



# **Fiscal Year 2022 Actuarial Valuation Report for the New York City Employees' Retirement System**

*JUNE 30, 2020 (LAG) ACTUARIAL VALUATION*

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

**2022**



## OFFICE OF THE ACTUARY

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**MICHAEL J. SAMET**  
INTERIM CHIEF ACTUARY

September 2, 2022

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

Re: Fiscal Year 2022 Actuarial Valuation Report (Report)

Dear Trustees:

This Report presents the results of the June 30, 2020 (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). This valuation, known as the June 30, 2020 (Lag) valuation, forms the basis for determining the statutorily-required contribution (Statutory Contribution) of \$3,831,464,423 for Fiscal Year 2022 (i.e., for the period beginning July 1, 2021 and ending June 30, 2022). It is not intended, nor necessarily suitable, for other purposes. Calculations made for other purposes may differ significantly from those shown herein.

Results of the June 30, 2019 (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, 2020 (Lag) and June 30, 2019 (Lag) actuarial valuations are based upon census data as of those dates submitted by the Plan's administrative staff and the employers' payroll facilities. Financial information was provided by NYCERS and the Office of the Comptroller as of June 30, 2020 and June 30, 2019.

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; however, continued compliance has been presumed for the Older Workers Benefit Protection Act (OWBPA).

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 actuarial assumptions and methods are unchanged from the prior valuation.

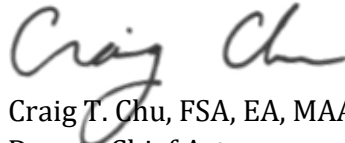
This Report does not present Governmental Accounting Standards Board (GASB) results. The Office of the Actuary will publish the Fiscal Year 2022 GASB67 and GASB68 results in September 2022, which will be available on the website of the Office of the Actuary ([www.nyc.gov/actuary](http://www.nyc.gov/actuary)).

The undersigned actuaries are Fellows of the Society of Actuaries and Members of the American Academy of Actuaries. In addition, Craig T. Chu is an Enrolled Actuary under the Employee Retirement Income Security Act of 1974 and a Fellow of the Conference of Consulting Actuaries. We are members of NYCERS but do not believe it impairs our objectivity, and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. To the best of our 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,



Michael J. Samet, FSA, MAAA  
Interim Chief Actuary



Craig T. Chu, FSA, EA, MAAA, FCA  
Deputy Chief Actuary

MJS/eh

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## SECTION I – EXECUTIVE SUMMARY

This Report presents the results of the June 30, 2020 (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 2022 (i.e., July 1, 2021 to June 30, 2022),
- 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 for Fiscal Year 2020 as determined by the Actuary in a letter dated August 28, 2020 to the Comptroller's Office. 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, 2020 (Lag) actuarial valuation and, for comparative purposes, the June 30, 2019 (Lag) actuarial valuation.

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM		
SUMMARY OF VALUATION RESULTS		
Valuation Date	June 30, 2020 (Lag)	June 30, 2019 (Lag)
Fiscal Year	2022	2021
<b>Funded Status</b>		
1. Accrued Liability <sup>1</sup>	\$ 91,942,980,829	\$ 89,230,195,746
2. Actuarial Value of Assets (AVA) <sup>2</sup>	75,494,821,185	72,209,055,228
3. Unfunded Accrued Liability (AVA Basis) (1. - 2.)	\$ 16,448,159,644	\$ 17,021,140,518
4. Market Value of Assets (MVA)	69,892,388,000	68,524,124,000
5. Unfunded Accrued Liability (MVA Basis) (1. - 5.)	\$ 22,050,592,829	\$ 20,706,071,746
6. Funded Ratio (MVA Basis) (5. / 1.)	76.0%	76.8%
<b>Contribution<sup>3</sup></b>		
1. Normal Cost	\$ 1,602,903,074	\$ 1,605,732,551
2. Amortization of Unfunded Accrued Liability	2,141,731,450	2,065,260,898
3. Administrative Expenses	86,829,899	91,904,818
4. Interest on Late Employer Contributions	0	0
5. Actuarial Contribution (1. + 2. + 3. + 4.)	\$ 3,831,464,423	\$ 3,762,898,267
6. Statutory Contribution (5)	\$ 3,831,464,423	\$ 3,762,898,267
<b>Participant Data</b>		
1. Active Members		
a. Number	191,237	191,501
b. Annual Salary <sup>4</sup>	\$ 15,289,347,449	\$ 14,981,461,175
c. Average Salary	\$ 79,950	\$ 78,232
2. Terminated Nonvested Members/Actives Off Payroll <sup>5</sup>	32,027	31,273
3. Deferred Vested Members	23,034	21,788
4. Retirees and Beneficiaries		
a. Number	159,906	157,153
b. Total Annual Benefits	\$ 5,248,533,890	\$ 5,019,331,388
c. Average Annual Benefit	\$ 32,823	\$ 31,939

<sup>1</sup> Includes Unfunded Accrued Liability for VSFs.

<sup>2</sup> Includes adjustments for receivable contributions.

<sup>3</sup> Includes results for VSFs.

<sup>4</sup> Salaries shown are base salary plus assumed overtime paid and reflect certain salary increases with retroactive effective dates, if any, that are not yet reflected in census data.

<sup>5</sup> Actives Off Payroll as of June 30, 2019 (Lag) represents members no longer on payroll, but not otherwise classified.



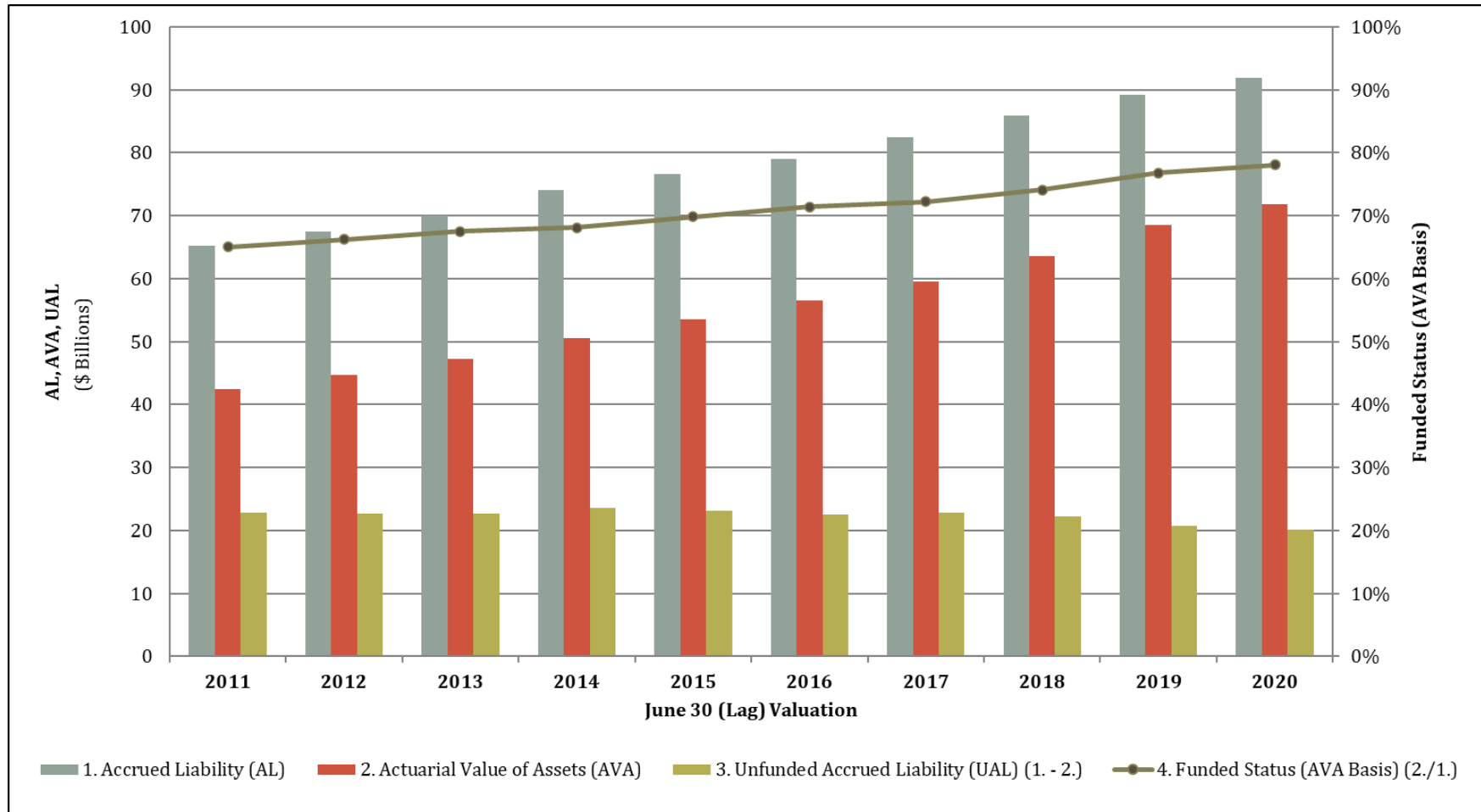
**Table I-2**  
**Actuarial Liabilities**

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM		
ACTUARIAL LIABILITIES BY STATUS		
Valuation Date	June 30, 2020 (Lag)	June 30, 2019 (Lag)
Fiscal Year	2022	2021
<b>Accrued Liability</b>		
1. Active Members	\$ 36,103,335,090	\$ 36,063,771,633
2. Terminated Nonvested Members/Actives Off Payroll <sup>1</sup>	263,047,318	585,381,310
3. Deferred Vested Members	2,830,154,138	2,141,922,616
4. Retirees and Beneficiaries	<u>51,462,922,354</u>	<u>49,113,326,305</u>
5. Accrued Liability Pre-Adjustments (1. to 4.)	\$ 90,659,458,900	\$ 87,904,401,864
6. Actuarial Adjustments <sup>2</sup>	<u>1,283,521,929</u>	<u>1,325,793,882</u>
7. Total Accrued Liability (5. + 6.)	\$ 91,942,980,829	\$ 89,230,195,746
<b>Present Value of Benefits</b>		
1. Active Members	\$ 55,505,665,606	\$ 55,246,741,975
2. Terminated Nonvested Members/Actives Off Payroll <sup>1</sup>	263,047,318	585,381,310
3. Deferred Vested Members	2,830,154,138	2,141,922,616
4. Retirees and Beneficiaries	<u>51,462,922,354</u>	<u>49,113,326,305</u>
5. Present Value of Benefits (1. to 4.)	\$ 110,061,789,416	\$ 107,087,372,206
6. Actuarial Adjustments <sup>2</sup>	<u>1,458,240,439</u>	<u>1,517,306,196</u>
7. Total Present Value of Benefits (5. + 6.)	\$ 111,520,029,855	\$ 108,604,678,402

<sup>1</sup> Actives Off Payroll as of June 30, 2019 (Lag) represents members no longer on payroll, but not otherwise classified.

<sup>2</sup> 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.

The Actuary reset the AVA to the market value as of June 30, 2011 and as of June 30, 2019. Beginning with the June 30, 2020 (Lag) actuarial valuation, the AAVM recognizes investment returns greater or less than expected over a period of five years. In accordance with this AAVM, the Unexpected Investment Returns (UIR) are phased into the AVA at rates of 20% per year.

UIR is defined as the excess of net investment return over the Expected Investment Return (EIR) based on the expected rate of return on the MVA, where EIR is based on beginning-of-fiscal-year MVA and assumes all net cash flow occurs midyear.

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, 2020	June 30, 2019
<b>ASSETS</b>		
Cash	\$ 80,415	\$ 64,699
Receivables		
Investment Securities Sold	\$ 1,725,083	\$ 1,177,445
Member Loans	1,120,769	1,150,018
Accrued Interest and Dividends	359,762	338,691
Receivables due from NYCERS	0	0
Other	0	0
Total Receivables	\$ 3,205,614	\$ 2,666,154
<b>INVESTMENTS AT FAIR VALUE</b>		
Short-Term Investments		
Commercial Paper	\$ 254,826	\$ 608,362
Discount Notes	0	153,810
Short-term Investment Fund	678,945	600,601
U.S. Treasury Bills and Agencies	1,638,571	40,309
Debt Securities		
Bank Loans	408,691	590,699
Corporate and Other	7,559,129	5,899,916
Mortgage Debt Securities	3,966,276	2,429,941
Treasury Inflation Protected Securities	2,714,217	2,387,976
U.S. Government and Agency	6,474,964	8,481,413
Equity Securities		
Domestic Equity	21,794,066	20,979,595
International Equity	11,847,317	13,129,539
Collective Trust Funds		
Bank Loans	624,967	653,292
Corporate and Other	14,051	0
Domestic Equity	1,253	0
International Equity	0	0
Mortgage Debt Securities	464,167	435,441
Opportunistic Fixed Income	219,577	210,496
Treasury Inflation Protected Securities	0	736,640
U.S. Government and Agency	0	0
Alternative Investments		
Infrastructure	785,629	654,868
Opportunistic Fixed Income	2,145,127	1,927,058
Private Equity	4,660,981	4,657,470
Private Real Estate	3,802,066	3,564,548
Hedge Fund	3,735	6,979
Collateral From Securities Lending	6,007,306	6,406,505
Total Investments	\$ 76,065,861	\$ 74,555,459
<b>OTHER ASSETS</b>	137,428	128,259
<b>TOTAL ASSETS</b>	<b>\$ 79,489,318</b>	<b>\$ 77,414,571</b>
<b>LIABILITIES</b>		
Accounts Payable	\$ 126,800	\$ 464,094
Payables for Investment Securities Purchased	3,091,164	1,406,303
Accrued Benefits Payable	357,557	454,936
Amount due to Variable Supplements Funds	5,051	4,581
Transferable Earnings due from QPP to COVSF	8,000	153,411
Due to other Retirement Systems	1,052	617
Security Lending	6,007,306	6,406,505
<b>TOTAL LIABILITIES</b>	<b>\$ 9,596,930</b>	<b>\$ 8,890,447</b>
<b>PLAN ASSETS HELD IN TRUST FOR PENSION BENEFITS</b>	<b>\$ 69,892,388</b>	<b>\$ 68,524,124</b>

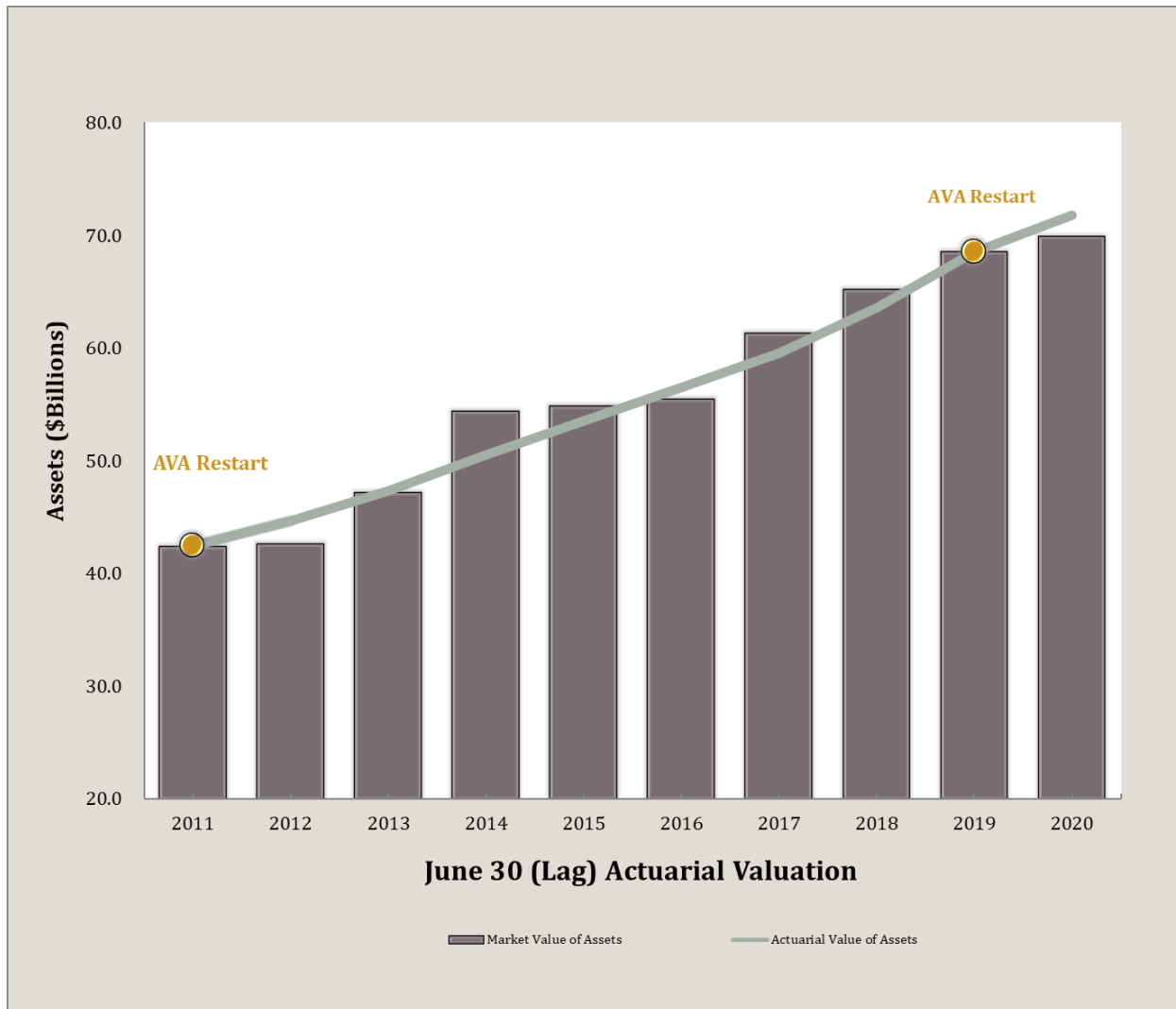
**Table II-2**  
**Statement of Changes in Plan Net Assets**

(\$ Thousands)		
	June 30, 2020	June 30, 2019
<b>ADDITIONS</b>		
Contributions		
Member Contributions	\$ 563,893	\$ 547,807
Employer Contributions	<u>3,727,558</u>	<u>3,692,711</u>
<b>Total Contributions</b>	\$ 4,291,451	\$ 4,240,518
Investment Income (Loss)		
Interest Income	\$ 904,771	\$ 988,963
Dividend Income	933,200	914,719
Net Appreciation (Depreciation) in Fair Value	<u>766,682</u>	<u>2,728,030</u>
Total Investment Income (Loss)	\$ 2,604,653	\$ 4,631,712
Less Investment Expenses	222,501	240,544
Net Income (Loss)	\$ 2,382,152	\$ 4,391,168
Securities Lending Transactions		
Securities Lending Income	\$ 24,500	\$ 45,331
Securities Lending Fees	<u>2,336</u>	<u>4,573</u>
Net Securities Lending Income (Loss)	\$ 22,164	\$ 40,758
<b>Net Investment Income (Loss)</b>	\$ 2,404,316	\$ 4,431,926
Other		
Other Income	<u>3,317</u>	<u>3,258</u>
<b>TOTAL ADDITIONS</b>	\$ 6,699,084	\$ 8,675,702
<b>DEDUCTIONS</b>		
Benefit Payments and Withdrawals	\$ 5,202,251	\$ 5,152,588
Payables to other Retirement Systems	9,087	9,769
Amount due to Variable Supplements Funds	10,111	10,489
Transferable Earnings due from QPP to COVSF	31,704	103,411
Administrative Expenses	<u>77,667</u>	<u>82,073</u>
<b>TOTAL DEDUCTIONS</b>	\$ 5,330,820	\$ 5,358,330
<b>NET INCREASE (DECREASE) IN PLAN NET ASSETS</b>	\$ 1,368,264	\$ 3,317,372
<b>PLAN NET ASSETS HELD IN TRUST FOR PENSION BENEFITS</b>		
Beginning of Year	\$ 68,524,124	\$ 65,206,752
End of Year	\$ 69,892,388	\$ 68,524,124

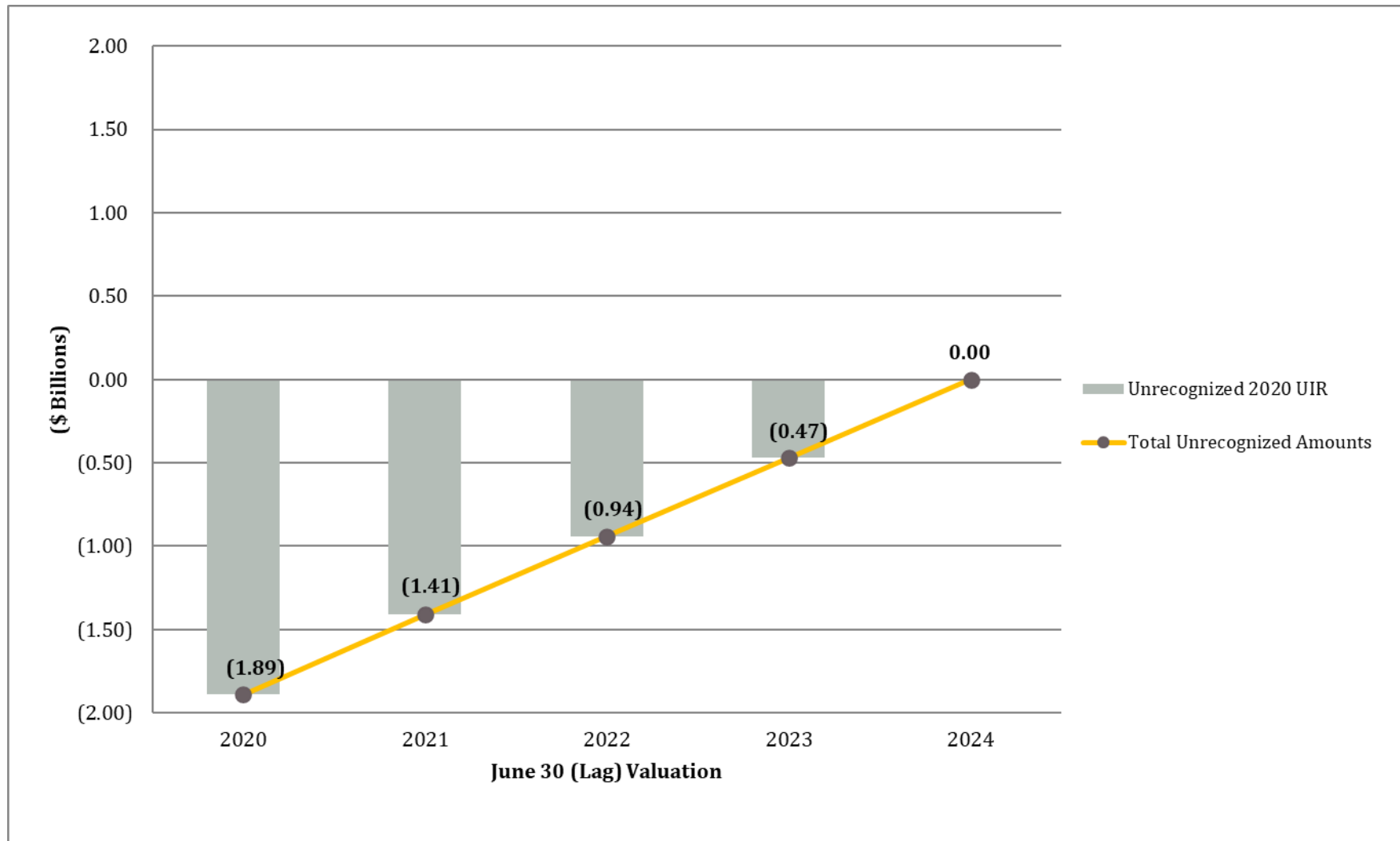
**Table II-3**  
**Development of Actuarial Value of Assets**

(\$ Thousands)		
Valuation Date	June 30, 2020	June 30, 2019
1. Market Value of Assets (MVA)		
a. Beginning of Year (BOY)	\$ 68,524,124	\$ 65,206,752
b. End of Year (EOY)	\$ 69,892,388	\$ 68,524,124
2. Contributions		
a. Employee	\$ 563,893	\$ 547,807
b. Employer	3,727,558	3,692,711
c. Total Contributions	\$ 4,291,451	\$ 4,240,518
3. Net Investment Income		
a. Investment Income	\$ 2,649,983	\$ 4,672,470
b. Investment Expenses	(245,667)	(240,544)
c. Total Net Investment Income	\$ 2,404,316	\$ 4,431,926
4. Benefit Payments and Other Cash Flow	\$ (5,295,799)	\$ (5,251,661)
5. Preliminary Transferable Earnings from NYCERS to COVSF - EOY	\$ (31,704)	\$ (103,411)
6. Net Cash Flow (2.c. + 4. + 5.)	\$ (1,036,052)	\$ (1,114,554)
7. Expected Investment Return (EIR)	\$ 4,762,131	\$ 4,431,926
8. Unexpected Investment Return (UIR) (3.c. - 7.)	\$ (2,357,815)	\$ 0
9. Preliminary AVA @ EOY		
a. AVA @ BOY (prior to corridor limit)	\$ 68,524,124	\$ 65,206,752
b. Net Cash Flow (6.)	(1,036,052)	(1,114,554)
c. Expected Investment Return (7.)	4,762,131	4,431,926
d. Phase in of UIR		
20% * UIR for prior year	(471,563)	N/A
20% * UIR for second prior year	N/A	N/A
20% * UIR for third prior year	N/A	N/A
20% * UIR for fourth prior year	N/A	N/A
20% * UIR for fifth prior year	N/A	N/A
Total	\$ (471,563)	N/A
e. Lower Corridor Bound (80% of 1.b.)	55,913,910	N/A
f. Upper Corridor Bound (120% of 1.b.)	83,870,866	N/A
g. Preliminary AVA (9.a. + 9.b. + 9.c. + 9.d., bounded by e. and f.)	\$ 71,778,640	\$ 68,524,124
10. Receivable Amounts		
a. PV 1-year Adjusted Employer Contribution	\$ 3,637,731	\$ 3,601,896
b. PV Future Administrative Expense Reimbursement	78,450	83,035
c. Total	\$ 3,716,181	\$ 3,684,931
<b>11. Final AVA (9.g. + 10.c.)</b>	<b>\$ 75,494,821</b>	<b>\$ 72,209,055</b>

Graph II-4  
Historical Market and Actuarial Value of Assets



Graph II-5  
Future Recognition of UIR as of June 30, 2020





## SECTION III – CONTRIBUTION DEVELOPMENT AND HISTORY

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

**Table III-1** shows the components of the Fiscal Year 2022 and the Fiscal Year 2021 Statutory Contributions.

COMPONENTS OF CURRENT AND PRIOR FISCAL YEAR STATUTORY CONTRIBUTIONS		
Valuation Date	June 30, 2020 (Lag)	June 30, 2019 (Lag)
Fiscal Year	2022	2021
Normal Cost <sup>1</sup>	\$ 1,602,903,074	\$ 1,605,732,551
Amortization of Unfunded Accrued Liability		
- Initial UAL	2,039,024,376	1,972,099,363
- 2011 (Gain)/Loss	(29,666,881)	(28,843,284)
- 2012 (Gain)/Loss	(7,384,090)	(6,705,254)
- 2013 (Gain)/Loss	9,838,578	11,633,206
- 2014 (Gain)/Loss	(154,087,109)	(152,065,379)
- 2014 Assumption Change <sup>2</sup>	233,084,500	232,084,732
- 2015 (Gain)/Loss	(50,393,432)	(47,048,222)
- 2016 (Gain)/Loss	(30,332,576)	(29,047,826)
- 2016 Assumption Change <sup>3</sup>	1,925,414	1,925,414
- 2016 SADB	2,458,219	2,458,219
- 2016 SADB Sanitation Retirees	0	10,433,043
- 2016 SADB Sanitation Actives	667,208	667,208
- 2017 (Gain)/Loss	(3,085,885)	(2,117,957)
- 2017 COVSF Escalation Offset	154,027	154,027
- 2017 Assumption Change <sup>4</sup>	(98,976,686)	(98,121,022)
- 2017 Method Change <sup>5</sup>	81,714,634	81,105,543
- 2017 Census Data Update	223,201,197	222,285,839
- 2017 OTB - City of New York portion	6,367,440	6,367,440
- 2017 OTB - State of New York portion	6,367,440	6,367,440
- 2018 (Gain)/Loss	(40,976,408)	(38,953,294)
- 2019 (Gain)/Loss	14,220,148	16,479,183
- 2019 Assumption Change <sup>5</sup>	(31,267,188)	(31,197,928)
- 2019 Method Change <sup>5</sup>	(67,742,133)	(67,616,079)
- 2019 OTB - State of New York portion	2,916,486	2,916,486
- 2020 (Gain)/Loss	15,570,494	N/A
- 2020 OWBPA	18,133,677	N/A
	\$ 2,141,731,450	\$ 2,065,260,898
Administrative Expenses	86,829,899	91,904,818
Interest on Late Employer Contributions	0	0
<b>Total Contribution to the New York City Employees' Retirement System</b>	<b>\$ 3,831,464,423</b>	<b>\$ 3,762,898,267</b>

N/A = Not Applicable

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

<sup>2</sup> Change in post-retirement mortality assumptions including the change to the mortality improvement scale MP-2015.

