Proprietary & Confidential

New York State

Development of Recommended Actuarial Assumptions for Other Post Employment Benefit Plan Actuarial Valuations

Participating Agency Version

July 2023

Empower Results®

Table of Contents

Section 1 – Executive Summary…….... 1

Section 2 – Actuarial Assumptions……2

Exhibit 2-1 Per Capita Plan Costs……7

Exhibit 2-2 Premium Used for Establishing Retiree Contributions……... 10

Exhibit 2-3 Withdrawal Rates……. 11

Exhibit 2-4 Disability Rates……. 20

Exhibit 2-5 Retirement Rates……. 22

Exhibit 2-6 Salary Scale…….. 28

Section 3 – Per Capita Plan Costs……..29

Exhibit 3-1 Development of Empire Plan Retiree Gross Per Capita Plan Cost……. 30

Exhibit 3-2 Empire Plan Changes……..33

Section 4 – Health Care Trend…… 34

Section 5 – Demographic Assumptions……. 35

Section 6 – Health Care Reform Considerations……..36

Section 7 – Qualifications……37

Section 1 – Executive Summary

At the request of the New York State Department of Civil Service (DCS), Aon has developed actuarial assumptions for use by New York State, New York State Insurance Fund (NYSIF), and State University of New York System (SUNY) for the April 1, 2022 valuation of their obligation for postemployment benefits other than pension plans (OPEB) under Governmental Accounting Standard (GASB) Statement 74 and Statement 75. The basis for the development of these assumptions is outlined in our report to New York State Department of Civil Service (DCS), ***New York State, SUNY, and NYSIF Development of Recommended Actuarial Assumptions for April 1, 2022 Other Post Employment Benefit Plans Actuarial Valuation.***

Employers who are Participating Agencies (PAs) of the New York State Health Insurance Program (NYSHIP) need to value their OPEB obligation under GASB 75. In order to assist PAs with their valuation, and at the request of DCS, Aon has prepared this separate report, which presents the excerpts of our reports that may be relevant to the PAs. The assumptions in this report are a Statement of Actuarial Opinion, prepared by Wil Ocasio, Jessica Fenske, and Betsy Hanson. Mr. Ocasio is an Associate in the Society of Actuaries. Ms. Fenske is a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. Ms. Hanson is a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. They collectively meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

The Actuarial Assumptions Section presents assumptions that we and/or DCS believe may be relevant to the PAs along with some basic rationale for many of the selections. The rest of the report provides more detail and support for development of certain major assumptions.

This report is being provided to PAs solely as guidance. Because Aon prepared assumptions strictly for use by the State, NYSIF, and SUNY in valuing their OPEB obligation, the assumptions discussed herein may or may not be appropriate for an individual PA. Each agency should assess its own demographics and health care environment in order to develop the actuarial assumptions most appropriate for its own population, in consultation with its own actuarial and financial advisors. Furthermore, because some agencies provide their retirees or other former employees with other post-employment benefits not through NYSHIP, such as dental and life insurance, each PA will need to determine its own actuarial assumptions appropriate for valuing these benefits.

Highlights of Changes since 2021:

Notable assumption changes since the prior valuation include:

- Discount rate – tied to the yield on high quality municipal general obligation bonds. The rate as of March 31, 2023 is 3.50%
- Medical plan costs – rates shifted as actual usage by participants changed and members enrolled in different plans.
- Health care inflation (Trend) – the trend rates were updated to reflect the most recent information available as outlined in Section 4 of this report.
- Health Maintenance Organization (HMO) rates were updated to reflect updated premium rates.

The 2022 valuation is being used to provide the basis for the accounting reporting under Government Accounting Standards Board Statement 74 and 75 (GASB 74 & 75).

Section 2 – Actuarial Assumptions

Actuarial assumptions are assumptions as to the occurrence of future events affecting OPEB costs. We performed the April 1, 2022 GASB 75 actuarial valuations for New York State, NYSIF, and SUNY based on the following Actuarial Assumptions:

ACTUARIAL METHOD: Entry Age Normal- Level Percentage of Payroll

VALUATION DATE: The valuation is performed as of April 1, 2022. All the cost information is as of this date.

MEASUREMENT DATE: GASB 75 provides that the expense and disclosure amounts can be computed as of a date no earlier than twelve months and one day before the fiscal year end. This approach is provided to allow employers to determine results in a timely fashion and to be prepared for the fiscal year end.

DISCOUNT RATE: Under GASB 75, the discount rate is determined as a blend of the long-term rate of return on assets set aside through a Trust fund to pay for future OPEB costs and, to the extent the long-term costs are not funded through a Trust, the current yield on high-quality municipal bonds. Since the plan is just starting to fund for NYS and SUNY Campus, and the other groups remain unfunded, this discount rate is tied to a high quality 20-year general obligation municipal bond rate. New York State has elected to use the value of the Bond Buyer 20-Bond GO index published the week (Monday – Sunday) of the measurement date. As of the March 31, 2023 measurement date, this rate is 3.50%.

ASSETS: The State started funding a Trust in March 2022 to be used for retires in NYS and SUNY Campus. At this time, there are no assets set aside for NYSIF and SUNY Hospitals and the SUNY Construction Fund.

EXPECTED RETURN ON ASSETS: The Trust is invested in New York State's Short Term Investment Pool (STIP) and expected to remain so for the foreseeable future. We will be assuming an expected return on assets equal to the beginning of year discount rate, 2.73%.

Note for PAs: *Each individual PA should determine the appropriate assumption to use for its own valuation purposes based on its own target asset allocation.*

PER-CAPITA PLAN COSTS: GASB 75 indicates that per capita plan costs should be based upon claim costs or age adjusted premiums. State enrollees comprise over 50% of the overall Empire Plan enrollment. Changes in the demographics of State employees and retirees more immediately affect overall Empire Plan costs than other, smaller groups. Therefore, we believe it is more appropriate to establish per capita plan costs for the State's valuation of its liability based on the underlying Empire Plan claim costs of the retiree groups being valued.

For retirees in the Empire PPO Plan, the per capita costs were based on 2021 incurred claims paid through September 30, 2022, for the hospital, medical, MHSU, and prescription drug benefit programs for retired participants in the State plan (excluding Participating Agency (PA) and Participating Employer (PE) participants), along with enrollment, split between Medicare eligible and non-Medicare eligible participants. The experience was projected to the period April 1, 2022 – March 31, 2023 and adjusted as shown in the detail in Exhibit 3-1.

Certain individuals are enrolled in Medicare Part D Prescription Drug Plans (generally low-income individuals who qualify for various federal additional benefits). NYSHIP does not currently provide drug benefits for these individuals.

Note for PAs: *In the past, many PAs utilized community rated premium rates. Based on ASOP 6, this is no longer appropriate. Plans should value the age-related costs.*

AMORTIZATION OF LIABILITY GAINS AND LOSSES: Liability gains and losses will be amortized over a closed period based on the average Expected Remaining Service Life for actives and inactives combined.

RETIREE CONTRIBUTIONS: The State sets retiree contributions as a percentage of premiums. Premiums are established for active employees and retirees combined. Retirees contribute varying percentages of premiums. The most common percentage is 12% for coverage of the retiree and 27% for coverage of dependents. There are groups of retirees with other cost sharing percentages.

MEDICARE PART B PREMIUM: The State reimburses the Medicare Part B premium of Medicare eligible participants, the cost of which is socialized across all plan participants through plan premium rates. For Fiscal Year 2023, we project the average Medicare Part B premium to be $ 2,025.60 per Medicare eligible individual. This amount is based on the Part B premium rate for 2022 and 2023 for participants with income of less than $85,000. Note that fewer than 5% of enrolled individuals are expected to exceed this threshold.

MEDICARE COORDINATION: Medicare is assumed to remain the primary payer for current and future retirees and spouses who are at least age 65. Medicare can also be the primary payer for individuals under age 65 who have been eligible to receive Social Security Disability benefits for 24 months, which in turn starts after a waiting period of 5 months of disability. For valuation purposes, Medicare is assumed to be the primary payer for current retirees and spouses under age 65 if the census data indicated that Medicare is currently the primary payer.

Certain retired individuals who are at least age 65 as of the valuation date are not indicated as being on Medicare in the census data. For valuation purposes, we will assume retired individuals who have attained age 66 as of the valuation date never go onto Medicare. Individuals who are age 65 but not coded as being on Medicare will be assumed to be affected by an administrative lag and thus are assumed to enroll in Medicare immediately.

We reviewed the census data for disability retirees who have been retired long enough to qualify for Medicare. Based on that data, we have assumed that Medicare will ultimately be the primary payer for 45% of future disabled PFRS participants and 80% of all other future disabled participants, no change from last year. In general, to become eligible for disability Medicare coverage, a person will need to wait the five-month qualifying period for Social Security Disability benefits and in most cases will be eligible for Medicare coverage 24 months later. We have assumed for valuation purposes that Medicare commences for disability retiree once they have met the required qualifying period. We have also assumed that Medicare will be the primary payer for the same proportions of those disability retirees who have been retired less than 24 months once they have been on disability retirement for 24 months. For the remaining participants who are currently disabled or who become disabled, we have assumed that Medicare is the primary payer at age 65.

AGE RELATED MORBIDITY: To reflect the differences in covered healthcare expenses due to aging, the increase in the per-capita plan costs for each age is assumed to be as follows:

Age	Medical Costs	Rx
40-44	3.0%	4.8%
45-49	3.7%	4.7%
50-54	4.2%	4.7%
55-59	4.4%	4.6%
60-64	3.7%	4.6%
65-69	2.7%	3.8%
70-74	1.8%	2.5%
75-79	2.2%	0.8%
80-84	2.8%	0.2%
85-89	1.4%	0.1%
90+	0.0%	0.0%

The age-related morbidity factors are applied to the per-capita plan costs for the Empire Plan.

Note for PAs: *In the past, many PAs utilized community rated premium rates. Based on ASOP 6, this is no longer appropriate. Plans should value the age-related costs.*

HEALTH CARE COST TREND: Per-capita retiree plan costs and premiums used to establish retiree contribution rates are assumed to increase each year in accordance with the following schedule:

		Medical			EGWP
From Year	**To Year**	**<65**	**65+**	**Rx**	**Revenue**
2022/23 ==>	2023/24	6.00%	5.50%	8.00%	3.00%
2023/24 ==>	2024/25	5.75%	5.25%	7.00%	3.00%
2024/25 ==>	2025/26	5.60%	5.00%	6.00%	3.00%
2025/26 ==>	2026/27	5.50%	4.90%	5.50%	3.00%
2026/27==>	2027/28	5.40%	4.80%	5.25%	3.00%
2027/28==>	2028/29	5.30%	4.75%	5.00%	3.00%
2028/29 ==>	2029/30	5.10%	4.70%	5.00%	3.00%
2029/30 ==>	2030/31	4.75%	4.60%	4.75%	3.00%
2030/31 +		4.50%	4.50%	4.50%	3.00%

The drug trend shown above applies to the drug costs and premiums associated with the Empire Plan. We assume that average fiscal year Medicare Part B premiums will increase at the same underlying health care trends as for Medical benefits to Medicare retirees.

Note for PAs*: The trend rates above may also be appropriate for PAs, however, PAs should reflect their own expectations of future medical plan costs.*

MORTALITY: The Society of Actuaries published public sector specific mortality experience tables, PUB 2010. This valuation will continue to utilize the Headcount weighted version which is more applicable for a retiree medical valuation. The General table will apply for ERS employees, the Teachers table will apply for TRS employees, and the Safety table will apply for PFRS employees. SUNY Campus employees who are not clearly identifiable as PFRS or TRS members are valued using ERS assumptions.

In order to reflect future mortality improvement, the mortality is projected generationally using the most recently published projection scale, MP-2021.

