



Public Employees' Retirement System of New Jersey

**Actuarial Experience Study for
July 1, 2018 through June 30, 2021**

Produced by Cheiron

November 2022

TABLE OF CONTENTS

<u>Section</u>		<u>Page</u>
	Transmittal Letter.....	i
Section I	Executive Summary	1
Section II	Certification	7
Section III	Demographic Assumptions.....	8
	A. Retirement Rates.....	10
	B. Termination Rates.....	25
	C. Disability Rates.....	34
	D. Mortality Rates.....	38
	E. Family Composition	47
Section IV	Economic Assumptions	48
<u>Appendices</u>		
Appendix A	Summary of Recommended Assumptions.....	54
Appendix B	Summary of Current Assumptions.....	64

November 15, 2022

Board of Trustees
Public Employees' Retirement System of New Jersey
State of New Jersey
Department of the Treasury
Division of Pension and Benefits, CN 295
Trenton, NJ 08625-0295

Dear Board Members:

The purpose of this report is to present the Actuarial Experience Study of the Public Employees' Retirement System of New Jersey (PERS, the System) in accordance with Title 43, Chapter 15A-19 of the NJ State Statute. This Statute requires the actuary to conduct an actuarial investigation into the mortality, service and salary experience of the members and beneficiaries of the System at least once in every three-year period.

This study covers the actuarial experience from July 1, 2018 through June 30, 2021. The report includes analyses and results of our study as well as recommended assumptions for consideration by the Board to be used beginning with the July 1, 2022 actuarial valuation. It also includes the estimated financial impact of these assumption changes. The prior experience study was performed by Cheiron and covered the period July 1, 2014 through June 30, 2018.

If you have any questions about the report or would like additional information, please let us know.

Sincerely,
Cheiron



Janet Cranna, FSA, FCA, MAAA, EA
Principal Consulting Actuary



Anu Patel, FSA, MAAA, EA
Principal Consulting Actuary



Jonathan Chipko, FSA, MAAA, EA
Consulting Actuary

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION I – EXECUTIVE SUMMARY

Actuarial assumptions (economic and demographic) are intended to be long-term in nature, and should be both individually reasonable and consistent in the aggregate. That is particularly important considering the major economic impact and consequential changes in membership behavior due to the COVID-19 pandemic which may be short term in nature. The purpose of this experience study is to evaluate whether or not the current assumptions adequately reflect the long-term expectations for PERS, and if not, to recommend adjustments. It is important to note that frequent and significant changes in the actuarial assumptions are not typically recommended, unless there are known fundamental changes in expectations of the economy, or with respect to PERS' membership, membership's future behavior or assets that would warrant such frequent or significant changes.

Before summarizing the key results of our experience study, we present in the tables below a historical review of the deviation of actual experience against anticipated experience based on the assumptions used in past actuarial valuations. When experience deviates from the assumptions, liability gains or losses occur. When experience produces consistent liability gains or losses from year to year, assumptions may need to be revised to better reflect actual experience and better anticipate future experience. In the following tables we show a ten year history of the source of changes in the Unfunded Actuarial Liability (UAL) with the liability gains and losses {Liability (G)/L} shown in the red box. The other sources of changes in UAL shown in the tables are investment gains and losses on the Actuarial Value of Assets (AVA) basis, assumption and method changes, plan provision changes, and contributions compared to the tread water level of contributions (normal cost plus interest on the UAL).

Table I-1 Changes in Unfunded Actuarial Liability (Dollar amounts in millions)											
	State										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
Discount Rate	7.90%	7.90%	7.90%	7.90%	7.65%	7.50%	7.50%	7.30%	7.30%	7.00%	
Source											
AVA (G)/L	\$ 346.2	\$ 243.8	\$ 87.5	\$ 162.4	\$ 274.0	\$ 171.9	\$ 131.0	\$ 140.7	\$ 199.0	\$ (56.7)	\$ 1,699.8
Liability (G)/L	84.4	47.3	95.3	164.5	21.2	103.2	93.3	461.3	138.4	(70.6)	1,138.2
Assumptions/Methods	389.7	0.0	10.7	53.2	199.0	328.7	(112.3)	1,081.7	0.0	798.4	2,749.3
Plan/Policy Changes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(6.6)	0.0	4.8	(1.8)
Contributions	560.5	479.3	1,141.6	672.7	683.4	567.9	460.2	283.5	252.8	(315.1)	4,786.7
Net UAL Change	\$ 1,380.7	\$ 770.4	\$ 1,335.2	\$ 1,052.8	\$ 1,177.6	\$ 1,171.7	\$ 572.1	\$ 1,960.7	\$ 590.1	\$ 360.9	\$ 10,372.1

Over the last ten years, the State's portion of the System's experience represents liability losses for nine out of the ten years totaling \$1,138 million, of which \$529 million of liability losses have occurred since the last experience study.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION I – EXECUTIVE SUMMARY

Table I-2 Changes in Unfunded Actuarial Liability (Dollar amounts in millions)											
	Local Employers										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
Discount Rate	7.90%	7.90%	7.90%	7.90%	7.65%	7.50%	7.50%	7.30%	7.30%	7.00%	
Source											
AVA (G)/L	\$ 647.7	\$ 464.5	\$ 129.1	\$ 234.6	\$ 536.0	\$ 263.1	\$ 154.9	\$ 169.8	\$ 383.2	\$ (591.0)	\$ 2,391.9
Liability (G)/L	35.8	(49.5)	303.9	90.1	28.9	249.2	161.1	207.2	(53.2)	(27.0)	946.5
Assumptions/Methods	337.1	0.0	12.6	152.6	252.0	439.2	(176.7)	1,392.6	0.0	1,086.4	3,495.6
Plan/Policy Changes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(6.4)	0.0	0.0	(6.4)
Contributions	(70.0)	(20.1)	15.6	(29.6)	20.5	(9.2)	(16.2)	(4.2)	57.8	(26.0)	(81.5)
Net UAL Change	\$ 950.7	\$ 394.8	\$ 461.2	\$ 447.7	\$ 837.4	\$ 942.2	\$ 123.0	\$ 1,758.9	\$ 387.8	\$ 442.4	\$ 6,746.1

Over the last ten years, the Local employers' portion of the System's experience resulted in liability losses for seven of the ten years totaling \$947 million, of which \$127 million of liability losses have occurred since the last experience study.

While consistent liability losses occurred prior to 2020, the aggregate liability experience over the past two years (2020 and 2021 in the tables above) was more in line with expectations. These were also the first two years that expectations were set by the current assumptions. However, experience in those years may have been affected by the COVID-19 pandemic. The recommended assumptions presented in this report will slightly decrease actuarial liabilities and Statutory contributions.

SUMMARY OF ASSUMPTION ANALYSIS

This experience study specifically analyzes and makes the following recommendations for the demographic assumptions.

- **Retirement rates** – Modify rates for Prosecutors Part members and Workers' Compensation Judges only. Continue with the current retirement rates for other members.
- **Termination rates** – Modify rates for non-vested members.
- **Disability rates** – Modify ordinary disability rates. Continue with current accidental disability rates.
- **Mortality rates** – Continue to use Pub-2010 base mortality tables with the same adjustment as recommended in the prior study. Update generational mortality improvement scale to MP-2021.
- **Family composition** – Modify the assumed percentage of participants that are married and the age difference between males and females based on recent experience.
- **Price and wage inflation rates** – Continue with the current assumptions.
- **Salary increase rates** – Modify rates based on recent experience and long-term inflation expectations.

The recommended changes to the assumptions in aggregate would decrease the actuarial liability and the Statutory contributions.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION I – EXECUTIVE SUMMARY

Further information about the impact of the recommended assumption changes to overall contribution rates can be found on the following pages. We illustrate the cost impact based on the July 1, 2021 valuation results. However, assumption changes adopted by the Board will first impact the July 1, 2022 actuarial valuation.

The body of this report provides additional detail and support for our conclusions and recommendations.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION I – EXECUTIVE SUMMARY

Table I-3
Cost Impact of Assumption Changes on July 1, 2021 Valuation Results
State

	Current Assumptions	Recommended Assumptions	Total Change in \$	% Change
<u>Assets and Liabilities</u>				
Actuarial Liability	\$ 27,489,997,258	\$ 27,443,524,752	\$ (46,472,506)	-0.2%
Actuarial Value of Assets (AVA) ¹	8,889,754,699	8,889,754,699	0	0.0%
Unfunded Actuarial Liability/(Surplus)	<u>\$ 18,600,242,559</u>	<u>\$ 18,553,770,053</u>	<u>\$ (46,472,506)</u>	-0.2%
Funded Ratio	32.3%	32.4%		0.1%
<u>Contribution Amounts</u>				
Gross Normal Cost at End of Year ²	\$ 572,954,305	\$ 577,584,770	\$ 4,630,465	0.8%
Expected Member Contributions	<u>(362,487,068)</u>	<u>(365,152,415)</u>	<u>(2,665,347)</u>	0.7%
State Normal Cost at End of Year ²	\$ 210,467,237	\$ 212,432,355	\$ 1,965,118	0.9%
Amortization Payment of UAL ²	<u>1,547,253,170</u>	<u>1,543,424,210</u>	<u>(3,828,960)</u>	-0.2%
Total Statutory Contribution for FYE	<u>\$ 1,757,720,407</u>	<u>\$ 1,755,856,565</u>	<u>\$ (1,863,842)</u>	-0.1%

¹ Includes discounted State appropriations receivable and Lottery proceeds

² Includes Local obligations payable by the State

The recommended assumption changes increased the State normal cost by 0.9% and decreased the Actuarial Liability by 0.2%, resulting in a decrease of 0.1% in the total Statutory contribution. The increase in normal cost was primarily driven by the change in the salary increase assumption while the decrease in Actuarial Liability was primarily driven by the change in the mortality assumption.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION I – EXECUTIVE SUMMARY

Table I-4
Cost Impact of Assumption Changes on July 1, 2021 Valuation Results
Local Employers

	Current Assumptions	Recommended Assumptions	Total Change in \$	% Change
<u>Assets and Liabilities</u>				
Actuarial Liability	\$ 38,393,126,094	\$ 38,325,123,887	\$ (68,002,207)	-0.2%
Actuarial Value of Assets (AVA) ¹	25,965,285,547	25,965,285,547	0	0.0%
Unfunded Actuarial Liability/(Surplus)	<u>\$ 12,427,840,547</u>	<u>\$ 12,359,838,340</u>	<u>\$ (68,002,207)</u>	-0.5%
Funded Ratio	67.6%	67.8%		0.2%
<u>Contribution Amounts</u>				
Gross Normal Cost at End of Year ²	\$ 776,462,174	\$ 784,096,856	\$ 7,634,682	1.0%
Expected Member Contributions	<u>(584,391,311)</u>	<u>(588,688,307)</u>	<u>(4,296,996)</u>	0.7%
Employer Normal Cost at End of Year ²	\$ 192,070,863	\$ 195,408,549	\$ 3,337,686	1.7%
Amortization Payment of UAL ²	1,014,373,222	1,008,770,388	(5,602,834)	-0.6%
ERI and Chapter 19 Payments	<u>11,864,995</u>	<u>11,864,995</u>	<u>0</u>	0.0%
Total Statutory Contribution for FYE	<u>\$ 1,218,309,080</u>	<u>\$ 1,216,043,932</u>	<u>\$ (2,265,148)</u>	-0.2%
Non-Contributory Group Insurance Contribution	\$ 54,603,937	\$ 54,678,010	\$ 74,073	0.1%

¹ Includes discounted State appropriations receivable

² Excludes Local obligations payable by the State

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION I – EXECUTIVE SUMMARY

The recommended assumption changes increased the Local employer normal cost by 1.7% and decreased the Actuarial Liability by 0.2%, resulting in a decrease of 0.2% in the total Statutory contribution. The increase in normal cost was primarily driven by the change in the salary increase assumption while the decrease in Actuarial Liability was primarily driven by the change in the mortality assumption.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION II – CERTIFICATION

The purpose of this report is to provide the results of an Actuarial Experience Study of the Public Employees' Retirement System of New Jersey (PERS) covering the three-year period from July 1, 2018 through June 30, 2021. This report is for the use of the Division of Pensions and Benefits and the PERS Board of Trustees in selecting assumptions to be used in actuarial valuations beginning July 1, 2022. This experience study was completed in accordance with the provisions of Title 43, Chapter 15A-19 of the NJ State Statute which requires periodic review of the experience of the System.

In preparing our report, we relied on information (some oral and some written) supplied by the Division of Pensions and Benefits. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We also relied on reports prepared by the prior actuary for purposes of reporting on trends and sources of actuarial gains and losses. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23, Data Quality.

Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate liabilities and project benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this actuarial valuation.

This report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. Furthermore, as credentialed actuaries we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

This report was prepared for the Public Employees' Retirement System of New Jersey for the purposes described herein. This report is not intended to benefit any other party, and Cheiron assumes no duty or liability to any such party.



Janet Cranna, FSA, FCA, MAAA, EA
Principal Consulting Actuary



Anu Patel, FSA, MAAA, EA
Principal Consulting Actuary



Jonathan Chipko, FSA, MAAA, EA
Consulting Actuary

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION III – DEMOGRAPHIC ASSUMPTIONS

Demographic assumptions are used to predict membership behavior, including rates of retirement, termination, disability, and mortality. These assumptions are based primarily on the historical experience of PERS, with some adjustments where future experience is expected to differ from historical experience and with deference to standard tables where PERS experience is not fully credible, which means there is insufficient data to support an assumption, and a standard table is available.

ANALYSIS OF DEMOGRAPHIC ASSUMPTIONS

For all of the demographic assumptions, we determined the ratio of the actual (A) number of decrements for each membership group compared to the expected (E) number of decrements (A/E ratio or actual-to-expected ratio). Generally, the goal is to get as close as possible to an A/E ratio of 100%. Appropriate assumptions are often dependent on the amount of data available, and if there is insufficient data, then the best assumption may be a reflection of standard tables. For example, there are typically relatively low incidences of pre-retirement deaths so using standard mortality tables may be more appropriate. This could result in the A/E ratio moving further away from 100%. Also, we aggregate members for demographic assumptions review when the data at individual ages is not credible. For example, we may reduce the number of service bands for an assumption with low incidences, if retaining those service bands does not materially improve the quality of the results.

We also calculate an *r-squared statistic* for each assumption. R-squared measures how well the assumption fits the actual data and can be thought of as the percentage of the variation in actual data explained by the assumption. Ideally, r-squared would equal 1.000, although this is never the case in reality. Any recommended assumption change should increase the r-squared compared to the current assumption, making it closer to 1.000, unless the pattern of future decrements is expected to be different from the pattern experienced during the period of study.

In addition, we calculate the 90% confidence interval, which represents the range within which the true decrement rate during the experience study period is expected to fall 90% of the time. In the graphs, the black squares represent the actual experience observed and the gray bars represent the 90% confidence interval around that experience. The red and green lines represent the current and recommended assumptions, respectively. When the recommended assumption is the same as the current assumption, the green line sits over the red line and the red line does not show. Where there is sufficient experience, the confidence interval is relatively narrow, and where there is little experience, the confidence interval can be very wide. We generally recommend assumption changes when the current assumption is outside the 90% confidence interval of the observed experience. However, adjustments are made to account for differences between future expectations and historical experience, to account for the past experience represented by the current assumption, and to maintain a neutral to slight conservative bias in the selection of the assumption. For mortality rates, we compare PERS' experience to that of a standard table.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION III – DEMOGRAPHIC ASSUMPTIONS

NON-CONTRIBUTING MEMBERS

The valuation census data provided by the Division of Pensions and Benefits includes non-contributing members. These members previously contributed to the System and, therefore, accrued benefits. However, they no longer contribute or accrue benefits. Typically, these members have terminated employment or applied for a retirement, disability, or death benefit and their paperwork was not processed in time to be reflected in the fiscal year end census data.

We reviewed the experience among members who became non-contributing members during the three-year period to determine the status reported for these non-contributing members in subsequent years. This experience was used to estimate the proportion of this population that returned to work, elected a refund of their contributions, retired, became disabled, and died.

Based on this experience, for those who became non-contributing members during the study, 20% were assumed to return to active contributing status. Of the 80% of members not assumed to return to work, 0.5% were assumed to have become accidentally disabled, 9.0% of members eligible for ordinary disability were assumed to have become ordinarily disabled, 1.0% were assumed to have died, and all others were assumed to have permanently terminated employment. Among members assumed to terminate employment, those eligible for a retirement benefit were assumed to have retired. Among members assumed to terminate employment prior to eligibility for a retirement benefit, 75% of members eligible for a deferred annuity were assumed to elect the deferred annuity and all other members were assumed to elect a refund of their contributions.

The available experience data is limited because the experience period is relatively short and some non-contributing members maintain that status for several years before electing a refund or returning to work. Therefore, we will continue to monitor this experience and may update the assumptions during the next experience study.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION III – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

RETIREMENT RATES

The current retirement rates vary by age, service, and State vs. Local employers and are applied to all members who are eligible to retire. As a result, a member who is age 60 with 20 years of service, for example, is assumed to be less likely to retire than a member from the same employer who is age 60 with 25 years of service. In reviewing the data for PERS, we find that at many ages, members are more likely to retire once they have attained 25 years of service, and those with less than 25 years of service are less likely to retire.

PERS is not large enough to provide credible data for each age and service combination, so we recommend assumptions by State or Local employers and service groups separately for Tiers 1-4 and for Tier 5. The actual results shown on the following pages reflect eligible members and retirements in all five tiers.

We did not show results separately by tier because very few members in Tiers 2 through 5 are eligible for retirement. As of June 30, 2021, members in Tiers 2 through 5 can only retire under a service retirement allowance since they do not have sufficient service to meet early retirement eligibility. In addition, Tiers 2 through 4 are closed to new members so there likely will not be significant experience for these tiers. Due to these limited exposures for Tiers 2 through 5, the current assumed rates shown on the following pages are based only on the current Tier 1 retirement rates.

We recommend separate retirement rates for Tier 5 because Tier 5 members need 30 years of service to retire early whereas Tiers 1 through 4 only require 25 years of service to retire early. The recommended retirement rates for Tier 5 members are based on professional judgement due to limited experience.

We recommend separate assumptions for the following service groups, tiers, and employer:

State Tiers 1-4 Members

- Members with less than 25 years of service,
- Members with 25 years of service, and
- Members with 26 or more years of service.

State Tier 5 Members

- Members with less than 25 years of service,
- Members with 25 years of service,
- Members with 26 to 29 years of service,
- Members with 30 years of service, and
- Members with 31 or more years of service.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION III – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

Local Employers' Tiers 1-4 Members

- Members with less than 25 years of service,
- Members with 25 years of service, and
- Members with 26 or more years of service.

Local Employers' Tier 5 Members

- Members with less than 25 years of service,
- Members with 25 years of service,
- Members with 26 to 29 years of service,
- Members with 30 years of service, and
- Members with 31 or more years of service.

State and Local Employers' Prosecutors

- Members with less than 25 years of service,
- Members with 25 years of service, and
- Members with 26 or more years of service.

State Worker's Compensation Judges (WCJ)

- Members with less than 15 years of WCJ service,
- Members with 15 to 19 years of WCJ service, and
- Members with 20 or more years of WCJ service.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

**SECTION III – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES**

In Table III-R1 we show the calculation of actual-to-expected ratios and the r-squared statistic for State Tiers 1-5 members with less than 25 years of service, and Chart III-R1 shows the information graphically along with the 90% confidence interval. For retirements with less than 25 years of service, we recommend continuing with the current assumption.