<sup>3</sup> Change in Accidental rates for Tier 3 22-year plan members of Sanitation and Correction using a more empirical methodology.

<sup>4</sup> 2019 A&M.

<sup>5</sup> Revised 2021 A&M.

**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 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 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 fewer 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 UAL Bases as of June 30, 2020.

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, 2020
Initial UAL	6/30/10	\$ 20,194,114,494	22	\$ 2,039,024,376	11	\$ 16,871,517,167
(Gain)/Loss	6/30/11	\$ (250,820,523)	15	\$ (29,666,881)	5	\$ (117,593,897)
(Gain)/Loss	6/30/12	\$ (62,429,250)	15	\$ (7,384,090)	6	\$ (34,025,791)
(Gain)/Loss	6/30/13	\$ 83,180,893	15	\$ 9,838,578	7	\$ 51,259,223
(Gain)/Loss	6/30/14	\$ (1,302,739,151)	15	\$ (154,087,109)	8	\$ (889,494,349)
Assumption Change <sup>1</sup>	6/30/14	\$ 2,328,933,026	20	\$ 233,084,500	13	\$ 1,883,240,238
(Gain)/Loss	6/30/15	\$ (426,054,441)	15	\$ (50,393,432)	9	\$ (317,403,672)
(Gain)/Loss	6/30/16	\$ (256,448,676)	15	\$ (30,332,576)	10	\$ (205,956,754)
Assumption Change <sup>2</sup>	6/30/16	\$ 19,238,347	20	\$ 1,925,414	15	\$ 16,953,181
SADB	6/30/16	\$ 20,783,169	15	\$ 2,458,219	10	\$ 16,691,193
SADB Sanitation Actives	6/30/16	\$ 4,530,309	11	\$ 667,208	6	\$ 3,074,486
(Gain)/Loss	6/30/17	\$ (26,089,812)	15	\$ (3,085,885)	11	\$ (22,370,331)
COVSF Escalation Offset	6/30/17	\$ 1,497,838	19	\$ 154,027	15	\$ 1,356,205
Assumption Change <sup>3</sup>	6/30/17	\$ (988,954,970)	20	\$ (98,976,686)	16	\$ (903,896,664)
Method Change <sup>3</sup>	6/30/17	\$ 816,476,035	20	\$ 81,714,634	16	\$ 746,252,348
Census Data Update	6/30/17	\$ 730,881,413	5	\$ 223,201,197	1	\$ 201,660,506
OTB - City of New York Portion	6/30/17	\$ 53,833,920	15	\$ 6,367,440	11	\$ 46,159,113
OTB - State of New York Portion	6/30/17	\$ 53,833,920	15	\$ 6,367,440	11	\$ 46,159,113
(Gain)/Loss	6/30/18	\$ (346,437,644)	15	\$ (40,976,408)	12	\$ (314,636,741)
(Gain)/Loss	6/30/19	\$ 120,225,130	15	\$ 14,220,148	13	\$ 114,893,755
Assumption Change <sup>4</sup>	6/30/19	\$ (312,415,373)	20	\$ (31,267,188)	18	\$ (304,057,321)
Method Change <sup>4</sup>	6/30/19	\$ (707,283,121)	20	\$ (67,742,133)	18	\$ (691,304,145)
OTB - State of New York Portion	6/30/19	\$ 24,657,612	15	\$ 2,916,486	13	\$ 23,564,172
(Gain)/Loss	6/30/20	\$ 131,641,734	15	\$ 15,570,494	14	\$ 131,641,734
OWBPA	6/30/20	\$ 94,476,876	8	\$ 18,133,677	7	\$ 94,476,876

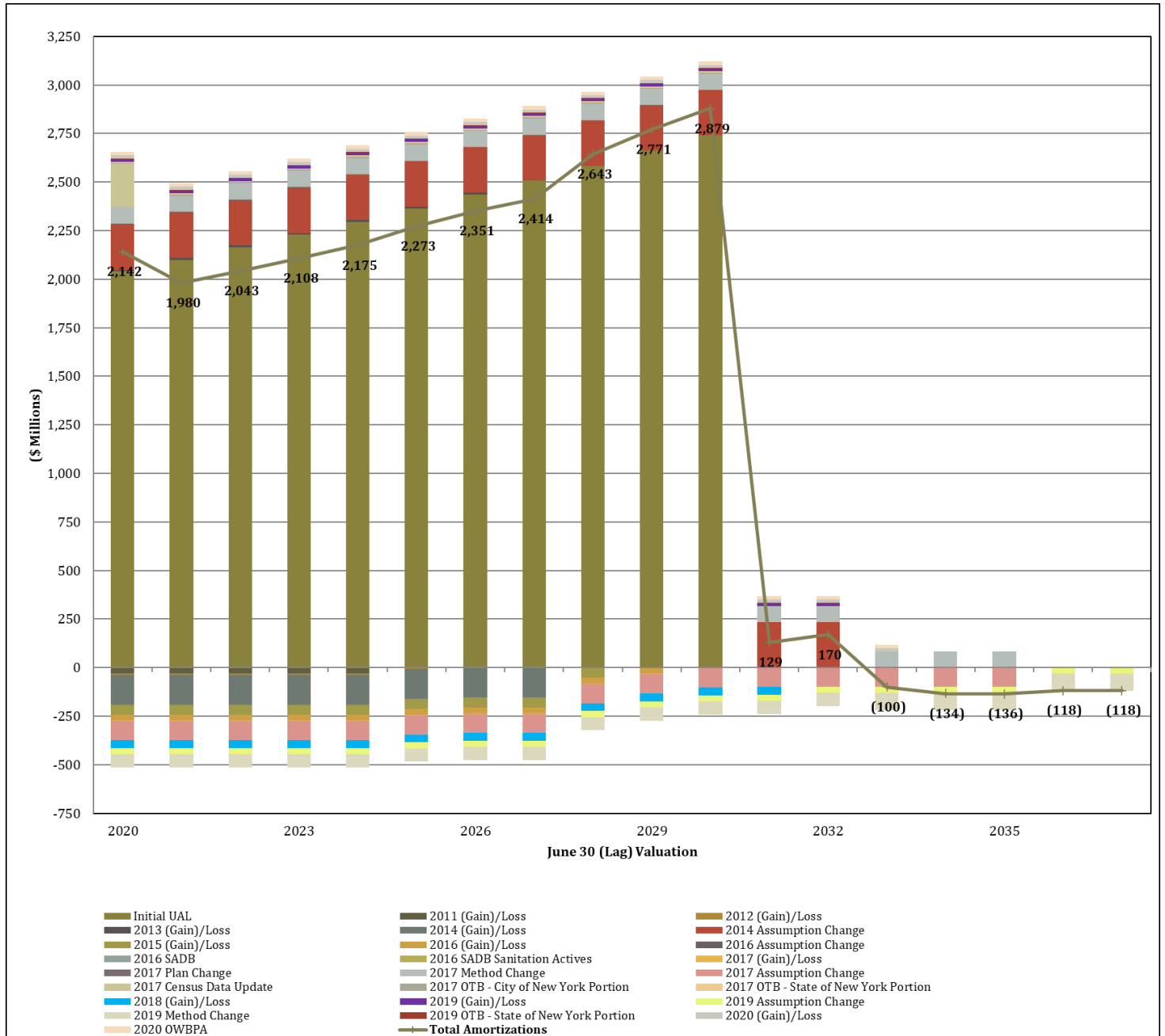
<sup>1</sup> Change in post-retirement mortality assumptions including the change to the mortality improvement scale MP-2015.

<sup>2</sup> Change in Accidental rates for Tier 3 22-year plan members of Sanitation and Correction using a more empirical methodology.

<sup>3</sup> 2019 A&M.

<sup>4</sup> Revised 2021 A&M.

**Graph III-3**  
**Remaining UAL Amortizations as of June 30, 2020**



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

<b>June 30 (Lag) Valuation Date</b>	<b>2020</b>	<b>2019</b>
Unfunded Accrued Liability, June 30, 2010	\$ 16,871,517,167	\$ 17,556,357,817
2011 (Gain)/Loss	(117,593,897)	(136,704,631)
2012 (Gain)/Loss	(34,025,791)	(38,471,273)
2013 (Gain)/Loss	51,259,223	56,794,897
2014 (Gain)/Loss	(889,494,349)	(970,519,605)
2014 Assumption Change	1,883,240,238	1,970,627,597
2015 (Gain)/Loss	(317,403,672)	(342,169,010)
2016 (Gain)/Loss	(205,956,754)	(219,888,187)
2016 Assumption Change	16,953,181	17,583,690
2016 SADB	16,691,193	17,820,227
2017 SADB Sanitation Retirees	0	9,426,171
2016 SADB Sanitation Actives	3,074,486	3,476,168
2017 (Gain)/Loss	(22,370,331)	(23,694,926)
2017 Removal of COVSF Escalation Offset	1,356,205	1,406,644
2017 Assumption Change	(903,896,664)	(934,187,887)
2017 Method Change	746,252,348	771,260,622
2017 Census Data Update	201,660,506	390,128,268
2017 OTB - City of New York Portion	46,159,113	48,892,289
2017 OTB - State of New York Portion	46,159,113	48,892,289
2018 (Gain)/Loss	(314,636,741)	(331,074,889)
2019 (Gain)/Loss	114,893,755	120,225,130
2019 Assumption Change	(304,057,321)	(312,415,373)
2019 Method Change	(691,304,145)	(707,283,121)
2019 OTB - State of New York Portion	23,564,172	24,657,612
2020 (Gain)/Loss	131,641,734	
2020 OWBPA	94,476,876	
<b>Sum of Outstanding Amortization Amounts</b>	<b>\$ 16,448,159,644</b>	<b>\$ 17,021,140,518</b>

<b>June 30 (Lag) Valuation Date</b>	<b>2020</b>	<b>2019</b>
1. Accrued Liability (AL)	\$ 91,942,980,829	\$ 89,230,195,746
2. Actuarial Value of Assets (AVA) <sup>1</sup>	75,494,821,185	72,209,055,228
<b>3. Unfunded Accrued Liability (UAL) (1. - 2.)</b>	<b>\$ 16,448,159,644</b>	<b>\$ 17,021,140,518</b>

<sup>1</sup> Includes adjustments for receivable contributions.

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

**Table III-5** compares the Statutory Contributions to the Actuarial Contributions for Fiscal Years 2013 through 2022.

(\$ Thousands)			
<b>Fiscal Year Ended June 30</b>	<b>Actuarial Contribution Certified</b>	<b>Statutory Contribution Contributed</b>	<b>Percentage of Actuarial Contribution Contributed</b>
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%
2020	3,726,701	3,713,825	99.7%
2021	3,762,898	3,762,898	100.0%
2022	3,831,464	3,831,464	100.0%

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

**Table III-6** shows the City Rates defined to be the contributions as a percentage of salary for the Fiscal Years 2013 through 2022.

CITY RATES (\$ Thousands)			
Fiscal Year Ended June 30	Actuarial Contribution	Salary <sup>1</sup> at Beginning of Fiscal Year	City Rate
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%
2020	3,726,701	14,164,068	26.3%
2021	3,762,898	14,784,245	25.5%
2022	3,831,464	15,098,560	25.4%

<sup>1</sup>Includes assumed overtime paid, 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, 2020 (Lag)						
Fiscal Year	2022						
Obligor	NYC Transit Authority: CP Engineers	NYC Transit Authority: Transit Police	NYC Transit Authority: Others	NYC Transit Authority Subtotal	NYC Housing Authority: Housing Police	NYC Housing Authority: Others	NYC Housing Authority Subtotal
<b>Contribution</b>							
1. Normal Cost	\$ 7,012,244	\$ 0	\$ 379,103,046	\$ 386,115,290	\$ 0	\$ 52,346,925	\$ 52,346,925
2. Amortization of Unfunded Accrued Liability	24,256,151	23,840,663	375,912,082	424,008,896	10,260,205	99,004,419	109,264,624
3. Administrative Expenses	412,342	386,904	16,970,781	17,770,027	162,030	4,696,506	4,858,536
4. Interest on Late Employer Contributions	0	0	0	0	0	0	0
5. Actuarial Contribution (1. + 2. + 3. + 4.)	\$ 31,680,737	\$ 24,227,567	\$ 771,985,909	\$ 827,894,213	\$ 10,422,235	\$ 156,047,850	\$ 166,470,085



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

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM							
SUMMARY OF EMPLOYER CONTRIBUTION BY OBLIGOR							
Valuation Date	June 30, 2020 (Lag)						
Fiscal Year	2022						
Obligor	NYC Transit Authority Subtotal	NYC Housing Authority Subtotal	NYC Health and Hospitals Corporation	Triborough Bridge and Tunnel Authority	NYC Off-Track Betting Corporation	NYC Housing Development Corporation	NYC School Construction Authority
<b>Contribution</b>							
1. Normal Cost	\$ 386,115,290	\$ 52,346,925	\$ 223,421,448	\$ 12,681,074	\$ 0	\$ 1,005,486	\$ 825,086
2. Amortization of Unfunded Accrued Liability	424,008,896	109,264,624	260,640,214	22,111,121	23,914,024	1,545,507	3,153,191
3. Administrative Expenses	17,770,027	4,858,536	14,594,846	635,934	324,700	31,636	28,430
4. Interest on Late Employer Contributions	0	0	0	0	0	0	0
5. Actuarial Contribution (1. + 2. + 3. + 4.)	\$ 827,894,213	\$ 166,470,085	\$ 498,656,508	\$ 35,428,129	\$ 24,238,724	\$ 2,582,629	\$ 4,006,707
Obligor	State Judiciary Employees	NYC Municipal Water Authority	CUNY Senior Colleges	Correction	Sanitation	All Others (i.e. New York City)	Total
<b>Contribution</b>							
1. Normal Cost	\$ 0	\$ 105,137	\$ 24,566,824	\$ 226,141,639	\$ 119,924,940	\$ 555,769,225	\$ 1,602,903,074
2. Amortization of Unfunded Accrued Liability	1,331,801	106,363	13,983,362	263,267,061	126,963,882	891,441,404	2,141,731,450
3. Administrative Expenses	12,398	2,993	1,880,655	5,218,721	4,103,111	37,367,912	86,829,899
4. Interest on Late Employer Contributions	0	0	0	0	0	0	0
5. Actuarial Contribution (1. + 2. + 3. + 4.)	\$ 1,344,199	\$ 214,493	\$ 40,430,841	\$ 494,627,421	\$ 250,991,933	\$ 1,484,578,541	\$ 3,831,464,423

**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, 2020 (Lag)						
Fiscal Year	2022						
Obligor	NYC Transit Authority: CP Engineers	NYC Transit Authority: Transit Police	NYC Transit Authority: Others	NYC Transit Authority Subtotal	NYC Housing Authority: Housing Police	NYC Housing Authority: Others	NYC Housing Authority Subtotal
<b>Accrued Liability</b>							
1. Active Members	\$ 287,505,651	\$ 0	\$ 7,797,483,916	\$ 8,084,989,567	\$ 0	\$ 1,735,396,603	\$ 1,735,396,603
2. Terminated Nonvested Members	819,744	0	39,938,077	40,757,821	0	10,066,492	10,066,492
3. Deferred Vested Members	15,016,033	0	379,023,501	394,039,534	0	191,398,653	191,398,653
4. Retirees and Beneficiaries	484,524,523	443,611,923	11,626,873,764	12,555,010,210	197,149,864	2,552,907,487	2,750,057,351
5. Accrued Liability Pre-Adjustments (1. to 4.)	\$ 787,865,951	\$ 443,611,923	\$ 19,843,319,258	\$ 21,074,797,132	\$ 197,149,864	\$ 4,489,769,235	\$ 4,686,919,099
6. Actuarial Adjustments <sup>1</sup>	0	44,735,729	17,000,000	61,735,729	30,417,915	0	30,417,915
7. Total Accrued Liability (5. + 6.)	\$ 787,865,951	\$ 488,347,652	\$ 19,860,319,258	\$ 21,136,532,861	\$ 227,567,779	\$ 4,489,769,235	\$ 4,717,337,014
<b>Present Value of Future Benefits</b>							
1. Active Members	\$ 341,582,499	\$ 0	\$ 12,443,059,342	\$ 12,784,641,841	\$ 0	\$ 2,363,774,489	\$ 2,363,774,489
2. Terminated Nonvested Members	819,744	0	39,938,077	40,757,821	0	10,066,492	10,066,492
3. Deferred Vested Members	15,016,033	0	379,023,501	394,039,534	0	191,398,653	191,398,653
4. Retirees and Beneficiaries	484,524,523	443,611,923	11,626,873,764	12,555,010,210	197,149,864	2,552,907,487	2,750,057,351
5. Present Value of Benefits (1. to 4.)	\$ 841,942,799	\$ 443,611,923	\$ 24,488,894,684	\$ 25,774,449,406	\$ 197,149,864	\$ 5,118,147,121	\$ 5,315,296,985
6. Actuarial Adjustments <sup>1</sup>	0	44,735,729	17,000,000	61,735,729	30,417,915	0	30,417,915
7. Total Present Value of Future Benefits (5. + 6.)	\$ 841,942,799	\$ 488,347,652	\$ 24,505,894,684	\$ 25,836,185,135	\$ 227,567,779	\$ 5,118,147,121	\$ 5,345,714,900

<sup>1</sup> 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, 2020 (Lag)						
Fiscal Year	2022						
Obligor	NYC Transit Authority Subtotal	NYC Housing Authority Subtotal	NYC Health and Hospitals Corporation	Triborough Bridge and Tunnel Authority	NYC Off-Track Betting Corporation	NYC Housing Development Corporation	NYC School Construction Authority
<b>Accrued Liability</b>							
1. Active Members	\$ 8,084,989,567	\$ 1,735,396,603	\$ 4,848,438,655	\$ 355,369,861	\$ 0	\$ 25,802,428	\$ 32,809,266
2. Terminated Nonvested Members	40,757,821	10,066,492	73,340,088	3,155,482	815,543	348,509	36,414
3. Deferred Vested Members	394,039,534	191,398,653	467,855,629	23,794,822	28,050,689	1,839,534	1,019,162
4. Retirees and Beneficiaries	12,555,010,210	2,750,057,351	6,847,734,139	618,821,138	268,256,899	18,640,922	29,469,513
5. Accrued Liability Pre-Adjustments (1. to 4.)	\$ 21,074,797,132	\$ 4,686,919,099	\$ 12,237,368,511	\$ 1,001,141,303	\$ 297,123,131	\$ 46,631,393	\$ 63,334,355
6. Actuarial Adjustments <sup>1</sup>	61,735,729	30,417,915	0	2,000,000	115,882,397	0	0
7. Total Accrued Liability (5. + 6.)	\$ 21,136,532,861	\$ 4,717,337,014	\$ 12,237,368,511	\$ 1,003,141,303	\$ 413,005,528	\$ 46,631,393	\$ 63,334,355
<b>Present Value of Future Benefits</b>							
1. Active Members	\$ 12,784,641,841	\$ 2,363,774,489	\$ 7,532,146,544	\$ 484,852,045	\$ 0	\$ 35,911,222	\$ 40,488,942
2. Terminated Nonvested Members	40,757,821	10,066,492	73,340,088	3,155,482	815,543	348,509	36,414
3. Deferred Vested Members	394,039,534	191,398,653	467,855,629	23,794,822	28,050,689	1,839,534	1,019,162
4. Retirees and Beneficiaries	12,555,010,210	2,750,057,351	6,847,734,139	618,821,138	268,256,899	18,640,922	29,469,513
5. Present Value of Benefits (1. to 4.)	\$ 25,774,449,406	\$ 5,315,296,985	\$ 14,921,076,400	\$ 1,130,623,487	\$ 297,123,131	\$ 56,740,187	\$ 71,014,031
6. Actuarial Adjustments <sup>1</sup>	61,735,729	30,417,915	0	2,000,000	115,882,397	0	0
7. Total Present Value of Future Benefits (5. + 6.)	\$ 25,836,185,135	\$ 5,345,714,900	\$ 14,921,076,400	\$ 1,132,623,487	\$ 413,005,528	\$ 56,740,187	\$ 71,014,031
Obligor	State Judiciary Employees	NYC Municipal Water Authority	CUNY Senior Colleges	Correction	Sanitation	All Others (i.e. New York City)	Total
<b>Accrued Liability</b>							
1. Active Members	\$ 0	\$ 3,450,684	\$ 563,779,257	\$ 2,451,188,799	\$ 2,167,109,626	\$ 15,835,000,344	\$ 36,103,335,090
2. Terminated Nonvested Members	55,500	11,539	8,656,191	8,177,436	2,016,381	115,609,922	263,047,318
3. DeferRed Vested Members	0	415,373	39,234,836	215,335,170	37,249,236	1,429,921,500	2,830,154,138
4. Retirees and Beneficiaries	10,437,213	636,141	459,821,766	6,746,958,496	4,363,493,057	16,793,585,509	51,462,922,354
5. Accrued Liability Pre-Adjustments (1. to 4.)	\$ 10,492,713	\$ 4,513,737	\$ 1,071,492,050	\$ 9,421,659,901	\$ 6,569,868,300	\$ 34,174,117,275	\$ 90,659,458,900
6. Actuarial Adjustments <sup>1</sup>	0	0	0	983,485,888	90,000,000	0	1,283,521,929
7. Total Accrued Liability (5. + 6.)	\$ 10,492,713	\$ 4,513,737	\$ 1,071,492,050	\$ 10,405,145,789	\$ 6,659,868,300	\$ 34,174,117,275	\$ 91,942,980,829
<b>Present Value of Future Benefits</b>							
1. Active Members	\$ 0	\$ 4,730,733	\$ 858,193,825	\$ 4,674,434,715	\$ 3,545,077,837	\$ 23,181,413,413	\$ 55,505,665,606
2. Terminated Nonvested Members	55,500	11,539	8,656,191	8,177,436	2,016,381	115,609,922	263,047,318
3. Deferred Vested Members	0	415,373	39,234,836	215,335,170	37,249,236	1,429,921,500	2,830,154,138
4. Retirees and Beneficiaries	10,437,213	636,141	459,821,766	6,746,958,496	4,363,493,057	16,793,585,509	51,462,922,354
5. Present Value of Benefits (1. to 4.)	\$ 10,492,713	\$ 5,793,786	\$ 1,365,906,618	\$ 11,644,905,817	\$ 7,947,836,511	\$ 41,520,530,344	\$ 110,061,789,416
6. Actuarial Adjustments <sup>1</sup>	0	0	0	1,158,204,398	90,000,000	0	1,458,240,439
7. Total Present Value of Future Benefits (5. + 6.)	\$ 10,492,713	\$ 5,793,786	\$ 1,365,906,618	\$ 12,803,110,215	\$ 8,037,836,511	\$ 41,520,530,344	\$ 111,520,029,855

<sup>1</sup> 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, 2020 (Lag)						
Fiscal Year	2022						
Obligor	NYC Transit Authority: CP Engineers	NYC Transit Authority: Transit Police	NYC Transit Authority: Others	NYC Transit Authority Subtotal	NYC Housing Authority: Housing Police	NYC Housing Authority: Others	NYC Housing Authority Subtotal
<b>Participant Data</b>							
1. Active Members							
a. Number	676	0	38,444	39,120	0	8,893	8,893
b. Annual Salary <sup>1</sup>	\$ 75,152,381	\$ 0	\$ 3,282,722,992	\$ 3,357,875,373	\$ 0	\$ 627,546,718	\$ 627,546,718
c. Average Salary	\$ 111,172	\$ 0	\$ 85,390	\$ 85,835	\$ 0	\$ 70,566	\$ 70,566
2. Terminated Nonvested Members	46	0	4,634	4,680	0	1,490	1,490
3. Deferred Vested Members	75	0	2,918	2,993	0	1,745	1,745
4. Retirees and Beneficiaries							
a. Number	1,132	1,810	33,396	36,338	758	9,843	10,601
b. Total Annual Benefits	\$ 50,314,899	\$ 61,696,835	\$ 1,197,903,350	\$ 1,309,915,084	\$ 29,035,688	\$ 252,874,851	\$ 281,910,539
c. Average Annual Benefit	\$ 44,448	\$ 34,087	\$ 35,870	\$ 36,048	\$ 38,306	\$ 25,691	\$ 26,593

<sup>1</sup> Salaries shown are base salary plus assumed overtime paid and reflect certain salary increases with retroactive effective dates, if any, that are not yet reflected in census data.

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

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM							
SUMMARY OF PARTICIPANT DATA BY OBLIGOR							
Valuation Date	June 30, 2020(Lag)						
Fiscal Year	2022						
Obligor	NYC Transit Authority Subtotal	NYC Housing Authority Subtotal	NYC Health and Hospitals Corporation	Triborough Bridge and Tunnel Authority	NYC Off-Track Betting Corporation	NYC Housing Development Corporation	NYC School Construction Authority
<b>Participant Data</b>							
1. Active Members							
a. Number	39,120	8,893	31,141	1,175	0	87	68
b. Annual Salary <sup>1</sup>	\$ 3,357,875,373	\$ 627,546,718	\$ 2,462,511,870	\$ 121,311,129	\$ 0	\$ 9,831,658	\$ 9,280,612
c. Average Salary	\$ 85,835	\$ 70,566	\$ 79,076	\$ 103,244	\$ 0	\$ 113,008	\$ 136,480
2. Terminated Nonvested Members	4,680	1,490	6,789	185	101	8	1
3. Deferred Vested Members	2,993	1,745	4,532	128	298	11	8
4. Retirees and Beneficiaries							
a. Number	36,338	10,601	25,815	1,487	1,120	42	56
b. Total Annual Benefits	\$ 1,309,915,084	\$ 281,910,539	\$ 685,882,364	\$ 60,706,155	\$ 28,980,379	\$ 1,762,123	\$ 2,772,083
c. Average Annual Benefit	\$ 36,048	\$ 26,593	\$ 26,569	\$ 40,825	\$ 25,875	\$ 41,955	\$ 49,501
Obligor	State Judiciary Employees	NYC Municipal Water Authority	CUNY Senior Colleges	Correction	Sanitation	All Others (i.e., New York City)	Total
<b>Participant Data</b>							
1. Active Members							
a. Number	0	11	4,474	8,988	7,651	89,629	191,237
b. Annual Salary <sup>1</sup>	\$ 0	\$ 1,209,067	\$ 272,247,991	\$ 887,324,671	\$ 753,710,271	\$ 6,786,498,089	\$ 15,289,347,449
c. Average Salary	\$ 0	\$ 109,915	\$ 60,851	\$ 98,723	\$ 98,511	\$ 75,718	\$ 79,950
2. Terminated Nonvested Members	2	1	1,560	1,959	299	14,952	32,027
3. Deferred Vested Members	0	1	511	653	288	11,866	23,034
4. Retirees and Beneficiaries							
a. Number	56	1	2,253	12,814	10,957	58,366	159,906
b. Total Annual Benefits	\$ 1,940,735	\$ 64,802	\$ 47,588,368	\$ 675,461,546	\$ 441,552,429	\$ 1,709,997,283	\$ 5,248,533,890
c. Average Annual Benefit	\$ 34,656	\$ 64,802	\$ 21,122	\$ 52,713	\$ 40,299	\$ 29,298	\$ 32,823

<sup>1</sup> Salaries shown are base salary plus assumed overtime paid and reflect certain salary increases with retroactive effective dates, if any, that are not yet reflected in census data.