In October 2022, the Retirement Plans Experience Committee (RPEC) of the SOA issued its *2022 Mortality Improvement Update Report* which noted that the most recent data available is from the 2020 calendar year. Since this data was severely affected by the COVID-19 pandemic, the RPEC did not believe it would be appropriate to incorporate this data without adjustment. Therefore, without new data to incorporate, the RPEC decided not to produce a new mortality improvement scale in 2022.

WITHDRAWAL, DISABILITY, AND RETIREMENT: The rates of decrement are summarized in Exhibits 2-3 through 2-5. Disability refers to employees who separate from service by reason of disability. Withdrawal refers to employees who separate from service by reason of termination prior to retirement eligibility. Retirement refers to employees who separate from service by reason of termination once they attained retirement eligibility.

The Disability rates and TRS Retirement rates are based on the experience under the New York State & Local Retirement System (ERS & PFRS) and the New York State Teachers' Retirement System (TRS). These assumptions were last updated 2020 for ERS & PFRS and 2021 for TRS.

The Withdrawal and non-TRS Retirement rates were updated for the 2021 valuation and based on actual experience from April 1, 2016 through March 31, 2021. SUNY Campus employees who are not clearly identifiable as ERS, TRS, PFRS, or Teachers Insurance and Annuity Associate of America/College Retirement Equities Fund (TIAA/CREF) participants were studied as an isolated group, referred to as SUNY Campus (unknown retirement program), and had Retirement and Withdrawal rates set based on actual experience.

Note for PAs: *Each individual PA should determine appropriate assumptions to use for its own valuation purposes. For more information on these assumptions, please see the discussion in the Demographic Assumptions Section.*

PROJECTED SALARY INCREASE ASSUMPTION: Salary increase assumption was updated for the 2021 valuation based on actual experience from April 1, 2016 through March 31, 2021. Summarized in Exhibit 2-6.

Note for PAs: *Each individual PA should determine appropriate assumptions to use for its own valuation purposes. For more information on these assumptions, please see the discussion in the Demographic Assumptions Section.*

GENERAL INFLATION: 2.50% assumed long-term inflation.

VESTEE COVERAGE: Vestees pay 100% of premium prior to eligibility for retiree medical benefits. Beginning at age 55, we value all vestees – consistent with our valuation assumption for retirees.

For current vestees, we assume all will opt to switch from vestee status to retiree status at age 55.

For future vested terminations, we have assumed that the following percentage of terminated employees (excluding those terminated due to death, disability or retirement) will elect to remain in their current medical plan option as a vestee. This assumption was updated for the 2021 valuation, based on the actual experience from April 1, 2016 through March 31, 2021.

Age	Percent Electing
Under 35	0%
35-41	5%
42-45	10%
46-47	15%
48-53	35%
54	75%

PLAN ELECTIONS: 100% of future retirees who are currently participating in NYSHIP coverage are assumed to participate in the retiree medical program at retirement. 100% of Active participants in the NYSHIP opt-out program are assumed to be covered under NYSHIP in retirement. We assume that all retirees (i.e., current actives and current non-Medicare eligible retirees) will participate in their current medical plan option prior to Medicare eligibility, with the exception of active participants in the NYSHIP opt-out program. Those participants are assumed to elect coverage in the Empire Plan at retirement.

Note for PAs: *The NYSHIP opt-out program may or may not be applicable to certain PAs.*

For current non-Medicare eligible retirees and future retirees, all who currently participate in the Empire Plan are assumed to remain in the Empire Plan upon becoming eligible for Medicare. In all instances, spouses are assumed to participate in the same medical plan option as the retiree. If the retiree is deceased, the spouse is assumed to participate in the same healthcare plan as the retiree would have been assumed to participate in if he or she were alive.

Note for PAs: *This assumption was based on the experience of the State, NYSIF, and SUNY retirees. Plan elections and enrollment may differ for a different population.*

DEPENDENTS: For current retirees, actual data is used regarding dependent coverage. For future retirees, we modeled the percentage of active participants married as well as the age difference between the enrollee and spouse, based on data for older actives and recent retirees. We assume 60% of males and 35% of females will be married at retirement, and all married spouses will be covered under NYSHIP. Female spouses are assumed to be 3 years younger than their husbands, and male spouses are assumed to be 2 years older than their wives.

Note for PAs: *This assumption was based on the experience of the State, NYSIF, and SUNY retirees. Each PA should consider the demographics of its own population when developing this assumption.*

CENSUS DATA: Census data was provided by New York State Department of Civil Service as of April 1, 2022. Reasonable assumptions were made if any data elements are unavailable or if any data elements are not within a reasonable range.

Note for PAs: *Individual agency census data will be provided by DCS upon request.*

SUBSEQUENT EVENTS: The assumptions in this report were developed in May 2023. We have not revised the assumptions to reflect updated Empire Plan claim experience, Empire Plan premiums, or Medicare Part B premiums, nor any other more recent event except as noted.

Exhibit 2-1 Per Capita Gross Plan Costs
4/1/2022- 3/31/2023

	Preferred Provider Organization (PPO) claim costs			
Age	Medical	Rx	EGWP Revenue	Total
1	$3,806	$430	n/a	$4,237
2	$3,806	$430	n/a	$4,237
3	$3,806	$430	n/a	$4,237
4	$3,806	$430	n/a	$4,237
5	$3,806	$430	n/a	$4,237
6	$3,806	$430	n/a	$4,237
7	$3,806	$430	n/a	$4,237
8	$3,806	$430	n/a	$4,237
9	$3,806	$430	n/a	$4,237
10	$3,806	$430	n/a	$4,237
11	$3,806	$430	n/a	$4,237
12	$3,806	$430	n/a	$4,237
13	$3,806	$430	n/a	$4,237
14	$3,806	$430	n/a	$4,237
15	$3,806	$430	n/a	$4,237
16	$3,806	$430	n/a	$4,237
17	$3,806	$430	n/a	$4,237
18	$3,806	$430	n/a	$4,237
19	$3,806	$430	n/a	$4,237
20	$3,806	$430	n/a	$4,237
21	$3,921	$451	n/a	$4,372
22	$4,038	$473	n/a	$4,511
23	$4,159	$495	n/a	$4,655
24	$4,284	$519	n/a	$4,803
25	$4,413	$544	n/a	$4,957
26	$4,545	$570	n/a	$5,115
27	$4,681	$598	n/a	$5,279
28	$4,822	$626	n/a	$5,448
29	$4,966	$656	n/a	$5,623
30	$5,115	$688	n/a	$5,803
31	$5,269	$721	n/a	$5,990
32	$5,427	$755	n/a	$6,182
33	$5,590	$792	n/a	$6,381
34	$5,757	$830	n/a	$6,587
35	$5,930	$870	n/a	$6,800
36	$6,108	$911	n/a	$7,019
37	$6,291	$955	n/a	$7,246
38	$6,480	$1,001	n/a	$7,481
39	$6,674	$1,049	n/a	$7,723
40	$6,875	$1,099	n/a	$7,974

Exhibit 2-1 Per Capita Gross Plan Costs
4/1/2022- 3/31/2023

	PPO claim costs			
Age	Medical	Rx	EGWP Revenue	Total
41	$7,081	$1,152	n/a	$8,233
42	$7,293	$1,207	n/a	$8,501
43	$7,512	$1,265	n/a	$8,777
44	$7,738	$1,326	n/a	$9,064
45	$7,970	$1,390	n/a	$9,359
46	$8,265	$1,455	n/a	$9,720
47	$8,570	$1,523	n/a	$10,094
48	$8,887	$1,595	n/a	$10,482
49	$9,216	$1,670	n/a	$10,886
50	$9,557	$1,748	n/a	$11,306
51	$9,959	$1,831	n/a	$11,789
52	$10,377	$1,917	n/a	$12,294
53	$10,813	$2,007	n/a	$12,819
54	$11,267	$2,101	n/a	$13,368
55	$11,740	$2,200	n/a	$13,940
56	$12,257	$2,301	n/a	$14,558
57	$12,796	$2,407	n/a	$15,203
58	$13,359	$2,518	n/a	$15,877
59	$13,947	$2,633	n/a	$16,580
60	$14,560	$2,754	n/a	$17,315
61	$15,099	$2,881	n/a	$17,980
62	$15,658	$3,014	n/a	$18,672
63	$16,237	$3,152	n/a	$19,390
64	$16,838	$3,297	n/a	$20,135
65	$1,632	$3,449	($1,502)	$3,579
66	$1,676	$3,580	($1,559)	$3,697
67	$1,721	$3,716	($1,618)	$3,819
68	$1,768	$3,857	($1,680)	$3,945
69	$1,816	$4,004	($1,744)	$4,076
70	$1,865	$4,156	($1,810)	$4,211
71	$1,898	$4,260	($1,855)	$4,303
72	$1,932	$4,366	($1,902)	$4,397
73	$1,967	$4,476	($1,949)	$4,494
74	$2,002	$4,587	($1,998)	$4,592
75	$2,039	$4,702	($2,048)	$4,693
76	$2,083	$4,740	($2,064)	$4,759
77	$2,129	$4,778	($2,081)	$4,826
78	$2,176	$4,816	($2,097)	$4,895
79	$2,224	$4,854	($2,114)	$4,964
80	$2,273	$4,893	($2,131)	$5,035

Exhibit 2-1 Per Capita Gross Plan Costs
4/1/2022- 3/31/2023

	PPO claim costs			
Age	Medical	Rx	EGWP Revenue	Total
81	$2,336	$4,903	($2,135)	$5,104
82	$2,402	$4,913	($2,140)	$5,175
83	$2,469	$4,923	($2,144)	$5,248
84	$2,538	$4,933	($2,148)	$5,323
85	$2,609	$4,942	($2,152)	$5,399
86	$2,646	$4,947	($2,155)	$5,439
87	$2,683	$4,952	($2,157)	$5,479
88	$2,720	$4,957	($2,159)	$5,519
89	$2,759	$4,962	($2,161)	$5,560
90+	$2,797	$4,967	($2,163)	$5,601

Exhibit 2-2 Premium Used for Establishing Retiree Contributions
4/1/2022 - 3/31/2023

			Non-Medicare Eligible			Medicare Eligible		
Name	Code		NonRx	Rx	Total	NonRx	Rx	Total
Empire PPO		Retiree/SS	$8,980	$2,355	$11,335	$8,980	$2,355	$11,335
		Spouse	$14,155	$2,558	$16,714	$14,155	$2,558	$16,714