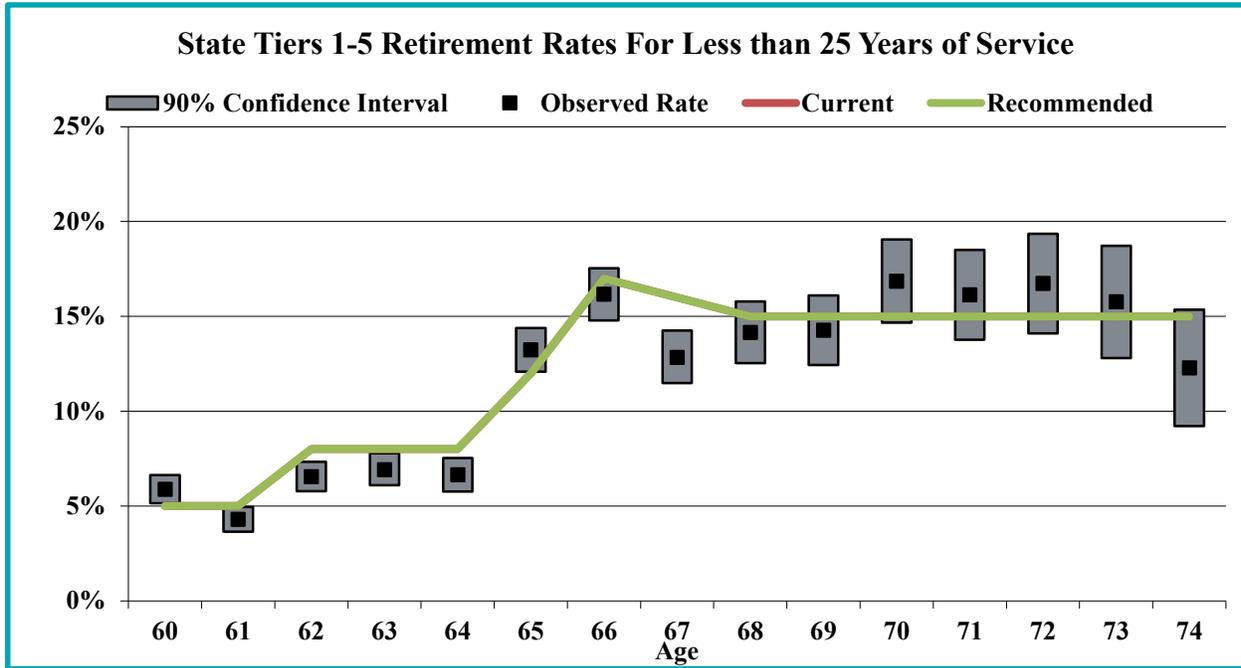
Table III-R1

State Tiers 1-5 Retirement Rates For Less than 25 Years of Service									
Age	Exposures	Retirements			Retirement Rates			A/E Ratios	
		Actual	Current	Recommended	Actual	Current	Recommended	Current	Recommended
60	2,776	163	138.8	138.8	5.9%	5.0%	5.0%	117%	117%
61	2,630	113	131.5	131.5	4.3%	5.0%	5.0%	86%	86%
62	2,701	177	216.1	216.1	6.6%	8.0%	8.0%	82%	82%
63	2,444	169	195.5	195.5	6.9%	8.0%	8.0%	86%	86%
64	2,151	143	172.1	172.1	6.6%	8.0%	8.0%	83%	83%
65	2,357	312	282.8	282.8	13.2%	12.0%	12.0%	110%	110%
66	1,961	317	333.4	333.4	16.2%	17.0%	17.0%	95%	95%
67	1,550	199	248.0	248.0	12.8%	16.0%	16.0%	80%	80%
68	1,229	174	184.4	184.4	14.2%	15.0%	15.0%	94%	94%
69	981	140	147.2	147.2	14.3%	15.0%	15.0%	95%	95%
70	777	131	116.6	116.6	16.9%	15.0%	15.0%	112%	112%
71	632	102	94.8	94.8	16.1%	15.0%	15.0%	108%	108%
72	532	89	79.8	79.8	16.7%	15.0%	15.0%	112%	112%
73	406	64	60.9	60.9	15.8%	15.0%	15.0%	105%	105%
74	293	36	44.0	44.0	12.3%	15.0%	15.0%	82%	82%
Total	23,420	2,329	2,445.7	2,445.7	9.9%	10.4%	10.4%	95%	95%
R-squared			0.924	0.924					

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION III – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

Chart III-R1



Note that the current and recommended assumptions assume 100% retirement at age 75.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION III – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

Table III-R2 shows the calculation of actual-to-expected ratios and the r-squared statistic for State Tiers 1-5 members with 25 years of service, and Chart III-R2 shows the information graphically along with the 90% confidence interval. For retirements with 25 years of service, we recommend continuing with the current assumption.

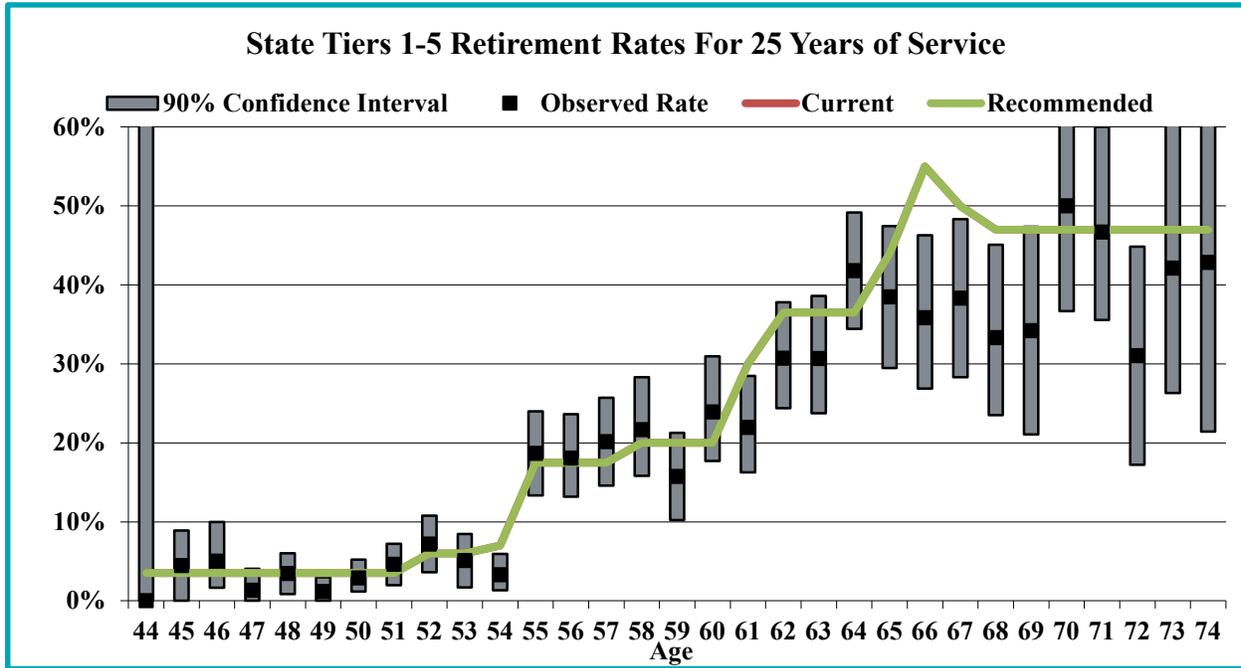
Table III-R2

State Tiers 1-5 Retirement Rates For 25 Years of Service									
Age	Exposures	Retirements			Retirement Rates			A/E Ratios	
		Actual	Current	Recommended	Actual	Current	Recommended	Current	Recommended
44	31	0	1.1	1.1	0.0%	3.5%	3.5%	0%	0%
45	45	2	1.6	1.6	4.4%	3.5%	3.5%	127%	127%
46	60	3	2.1	2.1	5.0%	3.5%	3.5%	143%	143%
47	74	1	2.6	2.6	1.4%	3.5%	3.5%	39%	39%
48	116	4	4.1	4.1	3.4%	3.5%	3.5%	99%	99%
49	169	2	5.9	5.9	1.2%	3.5%	3.5%	34%	34%
50	172	5	6.0	6.0	2.9%	3.5%	3.5%	83%	83%
51	152	7	5.3	5.3	4.6%	3.5%	3.5%	132%	132%
52	139	10	8.3	8.3	7.2%	6.0%	6.0%	120%	120%
53	118	6	7.1	7.1	5.1%	6.0%	6.0%	85%	85%
54	152	5	10.6	10.6	3.3%	7.0%	7.0%	47%	47%
55	150	28	26.3	26.3	18.7%	17.5%	17.5%	107%	107%
56	144	26	25.2	25.2	18.1%	17.5%	17.5%	103%	103%
57	144	29	25.2	25.2	20.1%	17.5%	17.5%	115%	115%
58	120	26	24.0	24.0	21.7%	20.0%	20.0%	108%	108%
59	127	20	25.4	25.4	15.7%	20.0%	20.0%	79%	79%
60	113	27	22.6	22.6	23.9%	20.0%	20.0%	119%	119%
61	123	27	36.9	36.9	22.0%	30.0%	30.0%	73%	73%
62	127	39	46.4	46.4	30.7%	36.5%	36.5%	84%	84%
63	101	31	36.9	36.9	30.7%	36.5%	36.5%	84%	84%
64	122	51	44.5	44.5	41.8%	36.5%	36.5%	115%	115%
65	78	30	34.3	34.3	38.5%	44.0%	44.0%	87%	87%
66	67	24	36.9	36.9	35.8%	55.0%	55.0%	65%	65%
67	60	23	30.0	30.0	38.3%	50.0%	50.0%	77%	77%
68	51	17	24.0	24.0	33.3%	47.0%	47.0%	71%	71%
69	38	13	17.9	17.9	34.2%	47.0%	47.0%	73%	73%
70	30	15	14.1	14.1	50.0%	47.0%	47.0%	106%	106%
71	45	21	21.2	21.2	46.7%	47.0%	47.0%	99%	99%
72	29	9	13.6	13.6	31.0%	47.0%	47.0%	66%	66%
73	19	8	8.9	8.9	42.1%	47.0%	47.0%	90%	90%
74	14	6	6.6	6.6	42.9%	47.0%	47.0%	91%	91%
Total	2,930	515	575.4	575.4	17.6%	19.6%	19.6%	90%	90%
R-squared			0.897	0.897					

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION III – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

Chart III-R2



Note that the current and recommended assumptions assume 100% retirement at age 75.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION III – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

Table III-R3 shows the calculation of actual-to-expected ratios and the r-squared statistic for State Tiers 1-5 members with 26 or more years of service, and Chart III-R3 shows the information graphically along with the 90% confidence interval. For retirements with 26 or more years of service, we recommend continuing with the current assumption.

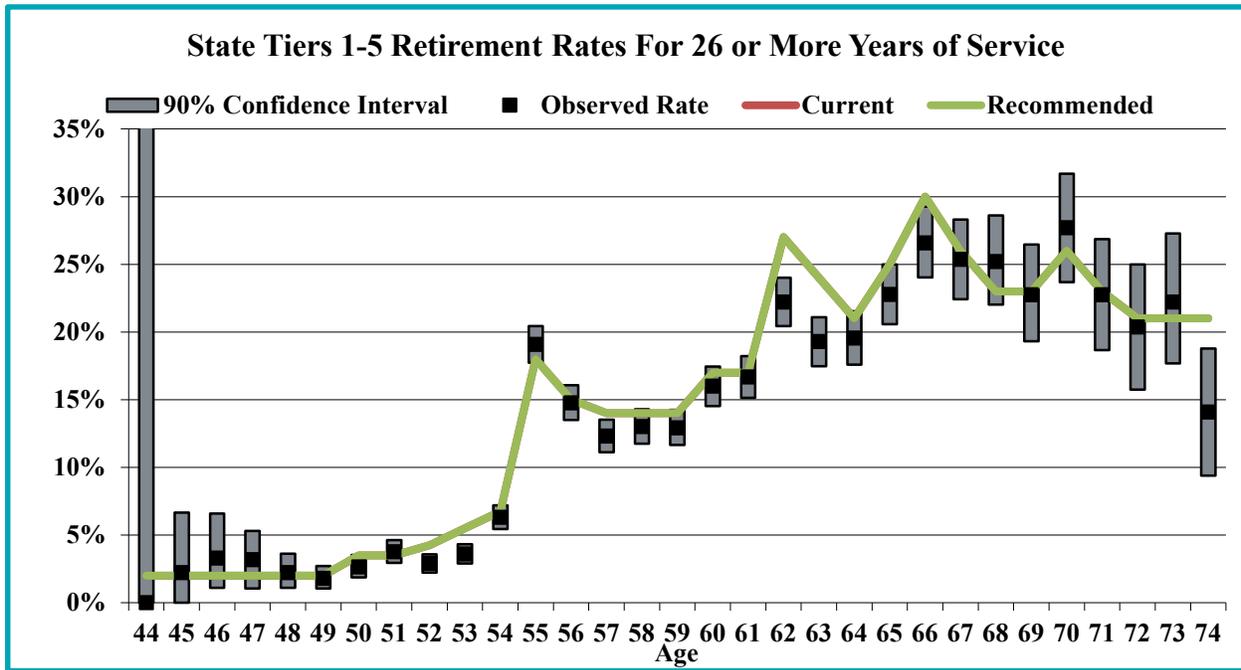
Table III-R3

State Tiers 1-5 Retirement Rates For 26 or More Years of Service									
Age	Exposures	Retirements			Retirement Rates			A/E Ratios	
		Actual	Current	Recommended	Actual	Current	Recommended	Current	Recommended
44	12	0	0.2	0.2	0.00%	2.00%	2.00%	0%	0%
45	45	1	0.9	0.9	2.22%	2.00%	2.00%	111%	111%
46	91	3	1.8	1.8	3.30%	2.00%	2.00%	165%	165%
47	188	6	3.8	3.8	3.19%	2.00%	2.00%	160%	160%
48	359	8	7.2	7.2	2.23%	2.00%	2.00%	111%	111%
49	662	12	13.2	13.2	1.81%	2.00%	2.00%	91%	91%
50	1,016	27	35.6	35.6	2.66%	3.50%	3.50%	76%	76%
51	1,357	51	47.5	47.5	3.76%	3.50%	3.50%	107%	107%
52	1,619	47	68.8	68.8	2.90%	4.25%	4.25%	68%	68%
53	1,893	68	104.1	104.1	3.59%	5.50%	5.50%	65%	65%
54	2,108	133	142.3	142.3	6.31%	6.75%	6.75%	93%	93%
55	2,279	435	410.2	410.2	19.09%	18.00%	18.00%	106%	106%
56	2,059	304	308.9	308.9	14.76%	15.00%	15.00%	98%	98%
57	1,988	245	278.3	278.3	12.32%	14.00%	14.00%	88%	88%
58	1,930	251	270.2	270.2	13.01%	14.00%	14.00%	93%	93%
59	1,802	233	252.3	252.3	12.93%	14.00%	14.00%	92%	92%
60	1,713	274	291.2	291.2	16.00%	17.00%	17.00%	94%	94%
61	1,565	261	266.1	266.1	16.68%	17.00%	17.00%	98%	98%
62	1,458	324	393.7	393.7	22.22%	27.00%	27.00%	82%	82%
63	1,270	245	304.8	304.8	19.29%	24.00%	24.00%	80%	80%
64	1,115	218	234.2	234.2	19.55%	21.00%	21.00%	93%	93%
65	948	216	237.0	237.0	22.78%	25.00%	25.00%	91%	91%
66	786	209	235.8	235.8	26.59%	30.00%	30.00%	89%	89%
67	611	155	158.9	158.9	25.37%	26.00%	26.00%	98%	98%
68	472	119	108.6	108.6	25.21%	23.00%	23.00%	110%	110%
69	378	86	86.9	86.9	22.75%	23.00%	23.00%	99%	99%
70	325	90	84.5	84.5	27.69%	26.00%	26.00%	107%	107%
71	268	61	61.6	61.6	22.76%	23.00%	23.00%	99%	99%
72	216	44	45.4	45.4	20.37%	21.00%	21.00%	97%	97%
73	198	44	41.6	41.6	22.22%	21.00%	21.00%	106%	106%
74	149	21	31.3	31.3	14.09%	21.00%	21.00%	67%	67%
Total	30,880	4,191	4,526.7	4,526.7	13.57%	14.66%	14.66%	93%	93%
R-squared			0.980	0.980					

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

**SECTION III – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES**

Chart III-R3



Note that the current and recommended assumptions assume 100% retirement at age 75.

There is insufficient data to show tables and charts for Tier 5 members separately. The recommended Tier 5 specific retirement rates are shown in Appendix A.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

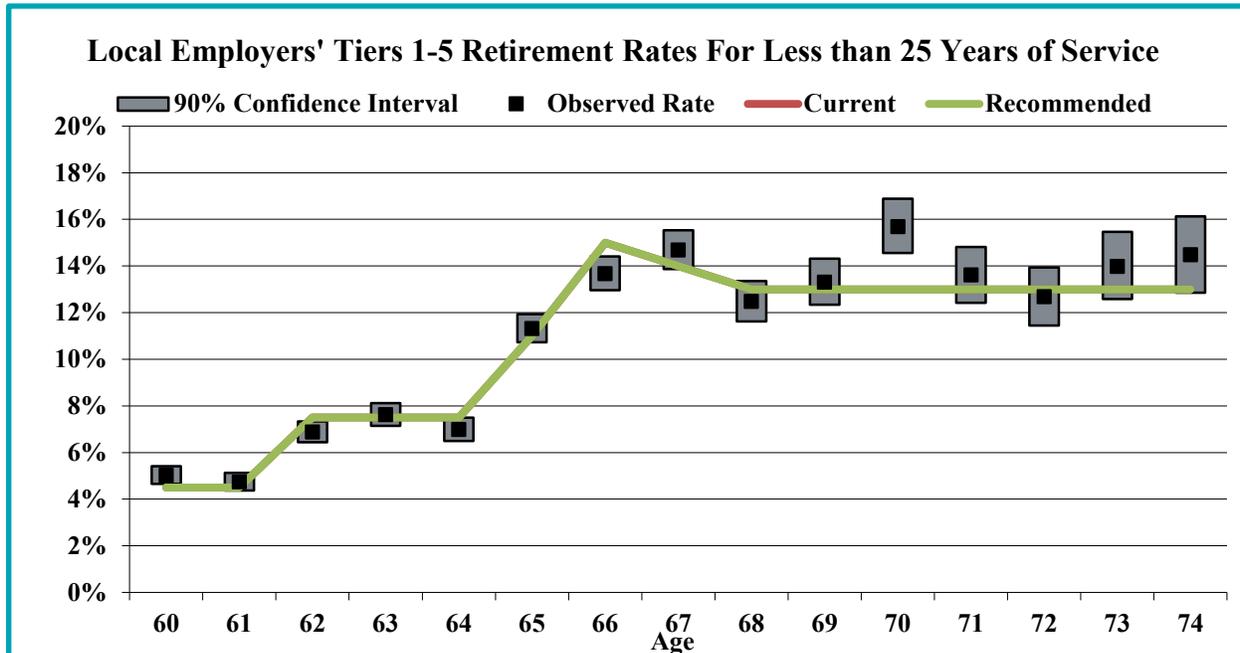
SECTION III – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

Table III-R4 shows the calculation of actual-to-expected ratios and the r-squared statistic for Local employers' Tiers 1-5 members with less than 25 years of service, and Chart III-R4 shows the information graphically along with the 90% confidence interval. For retirements with less than 25 years of service, we recommend continuing with the current assumption.

Table III-R4

Local Employers' Tiers 1-5 Retirement Rates For Less than 25 Years of Service									
Age	Exposures	Retirements			Retirement Rates			A/E Ratios	
		Actual	Current	Recommended	Actual	Current	Recommended	Current	Recommended
60	8,772	441	394.7	394.7	5.0%	4.5%	4.5%	112%	112%
61	8,574	407	385.8	385.8	4.7%	4.5%	4.5%	105%	105%
62	8,781	605	658.6	658.6	6.9%	7.5%	7.5%	92%	92%
63	8,015	612	601.1	601.1	7.6%	7.5%	7.5%	102%	102%
64	6,960	487	522.0	522.0	7.0%	7.5%	7.5%	93%	93%
65	7,511	851	826.2	826.2	11.3%	11.0%	11.0%	103%	103%
66	6,156	842	923.4	923.4	13.7%	15.0%	15.0%	91%	91%
67	4,868	715	681.5	681.5	14.7%	14.0%	14.0%	105%	105%
68	3,915	489	509.0	509.0	12.5%	13.0%	13.0%	96%	96%
69	3,201	426	416.1	416.1	13.3%	13.0%	13.0%	102%	102%
70	2,618	411	340.3	340.3	15.7%	13.0%	13.0%	121%	121%
71	2,166	295	281.6	281.6	13.6%	13.0%	13.0%	105%	105%
72	1,923	244	250.0	250.0	12.7%	13.0%	13.0%	98%	98%
73	1,558	218	202.5	202.5	14.0%	13.0%	13.0%	108%	108%
74	1,222	177	158.9	158.9	14.5%	13.0%	13.0%	111%	111%
Total	76,240	7,220	7,151.8	7,151.8	9.5%	9.4%	9.4%	101%	101%
R-squared			0.974	0.974					

Chart III-R4



Note that the current and recommended assumptions assume 100% retirement at age 75.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION III – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

Table III-R5 shows the calculation of actual-to-expected ratios and the r-squared statistic for Local employers' Tiers 1-5 members with 25 years of service, and Chart III-R5 shows the information graphically along with the 90% confidence interval. For retirements with 25 years of service, we recommend continuing with the current assumption.