## SECTION V – (GAIN)/LOSS ANALYSIS

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

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM							
DEVELOPMENT OF EXPERIENCE (GAIN) / LOSS							
	AL		AVA		UAL = AL - AVA		
	QPP	VSF	QPP	VSF	QPP	VSF	Total
<b>AL, AVA, and UAL at June 30, 2019</b>	\$ 88,217,506,929	\$ 1,477,716,211	\$ 72,209,055,228	\$ 465,027,394	\$ 16,008,451,701	\$ 1,012,688,817	\$ 17,021,140,518
Normal Cost, Administrative Expenses, and Actuarial Adjustments <sup>1</sup>	2,056,193,246	20,289,822	(3,684,931,228)	0	5,741,124,474	20,289,822	5,761,414,296
Contributions Made (Employer and Employee) in Fiscal Year 2020 <sup>2</sup>	0	0	4,260,801,586	30,649,414	(4,260,801,586)	(30,649,414)	(4,291,451,000)
Benefit Payments in Fiscal Year 2020	(5,202,251,000)	(110,195,000)	(5,202,251,000)	(110,195,000)	0	0	0
Interest and Expected Return on Assets	6,140,159,735	101,068,828	4,764,295,248	29,814,910	1,375,864,487	71,253,918	1,447,118,405
Actuarial Adjustments <sup>3</sup> at June 30, 2020	94,476,876	0	3,716,181,185	0	(3,621,704,309)	0	(3,621,704,309)
Expected AL, AVA, and UAL at June 30, 2020	\$ 91,306,085,786	\$ 1,488,879,861	\$ 76,063,151,019	\$ 415,296,717	\$ 15,242,934,767	\$ 1,073,583,143	\$ 16,316,517,910
<b>Actual AL, AVA, and UAL at June 30, 2020</b>	\$ 90,900,341,297	\$ 1,465,361,532	\$ 75,494,821,185	\$ 422,722,000	\$ 15,405,520,112	\$ 1,042,639,532	\$ 16,448,159,644
<b>AL and UAL (Gain)/Loss; AVA Gain/(Loss)</b>	\$ (405,744,489)	\$ (23,518,329)	\$ (568,329,834)	\$ 7,425,283	\$ 162,585,345	\$ (30,943,611)	\$ 131,641,734

<sup>1</sup>Actuarial Adjustments include those for receivable contributions, VSF assets in excess of liabilities, and accumulated member contributions in excess of accumulated member normal costs.

<sup>2</sup>Contributions include SKIM amounts transferred from QPP to VSF.

<sup>3</sup>Actuarial Adjustments include those for liability changes other than experience, receivable contributions, and VSF assets in excess of liabilities.

**Table V-2**  
**Development of Actuarial Asset (Gain)/Loss**

DEVELOPMENT OF ACTUARIAL ASSET (GAIN)/LOSS JUNE 30, 2020 (\$ Thousands)		
	QPP	VSF
1. Phase-in of Unexpected Investment Return (UIR)		
20% of UIR for prior year	\$ 471,563	\$ 4,753
20% of UIR for second prior year	N/A	N/A
20% of UIR for third prior year	N/A	N/A
20% of UIR for fourth prior year	N/A	N/A
20% of UIR for fifth prior year	N/A	N/A
Total	\$ 471,563	\$ 4,753
2. Non-Benefit Payment Cash Flow		
a. Administrative Expenses paid in Fiscal Year 2020	\$ 77,667	N/A
b. Amounts paid to Other Systems in Fiscal Year 2020	9,087	0
c. Other Income in Fiscal Year 2020	(3,317)	0
d. Transfers to Other VSFs in Fiscal Year 2020	10,111	(10,111)
e. Changes in Accrued Benefits Payable in Fiscal Year 2020	0	(1,663)
f. Interest on a. through e. to June 30, 2020	3,219	(404)
g. Total Change at June 30, 2020	\$ 96,767	\$ (12,178)
3. Actuarial Asset (Gain)/Loss (1. + 2.)	\$ 568,330	\$ (7,425)

## SECTION VI – SCHEDULE OF FUNDING PROGRESS

A schedule of funding progress is provided below. This schedule of funding progress was previously required by GASB25, which has been superseded by GASB67, 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. For more information, see SECTION II – MARKET AND ACTUARIAL VALUES OF ASSETS.



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

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM (\$ Thousands)						
<b>June 30 (Lag) Valuation Date</b>	<b>(1) Actuarial Value of Assets (AVA)<sup>1</sup></b>	<b>(2) Accrued Liability (AL)</b>	<b>(3) Unfunded AL (UAL) (2) - (1)</b>	<b>(4) Funded Ratio (1) / (2)</b>	<b>(5) Covered Payroll<sup>2</sup></b>	<b>(6) UAL as a % of Covered Payroll (3) / (5)</b>
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%
2018	63,615,892	85,845,125	22,229,233	74.1%	14,459,118	153.7%
2019	68,524,124	89,230,196	20,706,072	76.8%	14,981,461	138.2%
2020	71,778,640	91,942,981	20,164,341	78.1%	15,289,347	131.9%

<sup>1</sup> Unfunded Accrual Liability excludes contributions receivable in the Actuarial Value of Assets.

<sup>2</sup> Salaries shown are base salary plus assumed overtime paid and reflect certain salary increases with retroactive effective dates, if any, that are not yet reflected in census data.

## 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 (ACCNY), 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.

The HPOVSF, HPSOVSF, TPOVSF, and TPSOVSF are closed to new entrants, and all members are retired.

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

(\$ Thousands)		
Valuation Date	June 30, 2020	June 30, 2019
<b>COVSF</b>		
Active	\$ 281,665	\$ 284,443
Retiree	<u>1,108,543</u>	<u>1,112,911</u>
Total	\$ 1,390,208	\$ 1,397,354
<b>HPOVSF</b>		
Active	\$ 0	\$ 0
Retiree	<u>\$ 12,186</u>	<u>12,980</u>
Total	12,186	\$ 12,980
<b>HPSOVSF</b>		
Active	\$ 0	\$ 0
Retiree	<u>\$ 18,232</u>	<u>19,604</u>
Total	\$ 18,232	\$ 19,604
<b>TPOVSF</b>		
Active	\$ 0	\$ 0
Retiree	<u>24,401</u>	<u>26,487</u>
Total	\$ 24,401	\$ 26,487
<b>TPSOVSF</b>		
Active	\$ 0	\$ 0
Retiree	<u>\$ 20,335</u>	<u>21,291</u>
Total	20,335	\$ 21,291
<b>Total VSF AL</b>	\$ 1,465,362	\$ 1,477,716

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

VARIABLE SUPPLEMENTS FUNDS		
MEMBERS INCLUDED IN THE JUNE 30, 2020 (Lag) AND THE JUNE 30, 2019(Lag) ACTUARIAL VALUATIONS		
	June 30, 2020	June 30, 2019
<b>COVSF</b>		
Actives		
Number	8,988	10,022
Average Age	40.2	39.2
Retirees		
Number	8,312	8,257
Average Age	59.9	59.1
<b>HPOVSF</b>		
Actives		
Number	0	0
Average Age	0	0
Retirees		
Number	138	141
Average Age	76.9	76.1
<b>HPSOVSF</b>		
Actives		
Number	0	0
Average Age	0	0
Retirees		
Number	201	209
Average Age	76.4	75.5
<b>TPOVSF</b>		
Actives		
Number	0	0
Average Age	0	0
Retirees		
Number	267	282
Average Age	76.3	75.5
<b>TPSOVSF</b>		
Actives		
Number	0	0
Average Age	0	0
Retirees		
Number	227	229
Average Age	76.8	75.8

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

(\$ Thousands)				
Valuation Date	June 30, 2020		June 30, 2019 <sup>1</sup>	
	MVA <sup>2</sup>	AVA	MVA <sup>3</sup>	AVA
<b>COVSF</b>	\$ 403,710	\$ 422,722	\$ 465,027	\$ 465,027
<b>HPOVSF</b>	0	0	0	0
<b>HPSOVSF</b>	0	0	0	0
<b>TPOVSF</b>	0	0	0	0
<b>TPSOVSF</b>	0	0	0	0
<b>TOTAL</b>	\$ 403,710	\$ 422,722	\$ 465,027	\$ 465,027

<sup>1</sup> The COVSF assets include preliminary SKIM amounts determined by the Actuary in a letter dated August 29, 2019 to the Comptroller's Office. AVA was restarted to equal MVA at June 30, 2019 in the Revised 2021 A&M.

<sup>2</sup>Includes Accrued Benefits Payable of \$50,462,000 for COVSF.

<sup>3</sup>Includes Accrued Benefits Payable of \$48,799,000 for COVSF.

**Table VII-4**  
**Development of COVSF Actuarial Value of Assets**

(\$ Thousands)		
Valuation Date	June 30, 2020	June 30, 2019
1. Market Value of Assets (MVA)		
a. Beginning of Year (BOY) <sup>1</sup>	\$ 465,027	\$ 449,771
b. End of Year (EOY) <sup>2</sup>	\$ 403,710	\$ 465,027
2. Contributions		
a. Employee	\$ 0	\$ 0
b. Employer	0	0
c. Total Contributions	\$ 0	\$ 0
3. Net Investment Income		
a. Investment Income	\$ 5,400	\$ 6,304
b. Investment Expenses	0	0
c. Total Net Investment Income	\$ 5,400	\$ 6,304
4. Benefit Payments and Other Cash Flow	\$ (98,421)	\$ (94,460)
5. Preliminary Transferable Earnings from NYCERS to COVSF - EOY <sup>3</sup>	\$ 31,704	\$ 103,412
6. Net Cash Flow (2.c. + 4. + 5.)	\$ (66,717)	\$ 8,952
7. Expected Investment Return (EIR)	\$ 29,165	\$ 6,304
8. Unexpected Investment Return (UIR) (3.c. - 7.)	\$ (23,765)	\$ 0
9. Preliminary AVA @ EOY		
a. AVA @ BOY	\$ 465,027	\$ 449,771
b. Net Cash Flow (6.)	(66,717)	8,952
c. Expected Investment Return (7.)	29,165	6,304
d. Phase in of UIR		
20% * UIR for prior year	(4,753)	N/A
20% * UIR for second prior year	N/A	N/A
20% * UIR for third prior year	N/A	N/A
20% * UIR for fourth prior year	N/A	N/A
20% * UIR for fifth prior year	N/A	N/A
Total	\$ (4,753)	N/A
e. AVA (9.a. + 9.b. + 9.c. + 9.d.)	\$ 422,722	\$ 465,027
<b>10. Final AVA at EOY (9.e.)</b>	<b>\$ 422,722</b>	<b>\$ 465,027</b>

<sup>1</sup> Includes Accrued Benefits Payable for 6/30/2019 of \$48,799,000 and Accrued Benefits Payable for 6/30/2018 of \$47,529,000.

<sup>2</sup> Includes Accrued Benefits Payable for 6/30/2020 of \$50,462,000 and Accrued Benefits Payable for 6/30/2019 of \$48,799,000.

<sup>3</sup> Reflects preliminary SKIM amounts as determined by the Actuary in a letter dated August 29, 2019 for 6/30/2019 to the Comptroller's Office.

**Table VII-5**  
**Preliminary SKIM Calculation as of June 30, 2020**

(\$ Thousands)	Preliminary
Total NYCERS Pension Fund	
1. FY2020 Equity Earnings	\$ 474,858,799
2. FY2020 Hypothetical Earnings	\$ 713,887,493
3. FY2020 Excess Earnings (1. - 2.)	\$ (239,028,694)
4. Deficit at June 30, 2019	\$ 0
5. Hypothetical Interest Rate (HIR)	1.625%
6. Deficit with interest (4. x (1+HIR))	\$ 0
7. Potential SKIM (3. - 6.), not less than zero	\$ 0
	<b>COVSF</b>
Allocations to VSF	
8. Allocation Percentage	N/A
9. Potential SKIM (7. x 8.)	N/A
10. APV of Accumulated Plan Benefits	N/A
11. MVA Prior to SKIM	N/A
12. Unfunded APV of Accumulated Plan Benefits = (10. - 11.), not less than zero	N/A
<b>13. SKIM Payable (Lesser of 9. and 12., not less than zero)</b>	N/A
14. Rounded Estimate, for FY20 Financial Statements <sup>1</sup>	\$ 0

<sup>1</sup> Included in MVA at June 30, 2020.

## 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 were only paid if the assets in the COVSF were sufficient to pay the full amount due to all eligible retirees.

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

Any AutoCOLA payable to a retiree reduces VSF benefits by an amount equal to such AutoCOLA 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 AutoCOLA, 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 (referred to collectively as the NYCERS VSFs) 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 NYCERS VSFs are recognized through a methodology where the PV of future VSF transfers from NYCERS to the NYCERS VSFs is included directly as an actuarial liability of NYCERS. This amount is computed as the excess, if any, of the PV of benefits of each individual NYCERS VSF over the AVA of the respective, individual NYCERS VSF. 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 NYCERS transfer to COVSF a portion of the amount by which earnings on equity investments of NYCERS 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 12-month average of monthly 10-year U.S. Treasury Note yields
  - 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 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, NYCERS is required to make transfers to HPOVSF, HPSOVSF, TPOVSF, and TPSOVSF sufficient to meet their annual benefit payments.

## SECTION VIII – RISK AND UNCERTAINTY

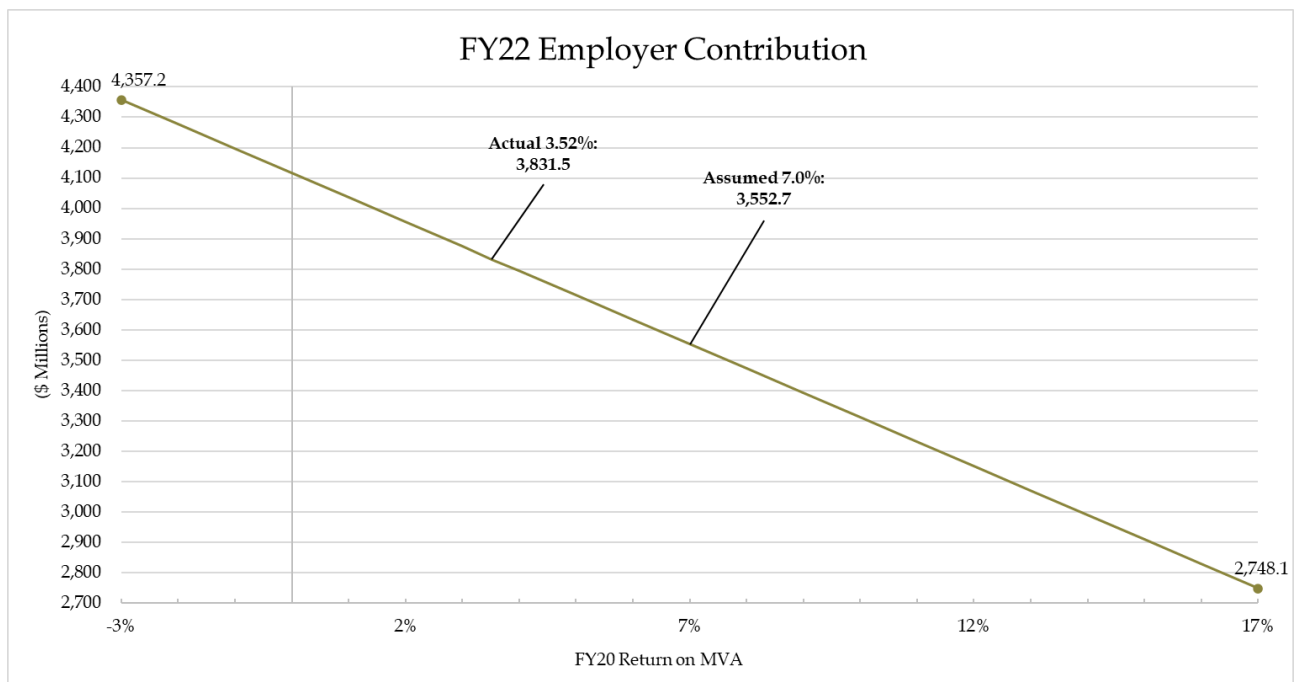
The funded status of NYCERS depends highly on the realization of the actuarial assumptions used, as well as certain demographic characteristics of the Plan and other exogenous factors. Risks faced by the Plan are described in this Section. These risks have been separated, based on the Actuary's professional judgement, into high, medium, and other risks.

## High Risk Types

### Investment Risk: The Risk of Not Realizing Expected Returns

The most substantial risk for most pension systems, NYCERS included, is the risk of investment returns being less than assumed. Generally speaking, as risk-free investment return rates have fallen in recent decades, more aggressive asset allocations have been taken to achieve long-term rates of return commensurate with the actuarial assumption of 7.0%.

The graph below illustrates the potential FY22 employer contribution for a range of investment return outcomes if returns had differed from the assumed rate of return by up to 10%. (i.e., from -3% to 17%). In addition, the actual investment return<sup>1</sup> and employer contribution are shown.

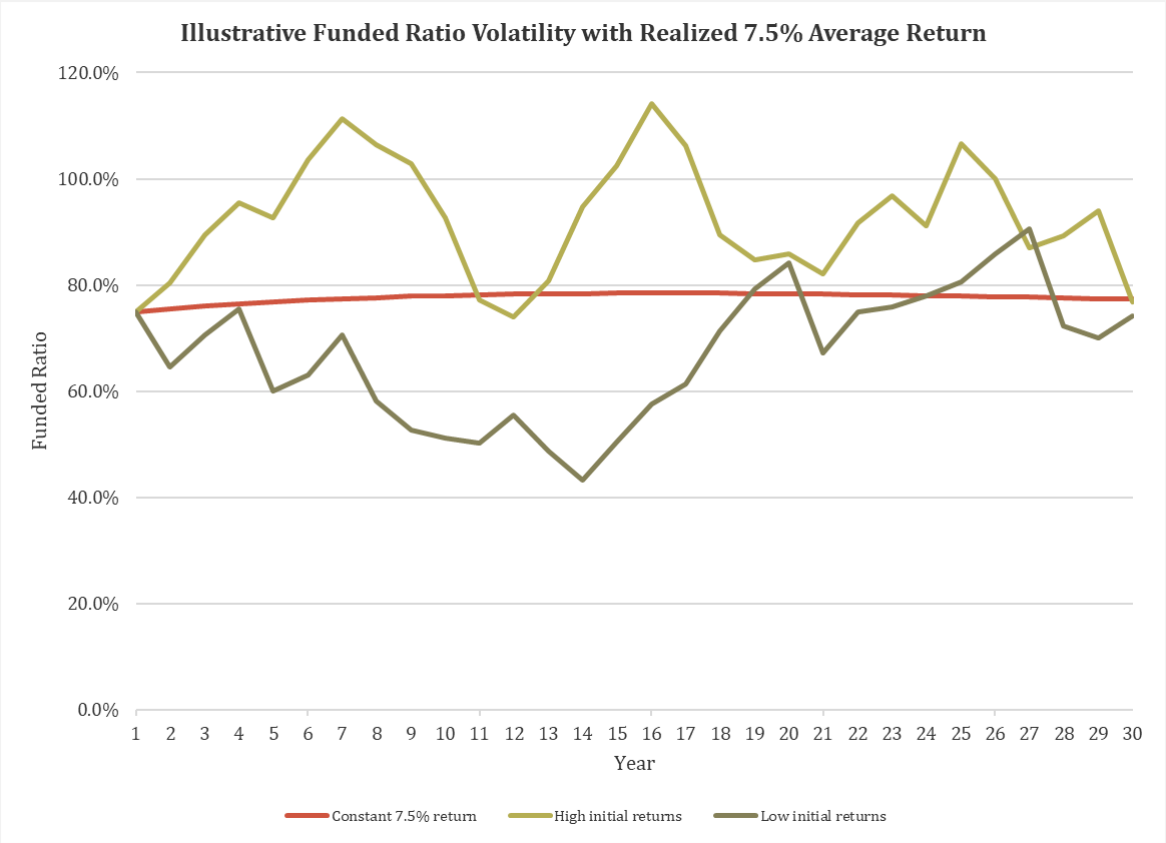
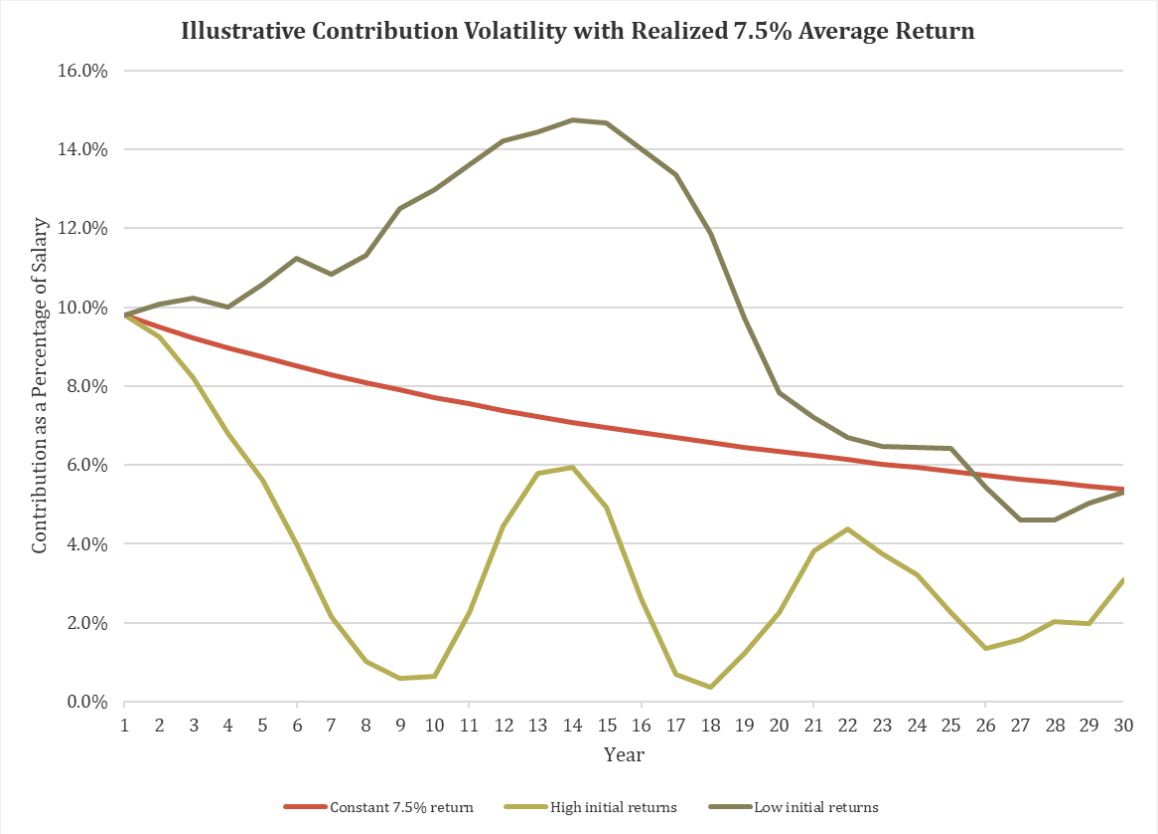


### Investment Risk: The Risk of Volatile of Realized Returns

Even when long-term investment returns meet actuarial assumptions, investment return volatility can contribute substantially to contribution and funded status volatility. While not yet available specifically for the Plan at this time, recent research demonstrates this volatility based on a sample public plan with typical characteristics, a typical contribution policy, and a long-term return assumption of 7.5%, which can be realized in different patterns.<sup>2</sup>

<sup>1</sup> The actual rate of return displayed in this graph is calculated as the overall rate of return for NYCERS when the Plan and VSFs are considered in aggregate.

<sup>2</sup> Yin, Yimeng; Boyd, Don. Pension Simulation Project. *The Nelson A. Rockefeller Institute of Government*.

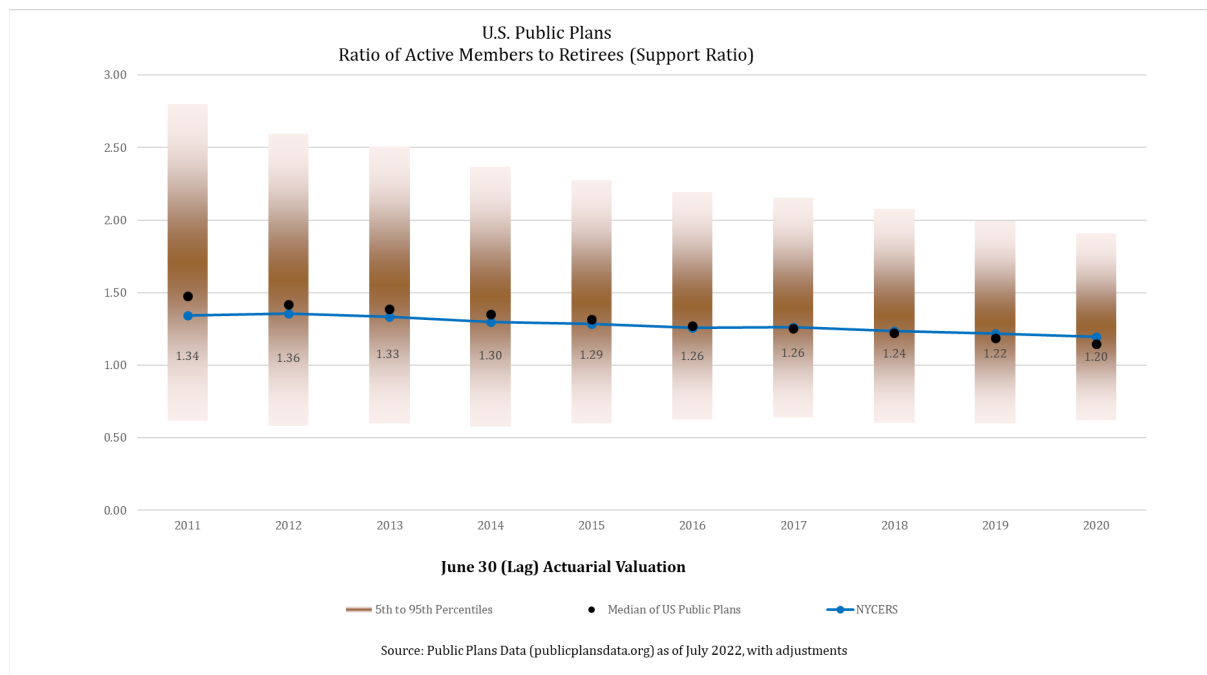


## Maturity Risk: The Risk of Demographic Imbalance

In this subsection, the maturity of the Plan is examined with several metrics.

### Ratio of Active Members to Retirees (Support Ratio)

A plan's Support Ratio (i.e., the ratio of active members to retirees) is an indicator of the Plan's maturity level. In a plan's early years, the ratio is very high as the plan contains mostly active members. As it matures, more active members transition to retirement, leading to a decrease in the Support Ratio over time that can result in a ratio near or below one. For NYCERS, this ratio has been steadily declining in recent years, meaning that fewer active workers exist to support pensioner payments.