Exhibit 2-3 Withdrawal Rates

ERS Tier 1-4

	Years of Service						
Age	< 1	1 - 1.99	2 - 4.99	5 - 6.99	7 - 7.99	8 - 9.99	> = 10
20	22.00%	27.00%	16.00%	25.00%	25.00%	25.00%	12.50%
21	22.00%	27.00%	16.00%	25.00%	25.00%	25.00%	12.50%
22	22.00%	27.00%	16.00%	25.00%	25.00%	25.00%	12.50%
23	22.00%	27.00%	16.00%	25.00%	25.00%	25.00%	12.50%
24	22.00%	27.00%	16.00%	25.00%	25.00%	25.00%	12.50%
25	14.00%	17.50%	24.00%	20.00%	20.00%	20.00%	12.50%
26	14.00%	17.50%	24.00%	20.00%	20.00%	20.00%	12.50%
27	14.00%	17.50%	24.00%	20.00%	20.00%	20.00%	12.50%
28	14.00%	17.50%	24.00%	20.00%	20.00%	20.00%	12.50%
29	14.00%	17.50%	24.00%	20.00%	20.00%	20.00%	12.50%
30	12.00%	18.00%	24.00%	24.00%	18.00%	12.00%	12.00%
31	12.00%	18.00%	24.00%	24.00%	18.00%	12.00%	12.00%
32	12.00%	18.00%	24.00%	24.00%	18.00%	12.00%	12.00%
33	12.00%	18.00%	24.00%	24.00%	18.00%	12.00%	12.00%
34	12.00%	18.00%	24.00%	24.00%	18.00%	12.00%	12.00%
35	10.00%	12.00%	14.00%	10.00%	9.50%	9.50%	6.30%
36	10.00%	12.00%	14.00%	10.00%	9.50%	9.50%	6.30%
37	10.00%	12.00%	14.00%	10.00%	9.50%	9.50%	6.30%
38	10.00%	12.00%	14.00%	10.00%	9.50%	9.50%	6.30%
39	10.00%	12.00%	14.00%	10.00%	9.50%	9.50%	6.30%
40	10.00%	17.00%	10.00%	10.00%	8.00%	8.00%	4.20%
41	10.00%	17.00%	10.00%	10.00%	8.00%	8.00%	4.20%
42	10.00%	17.00%	10.00%	10.00%	8.00%	8.00%	4.20%
43	10.00%	17.00%	10.00%	10.00%	8.00%	8.00%	4.20%
44	10.00%	17.00%	10.00%	10.00%	8.00%	8.00%	4.20%
45	19.00%	19.00%	11.00%	10.00%	7.50%	7.50%	3.00%
46	19.00%	19.00%	11.00%	10.00%	7.50%	7.50%	3.00%
47	19.00%	19.00%	11.00%	10.00%	7.50%	7.50%	3.00%
48	19.00%	19.00%	11.00%	10.00%	7.50%	7.50%	3.00%
49	19.00%	19.00%	11.00%	10.00%	7.50%	7.50%	3.00%
50	10.00%	11.50%	10.00%	7.00%	6.00%	6.00%	3.00%
51	10.00%	11.50%	10.00%	7.00%	6.00%	6.00%	3.00%
52	10.00%	11.50%	10.00%	7.00%	6.00%	6.00%	3.00%
53	10.00%	11.50%	10.00%	7.00%	6.00%	6.00%	3.00%
54	10.00%	11.50%	10.00%	7.00%	6.00%	6.00%	3.00%
55	10.00%	6.50%	11.00%	7.00%	4.50%	4.50%	0.00%
56	10.00%	6.50%	11.00%	7.00%	4.50%	4.50%	0.00%
57	10.00%	6.50%	11.00%	7.00%	4.50%	4.50%	0.00%
58	10.00%	6.50%	11.00%	7.00%	4.50%	4.50%	0.00%
59	10.00%	6.50%	11.00%	7.00%	4.50%	4.50%	0.00%
60	10.00%	15.00%	10.00%	10.00%	7.25%	2.00%	0.00%
61	10.00%	15.00%	10.00%	10.00%	7.25%	2.00%	0.00%
62	10.00%	15.00%	10.00%	10.00%	7.25%	2.00%	0.00%
63	10.00%	15.00%	10.00%	10.00%	7.25%	2.00%	0.00%
64	10.00%	15.00%	10.00%	10.00%	7.25%	2.00%	0.00%
65	10.00%	10.00%	12.00%	12.00%	9.75%	2.00%	0.00%
66	10.00%	10.00%	12.00%	12.00%	9.75%	2.00%	0.00%
67	10.00%	10.00%	12.00%	12.00%	9.75%	2.00%	0.00%
68	10.00%	10.00%	12.00%	12.00%	9.75%	2.00%	0.00%
69	10.00%	10.00%	12.00%	12.00%	9.75%	2.00%	0.00%
70	10.00%	10.00%	12.00%	12.00%	9.75%	2.00%	0.00%

Exhibit 2-3 Withdrawal Rates

ERS Tier 5-6

	Years of Service							
Age	< 1	1 - 1.99	2 - 2.99	3 - 4.99	5 - 5.99	6 – 7.99	8– 9.99	> = 10
20	31.00%	20.30%	15.80%	15.80%	14.90%	14.90%	14.90%	11.10%
21	31.00%	20.30%	15.80%	15.80%	14.90%	14.90%	14.90%	11.10%
22	31.00%	20.30%	15.80%	15.80%	14.90%	14.90%	14.90%	11.10%
23	31.00%	20.30%	15.80%	15.80%	14.90%	14.90%	14.90%	11.10%
24	31.00%	20.30%	15.80%	15.80%	14.90%	14.90%	14.90%	11.10%
25	17.80%	13.60%	11.10%	8.60%	8.70%	8.70%	8.70%	11.10%
26	17.80%	13.60%	11.10%	8.60%	8.70%	8.70%	8.70%	11.10%
27	17.80%	13.60%	11.10%	8.60%	8.70%	8.70%	8.70%	11.10%
28	17.80%	13.60%	11.10%	8.60%	8.70%	8.70%	8.70%	11.10%
29	17.80%	13.60%	11.10%	8.60%	8.70%	8.70%	8.70%	11.10%
30	15.00%	12.90%	9.30%	7.40%	6.10%	6.10%	6.10%	5.30%
31	15.00%	12.90%	9.30%	7.40%	6.10%	6.10%	6.10%	5.30%
32	15.00%	12.90%	9.30%	7.40%	6.10%	6.10%	6.10%	5.30%
33	15.00%	12.90%	9.30%	7.40%	6.10%	6.10%	6.10%	5.30%
34	15.00%	12.90%	9.30%	7.40%	6.10%	6.10%	6.10%	5.30%
35	14.30%	11.80%	7.50%	6.10%	5.40%	4.80%	4.30%	4.30%
36	14.30%	11.80%	7.50%	6.10%	5.40%	4.80%	4.30%	4.30%
37	14.30%	11.80%	7.50%	6.10%	5.40%	4.80%	4.30%	4.30%
38	14.30%	11.80%	7.50%	6.10%	5.40%	4.80%	4.30%	4.30%
39	14.30%	11.80%	7.50%	6.10%	5.40%	4.80%	4.30%	4.30%
40	16.00%	11.30%	7.50%	5.60%	5.40%	4.60%	3.40%	1.80%
41	16.00%	11.30%	7.50%	5.60%	5.40%	4.60%	3.40%	1.80%
42	16.00%	11.30%	7.50%	5.60%	5.40%	4.60%	3.40%	1.80%
43	16.00%	11.30%	7.50%	5.60%	5.40%	4.60%	3.40%	1.80%
44	16.00%	11.30%	7.50%	5.60%	5.40%	4.60%	3.40%	1.80%
45	16.00%	10.40%	7.50%	5.60%	5.40%	4.10%	2.70%	3.20%
46	16.00%	10.40%	7.50%	5.60%	5.40%	4.10%	2.70%	3.20%
47	16.00%	10.40%	7.50%	5.60%	5.40%	4.10%	2.70%	3.20%
48	16.00%	10.40%	7.50%	5.60%	5.40%	4.10%	2.70%	3.20%
49	16.00%	10.40%	7.50%	5.60%	5.40%	4.10%	2.70%	3.20%
50	18.00%	11.90%	7.20%	5.40%	4.10%	4.10%	4.10%	5.40%
51	18.00%	11.90%	7.20%	5.40%	4.10%	4.10%	4.10%	5.40%
52	18.00%	11.90%	7.20%	5.40%	4.10%	4.10%	4.10%	5.40%
53	18.00%	11.90%	7.20%	5.40%	4.10%	4.10%	4.10%	5.40%
54	18.00%	11.90%	7.20%	5.40%	4.10%	4.10%	4.10%	5.40%
55	16.40%	10.30%	5.80%	5.80%	4.10%	4.10%	4.10%	4.80%
56	16.40%	10.30%	5.80%	5.80%	4.10%	4.10%	4.10%	4.80%
57	16.40%	10.30%	5.80%	5.80%	4.10%	4.10%	4.10%	4.80%
58	16.40%	10.30%	5.80%	5.80%	4.10%	4.10%	4.10%	4.80%
59	16.40%	10.30%	5.80%	5.80%	4.10%	4.10%	4.10%	4.80%
60	18.00%	14.80%	7.60%	7.60%	6.80%	6.80%	4.70%	0.00%
61	18.00%	14.80%	7.60%	7.60%	6.80%	6.80%	4.70%	0.00%
62	18.00%	14.80%	7.60%	7.60%	6.80%	6.80%	4.70%	0.00%
63	18.00%	14.80%	7.60%	7.60%	6.80%	6.80%	4.70%	0.00%
64	18.00%	14.80%	7.60%	7.60%	6.80%	6.80%	4.70%	0.00%
65	18.00%	18.00%	13.00%	11.70%	13.30%	13.30%	13.30%	0.00%
66	18.00%	18.00%	13.00%	11.70%	13.30%	13.30%	13.30%	0.00%
67	18.00%	18.00%	13.00%	11.70%	13.30%	13.30%	13.30%	0.00%
68	18.00%	18.00%	13.00%	11.70%	13.30%	13.30%	13.30%	0.00%
69	18.00%	18.00%	13.00%	11.70%	13.30%	13.30%	13.30%	0.00%
70	18.00%	18.00%	13.00%	11.70%	13.30%	13.30%	13.30%	0.00%

Exhibit 2-3 Withdrawal Rates

Upstate (Syracuse) Medical Center

	Years of Service							
Age	< 1	1 - 1.99	2 - 2.99	3 - 4.99	5 - 5.99	6 - 7.99	8 - 9.99	> = 10
20	25.00%	25.00%	21.00%	19.00%	19.00%	24.00%	14.00%	14.00%
21	25.00%	25.00%	21.00%	19.00%	19.00%	24.00%	14.00%	14.00%
22	25.00%	25.00%	21.00%	19.00%	19.00%	24.00%	14.00%	14.00%
23	25.00%	25.00%	21.00%	19.00%	19.00%	24.00%	14.00%	14.00%
24	25.00%	25.00%	21.00%	19.00%	19.00%	24.00%	14.00%	14.00%
25	25.00%	23.00%	18.00%	16.00%	19.00%	15.00%	14.00%	14.00%
26	25.00%	23.00%	18.00%	16.00%	19.00%	15.00%	14.00%	14.00%
27	25.00%	23.00%	18.00%	16.00%	19.00%	15.00%	14.00%	14.00%
28	25.00%	23.00%	18.00%	16.00%	19.00%	15.00%	14.00%	14.00%
29	25.00%	23.00%	18.00%	16.00%	19.00%	15.00%	14.00%	14.00%
30	20.00%	18.00%	17.00%	31.00%	15.00%	12.00%	9.00%	12.00%
31	20.00%	18.00%	17.00%	31.00%	15.00%	12.00%	9.00%	12.00%
32	20.00%	18.00%	17.00%	31.00%	15.00%	12.00%	9.00%	12.00%
33	20.00%	18.00%	17.00%	31.00%	15.00%	12.00%	9.00%	12.00%
34	20.00%	18.00%	17.00%	31.00%	15.00%	12.00%	9.00%	12.00%
35	20.00%	18.00%	17.00%	19.00%	15.00%	10.00%	8.00%	8.00%
36	20.00%	18.00%	17.00%	19.00%	15.00%	10.00%	8.00%	8.00%
37	20.00%	18.00%	17.00%	19.00%	15.00%	10.00%	8.00%	8.00%
38	20.00%	18.00%	17.00%	19.00%	15.00%	10.00%	8.00%	8.00%
39	20.00%	18.00%	17.00%	19.00%	15.00%	10.00%	8.00%	8.00%
40	20.00%	17.00%	16.00%	11.00%	9.00%	9.00%	8.00%	6.00%
41	20.00%	17.00%	16.00%	11.00%	9.00%	9.00%	8.00%	6.00%
42	20.00%	17.00%	16.00%	11.00%	9.00%	9.00%	8.00%	6.00%
43	20.00%	17.00%	16.00%	11.00%	9.00%	9.00%	8.00%	6.00%
44	20.00%	17.00%	16.00%	11.00%	9.00%	9.00%	8.00%	6.00%
45	20.00%	19.00%	19.00%	11.00%	7.00%	7.00%	5.00%	5.00%
46	20.00%	19.00%	19.00%	11.00%	7.00%	7.00%	5.00%	5.00%
47	20.00%	19.00%	19.00%	11.00%	7.00%	7.00%	5.00%	5.00%
48	20.00%	19.00%	19.00%	11.00%	7.00%	7.00%	5.00%	5.00%
49	20.00%	19.00%	19.00%	11.00%	7.00%	7.00%	5.00%	5.00%
50	20.00%	14.00%	7.00%	8.00%	6.00%	6.00%	5.00%	5.00%
51	20.00%	14.00%	7.00%	8.00%	6.00%	6.00%	5.00%	5.00%
52	20.00%	14.00%	7.00%	8.00%	6.00%	6.00%	5.00%	5.00%
53	20.00%	14.00%	7.00%	8.00%	6.00%	6.00%	5.00%	5.00%
54	20.00%	14.00%	7.00%	8.00%	6.00%	6.00%	5.00%	5.00%
55	8.00%	8.00%	10.00%	11.00%	4.00%	4.00%	5.00%	0.00%
56	8.00%	8.00%	10.00%	11.00%	4.00%	4.00%	5.00%	0.00%
57	8.00%	8.00%	10.00%	11.00%	4.00%	4.00%	5.00%	0.00%
58	8.00%	8.00%	10.00%	11.00%	4.00%	4.00%	5.00%	0.00%
59	8.00%	8.00%	10.00%	11.00%	4.00%	4.00%	5.00%	0.00%
60	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	10.00%	0.00%
61	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	10.00%	0.00%
62	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	10.00%	0.00%
63	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	10.00%	0.00%
64	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	10.00%	0.00%
65	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	10.00%	0.00%
66	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	10.00%	0.00%
67	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	10.00%	0.00%
68	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	10.00%	0.00%
69	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	10.00%	0.00%
70	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	10.00%	0.00%