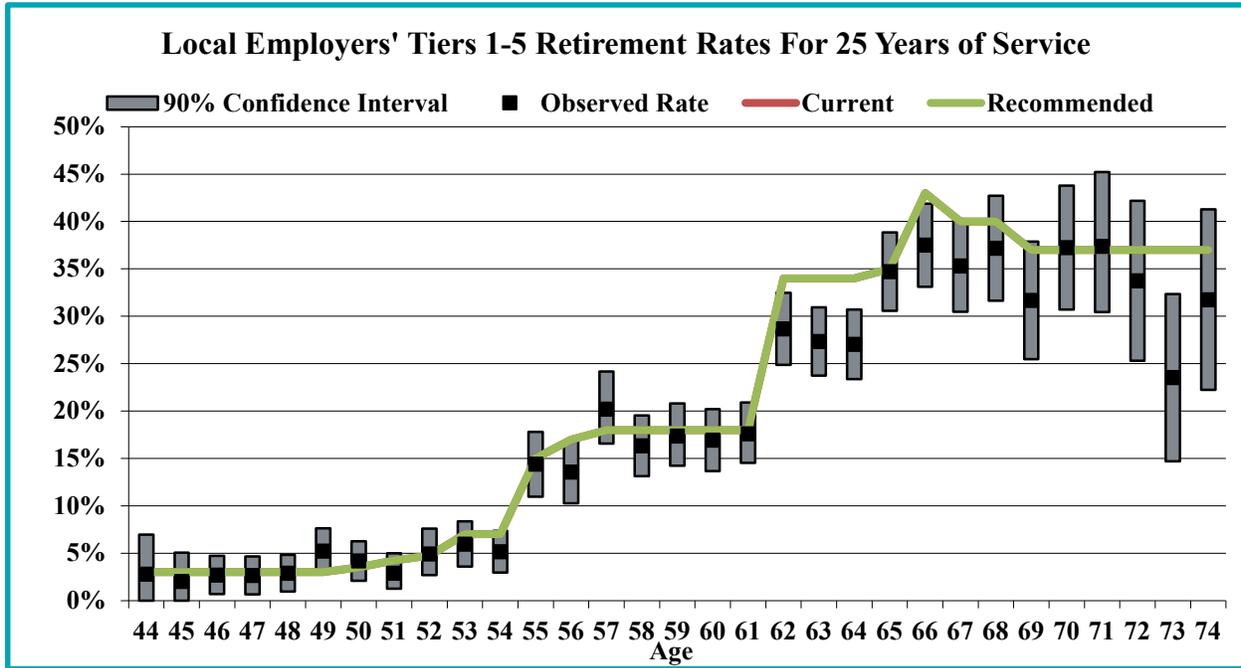
Table III-R5

Local Employers' Tiers 1-5 Retirement Rates For 25 Years of Service									
Age	Exposures	Retirements			Retirement Rates			A/E Ratios	
		Actual	Current	Recommended	Actual	Current	Recommended	Current	Recommended
44	72	2	2.2	2.2	2.78%	3.00%	3.00%	93%	93%
45	99	2	3.0	3.0	2.02%	3.00%	3.00%	67%	67%
46	148	4	4.4	4.4	2.70%	3.00%	3.00%	90%	90%
47	150	4	4.5	4.5	2.67%	3.00%	3.00%	89%	89%
48	207	6	6.2	6.2	2.90%	3.00%	3.00%	97%	97%
49	249	13	7.5	7.5	5.22%	3.00%	3.00%	174%	174%
50	239	10	8.4	8.4	4.18%	3.50%	3.50%	120%	120%
51	241	7	10.2	10.2	2.90%	4.25%	4.25%	68%	68%
52	224	11	10.6	10.6	4.91%	4.75%	4.75%	103%	103%
53	251	15	17.6	17.6	5.98%	7.00%	7.00%	85%	85%
54	272	14	19.0	19.0	5.15%	7.00%	7.00%	74%	74%
55	292	42	43.8	43.8	14.38%	15.00%	15.00%	96%	96%
56	273	37	46.4	46.4	13.55%	17.00%	17.00%	80%	80%
57	302	61	54.4	54.4	20.20%	18.00%	18.00%	112%	112%
58	343	56	61.7	61.7	16.33%	18.00%	18.00%	91%	91%
59	351	61	63.2	63.2	17.38%	18.00%	18.00%	97%	97%
60	366	62	65.9	65.9	16.94%	18.00%	18.00%	94%	94%
61	392	69	70.6	70.6	17.60%	18.00%	18.00%	98%	98%
62	394	113	134.0	134.0	28.68%	34.00%	34.00%	84%	84%
63	417	114	141.8	141.8	27.34%	34.00%	34.00%	80%	80%
64	381	103	129.5	129.5	27.03%	34.00%	34.00%	80%	80%
65	363	126	127.1	127.1	34.71%	35.00%	35.00%	99%	99%
66	320	120	137.6	137.6	37.50%	43.00%	43.00%	87%	87%
67	269	95	107.6	107.6	35.32%	40.00%	40.00%	88%	88%
68	199	74	79.6	79.6	37.19%	40.00%	40.00%	93%	93%
69	161	51	59.6	59.6	31.68%	37.00%	37.00%	86%	86%
70	153	57	56.6	56.6	37.25%	37.00%	37.00%	101%	101%
71	115	43	42.6	42.6	37.39%	37.00%	37.00%	101%	101%
72	83	28	30.7	30.7	33.73%	37.00%	37.00%	91%	91%
73	68	16	25.2	25.2	23.53%	37.00%	37.00%	64%	64%
74	63	20	23.3	23.3	31.75%	37.00%	37.00%	86%	86%
Total	7,457	1,436	1,594.6	1,594.6	19.26%	21.38%	21.38%	90%	90%
R-squared			0.981	0.981					

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION III – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

Chart III-R5



Note that the current and recommended assumptions assume 100% retirement at age 75.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION III – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

Table III-R6 shows the calculation of actual-to-expected ratios and the r-squared statistic for Local employers' Tiers 1-5 members with 26 or more years of service, and Chart III-R3 shows the information graphically along with the 90% confidence interval. For retirements with 26 or more years of service, we recommend continuing with the current assumption.

Table III-R6

Local Employers' Tiers 1-5 Retirement Rates For 26 or More Years of Service									
Age	Exposures	Retirements			Retirement Rates			A/E Ratios	
		Actual	Current	Recommended	Actual	Current	Recommended	Current	Recommended
44	33	0	0.7	0.7	0.00%	2.25%	2.25%	0%	0%
45	107	1	2.4	2.4	0.93%	2.25%	2.25%	42%	42%
46	228	6	5.1	5.1	2.63%	2.25%	2.25%	117%	117%
47	420	12	9.5	9.5	2.86%	2.25%	2.25%	127%	127%
48	742	20	16.7	16.7	2.70%	2.25%	2.25%	120%	120%
49	1,105	22	33.2	33.2	1.99%	3.00%	3.00%	66%	66%
50	1,465	34	51.3	51.3	2.32%	3.50%	3.50%	66%	66%
51	1,745	61	65.4	65.4	3.50%	3.75%	3.75%	93%	93%
52	1,989	70	74.6	74.6	3.52%	3.75%	3.75%	94%	94%
53	2,326	116	116.3	116.3	4.99%	5.00%	5.00%	100%	100%
54	2,626	110	157.6	157.6	4.19%	6.00%	6.00%	70%	70%
55	2,908	491	436.2	436.2	16.88%	15.00%	15.00%	113%	113%
56	2,664	357	346.3	346.3	13.40%	13.00%	13.00%	103%	103%
57	2,554	281	306.5	306.5	11.00%	12.00%	12.00%	92%	92%
58	2,679	318	321.5	321.5	11.87%	12.00%	12.00%	99%	99%
59	2,721	264	326.5	326.5	9.70%	12.00%	12.00%	81%	81%
60	2,733	389	382.6	382.6	14.23%	14.00%	14.00%	102%	102%
61	2,655	375	371.7	371.7	14.12%	14.00%	14.00%	101%	101%
62	2,681	618	670.3	670.3	23.05%	25.00%	25.00%	92%	92%
63	2,345	451	515.9	515.9	19.23%	22.00%	22.00%	87%	87%
64	2,212	446	442.4	442.4	20.16%	20.00%	20.00%	101%	101%
65	1,949	426	389.8	389.8	21.86%	20.00%	20.00%	109%	109%
66	1,754	490	456.0	456.0	27.94%	26.00%	26.00%	107%	107%
67	1,410	351	366.6	366.6	24.89%	26.00%	26.00%	96%	96%
68	1,184	267	260.5	260.5	22.55%	22.00%	22.00%	103%	103%
69	1,027	225	225.9	225.9	21.91%	22.00%	22.00%	100%	100%
70	890	219	213.6	213.6	24.61%	24.00%	24.00%	103%	103%
71	758	192	181.9	181.9	25.33%	24.00%	24.00%	106%	106%
72	666	125	133.2	133.2	18.77%	20.00%	20.00%	94%	94%
73	542	104	108.4	108.4	19.19%	20.00%	20.00%	96%	96%
74	466	95	93.2	93.2	20.39%	20.00%	20.00%	102%	102%
Total	49,584	6,936	7,081.8	7,081.8	13.99%	14.28%	14.28%	98%	98%
R-squared			0.980	0.980					

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

**SECTION III – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES**

Chart III-R6



Note that the current and recommended assumptions assume 100% retirement at age 75.

There is insufficient data to show tables and charts for Tier 5 members separately. The recommended Tier 5 specific retirement rates are shown in Appendix A.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

**SECTION III – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES**

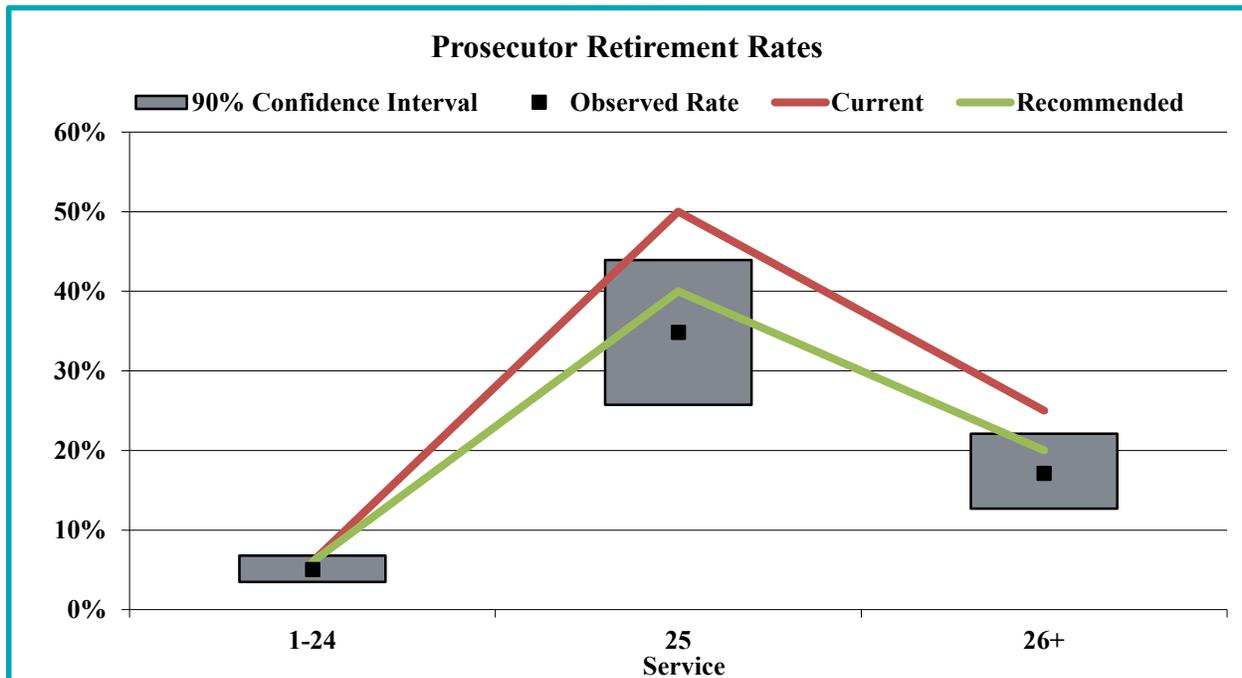
Chapter 366, P.L. 2001 provides benefits similar to those of the Police and Firemen’s Retirement System (PFRS) to prosecutor members of PERS who are not eligible for enrollment in PFRS. Similar to prior practice we have separately analyzed the retirement pattern of prosecutor members. Chapter 1 P.L. 2010 closed the Prosecutors Part to new members enrolled on or after May 22, 2010 and Chapter 226, P.L. 2021 reopened the Prosecutors Part effective September 24, 2021.

Table III-R7 shows the calculation of actual-to-expected ratios and the r-squared statistic for State and Local Employers’ prosecutors. Chart III-R7 shows the information graphically along with the 90% confidence interval. The data shows that the actual retirement rates are generally lower than expected at higher years of service; therefore, we recommend lower retirement rates at 25 years of service as well as 26 or more years of service.

Table III-R7

Prosecutor Retirement Rates									
Service	Exposures	Retirements			Retirement Rates			A/E Ratios	
		Actual	Current	Recommended	Actual	Current	Recommended	Current	Recommended
1-24	457	23	27.4	27.4	5.0%	6.0%	6.0%	84%	84%
25	66	23	33.0	26.4	34.8%	50.0%	40.0%	70%	87%
26+	181	31	45.3	36.2	17.1%	25.0%	20.0%	69%	86%
Total	704	77	105.7	90.0	10.9%	15.0%	12.8%	73%	86%
R-squared			0.925	0.933					

Chart III-R7



PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION III – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

Chapter 140, P.L. 2021 reopened the Workers' Compensation Judges (WCJ) Part of PERS. For this group, we recommend using the same retirement rates as those used in the actuarial valuation of the Judicial Retirement System (JRS) of New Jersey. The JRS retirement assumptions are assumed appropriate for this purpose because of the similarity between WCJ and JRS retirement benefits. The recommended retirement rates for JRS that are currently pending State House Commission approval are shown in Appendix A.

There is insufficient data during the experience period to show tables and charts for WCJ members.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION III – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES

Termination rates reflect the frequency at which active members leave employment for reasons other than retirement, death, or disability. We recommend separate assumptions for the following age, service, employer, and post-termination elections:

Electing a Deferred Annuity

- State members with 10 or more years of service
- Local employers' members with 10 or more years of service

Electing a Refund of Contributions

- State members younger than age 31 with less than 10 years of service
- State members ages 31 or older with less than 10 years of service
- State members with 10 or more years of service
- Local employers' members younger than age 31 with less than 10 years of service
- Local employers' members ages 31 or older with less than 10 years of service
- Local employers' members with 10 or more years of service

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

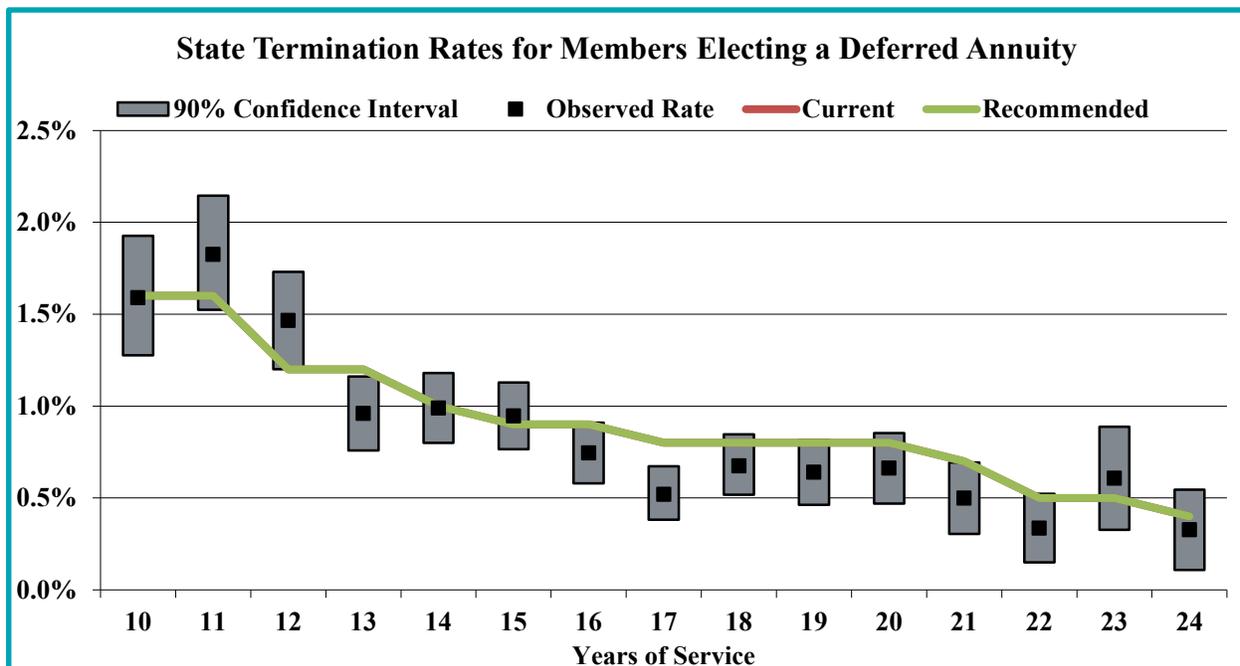
SECTION III – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES

Table III-T1 shows the number of terminations for State members with 10 or more years of service who elect a deferred annuity, the current and recommended termination rates based on years of service, the calculation of actual-to-expected ratios for each year of service and the r-squared statistic. Chart III-T1 shows the information graphically along with the 90% confidence interval. We recommend continuing with the current assumption.

Table III-T1

State Termination Rates for Members Electing a Deferred Annuity									
Service	Exposures	Terminations			Termination Rates			A/E Ratios	
		Actual	Current	Recommended	Actual	Current	Recommended	Current	Recommended
10	4,153	66	66.4	66.4	1.59%	1.60%	1.60%	99%	99%
11	4,987	91	79.8	79.8	1.82%	1.60%	1.60%	114%	114%
12	5,662	83	67.9	67.9	1.47%	1.20%	1.20%	122%	122%
13	6,461	62	77.5	77.5	0.96%	1.20%	1.20%	80%	80%
14	7,377	73	73.8	73.8	0.99%	1.00%	1.00%	99%	99%
15	7,715	73	69.4	69.4	0.95%	0.90%	0.90%	105%	105%
16	7,248	54	65.2	65.2	0.75%	0.90%	0.90%	83%	83%
17	6,543	34	52.3	52.3	0.52%	0.80%	0.80%	65%	65%
18	6,376	43	51.0	51.0	0.67%	0.80%	0.80%	84%	84%
19	5,628	36	45.0	45.0	0.64%	0.80%	0.80%	80%	80%
20	4,686	31	37.5	37.5	0.66%	0.80%	0.80%	83%	83%
21	3,605	18	25.2	25.2	0.50%	0.70%	0.70%	71%	71%
22	2,678	9	13.4	13.4	0.34%	0.50%	0.50%	67%	67%
23	2,142	13	10.7	10.7	0.61%	0.50%	0.50%	121%	121%
24	1,832	6	7.3	7.3	0.33%	0.40%	0.40%	82%	82%
Total	77,093	692	742.7	742.7	0.90%	0.96%	0.96%	93%	93%
R-squared			0.893	0.893					

Chart III-T1



PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

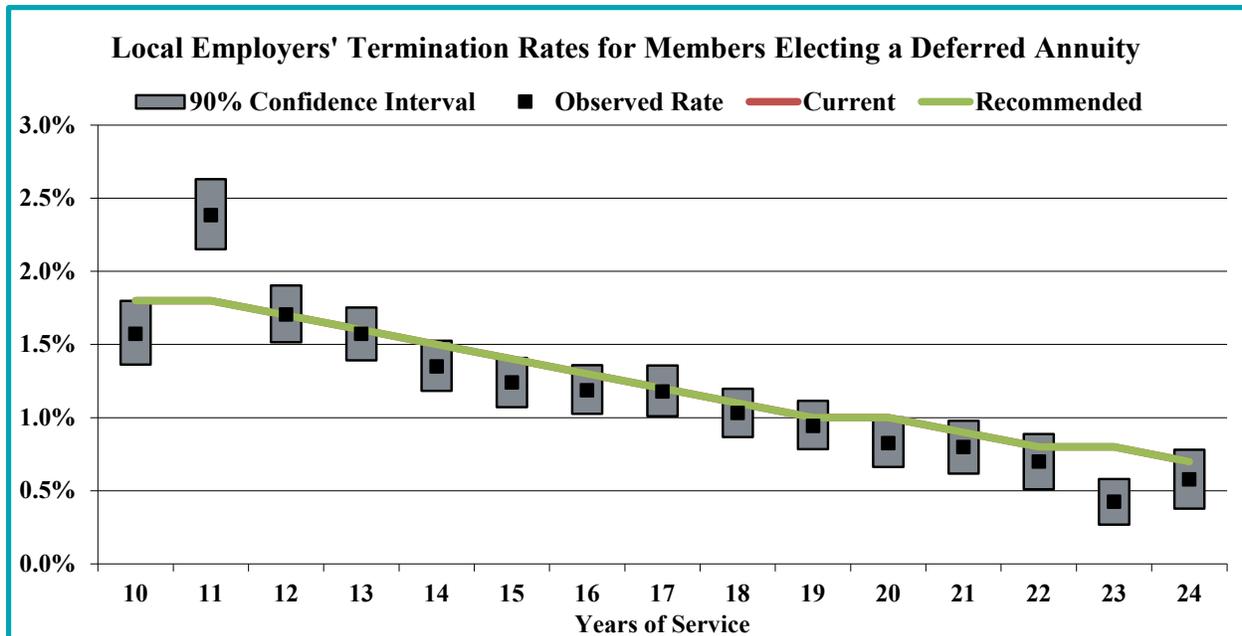
SECTION III – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES

Table III-T2 shows the number of terminations for Local employers' members with 10 or more years of service who elect a deferred annuity, the current and recommended termination rates based on years of service, the calculation of actual-to-expected ratios for each year of service and the r-squared statistic. Chart III-T2 shows the information graphically along with the 90% confidence interval. We recommend continuing with the current assumption.

