (10,687)
11. Preliminary AVA @ EOY		
a. AVA @ BOY	\$ 68,561	\$ 195,268
b. Net Cash Flow (5.)	285,893	(132,642)
c. Expected Investment Return (9.)	4,798	10,872
d. Phase in of UIR		
15% * UIR for prior year	(743)	(1,603)
15% * UIR for second prior year	(1,603)	(2,027)
15% * UIR for third prior year	(2,027)	(416)
15% * UIR for fourth prior year	(416)	(394)
20% * UIR for fifth prior year	(525)	(497)
20% * UIR for sixth prior year	<u>(497)</u>	<u>0</u>
Total	\$ (5,811)	\$ (4,937)
e. AVA (11.a. + 11.b. + 11.c. + 11.d.)	\$ 353,441	\$ 68,561
12. Final AVA at EOY	\$ 353,441	\$ 68,561

Table VII-5
SKIM Calculation as of June 30, 2017

(\$ Thousands)	Preliminary
Total NYCERS Pension Fund	
1. FY2017 Equity Earnings	\$ 6,477,648
2. FY2017 Hypothetical Earnings	\$ 864,009
3. FY2017 Excess Earnings (1. - 2.)	\$ 5,613,639
4. Deficit at June 30, 2016	\$ 702,046
5. Hypothetical Interest Rate (HIR)	2.415%
6. Deficit with interest (4. x (1+HIR))	\$ 719,001
7. Potential SKIM (3. - 6.)	\$ 4,894,638
COVSF	
Allocations to VSF	
8. Allocation Percentage	5.744%
9. Potential SKIM (7. x 8.)	\$ 281,148
10. Accumulated Benefit Obligation	\$ 1,995,619
11. MVA Prior to SKIM	\$ 51,683
12. ABO Gate = (10. - 11.)	\$ 1,943,936
13. SKIM Payable (Lesser of 9 and 12, not less than zero)	\$ 281,148
14. Rounded Estimate, for FY17 Financial Statements ¹	<u>\$ 281,000</u>

¹ Included in MVA at June 30, 2017.

Summary of VSF Plan Provisions

A. Eligibility

Service Retirement with at least 20 or 25 years of allowable service, depending on the underlying plan, 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.

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, except there is no corridor of 80% to 120% of the MVA for the VSFs. 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 actuarial assumptions and methods adopted by the Board of Trustees during Fiscal Year 2019 are referred to as the "2019 A&M." The Fiscal Year 2019 employer contribution is based on the census data reported as of June 30, 2017 and on the 2019 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.

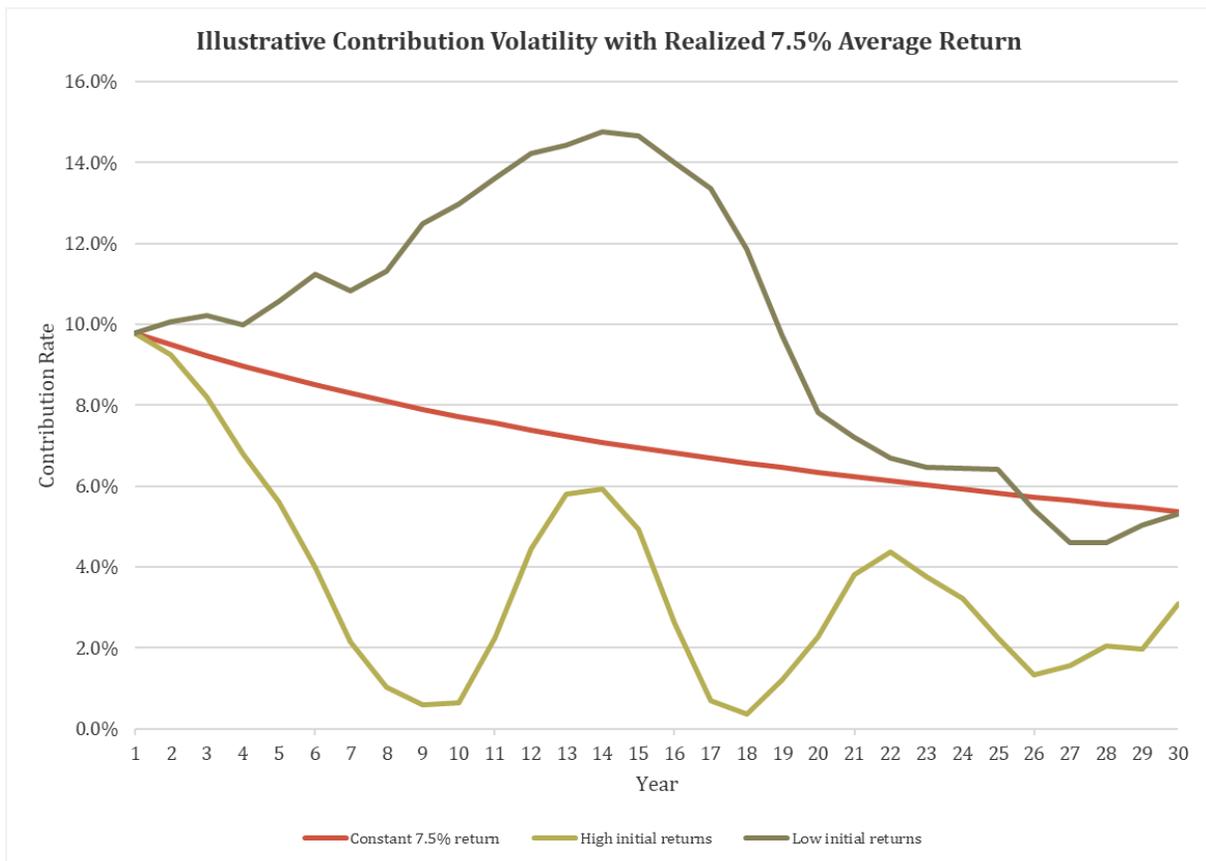
These risks have been separated, based on the Actuary's professional judgement, into high, medium, and low risks.

High Risk Types

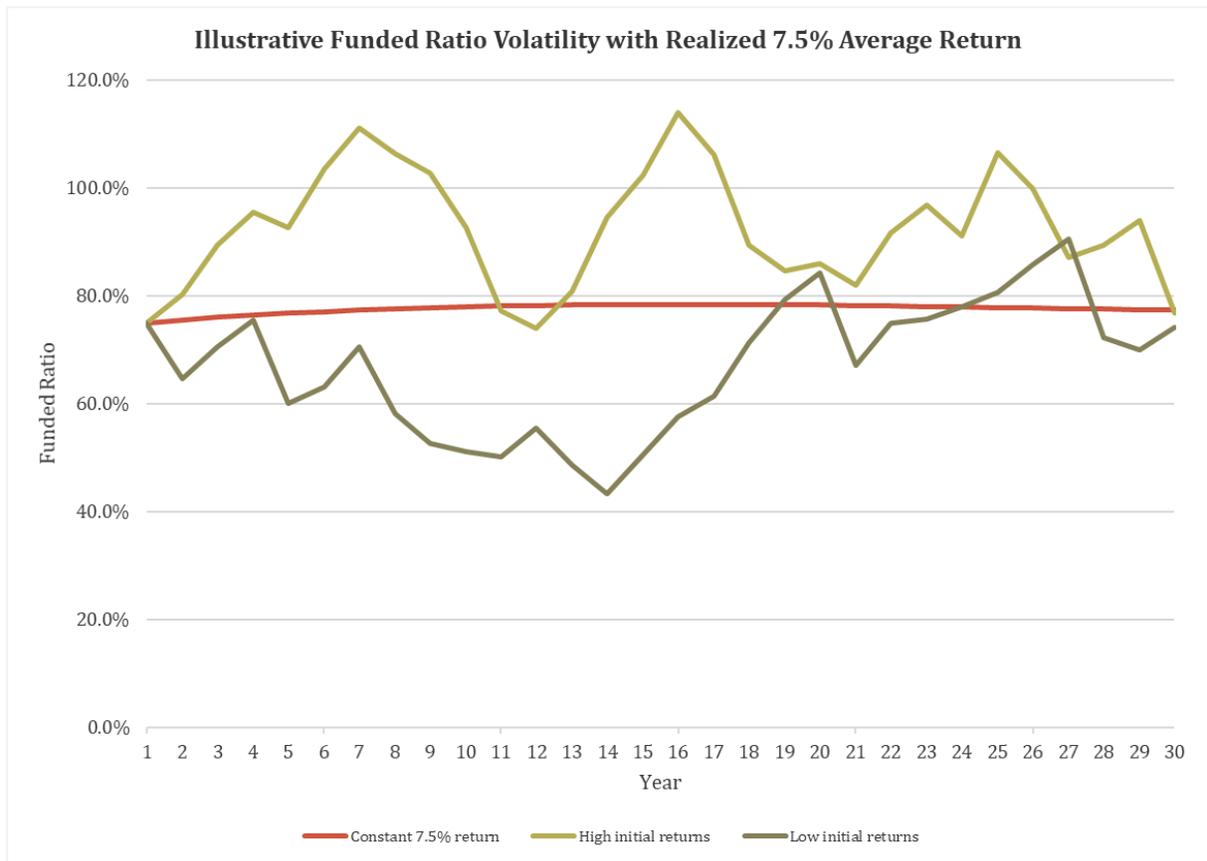
Investment Risk

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.¹ Similar scenario analysis could be done for NYCERS.



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



Note that these illustrations show volatility even if the long-term expected rate of return is 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.

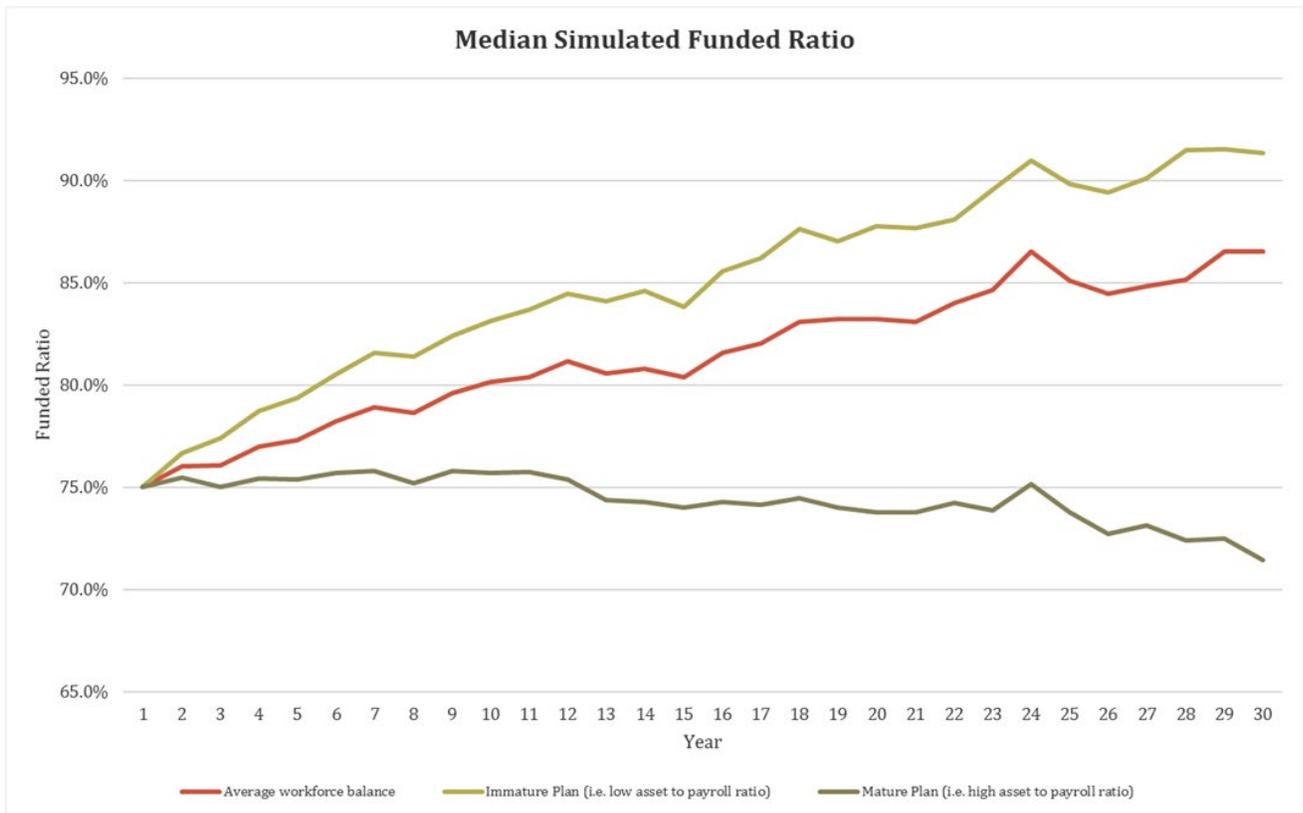
Valuation Date	June 30, 2017 (Lag)	June 30, 2016 (Lag)
Fiscal Year	2019	2018
Volatility Ratios		
1. Market Value of Assets (MVA)	\$ 61,316,782,000	\$ 55,489,504,000
2. Actuarial Value of Assets (AVA)	59,573,653,000	56,491,829,000
3. Accrued Liability	82,462,950,520	79,081,183,205
4. Active Salary	14,065,241,654	13,216,539,355
5. Asset Volatility Ratio (MVA basis) (1. / 4.)	4.4	4.2
6. Asset Volatility Ratio (AVA basis) (2. / 4.)	4.2	4.3
7. Liability Volatility Ratio (3. / 4.)	5.9	6.0

As a plan becomes more mature, Asset Volatility and Liability Volatility Ratios increase, and the plan's contribution becomes more sensitive to investment losses and changes in liabilities. For example, the same percentage of investment losses in more mature plans can increase contributions as a percentage of payroll more than in less mature plans. Therefore, mature plans may need to consider more conservative investment strategies.

Similarly, assumption changes that affect retiree liabilities will impact contributions to a greater degree in more mature plans.

While not available specifically for the Plan, illustrative forecasts of sample plans of various maturities can demonstrate these effect.¹

¹ 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*.



As mentioned above, a plan’s Support Ratio (i.e. the ratio of retired members to active members) is a measure of maturity risk. A high Support Ratio implies that contributions support the benefit payments of many retirees. A high Support Ratio also generally implies an actuarial liability with shorter duration. The plan sponsor should take this into account in order to avoid an asset/liability mismatch with respect to duration (see page 88).

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 the Investment Risk subsection 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 (AIR) would significantly increase the Accrued Liability and Unfunded Accrued Liability of the Plan, as well as the Normal Cost and resulting contribution. The sensitivity of the Accrued Liability, the Unfunded Accrued Liability, Funded Ratio, and the Normal Cost of the Plan are shown below:

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM	
SENSITIVITY ANALYSIS AS OF JUNE 30, 2017	
Valuation Date	June 30, 2017 (Lag)
Results at 7.0%	
1. Accrued Liability (AL)	\$ 82,462,950,520
2. Actuarial Value of Assets (AVA)	59,573,653,000
3. Unfunded Accrued Liability (AVA Basis) (1. - 2.)	\$ 22,889,297,520
4. Funded Ratio (AVA Basis) (2. / 1.)	72.2%
5. Normal Cost	\$ 1,549,996,638
Results at 6.0%	
1. Accrued Liability (AL)	\$ 91,876,881,565
2. Actuarial Value of Assets (AVA)	59,573,653,000
3. Unfunded Accrued Liability (AVA Basis) (1. - 2.)	\$ 32,303,228,565
4. Funded Ratio (AVA Basis) (2. / 1.)	64.8%
5. Normal Cost	\$ 2,065,709,340
Sensitivity Analysis for 1.0% Reduction in Interest Rate	
1. Increase in Accrued Liability	11.4%
2. Increase in Unfunded Accrued Liability	41.1%
3. Decrease in Funded Ratio	7.4%
4. Increase in Normal Cost	33.3%

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). More granular analysis is not currently available but will 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-2018 was subsequently applied to these base rates.¹

This scale MP-2018 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.”² 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.

In a letter dated June 28, 2019, Buck analyzed historical Plan experience and noted “it appears that historical mortality improvement in NYC pensioners has kept pace with, and in some cases may have exceeded slightly, the mortality improvement trends in historical Social Security Administration (SSA) graduated rates that are based on a broad US population” and that “continued use of MP-20xx mortality improvement scales seems reasonable.” It may be prudent in future years, after longer trends can be observed, to quantify the effect of changing the ultimate mortality improvement rate to be higher than 1.0%.

¹ Retirement Plans Experience Committee. “Mortality Improvement Scale MP-2018 Report.” *Society of Actuaries*.

² Retirement Plans Experience Committee. “Mortality Improvement Scale BB Report” *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 Contribution¹ was not made for over 35% of the 110 public plans in the study.²

The New York City Retirement Systems and Pension Funds face low contribution risk. City benefits are constitutionally protected, and with the exception of OTB, participating employers have generally contributed to the actuarial contribution as certified by the Actuary. The Actuary believes the City and the other participating employers will continue to do so in future years. See Table III-5 – ACTUARIAL AND STATUTORY CONTRIBUTION HISTORY.

Contribution risk may also increase in future years if 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.

Intergenerational Equity Risk

Intergenerational inequity could exist for certain stakeholders (e.g. public taxpayers). If, for example, liabilities are valued using overly conservative assumptions, aggressive funding patterns may occur, thus causing current existing taxpayers to shoulder a disproportionately high share of the funding burden, as compared to future taxpayers. The reverse can also be true if aggressive or unrealistic assumptions are used. As the Plan is ongoing, current and future taxpayers should be expected to offer similar funding contributions over the lifetime of the Plan.

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

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

In future years of higher funded status, intergenerational equity risk could increase as current taxpayers and plan members may receive preferential treatment over taxpayers and plan members prior to and subsequent to them when considering changes in statute and plan provisions.

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:

Employer	Abbreviation
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:

Group	Eligible Employees	Abbreviation
General (GEN)	District Attorney Investigators	IDA
	Emergency Medical Technicians	EMT
	Fire Alarm Dispatchers	DIS
	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.

Tier by Group and Hire Date	IDA	COR	SAN	All Other Groups
Prior to July 1, 1973	Tier 1			
July 1, 1973 to July 26, 1976	Tier 2	Tier 2		
July 27, 1976 to March 31, 2012		Tier 3	Tier 4	
April 1, 2012 or after	Tier 3 22-year plan ¹			Tier 6

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.² Certain plans applicable to IDA, SAN, and COR Tier 3 members are denoted as Tier 3 22-year plans or Tier 3R, and IDA, SAN, and COR members in these plans are denoted as Tier 3 22-year plan or Tier 3R 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% interest per year, compounded annually.

For COR Tier 3 members, all Tier 4 members, and Tier 3 22-year plan members, BMC details are shown in the table below:

Group/Plan(s)	Contribution Rate	Period
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
Tier 3 22-year plans	3.0%	The first 25 years of service

For Tier 6 members, BMC are made for all years of Credited Service according to the following schedule:

Lookback Wages	BMC Contribution Rate
Less than \$45,000	3.00%
\$45,001 up to \$55,000	3.50%
\$55,001 up to \$75,000	4.50%
\$75,001 up to \$100,000	5.75%
Greater than \$100,000	6.00%

¹ Sometimes denoted Tier 3R for clarity.

² Approximately 0.4% of active members as of June 30, 2017 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% interest per year, 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% ¹	30
Ch 96 57/5 plans		
EMT 25-year plans	6.25%	30
DIS 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%	
SAN Tier 3 22-year enhanced disability plan	1.30%	25
COR Tier 3 20-year plan ²	3.61% or 4.61%	20
COR Tier 3 22-year enhanced disability plan	0.80%	25
TBTA 50/20 plans ²	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:** service earned while a member of NYCERS.
- **Previous Service:** 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:** service earned as a member of another public retirement system in the City or State of New York.

¹ Members in physically-taxing classifications contribute 1.98% more.

² Contribution rate depends on member's job title.

- **Military Service**: service for qualified time served in one of the armed forces of the United States.
- **Part-time Service**: 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 and Tier 3 22-year plans: 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, 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 and Tier 3 22-year plans: 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:

Tier(s)	Plan Description	Minimum Age	Minimum Service
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 ¹	55	25
4	Chapter 96 57/5 plan ¹	57	5
4	SAN Tier 4 regular	55	30
4	SAN 20-year plan	N/A	20
4 & 6	EMT, DIS, 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
3R	22-year plans	N/A	20
6	Basic 63/10 plan	63	10

Tier 3 22-year plan members are entitled to benefit escalation (see Paragraph O) if they work past 23 years, with full escalation applicable after 25 years of service.

2. Benefits:

Tier	Plan Description	Benefit Formula
4	Basic 62/5 plan	If less than 20 years of Credited Service: 1/60 times FAS times Credited Service If 20 or more years of Credited Service: 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	
4	SAN 20-year plan	2.5% times FAS times Credited Service up to 20 years, plus 1.5% times Final Compensation ² times additional Credited Service up to 10 more years

¹ 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.

² Final Compensation here means FAS5 without the limitation that no year exceed 110% of the prior four-year average.

Tier	Plan Description	Benefit Formula
4 & 6	EMT, DIS, 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
3R	22-year 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

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:

Tier	Plan Description	Minimum Age	Minimum Service
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 reduced 0.25% for each of the next 60 months that the age of commencement precedes age 60:

Age	Early Retirement Factor
61	0.94
60	0.88
59	0.85
58	0.82
57	0.79
56	0.76
55	0.73

- c. Tier 6 Basic 63/10 Plan:

The service retirement benefit is reduced by 13/2400 for each month (i.e. 6.5% per year) 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. SAN, COR, and IDA Tier 3 22-year non-enhanced disability plan members: $50\% \times \text{FAS}$
 - iii. Emergency medical technicians, deputy sheriffs, SAN Tier 3 22-year enhanced disability plan members, and COR Tier 3 22-year enhanced disability 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

- 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 Benefit

a. Eligibility:

- i. Active members: Death while not in the performance of duties.
- ii. Terminated vested and retired members: All

b. Benefits:

- i. Active members: Refund of BMC and the employee portion of AMC, if any, 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. The salary-based portion of the death benefit is reduced 5% for each year the member remains in service beyond age 60 (to a maximum, reduction of 50% at age 70).
- ii. Terminated vested members with 10 or more years of Credited Service: Refund of BMC and the employee portion of AMC, if any, with interest plus one half of the salary-based death benefit that would have been payable had the member died on the last day of active service as described above.
- iii. Terminated vested members with less than 10 years of Credited Service: Refund of BMC and the employee portion of AMC, if any, with interest.
- iv. Retirees: Ordinary Death benefit that would have been payable had the member died the day before retirement times an Adjustment Factor described in the table below:

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

c. 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, DIS, 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.

Tier 3 22-year 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: 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 (Auto COLA)

Annuity payments are increased annually on September 1st, but only after a pensioner has attained the applicable eligibility threshold. Some beneficiaries are not eligible for Auto COLA increases. The Auto COLA increase is equal to a base benefit times a Auto COLA percentage. The Auto COLA increase for a spouse receiving a joint & survivor annuity is one half of the Auto 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' Auto COLA increases.
 4. Auto COLA percentage: 50% of the Consumer Price Index (CPI-U), not less than 1.0% and not greater than 3.0%.

O. Escalation

Applicable to Tier 3 22-year plan members.

1. Eligibility: Service, vesting, disability retirement, and survivor benefits.
2. Full Escalation Date
 - a. Vested and Service Pensions: The first day of the month following the day which a member completes or would have completed 25 years of service.
 - b. Disability Pensions: The first day of the month following the day which a non-Enhanced Plan disability retiree first becomes eligible for ODR/ADR.
 - c. Death Benefits: The first day of the month following the day which a beneficiary first becomes eligible for a death benefit paid other than in a lump sum.
3. Amount

If a member first begins receiving benefits on the same date as the Full Escalation Date, the member will receive Full Escalation which is the lesser of 3.0% or the Cost-of-Living Index increase, as computed on the December 31 of each prior year for benefits being escalated the following April.

In the event of a decrease in the Cost-of-Living Index, the current benefit will be decreased by the lesser of 3% or the Cost-of-Living Index. However, the benefit will not be reduced below the benefit payable at the initial commencement date.

In addition, Cost-of-Living Index changes are computed on a cumulative basis so that any increases or decreases not affected in an adjustment are carried forward and applied in subsequent years.

4. Partial Escalation

Partial Escalation is calculated on benefits that commence prior to the member's Full Escalation Date. For each month that the benefit commencement date succeeds the date when a member completes or would have completed 22 years of service, a member will receive 1/36th of the Full Escalation, to a maximum of Full Escalation at 25 years of service.

P. Refund of Member Contributions

Basic Member Contributions (BMC) and Additional Member Contributions (AMC): 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, DIS, SPO, DSH 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 15 years of Credited Service as a member of their respective 25-year plan. Members of one of the AUT, PCT plans may elect a refund of AMC in lieu of remaining in their respective 25-year plan if they retire prior to earning 5 years of Credited Service as a member of their respective 25-year plan.
8. For members who participate in the Sanitation and Correction Tier 3 22-year enhanced disability plans, AMC are not refundable.

9. 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.

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. Auto COLA: The Auto 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 Chapter amendments enacted during the past five years that had a significant impact on the June 30, 2017 (Lag) actuarial valuation results include:

- **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 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 347 of the Laws of 2016** (Chapter 347/16) grants a 3% COLA increase to beneficiaries receiving Special Accidental Death Benefits pursuant to GML 208-f. (Similar legislation was enacted in each of the previous years.)
- **Chapter 326 of the Laws of 2016** (Chapter 326/16) extends the deadline to file a Notice of Participation in the World Trade Center Rescue, Recovery, and Cleanup Operations to September 11, 2018.
- **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.
- **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 new actuarial assumptions and methods that require State legislation.