Exhibit 2-3 Withdrawal Rates

Brooklyn Hospital

	Years of Service				
Age	< 2	2 - 2.99	3 - 3.99	5 - 9.99	> = 10
20	33.00%	67.00%	36.00%	19.00%	31.00%
21	33.00%	67.00%	36.00%	19.00%	31.00%
22	33.00%	67.00%	36.00%	19.00%	31.00%
23	33.00%	67.00%	36.00%	19.00%	31.00%
24	33.00%	67.00%	36.00%	19.00%	31.00%
25	22.00%	20.00%	36.00%	19.00%	31.00%
26	22.00%	20.00%	36.00%	19.00%	31.00%
27	22.00%	20.00%	36.00%	19.00%	31.00%
28	22.00%	20.00%	36.00%	19.00%	31.00%
29	22.00%	20.00%	36.00%	19.00%	31.00%
30	22.00%	27.00%	52.00%	36.00%	30.00%
31	22.00%	27.00%	52.00%	36.00%	30.00%
32	22.00%	27.00%	52.00%	36.00%	30.00%
33	22.00%	27.00%	52.00%	36.00%	30.00%
34	22.00%	27.00%	52.00%	36.00%	30.00%
35	24.00%	27.00%	47.00%	20.00%	12.00%
36	24.00%	27.00%	47.00%	20.00%	12.00%
37	24.00%	27.00%	47.00%	20.00%	12.00%
38	24.00%	27.00%	47.00%	20.00%	12.00%
39	24.00%	27.00%	47.00%	20.00%	12.00%
40	15.00%	24.00%	36.00%	16.00%	8.00%
41	15.00%	24.00%	36.00%	16.00%	8.00%
42	15.00%	24.00%	36.00%	16.00%	8.00%
43	15.00%	24.00%	36.00%	16.00%	8.00%
44	15.00%	24.00%	36.00%	16.00%	8.00%
45	21.00%	17.00%	27.00%	8.00%	7.00%
46	21.00%	17.00%	27.00%	8.00%	7.00%
47	21.00%	17.00%	27.00%	8.00%	7.00%
48	21.00%	17.00%	27.00%	8.00%	7.00%
49	21.00%	17.00%	27.00%	8.00%	7.00%
50	8.00%	23.00%	20.00%	6.00%	5.00%
51	8.00%	23.00%	20.00%	6.00%	5.00%
52	8.00%	23.00%	20.00%	6.00%	5.00%
53	8.00%	23.00%	20.00%	6.00%	5.00%
54	8.00%	23.00%	20.00%	6.00%	5.00%
55	21.00%	22.00%	10.00%	9.00%	13.00%
56	21.00%	22.00%	10.00%	9.00%	13.00%
57	21.00%	22.00%	10.00%	9.00%	13.00%
58	21.00%	22.00%	10.00%	9.00%	13.00%
59	21.00%	22.00%	10.00%	9.00%	13.00%
60	24.00%	6.00%	17.00%	6.00%	33.00%
61	24.00%	6.00%	17.00%	6.00%	33.00%
62	24.00%	6.00%	17.00%	6.00%	33.00%
63	24.00%	6.00%	17.00%	6.00%	33.00%
64	24.00%	6.00%	17.00%	6.00%	33.00%
65	33.00%	33.00%	33.00%	15.00%	0.00%
66	33.00%	33.00%	33.00%	15.00%	0.00%
67	33.00%	33.00%	33.00%	15.00%	0.00%
68	33.00%	33.00%	33.00%	15.00%	0.00%
69	33.00%	33.00%	33.00%	15.00%	0.00%
70	50.00%	33.00%	33.00%	15.00%	0.00%

Exhibit 2-3 Withdrawal Rates

Stony Brook Hospital

	Years of Service				
Age	< 2	2 - 2.99	3 - 4.99	5 - 9.99	> = 10
20	22.00%	25.00%	17.00%	9.00%	13.00%
21	22.00%	25.00%	17.00%	9.00%	13.00%
22	22.00%	25.00%	17.00%	9.00%	13.00%
23	22.00%	25.00%	17.00%	9.00%	13.00%
24	22.00%	25.00%	17.00%	9.00%	13.00%
25	22.00%	20.00%	22.00%	18.00%	13.00%
26	22.00%	20.00%	22.00%	18.00%	13.00%
27	22.00%	20.00%	22.00%	18.00%	13.00%
28	22.00%	20.00%	22.00%	18.00%	13.00%
29	22.00%	20.00%	22.00%	18.00%	13.00%
30	22.00%	21.00%	38.00%	18.00%	16.00%
31	22.00%	21.00%	38.00%	18.00%	16.00%
32	22.00%	21.00%	38.00%	18.00%	16.00%
33	22.00%	21.00%	38.00%	18.00%	16.00%
34	22.00%	21.00%	38.00%	18.00%	16.00%
35	25.00%	21.00%	25.00%	11.00%	8.00%
36	25.00%	21.00%	25.00%	11.00%	8.00%
37	25.00%	21.00%	25.00%	11.00%	8.00%
38	25.00%	21.00%	25.00%	11.00%	8.00%
39	25.00%	21.00%	25.00%	11.00%	8.00%
40	19.00%	17.00%	14.00%	8.00%	5.00%
41	19.00%	17.00%	14.00%	8.00%	5.00%
42	19.00%	17.00%	14.00%	8.00%	5.00%
43	19.00%	17.00%	14.00%	8.00%	5.00%
44	19.00%	17.00%	14.00%	8.00%	5.00%
45	12.00%	20.00%	14.00%	7.00%	4.00%
46	12.00%	20.00%	14.00%	7.00%	4.00%
47	12.00%	20.00%	14.00%	7.00%	4.00%
48	12.00%	20.00%	14.00%	7.00%	4.00%
49	12.00%	20.00%	14.00%	7.00%	4.00%
50	18.00%	10.00%	11.00%	7.00%	4.00%
51	18.00%	10.00%	11.00%	7.00%	4.00%
52	18.00%	10.00%	11.00%	7.00%	4.00%
53	18.00%	10.00%	11.00%	7.00%	4.00%
54	18.00%	10.00%	11.00%	7.00%	4.00%
55	18.00%	10.00%	10.00%	4.00%	0.00%
56	18.00%	10.00%	10.00%	4.00%	0.00%
57	18.00%	10.00%	10.00%	4.00%	0.00%
58	18.00%	10.00%	10.00%	4.00%	0.00%
59	18.00%	10.00%	10.00%	4.00%	0.00%
60	4.00%	15.00%	9.00%	8.00%	0.00%
61	4.00%	15.00%	9.00%	8.00%	0.00%
62	4.00%	15.00%	9.00%	8.00%	0.00%
63	4.00%	15.00%	9.00%	8.00%	0.00%
64	4.00%	15.00%	9.00%	8.00%	0.00%
65	25.00%	10.00%	10.00%	5.00%	0.00%
66	25.00%	10.00%	10.00%	5.00%	0.00%
67	25.00%	10.00%	10.00%	5.00%	0.00%
68	25.00%	10.00%	10.00%	5.00%	0.00%
69	25.00%	10.00%	10.00%	5.00%	0.00%
70	0.00%	0.00%	0.00%	0.00%	0.00%

Exhibit 2-3 Withdrawal Rates

PFRS – All Tiers

	Years of Service						
Age	< 1	1 - 1.99	2 - 2.99	3 - 3.99	4 - 4.99	5 - 5.99	6 - 7.99
20-24	10.00%	2.00%	2.00%	5.00%	1.00%	2.00%	3.00%
25-29	7.00%	5.00%	2.00%	2.00%	1.00%	2.00%	3.00%
30-34	7.00%	5.00%	2.00%	2.00%	1.00%	2.00%	2.00%
35-39	7.00%	5.00%	2.00%	1.00%	1.00%	1.00%	2.00%
40-44	7.00%	1.00%	2.00%	1.00%	1.00%	1.00%	2.00%
45-49	7.00%	1.00%	2.00%	2.00%	1.00%	2.00%	8.00%
50-54	7.00%	10.00%	2.00%	7.00%	1.00%	1.00%	8.00%
55-59	7.00%	1.00%	1.00%	7.00%	1.00%	1.00%	1.00%
60-64	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%
65-69	7.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
70+	7.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%

	Years of Service						
Age	8 - 9.99	10 - 10.99	11 - 15.99	16 - 17.99	18 - 18.99	19 - 19.99	> = 20
20-24	1.00%	1.00%	3.00%	1.00%	1.00%	1.00%	5.00%
25-29	1.00%	1.00%	3.00%	1.00%	1.00%	1.00%	5.00%
30-34	1.00%	1.00%	2.00%	1.00%	1.00%	1.00%	5.00%
35-39	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	5.00%
40-44	1.00%	1.00%	1.00%	2.00%	2.00%	2.00%	5.00%
45-49	1.00%	1.00%	1.00%	2.00%	3.00%	5.00%	5.00%
50-54	1.00%	1.00%	3.00%	10.00%	10.00%	10.00%	5.00%
55-59	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	5.00%
60-64	10.00%	15.00%	15.00%	15.00%	15.00%	15.00%	5.00%
65-69	1.00%	1.00%	1.00%	15.00%	15.00%	15.00%	5.00%
70+	1.00%	1.00%	1.00%	15.00%	15.00%	15.00%	5.00%