Table III-T2

Local Employers' Termination Rates for Members Electing a Deferred Annuity									
Service	Exposures	Terminations			Termination Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
10	8,958	141	161.2	161.2	1.57%	1.80%	1.80%	87%	87%
11	11,069	264	199.2	199.2	2.39%	1.80%	1.80%	133%	133%
12	12,143	207	206.4	206.4	1.70%	1.70%	1.70%	100%	100%
13	12,721	200	203.5	203.5	1.57%	1.60%	1.60%	98%	98%
14	12,517	169	187.8	187.8	1.35%	1.50%	1.50%	90%	90%
15	11,854	147	166.0	166.0	1.24%	1.40%	1.40%	89%	89%
16	11,110	132	144.4	144.4	1.19%	1.30%	1.30%	91%	91%
17	10,689	126	128.3	128.3	1.18%	1.20%	1.20%	98%	98%
18	10,270	106	113.0	113.0	1.03%	1.10%	1.10%	94%	94%
19	9,423	89	94.2	94.2	0.94%	1.00%	1.00%	94%	94%
20	7,992	66	79.9	79.9	0.83%	1.00%	1.00%	83%	83%
21	6,638	53	59.7	59.7	0.80%	0.90%	0.90%	89%	89%
22	5,292	37	42.3	42.3	0.70%	0.80%	0.80%	87%	87%
23	4,473	19	35.8	35.8	0.42%	0.80%	0.80%	53%	53%
24	3,972	23	27.8	27.8	0.58%	0.70%	0.70%	83%	83%
Total	139,121	1,779	1,849.6	1,849.6	1.28%	1.33%	1.33%	96%	96%
R-squared			0.928	0.928					

Chart III-T2



**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

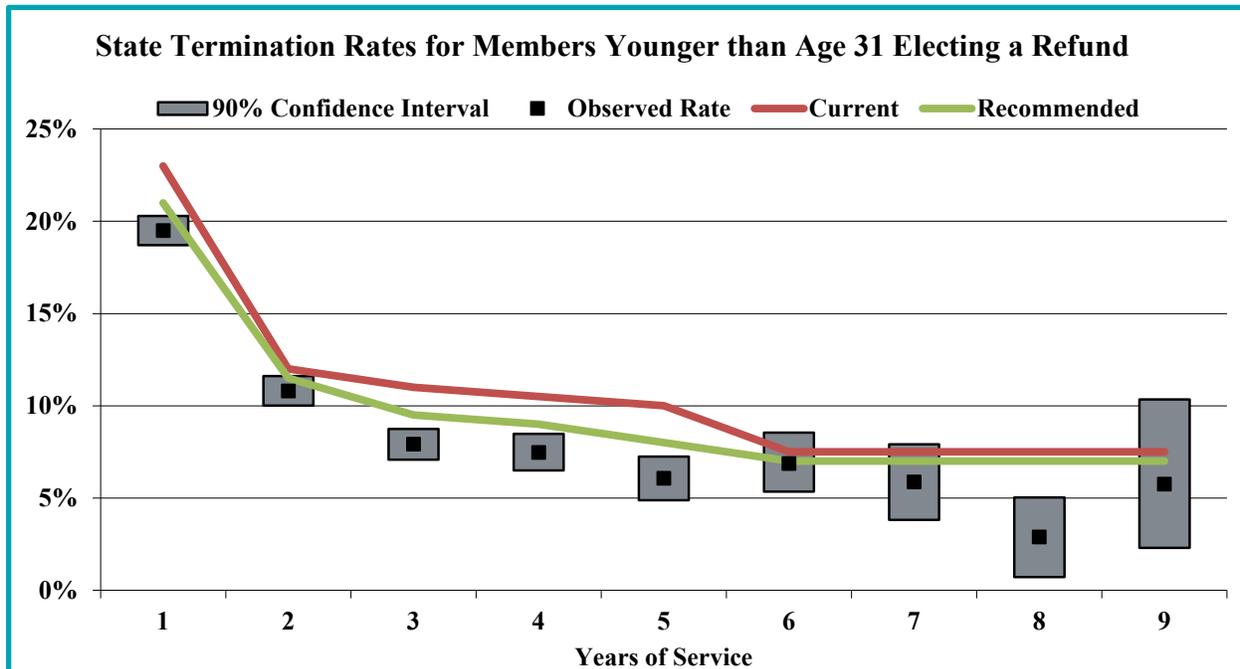
**SECTION III – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES**

Table III-T3 shows the number of terminations for State members younger than age 31 with less than 10 years of service who elect a refund of contributions, the current and recommended termination rates based on years of service, the calculation of actual-to-expected ratios for each year of service and the r-squared statistic. Chart III-T3 shows the information graphically along with the 90% confidence interval.

Table III-T3

State Termination Rates for Members Younger than Age 31 Electing a Refund									
Service	Exposures	Terminations			Termination Rates			A/E Ratios	
		Actual	Current	Recommended	Actual	Current	Recommended	Current	Recommended
1	6,780	1,321	1,559.4	1,423.8	19.48%	23.00%	21.00%	85%	93%
2	4,028	435	483.4	463.2	10.80%	12.00%	11.50%	90%	94%
3	2,895	229	318.5	275.0	7.91%	11.00%	9.50%	72%	83%
4	1,862	139	195.5	167.6	7.47%	10.50%	9.00%	71%	83%
5	1,104	67	110.4	88.3	6.07%	10.00%	8.00%	61%	76%
6	655	45	49.1	45.9	6.87%	7.50%	7.00%	92%	98%
7	341	20	25.6	23.9	5.87%	7.50%	7.00%	78%	84%
8	139	4	10.4	9.7	2.88%	7.50%	7.00%	38%	41%
9	87	5	6.5	6.1	5.75%	7.50%	7.00%	77%	82%
Total	17,891	2,265	2,758.8	2,503.5	12.66%	15.42%	13.99%	82%	90%
R-squared			0.998	0.999					

Chart III-T3



PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

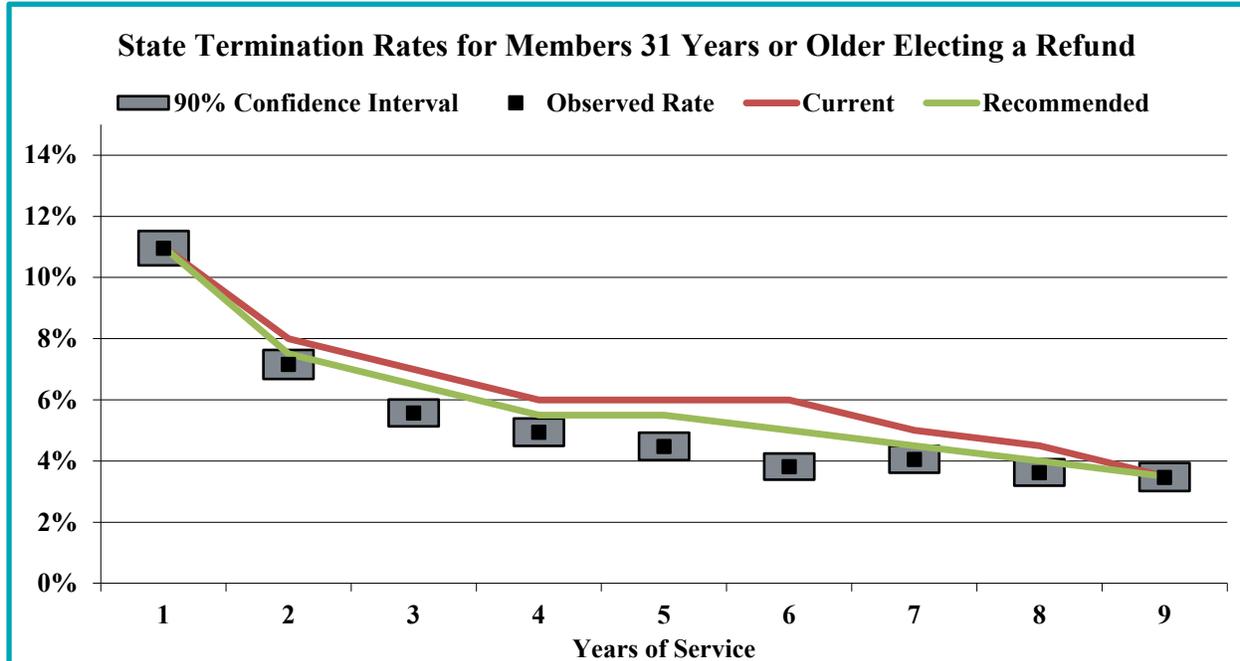
SECTION III – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES

Table III-T4 shows the number of terminations for State members age 31 or older with less than 10 years of service who elect a refund of contributions, the current and recommended termination rates based on years of service, the calculation of actual-to-expected ratios for each year of service and the r-squared statistic. Chart III-T4 shows the information graphically along with the 90% confidence interval.

Table III-T4

State Termination Rates for Members 31 Years or Older Electing a Refund									
Service	Exposures	Terminations			Termination Rates			A/E Ratios	
		Actual	Current	Recommended	Actual	Current	Recommended	Current	Recommended
1	8,404	921	924.4	924.4	10.96%	11.00%	11.00%	100%	100%
2	8,050	576	644.0	603.8	7.16%	8.00%	7.50%	89%	95%
3	7,351	409	514.6	477.8	5.56%	7.00%	6.50%	79%	86%
4	6,320	312	379.2	347.6	4.94%	6.00%	5.50%	82%	90%
5	5,678	254	340.7	312.3	4.47%	6.00%	5.50%	75%	81%
6	5,318	203	319.1	265.9	3.82%	6.00%	5.00%	64%	76%
7	5,358	217	267.9	241.1	4.05%	5.00%	4.50%	81%	90%
8	4,953	179	222.9	198.1	3.61%	4.50%	4.00%	80%	90%
9	4,248	147	148.7	148.7	3.46%	3.50%	3.50%	99%	99%
Total	55,680	3,218	3,761.4	3,519.7	5.78%	6.76%	6.32%	86%	91%
R-squared			0.975	0.990					

Chart III-T4



PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

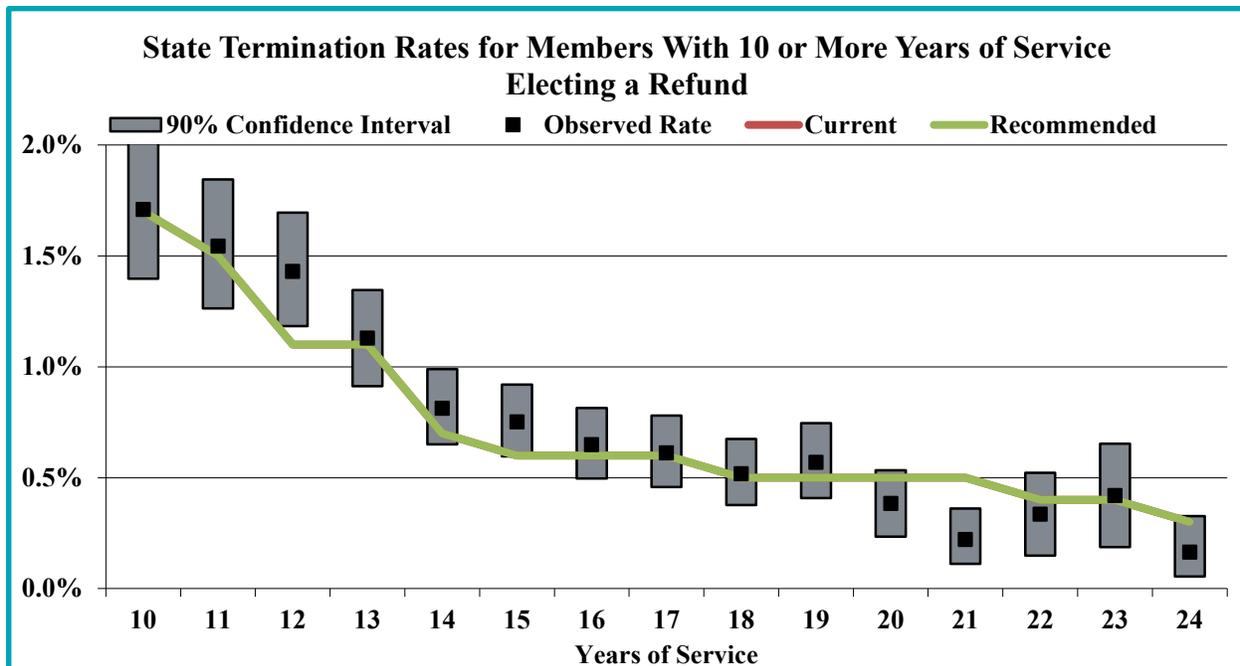
SECTION III – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES

Table III-T5 shows the number of terminations for all State members with 10 or more years of service who elect a refund of contributions, the current and recommended termination rates based on years of service, the calculation of actual-to-expected ratios for each year of service and the r-squared statistic. Chart III-T5 shows the information graphically along with the 90% confidence interval. We recommend continuing with the current assumption.

Table III-T5

State Termination Rates for Members With 10 or More Years of Service Electing a Refund									
Service	Exposures	Terminations			Termination Rates			A/E Ratios	
		Actual	Current	Recommended	Actual	Current	Recommended	Current	Recommended
10	4,153	71	70.6	70.6	1.71%	1.70%	1.70%	101%	101%
11	4,987	77	74.8	74.8	1.54%	1.50%	1.50%	103%	103%
12	5,662	81	62.3	62.3	1.43%	1.10%	1.10%	130%	130%
13	6,461	73	71.1	71.1	1.13%	1.10%	1.10%	103%	103%
14	7,377	60	51.6	51.6	0.81%	0.70%	0.70%	116%	116%
15	7,715	58	46.3	46.3	0.75%	0.60%	0.60%	125%	125%
16	7,248	47	43.5	43.5	0.65%	0.60%	0.60%	108%	108%
17	6,543	40	39.3	39.3	0.61%	0.60%	0.60%	102%	102%
18	6,376	33	31.9	31.9	0.52%	0.50%	0.50%	104%	104%
19	5,628	32	28.1	28.1	0.57%	0.50%	0.50%	114%	114%
20	4,686	18	23.4	23.4	0.38%	0.50%	0.50%	77%	77%
21	3,605	8	18.0	18.0	0.22%	0.50%	0.50%	44%	44%
22	2,678	9	10.7	10.7	0.34%	0.40%	0.40%	84%	84%
23	2,142	9	8.6	8.6	0.42%	0.40%	0.40%	105%	105%
24	1,832	3	5.5	5.5	0.16%	0.30%	0.30%	55%	55%
Total	77,093	619	585.7	585.7	0.80%	0.76%	0.76%	106%	106%
R-squared			0.955	0.955					

Chart III-T5



**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

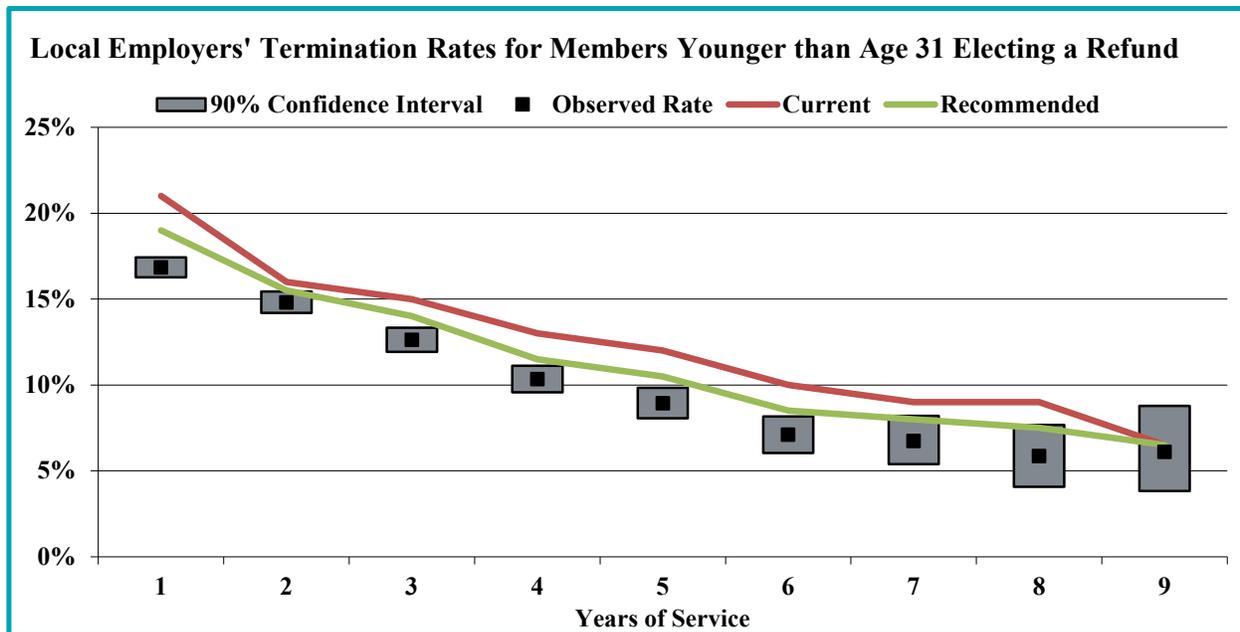
**SECTION III – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES**

Table III-T6 shows the number of terminations for Local employers' members younger than age 31 with less than 10 years of service who elect a refund of contributions, the current and recommended termination rates based on years of service, the calculation of actual-to-expected ratios for each year of service and the r-squared statistic. Chart III-T6 shows the information graphically along with the 90% confidence interval.

Table III-T6

Local Employers' Termination Rates for Members Younger than Age 31 Electing a Refund									
Service	Exposures	Terminations			Termination Rates			A/E Ratios	
		Actual	Current	Recommended	Actual	Current	Recommended	Current	Recommended
1	11,127	1,875	2,336.7	2,114.1	16.85%	21.00%	19.00%	80%	89%
2	8,759	1,297	1,401.4	1,357.6	14.81%	16.00%	15.50%	93%	96%
3	6,162	778	924.3	862.7	12.63%	15.00%	14.00%	84%	90%
4	4,301	445	559.1	494.6	10.35%	13.00%	11.50%	80%	90%
5	2,754	246	330.5	289.2	8.93%	12.00%	10.50%	74%	85%
6	1,604	114	160.4	136.3	7.11%	10.00%	8.50%	71%	84%
7	891	60	80.2	71.3	6.73%	9.00%	8.00%	75%	84%
8	443	26	39.9	33.2	5.87%	9.00%	7.50%	65%	78%
9	262	16	17.0	17.0	6.11%	6.50%	6.50%	94%	94%
Total	36,303	4,857	5,849.5	5,376.1	13.38%	16.11%	14.81%	83%	90%
R-squared			0.993	0.998					

Chart III-T6



**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

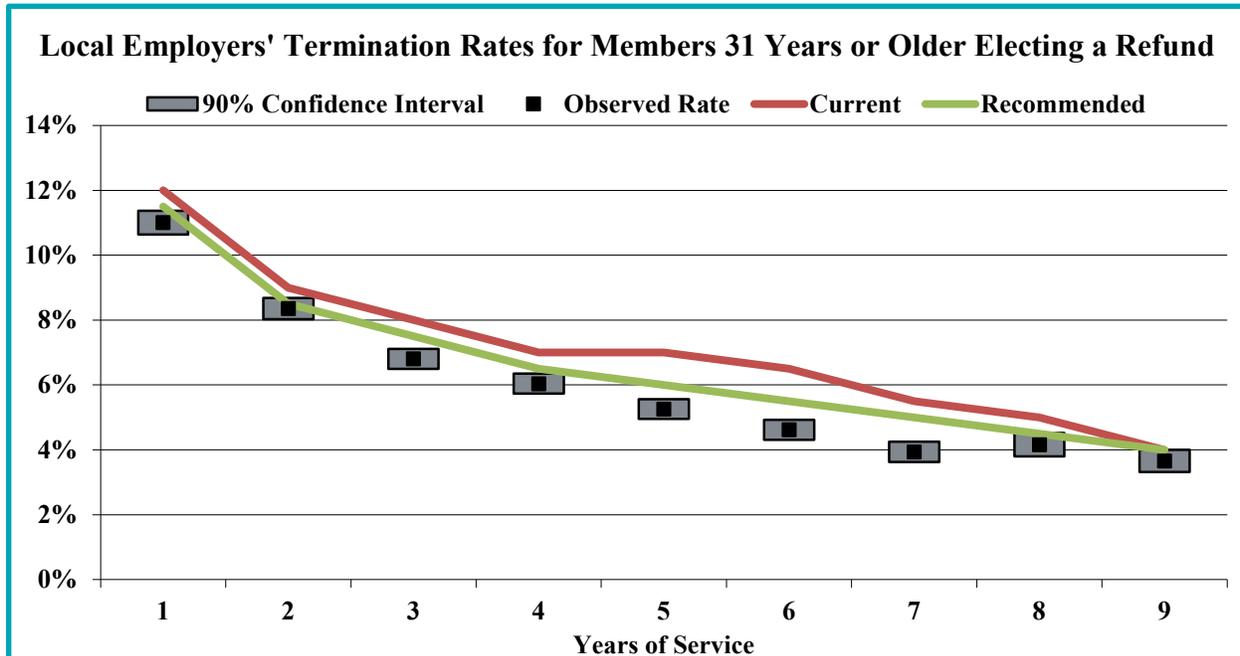
**SECTION III – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES**

Table III-T7 shows the number of terminations for Local employers' members age 31 or older with less than 10 years of service who elect a refund of contributions, the current and recommended termination rates based on years of service, the calculation of actual-to-expected ratios for each year of service and the r-squared statistic. Chart III-T7 shows the information graphically along with the 90% confidence interval.