SECTION XI - SUBSEQUENT EVENTS

The Board of Directors, based on recommendations of the Actuary, adopted new factors that provide the adjustment necessary for a retiree to choose an alternative form of benefit payment that is actuarially equivalent to the benefit payable for only the retiree's own lifetime (i.e. Maximum Retirement Allowance). The new Option Factors are effective for retirements on and after April 1, 2019 and produce, in almost all cases, a benefit that is greater than the benefit provided under the prior set of Option Factors.

For virtually all retirees who would have elected an Optional Retirement Allowance prior to these new Option Factors and were to elect an Optional Retirement Allowance under the new Option Factors, there will be a reduction in the actuarial gains. For those retirees who would have declined an Optional Retirement Allowance, but would now elect an Optional Retirement Allowance in light of more favorable new factors, no additional cost is expected.

SECTION XII - ACTUARIAL ASSUMPTIONS AND METHODS

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."

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 Mandated Into Their Retirement Program		Unreduced Service Retirement For Members Who Elected an Improved Retirement Program	
		Year 1	Ultimate	Year 1	Ultimate
≤ 54	0.00%	8.00%	5.00%	40.00%	15.00%
55	3.50%	8.00%	5.00%	40.00%	15.00%
56	3.50%	8.00%	5.00%	40.00%	15.00%
57	3.50%	8.00%	5.00%	40.00%	15.00%
58	3.50%	8.00%	5.00%	40.00%	15.00%
59	5.25%	8.00%	5.00%	40.00%	15.00%
60	7.00%	8.00%	5.00%	40.00%	15.00%
61	8.00%	8.00%	7.50%	40.00%	15.00%
62	8.00%*	30.00%/8.00%**	10.00%	60.00%	25.00%
63	0.00%	20.00%/30.00%***	15.00%	40.00%	20.00%
64	0.00%	20.00%	15.00%	40.00%	20.00%
65	0.00%	30.00%	20.00%	60.00%	25.00%
66	0.00%	20.00%	15.00%	40.00%	20.00%
67	0.00%	20.00%	15.00%	40.00%	20.00%
68	0.00%	20.00%	15.00%	40.00%	20.00%
69	0.00%	20.00%	15.00%	40.00%	20.00%
70	0.00%	25.00%	25.00%	40.00%	25.00%
71	0.00%	25.00%	25.00%	40.00%	25.00%
72	0.00%	25.00%	25.00%	40.00%	25.00%
73	0.00%	25.00%	25.00%	40.00%	25.00%
74	0.00%	25.00%	25.00%	40.00%	25.00%
75	0.00%	25.00%	25.00%	40.00%	25.00%
76	0.00%	25.00%	25.00%	40.00%	25.00%
77	0.00%	25.00%	25.00%	40.00%	25.00%
78	0.00%	25.00%	25.00%	40.00%	25.00%
79	0.00%	25.00%	25.00%	40.00%	25.00%
≥ 80	N/A	100.00%	100.00%	100.00%	100.00%

* 8.00% only applies to Tier 6 members; 0.00% otherwise.

** 30.00% for Tier 1-4 members and 8.00% for Tier 6 members.

*** 20.00% for Tier 1-4 members and 30.00% for Tier 6 members.

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

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM				
PROBABILITIES OF SERVICE RETIREMENT: CORRECTION				
	Reduced Service Retirement Tiers 1-3		Reduced Service Retirement Tier 3R*	
	Age	Rate	Service	Rate
	≤ 54	0.00%	≤ 19	0.00%
55	2.00%	20	5.00%	
56	2.00%	21	2.00%	
57	2.00%	22	5.00%	
58	2.00%	23	2.00%	
59	3.00%	24	2.00%	
60	4.00%	≥ 25	N/A	
61	5.00%			
62	0.00%			
≥ 63	N/A			
Age	Unreduced Service Retirement For Members Mandated Into Their Retirement Program		Unreduced Service Retirement For Members Who Elected an Improved Retirement Program	
	Year 1	Ultimate	Year 1	Ultimate
≤ 54	60.00%	20.00%	70.00%	20.00%
55	60.00%	20.00%	70.00%	20.00%
56	60.00%	20.00%	70.00%	20.00%
57	60.00%	20.00%	70.00%	20.00%
58	60.00%	20.00%	70.00%	20.00%
59	60.00%	20.00%	70.00%	20.00%
60	60.00%	20.00%	70.00%	20.00%
61	60.00%	30.00%	70.00%	30.00%
62	60.00%	40.00%	70.00%	40.00%
≥ 63	100.00%	100.00%	100.00%	100.00%

* Assumption also used for IDA Tier 3R members.

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

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM				
PROBABILITIES OF SERVICE RETIREMENT: SANITATION				
	Reduced Service Retirement Tiers 1-4		Reduced Service Retirement Tier 3R	
	Age	Rate	Service	Rate
	≤ 54	0.00%	≤ 19	0.00%
55	4.00%	20	5.00%	
56	4.00%	21	2.00%	
57	4.00%	22	5.00%	
58	4.00%	23	2.00%	
59	6.00%	24	2.00%	
60	8.00%	≥ 25	N/A	
61	10.00%			
62	0.00%			
63	0.00%			
64	0.00%			
65	0.00%			
66	0.00%			
67	0.00%			
68	0.00%			
69	0.00%			
≥ 70	N/A			
Age	Unreduced Service Retirement For Members Mandated Into Their Retirement Program		Unreduced Service Retirement For Members Who Elected an Improved Retirement Program	
	Year 1	Ultimate	Year 1	Ultimate
≤ 45	30.00%	10.00%	40.00%	15.00%
46	30.00%	10.00%	42.00%	15.00%
47	30.00%	10.00%	44.00%	15.00%
48	30.00%	10.00%	46.00%	15.00%
49	30.00%	10.00%	48.00%	15.00%
50	30.00%	10.00%	50.00%	15.00%
51	30.00%	10.00%	52.00%	15.00%
52	30.00%	10.00%	54.00%	15.00%
53	30.00%	10.00%	56.00%	15.00%
54	30.00%	10.00%	58.00%	15.00%
55	30.00%	10.00%	60.00%	15.00%
56	30.00%	10.00%	60.00%	16.00%
57	30.00%	10.00%	60.00%	17.00%
58	30.00%	10.00%	60.00%	18.00%
59	30.00%	10.00%	60.00%	19.00%
60	30.00%	10.00%	60.00%	20.00%
61	30.00%	15.00%	60.00%	25.00%
62	45.00%/30.00%*	20.00%/15.00%**	60.00%	30.00%
63	30.00%	15.00%	40.00%	20.00%
64	30.00%	15.00%	40.00%	20.00%
65	45.00%	20.00%	60.00%	30.00%
66	30.00%	15.00%	40.00%	20.00%
67	30.00%	15.00%	40.00%	20.00%
68	30.00%	15.00%	40.00%	20.00%
69	30.00%	15.00%	40.00%	20.00%
≥ 70	100.00%	100.00%	100.00%	100.00%

* 45.00% for Tier 1-4 members and 30.00% for Tier 3R members.

** 20.00% for Tier 1-4 members and 15.00% for Tier 3R members.

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

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM					
PROBABILITIES OF SERVICE RETIREMENT: TBTA					
Age	Members Mandated Into Their Retirement Program			Members Who Elected an Improved Retirement Program	
	Reduced Service Retirement	Unreduced Service Retirement		Unreduced Service Retirement	
		Year 1	Ultimate	Year 1	Ultimate
≤ 54	0.00%	30.00%	20.00%	60.00%	30.00%
55	2.00%	30.00%	20.00%	60.00%	30.00%
56	2.00%	30.00%	20.00%	60.00%	30.00%
57	2.00%	30.00%	20.00%	60.00%	30.00%
58	2.00%	30.00%	20.00%	60.00%	30.00%
59	3.00%	30.00%	20.00%	60.00%	30.00%
60	4.00%	30.00%	20.00%	60.00%	30.00%
61	5.00%	30.00%	30.00%	60.00%	30.00%
62	0.00%	40.00%	40.00%	60.00%	40.00%
63	0.00%	30.00%	30.00%	40.00%	30.00%
64	0.00%	30.00%	30.00%	40.00%	30.00%
65	0.00%	40.00%	40.00%	60.00%	40.00%
66	0.00%	30.00%	30.00%	40.00%	30.00%
67	0.00%	30.00%	30.00%	40.00%	30.00%
68	0.00%	30.00%	30.00%	40.00%	30.00%
69	0.00%	30.00%	30.00%	40.00%	30.00%
70	0.00%	30.00%	30.00%	40.00%	30.00%
71	0.00%	30.00%	30.00%	40.00%	30.00%
72	0.00%	30.00%	30.00%	40.00%	30.00%
73	0.00%	30.00%	30.00%	40.00%	30.00%
74	0.00%	30.00%	30.00%	40.00%	30.00%
75	0.00%	30.00%	30.00%	40.00%	30.00%
76	0.00%	30.00%	30.00%	40.00%	30.00%
77	0.00%	30.00%	30.00%	40.00%	30.00%
78	0.00%	30.00%	30.00%	40.00%	30.00%
79	0.00%	30.00%	30.00%	40.00%	30.00%
≥ 80	N/A	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: TRANSIT					
Age	Reduced Service Retirement	Unreduced Service Retirement For Members Mandated Into Their Retirement Program		Unreduced Service Retirement For Members Who Elected an Improved Retirement Program	
		Year 1	Ultimate	Year 1	Ultimate
≤ 54	0.00%	30.00%	15.00%	25.00%	15.00%
55	2.00%	30.00%	15.00%	25.00%	15.00%
56	2.00%	30.00%	15.00%	25.00%	15.00%
57	2.00%	30.00%	15.00%	25.00%	15.00%
58	2.00%	30.00%	15.00%	25.00%	15.00%
59	3.00%	30.00%	15.00%	25.00%	15.00%
60	4.00%	35.00%	15.00%	30.00%	15.00%
61	5.00%	45.00%	20.00%	40.00%	20.00%
62	5.00%*	20.00%	20.00%	50.00%	40.00%
63	0.00%	20.00%	20.00%	40.00%	30.00%
64	0.00%	20.00%	20.00%	40.00%	30.00%
65	0.00%	25.00%	25.00%	50.00%	40.00%
66	0.00%	20.00%	20.00%	40.00%	30.00%
67	0.00%	20.00%	20.00%	40.00%	30.00%
68	0.00%	20.00%	20.00%	40.00%	30.00%
69	0.00%	20.00%	20.00%	40.00%	30.00%
70	0.00%	25.00%	25.00%	40.00%	30.00%
71	0.00%	25.00%	25.00%	40.00%	30.00%
72	0.00%	25.00%	25.00%	40.00%	30.00%
73	0.00%	25.00%	25.00%	40.00%	30.00%
74	0.00%	25.00%	25.00%	40.00%	30.00%
75	0.00%	25.00%	25.00%	40.00%	30.00%
76	0.00%	25.00%	25.00%	40.00%	30.00%
77	0.00%	25.00%	25.00%	40.00%	30.00%
78	0.00%	25.00%	25.00%	40.00%	30.00%
79	0.00%	25.00%	25.00%	40.00%	30.00%
≥ 80	N/A	100.00%	100.00%	100.00%	100.00%

* 5.00% only applies to Tier 6 members; 0.00% otherwise.

Table XII-2
Active Termination Rates

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM					
PROBABILITIES OF TERMINATION					
Probabilities of Termination					
Years of Service	General	Correction	Sanitation	TBTA	Transit
0	8.40%	7.50%	4.00%	9.00%	9.00%
1	7.00%	6.00%	2.00%	4.50%	4.50%
2	5.60%	4.50%	1.00%	2.00%	2.00%
3	4.20%	3.00%	1.00%	1.50%	1.50%
4	4.20%	2.25%	1.00%	1.25%	1.25%
5	4.20%	1.50%	1.00%	1.10%	1.10%
6	4.00%	1.35%	0.90%	1.10%	1.10%
7	3.80%	1.20%	0.80%	1.10%	1.10%
8	3.60%	1.05%	0.70%	1.10%	1.10%
9	3.40%	0.90%	0.60%	1.10%	1.10%
10	3.20%	0.75%	0.50%	1.10%	1.10%
11	3.00%	0.75%	0.50%	1.00%	1.00%
12	2.80%	0.75%	0.50%	0.90%	0.90%
13	2.60%	0.75%	0.50%	0.80%	0.80%
14	2.40%	0.75%	0.50%	0.70%	0.70%
15	2.20%	0.75%	0.50%	0.55%	0.55%
16	2.00%	0.75%	0.50%	0.55%	0.55%
17	1.80%	0.75%	0.50%	0.55%	0.55%
18	1.60%	0.75%	0.50%	0.55%	0.55%
19	1.40%	0.75%	0.50%	0.55%	0.55%
20+	1.40%	0.75%	0.50%	0.55%	0.55%

Table XII-3
Active Disability Rates

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM				
PROBABILITIES OF DISABILITY FOR ACTIVE MEMBERS: GENERAL				
	Ordinary Disability		Accidental Disability	
Age	Males	Females	Males	Females
15	0.140%	0.140%	0.028%	0.014%
16	0.140%	0.140%	0.028%	0.014%
17	0.140%	0.140%	0.028%	0.014%
18	0.140%	0.140%	0.028%	0.014%
19	0.140%	0.140%	0.028%	0.014%
20	0.140%	0.140%	0.028%	0.014%
21	0.140%	0.140%	0.028%	0.014%
22	0.140%	0.140%	0.028%	0.014%
23	0.140%	0.140%	0.028%	0.014%
24	0.140%	0.140%	0.028%	0.014%
25	0.140%	0.140%	0.028%	0.014%
26	0.140%	0.140%	0.028%	0.014%
27	0.140%	0.140%	0.028%	0.014%
28	0.140%	0.140%	0.028%	0.014%
29	0.140%	0.140%	0.028%	0.014%
30	0.140%	0.140%	0.028%	0.014%
31	0.154%	0.140%	0.028%	0.014%
32	0.168%	0.140%	0.028%	0.014%
33	0.182%	0.140%	0.028%	0.014%
34	0.196%	0.140%	0.028%	0.014%
35	0.210%	0.140%	0.028%	0.014%
36	0.224%	0.147%	0.028%	0.014%
37	0.238%	0.154%	0.028%	0.014%
38	0.252%	0.161%	0.028%	0.014%
39	0.266%	0.168%	0.028%	0.014%
40	0.280%	0.175%	0.028%	0.014%
41	0.294%	0.182%	0.028%	0.014%
42	0.308%	0.189%	0.028%	0.014%
43	0.322%	0.196%	0.028%	0.014%
44	0.336%	0.203%	0.028%	0.014%
45	0.350%	0.210%	0.028%	0.014%
46	0.364%	0.238%	0.028%	0.014%
47	0.378%	0.266%	0.028%	0.014%
48	0.392%	0.294%	0.028%	0.014%
49	0.406%	0.322%	0.028%	0.014%
50	0.420%	0.350%	0.028%	0.014%
51	0.434%	0.378%	0.028%	0.014%
52	0.448%	0.406%	0.028%	0.014%
53	0.462%	0.434%	0.028%	0.014%
54	0.476%	0.462%	0.028%	0.014%
55	0.490%	0.490%	0.028%	0.014%
56	0.490%	0.490%	0.028%	0.014%
57	0.490%	0.490%	0.028%	0.014%
58	0.490%	0.490%	0.028%	0.014%
59	0.490%	0.490%	0.028%	0.014%
60	0.490%	0.490%	0.028%	0.014%
61	0.490%	0.490%	0.028%	0.014%
62	0.490%	0.490%	0.028%	0.014%
63	0.490%	0.490%	0.028%	0.014%
64	0.490%	0.490%	0.028%	0.014%
65	0.490%	0.490%	0.028%	0.014%
66	0.490%	0.490%	0.028%	0.014%
67	0.490%	0.490%	0.028%	0.014%
68	0.490%	0.490%	0.028%	0.014%
69	0.490%	0.490%	0.028%	0.014%
70	0.490%	0.490%	0.028%	0.014%
71	0.490%	0.490%	0.028%	0.014%
72	0.490%	0.490%	0.028%	0.014%
73	0.490%	0.490%	0.028%	0.014%
74	0.490%	0.490%	0.028%	0.014%
75	0.490%	0.490%	0.028%	0.014%
76	0.490%	0.490%	0.028%	0.014%
77	0.490%	0.490%	0.028%	0.014%
78	0.490%	0.490%	0.028%	0.014%
79	0.490%	0.490%	0.028%	0.014%
≥ 80	N/A	N/A	N/A	N/A

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

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM						
PROBABILITIES OF DISABILITY FOR ACTIVE MEMBERS: UNIFORMED GROUPS						
	Correction			Sanitation		
Age	Ordinary Disability	Accidental Disability: Tier 3R Non-enhanced Plan	Accidental Disability: All Other Plans	Ordinary Disability	Accidental Disability: Tier 3R Non-enhanced Plan	Accidental Disability: All Other Plans
15	0.100%	0.125%	0.250%	0.100%	0.050%	0.100%
16	0.100%	0.125%	0.250%	0.100%	0.050%	0.100%
17	0.100%	0.125%	0.250%	0.100%	0.050%	0.100%
18	0.100%	0.125%	0.250%	0.100%	0.050%	0.100%
19	0.100%	0.125%	0.250%	0.100%	0.050%	0.100%
20	0.100%	0.125%	0.250%	0.100%	0.050%	0.100%
21	0.100%	0.138%	0.263%	0.100%	0.050%	0.100%
22	0.100%	0.138%	0.275%	0.100%	0.050%	0.100%
23	0.100%	0.150%	0.288%	0.100%	0.050%	0.100%
24	0.100%	0.150%	0.300%	0.100%	0.050%	0.100%
25	0.100%	0.163%	0.313%	0.100%	0.050%	0.100%
26	0.100%	0.163%	0.325%	0.120%	0.055%	0.110%
27	0.100%	0.175%	0.338%	0.140%	0.060%	0.120%
28	0.100%	0.175%	0.350%	0.160%	0.065%	0.130%
29	0.100%	0.188%	0.363%	0.180%	0.070%	0.140%
30	0.100%	0.188%	0.375%	0.200%	0.075%	0.150%
31	0.120%	0.200%	0.388%	0.220%	0.080%	0.160%
32	0.140%	0.200%	0.400%	0.240%	0.085%	0.170%
33	0.160%	0.213%	0.413%	0.260%	0.090%	0.180%
34	0.180%	0.213%	0.425%	0.280%	0.095%	0.190%
35	0.200%	0.225%	0.438%	0.300%	0.100%	0.200%
36	0.220%	0.225%	0.450%	0.320%	0.105%	0.210%
37	0.240%	0.238%	0.463%	0.340%	0.110%	0.220%
38	0.260%	0.238%	0.475%	0.360%	0.115%	0.230%
39	0.280%	0.250%	0.488%	0.380%	0.120%	0.240%
40	0.300%	0.250%	0.500%	0.400%	0.125%	0.250%
41	0.320%	0.263%	0.513%	0.420%	0.130%	0.260%
42	0.340%	0.263%	0.525%	0.440%	0.135%	0.270%
43	0.360%	0.275%	0.538%	0.460%	0.140%	0.280%
44	0.380%	0.275%	0.550%	0.480%	0.145%	0.290%
45	0.400%	0.288%	0.563%	0.500%	0.150%	0.300%
46	0.420%	0.288%	0.575%	0.520%	0.170%	0.340%
47	0.440%	0.300%	0.588%	0.540%	0.190%	0.380%
48	0.460%	0.300%	0.600%	0.560%	0.210%	0.420%
49	0.480%	0.313%	0.613%	0.580%	0.230%	0.460%
50	0.500%	0.313%	0.625%	0.600%	0.250%	0.500%
51	0.520%	0.325%	0.650%	0.620%	0.280%	0.560%
52	0.540%	0.338%	0.675%	0.640%	0.310%	0.620%
53	0.560%	0.350%	0.700%	0.660%	0.340%	0.680%
54	0.580%	0.363%	0.725%	0.680%	0.370%	0.740%
55	0.600%	0.375%	0.750%	0.700%	0.400%	0.800%
56	0.620%	0.388%	0.775%	0.720%	0.440%	0.880%
57	0.640%	0.400%	0.800%	0.740%	0.480%	0.960%
58	0.660%	0.413%	0.825%	0.760%	0.520%	1.040%
59	0.680%	0.425%	0.850%	0.780%	0.560%	1.120%
60	0.700%	0.438%	0.875%	0.800%	0.600%	1.200%
61	0.720%	0.450%	0.900%	0.820%	0.650%	1.300%
62	0.740%	0.463%	0.925%	0.840%	0.700%	1.400%
63	N/A	N/A	N/A	0.860%	0.750%	1.500%
64	N/A	N/A	N/A	0.880%	0.800%	1.600%
65	N/A	N/A	N/A	0.900%	0.850%	1.700%
66	N/A	N/A	N/A	0.920%	0.910%	1.820%
67	N/A	N/A	N/A	0.940%	0.970%	1.940%
68	N/A	N/A	N/A	0.960%	1.030%	2.060%
69	N/A	N/A	N/A	0.980%	1.090%	2.180%
≥ 70	N/A	N/A	N/A	N/A	N/A	N/A

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

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM				
PROBABILITIES OF DISABILITY FOR ACTIVE MEMBERS: OTHERS				
	TBTA		Transit	
Age	Ordinary Disability	Accidental Disability	Ordinary Disability	Accidental Disability
15	0.100%	0.020%	0.100%	0.020%
16	0.100%	0.020%	0.100%	0.020%
17	0.100%	0.020%	0.100%	0.020%
18	0.100%	0.020%	0.100%	0.020%
19	0.100%	0.020%	0.100%	0.020%
20	0.100%	0.020%	0.100%	0.020%
21	0.100%	0.020%	0.100%	0.020%
22	0.100%	0.020%	0.100%	0.020%
23	0.100%	0.020%	0.100%	0.020%
24	0.100%	0.020%	0.100%	0.020%
25	0.100%	0.020%	0.100%	0.020%
26	0.100%	0.020%	0.100%	0.020%
27	0.100%	0.020%	0.100%	0.020%
28	0.100%	0.020%	0.100%	0.020%
29	0.100%	0.020%	0.100%	0.020%
30	0.100%	0.020%	0.100%	0.020%
31	0.120%	0.020%	0.120%	0.020%
32	0.140%	0.020%	0.140%	0.020%
33	0.160%	0.020%	0.160%	0.020%
34	0.180%	0.020%	0.180%	0.020%
35	0.200%	0.020%	0.200%	0.020%
36	0.220%	0.020%	0.220%	0.020%
37	0.240%	0.020%	0.240%	0.020%
38	0.260%	0.020%	0.260%	0.020%
39	0.280%	0.020%	0.280%	0.020%
40	0.300%	0.020%	0.300%	0.020%
41	0.320%	0.020%	0.320%	0.020%
42	0.340%	0.020%	0.340%	0.020%
43	0.360%	0.020%	0.360%	0.020%
44	0.380%	0.020%	0.380%	0.020%
45	0.400%	0.020%	0.400%	0.020%
46	0.420%	0.020%	0.420%	0.020%
47	0.440%	0.020%	0.440%	0.020%
48	0.460%	0.020%	0.460%	0.020%
49	0.480%	0.020%	0.480%	0.020%
50	0.500%	0.020%	0.500%	0.020%
51	0.520%	0.020%	0.520%	0.020%
52	0.540%	0.020%	0.540%	0.020%
53	0.560%	0.020%	0.560%	0.020%
54	0.580%	0.020%	0.580%	0.020%
55	0.600%	0.020%	0.600%	0.020%
56	0.600%	0.020%	0.600%	0.020%
57	0.600%	0.020%	0.600%	0.020%
58	0.600%	0.020%	0.600%	0.020%
59	0.600%	0.020%	0.600%	0.020%
60	0.600%	0.020%	0.600%	0.020%
61	0.600%	0.020%	0.600%	0.020%
62	0.600%	0.020%	0.600%	0.020%
63	0.600%	0.020%	0.600%	0.020%
64	0.600%	0.020%	0.600%	0.020%
65	0.600%	0.020%	0.600%	0.020%
66	0.600%	0.020%	0.600%	0.020%
67	0.600%	0.020%	0.600%	0.020%
68	0.600%	0.020%	0.600%	0.020%
69	0.600%	0.020%	0.600%	0.020%
70	0.600%	0.020%	0.600%	0.020%
71	0.600%	0.020%	0.600%	0.020%
72	0.600%	0.020%	0.600%	0.020%
73	0.600%	0.020%	0.600%	0.020%
74	0.600%	0.020%	0.600%	0.020%
75	0.600%	0.020%	0.600%	0.020%
76	0.600%	0.020%	0.600%	0.020%
77	0.600%	0.020%	0.600%	0.020%
78	0.600%	0.020%	0.600%	0.020%
79	0.600%	0.020%	0.600%	0.020%
≥ 80	N/A	N/A	N/A	N/A