Exhibit 2-3 Withdrawal Rates
Campus TIAA-CREF

	Years of Service						
Age	< 1	1 - 1.99	2 - 2.99	3 - 4.99	5 - 8.99	9 - 9.99	> = 10
20	20.00%	30.00%	15.00%	15.00%	50.00%	21.00%	13.00%
21	20.00%	30.00%	15.00%	15.00%	50.00%	21.00%	13.00%
22	20.00%	30.00%	15.00%	15.00%	50.00%	21.00%	13.00%
23	20.00%	30.00%	15.00%	15.00%	50.00%	21.00%	13.00%
24	20.00%	30.00%	15.00%	15.00%	50.00%	21.00%	13.00%
25	15.00%	20.00%	23.00%	25.00%	20.00%	21.00%	13.00%
26	15.00%	20.00%	23.00%	25.00%	20.00%	21.00%	13.00%
27	15.00%	20.00%	23.00%	25.00%	20.00%	21.00%	13.00%
28	15.00%	20.00%	23.00%	25.00%	20.00%	21.00%	13.00%
29	15.00%	20.00%	23.00%	25.00%	20.00%	21.00%	12.00%
30	15.00%	20.00%	23.00%	23.00%	20.00%	15.00%	12.00%
31	15.00%	20.00%	23.00%	23.00%	20.00%	15.00%	12.00%
32	15.00%	20.00%	23.00%	23.00%	20.00%	15.00%	12.00%
33	15.00%	20.00%	23.00%	23.00%	20.00%	15.00%	12.00%
34	15.00%	20.00%	23.00%	23.00%	20.00%	15.00%	12.00%
35	10.00%	13.00%	13.00%	14.00%	10.00%	7.00%	6.00%
36	10.00%	13.00%	13.00%	14.00%	10.00%	7.00%	6.00%
37	10.00%	13.00%	13.00%	14.00%	10.00%	7.00%	6.00%
38	10.00%	13.00%	13.00%	14.00%	10.00%	7.00%	6.00%
39	10.00%	13.00%	13.00%	14.00%	10.00%	7.00%	6.00%
40	10.00%	20.00%	10.00%	10.00%	8.00%	7.00%	4.00%
41	10.00%	20.00%	10.00%	10.00%	8.00%	7.00%	4.00%
42	10.00%	20.00%	10.00%	10.00%	8.00%	7.00%	4.00%
43	10.00%	20.00%	10.00%	10.00%	8.00%	7.00%	4.00%
44	10.00%	20.00%	10.00%	10.00%	8.00%	7.00%	4.00%
45	30.00%	15.00%	10.00%	10.00%	8.00%	4.50%	3.00%
46	30.00%	15.00%	10.00%	10.00%	8.00%	4.50%	3.00%
47	30.00%	15.00%	10.00%	10.00%	8.00%	4.50%	3.00%
48	30.00%	15.00%	10.00%	10.00%	8.00%	4.50%	3.00%
49	30.00%	15.00%	10.00%	10.00%	8.00%	4.50%	3.00%
50	10.00%	15.00%	10.00%	10.00%	7.00%	4.50%	3.00%
51	10.00%	15.00%	10.00%	10.00%	7.00%	4.50%	3.00%
52	10.00%	15.00%	10.00%	10.00%	7.00%	4.50%	3.00%
53	10.00%	15.00%	10.00%	10.00%	7.00%	4.50%	3.00%
54	10.00%	15.00%	10.00%	10.00%	7.00%	4.50%	3.00%
55	10.00%	10.00%	10.00%	10.00%	5.00%	3.00%	0.00%
56	10.00%	10.00%	10.00%	10.00%	5.00%	3.00%	0.00%
57	10.00%	10.00%	10.00%	10.00%	5.00%	3.00%	0.00%
58	10.00%	10.00%	10.00%	10.00%	5.00%	3.00%	0.00%
59	10.00%	10.00%	10.00%	10.00%	5.00%	3.00%	0.00%
60	15.00%	15.00%	10.00%	10.00%	8.00%	3.00%	0.00%
61	15.00%	15.00%	10.00%	10.00%	8.00%	3.00%	0.00%
62	15.00%	15.00%	10.00%	10.00%	8.00%	3.00%	0.00%
63	15.00%	15.00%	10.00%	10.00%	8.00%	3.00%	0.00%
64	15.00%	15.00%	10.00%	10.00%	8.00%	3.00%	0.00%
65	15.00%	15.00%	10.00%	10.00%	8.00%	3.00%	0.00%
66	15.00%	15.00%	10.00%	10.00%	8.00%	3.00%	0.00%
67	15.00%	15.00%	10.00%	10.00%	8.00%	3.00%	0.00%
68	15.00%	15.00%	10.00%	10.00%	8.00%	3.00%	0.00%
69	15.00%	15.00%	10.00%	10.00%	8.00%	3.00%	0.00%
70	15.00%	15.00%	10.00%	10.00%	8.00%	3.00%	0.00%

Exhibit 2-3 Withdrawal Rates

Campus (unknown retirement program)

	Years of Service							
Age	< 1	1 - 1.99	2 - 2.99	3 - 3.99	4 - 4.99	5 - 8.99	9 - 9.99	> = 10
20	30.00%	30.00%	30.00%	25.00%	20.00%	20.00%	20.00%	12.00%
21	30.00%	30.00%	30.00%	25.00%	20.00%	20.00%	20.00%	12.00%
22	30.00%	30.00%	30.00%	25.00%	20.00%	20.00%	20.00%	12.00%
23	30.00%	30.00%	30.00%	25.00%	20.00%	20.00%	20.00%	12.00%
24	30.00%	30.00%	30.00%	25.00%	20.00%	20.00%	20.00%	12.00%
25	25.00%	25.00%	25.00%	25.00%	20.00%	20.00%	20.00%	12.00%
26	25.00%	25.00%	25.00%	25.00%	20.00%	20.00%	20.00%	12.00%
27	25.00%	25.00%	25.00%	25.00%	20.00%	20.00%	20.00%	12.00%
28	25.00%	25.00%	25.00%	25.00%	20.00%	20.00%	20.00%	12.00%
29	25.00%	25.00%	25.00%	25.00%	20.00%	20.00%	20.00%	12.00%
30	20.00%	20.00%	25.00%	25.00%	25.00%	20.00%	20.00%	12.00%
31	20.00%	20.00%	25.00%	25.00%	25.00%	20.00%	20.00%	12.00%
32	20.00%	20.00%	25.00%	25.00%	25.00%	20.00%	20.00%	12.00%
33	20.00%	20.00%	25.00%	25.00%	25.00%	20.00%	20.00%	12.00%
34	20.00%	20.00%	25.00%	25.00%	25.00%	20.00%	20.00%	12.00%
35	15.00%	20.00%	20.00%	15.00%	20.00%	15.00%	15.00%	12.00%
36	15.00%	20.00%	20.00%	15.00%	20.00%	15.00%	15.00%	12.00%
37	15.00%	20.00%	20.00%	15.00%	20.00%	15.00%	15.00%	12.00%
38	15.00%	20.00%	20.00%	15.00%	20.00%	15.00%	15.00%	12.00%
39	15.00%	20.00%	20.00%	15.00%	20.00%	15.00%	15.00%	12.00%
40	15.00%	20.00%	20.00%	15.00%	15.00%	15.00%	15.00%	7.00%
41	15.00%	20.00%	20.00%	15.00%	15.00%	15.00%	15.00%	7.00%
42	15.00%	20.00%	20.00%	15.00%	15.00%	15.00%	15.00%	7.00%
43	15.00%	20.00%	20.00%	15.00%	15.00%	15.00%	15.00%	7.00%
44	15.00%	20.00%	20.00%	15.00%	15.00%	15.00%	15.00%	7.00%
45	20.00%	20.00%	15.00%	15.00%	15.00%	10.00%	10.00%	7.00%
46	20.00%	20.00%	15.00%	15.00%	15.00%	10.00%	10.00%	7.00%
47	20.00%	20.00%	15.00%	15.00%	15.00%	10.00%	10.00%	7.00%
48	20.00%	20.00%	15.00%	15.00%	15.00%	10.00%	10.00%	7.00%
49	20.00%	20.00%	15.00%	15.00%	15.00%	10.00%	10.00%	7.00%
50	15.00%	20.00%	15.00%	15.00%	10.00%	10.00%	5.00%	7.00%
51	15.00%	20.00%	15.00%	15.00%	10.00%	10.00%	5.00%	7.00%
52	15.00%	20.00%	15.00%	15.00%	10.00%	10.00%	5.00%	7.00%
53	15.00%	20.00%	15.00%	15.00%	10.00%	10.00%	5.00%	7.00%
54	15.00%	20.00%	15.00%	15.00%	10.00%	10.00%	5.00%	7.00%
55	15.00%	15.00%	20.00%	20.00%	10.00%	5.00%	5.00%	5.00%
56	15.00%	15.00%	20.00%	20.00%	10.00%	5.00%	5.00%	5.00%
57	15.00%	15.00%	20.00%	20.00%	10.00%	5.00%	5.00%	5.00%
58	15.00%	15.00%	20.00%	20.00%	10.00%	5.00%	5.00%	5.00%
59	15.00%	15.00%	20.00%	20.00%	10.00%	5.00%	5.00%	5.00%
60	15.00%	15.00%	20.00%	20.00%	10.00%	5.00%	5.00%	5.00%
61	15.00%	15.00%	20.00%	20.00%	10.00%	5.00%	5.00%	5.00%
62	15.00%	15.00%	20.00%	20.00%	10.00%	5.00%	5.00%	5.00%
63	15.00%	15.00%	20.00%	20.00%	10.00%	5.00%	5.00%	5.00%
64	15.00%	15.00%	20.00%	20.00%	10.00%	5.00%	5.00%	5.00%
65	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
66	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
67	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
68	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
69	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
70	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%

Exhibit 2-3 Withdrawal Rates

TRS

	Years of Service			
Age	0 - 2.99	3 - 3.99	4 - 9.99	> = 10
20	15.00%	20.00%	15.00%	15.00%
21	15.00%	20.00%	15.00%	15.00%
22	15.00%	20.00%	15.00%	15.00%
23	15.00%	20.00%	15.00%	15.00%
24	15.00%	20.00%	15.00%	15.00%
25	15.00%	25.00%	15.00%	15.00%
26	15.00%	25.00%	15.00%	15.00%
27	15.00%	25.00%	15.00%	15.00%
28	15.00%	25.00%	15.00%	15.00%
29	15.00%	25.00%	15.00%	15.00%
30	15.00%	15.00%	15.00%	3.00%
31	15.00%	15.00%	15.00%	3.00%
32	15.00%	15.00%	15.00%	3.00%
33	15.00%	15.00%	15.00%	3.00%
34	15.00%	15.00%	15.00%	3.00%
35	10.00%	12.00%	12.00%	10.00%
36	10.00%	12.00%	12.00%	10.00%
37	10.00%	12.00%	12.00%	10.00%
38	10.00%	12.00%	12.00%	10.00%
39	10.00%	12.00%	12.00%	10.00%
40	15.00%	12.00%	8.00%	8.00%
41	15.00%	12.00%	8.00%	8.00%
42	15.00%	12.00%	8.00%	8.00%
43	15.00%	12.00%	8.00%	8.00%
44	15.00%	12.00%	8.00%	8.00%
45	15.00%	15.00%	8.00%	8.00%
46	15.00%	15.00%	8.00%	8.00%
47	15.00%	15.00%	8.00%	8.00%
48	15.00%	15.00%	8.00%	8.00%
49	15.00%	15.00%	8.00%	8.00%
50	15.00%	15.00%	8.00%	8.00%
51	15.00%	15.00%	8.00%	8.00%
52	15.00%	15.00%	8.00%	8.00%
53	15.00%	15.00%	8.00%	8.00%
54	15.00%	15.00%	8.00%	8.00%
55	20.00%	10.00%	8.00%	0.00%
56	20.00%	10.00%	8.00%	0.00%
57	20.00%	10.00%	8.00%	0.00%
58	20.00%	10.00%	8.00%	0.00%
59	20.00%	10.00%	8.00%	0.00%
60	20.00%	10.00%	8.00%	0.00%
61	20.00%	10.00%	8.00%	0.00%
62	20.00%	10.00%	8.00%	0.00%
63	20.00%	10.00%	8.00%	0.00%
64	20.00%	10.00%	8.00%	0.00%
65	20.00%	10.00%	20.00%	0.00%
66	20.00%	10.00%	20.00%	0.00%
67	20.00%	10.00%	20.00%	0.00%
68	20.00%	10.00%	20.00%	0.00%
69	20.00%	10.00%	20.00%	0.00%
70	20.00%	10.00%	20.00%	0.00%