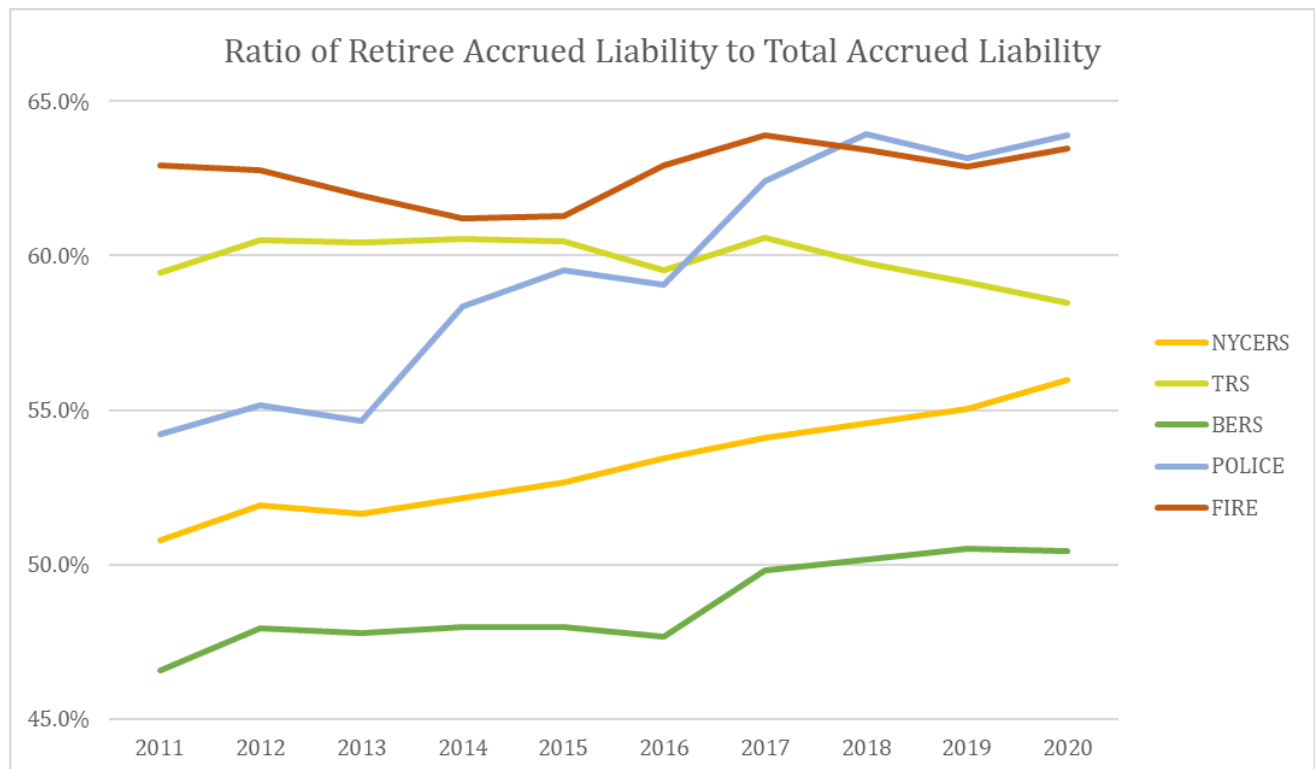
The chart above shows U.S. public pension plan Support Ratios in comparison to the Plan's. The median Support Ratio amongst U.S. public pensions has declined from 1.48 in the 2011 valuation year to 1.15 in the 2020 valuation year. Over that same period, the Plan's Support Ratio declined from 1.34 to 1.20, meaning fewer active workers exist to support guaranteed pensioner payments.

Because the Plan's Support Ratio is above the median in recent years, NYCERS' contributions for active members form a larger proportion of the total actuarial contribution than other pension funds in the U.S. with average maturity.

### Ratio of Retiree Accrued Liability to Total Accrued Liability

We can also consider the ratio of the Plan's retiree liability to its total liability. A new pension plan begins with this ratio at zero; as the plan matures, the ratio increases. Mature plans often have ratios above 60%. This measure is shown in the graph below for NYCERS; the other New

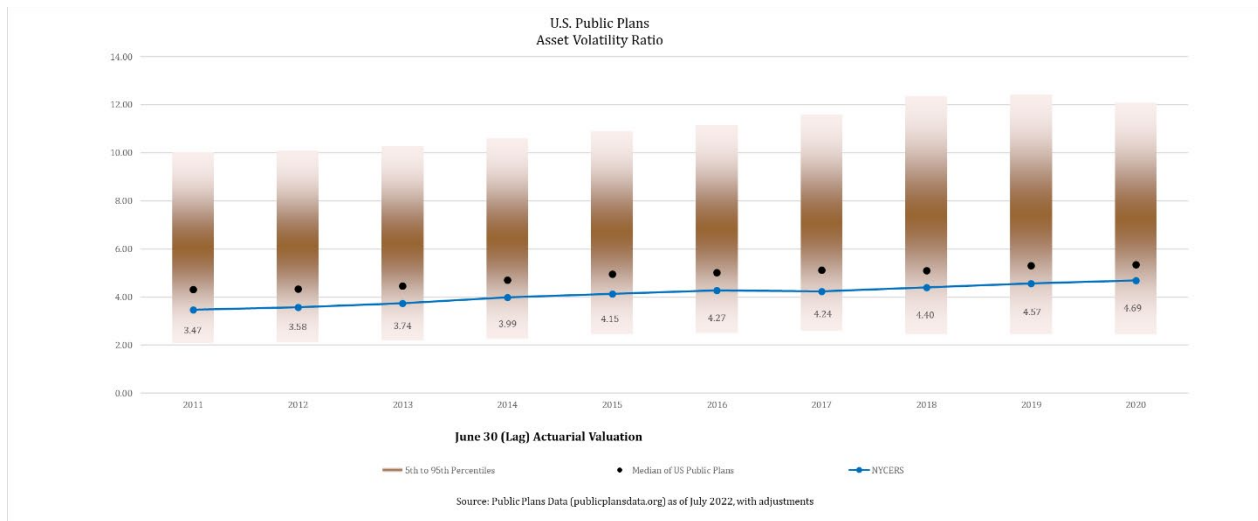
York City Retirement Systems<sup>1</sup> (NYCRS) are included for comparison. The ratio for NYCERS has been between 53-56% for the past few years, indicating that NYCERS is not yet a fully mature retirement system.



### Asset Volatility Ratio

Another way to look at plan maturity is the Asset Volatility Ratio (AVR), or ratio of assets to payroll. This ratio tends to rise as plans mature because assets generally need to accumulate to provide for benefit payments. The chart below compares the AVR (on an AVA basis) for NYCERS to the population of public pension systems.

<sup>1</sup> Teachers' Retirement System (TRS); Board of Education Retirement System (BERS); Police Pension Fund (POLICE); Fire Pension Fund (FIRE)



As a plan approaches maturity, AVRs tend to increase, and the plan’s actuarially-determined contribution becomes more sensitive to investment losses. For example, the same percentage of investment losses in more mature plans with a larger asset base can increase contributions as a percentage of payroll more than in less mature plans, leading to additional volatility. Therefore, mature plans may wish to consider more conservative investment strategies. Typical AVRs for a mature retirement system are between five and six. As shown in the tables above, for NYCERS, since ratios are lower than the average, NYCERS is not considered a mature plan under this measure.



## Medium Risk Types

### Interest Rate Risk: The Risk of Reduction in the Long-Term Rate of Return

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% is highly dependent on the allocation of Plan assets.

If market conditions and/or the allocation of Plan assets no longer support a long-term rate of return assumption of 7.0%, the Actuarial Interest Rate (AIR) may have to be reduced, which can significantly increase the Accrued Liability, Unfunded Accrued Liability, Normal Cost, and resulting contribution of the Plan. The sensitivity of the Accrued Liability, the Unfunded Accrued Liability, and the Normal Cost of the Plan are shown below:

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM	
SENSITIVITY ANALYSIS AS OF JUNE 30, 2020	
Valuation Date	June 30, 2020
<b>Results at 7.0%</b>	
1. Accrued Liability (AL)	\$ 91,942,980,829
2. Actuarial Value of Assets (AVA)	<u>75,494,821,185</u>
3. Unfunded Accrued Liability (AVA Basis) (1. - 2.)	\$ 16,448,159,644
4. Normal Cost	\$ 1,602,903,074
<b>Results at 6.0%</b>	
1. Accrued Liability (AL)	\$ 102,142,307,186
2. Actuarial Value of Assets (AVA) <sup>1</sup>	<u>75,494,821,185</u>
3. Unfunded Accrued Liability (AVA Basis) (1. - 2.)	\$ 26,647,486,001
4. Normal Cost	\$ 2,143,126,342
<b>Sensitivity Analysis for 1.0% Reduction in Interest Rate</b>	
1. Increase in Accrued Liability	11.1%
2. Increase in Unfunded Accrued Liability	62.0%
3. Increase in Normal Cost	33.7%

<sup>1</sup> Disregarding certain actuarial methodologies (e.g., receivable contributions) that would be revalued under a discount rate of 6.0%.

### Longevity Risk: The Risk of Higher than Assumed Mortality Improvement

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-2020 was subsequently applied to these base rates.<sup>1</sup>

This scale MP-2020 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. When mortality improvement is higher than assumed, plan participants will live longer than expected, and the plan will pay more pension benefits than had been previously funded.

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

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 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%.

### Litigation Risk: The Risk of Legal Claims and Lawsuits

It is not uncommon for New York City to be a defendant in legal claims and lawsuits.<sup>3</sup> In its most recent claims report, the Comptroller reports that in FY2021, NYC settled 10,618 claims and lawsuits for \$933.7 million. On occasion, these settlements involve NYCERS. The 1996 case *Gulino v. Board of Education* awards damages to plaintiffs that in some cases include counterfactual service and salary in NYCERS. It remains a continuing risk that litigation may expand the scope of pension benefits beyond what is intended or codified in statute.

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<sup>1</sup> Retirement Plans Experience Committee. “Mortality Improvement Scale MP-2020 Report,” “Mortality Improvement Scale MP-2018 Report,” and “Mortality Improvement Scale MP-2014 Report.” *Society of Actuaries*.

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

<sup>3</sup> <https://comptroller.nyc.gov/reports/annual-claims-report>

### Credit/Solvency Risk: The Risk of Potential Insolvency of Contributing Entities

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 faces low credit risk as a main contributing entity to NYCERS.

In addition, NYCERS is a multiple-employer plan with several contributing entities. NYCERS faces risk if contributing entities become insolvent while still carrying Unfunded Accrued Liability (e.g., Off-Track Betting Corporation (OTB)). Existing law and precedent transfer these amounts to other employers, creating imbalanced funding responsibility in the event of default.

## Other Risk Types

### Inflation Risk: The Risk of Higher than Assumed Inflation

NYCERS faces risk if 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). A quantitative analysis is not available at this time. Notably, however, the pensioner COLA is limited to half of CPI on the first \$18,000 of annual benefits, which limits the risk exposure to inflation.

### Contribution Risk: The Risk that Future Contributions Are Less Than the Actuarially-Determined Contributions

Public pension systems can suffer from contribution risk when sponsoring governmental entities fail to make contributions as determined by the actuary under their funding policies. A 2018 study<sup>1</sup> which used data from 50 states and 230 retirement systems, found that since 2007 the shortfall between actual contributions to state pension plans and minimum actuarial funding standards was \$200 billion.<sup>2</sup>

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 approximately 10% of the City's annual budget, and contribution risk may increase if this contribution rate becomes untenable.

### Agency/Political Risk: The Risk of Stakeholder Influences

With assumed long-term asset returns and gradual amortization of unfunded liabilities, the funded status of the Plan is expected to improve over time. 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. These situations create cases where promises for future funding can be disregarded for political expediency or other priorities. In other cases, certain plan provisions or administrative practices intended to provide occasional clarity or relief become commonplace or intentionally sought for the benefit of members at the expense of taxpayers.

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<sup>1</sup> The Pew Charitable Trusts. *"The State Pension Funding Gap: 2018."*

<sup>2</sup> Accounting standards changed in 2014. From 2007 to 2013, the shortfall is calculated between the actuarial recommended contribution and actual employer contributions. From 2014 to 2018, the shortfall represents the gap between the net amortization benchmark and employer contributions.

## Intergenerational Equity Risk: The Risk of Inequity in the Actuarially-Determined Contributions

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 taxpayers to shoulder a disproportionately high share of the funding burden, as compared to past and future taxpayers. The reverse can also be true if aggressive or unrealistic assumptions are used. As the Plan is ongoing, taxpayers across all generations should be expected to offer similar funding contributions over the lifetime of the Plan.

Additionally, in future years of higher or lower funded status, changes in the statute may take place that can improve or diminish plan provisions. If so, intergenerational equity risk could increase as taxpayers and plan members at that time may receive preferential or less preferential treatment over the taxpayers and plan members prior to and subsequent to them.

## SECTION IX – SUMMARY OF PLAN PROVISIONS

### A. Covered Employment

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

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

NYCERS contains benefit plans that are grouped as follows:

<b>Group</b>	<b>Eligible Employees</b>	<b>Abbreviation</b>
General (GEN)	District Attorney Investigators	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 Department 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 Department of Correction (Uniformed Correction Force)	COR

### B. Tier Membership

Tier membership is based on the date that the member joined NYCERS. The tier status of earlier membership in NYCERS or another New York City or New York State public

employee retirement system is reflected, but only if the service associated with that membership is purchased and included in Credited Service.

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

Unless otherwise noted, Tier 1 and Tier 2 provisions are hereafter omitted for brevity<sup>2</sup>, as well as Tier 3 provisions for all groups other than Correction Officers.

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 (BMC)**

Basic Member Contributions 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:

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

<b>Lookback Wages</b>	<b>BMC Contribution Rate</b>
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%

<sup>1</sup> Sometimes denoted Tier 3R for clarity.

<sup>2</sup> Approximately 0.2% of active members as of June 30, 2020 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 three years of Credited Service. The BMC contribution rate was limited to 3% from April 1, 2012 through March 31, 2013.

#### D. Additional Member Contributions (AMC)

Additional Member Contributions including AMCs 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% <sup>1</sup>	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%	20
SAN Tier 3 22-year enhanced disability plan	1.30%	25
COR Tier 3 20-year plan <sup>2</sup>	3.61% or 4.61%	20
COR Tier 3 22-year enhanced disability plan	0.90%	25
TBTA 50/20 plans <sup>2</sup>	5.50% or 6.00%	20
All others	None	N/A

#### E. Credited Service

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

- **Membership Service:** Service earned while a member of NYCERS.
- **Part-time Service:** Service that is prorated based on the number of hours or days worked in the year.
- **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

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<sup>1</sup> Members in physically-taxing classifications contribute an additional 1.98%, on top of the 1.85%.

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



covered employer.

- **Transferred Service:** Service earned as a member of another public retirement system in the City or State of New York.
- **Military Service:** Service for qualified time served in one of the armed forces of the United States.

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 (FAS).

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

**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 FAS. In addition, the following payments are also excluded from wages for purposes of determining FAS:

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 FAS.

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

**Tier 6 and Tier 3 22-year plans:** FAS is the highest average Salary earned in any five consecutive years of Credited Service or in the final 60 months of Credited Service if greater (FAS5).

## H. Service Retirement

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

<b>Tier(s)</b>	<b>Plan Description</b>	<b>Minimum Age</b>	<b>Minimum Service</b>
3	COR 20-year plan	N/A	20
3	COR 25-year plan	N/A	25
3	COR Basic 62/5 plan	62	5
4	Basic 62/5 plan	62	5
4	Chapter 96 55/25 plan <sup>1</sup>	55	25
4	Chapter 96 57/5 plan <sup>1</sup>	57	5
4	SAN Tier 4 regular	55	30
4	SAN 20-year plan	N/A	20
4 & 6	EMT, 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

2. Benefits:

<b>Tier</b>	<b>Plan Description</b>	<b>Benefit Formula</b>
4	Basic 62/5 plan	<u>If less than 20 years of Credited Service:</u> 1/60 times FAS times Credited Service <u>If 20 or more years of Credited Service:</u> Sum of 2.0% times FAS times Credited Service up to 30 years, plus 1.5% times FAS times Credited Service greater than 30 years
4	Chapter 96 55/25	
4	Chapter 96 57/5	
4	SAN Tier 4 regular	
4 & 6	TRN 55/25 plan	
4	SAN 20-year plan	2.5% times FAS times Credited Service up to 20 years, plus 1.5% times Final Compensation <sup>2</sup> times additional Credited Service up to 10 more years

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

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

<b>Tier</b>	<b>Plan Description</b>	<b>Benefit Formula</b>
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	<p><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</p> <p><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</p>
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	<p><u>If less than 20 years of Credited Service:</u> 1/60 times FAS times Credited Service</p> <p><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</p>

## I. Early Retirement

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

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

2. Benefits:

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

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

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

<b>Age</b>	<b>Early Retirement Factor</b>
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: No age or service requirement. Requires Medical Board determination that the active member is physically or mentally incapacitated due to an accident in the performance of duties and that the accident is not due to willful negligence of the member.
- b. Benefits:
  - i. All plans other than those specified below: 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. EMT, DSH, 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. Requires Medical Board determination that the active member is physically or mentally incapacitated due to an accident while not in the 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 (New York City-paid)**

- a. Eligibility: No age or service requirement. 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. Special Accidental Death Benefits (New York State-paid)

- a. Eligibility: No age or service requirement. Death of a COR, EMT, SAN, or TBTA member due to the performance of duties while an active member. Payable only to the surviving spouse or children until age 18 (or age 23, if a full-time student), if there is no surviving spouse.
- b. Benefits: A monthly pension is payable to the beneficiary in an amount that when added to the New York City-paid Accidental Death Benefit (outlined in 1.) and any payable Social Security benefit is equal to the decedent's last year's wages including overtime and any other type of pensionable earnings.

## 3. Ordinary Death Benefit

### a. Eligibility:

- i. Active members: No age or service requirement. Death during active employment while not in the performance of duties.
- ii. Deferred vested members: Death after termination of employment and prior to benefit commencement.
- iii. Retired Members: Death after benefit commencement.

### 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<sup>1</sup>. 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. Deferred 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. Deferred vested members with less than 10 years of Credited Service: Refund of BMC and the employee portion of AMC, if any, with interest.

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<sup>1</sup> SAN, COR, and Tier 3R IDA have a different benefit; other exclusions apply.

- iv. Retirees: The active salary-based death benefit, if eligible<sup>1</sup>, that would have been payable had the member died on the last day of active service times the Adjustment Factor described in the table below:

<b>Year of Death</b>	<b>Adjustment Factor</b>
1 <sup>st</sup> year after retirement	50%
2 <sup>nd</sup> year after retirement	25%
3 <sup>rd</sup> year or later after retirement	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:
  - a. Tier 4 plans: 5 years of Credited Service.
  - b. Tier 6 plans: 10 years of Credited Service.
2. Benefits: The vested benefit is equal to the amount of the Service Retirement benefit (unless noted otherwise below), payable at the times specified below.
  - a. Tier 4 EMT, DIS, SPO, DSH, AUT, PCT 25-year plans: When the member would have earned 25 years of Credited Service if he or she had continued working in covered employment.
  - b. All other Tier 4 plans: Age 62.
  - c. Tier 3 22-year plans: When the member would have earned 20 years of Credited Service if he or she had continued working in covered employment.
  - d. Tier 6 plans: Age 63. In no case can the vested benefit be less than the annuity equivalent of the BMC.

## **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.

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<sup>1</sup> SAN, COR, and Tier 3R IDA have a different benefit; other exclusions apply.

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

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

1. Eligibility Thresholds:
  - a. Service Retirement and Vested Retirement: The earlier of (i) and (ii):
    - i. Attainment of age 62 and 5 years since commencement
    - ii. Attainment of age 55 and 10 years since commencement
  - b. Disability Retirement: 5 years since commencement
  - c. Beneficiaries of an Accidental Death benefit: 5 years since commencement
2. Eligible beneficiaries: Spouses receiving a joint & survivor annuity. All others are non-eligible.
3. Base Benefit: The lesser of \$18,000 and the maximum retirement allowance plus the sum of prior years' COLA increases.
4. COLA percentage: 50% of the Consumer Price Index (CPI-U) based upon the 12 months ending March 31 prior to each September 1 effective date, rounded to the next higher 0.1%. Such percentage shall not be less than 1.0% nor greater than 3.0%.

## **O. Escalation**

Applicable to Tier 3 22-year plan members who work past 22 years, with full escalation applicable after 25 years of service.

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 BMC and 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. Employee Portion of AMC: The employee portion of AMC is 50% for all plans that require AMC except for the EMT, DIS, SPO, DSH, AUT, and PCT plans, it is 100%.
- 2. Non-vested termination: BMC and employee portion of AMC are refunded with interest.

3. Vested termination:
  - a. A member may elect a refund of BMC and the employee portion of AMC with interest in lieu of a pension benefit, but only if he or she has less than 10 years of Credited Service.
  - b. 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 leaves service prior to earning 15 years of Credited Service as a member of their respective 25-year plan.
  - c. A member of one of the AUT, PCT plans may elect a refund of AMC in lieu of remaining in their respective 25-year plan if he or she leaves service prior to earning 5 years of Credited Service as a member of their respective 25-year plan.
4. Ordinary death: BMC and the employee portion of AMC are refunded with interest.
5. Accidental death: The employee portion of AMC are refunded with interest.
6. Disability Retirement: The employee portion of AMC are refunded with interest.
7. Service Retirement: The employee portion of AMC are refunded with interest if the member retires on or after age 62. For retirement prior to age 62, the 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.
8. For members who participate in the Sanitation and Correction Tier 3 22-year enhanced disability plans, AMC are not refundable.

**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: These members 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:
  - a. Credited Service under the Tier 3 benefit formula is capped at 30 years,
  - b. The Tier 3 benefit formula includes an offset starting at age 62 equal to 50% of the Primary Social Security benefit, and
  - c. The early retirement factors used to reduce benefits for early commencement are smaller and thus reduce benefits more for Tier 3 than the corresponding factors used under the Basic Tier 4 62/5 plan.

3. Cost-of-Living Adjustments: Tier 3 retirement benefits may be adjusted annually by Escalation. A Tier 3 retirement benefit cannot be less than the initial benefit payable at the commencement date.
  - a. Full Escalation: Applicable for benefits commencing on or after age 65. Equal to the lesser of 3% and the Consumer Price Index (CPI-U) for increases in the CPI-U, and the greater of -3% and the Consumer Price Index (CPI-U) for decreases in the CPI-U.
  - b. Partial Escalation: Applicable for benefits commencing after age 62 and prior to age 65. Equal to full escalation reduced by  $\frac{1}{36}$  times the number of months that the age at commencement precedes age 65.

## **R. Loans**

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

## **S. Changes Since the Prior Valuation**

Continued compliance has been presumed under the OWBPA.

## SECTION X – CHAPTER AMENDMENTS

The June 30, 2020 (Lag) actuarial valuation results reflect the following Chapter amendments from the prior five years.

- **Chapter 89 of the Laws of 2020** (Chapter 89/20) provides death benefits to statutory beneficiaries of members whose death was a result of or was attributed to COVID-19.
- **Chapter 58 of the Laws of 2020** (Chapter 58/20) grants a 3% COLA increase to beneficiaries receiving Special Accidental Death Benefits pursuant to Section 208(f) of the General Municipal Law (GML). (Similar legislation was enacted in each of the previous years.)
- **Chapter 266 of the Laws of 2018** (Chapter 266/18) extends the deadline to file a Notice of Participation in the World Trade Center Rescue, Recovery, and Cleanup Operations to September 11, 2022.
- **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 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.

## SECTION XI - SUBSEQUENT EVENTS

The following legislation was adopted after the June 30, 2020 valuation date and could have an impact on future years' valuations:

**Chapter 56 of the Laws of 2022** (Chapter 56/22) reduces the Tier 6 vesting requirement from 10 years to 5 years and allows for retirement with 5 years of service, and excludes certain forms of overtime and extracurricular compensation from the salary used to determine Tier 6 BMC Contribution Rates during the specified period from 2022 through 2024.

**Chapter 424 of the Laws of 2021** (Chapter 424/21) expands eligibility of certain public service employees for participation in the World Trade Center Rescue, Recovery, or Clean-up Operations.

**Chapter 327 of the Laws of 2021** (Chapter 327/21) and **Chapter 528 of the Laws of 2022** (Chapter 528/22) extend the 3% COLA increase to beneficiaries receiving Special Accidental Death Benefits. Note that the June 30, 2020 valuation assumes that future legislation on this 3% COLA increase will continue to pass in subsequent years. For more information on this COLA assumption, see Page 87.

**Chapter 78 of the Laws of 2021** (Chapter 78/21) amends Chapter 89/20 by extending the eligibility window of these death benefits through December 31, 2022.

## SECTION XII - ACTUARIAL ASSUMPTIONS AND METHODS

The results in this valuation report are based upon standard actuarial models (including but not limited to Entry Age Normal and related parameters) that are widely used in actuarial practice. The models are intended to calculate the liabilities associated with these plan provisions using data and assumptions as of the measurement date, and using actuarial assumptions and methods further described below. Most of this liability and cashflow modeling is currently implemented using ProVal, a ubiquitous actuarial valuation and projection software program developed by Winklevoss Technologies (WinTech). These results are reviewed for accuracy, reasonability, and consistency with prior results, consistent with the requirements of Actuarial Standard of Practice 56. The model is also reviewed extensively when significant changes are made to the software by experts who are familiar with the applicable actuarial methods used therein.

No changes were made to any of the actuarial assumptions and methods since the prior year.

**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% <sup>1</sup>	30.00%/8.00% <sup>2</sup> 20.00%/30.00% <sup>3</sup>	10.00%	60.00%	25.00%
63	0.00%		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%

<sup>1</sup> 8.00% only applies to Tier 6 members; 0.00% otherwise.

<sup>2</sup> 30.00% for Tiers 1-4 members and 8.00% for Tier 6 members.

<sup>3</sup> 20.00% for Tiers 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 <sup>1</sup>	
	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%

<sup>1</sup> 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 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 ≥ 70	0.00% 4.00% 4.00% 4.00% 4.00% 6.00% 8.00% 10.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% N/A	≤ 19 20 21 22 23 24 ≥ 25	0.00% 5.00% 2.00% 5.00% 2.00% 2.00% 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% <sup>1</sup>	20.00%/15.00% <sup>2</sup>	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%

<sup>1</sup> 45.00% for Tier 1-4 members and 30.00% for Tier 3R members.

<sup>2</sup> 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% <sup>1</sup>	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%

<sup>1</sup> 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 BASE RATES						
	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 BASE RATES						
	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 RATES					
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 RATES					
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 RATES					
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 RATES					
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 RATES					
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 RATES					
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 RATES					
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 RATES					
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 Increase <sup>1</sup>	Merit Increase	Salary Increase <sup>1</sup>	Merit Increase	Salary Increase <sup>1</sup>	Merit Increase	Salary Increase <sup>1</sup>	Merit Increase	Salary Increase <sup>1</sup>
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%

<sup>1</sup> Salary Increase is General Wage Increase of 3.00% plus the Merit Increase.

**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		
	<b>Correction</b>	
<b>Years of Service</b>	<b>Baseline and Dual Service</b>	<b>Dual Disability</b>
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. **Actuarial Interest Rate (AIR):** 7.0% per annum, net of investment expenses.
2. **Mortality Assumption:** The mortality base tables are projected from 2012 using mortality improvement table MP-2020. The post-commencement 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

3. **Marital Assumption:** All active members are assumed to be married, male employees are assumed to be four years older than their female spouses, and female employees are assumed to be two years younger than their male spouses.
4. **Credited Service:** Calculated in whole year increments for valuation purposes.
5. **Loans:** Except for Death Benefits, it is assumed that eligible members take a loan at retirement equal to 25% of their member contribution balances.
6. **Inflation:** The long-term Consumer Price Index inflation rate is assumed to be 2.5% per year. AutoCOLA is assumed to be 1.5% per year, and Escalation is assumed to be 2.5% per year. Beneficiaries receiving Special Accidental Death Benefits are assumed to receive increases at 3.0% per year. The assumed 30-year Treasury rate for annuitization of outstanding loans at retirement is 3.5%.
7. **Form of Payment:** Retiring members are assumed to elect the Maximum Retirement Allowance (i.e., single life annuity) form of payment.

**8. Actuarial Asset Valuation Method (AAVM):**

The Actuary reset the Actuarial Value of Assets to Market Value as of June 30, 2019.

Beginning with the June 30, 2020 (Lag) actuarial valuation, the AAVM recognizes investment returns greater or less than expected over a period of five years.

In accordance with this AAVM, the UIR are phased into the AVA over a five-year period at 20% per year, with the calculation of the EIR based on the MVA.

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.

**9. 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 expected 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.

The explicit UALs that are developed under EAN each year are financed over fixed periods. For more information see Page 12.

Under EAN, the Normal Cost as a percentage of pay remains stable 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).

**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 Benefits Law and to the WTC Death Benefits Law are determined 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 normal cost as of December 31, XX-1.

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 benefits in excess of the Internal Revenue Code Section 415 limitation.

## SECTION XIII – SUMMARY OF DEMOGRAPHIC DATA

The June 30, 2020 (Lag) and June 30, 2019 (Lag) actuarial valuations are based upon census data as of those dates submitted by the Plan's administrative staff and the employers' payroll facilities. Financial information was provided by the Office of the Comptroller as of June 30, 2020 and June 30, 2019.