Table XII-4
Active Mortality Rates

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM						
PROBABILITIES OF MORTALITY FOR ACTIVE MEMBERS: CORRECTION AND SANITATION						
	Correction			Sanitation		
	Ordinary Death		Accidental Death	Ordinary Death		Accidental Death
Age	Males	Females	All	Males	Females	All
15	0.025%	0.015%	0.005%	0.050%	0.030%	0.010%
16	0.025%	0.015%	0.005%	0.050%	0.030%	0.010%
17	0.025%	0.015%	0.005%	0.050%	0.030%	0.010%
18	0.025%	0.015%	0.005%	0.050%	0.030%	0.010%
19	0.025%	0.015%	0.005%	0.050%	0.030%	0.010%
20	0.025%	0.015%	0.005%	0.050%	0.030%	0.010%
21	0.025%	0.015%	0.005%	0.050%	0.030%	0.010%
22	0.025%	0.015%	0.005%	0.050%	0.030%	0.010%
23	0.025%	0.015%	0.005%	0.050%	0.030%	0.010%
24	0.025%	0.015%	0.005%	0.050%	0.030%	0.010%
25	0.025%	0.015%	0.005%	0.050%	0.030%	0.010%
26	0.025%	0.015%	0.005%	0.050%	0.030%	0.010%
27	0.025%	0.015%	0.005%	0.050%	0.030%	0.010%
28	0.025%	0.015%	0.005%	0.050%	0.030%	0.010%
29	0.025%	0.015%	0.005%	0.050%	0.030%	0.010%
30	0.025%	0.015%	0.005%	0.050%	0.030%	0.010%
31	0.025%	0.015%	0.005%	0.050%	0.030%	0.010%
32	0.025%	0.015%	0.005%	0.050%	0.030%	0.010%
33	0.025%	0.015%	0.005%	0.050%	0.030%	0.010%
34	0.025%	0.015%	0.005%	0.050%	0.030%	0.010%
35	0.025%	0.015%	0.005%	0.050%	0.030%	0.010%
36	0.030%	0.018%	0.005%	0.060%	0.036%	0.010%
37	0.035%	0.021%	0.005%	0.070%	0.042%	0.010%
38	0.040%	0.024%	0.005%	0.080%	0.048%	0.010%
39	0.045%	0.027%	0.005%	0.090%	0.054%	0.010%
40	0.050%	0.030%	0.005%	0.100%	0.060%	0.010%
41	0.055%	0.033%	0.005%	0.110%	0.066%	0.010%
42	0.060%	0.036%	0.005%	0.120%	0.072%	0.010%
43	0.065%	0.039%	0.005%	0.130%	0.078%	0.010%
44	0.070%	0.042%	0.005%	0.140%	0.084%	0.010%
45	0.075%	0.045%	0.005%	0.150%	0.090%	0.010%
46	0.080%	0.048%	0.005%	0.160%	0.096%	0.010%
47	0.085%	0.051%	0.005%	0.170%	0.102%	0.010%
48	0.090%	0.054%	0.005%	0.180%	0.108%	0.010%
49	0.095%	0.057%	0.005%	0.190%	0.114%	0.010%
50	0.100%	0.060%	0.005%	0.200%	0.120%	0.010%
51	0.105%	0.064%	0.005%	0.210%	0.128%	0.010%
52	0.110%	0.068%	0.005%	0.220%	0.136%	0.010%
53	0.115%	0.072%	0.005%	0.230%	0.144%	0.010%
54	0.120%	0.076%	0.005%	0.240%	0.152%	0.010%
55	0.125%	0.080%	0.005%	0.250%	0.160%	0.010%
56	0.130%	0.084%	0.005%	0.260%	0.168%	0.010%
57	0.135%	0.088%	0.005%	0.270%	0.176%	0.010%
58	0.140%	0.092%	0.005%	0.280%	0.184%	0.010%
59	0.145%	0.096%	0.005%	0.290%	0.192%	0.010%
60	0.150%	0.100%	0.005%	0.300%	0.200%	0.010%
61	0.160%	0.105%	0.005%	0.320%	0.210%	0.010%
62	0.170%	0.110%	0.005%	0.340%	0.220%	0.010%
63	N/A	N/A	N/A	0.360%	0.230%	0.010%
64	N/A	N/A	N/A	0.380%	0.240%	0.010%
65	N/A	N/A	N/A	0.400%	0.250%	0.010%
66	N/A	N/A	N/A	0.440%	0.280%	0.010%
67	N/A	N/A	N/A	0.480%	0.310%	0.010%
68	N/A	N/A	N/A	0.520%	0.340%	0.010%
69	N/A	N/A	N/A	0.560%	0.370%	0.010%
≥ 70	N/A	N/A	N/A	N/A	N/A	N/A

Table XII-4
Active Mortality Rates (cont'd)

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM						
PROBABILITIES OF MORTALITY FOR ACTIVE MEMBERS: PLAN GROUPS OTHER THAN CORRECTION AND SANITATION						
	General			Transit and TBTA		
	Ordinary Death		Accidental Death	Ordinary Death		Accidental Death
Age	Males	Females	All	Males	Females	All
15	0.0240%	0.0180%	0.0000%	0.0240%	0.0180%	0.0060%
16	0.0240%	0.0180%	0.0000%	0.0240%	0.0180%	0.0060%
17	0.0240%	0.0180%	0.0000%	0.0240%	0.0180%	0.0060%
18	0.0240%	0.0180%	0.0000%	0.0240%	0.0180%	0.0060%
19	0.0240%	0.0180%	0.0000%	0.0240%	0.0180%	0.0060%
20	0.0240%	0.0180%	0.0000%	0.0240%	0.0180%	0.0060%
21	0.0240%	0.0180%	0.0000%	0.0240%	0.0180%	0.0060%
22	0.0240%	0.0180%	0.0000%	0.0240%	0.0180%	0.0060%
23	0.0240%	0.0180%	0.0000%	0.0240%	0.0180%	0.0060%
24	0.0240%	0.0180%	0.0000%	0.0240%	0.0180%	0.0060%
25	0.0240%	0.0180%	0.0000%	0.0240%	0.0180%	0.0060%
26	0.0264%	0.0192%	0.0000%	0.0264%	0.0192%	0.0060%
27	0.0288%	0.0204%	0.0000%	0.0288%	0.0204%	0.0060%
28	0.0312%	0.0216%	0.0000%	0.0312%	0.0216%	0.0060%
29	0.0336%	0.0228%	0.0000%	0.0336%	0.0228%	0.0060%
30	0.0360%	0.0240%	0.0000%	0.0360%	0.0240%	0.0060%
31	0.0384%	0.0252%	0.0000%	0.0384%	0.0252%	0.0060%
32	0.0408%	0.0264%	0.0000%	0.0408%	0.0264%	0.0060%
33	0.0432%	0.0276%	0.0000%	0.0432%	0.0276%	0.0060%
34	0.0456%	0.0288%	0.0000%	0.0456%	0.0288%	0.0060%
35	0.0480%	0.0300%	0.0000%	0.0480%	0.0300%	0.0060%
36	0.0504%	0.0312%	0.0000%	0.0504%	0.0312%	0.0060%
37	0.0528%	0.0324%	0.0000%	0.0528%	0.0324%	0.0060%
38	0.0552%	0.0336%	0.0000%	0.0552%	0.0336%	0.0060%
39	0.0576%	0.0348%	0.0000%	0.0576%	0.0348%	0.0060%
40	0.0600%	0.0360%	0.0000%	0.0600%	0.0360%	0.0060%
41	0.0660%	0.0408%	0.0000%	0.0660%	0.0408%	0.0060%
42	0.0720%	0.0456%	0.0000%	0.0720%	0.0456%	0.0060%
43	0.0780%	0.0504%	0.0000%	0.0780%	0.0504%	0.0060%
44	0.0840%	0.0552%	0.0000%	0.0840%	0.0552%	0.0060%
45	0.0900%	0.0600%	0.0000%	0.0900%	0.0600%	0.0060%
46	0.0960%	0.0660%	0.0000%	0.0960%	0.0660%	0.0060%
47	0.1020%	0.0720%	0.0000%	0.1020%	0.0720%	0.0060%
48	0.1080%	0.0780%	0.0000%	0.1080%	0.0780%	0.0060%
49	0.1140%	0.0840%	0.0000%	0.1140%	0.0840%	0.0060%
50	0.1200%	0.0900%	0.0000%	0.1200%	0.0900%	0.0060%
51	0.1320%	0.0960%	0.0000%	0.1320%	0.0960%	0.0060%
52	0.1440%	0.1020%	0.0000%	0.1440%	0.1020%	0.0060%
53	0.1560%	0.1080%	0.0000%	0.1560%	0.1080%	0.0060%
54	0.1680%	0.1140%	0.0000%	0.1680%	0.1140%	0.0060%
55	0.1800%	0.1200%	0.0000%	0.1800%	0.1200%	0.0060%
56	0.1920%	0.1260%	0.0000%	0.1920%	0.1260%	0.0060%
57	0.2040%	0.1320%	0.0000%	0.2040%	0.1320%	0.0060%
58	0.2160%	0.1380%	0.0000%	0.2160%	0.1380%	0.0060%
59	0.2280%	0.1440%	0.0000%	0.2280%	0.1440%	0.0060%
60	0.2400%	0.1500%	0.0000%	0.2400%	0.1500%	0.0060%
61	0.2520%	0.1560%	0.0000%	0.2520%	0.1560%	0.0060%
62	0.2640%	0.1620%	0.0000%	0.2640%	0.1620%	0.0060%
63	0.2760%	0.1680%	0.0000%	0.2760%	0.1680%	0.0060%
64	0.2880%	0.1740%	0.0000%	0.2880%	0.1740%	0.0060%
65	0.3000%	0.1800%	0.0000%	0.3000%	0.1800%	0.0060%
66	0.3240%	0.1920%	0.0000%	0.3240%	0.1920%	0.0060%
67	0.3480%	0.2040%	0.0000%	0.3480%	0.2040%	0.0060%
68	0.3720%	0.2160%	0.0000%	0.3720%	0.2160%	0.0060%
69	0.3960%	0.2280%	0.0000%	0.3960%	0.2280%	0.0060%
70	0.4000%	0.2400%	0.0000%	0.4000%	0.2400%	0.0060%
71	0.4240%	0.2580%	0.0000%	0.4240%	0.2580%	0.0060%
72	0.4480%	0.2760%	0.0000%	0.4480%	0.2760%	0.0060%
73	0.4720%	0.2940%	0.0000%	0.4720%	0.2940%	0.0060%
74	0.4960%	0.3120%	0.0000%	0.4960%	0.3120%	0.0060%
75	0.5200%	0.3300%	0.0000%	0.5200%	0.3300%	0.0060%
76	0.5680%	0.3660%	0.0000%	0.5680%	0.3660%	0.0060%
77	0.6160%	0.4020%	0.0000%	0.6160%	0.4020%	0.0060%
78	0.6640%	0.4380%	0.0000%	0.6640%	0.4380%	0.0060%
79	0.7120%	0.4740%	0.0000%	0.7120%	0.4740%	0.0060%
≥ 80	N/A	N/A	N/A	N/A	N/A	N/A

Table XII-5
Service Retiree Mortality Rates

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM					
PROBABILITIES OF MORTALITY FOR SERVICE RETIREES: PLAN GROUPS OTHER THAN HOUSING POLICE AND TRANSIT POLICE BASE TABLE					
Age	Males	Females	Age	Males	Females
15	0.0105%	0.0092%	68	1.8256%	1.3605%
16	0.0142%	0.0112%	69	1.9386%	1.4332%
17	0.0191%	0.0122%	70	2.0542%	1.5007%
18	0.0222%	0.0133%	71	2.2359%	1.6745%
19	0.0240%	0.0143%	72	2.4230%	1.8463%
20	0.0251%	0.0145%	73	2.6165%	2.0157%
21	0.0268%	0.0153%	74	2.8157%	2.1838%
22	0.0284%	0.0161%	75	3.0220%	2.3492%
23	0.0301%	0.0171%	76	3.4928%	2.6652%
24	0.0315%	0.0183%	77	3.9787%	2.9831%
25	0.0327%	0.0195%	78	4.4792%	3.3011%
26	0.0342%	0.0208%	79	4.9963%	3.6207%
27	0.0354%	0.0221%	80	5.5282%	3.9391%
28	0.0371%	0.0236%	81	6.1051%	4.4386%
29	0.0394%	0.0252%	82	6.6894%	4.9473%
30	0.0427%	0.0270%	83	7.2805%	5.4665%
31	0.0495%	0.0330%	84	7.8749%	5.9942%
32	0.0562%	0.0384%	85	8.4753%	6.5354%
33	0.0625%	0.0431%	86	9.6136%	7.4659%
34	0.0682%	0.0471%	87	10.8005%	8.3995%
35	0.0743%	0.0511%	88	12.0443%	9.3428%
36	0.0780%	0.0542%	89	13.3397%	10.2918%
37	0.0818%	0.0579%	90	14.6958%	11.2477%
38	0.0861%	0.0618%	91	16.4185%	12.8868%
39	0.0917%	0.0666%	92	18.1416%	14.4887%
40	0.0997%	0.0719%	93	19.8574%	16.0801%
41	0.1394%	0.0775%	94	21.6187%	17.5854%
42	0.1774%	0.0859%	95	23.5884%	19.0626%
43	0.2143%	0.0968%	96	25.4266%	20.2474%
44	0.2507%	0.1111%	97	27.2119%	21.2937%
45	0.2875%	0.1287%	98	29.0202%	22.0663%
46	0.3207%	0.1501%	99	30.6654%	22.5443%
47	0.3534%	0.1748%	100	32.1584%	22.6473%
48	0.3849%	0.2022%	101	33.7521%	23.5294%
49	0.4150%	0.2319%	102	35.1259%	24.5619%
50	0.4431%	0.2633%	103	36.3671%	25.7825%
51	0.5156%	0.2999%	104	37.3834%	27.1635%
52	0.5928%	0.3376%	105	38.1051%	28.6530%
53	0.6740%	0.3762%	106	38.4698%	30.2169%
54	0.7583%	0.4151%	107	38.6325%	31.8182%
55	0.8440%	0.4540%	108	38.8076%	33.4131%
56	0.9048%	0.5132%	109	38.9794%	34.9566%
57	0.9604%	0.5735%	110	50.0000%	50.0000%
58	1.0101%	0.6353%	111	50.0000%	50.0000%
59	1.0536%	0.6981%	112	50.0000%	50.0000%
60	1.0919%	0.7631%	113	50.0000%	50.0000%
61	1.1835%	0.8329%	114	50.0000%	50.0000%
62	1.2676%	0.8908%	115	50.0000%	50.0000%
63	1.3473%	0.9493%	116	50.0000%	50.0000%
64	1.4238%	1.0146%	117	50.0000%	50.0000%
65	1.4985%	1.0876%	118	50.0000%	50.0000%
66	1.6059%	1.1681%	119	50.0000%	50.0000%
67	1.7146%	1.2609%	120	100.0000%	100.0000%

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

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM					
PROBABILITIES OF MORTALITY FOR SERVICE RETIREES: HOUSING POLICE AND TRANSIT POLICE BASE TABLE					
Age	Males	Females	Age	Males	Females
15	0.0100%	0.0084%	68	1.4988%	1.0632%
16	0.0135%	0.0103%	69	1.6917%	1.1644%
17	0.0181%	0.0112%	70	1.8929%	1.2629%
18	0.0217%	0.0131%	71	2.1028%	1.4563%
19	0.0240%	0.0140%	72	2.3212%	1.6586%
20	0.0251%	0.0142%	73	2.5833%	1.8689%
21	0.0268%	0.0150%	74	2.8558%	2.0889%
22	0.0284%	0.0158%	75	3.1397%	2.3314%
23	0.0301%	0.0168%	76	3.4343%	2.6045%
24	0.0315%	0.0179%	77	3.7415%	2.8700%
25	0.0327%	0.0191%	78	4.2304%	3.1787%
26	0.0342%	0.0204%	79	4.7399%	3.4795%
27	0.0354%	0.0217%	80	5.2682%	3.8105%
28	0.0371%	0.0231%	81	5.7202%	4.3289%
29	0.0394%	0.0247%	82	6.1782%	4.8678%
30	0.0427%	0.0265%	83	7.0179%	5.4288%
31	0.0492%	0.0316%	84	7.8631%	5.9122%
32	0.0556%	0.0360%	85	8.7167%	6.3661%
33	0.0616%	0.0398%	86	9.5810%	7.1650%
34	0.0669%	0.0427%	87	10.4516%	8.0050%
35	0.0724%	0.0455%	88	11.8437%	8.8541%
36	0.0755%	0.0474%	89	13.2486%	9.6498%
37	0.0779%	0.0497%	90	14.6752%	10.5687%
38	0.0808%	0.0521%	91	16.3354%	12.0267%
39	0.0845%	0.0551%	92	18.0374%	13.4340%
40	0.0901%	0.0588%	93	19.7642%	14.8636%
41	0.1003%	0.0633%	94	21.5622%	16.4543%
42	0.1106%	0.0702%	95	23.4692%	17.7952%
43	0.1212%	0.0792%	96	25.3619%	19.0707%
44	0.1323%	0.0907%	97	27.1816%	20.2419%
45	0.1439%	0.1052%	98	29.0095%	21.1759%
46	0.1563%	0.1228%	99	30.6920%	21.8544%
47	0.1693%	0.1427%	100	32.1584%	22.1859%
48	0.1827%	0.1652%	101	33.7521%	23.0680%
49	0.1964%	0.1865%	102	35.1259%	24.0803%
50	0.2104%	0.1992%	103	36.3671%	25.2770%
51	0.2802%	0.2104%	104	37.3834%	26.6309%
52	0.3506%	0.2186%	105	38.1051%	28.0912%
53	0.4209%	0.2250%	106	38.4698%	29.6244%
54	0.4903%	0.2863%	107	38.6325%	31.1943%
55	0.5297%	0.3409%	108	38.8076%	32.7579%
56	0.5857%	0.3910%	109	38.9794%	34.2712%
57	0.6387%	0.4376%	110	50.0000%	50.0000%
58	0.6875%	0.4613%	111	50.0000%	50.0000%
59	0.7316%	0.5005%	112	50.0000%	50.0000%
60	0.7720%	0.5393%	113	50.0000%	50.0000%
61	0.8439%	0.5785%	114	50.0000%	50.0000%
62	0.9155%	0.6152%	115	50.0000%	50.0000%
63	0.9888%	0.6536%	116	50.0000%	50.0000%
64	1.0644%	0.7279%	117	50.0000%	50.0000%
65	1.1433%	0.8032%	118	50.0000%	50.0000%
66	1.2263%	0.8884%	119	50.0000%	50.0000%
67	1.3135%	0.9736%	120	100.0000%	100.0000%

Table XII-6
Disabled Retiree Mortality Rates

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM					
PROBABILITIES OF MORTALITY FOR DISABLED RETIREES: GENERAL PLANS					
BASE TABLE					
Age	Males	Females	Age	Males	Females
15	0.2163%	0.1980%	68	3.8171%	2.9280%
16	0.2927%	0.2680%	69	3.8682%	2.9997%
17	0.3945%	0.3612%	70	3.9318%	3.0865%
18	0.4581%	0.3913%	71	4.1518%	3.1548%
19	0.4963%	0.4214%	72	4.3957%	3.4254%
20	0.5178%	0.4416%	73	4.6660%	3.7295%
21	0.5589%	0.4807%	74	4.9632%	3.9658%
22	0.6029%	0.5231%	75	5.2904%	4.2453%
23	0.6500%	0.5662%	76	5.7355%	4.5234%
24	0.7005%	0.6186%	77	6.2253%	4.7961%
25	0.7524%	0.6680%	78	6.7606%	5.1502%
26	0.8054%	0.7165%	79	7.3471%	5.5873%
27	0.8591%	0.7727%	80	7.9843%	6.0964%
28	0.9126%	0.8346%	81	8.6745%	6.6521%
29	0.9647%	0.9008%	82	9.4240%	7.2551%
30	1.0136%	0.9373%	83	10.2386%	7.9112%
31	1.0584%	0.9629%	84	11.1186%	8.6209%
32	1.0978%	0.9955%	85	12.0742%	9.3370%
33	1.1310%	1.0289%	86	12.8184%	10.0511%
34	1.1597%	1.0577%	87	13.3550%	10.8029%
35	1.1838%	1.0841%	88	14.0470%	11.4531%
36	1.2035%	1.1092%	89	14.7705%	12.5564%
37	1.2211%	1.1344%	90	15.5356%	14.1031%
38	1.2388%	1.1618%	91	17.3803%	15.7291%
39	1.2591%	1.1939%	92	19.4620%	17.1860%
40	1.2846%	1.2249%	93	21.5002%	18.5029%
41	1.3114%	1.2570%	94	23.5320%	19.6588%
42	1.3750%	1.2982%	95	25.5906%	20.8223%
43	1.4416%	1.3497%	96	27.4494%	21.5778%
44	1.5115%	1.4058%	97	29.1839%	21.9133%
45	1.5849%	1.4809%	98	30.8635%	22.0663%
46	1.6617%	1.5639%	99	32.2842%	23.0087%
47	1.7422%	1.6535%	100	33.4447%	23.1230%
48	1.8267%	1.7359%	101	35.1022%	23.6022%
49	1.9153%	1.8218%	102	36.5309%	24.5619%
50	2.0462%	1.8919%	103	37.8218%	25.7825%
51	2.2291%	1.9830%	104	38.8787%	27.1635%
52	2.4215%	2.0502%	105	39.6293%	28.6530%
53	2.6231%	2.1047%	106	40.0086%	30.2169%
54	2.8293%	2.1904%	107	40.1778%	31.8182%
55	3.0344%	2.2636%	108	40.3599%	33.4131%
56	3.1146%	2.3429%	109	40.5386%	34.9566%
57	3.1774%	2.4285%	110	50.0000%	50.0000%
58	3.2218%	2.5412%	111	50.0000%	50.0000%
59	3.2493%	2.5588%	112	50.0000%	50.0000%
60	3.2648%	2.5795%	113	50.0000%	50.0000%
61	3.3472%	2.6067%	114	50.0000%	50.0000%
62	3.4295%	2.6272%	115	50.0000%	50.0000%
63	3.5199%	2.6579%	116	50.0000%	50.0000%
64	3.6208%	2.7759%	117	50.0000%	50.0000%
65	3.7368%	2.8107%	118	50.0000%	50.0000%
66	3.7511%	2.8328%	119	50.0000%	50.0000%
67	3.7776%	2.8725%	120	100.0000%	100.0000%

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

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM					
PROBABILITIES OF MORTALITY FOR DISABLED RETIREES: CORRECTION BASE TABLE					
Age	Males	Females	Age	Males	Females
15	0.1529%	0.1504%	68	2.0976%	1.9435%
16	0.2068%	0.2034%	69	2.2316%	2.0901%
17	0.2788%	0.2742%	70	2.3817%	2.2370%
18	0.3328%	0.3273%	71	2.5774%	2.3979%
19	0.3687%	0.3507%	72	2.7948%	2.5741%
20	0.3762%	0.3604%	73	3.0370%	2.7665%
21	0.3973%	0.3851%	74	3.3054%	3.0122%
22	0.4195%	0.4042%	75	3.6032%	3.3026%
23	0.4428%	0.4278%	76	3.9499%	3.6022%
24	0.4673%	0.4574%	77	4.3346%	3.9080%
25	0.4920%	0.4832%	78	4.7588%	4.2919%
26	0.5163%	0.5076%	79	5.2279%	4.7080%
27	0.5402%	0.5362%	80	5.7433%	5.1937%
28	0.5630%	0.5555%	81	6.3425%	5.7290%
29	0.5840%	0.5755%	82	6.9496%	6.3165%
30	0.6026%	0.5962%	83	7.5636%	6.9627%
31	0.6179%	0.6177%	84	8.1812%	7.7122%
32	0.6297%	0.6268%	85	8.8050%	8.4245%
33	0.6376%	0.6361%	86	9.7703%	9.0849%
34	0.6427%	0.6422%	87	10.8005%	9.7986%
35	0.6554%	0.6466%	88	12.0443%	10.5221%
36	0.6683%	0.6504%	89	13.3397%	11.5771%
37	0.6814%	0.6538%	90	14.6958%	12.7805%
38	0.6949%	0.6583%	91	16.4185%	14.0140%
39	0.7086%	0.6655%	92	18.1416%	15.1826%
40	0.7225%	0.6718%	93	19.8574%	16.3730%
41	0.7368%	0.6785%	94	21.6187%	18.3891%
42	0.7513%	0.6898%	95	23.5884%	20.4768%
43	0.7661%	0.7059%	96	25.4266%	21.5778%
44	0.7812%	0.7241%	97	27.2119%	21.9133%
45	0.7966%	0.7516%	98	29.0202%	22.0663%
46	0.8123%	0.7820%	99	30.6654%	23.0087%
47	0.8283%	0.8124%	100	32.1584%	23.1230%
48	0.8446%	0.8431%	101	33.7521%	23.6022%
49	0.8613%	0.8604%	102	35.1259%	24.5619%
50	0.8782%	0.8758%	103	36.3671%	25.7825%
51	0.8956%	0.8871%	104	37.3834%	27.1635%
52	0.9574%	0.8938%	105	38.1051%	28.6530%
53	1.0214%	0.8945%	106	38.4698%	30.2169%
54	1.0859%	0.9896%	107	38.6325%	31.8182%
55	1.1487%	1.0949%	108	38.8076%	33.4131%
56	1.2131%	1.1161%	109	38.9794%	34.9566%
57	1.2733%	1.1402%	110	50.0000%	50.0000%
58	1.3280%	1.1770%	111	50.0000%	50.0000%
59	1.3775%	1.2195%	112	50.0000%	50.0000%
60	1.4231%	1.2648%	113	50.0000%	50.0000%
61	1.4854%	1.3147%	114	50.0000%	50.0000%
62	1.5489%	1.3627%	115	50.0000%	50.0000%
63	1.6175%	1.4176%	116	50.0000%	50.0000%
64	1.6924%	1.5072%	117	50.0000%	50.0000%
65	1.7762%	1.5987%	118	50.0000%	50.0000%
66	1.8712%	1.7097%	119	50.0000%	50.0000%
67	1.9777%	1.8212%	120	100.0000%	100.0000%