Table III-T7

Local Employers' Termination Rates for Members 31 Years or Older Electing a Refund									
Service	Exposures	Terminations			Termination Rates			A/E Ratios	
		Actual	Current	Recommended	Actual	Current	Recommended	Current	Recommended
1	19,890	2,188	2,386.8	2,287.4	11.00%	12.00%	11.50%	92%	96%
2	19,173	1,602	1,725.6	1,629.7	8.36%	9.00%	8.50%	93%	98%
3	17,438	1,186	1,395.0	1,307.9	6.80%	8.00%	7.50%	85%	91%
4	16,050	969	1,123.5	1,043.3	6.04%	7.00%	6.50%	86%	93%
5	14,638	769	1,024.7	878.3	5.25%	7.00%	6.00%	75%	88%
6	12,570	580	817.1	691.4	4.61%	6.50%	5.50%	71%	84%
7	10,667	420	586.7	533.4	3.94%	5.50%	5.00%	72%	79%
8	8,501	353	425.1	382.5	4.15%	5.00%	4.50%	83%	92%
9	8,024	293	321.0	321.0	3.65%	4.00%	4.00%	91%	91%
Total	126,951	8,360	9,805.3	9,074.6	6.59%	7.72%	7.15%	85%	92%
R-squared			0.989	0.996					

Chart III-T7



PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

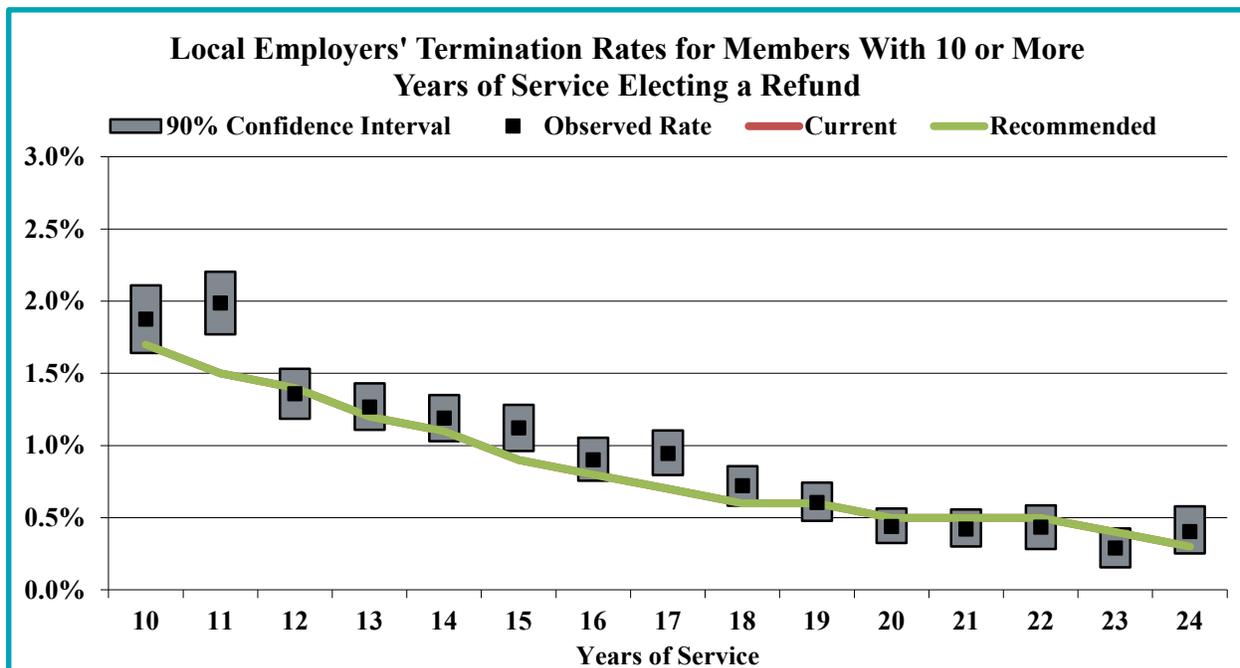
SECTION III – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES

Table III-T8 shows the number of terminations for all Local employers' members with 10 or more years of service who elect a refund of contributions, the current and recommended termination rates based on years of service, the calculation of actual-to-expected ratios for each year of service and the r-squared statistic. Chart III-T8 shows the information graphically along with the 90% confidence interval. We recommend continuing with the current assumption.

Table III-T8

Local Employers' Termination Rates for Members With 10 or More Years of Service Electing a Refund									
Service	Exposures	Terminations			Termination Rates			A/E Ratios	
		Actual	Current	Recommended	Actual	Current	Recommended	Current	Recommended
10	8,958	168	152.3	152.3	1.88%	1.70%	1.70%	110%	110%
11	11,069	220	166.0	166.0	1.99%	1.50%	1.50%	133%	133%
12	12,143	165	170.0	170.0	1.36%	1.40%	1.40%	97%	97%
13	12,721	161	152.7	152.7	1.27%	1.20%	1.20%	105%	105%
14	12,517	149	137.7	137.7	1.19%	1.10%	1.10%	108%	108%
15	11,854	133	106.7	106.7	1.12%	0.90%	0.90%	125%	125%
16	11,110	100	88.9	88.9	0.90%	0.80%	0.80%	113%	113%
17	10,689	101	74.8	74.8	0.94%	0.70%	0.70%	135%	135%
18	10,270	74	61.6	61.6	0.72%	0.60%	0.60%	120%	120%
19	9,423	57	56.5	56.5	0.60%	0.60%	0.60%	101%	101%
20	7,992	35	40.0	40.0	0.44%	0.50%	0.50%	88%	88%
21	6,638	28	33.2	33.2	0.42%	0.50%	0.50%	84%	84%
22	5,292	23	26.5	26.5	0.43%	0.50%	0.50%	87%	87%
23	4,473	13	17.9	17.9	0.29%	0.40%	0.40%	73%	73%
24	3,972	16	11.9	11.9	0.40%	0.30%	0.30%	134%	134%
Total	139,121	1,443	1,296.6	1,296.6	1.04%	0.93%	0.93%	111%	111%
R-squared			0.957	0.957					

Chart III-T8



PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

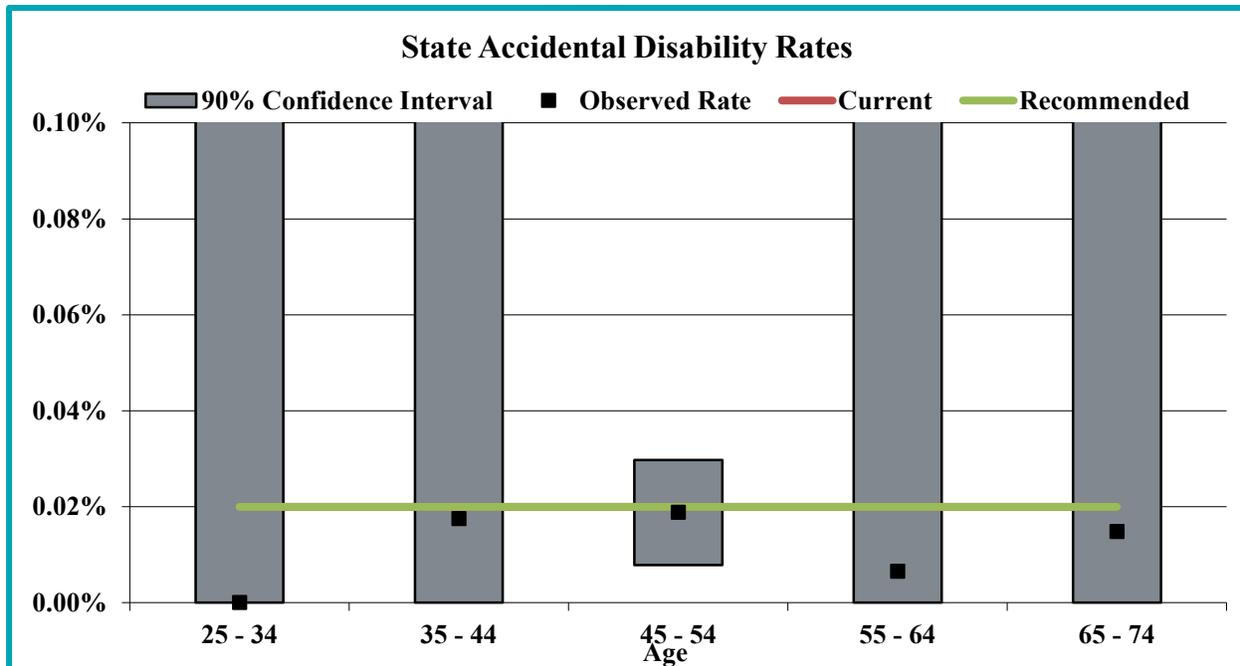
SECTION III – DEMOGRAPHIC ASSUMPTIONS
DISABILITY RATES

Table III-D1 shows the calculation of actual-to-expected ratios and the r-squared statistic for accidental disability for State members. Chart III-D1 shows the information graphically along with the 90% confidence interval. The experience shows very low incidence of accidental disability and therefore we recommend continuing with the current assumption.

Table III-D1

State Accidental Disability Rates										
Age Band	Exposures	Disabilities			Disability Rates			A/E Ratios		
		Actual	Current	Recommended	Actual	Current	Recommended	Current	Recommended	
25 - 34	2,207	0	0.4	0.4	0.000%	0.020%	0.020%	0%	0%	
35 - 44	28,566	5	5.7	5.7	0.018%	0.020%	0.020%	88%	88%	
45 - 54	42,537	8	8.5	8.5	0.019%	0.020%	0.020%	94%	94%	
55 - 64	46,092	3	9.2	9.2	0.007%	0.020%	0.020%	33%	33%	
65 - 74	13,523	2	2.7	2.7	0.015%	0.020%	0.020%	74%	74%	
Total	132,925	18	26.6	26.6	0.014%	0.020%	0.020%	68%	68%	
R-squared			0.253	0.253						

Chart III-D1



PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

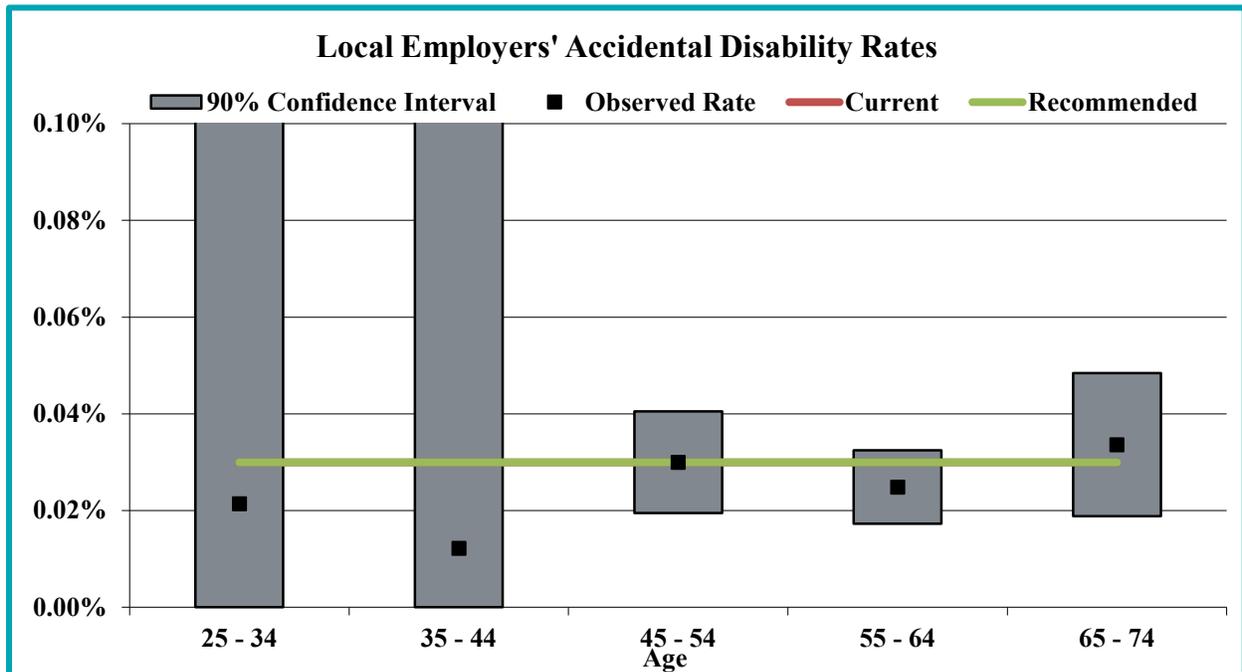
SECTION III – DEMOGRAPHIC ASSUMPTIONS
DISABILITY RATES

Table III-D2 shows the calculation of actual-to-expected ratios and the r-squared statistic for accidental disability for Local employers' members. Chart III-D2 shows the information graphically along with the 90% confidence interval. Recent experience has shown that, though the number of occurrences is low for ages younger than 45, the incidence rate is relatively consistent across all age bands and tracks reasonably closely to the current assumption. Therefore, we recommend continuing with the current assumption.

Table III-D2

Local Employers' Accidental Disability Rates									
Age Band	Exposures	Disabilities			Disability Rates			A/E Ratios	
		Actual	Current	Recommended	Actual	Current	Recommended	Current	Recommended
25 - 34	4,664	1	1.4	1.4	0.021%	0.030%	0.030%	71%	71%
35 - 44	32,780	4	9.8	9.8	0.012%	0.030%	0.030%	41%	41%
45 - 54	73,316	22	22.0	22.0	0.030%	0.030%	0.030%	100%	100%
55 - 64	116,606	29	35.0	35.0	0.025%	0.030%	0.030%	83%	83%
65 - 74	41,630	14	12.5	12.5	0.034%	0.030%	0.030%	112%	112%
Total	268,996	70	80.7	80.7	0.026%	0.030%	0.030%	87%	87%
R-squared			0.682	0.682					

Chart III-D2



PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

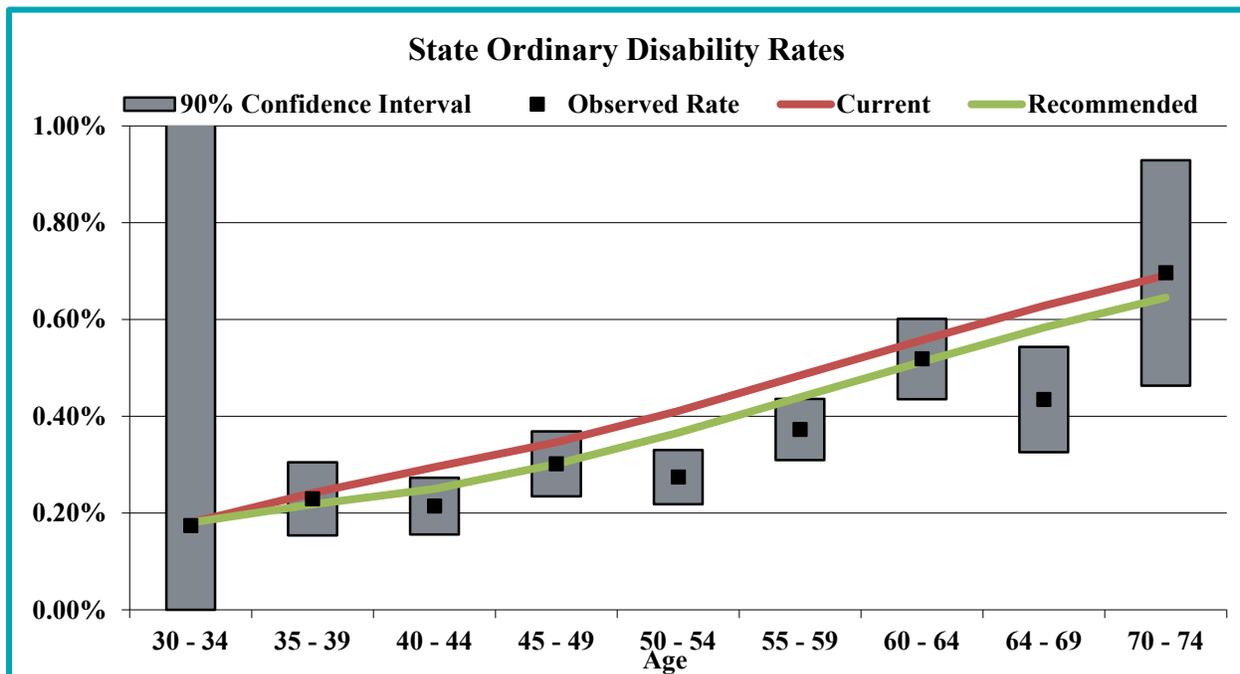
SECTION III – DEMOGRAPHIC ASSUMPTIONS
DISABILITY RATES

Table III-D3 shows the calculation of actual-to-expected ratios and the r-squared statistic for ordinary disability for State members, and Chart III-D3 shows the information graphically along with the 90% confidence interval. We recommend lowering the rates for most ages.

Table III-D3

State Ordinary Disability Rates									
Age Band	Exposures	Disabilities			Disability Rates			A/E Ratios	
		Actual	Current	Recommended	Actual	Current	Recommended	Current	Recommended
30 - 34	1,722	3	3.1	3.1	0.174%	0.180%	0.180%	97%	97%
35 - 39	10,896	25	26.3	23.8	0.229%	0.241%	0.218%	95%	105%
40 - 44	16,782	36	49.5	41.9	0.215%	0.295%	0.250%	73%	86%
45 - 49	18,222	55	63.1	54.9	0.302%	0.346%	0.301%	87%	100%
50 - 54	23,675	65	97.3	86.7	0.275%	0.411%	0.366%	67%	75%
55 - 59	25,229	94	122.2	110.8	0.373%	0.484%	0.439%	77%	85%
60 - 64	20,255	105	112.9	103.8	0.518%	0.557%	0.512%	93%	101%
64 - 69	9,888	43	62.2	57.7	0.435%	0.629%	0.584%	69%	75%
70 - 74	3,447	24	23.8	22.3	0.696%	0.691%	0.646%	101%	108%
Total	130,116	450	560.4	505.0	0.346%	0.431%	0.388%	80%	89%
R-squared			0.801	0.807					

Chart III-D3



PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

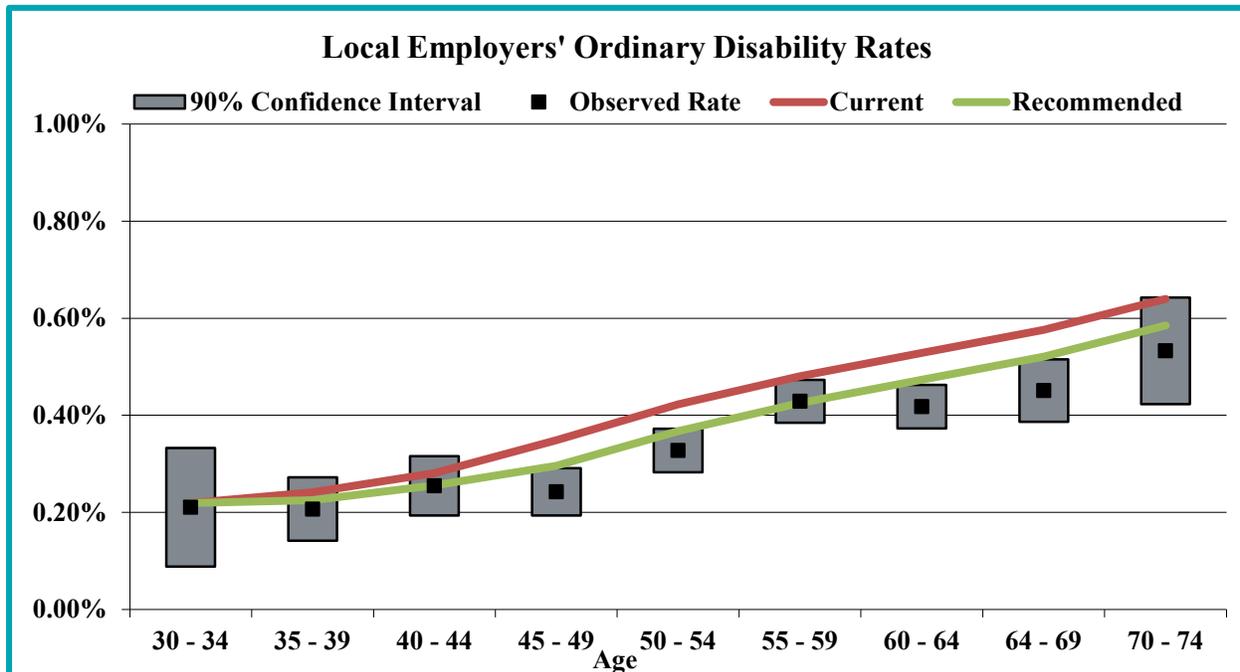
SECTION III – DEMOGRAPHIC ASSUMPTIONS
DISABILITY RATES

Table III-D4 shows the calculation of actual-to-expected ratios and the r-squared statistic for ordinary disability for Local employers' members, and Chart III-D4 shows the information graphically along with the 90% confidence interval. We recommend lowering the rates for most ages.

Table III-D4

Local Employers' Ordinary Disability Rates									
Age Band	Exposures	Disabilities			Disability Rates			A/E Ratios	
		Actual	Current	Recommended	Actual	Current	Recommended	Current	Recommended
30 - 34	3,800	8	8.3	8.3	0.211%	0.219%	0.219%	96%	96%
35 - 39	13,057	27	31.5	29.4	0.207%	0.241%	0.225%	86%	92%
40 - 44	18,470	47	51.9	47.2	0.254%	0.281%	0.256%	91%	99%
45 - 49	27,242	66	95.0	80.7	0.242%	0.349%	0.296%	69%	82%
50 - 54	44,277	145	187.0	162.7	0.327%	0.422%	0.367%	78%	89%
55 - 59	59,259	254	284.7	252.1	0.429%	0.480%	0.425%	89%	101%
60 - 64	55,514	232	293.5	263.0	0.418%	0.529%	0.474%	79%	88%
64 - 69	29,264	132	168.6	152.5	0.451%	0.576%	0.521%	78%	87%
70 - 74	11,823	63	75.7	69.2	0.533%	0.640%	0.585%	83%	91%
Total	262,706	974	1,196.2	1,065.0	0.371%	0.455%	0.405%	81%	91%
R-squared			0.952	0.952					

Chart III-D4



PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION III – DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES

Mortality assumptions are typically developed separately by gender. Unlike most of the other demographic assumptions that rely exclusively on the experience of the plan, for mortality, standard mortality tables and projection scales, reflecting future life expectancy improvements, serve as the primary basis for the assumption which is then modified to better reflect the System's experience.