Beginning at June 30, 2020, NYCERS members who are no longer on payroll but not otherwise classified have been classified as Terminated Nonvested members or Deferred Vested members, using actuarial judgement and consideration of available data, including leave of absence data when available.

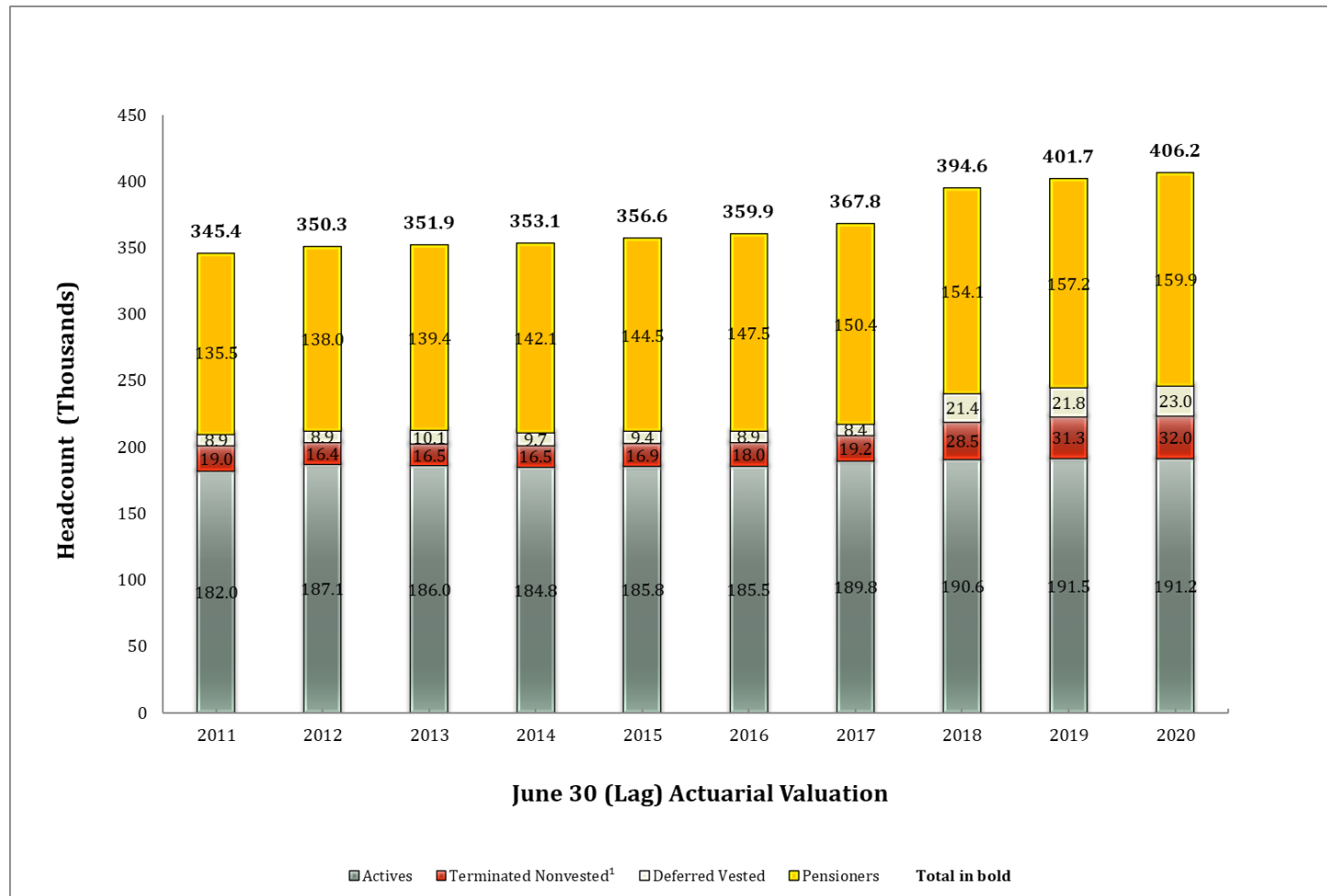
Consistent with Actuarial Standards of Practice, the Office of the Actuary has reviewed census data and financial information for consistency and reasonability but has not audited it. The accuracy of the results and calculations contained in this Report are dependent on the accuracy of this census data 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 MEMBERSHIP DURING THE FISCAL YEAR CLASSIFIED BY STATUS										
Status	(1) Active Members	(2) Active Off Payroll/ Terminated Nonvested	(3) Deferred Vested	(4) Service Pension	(5) Ordinary Disability	(6) Accidental Disability	(7) Accidental Death	(8) Other Beneficiary	(9) Pensioners Subtotal (4) to (8)	(10) Grand Total (1) + (2) + (3) + (9)
<b>Number at June 30, 2019</b>	<b>191,501</b>	<b>31,273</b>	<b>21,788</b>	127,539	9,763	4,674	222	14,955	<b>157,153</b>	<b>401,715</b>
New Entrants	11,395	554	0	0	0	0	0	0	0	11,949
Rehire	4,804	3,748	(1,592)	0	0	0	0	0	0	6,960
Leaving Active Payroll	(4,919)	0	0	0	0	0	0	0	0	(4,919)
Vested Termination	(3,849)	(444)	4,293	0	0	0	0	0	0	0
Non-Vested Termination / Cashout	(921)	(2,222)	(478)	0	0	0	0	0	0	(3,621)
Accidental Death	(199)	(3)	(4)	0	0	0	206	0	206	0
Ordinary Death	(398)	(39)	0	0	0	0	0	0	0	(437)
Service Retirement	(6,007)	(777)	(824)	7,608	0	0	0	0	7,608	0
Ordinary Disability Retirement	(103)	(45)	(131)	0	279	0	0	0	279	0
Accidental Disability Retirement	(67)	(18)	(24)	0	0	109	0	0	109	0
Reclassifications	0	0	0	(52)	46	6	0	0	0	0
Pensioner Death with Beneficiary	0	0	0	(1,045)	(117)	(22)	0	1,184	0	0
Pensioner Death without Beneficiary	0	0	0	(4,070)	(333)	(133)	(2)	(976)	(5,514)	(5,514)
Pension Payroll Adjustments	0	0	6	(90)	18	(56)	3	190	65	71
Net Change	(264)	754	1,246	2,351	(107)	(96)	207	398	2,753	4,489
<b>Number at June 30, 2020</b>	<b>191,237</b>	<b>32,027</b>	<b>23,034</b>	129,890	9,656	4,578	429	15,353	<b>159,906</b>	<b>406,204</b>

**Graph XIII-2**  
**Headcount Summary by Status**



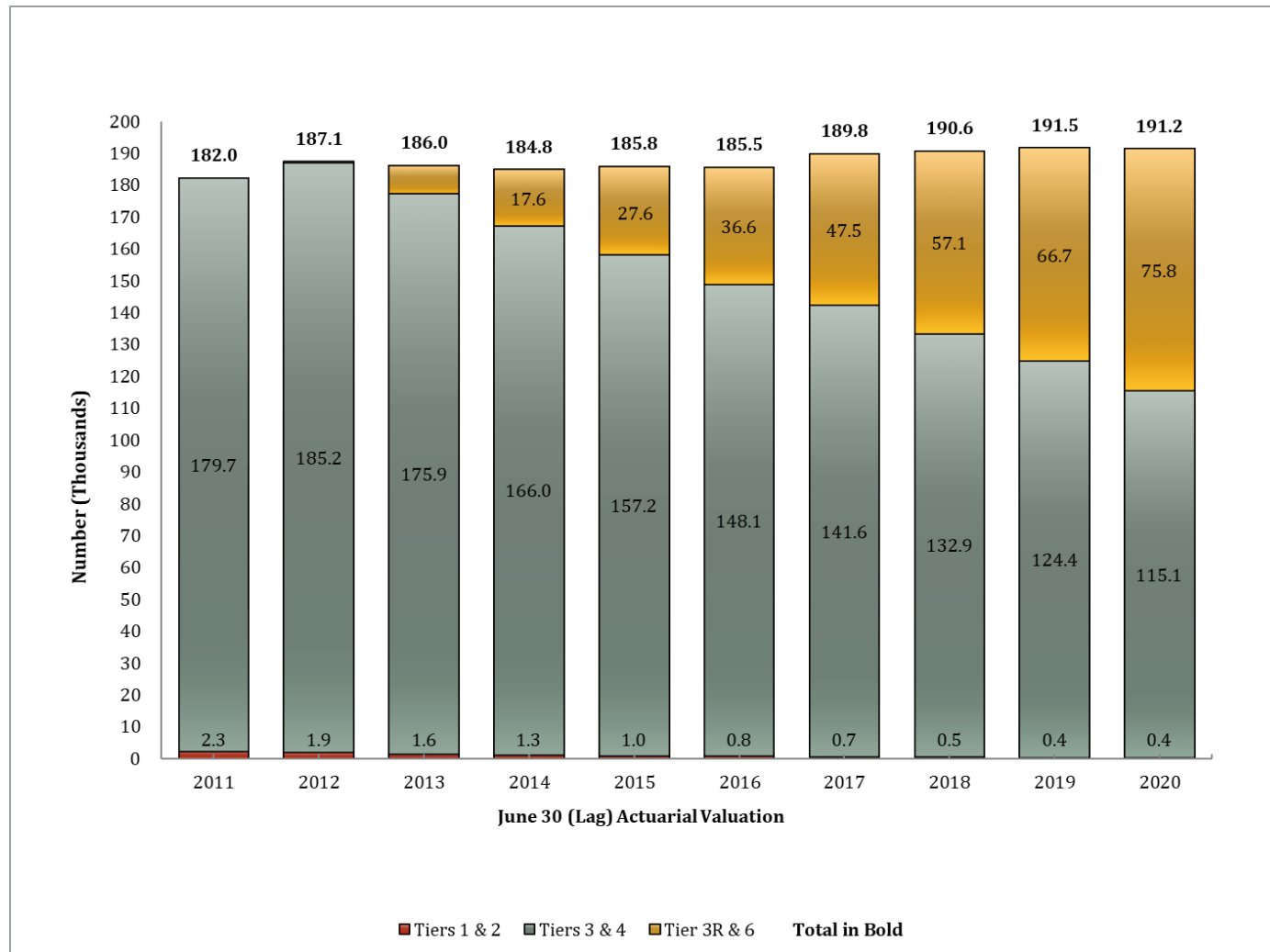
<sup>1</sup> Active Off Payroll prior to June 30, 2020.

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

NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM		
ACTIVE MEMBERS INCLUDED IN THE JUNE 30, 2020 (LAG) AND THE JUNE 30, 2019 (LAG) ACTUARIAL VALUATIONS		
	June 30, 2020 (Lag)	June 30, 2019 (Lag)
Number		
Males	104,641	105,729
Females	86,596	85,772
Total	191,237	191,501
Annual Salary <sup>1</sup>		
Males	\$ 8,878,865,969	\$ 8,792,955,050
Females	6,410,481,480	6,188,506,125
Total	\$ 15,289,347,449	\$ 14,981,461,175
Average Salary <sup>1</sup>		
Males	\$ 84,851	\$ 83,165
Females	74,027	72,151
Total Average	\$ 79,950	\$ 78,232
Average Age		
Males	47.5	47.6
Females	47.7	47.8
Total Average	47.6	47.7
Average Past Service		
Males	12.1	12.2
Females	11.9	12.1
Total Average	12.0	12.2

<sup>1</sup>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.

Graph XIII-4  
Active Membership by Tier



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

<b>June 30 (Lag) Actuarial Valuation</b>	<b>Number</b>	<b>Annual Salary</b>	<b>Average Annual Salary</b>	<b>Percentage Increase/ (Decrease) In Avg. Salary</b>
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%
2018	190,572	14,459,118,057	75,872	2.4%
2019	191,501	14,981,461,175	78,232	3.1%
2020	191,237	15,289,347,449	79,950	2.2%

Salaries shown are base salary plus assumed overtime paid and reflect certain salary increases with retroactive effective dates, if any, that are not yet reflected in census data.

**Table XIII-6**  
**Detailed Active Membership and Salaries by Obligor as of June 30, 2020**

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	24	0	0	0	0	0	0	0	0	24
20 TO 24	331	3	0	0	0	0	0	0	0	334
25 TO 29	1,056	151	22	0	0	0	0	0	0	1,229
30 TO 34	1,959	920	154	1	0	0	0	0	0	3,034
35 TO 39	1,940	1,549	544	111	24	0	0	0	0	4,168
40 TO 44	1,439	1,460	1,031	460	128	0	0	0	0	4,518
45 TO 49	1,111	1,280	1,107	891	660	105	8	0	0	5,162
50 TO 54	900	1,137	1,204	1,187	1,331	760	270	15	0	6,804
55 TO 59	612	954	1,077	1,150	1,386	911	717	113	4	6,924
60 TO 64	307	544	679	768	1,006	529	467	203	24	4,527
65 TO 69	75	213	255	346	399	179	150	75	36	1,728
70 & UP	12	52	95	126	177	64	57	42	43	668
<b>TOTAL</b>	<b>9,766</b>	<b>8,263</b>	<b>6,168</b>	<b>5,040</b>	<b>5,111</b>	<b>2,548</b>	<b>1,669</b>	<b>448</b>	<b>107</b>	<b>39,120</b>

*SALARIES (IN THOUSANDS):*

UNDER 20	1,275	0	0	0	0	0	0	0	0	1,275
20 TO 24	21,007	262	0	0	0	0	0	0	0	21,269
25 TO 29	70,337	12,446	2,043	0	0	0	0	0	0	84,827
30 TO 34	135,046	76,923	13,487	92	0	0	0	0	0	225,549
35 TO 39	138,546	131,346	47,783	10,632	2,446	0	0	0	0	330,753
40 TO 44	104,130	123,867	90,646	42,533	12,559	0	0	0	0	373,735
45 TO 49	81,083	109,216	97,500	82,480	62,194	10,692	926	0	0	444,092
50 TO 54	66,292	96,954	105,218	110,036	125,238	76,154	28,594	1,727	0	610,213
55 TO 59	45,749	81,204	94,467	105,252	129,607	90,445	72,808	12,375	432	632,340
60 TO 64	22,346	46,696	59,174	70,009	94,561	51,720	47,687	21,419	2,352	415,966
65 TO 69	5,507	18,004	21,844	31,352	36,422	17,216	14,720	7,770	3,987	156,822
70 & UP	879	4,493	8,072	11,386	16,273	6,015	5,266	4,353	4,299	61,036
<b>TOTAL<sup>1</sup></b>	<b>692,197</b>	<b>701,412</b>	<b>540,235</b>	<b>463,772</b>	<b>479,299</b>	<b>252,243</b>	<b>170,001</b>	<b>47,645</b>	<b>11,070</b>	<b>3,357,875</b>

*AVERAGE SALARIES:<sup>2</sup>*

UNDER 20	53,129	0	0	0	0	0	0	0	0	53,129
20 TO 24	63,465	87,267	0	0	0	0	0	0	0	63,679
25 TO 29	66,607	82,427	92,870	0	0	0	0	0	0	69,021
30 TO 34	68,936	83,612	87,578	92,300	0	0	0	0	0	74,340
35 TO 39	71,415	84,794	87,837	95,783	101,898	0	0	0	0	79,355
40 TO 44	72,363	84,841	87,921	92,462	98,114	0	0	0	0	82,721
45 TO 49	72,982	85,325	88,076	92,570	94,234	101,832	115,748	0	0	86,031
50 TO 54	73,658	85,272	87,390	92,701	94,093	100,203	105,903	115,129	0	89,684
55 TO 59	74,753	85,120	87,713	91,523	93,511	99,281	101,546	109,516	108,020	91,326
60 TO 64	72,789	85,838	87,149	91,157	93,998	97,770	102,114	105,512	98,006	91,885
65 TO 69	73,423	84,524	85,663	90,614	91,283	96,180	98,136	103,607	110,741	90,754
70 & UP	73,208	86,409	84,969	90,365	91,936	93,985	92,381	103,654	99,972	91,371
<b>TOTAL</b>	<b>70,878</b>	<b>84,886</b>	<b>87,587</b>	<b>92,018</b>	<b>93,778</b>	<b>98,997</b>	<b>101,858</b>	<b>106,351</b>	<b>103,455</b>	<b>85,835</b>

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

<sup>1</sup> Total may not add up due to rounding.

<sup>2</sup> Average based on unrounded salary.

**Table XIII-6**  
**Detailed Active Membership and Salaries by Obligor as of June 30, 2020 (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
20 TO 24	75	1	0	0	0	0	0	0	0	76
25 TO 29	250	110	0	0	0	0	0	0	0	360
30 TO 34	319	295	102	1	0	0	0	0	0	717
35 TO 39	258	314	168	56	0	0	0	0	0	796
40 TO 44	268	290	166	194	124	4	0	0	0	1,046
45 TO 49	188	222	189	234	266	162	4	0	0	1,265
50 TO 54	161	228	175	239	319	378	149	5	0	1,654
55 TO 59	140	162	149	229	297	303	261	50	0	1,591
60 TO 64	55	115	94	152	176	161	156	68	20	997
65 TO 69	20	35	32	51	62	46	22	10	12	290
70 & UP	13	9	10	19	16	11	7	10	6	101
<b>TOTAL</b>	<b>1,747</b>	<b>1,781</b>	<b>1,085</b>	<b>1,175</b>	<b>1,260</b>	<b>1,065</b>	<b>599</b>	<b>143</b>	<b>38</b>	<b>8,893</b>

*SALARIES (IN THOUSANDS):*

UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	3,092	56	0	0	0	0	0	0	0	3,148
25 TO 29	11,877	6,097	0	0	0	0	0	0	0	17,974
30 TO 34	16,905	17,183	6,112	50	0	0	0	0	0	40,250
35 TO 39	13,904	19,971	11,794	3,753	0	0	0	0	0	49,421
40 TO 44	15,797	19,194	12,753	13,721	9,280	383	0	0	0	71,127
45 TO 49	11,456	16,186	14,120	16,427	20,882	13,063	422	0	0	92,557
50 TO 54	10,124	16,198	12,895	16,687	25,312	30,852	12,982	498	0	125,547
55 TO 59	8,485	11,394	10,449	15,676	23,797	24,762	22,069	4,605	0	121,236
60 TO 64	3,463	7,833	6,798	11,179	14,039	12,615	13,425	6,097	1,520	76,968
65 TO 69	1,118	2,460	2,117	3,776	5,053	3,717	1,924	853	898	21,917
70 & UP	280	786	806	1,555	1,333	779	557	786	522	7,403
<b>TOTAL<sup>1</sup></b>	<b>96,500</b>	<b>117,357</b>	<b>77,844</b>	<b>82,824</b>	<b>99,695</b>	<b>86,171</b>	<b>51,378</b>	<b>12,839</b>	<b>2,940</b>	<b>627,547</b>

*AVERAGE SALARIES:<sup>2</sup>*

UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	41,228	55,560	0	0	0	0	0	0	0	41,416
25 TO 29	47,507	55,427	0	0	0	0	0	0	0	49,927
30 TO 34	52,994	58,248	59,919	49,930	0	0	0	0	0	56,136
35 TO 39	53,890	63,601	70,203	67,014	0	0	0	0	0	62,087
40 TO 44	58,943	66,185	76,826	70,727	74,837	95,720	0	0	0	67,999
45 TO 49	60,936	72,911	74,709	70,202	78,502	80,637	105,588	0	0	73,167
50 TO 54	62,883	71,045	73,685	69,819	79,346	81,620	87,125	99,514	0	75,905
55 TO 59	60,609	70,331	70,129	68,454	80,123	81,721	84,555	92,101	0	76,201
60 TO 64	62,957	68,117	72,314	73,548	79,768	78,354	86,056	89,658	75,975	77,200
65 TO 69	55,895	70,294	66,164	74,036	81,505	80,795	87,456	85,300	74,866	75,574
70 & UP	21,515	87,283	80,603	81,834	83,292	70,817	79,544	78,628	86,945	73,292
<b>TOTAL</b>	<b>55,237</b>	<b>65,894</b>	<b>71,746</b>	<b>70,488</b>	<b>79,123</b>	<b>80,911</b>	<b>85,774</b>	<b>89,781</b>	<b>77,357</b>	<b>70,566</b>

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

<sup>1</sup> Total may not add up due to rounding.

<sup>2</sup> Average based on unrounded salary.

**Table XIII-6**  
**Detailed Active Membership and Salaries by Obligor as of June 30, 2020 (cont'd)**

<b>Health and Hospitals Corporation</b>										
<b>AGE \ SVC</b>	<b>UNDER 5</b>	<b>5-9</b>	<b>10-14</b>	<b>15-19</b>	<b>20-24</b>	<b>25-29</b>	<b>30-34</b>	<b>35-39</b>	<b>40 &amp; UP</b>	<b>ALL YEARS</b>
<i>NUMBER:</i>										
UNDER 20	2	0	0	0	0	0	0	0	0	2
20 TO 24	159	1	0	0	0	0	0	0	0	160
25 TO 29	1,173	39	0	0	0	0	0	0	0	1,212
30 TO 34	1,883	409	55	0	0	0	0	0	0	2,347
35 TO 39	1,942	832	403	44	1	0	0	0	0	3,222
40 TO 44	1,616	940	720	287	43	0	0	0	0	3,606
45 TO 49	1,438	901	874	502	165	25	2	0	0	3,907
50 TO 54	1,217	947	995	718	456	304	65	1	0	4,703
55 TO 59	1,041	917	1,039	826	628	576	289	52	1	5,369
60 TO 64	606	572	792	728	580	562	408	161	28	4,437
65 TO 69	162	255	318	279	187	160	131	78	33	1,603
70 & UP	42	74	97	104	71	62	67	27	29	573
<b>TOTAL</b>	<b>11,281</b>	<b>5,887</b>	<b>5,293</b>	<b>3,488</b>	<b>2,131</b>	<b>1,689</b>	<b>962</b>	<b>319</b>	<b>91</b>	<b>31,141</b>

*SALARIES (IN THOUSANDS):*

UNDER 20	81	0	0	0	0	0	0	0	0	81
20 TO 24	9,565	51	0	0	0	0	0	0	0	9,615
25 TO 29	81,361	2,786	0	0	0	0	0	0	0	84,147
30 TO 34	135,916	32,964	4,519	0	0	0	0	0	0	173,400
35 TO 39	142,691	64,498	31,982	3,233	94	0	0	0	0	242,498
40 TO 44	117,986	72,478	57,373	23,978	3,536	0	0	0	0	275,350
45 TO 49	104,245	67,985	73,831	42,384	14,954	2,651	206	0	0	306,256
50 TO 54	88,969	72,010	82,193	60,901	41,870	30,032	5,370	76	0	381,421
55 TO 59	75,209	67,871	81,703	65,909	56,327	53,635	28,115	4,595	99	433,462
60 TO 64	47,590	43,765	61,567	57,925	48,777	54,757	39,932	16,103	2,338	372,753
65 TO 69	13,845	19,932	25,051	22,568	16,496	13,791	11,499	7,703	3,605	134,489
70 & UP	4,247	5,932	7,510	8,655	6,007	5,357	5,404	2,608	3,320	49,040
<b>TOTAL<sup>1</sup></b>	<b>821,704</b>	<b>450,272</b>	<b>425,729</b>	<b>285,552</b>	<b>188,061</b>	<b>160,224</b>	<b>90,526</b>	<b>31,083</b>	<b>9,361</b>	<b>2,462,512</b>

*AVERAGE SALARIES:<sup>2</sup>*

UNDER 20	40,440	0	0	0	0	0	0	0	0	40,440
20 TO 24	60,156	50,560	0	0	0	0	0	0	0	60,096
25 TO 29	69,361	71,434	0	0	0	0	0	0	0	69,428
30 TO 34	72,181	80,597	82,166	0	0	0	0	0	0	73,881
35 TO 39	73,476	77,521	79,361	73,484	93,770	0	0	0	0	75,263
40 TO 44	73,011	77,104	79,685	83,546	82,232	0	0	0	0	76,359
45 TO 49	72,493	75,455	84,475	84,430	90,631	106,032	103,135	0	0	78,387
50 TO 54	73,105	76,040	82,606	84,820	91,821	98,790	82,612	75,610	0	81,102
55 TO 59	72,247	74,014	78,636	79,793	89,693	93,117	97,283	88,356	98,510	80,734
60 TO 64	78,531	76,513	77,736	79,567	84,098	97,433	97,872	100,016	83,489	84,010
65 TO 69	85,464	78,164	78,777	80,888	88,212	86,193	87,780	98,753	109,231	83,898
70 & UP	101,118	80,165	77,420	83,218	84,610	86,408	80,649	96,577	114,498	85,584
<b>TOTAL</b>	<b>72,840</b>	<b>76,486</b>	<b>80,433</b>	<b>81,867</b>	<b>88,250</b>	<b>94,863</b>	<b>94,101</b>	<b>97,439</b>	<b>102,871</b>	<b>79,076</b>

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

<sup>1</sup> Total may not add up due to rounding.

<sup>2</sup> Average based on unrounded salary.



**Table XIII-6**  
**Detailed Active Membership and Salaries by Obligor as of June 30, 2020 (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	0	0	0	0	0	0	0	0	0	0
25 TO 29	22	6	0	0	0	0	0	0	0	28
30 TO 34	36	25	6	0	0	0	0	0	0	67
35 TO 39	34	34	30	8	0	0	0	0	0	106
40 TO 44	36	43	66	29	9	0	0	0	0	183
45 TO 49	17	41	78	63	39	1	1	0	0	240
50 TO 54	17	31	52	49	45	17	5	0	0	216
55 TO 59	12	21	36	44	23	22	18	8	0	184
60 TO 64	6	13	10	26	21	17	15	5	0	113
65 TO 69	2	1	6	5	4	1	3	2	3	27
70 & UP	0	1	0	2	2	0	5	1	0	11
<b>TOTAL</b>	<b>182</b>	<b>216</b>	<b>284</b>	<b>226</b>	<b>143</b>	<b>58</b>	<b>47</b>	<b>16</b>	<b>3</b>	<b>1,175</b>

*SALARIES (IN THOUSANDS):*

UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	0	0	0	0	0	0	0	0	0	0
25 TO 29	1,441	436	0	0	0	0	0	0	0	1,876
30 TO 34	2,668	2,328	567	0	0	0	0	0	0	5,563
35 TO 39	2,760	3,153	3,304	945	0	0	0	0	0	10,162
40 TO 44	3,027	4,290	7,118	3,459	970	0	0	0	0	18,863
45 TO 49	1,432	3,974	8,034	6,894	4,641	86	270	0	0	25,331
50 TO 54	1,528	2,955	5,365	5,234	4,955	2,006	525	0	0	22,568
55 TO 59	1,006	2,209	3,909	4,696	2,855	2,706	2,146	1,106	0	20,634
60 TO 64	667	1,271	983	2,523	2,458	2,033	1,899	513	0	12,347
65 TO 69	177	146	672	513	402	145	345	175	342	2,917
70 & UP	0	155	0	223	226	0	376	71	0	1,051
<b>TOTAL<sup>1</sup></b>	<b>14,705</b>	<b>20,917</b>	<b>29,951</b>	<b>24,487</b>	<b>16,507</b>	<b>6,975</b>	<b>5,561</b>	<b>1,865</b>	<b>342</b>	<b>121,311</b>

*AVERAGE SALARIES:<sup>2</sup>*

UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	0	0	0	0	0	0	0	0	0	0
25 TO 29	65,478	72,593	0	0	0	0	0	0	0	67,003
30 TO 34	74,102	93,138	94,420	0	0	0	0	0	0	83,024
35 TO 39	81,167	92,750	110,127	118,090	0	0	0	0	0	95,865
40 TO 44	84,083	99,770	107,842	119,270	107,769	0	0	0	0	103,079
45 TO 49	84,255	96,923	102,995	109,425	119,000	86,170	269,850	0	0	105,544
50 TO 54	89,865	95,321	103,173	106,818	110,111	118,007	105,040	0	0	104,482
55 TO 59	83,833	105,190	108,591	106,732	124,141	122,990	119,249	138,205	0	112,139
60 TO 64	111,195	97,773	98,345	97,041	117,052	119,562	126,577	102,626	0	109,267
65 TO 69	88,700	145,980	111,983	102,552	100,425	144,550	114,980	87,555	114,153	108,030
70 & UP	0	154,950	0	111,600	113,060	0	75,138	71,230	0	95,563
<b>TOTAL</b>	<b>80,799</b>	<b>96,840</b>	<b>105,462</b>	<b>108,348</b>	<b>115,434</b>	<b>120,261</b>	<b>118,316</b>	<b>116,569</b>	<b>114,153</b>	<b>103,244</b>

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

<sup>1</sup> Total may not add up due to rounding.