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

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM					
PROBABILITIES OF MORTALITY FOR DISABLED RETIREES: SANITATION					
BASE TABLE					
Age	Males	Females	Age	Males	Females
15	0.1891%	0.1809%	68	2.4678%	1.9435%
16	0.2558%	0.2447%	69	2.6254%	2.0901%
17	0.3448%	0.3299%	70	2.8020%	2.2370%
18	0.4004%	0.3831%	71	3.0322%	2.3979%
19	0.4338%	0.4126%	72	3.2880%	2.5741%
20	0.4426%	0.4240%	73	3.5729%	2.7665%
21	0.4674%	0.4530%	74	3.8887%	3.0122%
22	0.4935%	0.4755%	75	4.2391%	3.3026%
23	0.5209%	0.5033%	76	4.6469%	3.6022%
24	0.5498%	0.5381%	77	5.0995%	3.9080%
25	0.5788%	0.5685%	78	5.5986%	4.2919%
26	0.6074%	0.5972%	79	6.1505%	4.7080%
27	0.6355%	0.6308%	80	6.7568%	5.1937%
28	0.6623%	0.6535%	81	7.4618%	5.7290%
29	0.6871%	0.6771%	82	8.1760%	6.3165%
30	0.7089%	0.7014%	83	8.8984%	6.9627%
31	0.7269%	0.7267%	84	9.6249%	7.7122%
32	0.7408%	0.7374%	85	10.3588%	8.4245%
33	0.7501%	0.7484%	86	11.4945%	9.0849%
34	0.7561%	0.7555%	87	12.6389%	9.7986%
35	0.7710%	0.7607%	88	13.8008%	10.5221%
36	0.7862%	0.7652%	89	14.9732%	11.5771%
37	0.8017%	0.7692%	90	16.1654%	12.7805%
38	0.8175%	0.7745%	91	18.1783%	14.0140%
39	0.8336%	0.7829%	92	20.1433%	15.1826%
40	0.8500%	0.7904%	93	22.0331%	16.3730%
41	0.8668%	0.7982%	94	23.8872%	18.3891%
42	0.8839%	0.8115%	95	25.7371%	20.4768%
43	0.9013%	0.8305%	96	27.1672%	21.5778%
44	0.9191%	0.8519%	97	28.5248%	21.9133%
45	0.9372%	0.8842%	98	29.8950%	22.0663%
46	0.9556%	0.9200%	99	31.1005%	23.0087%
47	0.9745%	0.9558%	100	32.1584%	23.1230%
48	0.9937%	0.9919%	101	33.7521%	23.6022%
49	1.0133%	1.0122%	102	35.1259%	24.5619%
50	1.0332%	1.0303%	103	36.3671%	25.7825%
51	1.0536%	1.0437%	104	37.3834%	27.1635%
52	1.1263%	1.0515%	105	38.1051%	28.6530%
53	1.2016%	1.0523%	106	38.4698%	30.2169%
54	1.2775%	1.0767%	107	38.6325%	31.8182%
55	1.3514%	1.0949%	108	38.8076%	33.4131%
56	1.4272%	1.1161%	109	38.9794%	34.9566%
57	1.4980%	1.1402%	110	50.0000%	50.0000%
58	1.5624%	1.1770%	111	50.0000%	50.0000%
59	1.6206%	1.2195%	112	50.0000%	50.0000%
60	1.6742%	1.2648%	113	50.0000%	50.0000%
61	1.7475%	1.3147%	114	50.0000%	50.0000%
62	1.8222%	1.3627%	115	50.0000%	50.0000%
63	1.9029%	1.4176%	116	50.0000%	50.0000%
64	1.9910%	1.5072%	117	50.0000%	50.0000%
65	2.0897%	1.5987%	118	50.0000%	50.0000%
66	2.2014%	1.7097%	119	50.0000%	50.0000%
67	2.3267%	1.8212%	120	100.0000%	100.0000%

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

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM					
PROBABILITIES OF MORTALITY FOR DISABLED RETIREES: TRANSIT AND TBTA					
BASE TABLE					
Age	Males	Females	Age	Males	Females
15	0.2122%	0.1981%	68	3.7437%	2.9280%
16	0.2871%	0.2680%	69	3.7938%	2.9997%
17	0.3869%	0.3612%	70	3.8562%	3.0865%
18	0.4493%	0.3913%	71	4.0719%	3.1548%
19	0.4867%	0.4214%	72	4.3111%	3.4254%
20	0.5079%	0.4416%	73	4.5762%	3.7295%
21	0.5481%	0.4807%	74	4.8677%	3.9658%
22	0.5913%	0.5231%	75	5.1886%	4.2453%
23	0.6375%	0.5662%	76	5.6252%	4.5234%
24	0.6871%	0.6186%	77	6.1056%	4.7961%
25	0.7380%	0.6680%	78	6.6306%	5.1502%
26	0.7899%	0.7165%	79	7.2058%	5.5873%
27	0.8426%	0.7727%	80	7.8307%	6.0964%
28	0.8951%	0.8346%	81	8.5077%	6.6521%
29	0.9462%	0.9008%	82	9.2427%	7.2551%
30	0.9941%	0.9373%	83	10.0417%	7.9112%
31	1.0381%	0.9629%	84	10.9048%	8.6209%
32	1.0767%	0.9955%	85	11.8420%	9.3370%
33	1.1093%	1.0289%	86	12.5719%	10.0511%
34	1.1374%	1.0577%	87	13.0981%	10.8029%
35	1.1611%	1.0841%	88	13.7768%	11.4531%
36	1.1803%	1.1092%	89	14.4864%	12.5564%
37	1.1976%	1.1344%	90	15.2369%	14.1031%
38	1.2150%	1.1618%	91	17.0460%	15.7291%
39	1.2349%	1.1939%	92	19.0878%	17.1860%
40	1.2599%	1.2249%	93	21.0868%	18.5029%
41	1.2862%	1.2570%	94	23.0794%	19.6588%
42	1.3485%	1.2982%	95	25.0984%	21.1183%
43	1.4139%	1.3497%	96	26.9216%	22.4310%
44	1.4825%	1.4058%	97	28.6226%	23.5901%
45	1.5544%	1.4809%	98	30.2699%	24.4460%
46	1.6298%	1.5639%	99	31.6634%	24.9756%
47	1.7087%	1.6535%	100	32.8016%	25.0896%
48	1.7915%	1.7359%	101	34.4271%	26.0668%
49	1.8784%	1.8218%	102	35.8284%	27.2107%
50	2.0069%	1.8919%	103	37.0944%	28.5630%
51	2.1863%	1.9830%	104	38.1311%	30.0929%
52	2.3750%	2.0502%	105	38.8672%	31.7431%
53	2.5726%	2.1047%	106	39.2392%	33.4756%
54	2.7749%	2.1904%	107	39.4052%	35.2496%
55	2.9761%	2.2636%	108	39.5838%	37.0164%
56	3.0547%	2.3429%	109	39.7590%	38.7265%
57	3.1163%	2.4285%	110	50.0000%	50.0000%
58	3.1599%	2.5412%	111	50.0000%	50.0000%
59	3.1868%	2.5588%	112	50.0000%	50.0000%
60	3.2020%	2.5795%	113	50.0000%	50.0000%
61	3.2829%	2.6067%	114	50.0000%	50.0000%
62	3.3636%	2.6272%	115	50.0000%	50.0000%
63	3.4522%	2.6579%	116	50.0000%	50.0000%
64	3.5511%	2.7759%	117	50.0000%	50.0000%
65	3.6650%	2.8107%	118	50.0000%	50.0000%
66	3.6789%	2.8328%	119	50.0000%	50.0000%
67	3.7049%	2.8725%	120	100.0000%	100.0000%

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

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM					
PROBABILITIES OF MORTALITY FOR DISABLED RETIREES: HOUSING POLICE AND TRANSIT POLICE BASE TABLE					
Age	Males	Females	Age	Males	Females
15	0.0138%	0.0095%	68	1.8368%	1.2141%
16	0.0187%	0.0117%	69	2.0342%	1.3912%
17	0.0252%	0.0127%	70	2.2544%	1.5837%
18	0.0301%	0.0148%	71	2.5045%	1.7848%
19	0.0334%	0.0159%	72	2.7644%	1.9944%
20	0.0347%	0.0168%	73	3.0535%	2.2258%
21	0.0371%	0.0185%	74	3.3359%	2.4880%
22	0.0402%	0.0205%	75	3.6300%	2.7766%
23	0.0431%	0.0227%	76	4.1253%	3.0785%
24	0.0467%	0.0251%	77	4.6178%	3.3525%
25	0.0503%	0.0274%	78	5.1289%	3.6752%
26	0.0544%	0.0298%	79	5.5682%	4.1794%
27	0.0586%	0.0322%	80	6.0116%	4.7030%
28	0.0633%	0.0348%	81	6.7832%	5.2484%
29	0.0681%	0.0374%	82	7.6009%	5.7185%
30	0.0730%	0.0400%	83	8.4279%	6.1948%
31	0.0781%	0.0425%	84	9.2040%	7.0110%
32	0.0830%	0.0450%	85	10.1002%	7.8321%
33	0.0898%	0.0476%	86	11.5115%	8.6046%
34	0.0933%	0.0491%	87	12.7944%	9.3702%
35	0.0972%	0.0512%	88	14.1662%	10.2595%
36	0.1019%	0.0534%	89	15.7578%	11.5941%
37	0.1080%	0.0563%	90	17.3856%	12.9378%
38	0.1153%	0.0590%	91	19.0388%	14.3081%
39	0.1286%	0.0629%	92	20.6360%	15.3704%
40	0.1417%	0.0688%	93	22.5718%	16.4875%
41	0.1550%	0.0766%	94	24.4562%	17.6613%
42	0.1690%	0.0865%	95	26.1404%	18.7606%
43	0.1838%	0.0992%	96	28.0695%	19.7397%
44	0.1997%	0.1148%	97	29.6855%	20.6328%
45	0.2170%	0.1330%	98	30.9177%	21.2676%
46	0.2279%	0.1538%	99	32.6552%	21.8544%
47	0.2387%	0.1769%	100	33.9880%	22.1859%
48	0.2492%	0.2017%	101	34.9681%	23.0680%
49	0.3237%	0.2316%	102	35.9346%	24.0803%
50	0.3948%	0.2637%	103	36.6434%	25.2770%
51	0.4620%	0.2870%	104	37.3834%	26.6309%
52	0.5249%	0.3323%	105	38.1051%	28.0912%
53	0.5528%	0.3677%	106	38.4698%	29.6244%
54	0.5891%	0.4196%	107	38.6325%	31.1943%
55	0.6260%	0.4722%	108	38.8076%	32.7579%
56	0.6814%	0.5135%	109	38.9794%	34.2712%
57	0.7288%	0.5258%	110	50.0000%	50.0000%
58	0.7710%	0.5452%	111	50.0000%	50.0000%
59	0.8525%	0.5823%	112	50.0000%	50.0000%
60	0.9273%	0.6153%	113	50.0000%	50.0000%
61	1.0007%	0.6486%	114	50.0000%	50.0000%
62	1.0735%	0.7169%	115	50.0000%	50.0000%
63	1.1411%	0.7851%	116	50.0000%	50.0000%
64	1.2250%	0.8630%	117	50.0000%	50.0000%
65	1.3055%	0.9419%	118	50.0000%	50.0000%
66	1.4653%	1.0252%	119	50.0000%	50.0000%
67	1.6473%	1.1204%	120	100.0000%	100.0000%

Table XII-7
Beneficiary Mortality Rates

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM					
PROBABILITIES OF MORTALITY FOR BENEFICIARIES: ALL PLAN GROUPS					
BASE TABLE					
Age	Males	Females	Age	Males	Females
15	0.0105%	0.0092%	68	1.8256%	1.3605%
16	0.0142%	0.0112%	69	1.9386%	1.4332%
17	0.0191%	0.0122%	70	2.0542%	1.5007%
18	0.0222%	0.0133%	71	2.2359%	1.6745%
19	0.0240%	0.0143%	72	2.4230%	1.8463%
20	0.0251%	0.0145%	73	2.6165%	2.0157%
21	0.0268%	0.0153%	74	2.8157%	2.1838%
22	0.0284%	0.0161%	75	3.0220%	2.3492%
23	0.0301%	0.0171%	76	3.4928%	2.6652%
24	0.0315%	0.0183%	77	3.9787%	2.9831%
25	0.0327%	0.0195%	78	4.4792%	3.3011%
26	0.0342%	0.0208%	79	4.9963%	3.6207%
27	0.0354%	0.0221%	80	5.5282%	3.9391%
28	0.0371%	0.0236%	81	6.1051%	4.4386%
29	0.0394%	0.0252%	82	6.6894%	4.9473%
30	0.0427%	0.0270%	83	7.2805%	5.4665%
31	0.0495%	0.0330%	84	7.8749%	5.9942%
32	0.0562%	0.0384%	85	8.4753%	6.5354%
33	0.0625%	0.0431%	86	9.6136%	7.4659%
34	0.0682%	0.0471%	87	10.8005%	8.3995%
35	0.0743%	0.0511%	88	12.0443%	9.3428%
36	0.0780%	0.0542%	89	13.3397%	10.2918%
37	0.0818%	0.0579%	90	14.6958%	11.2477%
38	0.0861%	0.0618%	91	16.4185%	12.8868%
39	0.0917%	0.0666%	92	18.1416%	14.4887%
40	0.0997%	0.0719%	93	19.8574%	16.0801%
41	0.1394%	0.0775%	94	21.6187%	17.5854%
42	0.1774%	0.0859%	95	23.5884%	19.0626%
43	0.2143%	0.0968%	96	25.4266%	20.2474%
44	0.2507%	0.1111%	97	27.2119%	21.2937%
45	0.2875%	0.1287%	98	29.0202%	22.0663%
46	0.3207%	0.1501%	99	30.6654%	22.5443%
47	0.3534%	0.1748%	100	32.1584%	22.6473%
48	0.3849%	0.2022%	101	33.7521%	23.5294%
49	0.4150%	0.2319%	102	35.1259%	24.5619%
50	0.4431%	0.2633%	103	36.3671%	25.7825%
51	0.5156%	0.2999%	104	37.3834%	27.1635%
52	0.5928%	0.3376%	105	38.1051%	28.6530%
53	0.6740%	0.3762%	106	38.4698%	30.2169%
54	0.7583%	0.4151%	107	38.6325%	31.8182%
55	0.8440%	0.4540%	108	38.8076%	33.4131%
56	0.9048%	0.5132%	109	38.9794%	34.9566%
57	0.9604%	0.5735%	110	50.0000%	50.0000%
58	1.0101%	0.6353%	111	50.0000%	50.0000%
59	1.0536%	0.6981%	112	50.0000%	50.0000%
60	1.0919%	0.7631%	113	50.0000%	50.0000%
61	1.1835%	0.8329%	114	50.0000%	50.0000%
62	1.2676%	0.8908%	115	50.0000%	50.0000%
63	1.3473%	0.9493%	116	50.0000%	50.0000%
64	1.4238%	1.0146%	117	50.0000%	50.0000%
65	1.4985%	1.0876%	118	50.0000%	50.0000%
66	1.6059%	1.1681%	119	50.0000%	50.0000%
67	1.7146%	1.2609%	120	100.0000%	100.0000%

**Table XII-8
Salary Scale**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM

ANNUAL RATES OF MERIT AND SALARY INCREASE

Years of Service	General		Correction		Sanitation		TBTA		Transit	
	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%	6.00%	9.00%
4	2.50%	5.50%	46.00%	49.00%	22.00%	25.00%	4.00%	7.00%	3.00%	6.00%
5	2.00%	5.00%	1.20%	4.20%	15.00%	18.00%	3.00%	6.00%	2.00%	5.00%
6	1.90%	4.90%	1.40%	4.40%	1.00%	4.00%	2.00%	5.00%	1.50%	4.50%
7	1.80%	4.80%	1.60%	4.60%	1.10%	4.10%	1.00%	4.00%	1.50%	4.50%
8	1.70%	4.70%	1.80%	4.80%	1.20%	4.20%	0.80%	3.80%	1.50%	4.50%
9	1.60%	4.60%	3.20%	6.20%	2.10%	5.10%	0.60%	3.60%	1.50%	4.50%
10	1.50%	4.50%	2.00%	5.00%	1.40%	4.40%	0.50%	3.50%	1.50%	4.50%
11	1.50%	4.50%	1.90%	4.90%	1.30%	4.30%	0.50%	3.50%	1.50%	4.50%
12	1.50%	4.50%	1.80%	4.80%	1.20%	4.20%	0.50%	3.50%	1.50%	4.50%
13	1.50%	4.50%	1.70%	4.70%	1.10%	4.10%	0.50%	3.50%	1.50%	4.50%
14	1.50%	4.50%	2.90%	5.90%	2.00%	5.00%	0.50%	3.50%	1.50%	4.50%
15	1.50%	4.50%	1.50%	4.50%	1.00%	4.00%	0.50%	3.50%	1.50%	4.50%
16	1.45%	4.45%	1.40%	4.40%	1.00%	4.00%	0.50%	3.50%	1.50%	4.50%
17	1.40%	4.40%	1.30%	4.30%	0.90%	3.90%	0.50%	3.50%	1.50%	4.50%
18	1.35%	4.35%	1.20%	4.20%	0.80%	3.80%	0.50%	3.50%	1.50%	4.50%
19	1.30%	4.30%	2.40%	5.40%	1.60%	4.60%	0.50%	3.50%	1.50%	4.50%
20	1.25%	4.25%	1.00%	4.00%	0.70%	3.70%	0.50%	3.50%	1.50%	4.50%
21	1.20%	4.20%	0.90%	3.90%	0.60%	3.60%	0.50%	3.50%	1.50%	4.50%
22	1.15%	4.15%	0.80%	3.80%	0.50%	3.50%	0.50%	3.50%	1.50%	4.50%
23	1.10%	4.10%	0.70%	3.70%	0.50%	3.50%	0.50%	3.50%	1.00%	4.00%
24	1.05%	4.05%	0.60%	3.60%	0.50%	3.50%	0.50%	3.50%	1.00%	4.00%
≥ 25	1.00%	4.00%	0.50%	3.50%	0.50%	3.50%	0.50%	3.50%	1.00%	4.00%

**Table XII-9
Overtime**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM		
OVERTIME ASSUMPTION: GROUPS OTHER THAN CORRECTION		
Plan Group	Overtime Type	Assumption
General	All Overtime	5.00%
Sanitation	Baseline	12.00%
	Dual Service	16.00%
	Dual Disability	8.00%
TBTA	Baseline	20.00%
	Dual Service	24.00%
	Dual Disability	18.00%
Transit	Baseline	8.00%
	Dual Service	10.00%
	Dual Disability	6.00%

Table XII-9
Overtime (cont'd)

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM		
OVERTIME ASSUMPTION: CORRECTION		
	Correction	
Years of Service	Baseline and Dual Service	Dual Disability
0-15	15.00%	8.00%
16	16.50%	9.00%
17	18.00%	10.00%
18	19.50%	11.00%
19	21.00%	12.00%
20+	22.50%	13.00%

Additional Assumptions and Methods

1. **Post-commencement Mortality Assumption:** The service retiree mortality, disabled retiree mortality, and beneficiary mortality base tables are projected from 2012 using mortality improvement scale MP-2018. The base tables are also multiplied by adjustment factors to convert them from lives-weighted to amounts-weighted tables to account for socioeconomic effects on mortality. The adjustment factors used are as follows:

Group	Service Retiree Adjustment Factor		Disabled Retiree Adjustment Factor		Beneficiary Adjustment Factor	
	Male	Female	Male	Female	Male	Female
General	0.890	0.951	0.962	1.000	0.890	0.951
Correction	0.890	0.873	0.835	0.770	0.890	0.951
Sanitation	0.940	0.922	1.000	1.000	0.890	0.951
Transit/TBTA	0.950	1.098	1.010	0.900	0.890	0.951
Housing Police/Transit Police	0.910	0.910	0.876	0.876	0.890	0.951

2. **Marital Assumption:** All active members are assumed to be married and females are assumed to be three years younger than their male spouses.
3. **Credited Service:** Calculated in whole year increments for valuation purposes.
4. **Loans:** Except for Death Benefits, it is assumed that eligible members take the maximum allowable loan at retirement.
5. **Actuarial Interest Rate:** 7.0% per annum, net of investment expenses.
6. **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.
7. **Actuarial Asset Valuation Method (AAVM):** 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).

The AVA is further constrained to be within a corridor of 80% to 120% of the MVA.

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

- 8. Actuarial Cost Method:** The Entry Age Normal (EAN) cost method of funding is used by the Actuary to calculate the Employer Contribution.

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 (or service) of the individual between entry age 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 Normal Cost as a percentage of pay remains constant by individual and changes gradually over time for the entire plan as the characteristics of the group changes (e.g. more Tier 6 active members decrease the average Normal Cost as a percentage of pay).

- 9. Lump Sum Death Benefits:** Liabilities for group life lump sum death benefits are calculated under the One-Year Term Cost method.
- 10. 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.
- 11. WTC Disability and Death Benefits:** Obligations attributable to the WTC Disability Law and to the WTC Death Benefits Law are determined through the use of explicit assumptions in the 2019 A&M, and through estimation techniques for post-retirement reclassifications.

12. **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 certain components used to determine the Fiscal Year XX employer contributions as follows:

a. Normal Cost:

The normal cost as of June 30, XX-2 is rolled forward with the assumed AIR of 7.0% to derive the mid-year normal cost for Fiscal Year XX.

b. 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 and UAL payments paid during Fiscal Year XX-1 and the discounted value of Administrative Expenses reimbursed during Fiscal Years XX-1 and XX.

13. **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, 2017 (Lag) and June 30, 2016 (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, 2017 and June 30, 2016.

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 Off Payroll	(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)
Number at June 30, 2016	185,481	17,989	8,895	118,375	10,441	3,928	158	14,612	147,514	359,879
New Entrants	11,937	62	126	294	24	3	7	142	470	12,595
Rehire	6,412	(1,830)	(331)	0	0	0	0	0	0	4,251
Leaving Active Payroll	(7,120)	7,120	0	0	0	0	0	0	0	0
Vested Termination	(96)	(199)	295	0	0	0	0	0	0	0
Non-Vested Termination / Cashout	(841)	(2,601)	(59)	0	0	0	0	0	0	(3,501)
Accidental Death (from Active)	0	0	0	0	0	0	0	0	0	0
Ordinary Death (from Active)	(309)	(95)	(31)	0	0	0	0	0	0	(435)
Service Retirement	(5,380)	(954)	(475)	6,809	0	0	0	0	6,809	0
Ordinary Disability Retirement	(184)	(267)	(2)	0	453	0	0	0	453	0
Accidental Disability Retirement	(108)	(45)	(1)	0	0	154	0	0	154	0
Reclassifications	0	0	0	(28)	(76)	68	2	34	0	0
Death with Beneficiary	0	0	0	(785)	(100)	(11)	0	896	0	0
Death without Beneficiary	0	0	0	(3,572)	(333)	(83)	(1)	(898)	(4,887)	(4,887)
Off Pension Payroll	0	0	0	(46)	(5)	0	0	(43)	(94)	(94)
Net Change	4,311	1,191	(478)	2,672	(37)	131	8	131	2,905	7,929
Number at June 30, 2017	189,792	19,180	8,417	121,047	10,404	4,059	166	14,743	150,419	367,808

Graph XIII-2
Headcount Summary by Status

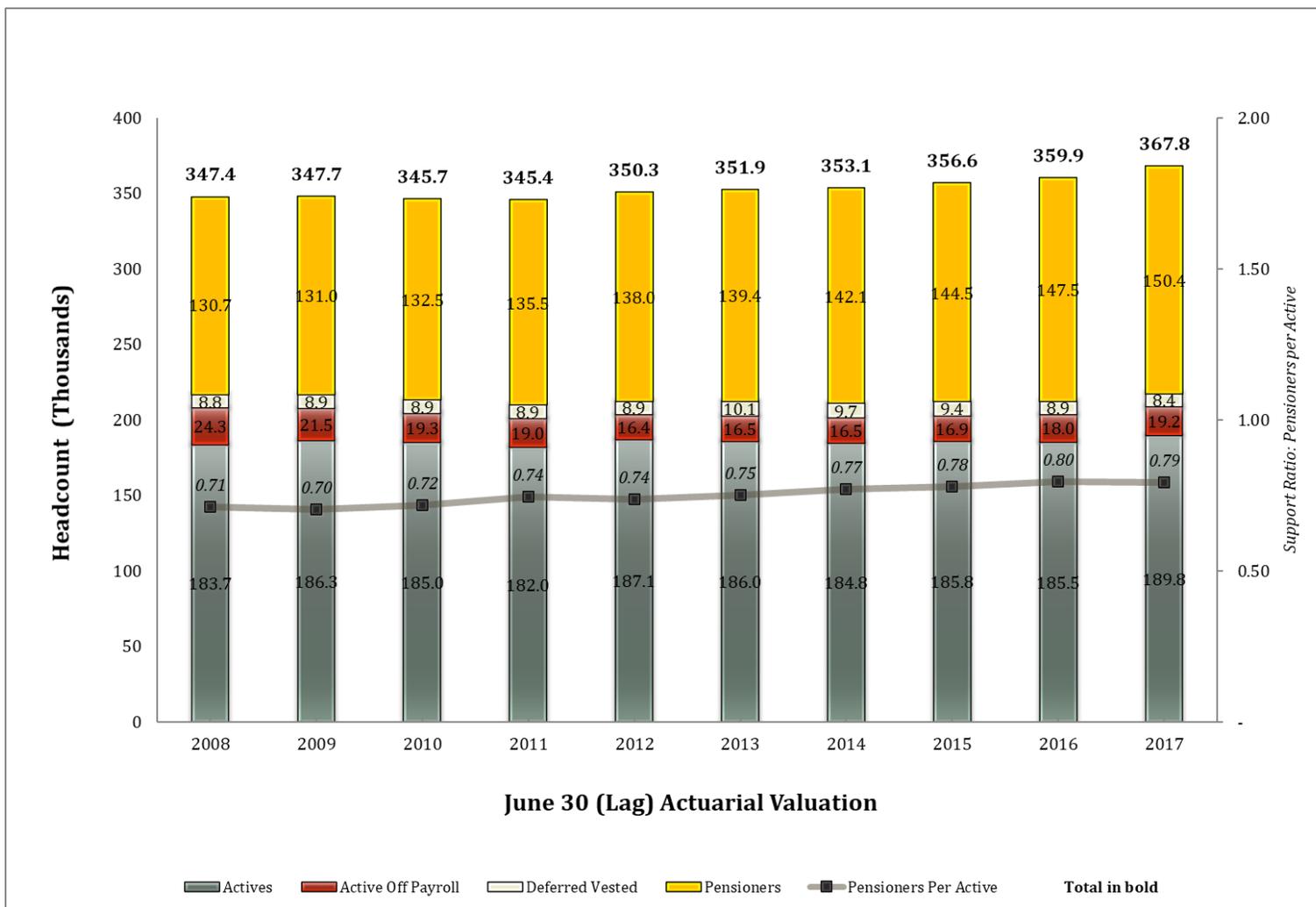


Table XIII-3
Summary of Active Membership

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM		
ACTIVE MEMBERS INCLUDED IN THE JUNE 30, 2017 (LAG) AND THE JUNE 30, 2016 (LAG) ACTUARIAL VALUATIONS		
	June 30, 2017 (Lag)	June 30, 2016 (Lag)
Number		
Males	104,630	102,095
Females	85,162	83,386
Total	189,792	185,481
Annual Salary ¹		
Males	\$ 8,291,231,842	\$ 7,827,800,111
Females	5,774,009,812	5,388,739,244
Total	\$ 14,065,241,654	\$ 13,216,539,355
Average Salary ¹		
Males	\$ 79,243	\$ 76,672
Females	67,800	64,624
Total Average	\$ 74,109	\$ 71,255
Average Age		
Males	48.0	48.1
Females	48.0	48.0
Total Average	48.0	48.1
Average Past Service		
Males	12.7	12.9
Females	12.4	12.3
Total Average	12.6	12.6

¹Salaries shown are 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.