Exhibit 2-4 Disability Rates

	ERS			PFRS		TRS	
	Accidental Disability		All Other	Accidental	All Other	Male	Female
	Tiers 1 & 2	Tiers 3 - 6	Disability	Disability*	Disability	Disability**	Disability**
15	0.020%	0.001%	0.006%	0.040%	0.001%		
16	0.020%	0.001%	0.006%	0.040%	0.001%		
17	0.020%	0.001%	0.007%	0.040%	0.001%		
18	0.020%	0.001%	0.008%	0.040%	0.002%		
19	0.020%	0.001%	0.009%	0.040%	0.002%		
20	0.020%	0.001%	0.010%	0.040%	0.002%		
21	0.020%	0.001%	0.011%	0.040%	0.002%		
22	0.020%	0.001%	0.012%	0.040%	0.002%		
23	0.020%	0.001%	0.014%	0.040%	0.003%		
24	0.020%	0.001%	0.015%	0.040%	0.003%		
25	0.020%	0.001%	0.017%	0.040%	0.003%		
26	0.020%	0.001%	0.019%	0.040%	0.004%		
27	0.020%	0.001%	0.021%	0.040%	0.004%		
28	0.020%	0.001%	0.023%	0.040%	0.005%		
29	0.020%	0.001%	0.025%	0.040%	0.005%		
30	0.020%	0.001%	0.028%	0.040%	0.006%	0.0007%	0.0004%
31	0.020%	0.001%	0.031%	0.040%	0.006%	0.0031%	0.0018%
32	0.020%	0.001%	0.035%	0.040%	0.007%	0.0060%	0.0048%
33	0.020%	0.001%	0.039%	0.040%	0.008%	0.0100%	0.0140%
34	0.020%	0.001%	0.043%	0.040%	0.009%	0.0131%	0.0225%
35	0.020%	0.001%	0.048%	0.040%	0.010%	0.0156%	0.0242%
36	0.020%	0.001%	0.053%	0.100%	0.011%	0.0183%	0.0212%
37	0.020%	0.001%	0.059%	0.160%	0.012%	0.0220%	0.0191%
38	0.020%	0.001%	0.066%	0.220%	0.013%	0.0261%	0.0202%
39	0.020%	0.001%	0.073%	0.280%	0.015%	0.0297%	0.0252%
40	0.020%	0.001%	0.081%	0.340%	0.016%	0.0324%	0.0330%
41	0.020%	0.001%	0.090%	0.400%	0.018%	0.0353%	0.0415%
42	0.020%	0.001%	0.100%	0.460%	0.020%	0.0378%	0.0468%
43	0.020%	0.004%	0.111%	0.520%	0.022%	0.0439%	0.0566%
44	0.020%	0.004%	0.124%	0.580%	0.025%	0.0519%	0.0684%
45	0.020%	0.004%	0.137%	0.640%	0.027%	0.0610%	0.0758%
46	0.020%	0.004%	0.153%	0.640%	0.031%	0.0680%	0.0788%
47	0.020%	0.004%	0.170%	0.640%	0.034%	0.0724%	0.0841%
48	0.020%	0.004%	0.189%	0.640%	0.038%	0.0772%	0.0961%
49	0.020%	0.004%	0.210%	0.640%	0.042%	0.0878%	0.1145%
50	0.020%	0.004%	0.233%	0.640%	0.047%	0.1035%	0.1325%
51	0.020%	0.004%	0.259%	0.640%	0.052%	0.1225%	0.1528%
52	0.020%	0.004%	0.288%	0.640%	0.058%	0.1395%	0.1608%
53	0.020%	0.004%	0.320%	0.640%	0.064%	0.1480%	0.1611%
54	0.020%	0.004%	0.355%	0.640%	0.071%	0.1435%	0.1527%
55	0.015%	0.004%	0.395%	0.640%	0.079%	0.1287%	0.1454%
56	0.015%	0.004%	0.438%	0.640%	0.088%	0.1060%	0.1270%
57	0.015%	0.004%	0.487%	0.640%	0.097%	0.0845%	0.1121%
58	0.015%	0.004%	0.541%	0.640%	0.108%	0.0721%	0.1012%
59	0.015%	0.004%	0.602%	0.640%	0.120%	0.0655%	0.0956%
60	0.015%	0.004%	0.668%	0.640%	0.134%	0.0642%	0.0848%
61	0.015%	0.004%	0.743%	0.640%	0.149%	0.0617%	0.0749%
62	0.015%	0.004%	0.825%	0.640%	0.165%	0.0581%	0.0684%
63	0.015%	0.004%	0.917%	0.640%	0.183%	0.0536%	0.0591%
64	0.015%	0.004%	1.019%	0.640%	0.204%	0.0485%	0.0551%
65	0.015%	0.004%	1.121%	0.640%	0.224%	0.0430%	0.0476%

Exhibit 2-4 Disability Rates

	ERS			PFRS		TRS	
	Accidental Disability		All Other	Accidental	All Other	Male	Female
	Tiers 1 & 2	Tiers 3 - 6	Disability	Disability*	Disability	Disability	Disability
66	0.015%	0.004%	1.233%	0.640%	0.247%	0.0430%	0.0476%
67	0.015%	0.004%	1.356%	0.640%	0.271%	0.0373%	0.0258%
68	0.015%	0.004%	1.492%	0.640%	0.298%	0.0317%	0.0178%
69	0.015%	0.004%	1.641%	0.640%	0.328%	0.0264%	0.0169%
70	0.000%	0.000%	0.000%	0.000%	0.000%	0.0215%	0.0152%
71						0.0135%	0.0107%
72						0.0104%	0.0083%
73						0.0078%	0.0060%
74						0.0058%	0.0042%
75						0.0042%	0.0028%
76						0.0030%	0.0018%
77						0.0021%	0.0011%
78						0.0014%	0.0006%
79						0.0009%	0.0004%
80						0.0009%	0.0004%

* Includes performance of duty
** Assumes all disabilities are non-coincidental

Exhibit 2-5 Retirement Rates

	ERS – Tier 1
	Years of Service
Age	> = 30
60	21.00%
61	24.00%
62	35.00%
63	5.00%
64	5.00%
65	26.00%
66	26.00%
67	22.00%
68	21.00%
69-79	20.00%
80+	100.00%

	ERS – Tier 5 & 6
	Years of Service
Age	>=10
55	2.00%
56	5.00%
57	5.00%
58	10.00%
59	10.00%
60	10.00%
61	20.00%
62	20.00%
63	15.00%
64	25.00%
65	26.00%
66	15.00%
67	40.00%
68	40.00%
69	40.00%
70+	100.00%

	ERS Tiers 2, 3 & 4		
	Years of Service		
Age	<20	20-29.99	> = 30
55	5.00%	10.00%	35.00%
56	5.00%	8.00%	22.00%
57	5.00%	8.00%	22.00%
58	5.00%	8.00%	22.00%
59	5.00%	8.00%	22.00%
60	6.00%	10.00%	22.00%
61	10.00%	17.00%	26.00%
62	18.00%	33.00%	37.00%
63	15.00%	20.00%	25.00%
64	15.00%	20.00%	25.00%
65	17.00%	25.00%	25.00%
66	20.00%	25.00%	30.00%
67	20.00%	25.00%	30.00%
68	17.00%	25.00%	20.00%
69	17.00%	25.00%	20.00%
70	25.00%	25.00%	30.00%
71	20.00%	25.00%	25.00%
72	20.00%	25.00%	25.00%
73	20.00%	25.00%	20.00%
74	20.00%	25.00%	20.00%
75	20.00%	25.00%	20.00%
76	20.00%	25.00%	30.00%
77	25.00%	25.00%	20.00%
78	15.00%	25.00%	20.00%
79	15.00%	25.00%	33.00%
80	100.00%	100.00%	100.00%

Exhibit 2-5 Retirement Rates

	PFRS – All Tiers		
	Years of Service		
Age	<20	20-29.99	> = 30
42	5.00%	5.00%	10.00%
43	5.00%	5.00%	10.00%
44	8.00%	8.00%	10.00%
45	8.00%	8.00%	10.00%
46	8.00%	8.00%	10.00%
47	10.00%	10.00%	10.00%
48	10.00%	10.00%	10.00%
49	10.00%	10.00%	10.00%
50	10.00%	10.00%	25.00%
51	15.00%	15.00%	25.00%
52	15.00%	15.00%	25.00%
53	20.00%	20.00%	25.00%
54	20.00%	20.00%	30.00%
55	25.00%	20.00%	30.00%
56	20.00%	20.00%	30.00%
57	20.00%	20.00%	30.00%
58	20.00%	20.00%	30.00%
59	30.00%	30.00%	40.00%
60	30.00%	30.00%	65.00%
61	15.00%	15.00%	33.00%
62	40.00%	40.00%	50.00%
63	30.00%	30.00%	40.00%
64	30.00%	30.00%	40.00%
65	30.00%	30.00%	65.00%
66	30.00%	30.00%	65.00%
67	30.00%	30.00%	100.00%
68	30.00%	30.00%	100.00%
69	30.00%	30.00%	100.00%
70+	100.00%	100.00%	100.00%

Exhibit 2-5 Retirement Rates

	Campus TIAA-CREF	
	Gender	
Age	Male	Female
55	3.00%	4.00%
56	3.00%	4.00%
57	3.00%	4.00%
58	3.00%	4.00%
59	3.00%	5.00%
60	3.00%	5.00%
61	3.00%	5.00%
62	3.00%	7.00%
63	3.00%	7.00%
64	3.00%	7.00%
65	5.00%	7.00%
66	10.00%	10.00%
67	10.00%	10.00%
68	10.00%	10.00%
69	10.00%	10.00%
70	10.00%	15.00%
71	8.00%	15.00%
72	8.00%	15.00%
73	8.00%	8.00%
74	8.00%	8.00%
75	8.00%	8.00%
76	10.00%	8.00%
77	10.00%	10.00%
78	10.00%	20.00%
79	10.00%	20.00%
80+	100.00%	100.00%

Exhibit 2-5 Retirement Rates

Campus (unknown retirement program)

	Years of Service				
Age	**10**	**11-19.99**	**20-20.99**	**21-29.99**	**>=30**
55	20.0%	16.0%	15.0%	15.0%	23.0%
56	20.0%	13.0%	13.0%	13.0%	21.0%
57	20.0%	10.0%	15.0%	15.0%	19.0%
58	20.0%	10.0%	19.0%	19.0%	18.0%
59	20.0%	12.0%	11.0%	11.0%	12.0%
60	35.0%	12.0%	12.0%	12.0%	17.0%
61	35.0%	20.0%	21.0%	21.0%	16.0%
62	35.0%	28.0%	35.0%	25.0%	32.0%
63	35.0%	28.0%	35.0%	22.0%	27.0%
64	35.0%	28.0%	35.0%	25.0%	21.0%
65	45.0%	31.0%	35.0%	32.0%	30.0%
66	45.0%	35.0%	35.0%	30.0%	30.0%
67	35.0%	35.0%	35.0%	27.0%	25.0%
68	35.0%	35.0%	35.0%	27.0%	25.0%
69	35.0%	35.0%	35.0%	33.0%	25.0%
70	35.0%	35.0%	35.0%	30.0%	35.0%
71	35.0%	35.0%	35.0%	30.0%	35.0%
72	35.0%	35.0%	35.0%	30.0%	35.0%
73	35.0%	35.0%	35.0%	30.0%	35.0%
74	35.0%	35.0%	50.0%	50.0%	35.0%
75-79	35.0%	35.0%	50.0%	50.0%	35.0%
80-84	35.0%	35.0%	50.0%	50.0%	35.0%
85+	100.0%	100.0%	100.0%	100.0%	100.0%