<sup>2</sup> Average based on unrounded salary.

**Table XIII-6**  
**Detailed Active Membership and Salaries by Obligor as of June 30, 2020 (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	1	0	0	0	0	0	0	0	0	1
20 TO 24	25	0	0	0	0	0	0	0	0	25
25 TO 29	164	10	1	0	0	0	0	0	0	175
30 TO 34	296	95	15	0	0	0	0	0	0	406
35 TO 39	234	129	89	13	0	0	0	0	0	465
40 TO 44	163	106	115	67	14	0	0	0	0	465
45 TO 49	149	100	118	99	44	10	0	0	0	520
50 TO 54	176	108	124	116	84	40	6	0	0	654
55 TO 59	146	115	117	99	110	56	31	5	0	679
60 TO 64	123	77	92	90	81	53	39	20	3	578
65 TO 69	70	42	53	52	46	31	18	9	1	322
70 & UP	21	28	45	29	22	12	10	5	12	184
<b>TOTAL</b>	<b>1,568</b>	<b>810</b>	<b>769</b>	<b>565</b>	<b>401</b>	<b>202</b>	<b>104</b>	<b>39</b>	<b>16</b>	<b>4,474</b>

<i>SALARIES (IN THOUSANDS):</i>										
UNDER 20	36	0	0	0	0	0	0	0	0	36
20 TO 24	936	0	0	0	0	0	0	0	0	936
25 TO 29	6,972	542	123	0	0	0	0	0	0	7,637
30 TO 34	14,403	5,636	919	0	0	0	0	0	0	20,958
35 TO 39	12,555	8,222	6,079	914	0	0	0	0	0	27,769
40 TO 44	8,610	6,739	8,260	4,857	1,183	0	0	0	0	29,648
45 TO 49	8,365	6,896	7,924	7,333	3,357	846	0	0	0	34,721
50 TO 54	9,116	6,754	8,213	8,303	6,216	2,997	650	0	0	42,249
55 TO 59	7,371	6,489	7,267	6,260	8,116	4,992	2,811	372	0	43,676
60 TO 64	6,093	4,444	5,294	5,635	5,858	3,717	2,973	1,596	192	35,802
65 TO 69	3,481	2,451	3,051	2,998	3,048	2,216	1,031	600	123	19,000
70 & UP	1,384	1,135	2,137	1,455	1,171	698	599	322	913	9,815
<b>TOTAL<sup>1</sup></b>	<b>79,321</b>	<b>49,308</b>	<b>49,266</b>	<b>37,755</b>	<b>28,948</b>	<b>15,467</b>	<b>8,064</b>	<b>2,890</b>	<b>1,228</b>	<b>272,248</b>

<i>AVERAGE SALARIES:<sup>2</sup></i>										
UNDER 20	36,410	0	0	0	0	0	0	0	0	36,410
20 TO 24	37,434	0	0	0	0	0	0	0	0	37,434
25 TO 29	42,514	54,183	122,930	0	0	0	0	0	0	43,640
30 TO 34	48,658	59,328	61,260	0	0	0	0	0	0	51,620
35 TO 39	53,654	63,738	68,298	70,275	0	0	0	0	0	59,719
40 TO 44	52,819	63,573	71,830	72,489	84,486	0	0	0	0	63,760
45 TO 49	56,139	68,956	67,155	74,069	76,296	84,644	0	0	0	66,771
50 TO 54	51,794	62,536	66,231	71,581	74,002	74,926	108,293	0	0	64,600
55 TO 59	50,484	56,426	62,113	63,232	73,779	89,136	90,661	74,318	0	64,324
60 TO 64	49,539	57,718	57,541	62,612	72,315	70,135	76,242	79,789	63,973	61,942
65 TO 69	49,730	58,368	57,558	57,662	66,256	71,499	57,287	66,698	122,930	59,007
70 & UP	65,895	40,537	47,492	50,176	53,231	58,192	59,888	64,496	76,083	53,341
<b>TOTAL</b>	<b>50,588</b>	<b>60,874</b>	<b>64,066</b>	<b>66,823</b>	<b>72,190</b>	<b>76,570</b>	<b>77,536</b>	<b>74,106</b>	<b>76,740</b>	<b>60,851</b>

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

<sup>1</sup> Total may not add up due to rounding.

<sup>2</sup> Average based on unrounded salary.

**Table XIII-6**  
**Detailed Active Membership and Salaries by Obligor as of June 30, 2020 (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
20 TO 24	0	0	0	0	0	0	0	0	0	0
25 TO 29	2	0	0	0	0	0	0	0	0	2
30 TO 34	2	1	0	0	0	0	0	0	0	3
35 TO 39	4	2	4	1	0	0	0	0	0	11
40 TO 44	4	4	5	0	0	0	0	0	0	13
45 TO 49	5	2	13	3	3	0	0	0	0	26
50 TO 54	6	0	7	7	8	5	2	0	0	35
55 TO 59	4	2	5	6	4	6	6	2	0	35
60 TO 64	0	0	3	5	4	4	9	2	0	27
65 TO 69	1	1	1	2	1	1	3	0	0	10
70 & UP	1	0	0	0	2	0	0	0	1	4
<b>TOTAL</b>	<b>29</b>	<b>12</b>	<b>38</b>	<b>24</b>	<b>22</b>	<b>16</b>	<b>20</b>	<b>4</b>	<b>1</b>	<b>166</b>

*SALARIES (IN THOUSANDS):*

UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	0	0	0	0	0	0	0	0	0	0
25 TO 29	153	0	0	0	0	0	0	0	0	153
30 TO 34	168	106	0	0	0	0	0	0	0	274
35 TO 39	516	227	451	102	0	0	0	0	0	1,297
40 TO 44	431	559	546	0	0	0	0	0	0	1,535
45 TO 49	405	305	1,714	421	465	0	0	0	0	3,310
50 TO 54	502	0	791	871	1,210	628	262	0	0	4,263
55 TO 59	405	319	558	813	488	913	965	298	0	4,758
60 TO 64	0	0	279	522	454	506	1,026	261	0	3,049
65 TO 69	65	148	152	252	60	185	373	0	0	1,236
70 & UP	47	0	0	0	275	0	0	0	125	447
<b>TOTAL<sup>1</sup></b>	<b>2,690</b>	<b>1,665</b>	<b>4,491</b>	<b>2,982</b>	<b>2,952</b>	<b>2,232</b>	<b>2,626</b>	<b>559</b>	<b>125</b>	<b>20,321</b>

*AVERAGE SALARIES:<sup>2</sup>*

UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	0	0	0	0	0	0	0	0	0	0
25 TO 29	76,455	0	0	0	0	0	0	0	0	76,455
30 TO 34	83,830	106,390	0	0	0	0	0	0	0	91,350
35 TO 39	128,908	113,700	112,843	102,280	0	0	0	0	0	117,880
40 TO 44	107,628	139,690	109,242	0	0	0	0	0	0	118,114
45 TO 49	80,990	152,620	131,814	140,253	155,143	0	0	0	0	127,306
50 TO 54	83,622	0	112,956	124,436	151,198	125,590	130,960	0	0	121,798
55 TO 59	101,195	159,600	111,674	135,472	121,940	152,165	160,767	148,905	0	135,953
60 TO 64	0	0	92,917	104,438	113,605	126,530	114,028	130,555	0	112,920
65 TO 69	65,100	148,050	152,250	126,210	59,670	184,800	124,420	0	0	123,555
70 & UP	46,700	0	0	0	137,330	0	0	0	125,230	111,648
<b>TOTAL</b>	<b>92,758</b>	<b>138,753</b>	<b>118,190</b>	<b>124,230</b>	<b>134,160</b>	<b>139,491</b>	<b>131,302</b>	<b>139,730</b>	<b>125,230</b>	<b>122,418</b>

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

<sup>1</sup> Total may not add up due to rounding.

<sup>2</sup> Average based on unrounded salary.

**Table XIII-6**  
**Detailed Active Membership and Salaries by Obligor as of June 30, 2020 (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	25	0	0	0	0	0	0	0	0	25
25 TO 29	411	8	0	0	0	0	0	0	0	419
30 TO 34	443	395	60	5	0	0	0	0	0	903
35 TO 39	308	595	328	269	6	0	0	0	0	1,506
40 TO 44	144	430	341	471	207	0	0	0	0	1,593
45 TO 49	87	264	200	423	318	48	1	0	0	1,341
50 TO 54	31	140	136	265	277	99	23	1	0	972
55 TO 59	9	62	77	118	181	72	85	5	0	609
60 TO 64	2	14	11	60	50	25	39	15	2	218
65 TO 69	1	3	5	9	10	3	10	11	3	55
70 & UP	0	0	1	0	2	0	2	0	5	10
<b>TOTAL</b>	<b>1,461</b>	<b>1,911</b>	<b>1,159</b>	<b>1,620</b>	<b>1,051</b>	<b>247</b>	<b>160</b>	<b>32</b>	<b>10</b>	<b>7,651</b>

*SALARIES (IN THOUSANDS):*

UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	1,422	0	0	0	0	0	0	0	0	1,422
25 TO 29	24,181	484	0	0	0	0	0	0	0	24,666
30 TO 34	26,208	38,351	6,335	566	0	0	0	0	0	71,459
35 TO 39	18,307	57,408	35,180	30,915	678	0	0	0	0	142,488
40 TO 44	8,831	42,685	36,126	53,052	25,236	0	0	0	0	165,930
45 TO 49	5,231	26,083	20,942	47,006	37,549	5,921	112	0	0	142,846
50 TO 54	1,912	13,799	14,212	28,981	31,846	11,638	2,879	211	0	105,479
55 TO 59	579	6,063	8,089	12,780	20,984	8,548	10,760	572	0	68,375
60 TO 64	130	1,326	1,081	6,381	5,548	2,790	4,341	1,918	332	23,847
65 TO 69	138	287	551	897	1,130	309	1,162	1,290	357	6,119
70 & UP	0	0	95	0	250	0	232	0	503	1,080
<b>TOTAL<sup>1</sup></b>	<b>86,938</b>	<b>186,486</b>	<b>122,610</b>	<b>180,579</b>	<b>123,221</b>	<b>29,206</b>	<b>19,487</b>	<b>3,991</b>	<b>1,192</b>	<b>753,710</b>

*AVERAGE SALARIES:<sup>2</sup>*

UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	56,867	0	0	0	0	0	0	0	0	56,867
25 TO 29	58,835	60,556	0	0	0	0	0	0	0	58,868
30 TO 34	59,160	97,090	105,584	113,144	0	0	0	0	0	79,135
35 TO 39	59,439	96,484	107,255	114,926	112,963	0	0	0	0	94,613
40 TO 44	61,329	99,267	105,941	112,637	121,913	0	0	0	0	104,162
45 TO 49	60,125	98,800	104,712	111,126	118,079	123,363	112,420	0	0	106,522
50 TO 54	61,668	98,563	104,501	109,364	114,969	117,551	125,190	211,200	0	108,517
55 TO 59	64,301	97,796	105,046	108,308	115,934	118,723	126,588	114,440	0	112,275
60 TO 64	64,920	94,717	98,235	106,349	110,954	111,591	111,311	127,889	166,135	109,388
65 TO 69	137,950	95,697	110,128	99,681	112,954	102,987	116,154	117,238	118,970	111,261
70 & UP	0	0	94,830	0	125,130	0	116,190	0	100,542	108,018
<b>TOTAL</b>	<b>59,506</b>	<b>97,586</b>	<b>105,789</b>	<b>111,469</b>	<b>117,242</b>	<b>118,242</b>	<b>121,793</b>	<b>124,730</b>	<b>119,189</b>	<b>98,511</b>

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

<sup>1</sup> Total may not add up due to rounding.

<sup>2</sup> Average based on unrounded salary.

**Table XIII-6**  
**Detailed Active Membership and Salaries by Obligor as of June 30, 2020 (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	65	0	0	0	0	0	0	0	0	65
25 TO 29	853	74	0	0	0	0	0	0	0	927
30 TO 34	960	641	154	0	0	0	0	0	0	1,755
35 TO 39	495	675	646	155	0	0	0	0	0	1,971
40 TO 44	262	330	457	462	36	0	0	0	0	1,547
45 TO 49	98	202	298	416	155	24	0	0	0	1,193
50 TO 54	50	96	194	283	145	43	15	0	0	826
55 TO 59	22	47	82	149	67	36	58	8	0	469
60 TO 64	7	19	20	66	31	14	15	10	1	183
65 TO 69	2	0	3	9	6	3	7	8	7	45
70 & UP	0	0	1	2	1	1	1	0	1	7
<b>TOTAL</b>	<b>2,814</b>	<b>2,084</b>	<b>1,855</b>	<b>1,542</b>	<b>441</b>	<b>121</b>	<b>96</b>	<b>26</b>	<b>9</b>	<b>8,988</b>
<i>SALARIES (IN THOUSANDS):</i>										
UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	3,917	0	0	0	0	0	0	0	0	3,917
25 TO 29	56,494	6,146	0	0	0	0	0	0	0	62,640
30 TO 34	64,089	61,213	16,285	0	0	0	0	0	0	141,586
35 TO 39	33,371	69,466	73,424	17,998	0	0	0	0	0	194,259
40 TO 44	17,780	33,663	51,972	56,620	4,593	0	0	0	0	164,628
45 TO 49	6,659	21,270	33,907	50,864	20,345	3,337	0	0	0	136,383
50 TO 54	3,681	9,986	22,557	34,561	18,878	5,683	2,064	0	0	97,410
55 TO 59	1,611	5,079	9,513	18,674	8,793	4,806	8,079	1,074	0	57,629
60 TO 64	496	1,980	2,349	8,178	3,927	1,852	1,963	1,362	124	22,231
65 TO 69	126	0	376	1,035	759	480	1,034	1,049	915	5,775
70 & UP	0	0	125	244	127	122	124	0	127	869
<b>TOTAL<sup>1</sup></b>	<b>188,223</b>	<b>208,802</b>	<b>210,508</b>	<b>188,175</b>	<b>57,422</b>	<b>16,280</b>	<b>13,263</b>	<b>3,485</b>	<b>1,166</b>	<b>887,325</b>
<i>AVERAGE SALARIES:<sup>2</sup></i>										
UNDER 20	0	0	0	0	0	0	0	0	0	0
20 TO 24	60,262	0	0	0	0	0	0	0	0	60,262
25 TO 29	66,230	83,049	0	0	0	0	0	0	0	67,573
30 TO 34	66,759	95,495	105,744	0	0	0	0	0	0	80,676
35 TO 39	67,416	102,912	113,660	116,115	0	0	0	0	0	98,558
40 TO 44	67,863	102,008	113,724	122,554	127,582	0	0	0	0	106,417
45 TO 49	67,944	105,299	113,781	122,270	131,261	139,045	0	0	0	114,319
50 TO 54	73,616	104,016	116,274	122,125	130,190	132,170	137,606	0	0	117,930
55 TO 59	73,225	108,063	116,010	125,330	131,232	133,513	139,288	134,236	0	122,875
60 TO 64	70,801	104,226	117,434	123,909	126,689	132,256	130,877	136,191	124,160	121,480
65 TO 69	63,165	0	125,480	115,026	126,532	159,887	147,689	131,131	130,716	128,327
70 & UP	0	0	125,020	121,770	127,310	122,070	123,650	0	127,320	124,130
<b>TOTAL</b>	<b>66,888</b>	<b>100,193</b>	<b>113,481</b>	<b>122,033</b>	<b>130,209</b>	<b>134,547</b>	<b>138,161</b>	<b>134,033</b>	<b>129,610</b>	<b>98,723</b>

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

<sup>1</sup> Total may not add up due to rounding.

<sup>2</sup> Average based on unrounded salary.

**Table XIII-6**  
**Detailed Active Membership and Salaries by Obligor as of June 30, 2020 (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	3	0	0	0	0	0	0	0	0	3
20 TO 24	1,117	4	0	0	0	0	0	0	0	1,121
25 TO 29	5,326	508	2	0	0	0	0	0	0	5,836
30 TO 34	5,932	2,968	501	3	0	0	0	0	0	9,404
35 TO 39	4,252	3,470	2,674	374	7	0	0	0	0	10,777
40 TO 44	3,143	2,698	2,891	1,869	298	4	0	0	0	10,903
45 TO 49	2,263	2,036	2,516	2,157	1,236	190	15	0	0	10,413
50 TO 54	1,961	1,814	2,176	2,228	1,952	1,377	510	16	0	12,034
55 TO 59	1,411	1,537	1,852	1,976	1,918	2,064	2,143	399	11	13,311
60 TO 64	861	1,015	1,268	1,432	1,275	1,328	1,772	892	131	9,974
65 TO 69	280	477	570	667	491	448	607	345	165	4,050
70 & UP	79	168	248	298	228	179	241	157	205	1,803
<b>TOTAL</b>	<b>26,628</b>	<b>16,695</b>	<b>14,698</b>	<b>11,004</b>	<b>7,405</b>	<b>5,590</b>	<b>5,288</b>	<b>1,809</b>	<b>512</b>	<b>89,629</b>
<i>SALARIES (IN THOUSANDS):</i>										
UNDER 20	20	0	0	0	0	0	0	0	0	20
20 TO 24	49,832	307	0	0	0	0	0	0	0	50,138
25 TO 29	293,546	33,296	120	0	0	0	0	0	0	326,962
30 TO 34	371,092	210,687	36,383	301	0	0	0	0	0	618,462
35 TO 39	280,367	264,090	211,566	31,295	795	0	0	0	0	788,113
40 TO 44	210,206	211,201	233,341	161,596	28,243	419	0	0	0	845,006
45 TO 49	156,912	158,452	199,728	179,652	116,409	16,990	1,468	0	0	829,611
50 TO 54	135,659	139,669	166,361	175,838	166,488	127,489	49,587	1,958	0	963,050
55 TO 59	97,179	113,492	142,626	152,858	155,772	176,214	203,878	41,618	920	1,084,557
60 TO 64	59,008	73,686	91,537	110,973	101,195	110,319	159,428	89,876	13,187	809,209
65 TO 69	20,378	34,687	43,438	51,292	38,937	36,395	55,468	32,341	17,044	329,979
70 & UP	4,685	11,173	17,074	23,497	17,643	15,259	19,794	13,842	18,422	141,390
<b>TOTAL<sup>1</sup></b>	<b>1,678,884</b>	<b>1,250,741</b>	<b>1,142,174</b>	<b>887,301</b>	<b>625,482</b>	<b>483,085</b>	<b>489,623</b>	<b>179,635</b>	<b>49,573</b>	<b>6,786,498</b>
<i>AVERAGE SALARIES:<sup>2</sup></i>										
UNDER 20	6,557	0	0	0	0	0	0	0	0	6,557
20 TO 24	44,612	76,713	0	0	0	0	0	0	0	44,727
25 TO 29	55,116	65,544	59,875	0	0	0	0	0	0	56,025
30 TO 34	62,558	70,986	72,620	100,410	0	0	0	0	0	65,766
35 TO 39	65,938	76,107	79,120	83,677	113,590	0	0	0	0	73,129
40 TO 44	66,881	78,281	80,713	86,461	94,774	104,678	0	0	0	77,502
45 TO 49	69,338	77,825	79,383	83,288	94,182	89,420	97,878	0	0	79,671
50 TO 54	69,179	76,995	76,453	78,922	85,291	92,585	97,229	122,361	0	80,027
55 TO 59	68,873	73,840	77,012	77,357	81,216	85,375	95,137	104,306	83,619	81,478
60 TO 64	68,534	72,597	72,190	77,495	79,368	83,072	89,971	100,758	100,666	81,132
65 TO 69	72,780	72,720	76,206	76,899	79,301	81,239	91,381	93,741	103,294	81,476
70 & UP	59,306	66,506	68,849	78,848	77,381	85,246	82,134	88,166	89,866	78,419
<b>TOTAL</b>	<b>63,050</b>	<b>74,917</b>	<b>77,710</b>	<b>80,634</b>	<b>84,467</b>	<b>86,420</b>	<b>92,591</b>	<b>99,300</b>	<b>96,823</b>	<b>75,718</b>

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

<sup>1</sup> Total may not add up due to rounding.

<sup>2</sup> Average based on unrounded salary.

**Table XIII-6**  
**Detailed Active Membership and Salaries by Obligor as of June 30, 2020 (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	30	0	0	0	0	0	0	0	0	30
20 TO 24	1,797	9	0	0	0	0	0	0	0	1,806
25 TO 29	9,257	906	25	0	0	0	0	0	0	10,188
30 TO 34	11,830	5,749	1,047	10	0	0	0	0	0	18,636
35 TO 39	9,467	7,600	4,886	1,031	38	0	0	0	0	23,022
40 TO 44	7,075	6,301	5,792	3,839	859	8	0	0	0	23,874
45 TO 49	5,356	5,048	5,393	4,788	2,886	565	31	0	0	24,067
50 TO 54	4,519	4,501	5,063	5,092	4,617	3,023	1,045	38	0	27,898
55 TO 59	3,397	3,817	4,434	4,597	4,614	4,046	3,608	642	16	29,171
60 TO 64	1,967	2,369	2,969	3,327	3,224	2,693	2,920	1,376	209	21,054
65 TO 69	613	1,027	1,243	1,420	1,206	872	951	538	260	8,130
70 & UP	168	332	497	580	521	329	390	242	302	3,361
<b>TOTAL</b>	<b>55,476</b>	<b>37,659</b>	<b>31,349</b>	<b>24,684</b>	<b>17,965</b>	<b>11,536</b>	<b>8,945</b>	<b>2,836</b>	<b>787</b>	<b>191,237</b>
<i>SALARIES (IN THOUSANDS):</i>										
UNDER 20	1,412	0	0	0	0	0	0	0	0	1,412
20 TO 24	89,770	675	0	0	0	0	0	0	0	90,445
25 TO 29	546,362	62,233	2,286	0	0	0	0	0	0	610,881
30 TO 34	766,494	445,391	84,606	1,009	0	0	0	0	0	1,297,500
35 TO 39	643,016	618,381	421,563	99,787	4,012	0	0	0	0	1,786,759
40 TO 44	486,797	514,675	498,136	359,815	85,599	802	0	0	0	1,945,823
45 TO 49	375,788	410,368	457,701	433,461	280,797	53,587	3,405	0	0	2,015,107
50 TO 54	317,782	358,325	417,805	441,413	422,013	287,479	102,912	4,469	0	2,352,199
55 TO 59	237,593	294,121	358,582	382,918	406,737	367,022	351,630	66,614	1,450	2,466,667
60 TO 64	139,792	181,002	229,061	273,325	276,817	240,309	272,675	139,145	20,045	1,772,171
65 TO 69	44,836	78,115	97,252	114,684	102,305	74,453	87,557	51,781	27,271	678,254
70 & UP	11,521	23,674	35,819	47,014	43,305	28,231	32,351	21,983	28,232	272,130
<b>TOTAL<sup>1</sup></b>	<b>3,661,164</b>	<b>2,986,961</b>	<b>2,602,809</b>	<b>2,153,425</b>	<b>1,621,587</b>	<b>1,051,883</b>	<b>850,530</b>	<b>283,992</b>	<b>76,998</b>	<b>15,289,347</b>
<i>AVERAGE SALARIES:<sup>2</sup></i>										
UNDER 20	47,069	0	0	0	0	0	0	0	0	47,069
20 TO 24	49,955	74,973	0	0	0	0	0	0	0	50,080
25 TO 29	59,022	68,690	91,434	0	0	0	0	0	0	59,961
30 TO 34	64,792	77,473	80,808	100,918	0	0	0	0	0	69,623
35 TO 39	67,922	81,366	86,280	96,786	105,585	0	0	0	0	77,611
40 TO 44	68,805	81,682	86,004	93,726	99,649	100,200	0	0	0	81,504
45 TO 49	70,162	81,293	84,869	90,531	97,296	94,845	109,840	0	0	83,729
50 TO 54	70,321	79,610	82,521	86,688	91,404	95,097	98,481	117,607	0	84,314
55 TO 59	69,942	77,055	80,871	83,297	88,153	90,712	97,458	103,760	90,649	84,559
60 TO 64	71,069	76,405	77,151	82,154	85,861	89,235	93,382	101,123	95,909	84,173
65 TO 69	73,142	76,062	78,240	80,763	84,830	85,382	92,068	96,247	104,887	83,426
70 & UP	68,576	71,307	72,071	81,059	83,119	85,808	82,951	90,839	93,482	80,967
<b>TOTAL</b>	<b>65,995</b>	<b>79,316</b>	<b>83,027</b>	<b>87,240</b>	<b>90,264</b>	<b>91,183</b>	<b>95,084</b>	<b>100,138</b>	<b>97,837</b>	<b>79,950</b>

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

<sup>1</sup> Total may not add up due to rounding.

<sup>2</sup> Average based on unrounded salary.

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

Transit Authority											
TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2020						TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2019					
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	13	1,337,729	102,902	79.0	46.4	17	1,817,282	106,899	76.5	44.6
1	F	2	183,432	91,716	80.5	52.0	4	342,208	85,552	73.8	45.8
		15	1,521,161	101,411	79.2	47.1	21	2,159,490	102,833	76.0	44.8
2	M	7	825,996	117,999	72.3	38.0	7	730,553	104,365	70.6	40.7
2	F	3	249,376	83,125	68.3	31.0	2	138,480	69,240	69.0	45.0
		10	1,075,372	107,537	71.1	35.9	9	869,033	96,559	70.2	41.7
4	M	19,473	1,823,571,349	93,646	54.2	18.6	21,481	1,984,725,373	92,394	53.8	18.2
4	F	3,943	334,361,499	84,799	52.0	17.6	4,379	365,136,692	83,384	51.5	17.0
		23,416	2,157,932,848	92,156	53.8	18.5	25,860	2,349,862,065	90,869	53.4	18.0
6	M	12,966	1,012,459,403	78,086	42.1	3.9	12,225	920,324,298	75,282	41.7	3.2
6	F	2,713	184,886,589	68,148	40.6	3.5	2,650	175,646,004	66,282	39.8	3.0
		15,679	1,197,345,992	76,366	41.8	3.8	14,875	1,095,970,302	73,679	41.3	3.2
<b>ALL</b>		<b>39,120</b>	<b>3,357,875,373</b>	<b>85,835</b>	<b>49.0</b>	<b>12.6</b>	<b>40,765</b>	<b>3,448,860,890</b>	<b>84,603</b>	<b>49.0</b>	<b>12.6</b>

JUNE 30, 2020 MEMBERS ALSO PRESENT AS OF JUNE 30, 2019						JUNE 30, 2019 MEMBERS ALSO PRESENT AS OF JUNE 30, 2020					
1	M	13	1,337,729	102,902	79.0	46.4	13	1,333,969	102,613	78	45.3
1	F	2	183,432	91,716	80.5	52.0	2	184,641	92,320	79.5	51.0
		15	1,521,161	101,411	79.2	47.1	15	1,518,610	101,241	78.2	46.1
2	M	6	651,600	108,600	72.8	41.3	6	637,894	106,316	71.8	40.3
2	F	2	139,883	69,942	70.0	46.0	2	138,480	69,240	69.0	45.0
		8	791,483	98,935	72.1	42.5	8	776,374	97,047	71.1	41.5
4	M	19,199	1,802,076,760	93,863	54.2	18.7	19,199	1,774,208,325	92,412	53.2	17.6
4	F	3,783	322,729,717	85,311	52.2	17.8	3,783	316,899,241	83,769	51.2	16.7
		22,982	2,124,806,477	92,455	53.9	18.6	22,982	2,091,107,566	90,989	52.9	17.5
6	M	11,499	916,553,382	79,707	42.7	4.2	11,499	868,552,428	75,533	41.7	3.3
6	F	2,281	160,876,441	70,529	40.9	3.9	2,281	151,948,512	66,615	39.9	3.1
		13,780	1,077,429,823	78,188	42.4	4.2	13,780	1,020,500,940	74,057	41.4	3.2
<b>ALL</b>		<b>36,785</b>	<b>3,204,548,944</b>	<b>87,116</b>	<b>49.6</b>	<b>13.2</b>	<b>36,785</b>	<b>3,113,903,490</b>	<b>84,651</b>	<b>48.6</b>	<b>12.2</b>

ADDITIONS DURING THE YEAR <sup>1</sup>						SEPARATIONS FROM MEMBERSHIP DURING THE YEAR <sup>1</sup>					
1	M	0	0	0	0.0	0.0	4	483,313	120,828	71.8	42.3
1	F	0	0	0	0.0	0.0	2	157,567	78,784	68.0	40.5
		0	0	0	0.0	0.0	6	640,880	106,813	70.5	41.7
2	M	1	174,396	174,396	69.0	18.0	1	92,659	92,658	63.0	43.0
2	F	1	109,493	109,493	65.0	1.0	0	0	0	0.0	0.0
		2	283,889	141,944	67.0	9.5	1	92,659	92,658	63.0	43.0
4	M	274	21,494,589	78,447	51.1	13.0	2,282	210,517,048	92,251	58.8	23.0
4	F	160	11,631,782	72,699	48.3	11.3	596	48,237,451	80,935	53.8	18.8
		434	33,126,371	76,328	50.0	12.4	2,878	258,754,499	89,908	57.7	22.1
6	M	1,467	95,906,021	65,376	37.3	1.3	726	51,771,870	71,311	40.7	2.8
6	F	432	24,010,148	55,579	38.6	1.4	369	23,697,492	64,221	38.9	2.8
		1,899	119,916,169	63,147	37.6	1.3	1,095	75,469,362	68,922	40.1	2.8
<b>ALL</b>		<b>2,335</b>	<b>153,326,429</b>	<b>65,664</b>	<b>39.9</b>	<b>3.4</b>	<b>3,980</b>	<b>334,957,400</b>	<b>84,160</b>	<b>52.9</b>	<b>16.8</b>

Note: Age is nearest birthday. Service is nearest year. The member is considered also present if active with the same tier and gender as of both valuation dates.