Graph XIII-4
Active Membership by Tier

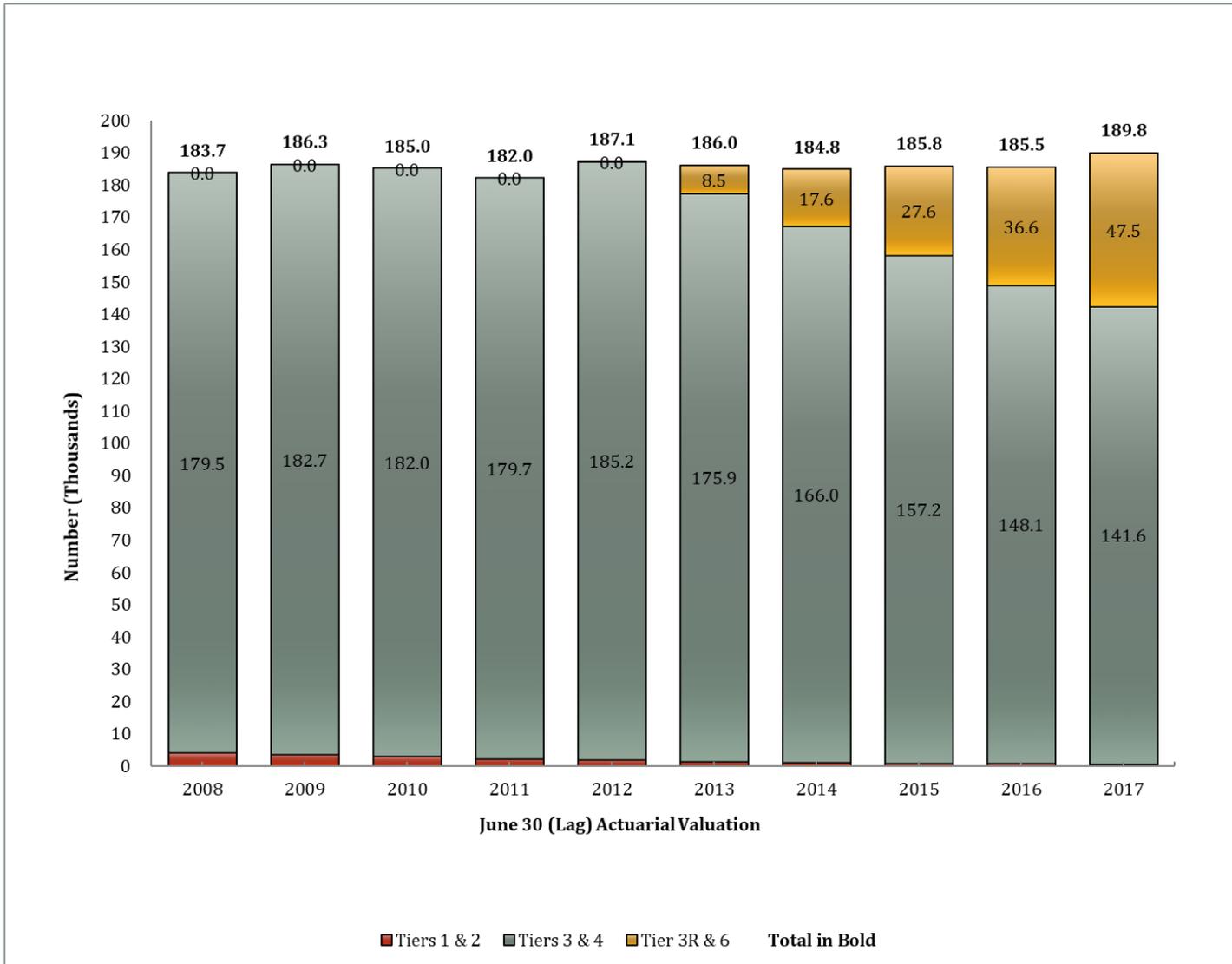


Table XIII-5
Schedule of Active Member Salary Data

June 30 (Lag) Actuarial Valuation	Number	Annual Salary	Average Annual Salary	Percentage Increase/ (Decrease) In Avg. Salary
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%
2017	189,792	14,065,241,654	74,109	4.0%

Salaries shown are 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.

Table XIII-6
Detailed Active Membership and Salaries by Obligor as of June 30, 2017

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	19	0	0	0	0	0	0	0	0	19
20 TO 24	139	0	0	0	0	0	0	0	0	139
25 TO 29	912	157	28	0	0	0	0	0	0	1,097
30 TO 34	1,905	652	147	34	0	0	0	0	0	2,738
35 TO 39	1,849	997	671	174	0	0	0	0	0	3,691
40 TO 44	1,448	911	1,024	823	92	2	0	0	0	4,300
45 TO 49	1,234	845	1,161	1,511	770	342	19	0	0	5,882
50 TO 54	981	786	1,156	1,771	1,149	1,566	564	47	0	8,020
55 TO 59	667	613	864	1,504	1,046	1,427	834	211	0	7,166
60 TO 64	306	340	561	1,050	690	751	458	291	10	4,457
65 TO 69	83	130	262	487	249	274	133	109	24	1,751
70 & UP	10	26	68	173	105	71	49	39	35	576
TOTAL	9,553	5,457	5,942	7,527	4,101	4,433	2,057	697	69	39,836

<i>SALARIES (IN THOUSANDS):</i>										
UNDER 20	960	0	0	0	0	0	0	0	0	960
20 TO 24	8,117	0	0	0	0	0	0	0	0	8,117
25 TO 29	56,107	12,091	2,260	0	0	0	0	0	0	70,458
30 TO 34	128,085	50,617	11,735	3,041	0	0	0	0	0	193,478
35 TO 39	128,926	77,815	54,183	15,185	0	0	0	0	0	276,109
40 TO 44	101,849	72,638	83,873	69,434	7,886	179	0	0	0	335,859
45 TO 49	87,357	68,167	95,550	128,685	67,865	31,769	1,916	0	0	481,309
50 TO 54	69,719	64,038	95,729	151,045	102,541	142,188	53,352	4,566	0	683,178
55 TO 59	47,932	49,930	71,846	128,786	94,195	128,458	77,599	19,860	0	618,607
60 TO 64	22,104	27,261	46,421	89,233	62,085	67,694	42,332	27,999	977	386,106
65 TO 69	6,257	10,572	21,488	41,890	21,880	24,559	12,245	10,352	2,527	151,771
70 & UP	737	2,085	5,774	14,506	9,187	6,014	4,463	3,551	3,426	49,744
TOTAL *	658,150	435,214	488,858	641,804	365,640	400,861	191,908	66,330	6,931	3,255,696

<i>AVERAGE SALARIES: **</i>										
UNDER 20	50,536	0	0	0	0	0	0	0	0	50,536
20 TO 24	58,399	0	0	0	0	0	0	0	0	58,399
25 TO 29	61,521	77,012	80,716	0	0	0	0	0	0	64,228
30 TO 34	67,236	77,633	79,829	89,455	0	0	0	0	0	70,664
35 TO 39	69,727	78,050	80,749	87,272	0	0	0	0	0	74,806
40 TO 44	70,338	79,734	81,907	84,367	85,722	89,423	0	0	0	78,107
45 TO 49	70,792	80,671	82,300	85,165	88,136	92,893	100,845	0	0	81,827
50 TO 54	71,069	81,473	82,811	85,288	89,244	90,797	94,595	97,153	0	85,184
55 TO 59	71,862	81,452	83,156	85,629	90,052	90,019	93,045	94,125	0	86,325
60 TO 64	72,234	80,178	82,746	84,984	89,979	90,139	92,429	96,217	97,744	86,629
65 TO 69	75,381	81,322	82,014	86,016	87,872	89,631	92,071	94,977	105,312	86,676
70 & UP	73,664	80,211	84,909	83,847	87,499	84,704	91,088	91,062	97,888	86,361
TOTAL	68,895	79,753	82,272	85,267	89,159	90,427	93,295	95,165	100,449	81,727

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

* Total may not add up due to rounding.

** Average based on unrounded salary.

Table XIII-6
Detailed Active Membership and Salaries by Obligor as of June 30, 2017 (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	0	0	0	0	0	0	0	0	0	0	0
20 TO 24	67	11	0	0	0	0	0	0	0	0	78
25 TO 29	255	157	5	0	0	0	0	0	0	0	417
30 TO 34	303	296	71	4	0	0	0	0	0	0	674
35 TO 39	292	253	139	132	3	0	0	0	0	0	819
40 TO 44	247	231	189	298	145	7	0	0	0	0	1,117
45 TO 49	171	241	214	350	346	182	4	0	0	0	1,508
50 TO 54	167	224	208	346	355	443	119	3	0	0	1,865
55 TO 59	94	174	168	321	299	348	200	60	0	0	1,664
60 TO 64	49	86	97	223	195	156	122	81	8	8	1,017
65 TO 69	8	41	44	92	53	33	20	15	8	8	314
70 & UP	8	13	13	32	21	13	5	2	10	10	117
TOTAL	1,661	1,727	1,148	1,798	1,417	1,182	470	161	26	26	9,590

SALARIES (IN THOUSANDS):

UNDER 20	0	0	0	0	0	0	0	0	0	0	0
20 TO 24	2,737	535	0	0	0	0	0	0	0	0	3,272
25 TO 29	11,386	7,839	323	0	0	0	0	0	0	0	19,548
30 TO 34	15,186	16,325	3,909	206	0	0	0	0	0	0	35,626
35 TO 39	15,490	15,767	8,965	7,992	286	0	0	0	0	0	48,501
40 TO 44	14,167	14,850	12,425	19,142	10,462	471	0	0	0	0	71,517
45 TO 49	10,390	15,718	14,164	23,451	25,519	13,731	321	0	0	0	103,294
50 TO 54	10,628	14,906	13,456	23,349	26,570	32,876	9,718	218	0	0	131,722
55 TO 59	5,948	11,162	11,180	21,963	22,793	26,002	16,721	4,609	0	0	120,379
60 TO 64	3,597	5,485	6,416	15,148	14,178	11,802	9,653	6,126	515	515	72,920
65 TO 69	535	2,608	2,875	6,738	3,759	2,334	1,582	961	582	582	21,973
70 & UP	269	648	863	2,383	1,418	902	371	130	632	632	7,616
TOTAL *	90,333	105,845	74,575	120,372	104,984	88,120	38,365	12,044	1,729	1,729	636,368

*AVERAGE SALARIES: ***

UNDER 20	0	0	0	0	0	0	0	0	0	0	0
20 TO 24	40,852	48,664	0	0	0	0	0	0	0	0	41,954
25 TO 29	44,650	49,931	64,517	0	0	0	0	0	0	0	46,877
30 TO 34	50,117	55,153	55,054	51,545	0	0	0	0	0	0	52,857
35 TO 39	53,048	62,322	64,495	60,547	95,352	0	0	0	0	0	59,219
40 TO 44	57,356	64,287	65,739	64,235	72,151	67,285	0	0	0	0	64,026
45 TO 49	60,762	65,219	66,186	67,002	73,754	75,447	80,361	0	0	0	68,498
50 TO 54	63,642	66,546	64,694	67,482	74,846	74,213	81,663	72,662	0	0	70,629
55 TO 59	63,276	64,147	66,550	68,420	76,232	74,720	83,604	76,824	0	0	72,343
60 TO 64	73,411	63,783	66,145	67,927	72,705	75,655	79,121	75,625	64,413	64,413	71,701
65 TO 69	66,845	63,614	65,345	73,244	70,920	70,722	79,084	64,059	72,719	72,719	69,979
70 & UP	33,687	49,857	66,360	74,469	67,505	69,411	74,146	64,954	63,193	63,193	65,093
TOTAL	54,385	61,288	64,961	66,948	74,089	74,551	81,628	74,806	66,500	66,500	66,357

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

* Total may not add up due to rounding.

** Average based on unrounded salary.

Table XIII-6
Detailed Active Membership and Salaries by Obligor as of June 30, 2017 (cont'd)

		Health and Hospitals Corporation								
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	77	0	0	0	0	0	0	0	0	77
25 TO 29	802	119	3	0	0	0	0	0	0	924
30 TO 34	1,157	945	147	1	0	0	0	0	0	2,250
35 TO 39	1,009	1,286	606	78	0	0	0	0	0	2,979
40 TO 44	817	1,277	864	285	30	1	0	0	0	3,274
45 TO 49	748	1,277	1,106	582	248	53	3	0	0	4,017
50 TO 54	690	1,282	1,295	1,005	606	261	36	0	0	5,175
55 TO 59	573	1,120	1,186	1,153	974	519	156	49	0	5,730
60 TO 64	257	762	956	938	831	517	221	116	15	4,613
65 TO 69	71	302	381	307	245	171	74	50	32	1,633
70 & UP	12	95	105	107	92	68	25	17	31	552
TOTAL	6,213	8,465	6,649	4,456	3,026	1,590	515	232	78	31,224

<i>SALARIES (IN THOUSANDS):</i>										
UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	4,522	0	0	0	0	0	0	0	0	4,522
25 TO 29	50,903	6,969	172	0	0	0	0	0	0	58,044
30 TO 34	74,693	60,365	8,745	40	0	0	0	0	0	143,843
35 TO 39	68,502	82,504	39,919	4,922	0	0	0	0	0	195,847
40 TO 44	58,491	86,894	61,991	20,342	2,206	68	0	0	0	229,990
45 TO 49	53,097	88,755	79,123	42,849	19,329	3,598	227	0	0	286,979
50 TO 54	48,451	88,390	91,402	77,124	50,074	18,863	2,581	0	0	376,885
55 TO 59	43,834	78,135	83,670	91,869	83,195	39,747	11,939	3,905	0	436,294
60 TO 64	22,304	53,861	68,773	71,552	72,614	40,670	17,779	9,484	1,122	358,159
65 TO 69	6,838	21,936	28,671	23,793	20,374	12,704	5,882	4,129	3,052	127,379
70 & UP	1,618	7,514	7,037	7,594	6,635	5,251	1,999	1,287	2,511	41,446
TOTAL *	433,252	575,322	469,504	340,085	254,428	120,901	40,406	18,804	6,686	2,259,388

<i>AVERAGE SALARIES: **</i>										
UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	58,724	0	0	0	0	0	0	0	0	58,724
25 TO 29	63,470	58,560	57,450	0	0	0	0	0	0	62,818
30 TO 34	64,558	63,879	59,487	40,369	0	0	0	0	0	63,930
35 TO 39	67,891	64,155	65,873	63,097	0	0	0	0	0	65,742
40 TO 44	71,592	68,045	71,748	71,374	73,521	68,282	0	0	0	70,247
45 TO 49	70,986	69,503	71,540	73,624	77,939	67,890	75,625	0	0	71,441
50 TO 54	70,218	68,947	70,580	76,741	82,630	72,273	71,701	0	0	72,828
55 TO 59	76,499	69,763	70,548	79,679	85,416	76,583	76,531	79,693	0	76,142
60 TO 64	86,784	70,684	71,939	76,281	87,382	78,666	80,446	81,760	74,813	77,641
65 TO 69	96,314	72,637	75,252	77,502	83,161	74,289	79,484	82,578	95,370	78,003
70 & UP	134,806	79,090	67,023	70,974	72,120	77,226	79,944	75,677	81,016	75,083
TOTAL	69,733	67,965	70,613	76,321	84,080	76,039	78,458	81,054	85,712	72,361

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

* Total may not add up due to rounding.

** Average based on unrounded salary.

Table XIII-6
Detailed Active Membership and Salaries by Obligor as of June 30, 2017 (cont'd)

Triborough Bridge and Tunnel Authority										
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	4	0	0	0	0	0	0	0	0	4
25 TO 29	22	5	1	0	0	0	0	0	0	28
30 TO 34	23	34	11	0	0	0	0	0	0	68
35 TO 39	26	22	58	28	0	0	0	0	0	134
40 TO 44	22	33	106	72	6	0	0	0	0	239
45 TO 49	15	31	85	92	18	18	0	0	0	259
50 TO 54	13	17	59	54	24	35	10	0	0	212
55 TO 59	17	12	38	61	19	31	15	4	0	197
60 TO 64	3	3	26	29	12	14	11	5	2	105
65 TO 69	0	1	8	7	1	8	1	2	1	29
70 & UP	1	0	2	6	6	1	1	1	0	18
TOTAL	146	158	394	349	86	107	38	12	3	1,293

<i>SALARIES (IN THOUSANDS):</i>										
UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	257	0	0	0	0	0	0	0	0	257
25 TO 29	1,635	402	85	0	0	0	0	0	0	2,122
30 TO 34	2,059	3,011	1,067	0	0	0	0	0	0	6,137
35 TO 39	2,445	2,014	5,539	2,939	0	0	0	0	0	12,938
40 TO 44	1,946	2,862	10,142	7,232	582	0	0	0	0	22,763
45 TO 49	1,337	2,986	8,198	8,657	2,119	2,103	0	0	0	25,401
50 TO 54	1,576	1,738	6,211	5,085	2,316	4,034	1,284	0	0	22,244
55 TO 59	1,748	1,275	3,867	6,976	2,249	3,370	1,868	412	0	21,766
60 TO 64	343	373	2,682	2,722	1,382	1,614	1,349	819	271	11,554
65 TO 69	0	117	770	767	118	828	63	158	66	2,887
70 & UP	167	0	177	714	592	167	75	85	0	1,977
TOTAL *	13,513	14,779	38,738	35,091	9,360	12,117	4,639	1,474	337	130,047

<i>AVERAGE SALARIES: **</i>										
UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	64,309	0	0	0	0	0	0	0	0	64,309
25 TO 29	74,304	80,356	85,333	0	0	0	0	0	0	75,779
30 TO 34	89,514	88,573	96,957	0	0	0	0	0	0	90,248
35 TO 39	94,049	91,552	95,507	104,955	0	0	0	0	0	96,549
40 TO 44	88,448	86,717	95,676	100,438	97,037	0	0	0	0	95,242
45 TO 49	89,156	96,331	96,449	94,095	117,732	116,854	0	0	0	98,074
50 TO 54	121,224	102,212	105,265	94,176	96,500	115,266	128,401	0	0	104,924
55 TO 59	102,852	106,272	101,769	114,354	118,383	108,720	124,538	103,057	0	110,490
60 TO 64	114,209	124,370	103,153	93,855	115,199	115,263	122,599	163,743	135,643	110,040
65 TO 69	0	117,460	96,272	109,526	118,253	103,523	63,272	78,911	65,651	99,569
70 & UP	166,873	0	88,291	118,984	98,704	167,488	74,896	85,333	0	109,850
TOTAL	92,556	93,537	98,319	100,546	108,832	113,246	122,075	122,842	112,312	100,578

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

* Total may not add up due to rounding.

** Average based on unrounded salary.

Table XIII-6
Detailed Active Membership and Salaries by Obligor as of June 30, 2017 (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	25	0	0	0	0	0	0	0	0	25
25 TO 29	220	45	0	0	0	0	0	0	0	265
30 TO 34	197	213	28	0	0	0	0	0	0	438
35 TO 39	150	162	129	8	0	0	0	0	0	449
40 TO 44	105	156	165	51	5	0	0	0	0	482
45 TO 49	109	147	152	103	57	4	0	0	0	572
50 TO 54	110	124	167	122	85	46	10	0	0	664
55 TO 59	90	136	154	115	80	66	41	3	0	685
60 TO 64	44	107	146	99	64	45	37	9	0	551
65 TO 69	14	70	84	62	37	18	16	5	8	314
70 & UP	13	17	43	35	14	15	9	4	10	160
TOTAL	1,077	1,177	1,068	595	342	194	113	21	18	4,605

<i>SALARIES (IN THOUSANDS):</i>										
UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	851	0	0	0	0	0	0	0	0	851
25 TO 29	9,098	1,972	0	0	0	0	0	0	0	11,070
30 TO 34	8,852	11,615	1,488	0	0	0	0	0	0	21,956
35 TO 39	7,625	9,458	8,200	506	0	0	0	0	0	25,790
40 TO 44	5,461	9,069	10,392	3,264	290	0	0	0	0	28,477
45 TO 49	5,793	8,350	9,485	7,167	3,659	238	0	0	0	34,692
50 TO 54	5,814	6,191	9,984	7,894	5,866	3,578	761	0	0	40,088
55 TO 59	4,702	7,162	8,210	7,523	5,447	4,647	2,904	209	0	40,805
60 TO 64	2,305	5,222	7,514	5,531	3,716	2,806	2,287	745	0	30,125
65 TO 69	773	3,468	4,172	3,584	1,890	1,089	833	438	608	16,855
70 & UP	804	718	2,026	1,588	714	867	487	188	634	8,026
TOTAL *	52,078	63,226	61,470	37,058	21,582	13,225	7,272	1,580	1,242	258,734

<i>AVERAGE SALARIES: **</i>										
UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	34,023	0	0	0	0	0	0	0	0	34,023
25 TO 29	41,354	43,824	0	0	0	0	0	0	0	41,774
30 TO 34	44,936	54,533	53,134	0	0	0	0	0	0	50,127
35 TO 39	50,835	58,382	63,565	63,306	0	0	0	0	0	57,438
40 TO 44	52,014	58,136	62,981	64,007	58,067	0	0	0	0	59,082
45 TO 49	53,148	56,800	62,399	69,586	64,193	59,491	0	0	0	60,650
50 TO 54	52,850	49,931	59,784	64,708	69,006	77,781	76,129	0	0	60,374
55 TO 59	52,245	52,663	53,309	65,421	68,082	70,412	70,838	69,770	0	59,569
60 TO 64	52,381	48,808	51,466	55,865	58,063	62,359	61,801	82,731	0	54,674
65 TO 69	55,248	49,538	49,661	57,804	51,090	60,498	52,064	87,684	75,970	53,678
70 & UP	61,819	42,265	47,119	45,364	51,022	57,792	54,110	46,913	63,413	50,162
TOTAL	48,355	53,718	57,556	62,283	63,106	68,170	64,357	75,236	68,994	56,185

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

* Total may not add up due to rounding.