The Society of Actuaries (SOA) completed an extensive mortality study of public pension plan experience and issued a set of mortality tables named the Pub-2010 mortality tables which provide insights into the composition of gender-specific pension mortality by factors such as job category (e.g. General Employees, Teachers, Public Safety), salary/benefit amount, health status (e.g. healthy or disabled), geographic region and duration since event.

In addition, there has been a long history of mortality improvement among pensioners in the U.S., and there is an expectation that mortality rates will continue to improve in the future. The SOA annually publishes a mortality improvement scale that reflects continued mortality improvement trends. The SOA's MP-2021 scale is the most recent mortality improvement projection scale at the time this analysis was prepared. However, the MP-2021 scale reflects historical mortality data through calendar year 2019. The COVID-19 pandemic may have caused a temporary change in mortality patterns.

The steps in our analysis of the mortality assumptions are as follows:

1. Select a standard mortality table that reflects the anticipated experience of the System.
2. Compare actual experience of the System to what would have been predicted by the selected standard table for the period of the experience study.
3. Adjust the standard table either fully or partially depending on the level of credibility for the System's experience. This adjusted table is called the base table.
4. Select an appropriate standard mortality improvement projection scale and apply it to the base table.

Similar to the methodology used to develop the Pub-2010 tables, when actual experience of the System is compared to that of the standard table, the experience is weighted based on the amount of income (salary for pre-retirement mortality and pension benefit for post-retirement mortality). Mortality studies in the U.S. have consistently shown that individuals with higher salaries if active or higher benefit income if retired, have longer life expectancies than individuals with lower income. It is important for a pension plan to use assumptions that are weighted by income to reflect not just the incidence of a decrement but the impact on liabilities.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION III – DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES

In the prior study, PERS adopted the following assumptions:

Active members (Non-Annuitants): The Pub-2010 General Below-Median Income Employee mortality table [*PubG-2010(B) Employee*] as published by the Society of Actuaries with an 82.2% adjustment for males and 101.4% adjustment for females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2018. All pre-retirement deaths are assumed to be ordinary deaths.

Healthy retirees and beneficiaries (Healthy Annuitants): The Pub-2010 General Below-Median Income Healthy Retiree mortality table [*PubG-2010(B) Healthy Retiree*] as published by the Society of Actuaries with a 91.4% adjustment for males and 99.7% adjustment for females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2018.

Disabled retirees (Disabled Annuitants): The Pub-2010 Non-Safety Disabled Retiree mortality table [*PubNS-2010 Disabled Retiree*] as published by the Society of Actuaries with a 127.7% adjustment for males and 117.2% adjustment for females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2018.

There are enough deaths for PERS to provide meaningful statistics in the three-year period. For healthy annuitants, there were 20,314 deaths over this period, for disabled retirees there were 1,989 deaths, and for active members there were 1,740 deaths. For reference, a fully credible sample would include 1,082 deaths. We therefore recommend continuing to use the same standard Pub-2010 tables for general employees, with the same adjustments from the prior experience study to account for PERS experience.

We note that the recommended tables do not always match the experience as well as in the prior experience study. However, the COVID-19 pandemic may have caused a temporary change in mortality patterns. Future mortality experience may be more similar to experience in the prior study.

We recommend no changes to the base mortality tables and updating the mortality improvement scale from MP-2018 to MP-2021 as described below:

Active members (Non-Annuitants): The Pub-2010 General Below-Median Income Employee mortality table [*PubG-2010(B) Employee*] as published by the Society of Actuaries with an 82.2% adjustment for males and 101.4% adjustment for females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2021. All pre-retirement deaths are assumed to be ordinary deaths.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION III – DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES

Healthy retirees and beneficiaries (Healthy Annuitants): The Pub-2010 General Below-Median Income Healthy Retiree mortality table [*PubG-2010(B) Healthy Retiree*] as published by the Society of Actuaries with a 91.4% adjustment for males and 99.7% adjustment for females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2021.

Disabled retirees (Disabled Annuitants): The Pub-2010 Non-Safety Disabled Retiree mortality table [*PubNS-2010 Disabled Retiree*] as published by the Society of Actuaries with a 127.7% adjustment for males and 117.2% adjustment for females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2021.

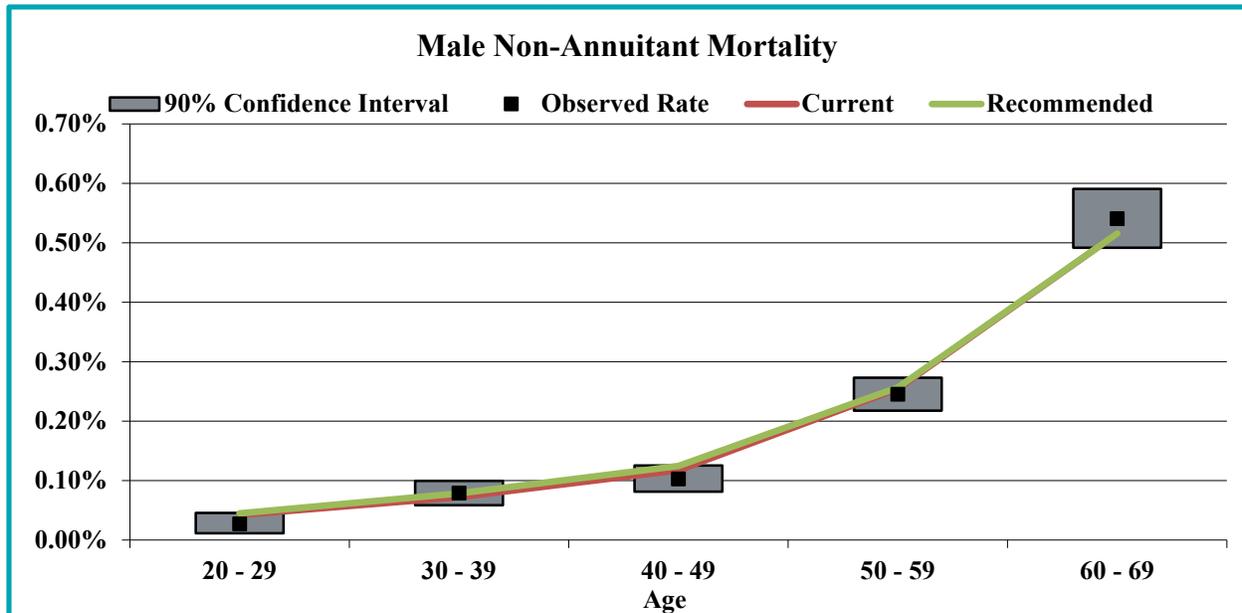
**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

**SECTION III – DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES**

Table III-M1 – Active Males

Non-Annuitant Mortality - Base Table for Males								
Age Band	Exposures	Actual Deaths	Weighted Exposures	Weighted Deaths			A/E Ratios	
				Actual	Current	Recommended	Current	Recommended
20 - 29	26,291	7	973,084,086	264,528	414,440	439,310	64%	60%
30 - 39	51,177	43	2,435,017,466	1,926,212	1,760,431	1,915,463	109%	101%
40 - 49	58,954	78	3,345,300,426	3,442,176	3,930,324	4,175,559	88%	82%
50 - 59	86,740	253	5,205,252,567	12,752,509	13,266,656	13,365,757	96%	95%
60 - 69	58,747	351	3,436,524,187	18,572,856	17,721,177	17,720,041	105%	105%
70 +	13,939	177	586,750,428	6,227,197	6,186,090	6,147,951	101%	101%
Total	295,848	909	15,981,929,160	43,185,478	43,279,118	43,764,081	100%	99%
R-Squared					0.911	0.909		

Chart III-M1



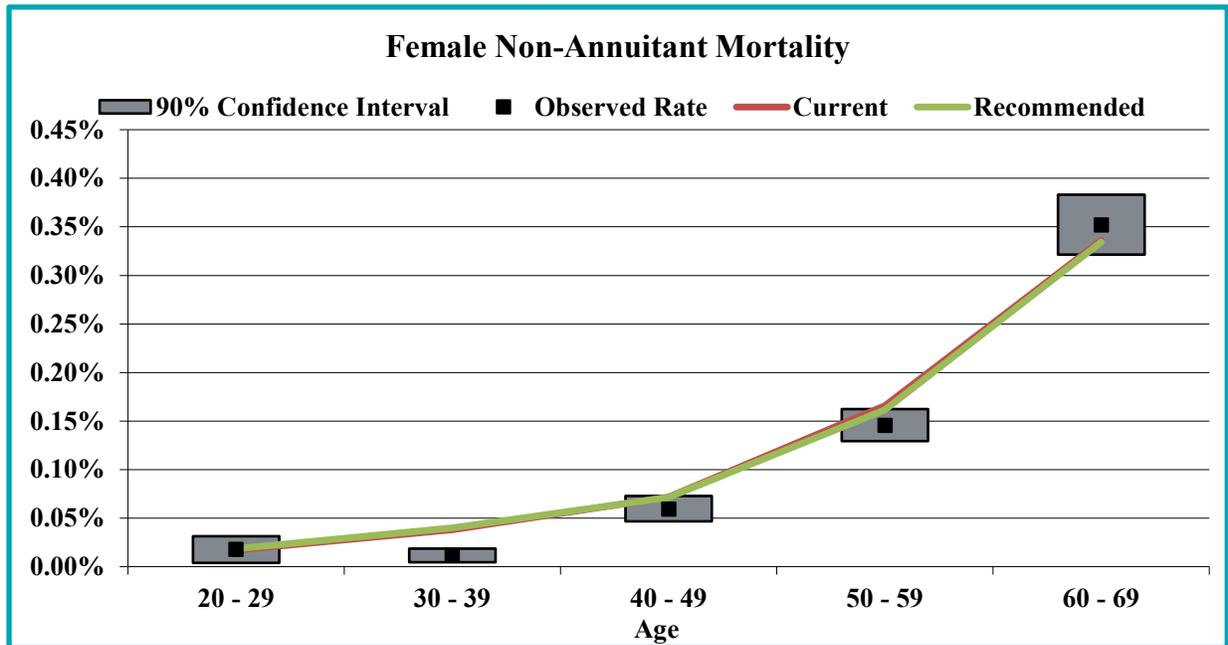
PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION III – DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES

Table III-M2 – Active Females

Non-Annuitant Mortality - Base Table for Females								
Age Band	Exposures	Actual Deaths	Weighted Exposures	Weighted Deaths			A/E Ratios	
				Actual	Current	Recommended	Current	Recommended
20 - 29	25,571	4	885,059,115	159,261	152,865	162,834	104%	98%
30 - 39	64,773	10	2,936,219,973	344,278	1,122,354	1,179,481	31%	29%
40 - 49	87,795	52	4,436,642,570	2,631,131	3,186,337	3,161,512	83%	83%
50 - 59	145,440	221	6,688,861,486	9,736,363	11,085,767	10,804,706	88%	90%
60 - 69	98,644	372	4,384,949,706	15,435,522	14,726,337	14,661,131	105%	105%
70 +	18,294	172	636,481,352	6,013,855	5,105,678	5,054,732	118%	119%
Total	440,517	831	19,968,214,202	34,320,410	35,379,338	35,024,396	97%	98%
R-Squared					0.925	0.927		

Chart III-M2



During the three-year period, there were 1,740 deaths in active service. Of these deaths, only two deaths were accidental. Therefore, we recommend assuming that all pre-retirement deaths are ordinary deaths.

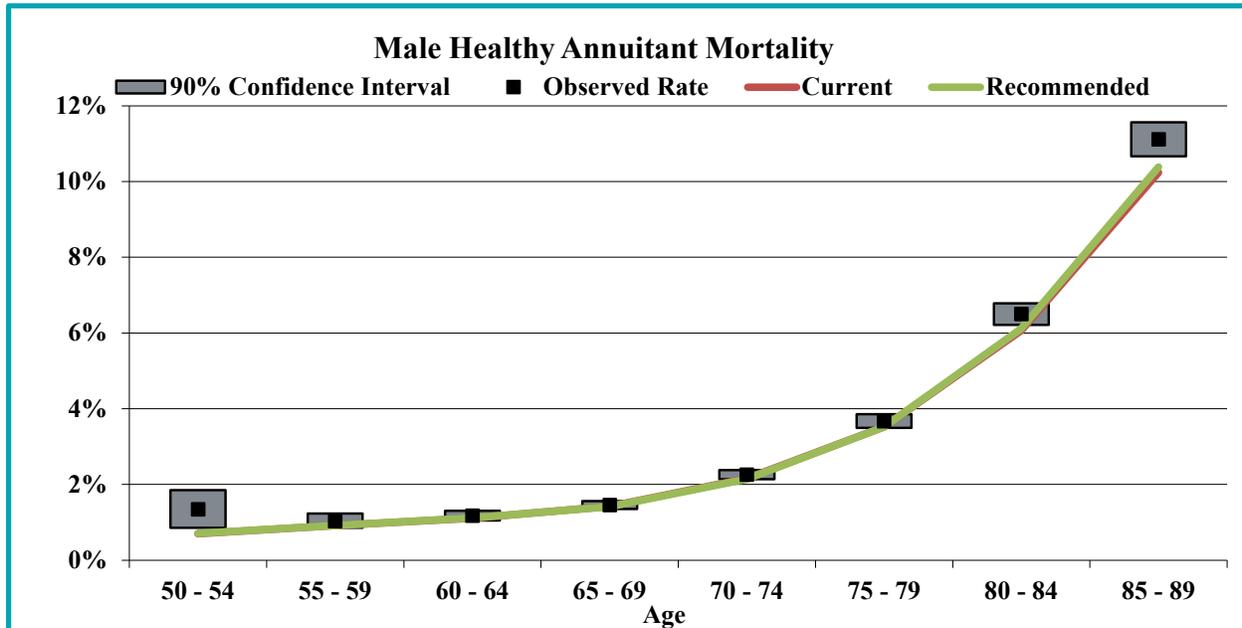
**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

**SECTION III – DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES**

Table III-M3 – Healthy Annuitant Males

Healthy Annuitant Mortality - Base Table for Males								
Age Band	Exposures	Actual Deaths	Weighted Exposures	Weighted Deaths			A/E Ratios	
				Actual	Current	Recommended	Current	Recommended
50 - 54	1,516	20	39,362,743	531,015	276,509	279,467	192%	190%
55 - 59	7,971	87	290,420,487	3,007,430	2,660,709	2,670,861	113%	113%
60 - 64	20,050	273	694,456,149	8,169,581	7,718,310	7,737,431	106%	106%
65 - 69	34,757	590	1,098,893,155	16,018,202	15,612,195	15,530,962	103%	103%
70 - 74	41,535	1,059	1,172,268,969	26,511,391	25,333,278	25,104,256	105%	106%
75 - 79	29,944	1,176	684,480,904	25,148,586	24,139,537	24,099,458	104%	104%
80 - 84	20,380	1,430	394,488,461	25,637,014	23,920,106	24,108,731	107%	106%
85 - 89	13,197	1,550	231,294,023	25,700,230	23,669,698	24,012,523	109%	107%
90 - 94	6,418	1,216	105,431,590	18,567,514	16,570,446	16,875,583	112%	110%
95 +	1,903	570	26,292,044	8,136,373	5,959,993	6,065,435	137%	134%
Total	177,671	7,971	4,737,388,525	157,427,336	145,860,781	146,484,708	108%	107%
R-Squared					0.982	0.983		

Chart III-M3



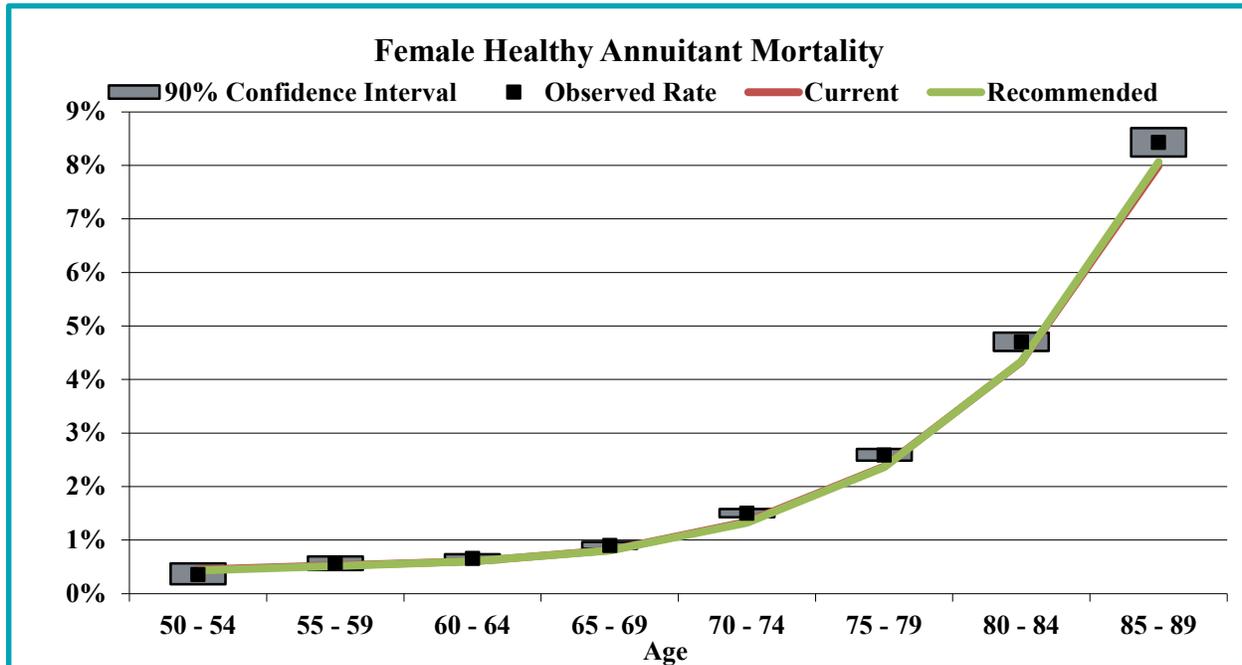
**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

**SECTION III – DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES**

Table III-M4 – Healthy Annuitant Females

Age Band	Exposures	Actual Deaths	Weighted Exposures	Weighted Deaths			A/E Ratios	
				Actual	Current	Recommended	Current	Recommended
50 - 54	2,307	9	54,661,755	194,650	245,300	236,894	79%	82%
55 - 59	9,812	61	320,768,044	1,811,026	1,690,296	1,659,313	107%	109%
60 - 64	31,325	219	845,174,305	5,585,945	5,097,027	5,089,027	110%	110%
65 - 69	58,411	551	1,345,942,045	12,134,509	10,918,490	10,815,924	111%	112%
70 - 74	69,282	1,075	1,383,612,196	20,810,418	18,577,024	18,343,609	112%	113%
75 - 79	56,016	1,517	967,395,482	25,089,243	22,972,197	22,859,474	109%	110%
80 - 84	40,971	1,981	607,694,702	28,596,913	26,307,932	26,356,343	109%	109%
85 - 89	30,304	2,536	386,739,938	32,604,103	30,911,218	31,178,883	105%	105%
90 - 94	17,704	2,650	194,109,010	28,128,336	26,404,907	26,779,843	107%	105%
95 +	7,136	1,744	65,607,046	15,957,555	14,078,248	14,259,936	113%	112%
Total	323,268	12,343	6,171,704,523	170,912,698	157,202,639	157,579,246	109%	108%
R-Squared					0.987	0.986		

Chart III-M4



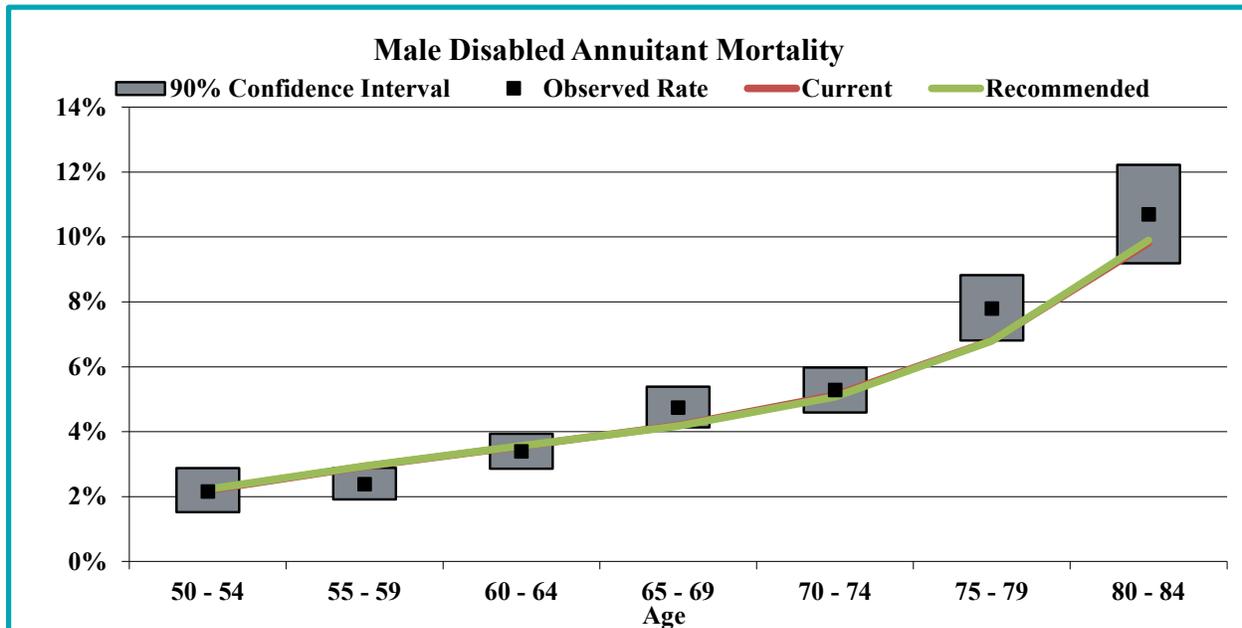
PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION III – DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES

Table III-M5 – Disabled Annuitant Males

Disabled Annuitant Mortality - Base Table for Males								
Age Band	Exposures	Actual Deaths	Weighted Exposures	Weighted Deaths			A/E Ratios	
				Actual	Current	Recommended	Current	Recommended
< 50	728	17	16,724,833	438,565	229,092	241,866	191%	181%
50 - 54	1,251	29	29,142,581	629,027	642,101	650,332	98%	97%
55 - 59	2,559	71	59,037,098	1,406,469	1,727,813	1,734,303	81%	81%
60 - 64	3,150	114	68,431,102	2,322,269	2,436,826	2,443,380	95%	95%
65 - 69	3,119	154	65,960,783	3,130,873	2,767,018	2,753,933	113%	114%
70 - 74	2,811	154	56,089,243	2,963,043	2,873,487	2,847,370	103%	104%
75 - 79	1,938	161	36,692,936	2,858,462	2,497,600	2,492,936	114%	115%
80 - 84	1,121	124	19,530,432	2,088,908	1,918,096	1,932,705	109%	108%
85 - 89	441	77	7,472,870	1,268,856	1,049,915	1,064,492	121%	119%
90 - 94	102	23	1,574,230	304,395	340,455	346,668	89%	88%
95 +	19	8	321,722	176,051	96,744	98,561	182%	179%
Total	17,239	932	360,977,830	17,586,918	16,579,145	16,606,545	106%	106%
R-Squared					0.881	0.880		

Chart III-M5



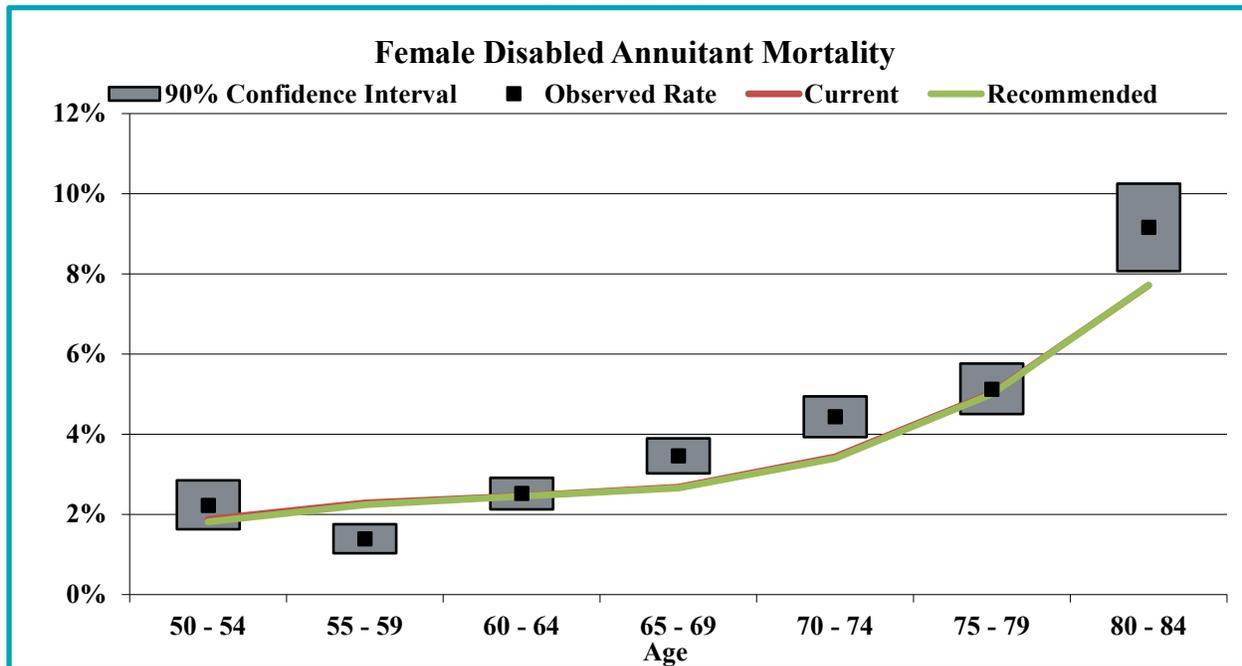
PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION III – DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES

Table III-M6 – Disabled Annuitant Females

Disabled Annuitant Mortality - Base Table for Females								
Age Band	Exposures	Actual Deaths	Weighted Exposures	Weighted Deaths			A/E Ratios	
				Actual	Current	Recommended	Current	Recommended
< 50	903	9	19,976,552	180,948	243,014	240,075	74%	75%
50 - 54	1,474	33	31,002,355	688,110	583,291	563,532	118%	122%
55 - 59	2,904	44	58,541,306	812,185	1,337,798	1,310,296	61%	62%
60 - 64	4,322	109	81,916,239	2,063,816	2,013,291	2,009,636	103%	103%
65 - 69	4,665	147	86,981,224	3,003,664	2,333,206	2,312,881	129%	130%
70 - 74	4,330	205	77,712,526	3,444,065	2,671,255	2,637,449	129%	131%
75 - 79	3,418	187	56,359,778	2,886,662	2,832,699	2,818,562	102%	102%
80 - 84	1,883	170	29,730,928	2,723,409	2,292,558	2,296,090	119%	119%
85 - 89	769	88	10,756,567	1,210,470	1,282,430	1,293,039	94%	94%
90 - 94	239	52	3,025,660	630,624	507,342	514,437	124%	123%
95 +	39	13	345,412	136,002	82,578	83,708	165%	162%
Total	24,946	1,057	456,348,547	17,779,955	16,179,461	16,079,704	110%	111%
R-Squared					0.884	0.884		

Chart III-M6



PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION III – DEMOGRAPHIC ASSUMPTIONS
FAMILY COMPOSITION

In the event of a member death, pension benefits may extend to a surviving spouse. Spousal demographic information is important in determining the value of their potential future benefit. However, marital information is not always readily available. In the case of an unmarried active member, they could marry before commencing benefits. Even married retirees are sometimes reported without a beneficiary date of birth. With this uncertainty, we make assumptions regarding the frequency with which participants are married at the time of benefit commencement as well as the age difference between the retirees and their spouses.

We currently assume the following:

- For members not currently receiving a benefit, 100% of members are assumed married to spouses of the opposite sex.
- Males are assumed to be three years older than females.

Based on healthy and disabled retirees that have commenced benefits between July 1, 2018 and June 30, 2021, approximately 47.8% are married with males being older than females by an average of 2.2 years. For purposes of determining the percent married, we assumed that all retirees reported with a beneficiary date of birth are married.

As a result, we recommend the following:

- The percent married assumption is reduced from 100% to 50%.
- The age difference between males and females is reduced from three years to two years.

PUBLIC EMPLOYEES’ RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION IV – ECONOMIC ASSUMPTIONS

The economic assumptions used in actuarial valuations are intended to be long-term in nature and should be both individually reasonable and consistent with each other. The specific assumptions analyzed in this report are:

- **Price inflation** – used to project increases in the 401(a)(17) pay limit. This assumption is also used indirectly as an underlying component of other economic assumptions.
- **Wage inflation** – across the board wage growth which is used to project the Social Security Wage Base.
- **Salary increase rate** – used to project expected increases in pay for active members in determining liabilities and costs of the System.

We have not studied the investment rate of return assumption since that assumption is set by the NJ State Treasurer.

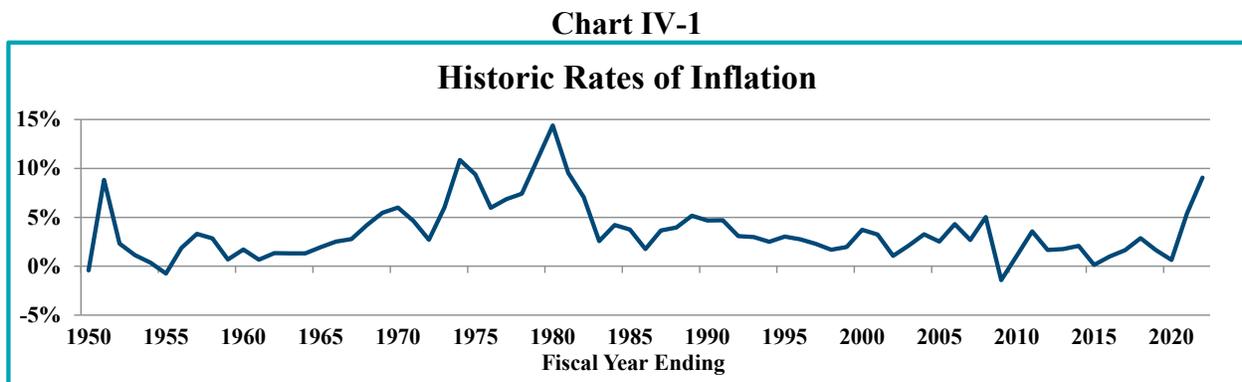
In order to develop recommendations for each of these assumptions, we considered historical data, both nationally and for the System, expectations for the future and assumptions used by other public sector plans.

PRICE INFLATION

Long-term price inflation rates are the foundation of other economic assumptions. In a growing economy, wages and investments are expected to grow at the underlying inflation rate plus an additional real growth rate, whether it reflects productivity in terms of wages, or risk premiums in terms of investments.

Historical Data

Chart IV-1 below shows inflation based on CPI-U for the U.S. by individual year from 1950 through 2022.



PUBLIC EMPLOYEES’ RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

SECTION IV – ECONOMIC ASSUMPTIONS

Over the 50 years ending June 2022, the geometric average inflation rate for the U.S. has been about 4.0%, but this average is heavily influenced by the high inflation rates in the 1970s and early 1980s. Over the last 30 years, the geometric average inflation rate has been 2.5%, and it has been 2.6% over the last ten years.

Inflation broke from the recent long-term trend with annual rates of 5.4% and 9.1% for the years ending June 2021 and 2022, respectively. This short-term deviation bears monitoring but does not require an immediate revision to expectations. Economic assumptions frequently deviate significantly from expectations. Often those deviations are followed by offsetting deviations in the opposite direction. The assumptions used in actuarial valuations are long-term in nature and are not necessarily driven by the most recent events. That is particularly important considering the major economic impact of the recent COVID-19 pandemic.

Future Expectations

A measure of the market consensus of expected future inflation rates is the difference in yields between conventional Treasury bonds and Treasury inflation-protected securities (TIPS) at the same maturity. Table IV-1 shows the yields on both types of bonds and the break-even inflation rate as of August 2022. Break-even inflation is the level of inflation needed for an investment in TIPS to “break even” with an investment in conventional treasury bonds of the same maturity.

Table IV-1

Break-Even Inflation Based on Treasury Bond Yields			
Time to Maturity	Conventional Yield	TIPS Yield	Break Even Inflation
5 Years	3.03%	0.34%	2.69%
10 Years	2.90%	0.39%	2.51%
20 Years	3.35%	0.65%	2.70%

Data Source: Federal Reserve, Constant Maturity Yields, Monthly Series

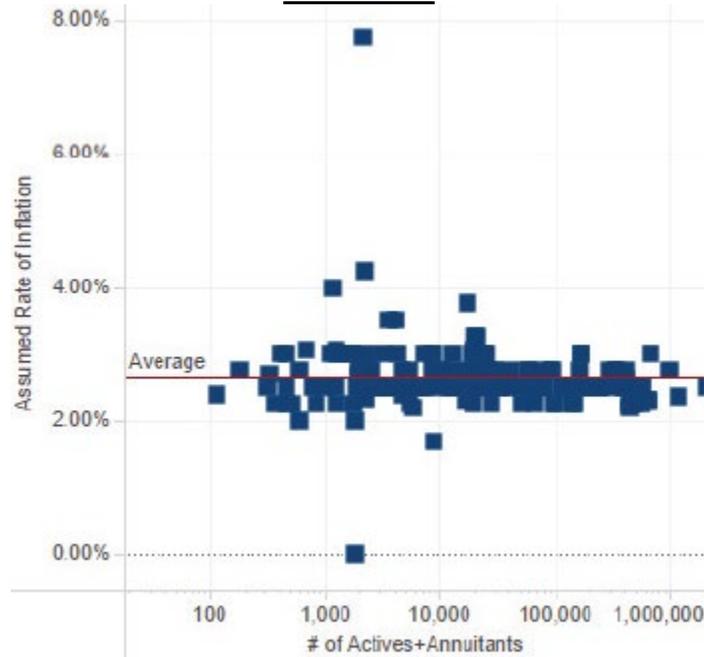
The Federal Reserve Bank of Philadelphia publishes a quarterly survey of professional economic forecasters that includes their forecasts of inflation over the next 10 years. The survey for the third quarter of 2022 shows a median inflation forecast of 2.8%, a minimum forecast of about 2.1%, and a maximum forecast of 4.5%.

The National Conference on Public Employee Retirement Systems (NCPERS) February 2022 Public Retirement Systems Study includes the following graphic of respondents’ inflation assumptions:

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

SECTION IV – ECONOMIC ASSUMPTIONS

Chart IV-2



The average inflation assumption among the 156 systems that responded to this study was 2.70%.

Based on all of these considerations, we believe a reasonable range for long-term price inflation for use in the System’s actuarial valuations is between 2.25% and 3.25%. Despite recent high inflation, we recommend keeping the current assumption of 2.75% as it aligns with longer term expectations from both markets and forecasters. If, at the time of the next review of economic assumptions, higher inflation persists and expectations for the future increase, increases to the assumption could be considered.

WAGE INFLATION

Wage inflation can be thought of as the annual across-the-board increase in wages. Individuals often receive salary increases in excess of the wage inflation rate, and we study these increases as a part of the merit salary scale assumption. Wage inflation generally exceeds price inflation by some margin reflecting the history of increased purchasing power.

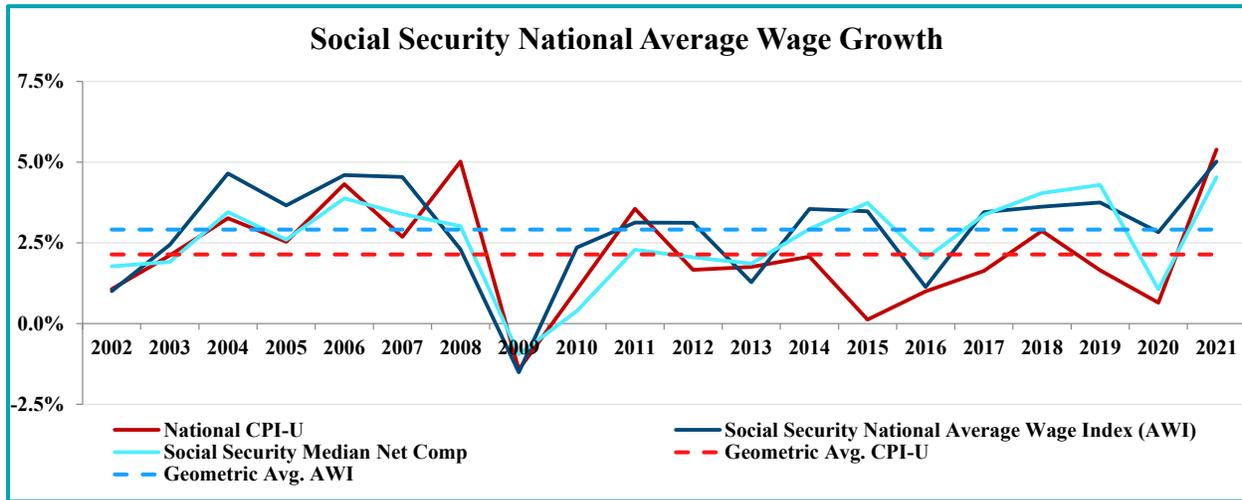
Wage inflation is used in the actuarial valuation to project the Social Security Wage Base in determining the actuarial liability.

Chart IV-3 shows the increase in national average wages (as reported by the Social Security Administration) compared to inflation from 2002 through 2021.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

SECTION IV – ECONOMIC ASSUMPTIONS

Chart IV-3



Over this period, national wage inflation averaged approximately 2.9% compared to annual price inflation of 2.1%, making real wage increases about 0.8% above inflation. However, over the same time period, the increase in the median real wage was only 0.4% per year, as much of the growth in wages was clustered at the top end of the wage scale.

It is acceptable to assume some additional level of base payroll increase beyond general inflation. Potential reasons contributing to the increase may include the presence of strong union representation in the collective bargaining process, competition in hiring among other similar employers, and regional factors – such as the local inflation index exceeding the national average. Also, the Social Security Administration projects real wage growth of 0.5% to 1.8% going forward in their Social Security solvency projections included in the 2022 annual Trustees Report. However, recent higher rates of inflation have resulted in negative real wage growth for US workers, and the expectation of higher inflation in the short term is anticipated to continue to put downward pressure on real wages, at least in the short term.

We recommend maintaining a small non-inflationary base payroll growth assumption of 0.5% annually. As a result, after factoring in inflation, the annual expected wage base increase assumption remains at 3.25%.

SALARY INCREASE RATE

The salary increase rate represents the year over year increase in pay of continuing actives. Salary increases consist of three components: Increases due to cost of living maintenance (inflation), increases related to non-inflationary pressures on base pay (such as productivity increases), and increases in individual pay due to merit, promotion, and longevity.

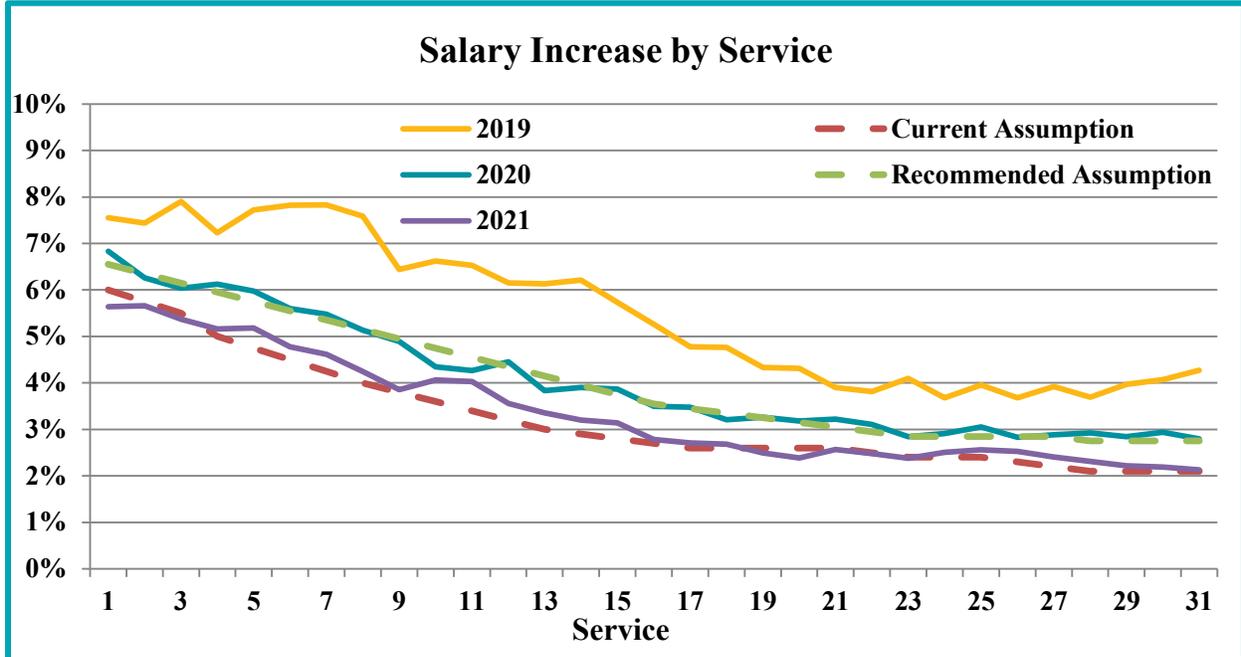
The current assumption varies by years of service and time period. Salary increases are assumed to occur on July 1.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

SECTION IV – ECONOMIC ASSUMPTIONS

In Chart IV-4 we show the total actual salary increases based on years of service for continuing active members for FYE 2019 through FYE 2021, the current assumption based on the period ending June 30, 2026, and the recommended assumption for all years.