<sup>1</sup> Separations and additions do not include members who joined after June 30, 2019 and are no longer members on June 30, 2020. Members are included as separations and additions if the tier or gender has changed.



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

Housing Authority											
TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2020							TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2019				
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	1	80,364	80,364	73.0	38.0	2	182,822	91,411	73.0	43.0
1	F	1	66,003	66,003	69.0	49.0	2	129,163	64,581	70.0	48.5
		2	146,367	73,183	71.0	43.5	4	311,985	77,996	71.5	45.8
2	M	0	0	0	0.0	0.0	2	125,961	62,981	66.5	34.5
2	F	4	227,057	56,764	70.8	42.8	4	220,542	55,136	69.8	41.8
		4	227,057	56,764	70.8	42.8	6	346,503	57,751	68.7	39.3
4	M	3,566	287,276,923	80,560	52.2	20.3	3,889	301,669,116	77,570	51.8	19.7
4	F	2,418	166,005,840	68,654	52.5	19.6	2,573	168,302,574	65,411	51.9	18.7
		5,984	453,282,763	75,749	52.3	20.0	6,462	469,971,690	72,729	51.8	19.3
6	M	1,772	114,119,803	64,402	41.9	3.9	1,437	89,186,036	62,064	41.7	3.8
6	F	1,131	59,770,728	52,848	39.7	3.5	922	46,435,146	50,363	39.2	3.5
		2,903	173,890,531	59,900	41.1	3.8	2,359	135,621,182	57,491	40.7	3.7
ALL		8,893	627,546,718	70,566	48.6	14.7	8,831	606,251,360	68,650	48.9	15.2

JUNE 30, 2020 MEMBERS ALSO PRESENT AS OF JUNE 30, 2019							JUNE 30, 2019 MEMBERS ALSO PRESENT AS OF JUNE 30, 2020				
1	M	1	80,364	80,364	73.0	38.0	1	78,626	78,626	72.0	37.0
1	F	1	66,003	66,003	69.0	49.0	1	64,581	64,581	68.0	48.0
		2	146,367	73,183	71.0	43.5	2	143,207	71,604	70.0	42.5
2	M	0	0	0	0.0	0.0	0	0	0	0.0	0.0
2	F	4	227,057	56,764	70.8	42.8	4	220,542	55,136	69.8	41.8
		4	227,057	56,764	70.8	42.8	4	220,542	55,136	69.8	41.8
4	M	3,500	282,814,122	80,804	52.2	20.4	3,500	271,482,225	77,566	51.2	19.4
4	F	2,357	161,801,379	68,647	52.6	19.7	2,357	154,776,649	65,667	51.6	18.7
		5,857	444,615,501	75,912	52.4	20.1	5,857	426,258,874	72,778	51.4	19.1
6	M	1,324	90,084,976	68,040	42.7	4.8	1,324	82,884,384	62,602	41.7	3.9
6	F	796	44,404,103	55,784	40.8	4.5	796	40,648,522	51,066	39.8	3.6
		2,120	134,489,079	63,438	42.0	4.7	2,120	123,532,906	58,270	41.0	3.8
ALL		7,983	579,478,004	72,589	49.6	16.1	7,983	550,155,529	68,916	48.6	15.0

ADDITIONS DURING THE YEAR <sup>1</sup>							SEPARATIONS FROM MEMBERSHIP DURING THE YEAR <sup>1</sup>				
1	M	0	0	0	0.0	0.0	1	104,196	104,196	74.0	49.0
1	F	0	0	0	0.0	0.0	1	64,582	64,581	72.0	49.0
		0	0	0	0.0	0.0	2	168,778	84,389	73.0	49.0
2	M	0	0	0	0.0	0.0	2	125,961	62,981	66.5	34.5
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		0	0	0	0.0	0.0	2	125,961	62,981	66.5	34.5
4	M	66	4,462,801	67,618	49.5	14.5	389	30,186,891	77,601	57.1	23.0
4	F	61	4,204,461	68,926	46.0	13.2	216	13,525,925	62,620	54.5	19.0
		127	8,667,262	68,246	47.8	13.9	605	43,712,816	72,253	56.1	21.6
6	M	448	24,034,827	53,649	39.8	1.3	113	6,301,652	55,767	41.7	3.4
6	F	335	15,366,625	45,871	37.1	1.3	126	5,786,624	45,926	35.1	2.6
		783	39,401,452	50,321	38.7	1.3	239	12,088,276	50,579	38.2	3.0
ALL		910	48,068,714	52,823	39.9	3.1	848	56,095,831	66,151	51.2	16.4

Note: Age is nearest birthday. Service is nearest year. The member is considered also present if active with the same tier and gender as of both valuation dates.

<sup>1</sup> Separations and additions do not include members who joined after June 30, 2019 and are no longer members on June 30, 2020. Members are included as separations and additions if the tier or gender has changed.

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

Health and Hospitals											
TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2020							TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2019				
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	5	495,397	99,079	70.0	47.8	6	532,557	88,760	69.7	46.7
1	F	15	1,667,278	111,152	74.5	39.5	18	1,784,970	99,165	74.1	38.4
		20	2,162,675	108,134	73.4	41.6	24	2,317,527	96,564	73.0	40.5
2	M	5	623,115	124,623	70.2	25.6	5	606,260	121,252	69.2	25.2
2	F	9	855,742	95,082	70.6	34.3	11	1,027,107	93,373	68.6	33.0
		14	1,478,857	105,633	70.4	31.2	16	1,633,367	102,085	68.8	30.6
4	M	5,712	464,677,554	81,351	53.8	14.9	6,247	492,137,130	78,780	53.4	14.3
4	F	13,829	1,117,403,812	80,801	53.7	15.1	15,070	1,184,306,052	78,587	53.3	14.5
		19,541	1,582,081,366	80,962	53.8	15.0	21,317	1,676,443,182	78,643	53.3	14.4
6	M	3,251	262,677,414	80,799	42.4	2.5	2,420	195,646,056	80,845	42.9	2.5
6	F	8,315	614,111,558	73,856	42.0	2.3	6,053	443,628,462	73,291	42.3	2.2
		11,566	876,788,972	75,807	42.1	2.4	8,473	639,274,518	75,448	42.5	2.3
ALL		31,141	2,462,511,870	79,076	49.5	10.3	29,830	2,319,668,594	77,763	50.3	11.0

JUNE 30, 2020 MEMBERS ALSO PRESENT AS OF JUNE 30, 2019						JUNE 30, 2019 MEMBERS ALSO PRESENT AS OF JUNE 30, 2020					
1	M	5	495,397	99,079	70.0	47.8	5	483,249	96,650	69.0	46.8
1	F	15	1,667,278	111,152	74.5	39.5	15	1,600,299	106,687	73.5	37.1
		20	2,162,675	108,134	73.4	41.6	20	2,083,548	104,177	72.4	39.6
2	M	5	623,115	124,623	70.2	25.6	5	606,260	121,252	69.2	25.2
2	F	9	855,742	95,082	70.6	34.3	9	829,127	92,125	69.6	33.3
		14	1,478,857	105,633	70.4	31.2	14	1,435,387	102,528	69.4	30.4
4	M	5,625	457,167,959	81,274	53.9	15.0	5,625	442,066,576	78,590	52.9	13.9
4	F	13,558	1,096,566,777	80,880	53.9	15.2	13,558	1,064,124,836	78,487	52.9	14.2
		19,183	1,553,734,736	80,995	53.9	15.1	19,183	1,506,191,412	78,517	52.9	14.1
6	M	2,190	185,738,744	84,812	44.0	3.3	2,190	177,572,125	81,083	43.0	2.5
6	F	5,408	413,281,177	76,420	43.7	3.0	5,408	396,415,106	73,302	42.7	2.3
		7,598	599,019,921	78,839	43.8	3.1	7,598	573,987,231	75,545	42.8	2.3
ALL		26,815	2,156,396,189	80,418	51.0	11.8	26,815	2,083,697,578	77,706	50.0	10.8

ADDITIONS DURING THE YEAR <sup>1</sup>						SEPARATIONS FROM MEMBERSHIP DURING THE YEAR <sup>1</sup>					
1	M	0	0	0	0.0	0.0	1	49,308	49,308	73.0	46.0
1	F	0	0	0	0.0	0.0	3	184,671	61,557	76.7	45.0
		0	0	0	0.0	0.0	4	233,979	58,495	75.8	45.3
2	M	0	0	0	0.0	0.0	0	0	0	0.0	0.0
2	F	0	0	0	0.0	0.0	2	197,980	98,990	64.5	31.5
		0	0	0	0.0	0.0	2	197,980	98,990	64.5	31.5
4	M	87	7,509,595	86,317	48.5	10.2	622	50,070,554	80,499	58.6	17.8
4	F	271	20,837,035	76,889	48.6	9.0	1,512	120,181,216	79,485	57.0	16.8
		358	28,346,630	79,181	48.6	9.3	2,134	170,251,770	79,781	57.5	17.1
6	M	1,061	76,938,670	72,515	39.1	0.9	230	18,073,931	78,582	42.5	2.3
6	F	2,907	200,830,381	69,085	39.0	0.9	645	47,213,356	73,199	39.5	1.9
		3,968	277,769,051	70,002	39.1	0.9	875	65,287,287	74,614	40.3	2.0
ALL		4,326	306,115,681	70,762	39.8	1.6	3,015	235,971,016	78,266	52.5	12.7

Note: Age is nearest birthday. Service is nearest year. The member is considered also present if active with the same tier and gender as of both valuation dates.

<sup>1</sup> Separations and additions do not include members who joined after June 30, 2019 and are no longer members on June 30, 2020. Members are included as separations and additions if the tier or gender has changed.

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

Triborough Bridge and Tunnel Authority											
TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2020							TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2019				
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	2	254,395	127,198	67.0	44.5	2	246,936	123,468	66.0	42.0
1	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		2	254,395	127,198	67.0	44.5	2	246,936	123,468	66.0	42.0
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	754	82,395,512	109,278	50.0	15.8	814	84,181,748	103,417	49.7	15.2
4	F	199	20,693,964	103,990	51.4	16.7	213	21,003,615	98,609	51.0	16.3
		953	103,089,476	108,174	50.3	15.9	1,027	105,185,363	102,420	50.0	15.4
6	M	176	14,345,311	81,507	40.2	3.5	183	14,391,346	78,641	39.4	2.6
6	F	44	3,621,947	82,317	43.8	3.5	40	3,061,825	76,546	43.0	3.1
		220	17,967,258	81,669	40.9	3.5	223	17,453,171	78,265	40.1	2.7
ALL		1,175	121,311,129	103,244	48.6	13.7	1,252	122,885,470	98,151	48.3	13.2

JUNE 30, 2020 MEMBERS ALSO PRESENT AS OF JUNE 30, 2019							JUNE 30, 2019 MEMBERS ALSO PRESENT AS OF JUNE 30, 2020				
1	M	2	254,395	127,198	67.0	44.5	2	246,936	123,468	66.0	42.0
1	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		2	254,395	127,198	67.0	44.5	2	246,936	123,468	66.0	42.0
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	750	82,002,932	109,337	50.1	15.8	750	77,322,354	103,096	49.1	14.7
4	F	194	20,254,696	104,406	51.5	16.8	194	19,192,082	98,928	50.5	15.8
		944	102,257,628	108,324	50.4	16.0	944	96,514,436	102,240	49.4	14.9
6	M	169	13,741,662	81,312	40.3	3.6	169	13,164,892	77,899	39.3	2.6
6	F	36	2,805,415	77,928	44.4	3.9	36	2,666,964	74,082	43.4	2.9
		205	16,547,077	80,717	41.0	3.6	205	15,831,856	77,229	40.0	2.7
ALL		1,151	119,059,100	103,440	48.7	13.8	1,151	112,593,228	97,822	47.7	12.8

ADDITIONS DURING THE YEAR <sup>1</sup>							SEPARATIONS FROM MEMBERSHIP DURING THE YEAR <sup>1</sup>				
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	4	392,580	98,145	41.0	10.8	64	6,859,394	107,178	57.5	20.5
4	F	5	439,268	87,854	44.6	12.0	19	1,811,533	95,344	55.4	21.8
		9	831,848	92,428	43.0	11.4	83	8,670,927	104,469	57.1	20.8
6	M	7	603,649	86,236	36.9	1.0	14	1,226,454	87,604	41.2	2.7
6	F	8	816,532	102,066	40.9	1.9	4	394,861	98,715	39.8	4.3
		15	1,420,181	94,679	39.0	1.5	18	1,621,315	90,073	40.9	3.1
ALL		24	2,252,029	93,835	40.5	5.2	101	10,292,242	101,903	54.2	17.6

Note: Age is nearest birthday. Service is nearest year. The member is considered also present if active with the same tier and gender as of both valuation dates.

<sup>1</sup> Separations and additions do not include members who joined after June 30, 2019 and are no longer members on June 30, 2020. Members are included as separations and additions if the tier or gender has changed.

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

CUNY Senior College											
TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2020							TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2019				
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	5	353,851	70,770	74.0	43.8	5	345,638	69,128	73.0	42.0
1	F	4	220,390	55,097	74.8	43.5	5	287,088	57,418	75.6	42.2
		9	574,241	63,805	74.3	43.7	10	632,726	63,273	74.3	42.1
2	M	1	117,455	117,455	73.0	45.0	1	114,184	114,184	72.0	44.0
2	F	3	217,067	72,356	69.0	39.3	3	208,411	69,470	68.0	38.3
		4	334,522	83,630	70.0	40.8	4	322,595	80,649	69.0	39.7
4	M	1,473	108,714,861	73,805	52.6	14.9	1,545	110,911,832	71,788	51.9	14.1
4	F	1,428	81,668,761	57,191	55.0	14.2	1,522	83,909,860	55,131	54.3	13.3
		2,901	190,383,622	65,627	53.8	14.6	3,067	194,821,692	63,522	53.1	13.7
6	M	850	49,359,617	58,070	42.6	3.1	782	44,549,163	56,968	41.9	2.5
6	F	710	31,595,989	44,501	42.6	2.5	657	28,459,709	43,318	41.7	1.9
		1,560	80,955,606	51,895	42.6	2.8	1,439	73,008,872	50,736	41.8	2.2
ALL		4,474	272,247,991	60,851	49.9	10.5	4,520	268,785,885	59,466	49.5	10.1

JUNE 30, 2020 MEMBERS ALSO PRESENT AS OF JUNE 30, 2019							JUNE 30, 2019 MEMBERS ALSO PRESENT AS OF JUNE 30, 2020				
1	M	5	353,851	70,770	74.0	43.8	5	345,638	69,128	73.0	42.0
1	F	4	220,390	55,097	74.8	43.5	4	216,467	54,117	73.8	41.5
		9	574,241	63,805	74.3	43.7	9	562,105	62,456	73.3	41.8
2	M	1	117,455	117,455	73.0	45.0	1	114,184	114,184	72.0	44.0
2	F	3	217,067	72,356	69.0	39.3	3	208,411	69,470	68.0	38.3
		4	334,522	83,630	70.0	40.8	4	322,595	80,649	69.0	39.8
4	M	1,450	106,912,327	73,733	52.6	15.0	1,450	104,298,032	71,930	51.6	14.0
4	F	1,409	80,770,346	57,325	55.0	14.2	1,409	78,184,818	55,490	54.0	13.3
		2,859	187,682,673	65,646	53.8	14.6	2,859	182,482,850	63,828	52.8	13.7
6	M	703	41,719,445	59,345	43.3	3.5	703	40,268,372	57,281	42.3	2.6
6	F	576	26,155,425	45,409	43.3	2.8	576	25,116,167	43,604	42.3	2.0
		1,279	67,874,870	53,069	43.3	3.2	1,279	65,384,539	51,122	42.3	2.3
ALL		4,151	256,466,306	61,784	50.6	11.2	4,151	248,752,089	59,926	49.6	10.2

ADDITIONS DURING THE YEAR <sup>1</sup>							SEPARATIONS FROM MEMBERSHIP DURING THE YEAR <sup>1</sup>				
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	1	70,621	55,320	83.0	45.0
		0	0	0	0.0	0.0	1	70,621	55,320	83.0	45.0
2	M	0	0	0	0.0	0.0	0	0	0	0.0	0.0
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		0	0	0	0.0	0.0	0	0	0	0.0	0.0
4	M	23	1,802,534	78,371	47.7	9.4	95	6,613,800	69,619	56.0	15.7
4	F	19	898,415	47,285	52.0	10.3	113	5,725,042	50,664	57.2	13.4
		42	2,700,949	64,308	49.6	9.8	208	12,338,842	59,321	56.7	14.5
6	M	147	7,640,172	51,974	39.5	1.1	79	4,280,791	54,187	39.0	1.9
6	F	134	5,440,564	40,601	39.5	1.2	81	3,343,542	41,278	37.0	1.4
		281	13,080,736	46,551	39.5	1.1	160	7,624,333	47,652	38.0	1.6
ALL		323	15,781,685	48,860	40.8	2.3	369	20,033,796	54,292	48.6	9.0

Note: Age is nearest birthday. Service is nearest year. The member is considered also present if active with the same tier and gender as of both valuation dates.

<sup>1</sup> Separations and additions do not include members who joined after June 30, 2019 and are no longer members on June 30, 2020. Members are included as separations and additions if the tier or gender has changed.

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

All Other Non-NYC Contributing Entities											
TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2020							TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2019				
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	149,428	149,429	74.0	22.0	1	139,199	139,199	73.0	21.0
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		1	149,428	149,429	74.0	22.0	1	139,199	139,199	73.0	21.0
4	M	65	9,100,387	140,006	54.7	20.7	66	8,869,221	134,382	54.3	19.7
4	F	82	9,044,871	110,303	54.1	15.9	90	9,291,608	103,240	53.0	14.7
		147	18,145,258	123,437	54.4	18.0	156	18,160,829	116,416	53.6	16.8
6	M	7	822,738	117,534	38.0	3.6	7	783,543	111,935	39.6	2.9
6	F	11	1,203,913	109,447	42.0	4.6	5	506,985	101,397	38.4	2.0
		18	2,026,651	112,592	40.4	4.2	12	1,290,528	107,544	39.1	2.5
ALL		166	20,321,337	122,418	53.0	16.5	169	19,590,556	115,920	52.6	15.8

JUNE 30, 2020 MEMBERS ALSO PRESENT AS OF JUNE 30, 2019							JUNE 30, 2019 MEMBERS ALSO PRESENT AS OF JUNE 30, 2020				
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	149,428	149,429	74.0	22.0	1	139,199	139,200	73.0	21.0
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		1	149,428	149,429	74.0	22.0	1	139,199	139,200	73.0	21.0
4	M	62	8,640,116	139,357	54.5	20.7	62	8,278,099	133,518	53.5	19.3
4	F	82	9,044,871	110,303	54.1	15.9	82	8,667,217	105,698	53.1	14.1
		144	17,684,987	122,812	54.3	18.0	144	16,945,316	117,676	53.3	16.3
6	M	5	535,098	107,020	37.6	3.6	5	502,655	100,531	36.6	2.8
6	F	5	533,757	106,751	39.4	2.4	5	506,985	101,397	38.4	2.0
		10	1,068,855	106,885	38.5	3.0	10	1,009,640	100,964	37.5	2.4
ALL		155	18,903,270	121,957	53.4	17.0	155	18,094,155	116,736	52.4	15.4

ADDITIONS DURING THE YEAR <sup>1</sup>							SEPARATIONS FROM MEMBERSHIP DURING THE YEAR <sup>1</sup>				
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	3	460,271	153,424	58.7	19.3	4	591,122	147,781	66.8	26.0
4	F	0	0	0	0.0	0.0	8	624,391	78,049	52.5	21.6
		3	460,271	153,424	58.7	19.3	12	1,215,513	101,293	57.3	23.1
6	M	2	287,640	143,820	39.0	3.5	2	280,888	140,444	47.0	3.0
6	F	6	670,156	111,693	44.2	6.5	0	0	0	0.0	0.0
		8	957,796	119,725	42.9	5.8	2	280,888	140,444	47.0	3.0
ALL		11	1,418,067	128,915	47.2	9.5	14	1,496,401	106,886	55.8	20.2

Note: Age is nearest birthday. Service is nearest year. The member is considered also present if active with the same tier and gender as of both valuation dates.

<sup>1</sup> Separations and additions do not include members who joined after June 30, 2019 and are no longer members on June 30, 2020. Members are included as separations and additions if the tier or gender has changed.

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

New York City: Sanitation											
TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2020							TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2019				
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	4	391,450	97,863	74.5	49.8	4	396,064	99,016	73.5	47.8
1	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		4	391,450	97,863	74.5	49.8	4	396,064	99,016	73.5	47.8
2	M	4	473,569	118,392	66.3	36.3	4	475,195	118,799	65.3	35.3
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		4	473,569	118,392	66.3	36.3	4	475,195	118,799	65.3	35.3
4	M	4,382	491,643,092	112,196	46.9	17.1	4,794	534,398,505	111,472	46.5	16.6
4	F	111	12,573,603	113,276	49.1	17.9	122	13,799,894	113,114	48.3	17.1
		4,493	504,216,695	112,223	47.0	17.1	4,916	548,198,399	111,513	46.5	16.6
3R	M	2,993	237,569,702	79,375	37.5	5.0	2,721	203,134,097	74,654	36.9	4.4
3R	F	157	11,058,855	70,439	37.9	5.2	138	9,029,202	65,429	37.4	4.5
		3,150	248,628,557	78,930	37.5	5.0	2,859	212,163,299	74,209	36.9	4.4
ALL		7,651	753,710,271	98,511	43.1	12.2	7,783	761,232,957	97,807	43.0	12.1

JUNE 30, 2020 MEMBERS ALSO PRESENT AS OF JUNE 30, 2019						JUNE 30, 2019 MEMBERS ALSO PRESENT AS OF JUNE 30, 2020					
1	M	4	391,450	97,863	74.5	49.8	4	396,064	99,016	73.5	47.8
1	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		4	391,450	97,863	74.5	49.8	4	396,064	99,016	73.5	47.8
2	M	4	473,569	118,392	66.3	36.3	4	475,195	118,799	65.3	35.3
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		4	473,569	118,392	66.3	36.3	4	475,195	118,799	65.3	35.3
4	M	4,369	490,350,767	112,234	46.9	17.1	4,369	486,028,828	111,245	45.9	16.1
4	F	111	12,573,603	113,276	49.1	17.9	111	12,433,514	112,014	48.1	16.9
		4,480	502,924,370	112,260	46.9	17.2	4,480	498,462,342	111,264	45.9	16.1
3R	M	2,676	220,342,812	82,340	37.9	5.4	2,676	200,220,211	74,821	36.9	4.4
3R	F	135	9,876,390	73,158	38.3	5.5	135	8,831,159	65,416	37.3	4.5
		2,811	230,219,202	81,899	37.9	5.4	2,811	209,051,370	74,369	36.9	4.4
ALL		7,299	734,008,591	100,563	43.5	12.7	7,299	708,384,971	97,052	42.5	11.6

ADDITIONS DURING THE YEAR <sup>1</sup>						SEPARATIONS FROM MEMBERSHIP DURING THE YEAR <sup>1</sup>					
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	13	1,292,325	99,410	49.5	13.1	425	48,369,677	113,811	52.7	21.3
4	F	0	0	0	0.0	0.0	11	1,366,380	124,216	50.5	19.4
		13	1,292,325	99,410	49.5	13.1	436	49,736,057	114,074	52.7	21.3
3R	M	317	17,226,890	54,344	33.7	1.6	45	2,913,886	64,753	35.6	3.0
3R	F	22	1,182,465	53,748	35.6	3.1	3	198,043	66,014	41.3	3.0
		339	18,409,355	54,305	33.9	1.7	48	3,111,929	64,832	36.0	3.0
ALL		352	19,701,680	55,971	34.4	2.1	484	52,847,986	109,190	51.0	19.5

Note: Age is nearest birthday. Service is nearest year. The member is considered also present if active with the same tier and gender as of both valuation dates.

<sup>1</sup> Separations and additions do not include members who joined after June 30, 2019 and are no longer members on June 30, 2020. Members are included as separations and additions if the tier or gender has changed.

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

New York City: Correction											
TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2020							TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2019				
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	2	252,089	126,045	68.5	47.5	2	251,740	125,870	67.5	45.0
1	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		2	252,089	126,045	68.5	47.5	2	251,740	125,870	67.5	45.0
2	M	0	0	0	0.0	0.0	0	0	0	0.0	0.0
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		0	0	0	0.0	0.0	0	0	0	0.0	0.0
3	M	2,541	294,505,698	115,901	44.6	14.0	2,784	317,891,255	114,185	44.1	13.6
3	F	2,268	268,569,747	118,417	44.2	14.6	2,505	291,455,140	116,349	43.8	14.2
		4,809	563,075,445	117,088	44.4	14.3	5,289	609,346,395	115,210	44.0	13.9
3R	M	2,506	194,636,062	77,668	35.3	4.6	2,887	202,655,834	70,196	33.8	3.3
3R	F	1,671	129,361,075	77,415	35.2	5.0	1,844	129,783,185	70,381	33.9	3.8
		4,177	323,997,137	77,567	35.3	4.7	4,731	332,439,019	70,268	33.8	3.5
ALL		8,988	887,324,671	98,723	40.2	9.9	10,022	942,037,154	93,997	39.2	9.0

JUNE 30, 2020 MEMBERS ALSO PRESENT AS OF JUNE 30, 2019							JUNE 30, 2019 MEMBERS ALSO PRESENT AS OF JUNE 30, 2020				
1	M	2	252,089	126,045	68.5	47.5	2	251,740	125,870	67.5	45.0
1	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		2	252,089	126,045	68.5	47.5	2	251,740	125,870	67.5	45.0
2	M	0	0	0	0.0	0.0	0	0	0	0.0	0.0
2	F	0	0	0	0.0	0.0	0	0	0	0.0	0.0
		0	0	0	0.0	0.0	0	0	0	0.0	0.0
3	M	2,525	292,819,156	115,968	44.6	14.1	2,525	286,798,046	113,583	43.6	13.0
3	F	2,249	266,308,881	118,412	44.2	14.6	2,249	260,298,951	115,740	43.2	13.6
		4,774	559,128,037	117,119	44.4	14.3	4,774	547,096,997	114,599	43.4	13.3
3R	M	2,469	191,870,289	77,712	35.3	4.6	2,469	177,652,365	71,953	34.3	3.6
3R	F	1,653	127,778,562	77,301	35.2	5.0	1,653	118,241,152	71,531	34.2	3.9
		4,122	319,648,851	77,547	35.3	4.8	4,122	295,893,517	71,784	34.3	3.7
ALL		8,898	879,028,977	98,790	40.2	9.9	8,898	843,242,254	94,768	39.2	8.8

ADDITIONS DURING THE YEAR <sup>1</sup>							SEPARATIONS FROM MEMBERSHIP DURING THE YEAR <sup>1</sup>				
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
3	M	16	1,686,542	105,409	44.2	10.1	259	31,093,209	120,051	48.9	19.4
3	F	19	2,260,866	118,993	40.5	13.1	256	31,156,189	121,704	48.8	19.3
		35	3,947,408	112,783	42.2	11.7	515	62,249,398	120,873	48.8	19.3
3R	M	37	2,765,773	74,751	34.6	3.3	418	25,003,469	59,817	30.8	2.0
3R	F	18	1,582,513	87,917	34.3	4.9	191	11,542,033	60,429	31.0	2.4
		55	4,348,286	79,060	34.5	3.9	609	36,545,502	60,009	30.9	2.1
ALL		90	8,295,694	92,174	37.5	6.9	1,124	98,794,900	87,896	39.1	10.0

Note: Age is nearest birthday. Service is nearest year. The member is considered also present if active with the same tier and gender as of both valuation dates.