** Average based on unrounded salary.

Table XIII-6
Detailed Active Membership and Salaries by Obligor as of June 30, 2017 (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	1	5	1	0	0	0	0	0	0	0	7
35 TO 39	1	6	1	0	0	0	0	0	0	0	8
40 TO 44	2	8	5	5	0	0	0	0	0	0	20
45 TO 49	1	10	6	3	2	1	0	0	0	0	23
50 TO 54	1	13	8	9	6	3	1	0	0	0	41
55 TO 59	2	7	5	10	5	3	1	1	0	0	34
60 TO 64	1	1	4	7	1	5	4	1	0	0	24
65 TO 69	1	1	0	6	0	0	1	1	0	0	10
70 & UP	0	1	0	2	0	1	0	0	0	0	4
TOTAL	10	52	30	42	14	13	7	3	0	0	171

<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	79	455	120	0	0	0	0	0	0	0	654
35 TO 39	79	577	83	0	0	0	0	0	0	0	739
40 TO 44	187	722	510	445	0	0	0	0	0	0	1,865
45 TO 49	152	1,141	783	300	194	89	0	0	0	0	2,661
50 TO 54	92	1,316	769	1,178	778	414	144	0	0	0	4,691
55 TO 59	187	498	557	1,162	655	345	143	67	0	0	3,614
60 TO 64	116	58	356	780	140	557	539	141	0	0	2,688
65 TO 69	142	121	0	578	0	0	162	140	0	0	1,143
70 & UP	0	120	0	200	0	116	0	0	0	0	436
TOTAL *	1,034	5,008	3,179	4,644	1,768	1,521	988	348	0	0	18,490

<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	78,841	90,986	120,428	0	0	0	0	0	0	0	93,457
35 TO 39	78,599	96,193	83,230	0	0	0	0	0	0	0	92,373
40 TO 44	93,741	90,295	101,921	89,026	0	0	0	0	0	0	93,229
45 TO 49	152,250	114,116	130,578	100,099	97,186	89,250	0	0	0	0	115,687
50 TO 54	91,619	101,212	96,155	130,893	129,712	137,952	143,850	0	0	0	114,405
55 TO 59	93,660	71,139	111,357	116,234	131,014	114,978	143,222	66,668	0	0	106,303
60 TO 64	116,243	57,750	89,079	111,481	139,887	111,393	134,783	141,160	0	0	111,992
65 TO 69	141,960	120,750	0	96,316	0	0	162,123	139,887	0	0	114,262
70 & UP	0	120,231	0	99,904	0	116,243	0	0	0	0	109,071
TOTAL	103,432	96,309	105,969	110,568	126,257	117,019	141,190	115,905	0	0	108,130

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

* Total may not add up due to rounding.

** Average based on unrounded salary.

Table XIII-6
Detailed Active Membership and Salaries by Obligor as of June 30, 2017 (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	33	0	0	0	0	0	0	0	0	33	
25 TO 29	208	40	1	0	0	0	0	0	0	249	
30 TO 34	492	309	302	0	0	0	0	0	0	1,103	
35 TO 39	357	294	628	162	0	0	0	0	0	1,441	
40 TO 44	232	184	598	430	23	2	0	0	0	1,469	
45 TO 49	123	110	405	457	225	16	1	0	0	1,337	
50 TO 54	61	44	205	326	202	127	34	0	0	999	
55 TO 59	28	18	91	140	112	122	43	7	0	561	
60 TO 64	2	7	38	61	43	34	40	15	1	241	
65 TO 69	0	0	7	12	15	4	11	1	2	52	
70 & UP	0	0	0	1	2	1	3	1	4	12	
TOTAL	1,536	1,006	2,275	1,589	622	306	132	24	7	7,497	

<i>SALARIES (IN THOUSANDS):</i>										
UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	1,656	0	0	0	0	0	0	0	0	1,656
25 TO 29	11,307	3,426	99	0	0	0	0	0	0	14,832
30 TO 34	28,319	27,278	30,399	0	0	0	0	0	0	85,996
35 TO 39	20,416	26,439	62,994	18,077	0	0	0	0	0	127,925
40 TO 44	13,469	16,426	60,238	46,440	2,558	220	0	0	0	139,351
45 TO 49	7,173	9,859	40,503	48,860	24,824	1,860	204	0	0	133,283
50 TO 54	3,599	3,877	20,593	34,530	22,321	15,083	4,005	0	0	104,008
55 TO 59	1,539	1,617	9,159	14,746	11,834	13,371	4,821	866	0	57,951
60 TO 64	150	638	3,719	6,356	4,531	3,625	4,572	1,983	129	25,704
65 TO 69	0	0	654	1,217	1,577	421	1,324	95	195	5,483
70 & UP	0	0	0	95	201	121	286	106	366	1,176
TOTAL *	87,629	89,561	228,357	170,320	67,847	34,700	15,212	3,050	690	697,366

<i>AVERAGE SALARIES: **</i>										
UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	50,191	0	0	0	0	0	0	0	0	50,191
25 TO 29	54,362	85,648	98,805	0	0	0	0	0	0	59,567
30 TO 34	57,558	88,280	100,659	0	0	0	0	0	0	77,966
35 TO 39	57,188	89,928	100,308	111,584	0	0	0	0	0	88,775
40 TO 44	58,055	89,274	100,732	108,000	111,212	110,034	0	0	0	94,861
45 TO 49	58,318	89,623	100,008	106,915	110,330	116,235	204,016	0	0	99,688
50 TO 54	59,006	88,123	100,451	105,919	110,500	118,762	117,807	0	0	104,112
55 TO 59	54,957	89,806	100,644	105,330	105,657	109,599	112,105	123,677	0	103,300
60 TO 64	74,919	91,205	97,876	104,194	105,383	106,606	114,300	132,195	129,280	106,654
65 TO 69	0	0	93,464	101,415	105,129	105,204	120,359	95,185	97,273	105,436
70 & UP	0	0	0	95,124	100,712	121,449	95,408	105,940	91,526	98,022
TOTAL	57,050	89,026	100,377	107,187	109,078	113,400	115,244	127,074	98,561	93,019

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

* Total may not add up due to rounding.

** Average based on unrounded salary.

Table XIII-6

Detailed Active Membership and Salaries by Obligor as of June 30, 2017 (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	263	0	0	0	0	0	0	0	0	263
25 TO 29	1,044	96	1	0	0	0	0	0	0	1,141
30 TO 34	908	695	223	1	0	0	0	0	0	1,827
35 TO 39	520	503	596	90	0	0	0	0	0	1,709
40 TO 44	254	288	480	408	66	0	0	0	0	1,496
45 TO 49	117	206	363	414	250	65	0	0	0	1,415
50 TO 54	64	89	184	229	192	206	49	0	0	1,013
55 TO 59	26	45	85	106	74	88	61	14	0	499
60 TO 64	1	4	29	30	28	28	25	14	1	160
65 TO 69	0	3	8	9	3	10	3	4	2	42
70 & UP	0	0	0	2	0	0	0	1	0	3
TOTAL	3,197	1,929	1,969	1,289	613	397	138	33	3	9,568

SALARIES (IN THOUSANDS):

UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	13,564	0	0	0	0	0	0	0	0	13,564
25 TO 29	57,263	7,175	68	0	0	0	0	0	0	64,506
30 TO 34	53,179	62,224	22,945	67	0	0	0	0	0	138,415
35 TO 39	29,941	47,345	62,901	9,924	0	0	0	0	0	150,112
40 TO 44	15,007	27,684	51,150	47,191	8,361	0	0	0	0	149,392
45 TO 49	7,238	20,530	39,203	48,219	31,482	8,566	0	0	0	155,238
50 TO 54	3,757	8,906	20,125	26,505	23,737	26,039	6,460	0	0	115,529
55 TO 59	1,556	4,460	9,564	12,326	9,201	11,154	7,809	1,825	0	57,894
60 TO 64	69	399	3,219	3,530	3,453	3,343	3,086	1,846	117	19,062
65 TO 69	0	327	872	1,062	359	1,243	518	481	246	5,108
70 & UP	0	0	0	256	0	0	0	120	0	376
TOTAL *	181,573	179,050	210,048	149,080	76,593	50,345	17,872	4,272	363	869,196

*AVERAGE SALARIES: ***

UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	51,573	0	0	0	0	0	0	0	0	51,573
25 TO 29	54,850	74,741	68,239	0	0	0	0	0	0	56,535
30 TO 34	58,567	89,532	102,893	66,894	0	0	0	0	0	75,761
35 TO 39	57,579	94,126	105,539	110,265	0	0	0	0	0	87,836
40 TO 44	59,081	96,124	106,563	115,663	126,678	0	0	0	0	99,861
45 TO 49	61,864	99,661	107,998	116,471	125,929	131,783	0	0	0	109,709
50 TO 54	58,703	100,063	109,375	115,744	123,630	126,403	131,839	0	0	114,047
55 TO 59	59,862	99,104	112,517	116,285	124,338	126,746	128,009	130,343	0	116,021
60 TO 64	68,739	99,745	110,992	117,671	123,314	119,403	123,428	131,835	117,453	119,135
65 TO 69	0	109,051	108,944	118,044	119,700	124,333	172,571	120,250	122,891	121,620
70 & UP	0	0	0	127,932	0	0	0	120,429	0	125,431
TOTAL	56,795	92,820	106,677	115,656	124,948	126,814	129,508	129,452	121,078	90,844

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

* Total may not add up due to rounding.

** Average based on unrounded salary.

Table XIII-6
Detailed Active Membership and Salaries by Obligor as of June 30, 2017 (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	6	0	0	0	0	0	0	0	0	6
20 TO 24	1,000	4	0	0	0	0	0	0	0	1,004
25 TO 29	4,919	630	3	0	0	0	0	0	0	5,552
30 TO 34	4,606	3,425	465	3	0	0	0	0	0	8,499
35 TO 39	3,271	3,983	2,079	321	1	0	0	0	0	9,655
40 TO 44	2,286	3,001	2,663	1,307	127	2	0	0	0	9,386
45 TO 49	1,937	2,514	2,545	2,254	1,029	280	6	0	0	10,565
50 TO 54	1,638	2,182	2,309	2,291	2,135	1,984	471	11	0	13,021
55 TO 59	1,226	1,712	1,986	2,162	2,145	2,388	1,606	438	4	13,667
60 TO 64	633	1,089	1,353	1,424	1,371	1,529	1,220	650	77	9,346
65 TO 69	176	536	589	638	550	485	346	244	162	3,726
70 & UP	52	173	242	279	226	190	145	102	172	1,581
TOTAL	21,750	19,249	14,234	10,679	7,584	6,858	3,794	1,445	415	86,008

<i>SALARIES (IN THOUSANDS):</i>										
UNDER 20	186	0	0	0	0	0	0	0	0	186
20 TO 24	41,873	234	0	0	0	0	0	0	0	42,107
25 TO 29	247,833	35,103	158	0	0	0	0	0	0	283,094
30 TO 34	261,784	215,953	30,925	256	0	0	0	0	0	508,918
35 TO 39	199,401	275,534	144,937	22,926	46	0	0	0	0	642,845
40 TO 44	144,846	214,584	191,956	96,437	10,561	74	0	0	0	658,458
45 TO 49	123,185	176,946	183,099	162,195	80,862	22,329	572	0	0	749,188
50 TO 54	102,350	151,862	162,521	168,365	166,452	159,691	38,406	1,123	0	950,771
55 TO 59	79,791	116,086	140,591	159,054	169,757	190,861	132,036	33,487	395	1,022,058
60 TO 64	42,288	72,704	93,267	105,270	106,185	122,447	95,523	50,447	5,774	693,906
65 TO 69	11,647	36,480	40,614	47,156	43,593	37,407	26,139	20,041	13,176	276,252
70 & UP	2,607	11,295	15,683	19,115	16,621	14,321	9,994	7,952	14,589	112,176
TOTAL *	1,257,790	1,306,780	1,003,752	780,775	594,077	547,130	302,670	113,049	33,933	5,939,957

<i>AVERAGE SALARIES: **</i>										
UNDER 20	31,014	0	0	0	0	0	0	0	0	31,014
20 TO 24	41,873	58,397	0	0	0	0	0	0	0	41,939
25 TO 29	50,383	55,720	52,659	0	0	0	0	0	0	50,990
30 TO 34	56,835	63,052	66,505	85,448	0	0	0	0	0	59,880
35 TO 39	60,960	69,178	69,715	71,421	46,447	0	0	0	0	66,582
40 TO 44	63,362	71,504	72,083	73,785	83,154	36,918	0	0	0	70,153
45 TO 49	63,596	70,384	71,945	71,959	78,583	79,747	95,377	0	0	70,912
50 TO 54	62,485	69,598	70,386	73,490	77,964	80,490	81,541	102,102	0	73,018
55 TO 59	65,083	67,807	70,791	73,568	79,141	79,925	82,214	76,453	98,824	74,783
60 TO 64	66,805	66,762	68,934	73,926	77,451	80,083	78,298	77,610	74,985	74,246
65 TO 69	66,173	68,059	68,954	73,913	79,260	77,127	75,547	82,136	81,331	74,142
70 & UP	50,141	65,289	64,805	68,513	73,543	75,372	68,921	77,957	84,818	70,952
TOTAL	57,829	67,888	70,518	73,113	78,333	79,780	79,776	78,235	81,767	69,063

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

* Total may not add up due to rounding.

** Average based on unrounded salary.

Table XIII-6
Detailed Active Membership and Salaries by Obligor as of June 30, 2017 (cont'd)

AGE \ SVC	Total									
	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	25	0	0	0	0	0	0	0	0	25
20 TO 24	1,608	15	0	0	0	0	0	0	0	1,623
25 TO 29	8,382	1,249	42	0	0	0	0	0	0	9,673
30 TO 34	9,592	6,574	1,395	43	0	0	0	0	0	17,604
35 TO 39	7,475	7,506	4,907	993	4	0	0	0	0	20,885
40 TO 44	5,413	6,089	6,094	3,679	494	14	0	0	0	21,783
45 TO 49	4,455	5,381	6,037	5,766	2,945	961	33	0	0	25,578
50 TO 54	3,725	4,761	5,591	6,153	4,754	4,671	1,294	61	0	31,010
55 TO 59	2,723	3,837	4,577	5,572	4,754	4,992	2,957	787	4	30,203
60 TO 64	1,296	2,399	3,210	3,861	3,235	3,079	2,138	1,182	114	20,514
65 TO 69	353	1,084	1,383	1,620	1,153	1,003	605	431	239	7,871
70 & UP	96	325	473	637	466	360	237	167	262	3,023
TOTAL	45,143	39,220	33,709	28,324	17,805	15,080	7,264	2,628	619	189,792

<i>SALARIES (IN THOUSANDS):</i>										
UNDER 20	1,146	0	0	0	0	0	0	0	0	1,146
20 TO 24	73,577	769	0	0	0	0	0	0	0	74,346
25 TO 29	445,531	74,977	3,165	0	0	0	0	0	0	523,674
30 TO 34	572,235	447,845	111,332	3,611	0	0	0	0	0	1,135,023
35 TO 39	472,825	537,454	387,721	82,471	333	0	0	0	0	1,480,804
40 TO 44	355,423	445,729	482,676	309,926	42,906	1,012	0	0	0	1,637,672
45 TO 49	295,723	392,451	470,109	470,383	255,854	84,284	3,241	0	0	1,972,045
50 TO 54	245,986	341,223	420,790	495,076	400,655	402,767	116,711	5,907	0	2,429,115
55 TO 59	187,238	270,325	338,644	444,406	399,326	417,955	255,839	65,240	395	2,379,368
60 TO 64	93,274	166,002	232,368	300,121	268,285	254,558	177,119	99,589	8,907	1,600,224
65 TO 69	26,192	75,629	100,115	126,785	93,551	80,584	48,748	36,796	20,450	608,851
70 & UP	6,202	22,381	31,559	46,450	35,369	27,760	17,674	13,419	22,158	222,973
TOTAL *	2,775,352	2,774,785	2,578,480	2,279,230	1,496,278	1,268,921	619,333	220,951	51,911	14,065,242

<i>AVERAGE SALARIES: **</i>										
UNDER 20	45,851	0	0	0	0	0	0	0	0	45,851
20 TO 24	45,757	51,259	0	0	0	0	0	0	0	45,808
25 TO 29	53,153	60,030	75,365	0	0	0	0	0	0	54,138
30 TO 34	59,658	68,124	79,808	83,982	0	0	0	0	0	64,475
35 TO 39	63,254	71,603	79,014	83,052	83,125	0	0	0	0	70,903
40 TO 44	65,661	73,202	79,205	84,242	86,854	72,288	0	0	0	75,181
45 TO 49	66,380	72,933	77,871	81,579	86,877	87,705	98,202	0	0	77,099
50 TO 54	66,036	71,671	75,262	80,461	84,278	86,227	90,194	96,841	0	78,333
55 TO 59	68,762	70,452	73,988	79,757	83,998	83,725	86,520	82,897	98,824	78,779
60 TO 64	71,971	69,196	72,389	77,732	82,932	82,676	82,843	84,254	78,130	78,006
65 TO 69	74,197	69,768	72,390	78,263	81,137	80,343	80,576	85,373	85,567	77,354
70 & UP	64,600	68,864	66,722	72,921	75,898	77,112	74,575	80,352	84,574	73,759
TOTAL	61,479	70,749	76,492	80,470	84,037	84,146	85,261	84,076	83,863	74,109

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

* 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, 2017						TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2016					
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	34	3,484,487	102,485	74.1	43.8	42	4,167,599	99,229	72.7	44.1
1	F	6	485,258	80,876	73.2	46.7	6	462,948	77,158	72.2	45.7
		40	3,969,745	99,244	74.0	44.2	48	4,630,547	96,470	72.7	44.3
2	M	21	2,075,803	98,848	67.9	41.2	27	2,569,991	95,185	66.4	40.0
2	F	5	345,535	69,107	67.0	38.0	6	422,789	70,465	65.5	37.8
		26	2,421,338	93,128	67.7	40.6	33	2,992,780	90,690	66.2	39.6
4	M	24,564	2,144,763,476	87,313	52.9	18.1	25,536	2,166,429,894	84,838	52.4	17.6
4	F	4,937	389,754,738	78,946	50.7	17.6	5,011	381,105,978	76,054	50.3	17.2
		29,501	2,534,518,214	85,913	52.5	18.0	30,547	2,547,535,872	83,397	52.0	17.6
6	M	8,437	598,972,803	70,994	41.4	2.4	6,707	455,323,437	67,888	41.1	2.0
6	F	1,832	115,814,036	63,217	39.3	2.2	1,332	79,780,637	59,895	38.8	1.9
		10,269	714,786,839	69,606	41.0	2.4	8,039	535,104,074	66,564	40.7	2.0
ALL		39,836	3,255,696,136	81,727	49.6	14.0	38,667	3,090,263,273	79,920	49.7	14.4

JUNE 30, 2017 MEMBERS ALSO PRESENT AS OF JUNE 30, 2016						JUNE 30, 2016 MEMBERS ALSO PRESENT AS OF JUNE 30, 2017					
1	M	33	3,400,479	103,045	74.2	44.6	33	3,344,290	101,342	73.2	43.6
1	F	6	485,258	80,876	73.2	46.7	6	462,948	77,158	72.2	45.7
		39	3,885,737	99,634	74.0	44.9	39	3,807,238	97,621	73.0	43.9
2	M	19	1,862,441	98,023	68.5	41.4	19	1,806,058	95,056	67.5	40.4
2	F	5	345,535	69,107	67.0	38.0	5	332,640	66,528	66.0	37.0
		24	2,207,976	91,999	68.2	40.7	24	2,138,698	89,112	67.2	39.7
4	M	23,859	2,088,515,623	87,536	53.0	18.3	23,859	2,023,999,680	84,832	52.0	17.3
4	F	4,549	361,989,322	79,576	51.0	18.0	4,549	346,870,806	76,252	50.0	17.0
		28,408	2,450,504,945	86,261	52.7	18.2	28,408	2,370,870,486	83,458	51.7	17.2
6	M	6,363	470,194,118	73,895	42.1	3.0	6,363	432,735,713	68,008	41.1	2.0
6	F	1,212	81,361,110	67,130	39.9	2.9	1,212	72,766,286	60,038	38.9	1.9
		7,575	551,555,228	72,813	41.7	3.0	7,575	505,501,999	66,733	40.7	2.0
ALL		36,046	3,008,153,886	83,453	50.4	15.1	36,046	2,882,318,421	79,962	49.4	14.1

ADDITIONS DURING THE YEAR *						SEPARATIONS FROM MEMBERSHIP DURING THE YEAR *					
1	M	1	84,008	84,008	73.0	16.0	9	823,309	91,479	71.1	45.8
1	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		1	84,008	84,008	73.0	16.0	9	823,309	91,479	71.1	45.8
2	M	2	213,362	106,681	62.5	39.5	8	763,933	95,492	63.9	39.0
2	F	0	0	0	0.0	0.0	1	90,149	90,149	63.0	42.0
		2	213,362	106,681	62.5	39.5	9	854,082	94,898	63.8	39.3
4	M	705	56,247,853	79,784	49.3	14.0	1,677	142,430,214	84,932	57.7	22.7
4	F	388	27,765,416	71,560	46.6	12.7	462	34,235,172	74,102	52.9	19.4
		1,093	84,013,269	76,865	48.3	13.6	2,139	176,665,386	82,593	56.6	22.0
6	M	2,074	128,778,685	62,092	39.2	0.7	344	22,587,724	65,662	40.8	1.6
6	F	620	34,452,926	55,569	38.2	0.8	120	7,014,351	58,453	37.9	1.5
		2,694	163,231,611	60,591	39.0	0.7	464	29,602,075	63,798	40.0	1.6
ALL		3,790	247,542,250	65,315	41.7	4.4	2,621	207,944,852	79,338	53.8	18.5

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

* Separations and additions do not include members who joined after June 30, 2016 and are no longer members on June 30, 2017.

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

Housing Authority											
TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2017						TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2016					
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	5	339,715	67,943	72.4	32.2	8	475,732	59,467	73.0	42.5
1	F	4	215,747	53,937	69.3	47.0	5	249,319	49,864	69.6	46.0
		9	555,462	61,718	71.0	38.8	13	725,051	55,773	71.7	43.8
2	M	5	389,287	77,857	67.2	39.4	9	692,211	76,912	65.8	33.3
2	F	6	319,940	53,323	68.3	40.3	8	491,040	61,380	66.8	40.0
		11	709,227	64,475	67.8	39.9	17	1,183,251	69,603	66.2	36.5
4	M	4,683	348,037,686	74,319	51.0	18.5	5,047	356,874,516	70,710	50.5	17.8
4	F	3,015	184,991,492	61,357	50.8	17.2	3,194	186,340,591	58,341	50.2	16.4
		7,698	533,029,178	69,243	51.0	18.0	8,241	543,215,107	65,916	50.4	17.3
6	M	1,152	67,095,085	58,242	40.1	2.8	1,043	56,114,034	53,801	39.1	2.3
6	F	720	34,978,727	48,582	37.9	2.6	600	27,241,413	45,402	37.4	2.3
		1,872	102,073,812	54,527	39.2	2.7	1,643	83,355,447	50,734	38.5	2.3
ALL		9,590	636,367,679	66,357	48.7	15.1	9,914	628,478,856	63,393	48.5	14.9

JUNE 30, 2017 MEMBERS ALSO PRESENT AS OF JUNE 30, 2016						JUNE 30, 2016 MEMBERS ALSO PRESENT AS OF JUNE 30, 2017					
1	M	4	276,288	69,072	74.0	39.3	4	266,561	66,640	73.0	38.3
1	F	4	215,747	53,937	69.3	47.0	4	207,587	51,897	68.3	46.0
		8	492,035	61,504	71.6	43.1	8	474,148	59,269	70.6	42.1
2	M	5	389,287	77,857	67.2	39.4	5	375,243	75,049	66.2	38.4
2	F	6	319,940	53,323	68.3	40.3	6	307,791	51,299	67.3	39.3
		11	709,227	64,475	67.8	39.9	11	683,034	62,094	66.8	38.9
4	M	4,590	340,901,777	74,271	51.0	18.6	4,590	326,346,909	71,100	50.0	17.6
4	F	2,929	179,924,806	61,429	50.9	17.4	2,929	171,376,255	58,510	49.9	16.4
		7,519	520,826,583	69,268	51.0	18.1	7,519	497,723,164	66,195	50.0	17.1
6	M	911	55,286,742	60,688	40.2	3.3	911	49,167,699	53,971	39.2	2.3
6	F	505	26,006,346	51,498	38.6	3.3	505	23,092,316	45,727	37.6	2.3
		1,416	81,293,088	57,410	39.6	3.3	1,416	72,260,015	51,031	38.6	2.3
ALL		8,954	603,320,933	67,380	49.2	15.8	8,954	571,140,361	63,786	48.2	14.8

ADDITIONS DURING THE YEAR *						SEPARATIONS FROM MEMBERSHIP DURING THE YEAR *					
1	M	1	63,427	63,427	66.0	4.0	4	209,171	52,293	73.0	46.8
1	F	0	0	0	0.0	0.0	1	41,732	41,732	75.0	46.0
		1	63,427	63,427	66.0	4.0	5	250,903	50,181	73.4	46.6
2	M	0	0	0	0.0	0.0	4	316,968	79,242	65.3	27.0
2	F	0	0	0	0.0	0.0	2	183,249	91,625	65.0	42.0
		0	0	0	0.0	0.0	6	500,217	83,370	65.2	32.0
4	M	93	7,135,909	76,730	50.9	15.1	457	30,527,607	66,800	55.1	20.3
4	F	86	5,066,686	58,915	48.0	12.2	265	14,964,336	56,469	53.0	16.8
		179	12,202,595	68,171	49.5	13.7	722	45,491,943	63,008	54.3	19.0
6	M	241	11,808,343	48,997	39.6	1.0	132	6,946,335	52,624	38.4	2.1
6	F	215	8,972,381	41,732	36.2	1.0	95	4,149,097	43,675	36.7	2.1
		456	20,780,724	45,572	38.0	1.0	227	11,095,432	48,879	37.7	2.1
ALL		636	33,046,746	51,960	41.2	4.6	960	57,338,495	59,728	50.5	15.2

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

* Separations and additions do not include members who joined after June 30, 2016 and are no longer members on June 30, 2017.