Exhibit 2-5 Retirement Rates

	Stony Brook Hospital and Brooklyn Hospital		
	Years of Service		
Age	<20	20-29.99	> = 30
55	10.00%	10.00%	15.00%
56	5.00%	5.00%	12.00%
57	5.00%	5.00%	12.00%
58	5.00%	7.00%	15.00%
59	8.00%	7.00%	10.00%
60	5.00%	10.00%	20.00%
61	5.00%	12.00%	15.00%
62	10.00%	27.00%	20.00%
63	10.00%	17.00%	20.00%
64	16.00%	17.00%	15.00%
65	25.00%	17.00%	20.00%
66	25.00%	30.00%	20.00%
67	13.00%	30.00%	20.00%
68	13.00%	30.00%	20.00%
69	25.00%	30.00%	20.00%
70+	100.00%	100.00%	100.00%

	Syracuse Hospital		
	Years of Service		
Age	<20	20-29.99	> = 30
55	5.00%	10.00%	20.00%
56	5.00%	6.00%	20.00%
57	5.00%	10.00%	10.00%
58	10.00%	10.00%	20.00%
59	10.00%	10.00%	20.00%
60	5.00%	10.00%	20.00%
61	15.00%	15.00%	20.00%
62	30.00%	35.00%	30.00%
63	25.00%	20.00%	35.00%
64	15.00%	35.00%	35.00%
65	30.00%	35.00%	35.00%
66	30.00%	35.00%	30.00%
67	30.00%	35.00%	30.00%
68	30.00%	35.00%	30.00%
69	30.00%	35.00%	30.00%
70+	100.00%	100.00%	100.00%

ERS (Corrections)	
Age	All Tiers
45-54	25.00%
55	30.00%
56	30.00%
57	30.00%
58	30.00%
59	25.00%
60	35.00%
61	50.00%
62	67.00%
63	45.00%
64	55.00%
65	50.00%
66	50.00%
67	50.00%
68	50.00%
69	50.00%
70+	100.00%

Exhibit 2-5 Retirement Rates

TRS – All Tiers

	Males			**Females**		
	Years of Service			Years of Service		
Age	<20	20-29.99	> = 30	<20	20-29.99	> = 30
55	1.69%	3.69%	35.74%	2.20%	4.89%	36.05%
56	1.81%	3.87%	30.81%	2.09%	4.89%	32.89%
57	1.89%	4.25%	27.07%	2.16%	5.03%	28.50%
58	2.04%	4.57%	27.53%	2.42%	5.60%	28.12%
59	2.39%	5.38%	29.63%	2.87%	6.68%	30.34%
60	3.25%	7.49%	31.11%	3.67%	8.58%	32.94%
61	5.36%	13.73%	31.06%	4.99%	12.48%	35.82%
62	7.66%	31.73%	31.95%	9.87%	34.46%	38.36%
63	8.63%	29.12%	31.90%	9.95%	32.04%	36.10%
64	10.14%	26.45%	29.72%	10.82%	27.02%	33.66%
65	13.52%	28.48%	31.11%	13.46%	30.66%	34.52%
66	16.54%	32.66%	34.03%	15.72%	34.36%	36.17%
67	17.13%	32.37%	32.54%	15.77%	33.52%	33.97%
68	16.25%	28.70%	29.14%	14.93%	31.22%	28.97%
69	16.85%	31.69%	27.43%	15.70%	29.47%	27.07%
70	17.84%	34.58%	25.91%	16.93%	27.62%	26.82%
71	16.86%	27.44%	23.84%	16.62%	25.84%	26.94%
72	17.52%	24.41%	22.34%	14.99%	24.90%	25.54%
73	20.45%	31.63%	22.48%	13.06%	23.14%	22.01%
74	20.58%	31.43%	26.21%	13.18%	20.28%	20.44%
75	20.10%	22.22%	29.49%	17.09%	23.28%	18.28%
76	22.37%	20.00%	25.49%	20.86%	28.34%	15.72%
77	25.00%	20.69%	20.00%	17.87%	29.17%	17.53%
78	25.93%	21.43%	17.86%	10.60%	24.36%	22.30%
79	24.32%	14.81%	18.46%	11.54%	17.07%	25.30%
80+	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Exhibit 2-6 Salary Scale

Service:	NYSIF	Police & Military	State all others	SUNY Campus	SUNY Construction	SUNY Hospitals
0	7.00%	9.00%	7.25%	4.00%	4.50%	6.75%
1	6.75%	8.00%	7.00%	4.00%	4.25%	6.25%
2	6.25%	7.00%	6.75%	4.00%	4.25%	5.75%
3	6.00%	6.50%	6.50%	4.00%	4.25%	5.50%
4	5.75%	5.75%	6.00%	4.00%	4.00%	5.00%
5	5.25%	5.00%	5.75%	3.75%	4.00%	4.65%
6	5.00%	4.00%	5.50%	3.75%	4.00%	2.25%
7	4.75%	3.25%	5.25%	3.75%	4.00%	3.75%
8	4.25%	3.25%	5.00%	3.50%	3.75%	3.50%
9	4.00%	3.25%	4.50%	3.50%	3.75%	3.50%
10	3.75%	3.00%	4.25%	3.50%	3.75%	3.25%
11	3.25%	3.00%	5.00%	3.50%	3.50%	3.25%
12	3.00%	3.00%	3.75%	3.25%	3.50%	3.25%
13	2.75%	3.00%	3.75%	3.25%	3.50%	3.25%
14	2.25%	3.00%	3.50%	3.25%	3.50%	3.25%
15	2.00%	3.00%	3.50%	3.25%	3.25%	3.25%
16	2.00%	3.00%	3.50%	3.00%	3.25%	3.25%
17	2.00%	3.00%	3.50%	3.00%	3.25%	3.00%
18	2.00%	3.00%	3.25%	3.00%	3.00%	3.00%
19	2.00%	3.00%	3.25%	3.00%	3.00%	3.00%
20	1.75%	2.75%	3.25%	2.75%	3.00%	3.00%
21	1.75%	2.75%	3.25%	2.75%	3.00%	3.00%
22	1.75%	2.75%	3.00%	2.75%	3.00%	3.00%
23	1.75%	2.75%	3.00%	2.50%	3.00%	2.75%
24	1.75%	2.75%	3.00%	2.50%	3.00%	2.75%
25	1.75%	2.75%	3.00%	2.50%	3.00%	2.75%
26	1.75%	2.75%	3.00%	2.50%	3.00%	2.75%
27	1.75%	2.75%	2.75%	2.50%	3.00%	2.75%
28	1.75%	2.75%	2.75%	2.25%	3.00%	2.75%
29	1.50%	2.75%	2.75%	2.25%	3.00%	2.75%
30	1.50%	2.50%	2.75%	2.25%	3.25%	2.50%
31	1.50%	2.50%	2.50%	2.25%	3.25%	2.50%
32	1.50%	2.50%	2.50%	2.00%	3.25%	2.50%
33	1.50%	2.50%	2.50%	2.00%	3.25%	2.50%
34	1.50%	2.50%	2.50%	2.00%	3.25%	2.50%
35+	1.50%	2.50%	2.50%	2.00%	3.25%	2.50%

Section 3 – Per Capita Plan Costs

Exhibit 3-1 provides support for the development of the recommended Empire Plan per capita plan costs. We developed the FY2023 costs by:

- Calculating claims incurred for 2021 separately by program and for non-Medicare vs. Medicare eligible retirees for State retirees by completing the 2021 claim lag triangles provided with claims incurred in 2021 and paid through September, 2022.
- In the case of Medical Program claims, adjusting claims for the impact of credits (primarily claims paid outside the claim system) and Basic Medical network access fees;
- Increasing the claim costs for administrative expenses and risk charges;
- Increasing the claim costs for New York State indigent care and GME surcharges;
- Lowering the drug claim costs for manufacturer rebates; and
- Trending the results 15 months - from 7/1/2021 (midpoint of experience period) to 9/1/2022 (midpoint of projection period)

Using the aging factors, we adjusted the resulting costs to age 65 for valuation purposes. Drug costs for non-Medicare and Medicare eligibles were blended for age adjustment to keep values consistent.

Models are used to estimate underlying per capita medical and prescription drug claim costs, and EGWP revenues, subsequently utilized as assumption inputs for valuation models used to develop the liabilities for the 2022 and future valuations. The Aon consulting team leveraged expertise of Health experts within Aon as it relates to reviewing the models used for development of the per capita claims costs and EGWP revenues.

Exhibit 3-1 Development of Empire Plan Retiree Gross Per Capita Plan Cost
States -- 4/1/2022 - 3/31/2023

Step				Non-Medicare	Medicare	Total
1.	**2021 Claims Incurred**		Hospital	$319,503,471	$86,255,973	$405,759,444
	Before Adjustments		Medical	$249,288,719	$153,994,051	403,282,771
			MHSU	20,835,564	3,499,118	24,334,683
			Total Medical	$589,627,755	$243,749,143	$833,376,897
			Rx	197,461,162	840,586,593	1,038,047,755
			Total Medical & Rx	$787,088,917	$1,084,335,736	$1,871,424,653
2.	**Basic Medical Fee**		Medical	$2,843,586	$0	$2,843,586
3.	**2021 Claims Incurred**		Hospital	$319,503,471	$86,255,973	$405,759,444
	After Adjustments		Medical	252,132,305	153,994,051	406,126,356
	Step 1. + Step 2. (Medical Only)		MHSU	20,835,564	3,499,118	24,334,683
			Total Medical	$592,471,340	$243,749,143	$836,220,483
			Rx	197,461,162	840,586,593	1,038,047,755
			Total Medical & Rx	$789,932,503	$1,084,335,736	$1,874,268,238
4.	**2021 Average**		Hospital	47,076	154,089	201,165
	Enrollment		Medical	45,836	154,457	200,293
			MHSU	45,198	146,210	191,408
			Rx	46,630	154,263	200,893
5.	**2021 Claims PMPM**		Hospital	$ 565.58	$ 46.65	$ 168.09
	Step 3. / Step 4.		Medical	458.40	83.08	168.97
			MHSU	38.42	1.99	10.59
			Total Medical	$ 1,062.40	$ 131.72	$ 347.65
			Rx	352.88	454.09	430.60
			Total Medical & Rx	$ 1,415.28	$ 585.81	$ 778.25
6.		Annual Trend[1]				
	4/1/2022 - 3/31/2023	6.53% 6.53%	Hospital	$ 612.12	$ 50.49	$ 181.92
	PMPM	4.65% 4.65%	Medical	485.19	87.93	178.84
	Step 5. x (1 + 15 Mos. Trend)	10.48% 10.48%	MHSU	43.52	2.25	12.00
	Converts experience period		Total Medical	$ 1,140.82	$ 140.68	$ 372.76
	per capita to valuation year 1	8.00% 8.00%	Rx	388.51	499.94	474.08
			Total Medical & Rx	$ 1,529.34	$ 640.62	$ 846.84
7.		Adjustment %				
	4/1/2022 - 3/31/2023	0.00% 0.00%	Hospital	$612.12	$50.49	$181.92
	PMPM After Plan Changes	-0.61% -0.61%	Medical	$482.20	$87.39	177.74
	Step 6. x (1 + Plan Change)	0.00% 0.00%	MHSU	43.52	2.25	12.00
			Total Medical	$1,137.84	$140.14	$371.66
		0.00% 0.00%	Rx	388.51	499.94	474.08
			Total Medical & Rx	$1,526.35	$640.08	$845.74

Exhibit 3-1 Development of Empire Plan Retiree Gross Per Capita Plan Cost
4/1/2022 – 3/31/2023 NYS