<sup>1</sup> Separations and additions do not include members who joined after June 30, 2019 and are no longer members on June 30, 2020. Members are included as separations and additions if the tier or gender has changed.

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

All Other New York City											
		TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2020					TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2019				
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	63	5,866,691	93,122	74.7	47.1	78	7,340,289	94,106	73.2	45.4
1	F	72	5,476,808	76,067	73.8	47.8	87	6,395,133	73,507	72.3	45.7
		135	11,343,499	84,026	74.2	47.5	165	13,735,422	83,245	72.7	45.5
2	M	80	8,170,609	102,133	58.9	28.0	83	8,316,239	100,196	59.4	29.2
2	F	70	5,720,770	81,725	59.8	26.9	73	5,798,696	79,434	62.3	30.3
		150	13,891,379	92,609	59.4	27.5	156	14,114,935	90,480	60.8	29.7
4	M	23,780	2,148,115,645	90,333	52.8	18.5	25,466	2,217,516,774	87,078	52.4	17.8
4	F	29,040	2,202,300,365	75,837	52.4	18.4	30,793	2,237,881,847	72,675	51.8	17.6
		52,820	4,350,416,010	82,363	52.6	18.4	56,259	4,455,398,621	79,194	52.1	17.7
3R/6	M	18,181	1,263,482,761	69,495	39.4	3.4	15,762	1,048,362,802	66,512	39.0	3.0
3R/6	F	18,343	1,147,364,440	62,551	39.4	3.2	15,987	960,536,529	60,082	38.9	2.9
		36,524	2,410,847,201	66,007	39.4	3.3	31,749	2,008,899,331	63,274	39.0	2.9
ALL		89,629	6,786,498,089	75,718	47.3	12.3	88,329	6,492,148,309	73,500	47.4	12.5

JUNE 30, 2020 MEMBERS ALSO PRESENT AS OF JUNE 30, 2019						JUNE 30, 2019 MEMBERS ALSO PRESENT AS OF JUNE 30, 2020					
1	M	63	5,866,691	93,122	74.7	47.1	63	5,706,849	90,585	73.7	45.9
1	F	72	5,476,808	76,067	73.8	47.8	72	5,328,238	74,003	72.8	46.5
		135	11,343,499	84,026	74.2	47.5	135	11,035,087	81,741	73.2	46.2
2	M	73	7,656,798	104,888	59.5	29.9	73	7,359,660	100,817	58.5	28.4
2	F	58	4,840,197	83,452	62.6	30.3	58	4,659,939	80,344	61.6	29.3
		131	12,496,995	95,397	60.8	30.1	131	12,019,599	91,753	59.8	28.8
4	M	23,465	2,124,367,413	90,533	52.9	18.6	23,465	2,047,485,672	87,257	51.9	17.5
4	F	28,449	2,164,691,657	76,090	52.5	18.6	28,449	2,076,611,854	72,994	51.5	17.5
		51,914	4,289,059,070	82,619	52.7	18.6	51,914	4,124,097,526	79,441	51.7	17.5
3R/6	M	14,482	1,050,320,018	72,526	40.2	3.9	14,482	972,016,848	67,119	39.2	3.0
3R/6	F	14,340	930,187,562	64,867	40.2	3.8	14,340	865,503,343	60,356	39.2	2.9
		28,822	1,980,507,580	68,715	40.2	3.9	28,822	1,837,520,191	63,754	39.2	3.0
ALL		81,002	6,293,407,144	77,694	48.3	13.4	81,002	5,984,672,403	73,883	47.3	12.4

ADDITIONS DURING THE YEAR <sup>1</sup>						SEPARATIONS FROM MEMBERSHIP DURING THE YEAR <sup>1</sup>					
1	M	0	0	0	0.0	0.0	15	1,633,440	108,896	71.2	43.3
1	F	0	0	0	0.0	0.0	15	1,066,895	71,126	69.7	41.7
		0	0	0	0.0	0.0	30	2,700,335	90,011	70.5	42.5
2	M	7	513,811	73,402	53.4	8.1	10	956,579	95,658	66.3	34.8
2	F	12	880,573	73,381	46.6	10.7	15	1,138,757	75,917	65.1	34.1
		19	1,394,384	73,389	49.1	9.7	25	2,095,336	83,813	65.6	34.4
4	M	315	23,748,232	75,391	48.3	11.3	2,001	170,031,102	84,973	58.3	21.8
4	F	591	37,608,708	63,636	46.7	11.2	2,344	161,269,993	68,801	55.5	19.3
		906	61,356,940	67,723	47.2	11.2	4,345	331,301,095	76,249	56.8	20.4
3R/6	M	3,699	213,162,743	57,627	36.2	1.1	1,280	76,345,954	59,645	37.2	2.5
3R/6	F	4,003	217,176,878	54,254	36.5	1.1	1,647	95,033,186	57,701	36.5	2.5
		7,702	430,339,621	55,874	36.3	1.1	2,927	171,379,140	58,551	36.8	2.5
ALL		8,627	493,090,945	57,157	37.5	2.1	7,327	507,475,906	69,261	48.9	13.4

Note: Age is nearest birthday. Service is nearest year. The member is considered also present if active with the same tier and gender as of both valuation dates.

<sup>1</sup> Separations and additions do not include members who joined after June 30, 2019 and are no longer members on June 30, 2020. Members are included as separations and additions if the tier or gender has changed.



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

Total											
		TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2020					TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2019				
TIER	GENDER	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC	NUMBER	SALARY	AVG SAL	AVG AGE	AVG SVC
1	M	95	9,031,966	95,073	74.7	46.9	116	11,113,328	95,805	73.3	45.2
1	F	94	7,613,910	80,999	74.0	46.4	116	8,938,562	77,057	72.7	44.4
		189	16,645,876	88,073	74.4	46.6	232	20,051,890	86,431	73.0	44.8
2	M	98	10,360,173	105,716	61.1	29.1	103	10,507,591	102,015	61.3	30.2
2	F	89	7,270,012	81,686	62.0	29.0	93	7,393,236	79,497	63.7	31.7
		187	17,630,185	94,279	61.5	29.0	196	17,900,827	91,331	62.4	30.9
3/4	M	61,746	5,710,001,019	92,476	52.5	17.9	67,086	6,052,300,954	90,217	52.1	17.3
3/4	F	53,318	4,212,622,464	79,009	52.4	17.2	57,267	4,375,087,282	76,398	51.9	16.5
		115,064	9,922,623,483	86,236	52.5	17.6	124,353	10,427,388,236	83,853	52.0	17.0
3R/6	M	42,702	3,149,472,811	73,755	40.2	3.7	38,424	2,719,033,175	70,764	39.7	3.2
3R/6	F	33,095	2,182,975,094	65,961	40.0	3.1	28,296	1,797,087,047	63,510	39.5	2.8
		75,797	5,332,447,905	70,352	40.1	3.4	66,720	4,516,120,222	67,688	39.6	3.0
ALL		191,237	15,289,347,449	79,950	47.6	12.0	191,501	14,981,461,175	78,232	47.7	12.2

JUNE 30, 2020 MEMBERS ALSO PRESENT AS OF JUNE 30, 2019						JUNE 30, 2019 MEMBERS ALSO PRESENT AS OF JUNE 30, 2020					
1	M	95	9,031,966	95,073	74.7	46.9	95	8,843,071	93,085	73.7	45.5
1	F	94	7,613,910	80,999	74.0	46.4	94	7,394,226	78,662	73.0	44.9
		189	16,645,876	88,073	74.4	46.6	189	16,237,297	85,912	73.4	45.2
2	M	90	9,671,966	107,466	61.6	30.8	90	9,332,393	103,693	60.6	29.4
2	F	76	6,279,946	82,631	64.4	32.2	76	6,056,499	79,691	63.4	31.2
		166	15,951,912	96,096	62.9	31.5	166	15,388,892	92,704	61.9	30.2
3/4	M	60,945	5,647,151,550	92,660	52.6	18.0	60,945	5,497,968,158	90,212	51.6	16.9
3/4	F	52,192	4,134,741,929	79,222	52.6	17.4	52,192	3,991,189,161	76,471	51.6	16.3
		113,137	9,781,893,479	86,461	52.6	17.7	113,137	9,489,157,319	83,873	51.6	16.6
3R/6	M	35,517	2,710,906,424	76,327	40.9	4.2	35,517	2,532,834,278	71,313	39.9	3.2
3R/6	F	25,230	1,715,898,832	68,010	40.8	3.7	25,230	1,609,877,910	63,808	39.8	2.9
		60,747	4,426,805,256	72,873	40.8	4.0	60,747	4,142,712,188	68,196	39.8	3.1
ALL		174,239	14,241,296,523	81,734	48.5	13.0	174,239	13,663,495,696	78,418	47.5	12.0

ADDITIONS DURING THE YEAR <sup>1</sup>						SEPARATIONS FROM MEMBERSHIP DURING THE YEAR <sup>1</sup>					
1	M	0	0	0	0.0	0.0	21	2,270,257	108,108	71.5	43.5
1	F	0	0	0	0.0	0.0	22	1,544,336	70,197	71.2	42.5
		0	0	0	0.0	0.0	43	3,814,593	88,711	71.4	43.0
2	M	8	688,207	86,026	55.4	9.4	13	1,175,198	90,400	66.1	35.4
2	F	13	990,066	76,159	48.0	9.9	17	1,336,737	78,632	65.0	33.8
		21	1,678,273	79,918	50.8	9.7	30	2,511,935	83,731	65.5	34.5
3/4	M	801	62,849,469	78,464	49.3	12.0	6,141	554,332,796	83,083	47.4	7.5
3/4	F	1,126	77,880,535	69,166	47.3	10.8	5,075	383,898,121	73,070	46.8	7.0
		1,927	140,730,004	73,031	48.1	11.3	11,216	938,230,917	78,125	47.1	7.3
3R/6	M	7,185	438,566,387	61,039	37.0	1.1	2,907	186,198,897	64,052	37.8	2.5
3R/6	F	7,865	467,076,262	59,387	37.6	1.0	3,066	187,209,137	61,060	37.0	2.4
		15,050	905,642,649	60,176	37.3	1.1	5,973	373,408,034	62,516	37.4	2.4
ALL		16,998	1,048,050,926	61,657	38.6	2.2	17,262	1,317,965,479	76,351	50.0	14.1

Note: Age is nearest birthday. Service is nearest year. The member is considered also present if active with the same tier and gender as of both valuation dates.

<sup>1</sup> Separations and additions do not include members who joined after June 30, 2019 and are no longer members on June 30, 2020. Members are included as separations and additions if the tier or gender has changed.

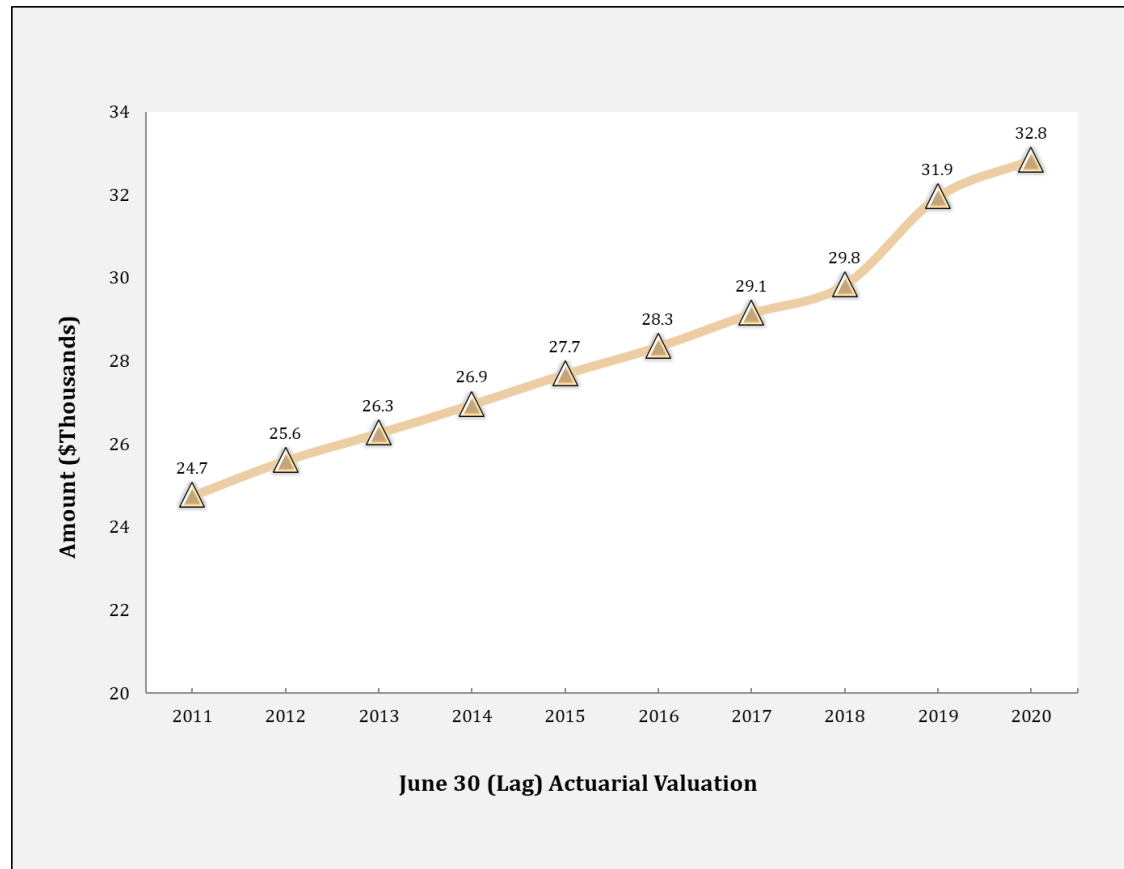
**Table XIII-8**  
**Distribution of Pension Benefits by Cause and Age as of June 30, 2020**

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	1	25,000	25,000	0	0	0	1	25,000	25,000
40 TO 44	34	2,332,829	68,613	19	1,282,085	67,478	53	3,614,914	68,206
45 TO 49	295	18,755,068	63,577	142	9,583,625	67,490	437	28,338,693	64,848
50 TO 54	1,345	83,103,231	61,787	689	43,459,071	63,076	2,034	126,562,302	62,223
55 TO 59	5,781	321,498,186	55,613	2,491	113,806,382	45,687	8,272	435,304,568	52,624
60 TO 64	10,277	477,365,791	46,450	6,529	228,914,665	35,061	16,806	706,280,457	42,025
65 TO 69	16,096	659,994,668	41,004	10,701	334,640,122	31,272	26,797	994,634,790	37,117
70 TO 74	15,974	607,120,780	38,007	11,106	319,919,633	28,806	27,080	927,040,413	34,233
75 TO 79	12,605	435,884,213	34,580	8,183	216,599,914	26,469	20,788	652,484,127	31,388
80 TO 84	8,523	266,244,531	31,238	5,590	129,053,541	23,087	14,113	395,298,072	28,009
85 TO 89	4,617	130,888,707	28,349	3,144	62,025,211	19,728	7,761	192,913,918	24,857
90 & UP	2,892	77,272,014	26,719	2,856	48,367,343	16,935	5,748	125,639,357	21,858
<b>TOTAL</b>	<b>78,440</b>	<b>3,080,485,017</b>	<b>39,272</b>	<b>51,450</b>	<b>1,507,651,593</b>	<b>29,303</b>	<b>129,890</b>	<b>4,588,136,610</b>	<b>35,323</b>
<i>ORDINARY DISABILITY:</i>									
UNDER 30	0	0	0	0	0	0	0	0	0
30 TO 34	0	0	0	1	47,800	47,800	1	47,800	47,800
35 TO 39	15	451,838	30,123	6	156,589	26,098	21	608,427	28,973
40 TO 44	39	1,188,320	30,470	34	609,651	17,931	73	1,797,972	24,630
45 TO 49	122	3,001,147	24,600	85	1,829,018	21,518	207	4,830,165	23,334
50 TO 54	369	8,727,328	23,651	291	5,570,447	19,142	660	14,297,776	21,663
55 TO 59	835	19,787,903	23,698	697	13,854,773	19,878	1,532	33,642,676	21,960
60 TO 64	1,137	25,843,290	22,729	803	15,101,118	18,806	1,940	40,944,408	21,105
65 TO 69	1,051	22,244,343	21,165	749	13,732,371	18,334	1,800	35,976,714	19,987
70 TO 74	1,059	21,167,735	19,988	501	8,233,434	16,434	1,560	29,401,169	18,847
75 TO 79	736	15,066,612	20,471	310	4,759,686	15,354	1,046	19,826,297	18,954
80 TO 84	371	7,387,494	19,912	170	2,260,360	13,296	541	9,647,854	17,833
85 TO 89	118	2,150,914	18,228	63	821,557	13,041	181	2,972,471	16,422
90 & UP	59	1,212,946	20,558	35	388,066	11,088	94	1,601,012	17,032
<b>TOTAL</b>	<b>5,911</b>	<b>128,229,871</b>	<b>21,693</b>	<b>3,745</b>	<b>67,364,871</b>	<b>17,988</b>	<b>9,656</b>	<b>195,594,742</b>	<b>20,256</b>
<i>ACCIDENTAL DISABILITY:</i>									
UNDER 30	0	0	0	0	0	0	0	0	0
30 TO 34	5	145,679	29,136	5	121,279	24,256	10	266,959	26,696
35 TO 39	45	2,263,104	50,291	11	526,185	47,835	56	2,789,289	49,809
40 TO 44	106	5,895,801	55,621	29	1,486,609	51,262	135	7,382,411	54,685
45 TO 49	191	10,856,331	56,839	60	3,369,811	56,164	251	14,226,143	56,678
50 TO 54	374	19,107,391	51,089	124	5,205,344	41,979	498	24,312,736	48,821
55 TO 59	574	27,027,903	47,087	148	5,692,133	38,460	722	32,720,036	45,319
60 TO 64	494	20,496,799	41,491	117	4,462,683	38,143	611	24,959,482	40,850
65 TO 69	517	20,768,444	40,171	75	2,242,460	29,899	592	23,010,905	38,870
70 TO 74	593	19,768,607	33,337	50	1,137,458	22,749	643	20,906,065	32,513
75 TO 79	495	15,125,551	30,557	45	923,963	20,533	540	16,049,513	29,721
80 TO 84	263	8,018,659	30,489	32	540,411	16,888	295	8,559,070	29,014
85 TO 89	117	3,392,003	28,991	18	262,767	14,598	135	3,654,771	27,072
90 & UP	80	2,389,722	29,872	10	167,992	16,799	90	2,557,714	28,419
<b>TOTAL</b>	<b>3,854</b>	<b>155,255,995</b>	<b>40,284</b>	<b>724</b>	<b>26,139,097</b>	<b>36,104</b>	<b>4,578</b>	<b>181,395,092</b>	<b>39,623</b>

**Table XIII-8**  
**Distribution of Pension Benefits by Cause and Age as of June 30, 2020 (cont'd)**

AGE	MALE			FEMALE			TOTAL		
	NUMBER	BENEFITS	AVERAGE	NUMBER	BENEFITS	AVERAGE	NUMBER	BENEFITS	AVERAGE
<i>ACCIDENTAL DEATH:</i>									
UNDER 30	13	464,315	35,717	16	597,649	37,353	29	1,061,965	36,619
30 TO 34	3	135,161	45,054	8	282,186	35,273	11	417,348	37,941
35 TO 39	5	164,198	32,840	15	676,720	45,115	20	840,918	42,046
40 TO 44	3	82,709	27,570	19	742,187	39,062	22	824,896	37,495
45 TO 49	2	49,599	24,800	22	1,231,801	55,991	24	1,281,400	53,392
50 TO 54	6	241,421	40,237	40	2,456,828	61,421	46	2,698,249	58,658
55 TO 59	5	205,838	41,168	67	3,351,995	50,030	72	3,557,833	49,414
60 TO 64	9	377,567	41,952	52	2,700,991	51,942	61	3,078,558	50,468
65 TO 69	2	66,604	33,302	51	2,645,891	51,880	53	2,712,495	51,179
70 TO 74	3	112,487	37,496	32	1,763,363	55,105	35	1,875,850	53,596
75 TO 79	3	124,134	41,378	26	1,255,392	48,284	29	1,379,527	47,570
80 TO 84	1	27,723	27,723	15	430,946	28,730	16	458,669	28,667
85 TO 89	1	36,888	36,888	6	179,143	29,857	7	216,031	30,862
90 & UP	0	0	0	4	100,522	25,130	4	100,522	25,130
<b>TOTAL</b>	<b>56</b>	<b>2,088,646</b>	<b>37,297</b>	<b>373</b>	<b>18,415,613</b>	<b>49,372</b>	<b>429</b>	<b>20,504,259</b>	<b>47,795</b>
<i>OTHER BENEFICIARIES:</i>									
UNDER 30	100	1,431,604	14,316	130	1,838,924	14,146	230	3,270,528	14,220
30 TO 34	82	1,070,699	13,057	102	1,305,003	12,794	184	2,375,702	12,911
35 TO 39	114	1,504,989	13,202	127	1,665,770	13,116	241	3,170,759	13,157
40 TO 44	136	2,005,782	14,748	220	2,884,196	13,110	356	4,889,978	13,736
45 TO 49	158	1,807,592	11,440	251	3,329,543	13,265	409	5,137,135	12,560
50 TO 54	161	1,875,213	11,647	366	4,867,107	13,298	527	6,742,320	12,794
55 TO 59	192	2,326,714	12,118	571	9,044,147	15,839	763	11,370,862	14,903
60 TO 64	208	3,198,857	15,379	896	15,895,064	17,740	1,104	19,093,921	17,295
65 TO 69	215	3,727,087	17,335	1,241	25,499,724	20,548	1,456	29,226,811	20,073
70 TO 74	209	3,325,437	15,911	1,716	34,411,721	20,053	1,925	37,737,158	19,604
75 TO 79	190	3,257,060	17,142	1,956	38,511,540	19,689	2,146	41,768,599	19,463
80 TO 84	139	2,218,440	15,960	1,901	34,250,494	18,017	2,040	36,468,934	17,877
85 TO 89	95	1,490,249	15,687	1,678	28,592,749	17,040	1,773	30,082,998	16,967
90 & UP	93	1,212,205	13,034	2,106	30,355,275	14,414	2,199	31,567,481	14,355
<b>TOTAL</b>	<b>2,092</b>	<b>30,451,928</b>	<b>14,556</b>	<b>13,261</b>	<b>232,451,259</b>	<b>17,529</b>	<b>15,353</b>	<b>262,903,187</b>	<b>17,124</b>
<i>ALL PENSIONERS AND BENEFICIARIES:</i>									
UNDER 30	113	1,895,919	16,778	146	2,436,573	16,689	259	4,332,493	16,728
30 TO 34	90	1,351,540	15,017	116	1,756,269	15,140	206	3,107,808	15,086
35 TO 39	180	4,409,129	24,495	159	3,025,265	19,027	339	7,434,393	21,930
40 TO 44	318	11,505,441	36,181	321	7,004,730	21,822	639	18,510,171	28,967
45 TO 49	768	34,469,737	44,882	560	19,343,797	34,542	1,328	53,813,534	40,522
50 TO 54	2,255	113,054,584	50,135	1,510	61,558,797	40,767	3,765	174,613,382	46,378
55 TO 59	7,387	370,846,545	50,203	3,974	145,749,430	36,676	11,361	516,595,975	45,471
60 TO 64	12,125	527,282,305	43,487	8,397	267,074,521	31,806	20,522	794,356,826	38,708
65 TO 69	17,881	706,801,147	39,528	12,817	378,760,568	29,551	30,698	1,085,561,715	35,363
70 TO 74	17,838	651,495,046	36,523	13,405	365,465,610	27,263	31,243	1,016,960,656	32,550
75 TO 79	14,029	469,457,569	33,463	10,520	262,050,495	24,910	24,549	731,508,064	29,798
80 TO 84	9,297	283,896,846	30,536	7,708	166,535,752	21,606	17,005	450,432,598	26,488
85 TO 89	4,948	137,958,761	27,882	4,909	91,881,427	18,717	9,857	229,840,189	23,317
90 & UP	3,124	82,086,887	26,276	5,011	79,379,198	15,841	8,135	161,466,085	19,848
<b>TOTAL</b>	<b>90,353</b>	<b>3,396,511,457</b>	<b>37,592</b>	<b>69,553</b>	<b>1,852,022,433</b>	<b>26,627</b>	<b>159,906</b>	<b>5,248,533,890</b>	<b>32,823</b>

**Graph XIII-9**  
**Pensioner Average Benefits**



Beginning June 30, 2019, disclosed pensioner benefits include VSF benefits, anticipated increases due to non-finalized pensioners, and other changes not otherwise reflected in the census data.

**Table XIII-10**  
**Reconciliation of Pensioner and Beneficiary Data**

SCHEDULE OF PENSIONERS AND BENEFICIARIES ADDED TO AND REMOVED FROM THE ROLLS								
June 30 (Lag) Actuarial Valuation	Added to Rolls		Removed from Rolls		End of Year Rolls		% Increase in Annual Allowances	Average Annual Allowances
	Number	Annual Allowances <sup>1</sup>	Number	Annual Allowances	Number	Annual Allowances <sup>1</sup>		
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
2018	9,606	345,164,441	5,909	131,216,661	154,116	4,595,933,718	4.9%	29,821
2019	9,431	570,731,545	6,394	147,333,875	157,153	5,019,331,388	9.2%	31,939
2020	9,750	399,565,874	6,997	170,363,372	159,906	5,248,533,890	4.6%	32,823

<sup>1</sup> Allowances shown through June 30, 2018 are those presented in census data. Beginning 2016, SADB payments to beneficiaries are included. Beginning June 30, 2019, disclosed pensioner benefits include VSF benefit, anticipated increases due to non-finalized pensioners, and other changes not otherwise reflected in the census data.

## APPENDIX: ACRONYMS AND ABBREVIATIONS

Revised 2021 A&M	Actuarial Assumptions and Methods proposed by the Actuary and adopted by the Board of Trustees during Fiscal Year 2021
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
ACCNY	Administrative Code of the City of New York
AIR	Actuarial Interest Rate
AL	Accrued Liability
AMC	Additional Member Contributions
AMC-PT	Additional Member Contributions for Physically-Taxing Employment
AVA	Actuarial Value of Assets
BERS	Board of Education Retirement System
BMC	Basic Member Contributions
COLA	Cost-of-Living Adjustment
EAN	Entry Age Normal cost method
EIR	Expected Investment Return
FAS	Final Average Salary
FIRE	Fire Pension Fund
FS	Final Salary
GASB	Governmental Accounting Standards Board
IRC	Internal Revenue Code
ITHP	Increased-Take-Home-Pay
MVA	Market Value of Assets
NYCERS	New York City Employees' Retirement System
NYCRS	New York City Retirement Systems
OWBPA	Older Workers Benefit Protection Act
OYLM	One-Year Lag Methodology
POLICE	Police Pension Fund
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
TRS	Teachers' Retirement System
UAL	Unfunded Accrued Liability
UIR	Unexpected Investment Return
VSF	Variable Supplements Fund
WTC	World Trade Center