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

Health and Hospitals											
TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2017						TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2016					
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	18	1,604,936	89,163	68.6	42.9	23	1,966,998	85,522	69.3	43.9
1	F	31	2,653,739	85,604	70.8	41.8	38	3,001,206	78,979	69.7	40.8
		49	4,258,675	86,912	70.0	42.2	61	4,968,204	81,446	69.5	41.9
2	M	15	1,376,588	91,773	66.6	36.8	19	1,423,058	74,898	65.7	36.3
2	F	19	1,678,983	88,368	67.7	40.5	34	2,733,327	80,392	66.2	39.0
		34	3,055,571	89,870	67.2	38.9	53	4,156,385	78,422	66.0	38.0
4	M	7,380	548,834,617	74,368	52.4	13.5	7,893	562,088,972	71,214	51.7	12.8
4	F	17,605	1,274,543,690	72,397	52.3	13.8	18,787	1,295,146,342	68,938	51.6	13.0
		24,985	1,823,378,307	72,979	52.3	13.8	26,680	1,857,235,314	69,612	51.6	13.0
6	M	1,797	134,236,248	74,700	41.5	2.3	1,553	107,563,831	69,262	40.5	1.7
6	F	4,359	294,458,779	67,552	41.3	2.3	3,975	253,810,946	63,852	40.2	1.7
		6,156	428,695,027	69,639	41.3	2.3	5,528	361,374,777	65,372	40.3	1.7
ALL		31,224	2,259,387,580	72,361	50.2	11.6	32,322	2,227,734,680	68,923	49.7	11.1

JUNE 30, 2017 MEMBERS ALSO PRESENT AS OF JUNE 30, 2016						JUNE 30, 2016 MEMBERS ALSO PRESENT AS OF JUNE 30, 2017					
1	M	17	1,522,320	89,548	68.9	45.1	17	1,460,238	85,896	67.9	44.1
1	F	31	2,653,739	85,604	70.8	41.8	31	2,536,953	81,837	69.8	40.8
		48	4,176,059	87,001	70.1	43.0	48	3,997,191	83,275	69.1	42.0
2	M	14	1,173,773	83,841	66.8	37.3	14	1,133,184	80,942	65.8	36.3
2	F	19	1,678,983	88,368	67.7	40.5	19	1,619,896	85,258	66.7	39.5
		33	2,852,756	86,447	67.3	39.2	33	2,753,080	83,427	66.3	38.2
4	M	7,216	532,097,028	73,739	52.4	13.6	7,216	511,025,432	70,818	51.4	12.6
4	F	17,158	1,238,258,168	72,168	52.4	13.9	17,158	1,180,767,432	68,817	51.4	12.9
		24,374	1,770,355,196	72,633	52.4	13.8	24,374	1,691,792,864	69,410	51.4	12.8
6	M	1,368	99,967,418	73,076	41.9	2.7	1,368	94,249,511	68,896	40.9	1.7
6	F	3,362	225,236,008	66,995	41.8	2.7	3,362	211,649,449	62,953	40.8	1.7
		4,730	325,203,426	68,753	41.8	2.7	4,730	305,898,960	64,672	40.8	1.7
ALL		29,185	2,102,587,437	72,043	50.7	12.1	29,185	2,004,442,095	68,681	49.7	11.1

ADDITIONS DURING THE YEAR *						SEPARATIONS FROM MEMBERSHIP DURING THE YEAR *					
1	M	1	82,616	82,616	63.0	5.0	6	506,760	84,460	73.0	43.2
1	F	0	0	0	0.0	0.0	7	464,253	66,322	69.1	40.4
		1	82,616	82,616	63.0	5.0	13	971,013	74,693	70.9	41.7
2	M	1	202,815	202,815	64.0	30.0	5	289,874	57,975	65.6	36.2
2	F	0	0	0	0.0	0.0	15	1,113,431	74,229	65.6	38.4
		1	202,815	202,815	64.0	30.0	20	1,403,305	70,165	65.6	37.9
4	M	164	16,737,589	102,058	50.8	10.6	677	51,063,540	75,426	54.5	14.4
4	F	447	36,285,522	81,176	48.3	9.6	1,629	114,378,910	70,214	53.5	13.9
		611	53,023,111	86,781	49.0	9.8	2,306	165,442,450	71,744	53.8	14.1
6	M	429	34,268,830	79,881	40.0	0.8	185	13,314,320	71,969	37.5	1.7
6	F	997	69,222,771	69,431	39.6	0.8	613	42,161,497	68,779	36.9	1.6
		1,426	103,491,601	72,575	39.8	0.8	798	55,475,817	69,519	37.0	1.6
ALL		2,039	156,800,143	76,901	42.5	3.5	3,137	223,292,585	71,180	49.7	11.2

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

* Separations and additions do not include members who joined after June 30, 2016 and are no longer members on June 30, 2017.

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

Triborough Bridge and Tunnel Authority											
TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2017							TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2016				
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	2	271,285	135,643	64.0	42.0	2	267,233	133,617	63.0	41.0
1	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		2	271,285	135,643	64.0	42.0	2	267,233	133,617	63.0	41.0
2	M	0	0	0	0.0	0.0	1	69,760	69,760	62.0	42.0
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		0	0	0	0.0	0.0	1	69,760	69,760	62.0	42.0
4	M	916	93,915,874	102,528	48.8	15.5	939	92,773,402	98,800	48.1	14.9
4	F	236	22,901,788	97,041	50.1	16.6	237	22,228,956	93,793	49.0	16.0
		1,152	116,817,662	101,404	49.1	15.7	1,176	115,002,358	97,791	48.3	15.1
6	M	97	9,328,310	96,168	39.7	2.5	96	8,126,678	84,653	39.4	1.8
6	F	42	3,629,582	86,419	39.5	2.4	36	3,107,420	86,317	38.4	2.5
		139	12,957,892	93,222	39.7	2.5	132	11,234,098	85,107	39.1	2.0
ALL		1,293	130,046,839	100,578	48.1	14.4	1,311	126,573,449	96,547	47.4	13.8

JUNE 30, 2017 MEMBERS ALSO PRESENT AS OF JUNE 30, 2016							JUNE 30, 2016 MEMBERS ALSO PRESENT AS OF JUNE 30, 2017				
1	M	2	271,285	135,643	64.0	42.0	2	267,233	133,617	63.0	41.0
1	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		2	271,285	135,643	64.0	42.0	2	267,233	133,617	63.0	41.0
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	873	88,332,725	101,183	48.8	15.7	873	85,777,604	98,256	47.8	14.7
4	F	219	20,917,385	95,513	50.2	16.8	219	20,483,306	93,531	49.2	15.8
		1,092	109,250,110	100,046	49.1	15.9	1,092	106,260,910	97,309	48.1	14.9
6	M	75	7,187,613	95,835	41.2	3.0	75	6,646,645	88,622	40.2	2.0
6	F	28	2,451,160	87,541	39.5	3.3	28	2,351,483	83,982	38.5	2.3
		103	9,638,773	93,580	40.7	3.0	103	8,998,128	87,360	39.7	2.0
ALL		1,197	119,160,168	99,549	48.4	14.8	1,197	115,526,271	96,513	47.4	13.8

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	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	69,760	69,760	62.0	42.0
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		0	0	0	0.0	0.0	1	69,760	69,760	62.0	42.0
4	M	43	5,583,149	129,841	48.7	12.6	66	6,995,798	105,997	52.1	17.3
4	F	17	1,984,403	116,730	49.1	13.3	18	1,745,650	96,981	47.0	18.3
		60	7,567,552	126,126	48.9	12.8	84	8,741,448	104,065	51.0	17.5
6	M	22	2,140,697	97,304	34.8	1.1	21	1,480,033	70,478	36.6	1.0
6	F	14	1,178,422	84,173	39.6	0.7	8	755,937	94,492	37.9	3.3
		36	3,319,119	92,198	36.6	1.0	29	2,235,970	77,102	37.0	1.6
ALL		96	10,886,671	113,403	44.3	8.4	114	11,047,178	96,905	47.6	13.7

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

* Separations and additions do not include members who joined after June 30, 2016 and are no longer members on June 30, 2017.

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

CUNY Senior College											
TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2017						TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2016					
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	8	574,231	71,779	70.6	41.4	9	595,995	66,222	70.6	40.9
1	F	7	372,762	53,252	73.1	38.6	8	498,027	62,253	71.3	41.1
		15	946,993	63,133	71.8	40.1	17	1,094,022	64,354	70.9	41.0
2	M	1	111,697	111,697	70.0	41.0	4	221,932	55,483	72.5	40.8
2	F	5	340,319	68,064	69.0	40.2	5	329,128	65,826	68.0	39.2
		6	452,016	75,336	69.2	40.3	9	551,060	61,229	70.0	39.9
4	M	1,743	116,933,332	67,087	50.6	13.5	1,827	118,009,818	64,592	49.9	12.7
4	F	1,748	87,619,091	50,125	52.8	13.4	1,840	88,253,514	47,964	51.9	12.5
		3,491	204,552,423	58,594	51.7	13.5	3,667	206,263,332	56,249	50.9	12.6
6	M	582	31,499,747	54,123	40.5	2.2	354	18,005,390	50,863	39.1	2.4
6	F	511	21,282,620	41,649	39.9	2.1	303	12,516,622	41,309	39.7	2.4
		1,093	52,782,367	48,291	40.2	2.2	657	30,522,012	46,457	39.4	2.4
ALL		4,605	258,733,799	56,185	49.1	10.9	4,350	238,430,426	54,812	49.3	11.2

JUNE 30, 2017 MEMBERS ALSO PRESENT AS OF JUNE 30, 2016						JUNE 30, 2016 MEMBERS ALSO PRESENT AS OF JUNE 30, 2017					
1	M	8	574,231	71,779	70.6	41.4	8	558,172	69,772	69.6	40.4
1	F	6	328,576	54,763	73.7	41.3	6	321,501	53,584	72.7	40.3
		14	902,807	64,486	71.9	41.4	14	879,673	62,834	70.9	40.4
2	M	1	111,697	111,697	70.0	41.0	1	107,411	107,411	69.0	40.0
2	F	5	340,319	68,064	69.0	40.2	5	329,128	65,826	68.0	39.2
		6	452,016	75,336	69.2	40.3	6	436,539	72,757	68.2	39.3
4	M	1,678	111,768,122	66,608	50.7	13.6	1,678	107,997,223	64,361	49.7	12.6
4	F	1,696	84,709,713	49,947	52.8	13.5	1,696	81,458,110	48,030	51.8	12.5
		3,374	196,477,835	58,233	51.8	13.5	3,374	189,455,333	56,152	50.8	12.5
6	M	308	16,826,325	54,631	40.9	3.4	308	15,802,552	51,307	39.8	2.4
6	F	247	11,015,884	44,599	41.2	3.4	247	10,426,527	42,213	40.2	2.4
		555	27,842,209	50,166	41.0	3.4	555	26,229,079	47,260	40.0	2.4
ALL		3,949	225,674,867	57,147	50.3	12.2	3,949	217,000,624	54,951	49.4	11.2

ADDITIONS DURING THE YEAR *						SEPARATIONS FROM MEMBERSHIP DURING THE YEAR *					
1	M	0	0	0	0.0	0.0	1	37,823	37,823	78.0	45.0
1	F	1	44,186	44,186	70.0	22.0	2	176,526	88,263	67.0	43.5
		1	44,186	44,186	70.0	22.0	3	214,349	71,450	70.7	44.0
2	M	0	0	0	0.0	0.0	3	114,521	38,174	73.7	41.0
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		0	0	0	0.0	0.0	3	114,521	38,174	73.7	41.0
4	M	65	5,165,210	79,465	49.6	12.2	149	10,012,595	67,199	52.3	13.8
4	F	52	2,909,378	55,950	50.2	11.8	144	6,795,404	47,190	52.5	13.1
		117	8,074,588	69,014	49.8	12.0	293	16,807,999	57,365	52.4	13.4
6	M	274	14,673,422	53,553	40.1	0.9	46	2,202,838	47,888	34.1	2.4
6	F	264	10,266,736	38,889	38.7	0.9	56	2,090,095	37,323	37.4	2.4
		538	24,940,158	46,357	39.4	0.9	102	4,292,933	42,088	35.9	2.4
ALL		656	33,058,932	50,395	48.5	2.9	401	21,429,802	53,441	48.5	11.0

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

* Separations and additions do not include members who joined after June 30, 2016 and are no longer members on June 30, 2017.

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

All Other Non-NYC Contributing Entities											
TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2017							TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2016				
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	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	122,739	122,739	71.0	19.0	1	118,029	118,029	70.0	18.0
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		1	122,739	122,739	71.0	19.0	1	118,029	118,029	70.0	18.0
4	M	71	8,819,184	124,214	53.9	16.8	70	8,056,315	115,090	53.2	15.9
4	F	95	9,120,519	96,005	51.7	12.2	91	8,139,185	89,442	51.0	11.3
		166	17,939,703	108,071	52.6	14.2	161	16,195,500	100,593	52.0	13.3
6	M	3	348,927	116,309	46.0	1.7	0	0	0	0.0	0.0
6	F	1	78,841	78,841	34.0	0.0	0	0	0	0.0	0.0
		4	427,768	106,942	43.0	1.3	0	0	0	0.0	0.0
ALL		171	18,490,210	108,130	52.5	13.9	162	16,313,529	100,701	52.1	13.3

JUNE 30, 2017 MEMBERS ALSO PRESENT AS OF JUNE 30, 2016							JUNE 30, 2016 MEMBERS ALSO PRESENT AS OF JUNE 30, 2017				
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	122,739	122,739	71.0	19.0	1	118,029	118,029	70.0	18.0
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		1	122,739	122,739	71.0	19.0	1	118,029	118,029	70.0	18.0
4	M	62	7,327,052	118,178	53.8	17.0	62	7,017,193	113,181	52.8	16.0
4	F	88	8,268,732	93,963	51.6	12.4	88	7,911,917	89,908	50.6	11.4
		150	15,595,784	103,972	52.5	14.3	150	14,929,110	99,527	51.5	13.3
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	0	0	0	0.0	0.0
		0	0	0	0.0	0.0	0	0	0	0.0	0.0
ALL		151	15,718,523	104,096	52.6	14.4	151	15,047,139	99,650	51.6	13.4

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	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	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	9	1,492,132	165,792	55.0	15.2	8	1,039,122	129,890	56.4	14.8
4	F	7	851,787	121,684	53.3	10.1	3	227,268	75,756	64.0	8.3
		16	2,343,919	146,495	54.3	13.0	11	1,266,390	115,126	58.5	13.0
6	M	3	348,927	116,309	46.0	1.7	0	0	0	0.0	0.0
6	F	1	78,841	78,841	34.0	0.0	0	0	0	0.0	0.0
		4	427,768	106,942	43.0	1.3	0	0	0	0.0	0.0
ALL		20	2,771,687	138,584	52.0	10.7	11	1,266,390	115,126	58.5	13.0

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

* Separations and additions do not include members who joined after June 30, 2016 and are no longer members on June 30, 2017.

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

New York City: Sanitation											
TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2017							TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2016				
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	4	366,103	91,526	71.5	46.8	4	361,025	90,256	70.5	45.8
1	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		4	366,103	91,526	71.5	46.8	4	361,025	90,256	70.5	45.8
2	M	4	417,758	104,440	65.5	33.3	5	497,744	99,549	65.0	34.4
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		4	417,758	104,440	65.5	33.3	5	497,744	99,549	65.0	34.4
4	M	5,363	558,881,144	104,211	45.4	15.3	5,608	560,926,494	100,023	44.6	14.5
4	F	138	14,479,057	104,921	47.6	16.0	158	14,894,337	94,268	45.5	14.3
		5,501	573,360,201	104,228	45.5	15.3	5,766	575,820,831	99,865	44.6	14.5
3R	M	1,905	118,442,780	62,175	36.7	3.5	1,518	84,797,504	55,861	36.4	2.4
3R	F	83	4,778,969	57,578	37.5	4.1	45	2,368,978	52,644	37.8	2.1
		1,988	123,221,749	61,983	36.8	3.5	1,563	87,166,482	55,769	36.5	2.4
ALL		7,497	697,365,811	93,019	43.2	12.2	7,338	663,846,082	90,467	42.9	12.0

JUNE 30, 2017 MEMBERS ALSO PRESENT AS OF JUNE 30, 2016							JUNE 30, 2016 MEMBERS ALSO PRESENT AS OF JUNE 30, 2017				
1	M	4	366,103	91,526	71.5	46.8	4	361,025	90,256	70.5	45.8
1	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		4	366,103	91,526	71.5	46.8	4	361,025	90,256	70.5	45.8
2	M	4	417,758	104,440	65.5	33.3	4	403,602	100,901	64.5	32.3
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		4	417,758	104,440	65.5	33.3	4	403,602	100,901	64.5	32.3
4	M	5,254	549,208,740	104,532	45.5	15.4	5,254	530,318,020	100,936	44.5	14.4
4	F	134	13,977,679	104,311	47.6	15.9	134	13,380,803	99,857	46.6	14.9
		5,388	563,186,419	104,526	45.6	15.4	5,388	543,698,823	100,909	44.6	14.4
3R	M	1,437	92,292,946	64,226	37.5	3.4	1,437	80,411,220	55,958	36.5	2.4
3R	F	45	2,689,129	59,758	38.8	3.1	45	2,368,978	52,644	37.8	2.1
		1,482	94,982,075	64,090	37.6	3.4	1,482	82,780,198	55,857	36.6	2.4
ALL		6,878	658,952,355	95,806	43.9	12.9	6,878	627,243,648	91,196	42.9	11.9

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	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	94,142	94,142	67.0	43.0
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		0	0	0	0.0	0.0	1	94,142	94,142	67.0	43.0
4	M	109	9,672,404	88,738	41.1	10.6	354	30,608,474	86,465	46.2	16.1
4	F	4	501,378	125,345	48.3	20.5	24	1,513,534	63,064	39.5	11.0
		113	10,173,782	90,033	41.4	10.9	378	32,122,008	84,979	45.8	15.7
3R	M	468	26,149,834	55,876	34.2	3.7	81	4,386,284	54,152	35.0	2.0
3R	F	38	2,089,840	54,996	36.1	5.3	0	0	0	0.0	0.0
		506	28,239,674	55,810	34.4	3.8	81	4,386,284	54,152	35.0	2.0
ALL		619	38,413,456	62,057	35.7	5.1	460	36,602,434	79,571	43.9	13.4

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

* Separations and additions do not include members who joined after June 30, 2016 and are no longer members on June 30, 2017.

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

New York City: Correction

TIER	GENDER	TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2017					TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2016				
		NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	1	122,810	122,810	66.0	45.0	1	110,866	110,866	65.0	44.0
1	F	1	122,972	122,972	67.0	44.0	1	111,403	111,403	66.0	43.0
		2	245,782	122,891	66.5	44.5	2	222,269	111,135	65.5	43.5
2	M	1	50,620	50,620	41.0	9.0	0	0	0	0.0	0.0
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		1	50,620	50,620	41.0	9.0	0	0	0	0.0	0.0
3	M	3,088	341,982,354	110,746	44.7	14.3	3,416	336,560,171	98,525	44.4	14.0
3	F	2,861	316,801,339	110,731	43.7	14.2	3,095	302,177,481	97,634	43.2	13.6
		5,949	658,783,693	110,739	44.2	14.2	6,511	638,737,652	98,101	43.9	13.8
3R	M	2,303	133,603,336	58,013	32.8	2.1	1,468	76,645,447	52,211	33.0	1.9
3R	F	1,313	76,512,956	58,273	32.8	2.3	834	43,528,326	52,192	33.1	1.9
		3,616	210,116,292	58,107	32.8	2.2	2,302	120,173,773	52,204	33.1	1.9
ALL		9,568	869,196,387	90,844	39.9	9.7	8,815	759,133,694	86,118	41.0	10.7

JUNE 30, 2017 MEMBERS ALSO PRESENT AS OF JUNE 30, 2016

1	M	1	122,810	122,810	66.0	45.0
1	F	1	122,972	122,972	67.0	44.0
		2	245,782	122,891	66.5	44.5
2	M	0	0	0	0.0	0.0
2	F	0	0	0	0.0	0.0
		0	0	0	0.0	0.0
3	M	2,983	331,878,836	111,257	44.8	14.3
3	F	2,740	304,581,342	111,161	43.7	14.2
		5,723	636,460,178	111,211	44.3	14.2
3R	M	1,280	80,789,881	63,117	34.3	3.0
3R	F	755	47,692,817	63,169	34.1	2.9
		2,035	128,482,698	63,136	34.2	3.0
ALL		7,760	765,188,658	98,607	41.7	11.3

JUNE 30, 2016 MEMBERS ALSO PRESENT AS OF JUNE 30, 2017

1	M	1	110,866	110,866	65.0	44.0
1	F	1	111,403	111,403	66.0	43.0
		2	222,269	111,135	65.5	43.5
2	M	0	0	0	0.0	0.0
2	F	0	0	0	0.0	0.0
		0	0	0	0.0	0.0
3	M	2,983	292,886,673	98,185	43.8	13.3
3	F	2,740	268,002,904	97,811	42.7	13.2
		5,723	560,889,577	98,006	43.3	13.2
3R	M	1,280	67,449,242	52,695	33.3	2.0
3R	F	755	39,658,850	52,528	33.1	1.9
		2,035	107,108,092	52,633	33.2	2.0
ALL		7,760	668,219,938	86,111	40.7	10.3

ADDITIONS DURING THE YEAR *

1	M	0	0	0	0.0	0.0
1	F	0	0	0	0.0	0.0
		0	0	0	0.0	0.0
2	M	1	50,620	50,620	41.0	9.0
2	F	0	0	0	0.0	0.0
		1	50,620	50,620	41.0	9.0
3	M	105	10,103,518	96,224	42.3	13.6
3	F	121	12,219,997	100,992	42.5	13.3
		226	22,323,515	98,777	42.4	13.4
3R	M	1,023	52,813,455	51,626	31.0	1.0
3R	F	558	28,820,139	51,649	31.1	1.5
		1,581	81,633,594	51,634	31.0	1.2
ALL		1,808	104,007,729	57,526	32.5	2.7

SEPARATIONS FROM MEMBERSHIP DURING THE YEAR *

1	M	0	0	0	0.0	0.0
1	F	0	0	0	0.0	0.0
		0	0	0	0.0	0.0
2	M	0	0	0	0.0	0.0
2	F	0	0	0	0.0	0.0
		0	0	0	0.0	0.0
3	M	433	43,673,498	100,863	48.8	18.6
3	F	355	34,174,577	96,266	47.0	17.1
		788	77,848,075	98,792	48.0	17.9
3R	M	188	9,196,205	48,916	31.4	1.2
3R	F	79	3,869,476	48,981	32.7	1.2
		267	13,065,681	48,935	31.8	1.2
ALL		1,055	90,913,756	86,174	43.9	13.7

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

* Separations and additions do not include members who joined after June 30, 2016 and are no longer members on June 30, 2017.