				Non-Medicare	Medicare	Total
8.	**Retention** [2]		Hospital	$6.09	$9.61	$8.79
			Medical	14.34	22.64	20.74
			MHSU	0.92	1.46	1.33
			Total Medical	$21.36	$33.71	$30.86
			Rx	1.08	3.66	3.06
			Total Medical & Rx	$22.43	$37.37	$33.92
9.	**Indigent Care Surcharge** [2]		Hospital	$33.26	$0.00	$7.78
			Medical	3.11	0.00	0.71
			MHSU	0.59	0.00	0.14
			Total Medical	$36.96	$0.00	$8.63
			Rx	0.00	0.00	0.00
			Total Medical & Rx	$36.96	$0.00	$8.63
10.	**Graduate Medical**		Hospital	$5.68	$0.00	$1.33
	Expense Assessment [2]		Medical	0.00	0.00	0.00
			MHSU	0.00	0.00	0.00
			Total Medical	$5.68	$0.00	$1.33
			Rx	0.00	0.00	0.00
			Total Medical & Rx	$5.68	$0.00	$1.33
11	**Rx Rebates** [2]		Rx	($99.82)	($152.45)	($140.23)
12.	**4/1/2022 - 3/31/2023 Gross**		Hospital	$657.14	$60.10	$199.82
	Cost PMPM		Medical	499.65	110.03	199.20
	Before NYBEAS		MHSU	45.03	3.71	13.47
	Sum of Steps 7. - 11.		Total Medical	$1,201.83	$173.85	$412.48
			Rx	289.77	351.15	336.91
			Total Medical & Rx	$1,491.60	$525.00	$749.39
13.	**NYBEAS Admin Fee**		Total Medical	$0.04	$0.04	$0.04
14.	**4/1/2022 - 3/31/2023 Gross**	*Step 12. + Step 13.*	Total Medical	$1,201.87	$173.88	$412.52
	Cost PMPM		Rx	289.77	351.15	336.91
	After NYBEAS		Total Medical & Rx	$1,491.64	$525.04	$749.43
15.	**Aging Factor (to age 65) - medical**					
	Medical			0.8260	1.2784	n/a
	Rx - applied on combined basis			n/a	n/a	1.1723
16.	**4/1/2022 - 3/31/2023 Gross**	*Step 14. / Step 15.*	Total Medical	$1,455.07	$136.01	n/a
	Cost PMPM		Rx	n/a	n/a	$287.40

1 Based on "8-31-21 NYS 2022 Initial Rate Renewal Report (Final).pdf" report dated 8/31/2021

2 Based on projected figures for 2021 and 2022

Exhibit 3-1 Development of Empire Plan Retiree Gross Per Capita Plan Cost
4/1/2022 - 3/31/2023 NYS

				Non-Medicare	Medicare
17.	**@ Age 65**		Total Medical	$17,461	$1,632
	PMPY Before EGWP Revenue		Rx	3,449	3,449
	Step 16. x 12 Months		Total Medical & Rx	$20,910	$5,081
			% Drug	16%	68%
18.	**EGWP Revenue @ Average Age**				**4/2022 - 3/2023**
	Medicare Only		Direct Subsidy		$35
			Coverage Gap		(935)
			Catastrophic		(1,035)
			Total EGWP Revenue		($1,935)
19.	**Aging Factor**	*Step 18. / Aging Factor*			1.28874
	EGWP @ Age 65	*Medicare Only*			($1,502)
20.	**@ Age 65**		Total Medical	$17,461	$1,632
	For Valuation (PMPY)		Rx	3,449	1,947
	Step 17. + Step 19.		Total Medical & Rx	$20,910	$3,579
	Medicare Rx Only		% Drug	16%	54%

Exhibit 3-2 Empire Plan Changes effective 1/1/2023

	2023	2022	2021
In-Network Out-of-Pocket Limit	$9,100/$18,200	$8,700/$17,400	$8,550/$17,100
Hospital, Medical/Surgical and MHSU	$5,900/$11,800	$5,650/$11,300	$5,550/$11,100
Prescription Drugs	$3,200/$6,400	$3,050/$6,100	$3,000/$6,000

Virtual Health Care Access with LiveHealth Online (LHO) – Through LiveHealth Online, enrollees can access board certified doctors and licensed therapists 24 hours a day, seven days a week via smartphone, tablet or personal computer. Telemedicine visits through LiveHealth Online will continue to be covered by The Empire Plan at no cost

Section 4 – Health Care Trend

The Health Care Cost Trend assumption is used to project the current year per capita plan costs, premium rates, and Medicare Part B premiums into the future. These costs are applied to the surviving covered population to determine the stream of future payments.

Increases in medical costs can be volatile, as a result, this assumption is subject to wide variation and there can be a wide range of acceptable assumptions. In addition, our experience has shown that past cost increases are not necessarily indicative of future cost increases. Therefore, judgment is required in developing this assumption.

Based on a detailed analysis of the trend assumption, which considered the Actuarial Standard of Practice No. 6 (ASOP #6) - *Measuring Retiree Group Benefit Obligations*, research published by the Society of Actuaries entitled *Modeling Long Term Healthcare Cost Trends*, and other publications by actuaries and health care professionals regarding short-term medical cost increases and expected long-term health care spending, we believe that an appropriate trend assumption for valuing retiree health care liabilities should:

- Consider separate short-term trend rates for major cost components such as medical and prescription drug services;
- Be based primarily on the "core" trend components - medical inflation, utilization, and intensity of services, and exclude the impact of the aging of the covered population;
- Include short-term rates established with an emphasis towards the influences of the health care marketplace as a whole, while also considering the cost characteristics of the plan;
- Assume that over the long-term, health care costs ultimately will be constrained by the public's ability and willingness to pay the higher cost of medical services; and
- Reflect the effect of future technology improvements on the long-term health care costs.

A typical retiree medical valuation uses health care trend rates that initially reflect recent experience in conjunction with the overall health care marketplace. Estimated marketplace trends are developed using a consistent series of market-wide data including: S&P Healthcare Economic Index, Carrier Surveys, CMS National Health Expenditures, Client Experience Monitoring Reports, CMS Trustees Report, Healthcare Components of CPI-W, and Pharmacy Benefit Manager Trend Reports. A separate trend assumption has been added to estimate the growth in expected EGWP revenue.

Initial trend rates are then assumed to grade down to an ultimate level that implies the National Health Expenditure (NHE) stabilizes as a percentage of Gross Domestic Product (GDP). In other words, the ultimate trend rate is equal to price inflation plus real GDP growth plus any allowances for leveraging of plan design variables, Medicare integration, and other cost drivers. The length of the select period — the period of time before the ultimate trend rate is reached — and the trend rate pattern during the select period have been developed by taking into account reasonable expectations for the ultimate portion of GDP consumed by the Health Care sector.

Section 5 – Demographic Assumptions

Demographic assumptions are rates of mortality, disability, withdrawal, and retirement.

At the request of the State of New York, for the 2021 valuation, the plan performed a comprehensive study of the withdrawal and retirement rates for all groups under New York State, SUNY and NYSIF. This study refreshes the previous SUNY specific study from 2016, and studies non-SUNY groups previously using demographic assumptions adopted for use by the New York State & Local Retirement System. The study reflects experience from April 1, 2016 through March 31, 2021.

We reviewed the demographic assumptions adopted for use by the New York State & Local Retirement System to value participants in ERS, TRS and PFRS and concluded that updating assumptions based on actual experience for the OPEB population represents a better estimate, with one exception. We determined the New York State & Local Retirement System TRS retirement rates adopted in 2021 reasonably represents actual OPEB experience and adopted those retirement rates.

For groups that did not have enough credible termination or retirement experience, to develop separate tables at each tier, were aggregated for multiple or all tiers. For the SUNY hospitals retirement rates were aggregated for Brooklyn and Stony Brook Hospital. Retirement experience for Syracuse Hospital remains separate since they differ sufficiently from the other hospitals to be material. Withdrawal and retirement and tables can be found in Exhibit 2-3 and Exhibit 2-5.

Many SUNY campus employees are in ERS or TIAA-CREF. The plan studied withdrawal and retirement rates for SUNY Campus-ORP members who participate in TIAA/CREF and developed separate tables for this population for the 2021 valuation. These group specific tables will be used for participants who are specifically noted as TIAA/CREF in the data. SUNY Campus employees who are not clearly identified were also studied separately and have specific tables for Campus (unknown retirement program) employees.

Note for PAs: *These assumptions were specifically studied based on the experience for the participants covered under New York State, SUNY, and NYSIF and may not be representative of the experience of any other particular PA. Each PA should consider the demographics of its own population when setting this assumption.*

The New York State & Local Retirement System developed disability rates for ERS and PFRS in 2020 and TRS in 2021. Since, we do not have credible experience to study these assumptions and they are not material to the overall liability we relied on the System's tables.

Note for PAs: *New York State applied mortality improvement by projecting the rates using Scale MP 2021 generationally for the mortality of current retirees. Each individual PA should determine the assumption about mortality improvement after consulting with their actuary.*

Section 6 – Health Care Reform Considerations

The Patient Protection and Affordable Care Act (PPACA), was signed March 23, 2010, with further changes enacted by the Health Care and Education Reconciliation Act (HCERA), signed March 30, 2010. This report has discussed various assumptions that were modified based on considerations under health care reform legislation. This section discusses particular legislative changes that were reflected in our assumptions. We have not identified any other specific provision of healthcare reform that would be expected to have a significant impact on the measured obligation. As additional guidance on the legislation is issued, we will continue to monitor any potential impacts.

Expansion of Child Coverage to Age 26 — Health reform mandates that coverage be offered to any child, dependent or not, through age 26, consistent with coverage for any other dependent. New York State insurance law mandates coverage to age 29, but on a fully contributory basis. We have assumed that the impact of this increase is reflected in the underlying rates and the claims experience.

High Cost Plan Excise Tax — The Excise Tax was repealed for all plan years beginning after December 31,2019.

Federal No Surprise Act: This Act would apply to participants that are not yet eligible for Medicare when they utilize out of network providers. We do not anticipate any significant change to the plan costs as a result of this act; however any such impact will flow through in the underlying claims used to develop the initial per capita costs.

Inflation Reduction Act—EGWP: The projection of Part D revenue and costs have not been adjusted for the Inflation Reduction Act (IRA). While many elements of the IRA are expected to impact both the revenue and cost associated with Medicare Part D plans, there is significant uncertainty in terms of the net impact of all these changes. While the effect of some changes may be more easily estimated, such as the change in plan design, the manufacturer discount program, and federal reinsurance, specific items are dependent upon market reactions that are unpredictable and unknown at this time. For example, the impact on national bid amounts for Part D plans (including individual market plans), which are a primary factor in the determination of the direct capitation payment component of Part D revenue that is expected to offset in part, or in whole, the reduction in federal reinsurance under the Act. In addition, the impact of price controls, such as the rebate payment for price increases in excess of CPI, are uncertain and some commentators have suggested will not have a favorable impact on prescription drug prices.

Inflation Reduction Act—Trend: Prescription drug costs and trends have not been adjusted for the manufacturer rebate for certain drugs with prices increasing faster than inflation introduced in the Inflation Reduction Act (IRA). There is significant uncertainty about how manufacturers will react to this provision in drug pricing policy and any Part D rebates generated by the policy will be paid to Medicare rather than to plan sponsors.

Section 7 – Qualifications

Aon has developed these recommended actuarial assumptions solely for the purpose of enabling New York State to value its obligation under GASB 74 and 75. Use of this report for any other purpose may not be appropriate and may result in mistaken conclusions due to failure to understand applicable assumptions, methodologies, or inapplicability of the report for that purpose. No one may make any representations or warranties based on any statements or conclusions contained in this report without the written consent of Aon.

Our projections are based on plan provisions, premium, claim and enrollment data provided to us by the Department of Civil Service and the four Empire Plan insurers. In selecting the demographic assumptions, we relied upon analyses of historic experience and recommendations for assumptions under the New York State Employees Retirement System and the New York State Teachers' Retirement System prepared by the actuaries for those Systems, as well as census information provided to us by SUNY.

The recommendations in this report are a Statement of Actuarial Opinion, prepared by Jessica Fenske, Wil Ocasio, and Betsy Hanson. Ms. Fenske is a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. Mr. Ocasio is an Associate in the Society of Actuaries. Ms. Hanson is a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. They collectively meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.