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

All Other New York City											
TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2017						TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2016					
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	123	11,440,416	93,012	72.0	44.8	140	13,048,888	93,206	71.4	44.3
1	F	135	10,110,314	74,891	70.2	44.9	161	11,431,074	71,000	69.3	43.4
		258	21,550,730	83,530	71.0	44.9	301	24,479,962	81,329	70.3	43.8
2	M	109	9,595,951	88,036	58.2	28.9	131	11,034,263	84,231	58.6	29.4
2	F	122	8,807,055	72,189	60.5	31.9	141	9,686,885	68,701	60.5	33.1
		231	18,403,006	79,667	59.4	30.5	272	20,721,148	76,181	59.6	31.3
4	M	28,804	2,318,545,847	80,494	51.4	15.8	29,931	2,303,434,984	76,958	50.8	15.1
4	F	34,359	2,295,976,487	66,823	50.6	15.8	35,390	2,228,638,719	62,974	49.8	14.9
		63,163	4,614,522,334	73,057	50.9	15.8	65,321	4,532,073,703	69,382	50.3	15.0
3R/6	M	11,390	684,646,666	60,109	37.6	2.1	8,663	478,447,900	55,229	37.2	1.8
3R/6	F	10,966	600,834,477	54,791	37.9	2.0	8,045	410,042,653	50,969	37.7	1.7
		22,356	1,285,481,143	57,500	37.7	2.1	16,708	888,490,553	53,178	37.4	1.8
ALL		86,008	5,939,957,213	69,063	47.6	12.4	82,602	5,465,765,366	66,170	47.8	12.5
JUNE 30, 2017 MEMBERS ALSO PRESENT AS OF JUNE 30, 2016						JUNE 30, 2016 MEMBERS ALSO PRESENT AS OF JUNE 30, 2017					
1	M	122	11,397,711	93,424	72.1	45.0	122	11,076,885	90,794	71.1	44.0
1	F	133	9,936,683	74,712	70.2	45.1	133	9,506,823	71,480	69.2	44.1
		255	21,334,394	83,664	71.1	45.1	255	20,583,708	80,720	70.1	44.1
2	M	99	8,638,236	87,255	58.6	29.9	99	8,171,068	82,536	57.6	28.9
2	F	113	8,243,029	72,947	61.2	33.2	113	7,822,720	69,228	60.2	32.2
		212	16,881,265	79,629	60.0	31.7	212	15,993,788	75,442	59.0	30.7
4	M	27,728	2,230,097,850	80,428	51.4	15.9	27,728	2,139,191,197	77,149	50.4	14.9
4	F	32,794	2,191,981,364	66,841	50.7	15.9	32,794	2,070,522,744	63,137	49.7	14.9
		60,522	4,422,079,214	73,066	51.0	15.9	60,522	4,209,713,941	69,557	50.0	14.9
3R/6	M	7,816	484,020,835	61,927	38.4	2.8	7,816	435,382,318	55,704	37.4	1.8
3R/6	F	7,134	400,076,256	56,080	39.0	2.7	7,134	363,214,195	50,913	38.0	1.7
		14,950	884,097,091	59,137	38.7	2.8	14,950	798,596,513	53,418	37.7	1.8
ALL		75,939	5,344,391,964	70,377	48.7	13.4	75,939	5,044,887,950	66,433	47.7	12.4
ADDITIONS DURING THE YEAR *						SEPARATIONS FROM MEMBERSHIP DURING THE YEAR *					
1	M	1	42,705	42,705	63.0	22.0	18	1,972,003	109,556	73.7	46.2
1	F	2	173,631	86,816	69.0	29.5	28	1,924,251	68,723	69.6	40.3
		3	216,336	72,112	67.0	27.0	46	3,896,254	84,701	71.2	42.6
2	M	10	957,715	95,772	54.5	18.9	32	2,863,195	89,475	61.7	31.2
2	F	9	564,026	62,670	52.2	15.3	28	1,864,165	66,577	61.5	36.5
		19	1,521,741	80,092	53.4	17.2	60	4,727,360	78,789	61.6	33.7
4	M	1,076	88,447,997	82,201	50.1	14.6	2,203	164,243,787	74,555	55.1	18.3
4	F	1,565	103,995,123	66,451	48.4	13.1	2,596	158,115,975	60,908	51.6	15.5
		2,641	192,443,120	72,868	49.1	13.7	4,799	322,359,762	67,172	53.2	16.8
3R/6	M	3,574	200,625,831	56,135	35.7	0.7	847	43,065,582	50,845	35.2	1.6
3R/6	F	3,832	200,758,221	52,390	36.0	0.7	911	46,828,458	51,403	35.2	1.6
		7,406	401,384,052	54,197	35.9	0.7	1,758	89,894,040	51,134	35.2	1.6
ALL		10,069	595,565,249	59,148	39.4	4.2	6,663	420,877,416	63,166	48.6	13.1

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

* Separations and additions do not include members who joined after June 30, 2016 and are no longer members on June 30, 2017.

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

		Total									
		TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2017					TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2016				
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	195	18,203,983	93,354	71.9	44.0	229	20,994,336	91,678	71.3	44.0
1	F	184	13,960,792	75,874	70.5	44.2	219	15,753,977	71,936	69.5	43.0
		379	32,164,775	84,867	71.2	44.1	448	36,748,313	82,027	70.4	43.5
2	M	157	14,140,443	90,067	60.8	31.6	197	16,626,988	84,401	61.2	32.1
2	F	157	11,491,832	73,196	62.2	33.7	194	13,663,169	70,429	62.1	34.7
		314	25,632,275	81,631	61.5	32.7	391	30,290,157	77,468	61.7	33.4
3/4	M	76,612	6,480,713,514	84,591	51.2	16.4	80,267	6,505,154,566	81,044	50.6	15.7
3/4	F	64,994	4,596,188,201	70,717	50.8	15.3	67,803	4,526,925,103	66,766	50.1	14.5
		141,606	11,076,901,715	78,223	51.0	15.9	148,070	11,032,079,669	74,506	50.4	15.2
3R/6	M	27,666	1,778,173,902	64,273	38.7	2.4	21,402	1,285,024,221	60,042	38.4	1.9
3R/6	F	19,827	1,152,368,987	58,121	38.5	2.2	15,170	832,396,995	54,871	38.2	1.8
		47,493	2,930,542,889	61,705	38.6	2.3	36,572	2,117,421,216	57,897	38.3	1.9
ALL		189,792	14,065,241,654	74,109	48.0	12.6	185,481	13,216,539,355	71,255	48.1	12.6
JUNE 30, 2017 MEMBERS ALSO PRESENT AS OF JUNE 30, 2016						JUNE 30, 2016 MEMBERS ALSO PRESENT AS OF JUNE 30, 2017					
1	M	191	17,931,227	93,881	72.0	44.7	191	17,445,270	91,336	71.0	43.7
1	F	181	13,742,975	75,928	70.5	44.5	181	13,147,215	72,637	69.5	43.5
		372	31,674,202	85,146	71.3	44.6	372	30,592,485	82,238	70.3	43.6
2	M	143	12,715,931	88,923	61.4	32.6	143	12,114,595	84,717	60.4	31.6
2	F	148	10,927,806	73,837	62.8	34.8	148	10,412,175	70,353	61.8	33.8
		291	23,643,737	81,250	62.1	33.7	291	22,526,770	77,412	61.1	32.7
3/4	M	74,243	6,280,127,753	84,589	51.3	16.4	74,243	6,024,559,931	81,147	50.3	15.4
3/4	F	62,307	4,404,608,511	70,692	50.9	15.4	62,307	4,160,774,277	66,779	49.9	14.4
		136,550	10,684,736,264	78,248	51.1	16.0	136,550	10,185,334,208	74,591	50.1	15.0
3R/6	M	19,558	1,306,565,878	66,805	39.6	2.9	19,558	1,181,844,900	60,428	38.6	1.9
3R/6	F	13,288	796,528,710	59,943	39.5	2.8	13,288	725,528,084	54,600	38.5	1.8
		32,846	2,103,094,588	64,029	39.6	2.9	32,846	1,907,372,984	58,070	38.6	1.9
ALL		170,059	12,843,148,791	75,522	49.0	13.5	170,059	12,145,826,447	71,421	48.0	12.5
ADDITIONS DURING THE YEAR *						SEPARATIONS FROM MEMBERSHIP DURING THE YEAR *					
1	M	4	272,756	68,189	66.3	11.8	38	3,549,066	93,396	73.0	45.6
1	F	3	217,817	72,606	69.3	27.0	38	2,606,762	68,599	69.5	40.6
		7	490,573	70,082	67.6	18.3	76	6,155,828	80,998	71.3	43.1
2	M	14	1,424,512	101,751	55.4	21.9	54	4,512,393	83,563	63.4	33.4
2	F	9	564,026	62,670	52.2	15.3	46	3,250,994	70,674	63.0	37.5
		23	1,988,538	86,458	54.1	19.3	100	7,763,387	77,634	63.2	35.3
3/4	M	2,369	200,585,761	84,671	49.1	13.8	6,024	480,594,635	79,780	54.7	19.0
3/4	F	2,687	191,579,690	71,299	47.9	12.4	5,496	366,150,826	66,621	52.0	15.4
		5,056	392,165,451	77,564	48.5	13.1	11,520	846,745,461	73,502	53.4	17.3
3R/6	M	8,108	471,608,024	58,166	36.4	0.9	1,844	103,179,321	55,954	36.3	1.6
3R/6	F	6,539	355,840,277	54,418	36.5	0.8	1,882	106,868,911	56,785	36.0	1.6
		14,647	827,448,301	56,493	36.5	0.9	3,726	210,048,232	56,374	36.1	1.6
ALL		19,733	1,222,092,863	61,931	39.6	4.0	15,422	1,070,712,908	69,428	49.4	13.8

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

* Separations and additions do not include members who joined after June 30, 2016 and are no longer members on June 30, 2017.

Table XIII-8
Summary of Non-Pensioner Membership as of June 30, 2017

STATUS	TIER 1		TIER 2		TIER 3/4		TIER 3R/6		ALL TIERS	
	NUMBER	SALARY	NUMBER	SALARY	NUMBER	SALARY	NUMBER	SALARY	NUMBER	SALARY
<i>MALES:</i>										
ACTIVES	195	18,203,983	157	14,140,443	76,612	6,480,713,514	27,666	1,778,173,902	104,630	8,291,231,842
ACTIVE OFF PAYROLL	7	510,122	22	1,428,678	5,978	360,341,566	2,659	132,592,608	8,666	494,872,974
VESTED	8	281,528	13	700,397	4,004	212,122,679	1	129,174	4,026	213,233,778
ALL STATUS	210	18,995,633	192	16,269,518	86,594	7,053,177,759	30,326	1,910,895,684	117,322	8,999,338,594
<i>FEMALES:</i>										
ACTIVES	184	13,960,792	157	11,491,832	64,994	4,596,188,201	19,827	1,152,368,987	85,162	5,774,009,812
ACTIVE OFF PAYROLL	7	444,634	13	786,334	7,748	435,147,758	2,746	145,029,225	10,514	581,407,951
VESTED	3	109,841	10	374,264	4,377	218,667,311	1	104,895	4,391	219,256,311
ALL STATUS	194	14,515,267	180	12,652,430	77,119	5,250,003,270	22,574	1,297,503,107	100,067	6,574,674,074
<i>TOTAL:</i>										
ACTIVES	379	32,164,775	314	25,632,275	141,606	11,076,901,715	47,493	2,930,542,889	189,792	14,065,241,654
ACTIVE OFF PAYROLL	14	954,756	35	2,215,012	13,726	795,489,324	5,405	277,621,833	19,180	1,076,280,925
VESTED	11	391,369	23	1,074,661	8,381	430,789,990	2	234,069	8,417	432,490,089
ALL STATUS	404	33,510,900	372	28,921,948	163,713	12,303,181,029	52,900	3,208,398,791	217,389	15,574,012,668

Table XIII-9
Summary of Pensioner Membership

Group	June 30, 2017 (Lag)					June 30, 2016 (Lag)				
	Number	Annual Amounts Payable				Number	Annual Amounts Payable			
		Pensioners	Designated Annuitants	Supplementation	Total		Pensioners	Designated Annuitants	Supplementation	Total
Service Pensioners	121,047	\$ 3,564,801,235	\$ 0	\$ 224,519,451	\$ 3,789,320,686	118,375	\$ 3,380,089,000	\$ 0	\$ 227,327,348	\$ 3,607,416,348
Ordinary Disability Pensioners	10,404	171,199,170	0	22,562,296	\$ 193,761,466	10,441	170,164,377	0	22,412,420	192,576,797
Accidental Disability Pensioners	4,059	138,018,352	0	21,262,665	\$ 159,281,017	3,928	127,687,163	0	21,367,743	149,054,906
Accidental Death Pensioners	166	6,576,736	0	441,126	\$ 7,017,862	158	5,911,361	0	435,271	6,346,632
Other Beneficiaries	14,743	200,471,136	3,026,669	29,107,102	\$ 232,604,907	14,612	190,701,673	2,974,653	30,425,612	224,101,938
Total	150,419	\$ 4,081,066,629	\$ 3,026,669	\$ 297,892,640	\$ 4,381,985,938	147,514	\$ 3,874,553,574	\$ 2,974,653	\$ 301,968,394	\$ 4,179,496,621

Table XIII-10
Distribution of Pension Benefits by Cause and Age as of June 30, 2017

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	20	985,448	49,272	6	302,736	50,456	26	1,288,184	49,546
45 TO 49	465	23,370,194	50,258	257	12,423,510	48,341	722	35,793,704	49,576
50 TO 54	2,358	112,897,279	47,878	975	45,142,398	46,300	3,333	158,039,677	47,417
55 TO 59	5,290	232,401,597	43,932	2,432	85,529,445	35,168	7,722	317,931,042	41,172
60 TO 64	10,733	420,586,126	39,186	6,069	178,374,059	29,391	16,802	598,960,185	35,648
65 TO 69	15,366	565,900,473	36,828	10,118	283,208,381	27,991	25,484	849,108,854	33,319
70 TO 74	14,573	502,000,743	34,447	9,538	250,419,677	26,255	24,111	752,420,420	31,207
75 TO 79	11,258	347,759,714	30,890	6,982	162,121,783	23,220	18,240	509,881,497	27,954
80 TO 84	7,217	198,708,955	27,533	4,499	88,202,035	19,605	11,716	286,910,990	24,489
85 TO 89	4,363	115,781,551	26,537	3,189	58,958,386	18,488	7,552	174,739,937	23,138
90 & UP	2,569	62,864,431	24,470	2,770	41,381,765	14,939	5,339	104,246,196	19,525
TOTAL	74,212	2,583,256,511	34,809	46,835	1,206,064,175	25,751	121,047	3,789,320,686	31,305
<i>ORDINARY DISABILITY:</i>									
UNDER 30	0	0	0	0	0	0	0	0	0
30 TO 34	3	56,348	18,783	1	8,424	8,424	4	64,772	16,193
35 TO 39	15	254,808	16,987	18	296,650	16,481	33	551,458	16,711
40 TO 44	58	1,463,215	25,228	45	874,504	19,433	103	2,337,719	22,696
45 TO 49	221	4,784,184	21,648	156	2,620,414	16,798	377	7,404,598	19,641
50 TO 54	642	13,935,338	21,706	461	8,361,065	18,137	1,103	22,296,403	20,214
55 TO 59	1,058	22,410,667	21,182	750	13,358,913	17,812	1,808	35,769,580	19,784
60 TO 64	1,242	25,241,236	20,323	821	14,421,046	17,565	2,063	39,662,282	19,226
65 TO 69	1,241	23,620,139	19,033	676	11,105,106	16,428	1,917	34,725,245	18,114
70 TO 74	1,024	19,621,100	19,161	445	6,561,678	14,745	1,469	26,182,778	17,824
75 TO 79	608	11,198,539	18,419	282	3,648,108	12,937	890	14,846,647	16,682
80 TO 84	254	4,493,028	17,689	129	1,638,365	12,701	383	6,131,393	16,009
85 TO 89	126	2,069,745	16,427	53	495,524	9,350	179	2,565,269	14,331
90 & UP	52	988,704	19,014	23	234,618	10,201	75	1,223,322	16,311
TOTAL	6,544	130,137,051	19,886	3,860	63,624,415	16,483	10,404	193,761,466	18,624
<i>ACCIDENTAL DISABILITY:</i>									
UNDER 30	0	0	0	1	16,844	16,844	1	16,844	16,844
30 TO 34	16	706,256	44,141	4	191,212	47,803	20	897,468	44,873
35 TO 39	65	3,563,064	54,816	8	374,143	46,768	73	3,937,207	53,934
40 TO 44	103	5,403,854	52,465	27	1,377,478	51,018	130	6,781,332	52,164
45 TO 49	231	12,301,679	53,254	71	3,209,174	45,200	302	15,510,853	51,360
50 TO 54	445	20,834,104	46,818	101	4,453,919	44,098	546	25,288,023	46,315
55 TO 59	432	19,270,019	44,607	94	3,549,110	37,756	526	22,819,129	43,382
60 TO 64	426	18,698,784	43,894	74	3,108,377	42,005	500	21,807,161	43,614
65 TO 69	490	17,643,034	36,006	26	834,157	32,083	516	18,477,191	35,809
70 TO 74	614	19,709,959	32,101	31	800,065	25,809	645	20,510,024	31,798
75 TO 79	367	11,095,920	30,234	23	519,252	22,576	390	11,615,172	29,782
80 TO 84	201	6,009,293	29,897	13	209,279	16,098	214	6,218,572	29,059
85 TO 89	126	3,662,448	29,067	10	198,934	19,893	136	3,861,382	28,393
90 & UP	50	1,351,409	27,028	10	189,250	18,925	60	1,540,659	25,678
TOTAL	3,566	140,249,823	39,330	493	19,031,194	38,603	4,059	159,281,017	39,241

Table XIII-10
Distribution of Pension Benefits by Cause and Age as of June 30, 2017 (cont'd)

AGE	MALE			FEMALE			TOTAL		
	NUMBER	BENEFITS	AVERAGE	NUMBER	BENEFITS	AVERAGE	NUMBER	BENEFITS	AVERAGE
<i>ACCIDENTAL DEATH:</i>									
UNDER 30	2	69,825	34,913	1	37,386	37,386	3	107,211	35,737
30 TO 34	3	127,293	42,431	2	45,700	22,850	5	172,993	34,599
35 TO 39	2	65,198	32,599	2	68,369	34,185	4	133,567	33,392
40 TO 44	2	81,217	40,609	5	153,331	30,666	7	234,548	33,507
45 TO 49	3	115,565	38,522	11	456,834	41,530	14	572,399	40,886
50 TO 54	1	27,023	27,023	15	924,992	61,666	16	952,015	59,501
55 TO 59	0	0	0	21	974,635	46,411	21	974,635	46,411
60 TO 64	0	0	0	24	1,004,957	41,873	24	1,004,957	41,873
65 TO 69	3	157,313	52,438	15	753,836	50,256	18	911,149	50,619
70 TO 74	1	58,821	58,821	25	1,061,146	42,446	26	1,119,967	43,076
75 TO 79	2	115,580	57,790	16	473,561	29,598	18	589,141	32,730
80 TO 84	1	24,122	24,122	4	107,707	26,927	5	131,829	26,366
85 TO 89	0	0	0	3	75,792	25,264	3	75,792	25,264
90 & UP	0	0	0	2	37,659	18,830	2	37,659	18,830
TOTAL	20	841,957	42,098	146	6,175,905	42,301	166	7,017,862	42,276
<i>OTHER BENEFICIARIES:</i>									
UNDER 30	86	1,743,476	20,273	124	2,198,710	17,732	210	3,942,186	18,772
30 TO 34	73	1,009,100	13,823	90	1,174,998	13,056	163	2,184,098	13,399
35 TO 39	87	1,202,449	13,821	127	1,435,491	11,303	214	2,637,940	12,327
40 TO 44	100	1,278,031	12,780	168	2,341,630	13,938	268	3,619,661	13,506
45 TO 49	121	1,139,591	9,418	249	3,020,641	12,131	370	4,160,232	11,244
50 TO 54	147	1,324,598	9,011	350	5,025,586	14,359	497	6,350,184	12,777
55 TO 59	151	1,672,773	11,078	547	8,232,133	15,050	698	9,904,906	14,190
60 TO 64	149	1,679,307	11,271	873	16,328,426	18,704	1,022	18,007,733	17,620
65 TO 69	156	1,718,413	11,015	1,233	23,307,162	18,903	1,389	25,025,575	18,017
70 TO 74	150	1,688,976	11,260	1,676	32,722,526	19,524	1,826	34,411,502	18,845
75 TO 79	134	1,536,517	11,467	1,748	30,560,693	17,483	1,882	32,097,210	17,055
80 TO 84	96	1,059,864	11,040	1,848	30,296,276	16,394	1,944	31,356,140	16,130
85 TO 89	77	749,204	9,730	1,915	29,569,509	15,441	1,992	30,318,713	15,220
90 & UP	77	739,172	9,600	2,191	27,849,655	12,711	2,268	28,588,827	12,605
TOTAL	1,604	18,541,471	11,560	13,139	214,063,436	16,292	14,743	232,604,907	15,777
<i>ALL PENSIONERS AND BENEFICIARIES:</i>									
UNDER 30	88	1,813,301	20,606	126	2,252,940	17,880	214	4,066,241	19,001
30 TO 34	95	1,898,997	19,989	97	1,420,334	14,643	192	3,319,331	17,288
35 TO 39	169	5,085,519	30,092	155	2,174,653	14,030	324	7,260,172	22,408
40 TO 44	283	9,211,765	32,550	251	5,049,679	20,118	534	14,261,444	26,707
45 TO 49	1,041	41,711,213	40,068	744	21,730,573	29,208	1,785	63,441,786	35,542
50 TO 54	3,593	149,018,342	41,475	1,902	63,907,960	33,600	5,495	212,926,302	38,749
55 TO 59	6,931	275,755,056	39,786	3,844	111,644,236	29,044	10,775	387,399,292	35,954
60 TO 64	12,550	466,205,453	37,148	7,861	213,236,865	27,126	20,411	679,442,318	33,288
65 TO 69	17,256	609,039,372	35,294	12,068	319,208,642	26,451	29,324	928,248,014	31,655
70 TO 74	16,362	543,079,599	33,192	11,715	291,565,092	24,888	28,077	834,644,691	29,727
75 TO 79	12,369	371,706,270	30,051	9,051	197,323,397	21,801	21,420	569,029,667	26,565
80 TO 84	7,769	210,295,262	27,069	6,493	120,453,662	18,551	14,262	330,748,924	23,191
85 TO 89	4,692	122,262,948	26,058	5,170	89,298,145	17,272	9,862	211,561,093	21,452
90 & UP	2,748	65,943,716	23,997	4,996	69,692,947	13,950	7,744	135,636,663	17,515
TOTAL	85,946	2,873,026,813	33,428	64,473	1,508,959,125	23,405	150,419	4,381,985,938	29,132

Graph XIII-11
Pensioner Average Benefits

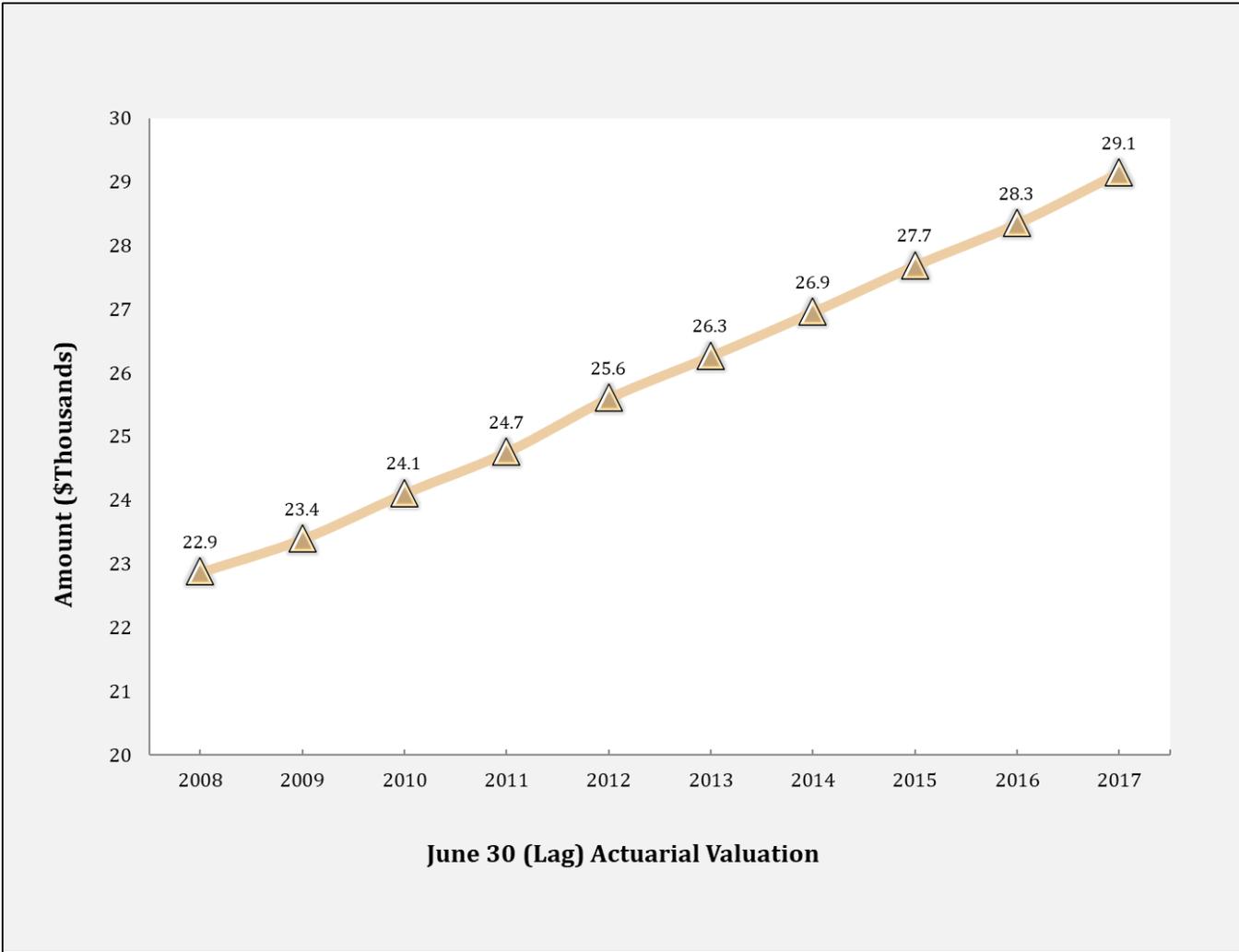


Table XIII-12
Reconciliation of Pensioner and Beneficiary Data

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 ¹	Number	Annual Allowances	Number	Annual Allowances ²		
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
2017	8,756	329,831,284	5,851	127,341,967	150,419	4,381,985,938	4.8%	29,132

¹ Amounts shown include changes due to benefit finalization, changes in benefit type (e.g. Service to Accidental Disability), COLA increases, and other changes.

² 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

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
ABO	Accumulated Benefit Obligation
ACCNY	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
ITHP	Increased-Take-Home-Pay
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
PVFNC	Present Value of Future Normal Costs
PVFS	Present Value of Future Salary
UAL	Unfunded Accrued Liability
UIR	Unexpected Investment Return
VSF	Variable Supplements Fund
WTC	World Trade Center