Chart IV-4



As can be seen from Chart IV-4, PERS experience for FYE 2019, FYE 2020, and FYE 2021 shows that actual salary increases have been greater than expected in the short-term. The salary increases from FYE 2019 were unusually high due to State employees receiving larger-than-expected salary adjustments stemming from a prior pay freeze. Salary increases during FYE 2020 and FYE 2021 were also higher than expected but at rates that were closer to the current assumption. In light of this experience, along with recent high inflation, we recommend eliminating the select and ultimate period used for the current assumption, which assumed lower increases in the short-term relative to the long-term, and adjusting the salary increase rates at each service threshold.

The following table shows both the current and recommended assumptions.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

SECTION IV – ECONOMIC ASSUMPTIONS

Years of Service	Current Assumption		Recommended Assumption
	Period Ending June 30, 2026	Ultimate Period	
0	6.00%	7.00%	6.55%
1	6.00	7.00	6.55
2	5.75	6.75	6.35
3	5.50	6.50	6.15
4	5.00	6.00	5.95
5	4.75	5.75	5.75
6	4.50	5.50	5.55
7	4.25	5.25	5.35
8	4.00	5.00	5.15
9	3.80	4.80	4.95
10	3.60	4.60	4.75
11	3.40	4.40	4.55
12	3.20	4.20	4.35
13	3.00	4.00	4.15
14	2.90	3.90	3.95
15	2.80	3.80	3.75
16	2.70	3.70	3.55
17	2.60	3.60	3.45
18	2.60	3.60	3.35
19	2.60	3.60	3.25
20	2.60	3.60	3.15
21	2.60	3.60	3.05
22	2.50	3.50	2.95
23-25	2.40	3.40	2.85
26	2.30	3.30	2.85
27	2.20	3.20	2.85
28	2.10	3.10	2.75
29+	2.00	3.00	2.75

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

APPENDIX A – SUMMARY OF RECOMMENDED ASSUMPTIONS

1. Salary Increases

Salaries are assumed to increase annually as follows:

Years of Service	Rates
0	6.55%
1	6.55
2	6.35
3	6.15
4	5.95
5	5.75
6	5.55
7	5.35
8	5.15
9	4.95
10	4.75
11	4.55
12	4.35
13	4.15
14	3.95
15	3.75
16	3.55
17	3.45
18	3.35
19	3.25
20	3.15
21	3.05
22	2.95
23-27	2.85
28+	2.75

Salary increases are assumed to occur on July 1.

2. 401(a)(17) Pay Limit

\$290,000 in 2021 increasing 2.75% per annum, compounded annually.

3. Social Security Wage Base

\$142,800 in 2021 increasing 3.25% per annum, compounded annually.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

APPENDIX A – SUMMARY OF RECOMMENDED ASSUMPTIONS

4. Termination

Termination rates for members electing a refund of contributions are as follows:

Termination Rates for Members Electing a Refund				
Service	State		Local Employers'	
	Less than 31 Years Old	31 Years or Older	Less than 31 Years Old	31 Years or Older
0	21.00%	11.00%	19.00%	11.50%
1	21.00	11.00	19.00	11.50
2	11.50	7.50	15.50	8.50
3	9.50	6.50	14.00	7.50
4	9.00	5.50	11.50	6.50
5	8.00	5.50	10.50	6.00
6	7.00	5.00	8.50	5.50
7	7.00	4.50	8.00	5.00
8	7.00	4.00	7.50	4.50
9	7.00	3.50	6.50	4.00
10	1.70	1.70	1.70	1.70
11	1.50	1.50	1.50	1.50
12	1.10	1.10	1.40	1.40
13	1.10	1.10	1.20	1.20
14	0.70	0.70	1.10	1.10
15	0.60	0.60	0.90	0.90
16	0.60	0.60	0.80	0.80
17	0.60	0.60	0.70	0.70
18	0.50	0.50	0.60	0.60
19	0.50	0.50	0.60	0.60
20	0.50	0.50	0.50	0.50
21	0.50	0.50	0.50	0.50
22	0.40	0.40	0.50	0.50
23	0.40	0.40	0.40	0.40
24-29	0.30	0.30	0.30	0.30

No termination is assumed after attainment of retirement eligibility.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

APPENDIX A – SUMMARY OF RECOMMENDED ASSUMPTIONS

Termination rates for members electing a deferred annuity are as follows:

Termination Rates for Members Electing a Deferred Annuity		
Service	State	Local Employers
< 10	N/A	N/A
10	1.60%	1.80%
11	1.60	1.80
12	1.20	1.70
13	1.20	1.60
14	1.00	1.50
15	0.90	1.40
16	0.90	1.30
17	0.80	1.20
18	0.80	1.10
19	0.80	1.00
20	0.80	1.00
21	0.70	0.90
22	0.50	0.80
23	0.50	0.80
24	0.40	0.70

No termination is assumed after attainment of retirement eligibility.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

APPENDIX A – SUMMARY OF RECOMMENDED ASSUMPTIONS

5. Disability

Ordinary disability rates are as follows:

Ordinary Disability Rates					
Age	State	Local Employers	Age	State	Local Employers
25	0.100%	0.200%	50	0.335%	0.335%
26	0.110	0.200	51	0.350	0.350
27	0.120	0.200	52	0.365	0.365
28	0.130	0.200	53	0.380	0.380
29	0.140	0.200	54	0.395	0.395
30	0.150	0.205	55	0.410	0.405
31	0.160	0.210	56	0.425	0.415
32	0.170	0.215	57	0.440	0.425
33	0.180	0.220	58	0.455	0.435
34	0.190	0.225	59	0.470	0.445
35	0.205	0.225	60	0.485	0.455
36	0.220	0.225	61	0.500	0.465
37	0.220	0.225	62	0.515	0.475
38	0.220	0.225	63	0.530	0.485
39	0.220	0.225	64	0.545	0.495
40	0.230	0.235	65	0.560	0.505
41	0.240	0.245	66	0.575	0.515
42	0.250	0.255	67	0.590	0.525
43	0.260	0.265	68	0.605	0.535
44	0.270	0.275	69	0.620	0.545
45	0.280	0.275	70	0.630	0.560
46	0.290	0.275	71	0.640	0.575
47	0.300	0.290	72	0.650	0.590
48	0.310	0.305	73	0.660	0.605
49	0.320	0.320	74	0.670	0.620

Accidental disability rates are assumed to be 0.02% for all State members and 0.03% for all Local employers' members.

Ordinary disability rates apply upon attainment of 10 years of service and continue through the ultimate retirement age.

Members are assumed to receive the greater of the applicable disability benefit or the early or service retirement benefit, depending on eligibility.

Tier 4 and Tier 5 members are not eligible for the Ordinary or Accidental Disability benefits but the disability rates still apply. Such members terminating under the disability decrement are assumed to separate from service and elect a Deferred Retirement benefit.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

APPENDIX A – SUMMARY OF RECOMMENDED ASSUMPTIONS

6. Mortality

Pre-Retirement Mortality (Non-Annuitants): The Pub-2010 General Below-Median Income Employee mortality table [*PubG-2010(B) Employee*] as published by the Society of Actuaries with an 82.2% adjustment for males and 101.4% adjustment for females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2021. All pre-retirement deaths are assumed to be ordinary deaths.

Healthy Retirees and Beneficiaries (Healthy Annuitants): The Pub-2010 General Below-Median Income Healthy Retiree mortality table [*PubG-2010(B) Healthy Retiree*] as published by the Society of Actuaries with a 91.4% adjustment for males and 99.7% adjustment for females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2021.

Disabled Retirees (Disabled Annuitants): The Pub-2010 Non-Safety Disabled Retiree mortality table [*PubNS-2010 Disabled Retiree*] as published by the Society of Actuaries with a 127.7% adjustment for males and 117.2% adjustment for females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2021.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

APPENDIX A – SUMMARY OF RECOMMENDED ASSUMPTIONS

7. Retirement

Retirement rates for State Tier 1-4 members are as follows:

State Tiers 1-4 Retirement Rates			
Age	Less Than 25 Years of Service	25 Years of Service	26 or More Years of Service
< 49	N/A	3.50%	2.00%
49	N/A	3.50	2.00
50	N/A	3.50	3.50
51	N/A	3.50	3.50
52	N/A	6.00	4.25
53	N/A	6.00	5.50
54	N/A	7.00	6.75
55	N/A	17.50	18.00
56	N/A	17.50	15.00
57	N/A	17.50	14.00
58	N/A	20.00	14.00
59	N/A	20.00	14.00
60	5.00	20.00	17.00
61	5.00	30.00	17.00
62	8.00	36.50	27.00
63	8.00	36.50	24.00
64	8.00	36.50	21.00
65	12.00	44.00	25.00
66	17.00	55.00	30.00
67	16.00	50.00	26.00
68	15.00	47.00	23.00
69	15.00	47.00	23.00
70	15.00	47.00	26.00
71	15.00	47.00	23.00
72	15.00	47.00	21.00
73	15.00	47.00	21.00
74	15.00	47.00	21.00
75	100.00	100.00	100.00

Rates apply upon retirement eligibility by tier.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

APPENDIX A – SUMMARY OF RECOMMENDED ASSUMPTIONS

Retirement rates for Local employers' Tier 1-4 members are as follows:

Local Employers' Tiers 1-4 Retirement Rates			
Age	Less Than 25 Years of Service	25 Years of Service	26 or More Years of Service
< 49	N/A	3.00%	2.25%
49	N/A	3.00	3.00
50	N/A	3.50	3.50
51	N/A	4.25	3.75
52	N/A	4.75	3.75
53	N/A	7.00	5.00
54	N/A	7.00	6.00
55	N/A	15.00	15.00
56	N/A	17.00	13.00
57	N/A	18.00	12.00
58	N/A	18.00	12.00
59	N/A	18.00	12.00
60	4.50	18.00	14.00
61	4.50	18.00	14.00
62	7.50	34.00	25.00
63	7.50	34.00	22.00
64	7.50	34.00	20.00
65	11.00	35.00	20.00
66	15.00	43.00	26.00
67	14.00	40.00	26.00
68	13.00	40.00	22.00
69	13.00	37.00	22.00
70	13.00	37.00	24.00
71	13.00	37.00	24.00
72	13.00	37.00	20.00
73	13.00	37.00	20.00
74	13.00	37.00	20.00
75	100.00	100.00	100.00

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

APPENDIX A – SUMMARY OF RECOMMENDED ASSUMPTIONS

Retirement rates for State Tier 5 members are as follows:

State Tier 5 Retirement Rates					
Age	Less Than 25 Years of Service	25 Years of Service	26 to 29 Years of Service	30 Years of Service	31 or More Years of Service
< 49	N/A	N/A	N/A	3.50%	2.00%
49	N/A	N/A	N/A	3.50	2.00
50	N/A	N/A	N/A	3.50	3.50
51	N/A	N/A	N/A	3.50	3.50
52	N/A	N/A	N/A	6.00	4.25
53	N/A	N/A	N/A	6.00	5.50
54	N/A	N/A	N/A	7.00	6.75
55	N/A	N/A	N/A	17.50	18.00
56	N/A	N/A	N/A	17.50	15.00
57	N/A	N/A	N/A	17.50	14.00
58	N/A	N/A	N/A	20.00	14.00
59	N/A	N/A	N/A	20.00	14.00
60	N/A	N/A	N/A	20.00	17.00
61	N/A	N/A	N/A	30.00	17.00
62	N/A	N/A	N/A	36.50	27.00
63	N/A	N/A	N/A	36.50	24.00
64	N/A	N/A	N/A	36.50	21.00
65	12.00	44.00	44.00	44.00	25.00
66	17.00	55.00	30.00	30.00	30.00
67	16.00	50.00	26.00	26.00	26.00
68	15.00	47.00	23.00	23.00	23.00
69	15.00	47.00	23.00	23.00	23.00
70	15.00	47.00	26.00	26.00	26.00
71	15.00	47.00	23.00	23.00	23.00
72	15.00	47.00	21.00	21.00	21.00
73	15.00	47.00	21.00	21.00	21.00
74	15.00	47.00	21.00	21.00	21.00
75	100.00	100.00	100.00	100.00	100.00

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

APPENDIX A – SUMMARY OF RECOMMENDED ASSUMPTIONS

Retirement rates for Local employers' Tier 5 members are as follows:

Local Employers' Tier 5 Retirement Rates					
Age	Less Than 25 Years of Service	25 Years of Service	26 to 29 Years of Service	30 Years of Service	31 or More Years of Service
< 49	N/A	N/A	N/A	3.00%	2.25%
49	N/A	N/A	N/A	3.00	3.00
50	N/A	N/A	N/A	3.50	3.50
51	N/A	N/A	N/A	4.25	3.75
52	N/A	N/A	N/A	4.75	3.75
53	N/A	N/A	N/A	7.00	5.00
54	N/A	N/A	N/A	7.00	6.00
55	N/A	N/A	N/A	15.00	15.00
56	N/A	N/A	N/A	17.00	13.00
57	N/A	N/A	N/A	18.00	12.00
58	N/A	N/A	N/A	18.00	12.00
59	N/A	N/A	N/A	18.00	12.00
60	N/A	N/A	N/A	18.00	14.00
61	N/A	N/A	N/A	18.00	14.00
62	N/A	N/A	N/A	34.00	25.00
63	N/A	N/A	N/A	34.00	22.00
64	N/A	N/A	N/A	34.00	20.00
65	11.00	35.00	35.00	35.00	20.00
66	15.00	43.00	26.00	26.00	26.00
67	14.00	40.00	26.00	26.00	26.00
68	13.00	40.00	22.00	22.00	22.00
69	13.00	37.00	22.00	22.00	22.00
70	13.00	37.00	24.00	24.00	24.00
71	13.00	37.00	24.00	24.00	24.00
72	13.00	37.00	20.00	20.00	20.00
73	13.00	37.00	20.00	20.00	20.00
74	13.00	37.00	20.00	20.00	20.00
75	100.00	100.00	100.00	100.00	100.00

Retirement rates for members of Prosecutors Part (Chapter 366, P.L. 2001) are as follows:

- Members with less than 25 years of service: 6.0% for all ages,
- Members with 25 years of service: 40.0% for all ages,
- Members with 26 or more years of service: 20.0% for all ages.

Rates apply upon retirement eligibility. 100% retirement is assumed at age 70.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

APPENDIX A – SUMMARY OF RECOMMENDED ASSUMPTIONS

Retirement rates for members of WCJ Part (Chapter 140, P.L. 2021) are as follows:

Age	Less than 15 Years of WCJ Part Service	15-19 Years of WCJ Part Service	20 or more Years of WCJ Part Service
<60	0.0%	0.0%	0.0%
60	2.0	2.0	20.0
61	2.0	2.0	20.0
62	2.0	2.0	20.0
63	2.0	2.0	20.0
64	2.0	2.0	20.0
65	5.0	40.0	30.0
66	2.0	40.0	20.0
67	2.0	40.0	20.0
68	2.0	40.0	20.0
69	2.0	40.0	20.0
70	100.0	100.0	100.0

8. Family Composition Assumptions

For members not currently in receipt, 50% of members are assumed married to spouses of the opposite sex. Males are assumed to be two years older than females.

For purposes of the optional form of payment death benefit for members currently in receipt, beneficiary status is based on the beneficiary allowance reported. If no beneficiary date of birth is provided, the beneficiary is assumed to be the member's spouse of the opposite sex with males assumed to be two years older than females.

No additional dependent children or parents are assumed.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

APPENDIX B – SUMMARY OF CURRENT ASSUMPTIONS

The following are the assumptions used in the actuarial valuation as of July 1, 2021. The economic and demographic assumptions for that valuation were determined in the Actuarial Experience Study covering the period July 1, 2014 – June 30, 2018 and adopted by the Board on February 19, 2020.

1. Salary Increases

Salary increases vary by years of service and time period. Annual salary increases are shown below.

Salary Increases		
Years of Service	Period Ending June 30, 2026	Ultimate Period
0	6.00%	7.00%
1	6.00	7.00
2	5.75	6.75
3	5.50	6.50
4	5.00	6.00
5	4.75	5.75
6	4.50	5.50
7	4.25	5.25
8	4.00	5.00
9	3.80	4.80
10	3.60	4.60
11	3.40	4.40
12	3.20	4.20
13	3.00	4.00
14	2.90	3.90
15	2.80	3.80
16	2.70	3.70
17-21	2.60	3.60
22	2.50	3.50
23-25	2.40	3.40
26	2.30	3.30
27	2.20	3.20
28	2.10	3.10
29+	2.00	3.00

Salary increases are assumed to occur on July 1.

2. 401(a)(17) Pay Limit

\$290,000 in 2021 increasing 2.75% per annum, compounded annually.

3. Social Security Wage Base

\$142,800 in 2021 increasing 3.25% per annum, compounded annually.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

APPENDIX B – SUMMARY OF CURRENT ASSUMPTIONS

- 4. Termination** Termination rates for members electing a refund of contributions are as follows:

Termination Rates for Members Electing a Refund				
Service	State		Local Employers'	
	Less than 31 Years Old	31 Years or Older	Less than 31 Years Old	31 Years or Older
0	23.00%	11.00%	21.00%	12.00%
1	23.00	11.00	21.00	12.00
2	12.00	8.00	16.00	9.00
3	11.00	7.00	15.00	8.00
4	10.50	6.00	13.00	7.00
5	10.00	6.00	12.00	7.00
6	7.50	6.00	10.00	6.50
7	7.50	5.00	9.00	5.50
8	7.50	4.50	9.00	5.00
9	7.50	3.50	6.50	4.00
10	1.70	1.70	1.70	1.70
11	1.50	1.50	1.50	1.50
12	1.10	1.10	1.40	1.40
13	1.10	1.10	1.20	1.20
14	0.70	0.70	1.10	1.10
15	0.60	0.60	0.90	0.90
16	0.60	0.60	0.80	0.80
17	0.60	0.60	0.70	0.70
18	0.50	0.50	0.60	0.60
19	0.50	0.50	0.60	0.60
20	0.50	0.50	0.50	0.50
21	0.50	0.50	0.50	0.50
22	0.40	0.40	0.50	0.50
23	0.40	0.40	0.40	0.40
24-29	0.30	0.30	0.30	0.30

No termination is assumed after attainment of retirement eligibility.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

APPENDIX B – SUMMARY OF CURRENT ASSUMPTIONS

Termination rates for members electing a deferred annuity are as follows:

Termination Rates for Members Electing a Deferred Annuity		
Service	State	Local Employers
< 10	N/A	N/A
10	1.60%	1.80%
11	1.60	1.80
12	1.20	1.70
13	1.20	1.60
14	1.00	1.50
15	0.90	1.40
16	0.90	1.30
17	0.80	1.20
18	0.80	1.10
19	0.80	1.00
20	0.80	1.00
21	0.70	0.90
22	0.50	0.80
23	0.50	0.80
24	0.40	0.70

No termination is assumed after attainment of retirement eligibility.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

APPENDIX B – SUMMARY OF CURRENT ASSUMPTIONS

5. Disability

Ordinary disability rates are as follows:

Ordinary Disability Rates					
Age	State	Local Employers	Age	State	Local Employers
25	0.100%	0.200%	50	0.380%	0.390%
26	0.110	0.200	51	0.395	0.405
27	0.120	0.200	52	0.410	0.420
28	0.130	0.200	53	0.425	0.435
29	0.140	0.200	54	0.440	0.450
30	0.150	0.205	55	0.455	0.460
31	0.160	0.210	56	0.470	0.470
32	0.170	0.215	57	0.485	0.480
33	0.180	0.220	58	0.500	0.490
34	0.190	0.225	59	0.515	0.500
35	0.205	0.230	60	0.530	0.510
36	0.220	0.235	61	0.545	0.520
37	0.235	0.240	62	0.560	0.530
38	0.250	0.245	63	0.575	0.540
39	0.265	0.250	64	0.590	0.550
40	0.275	0.260	65	0.605	0.560
41	0.285	0.270	66	0.620	0.570
42	0.295	0.280	67	0.635	0.580
43	0.305	0.290	68	0.650	0.590
44	0.315	0.300	69	0.665	0.600
45	0.325	0.315	70	0.675	0.615
46	0.335	0.330	71	0.685	0.630
47	0.345	0.345	72	0.695	0.645
48	0.355	0.360	73	0.705	0.660
49	0.365	0.375	74	0.715	0.675

Accidental disability rates are assumed to be 0.02% for all State members and 0.03% for all Local employers' members.

Ordinary disability rates apply upon attainment of 10 years of service and continue through the ultimate retirement age.

Members are assumed to receive the greater of the applicable disability benefit or the early or service retirement benefit, depending on eligibility.

Tier 4 and Tier 5 members are not eligible for the Ordinary or Accidental Disability benefits but the disability rates still apply. Such members terminating under the disability decrement are assumed to separate from service and elect a Deferred Retirement benefit.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

APPENDIX B – SUMMARY OF CURRENT ASSUMPTIONS

6. Mortality

Pre-Retirement Mortality (Non-Annuitants): The standard Pub-2010 General Below-Median Income Employee mortality table [*PubG-2010(B) Employee*] as published by the Society of Actuaries with an 82.2% adjustment for males and 101.4% adjustment for females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2018. All pre-retirement deaths are assumed to be ordinary deaths.

Healthy Retirees and Beneficiaries (Healthy Annuitants): The standard Pub-2010 General Below-Median Income Healthy Retiree mortality table [*PubG-2010(B) Healthy Retiree*] as published by the Society of Actuaries with a 91.4% adjustment for males and 99.7% adjustment for females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2018.

Disabled Retirees (Disabled Annuitants): The Pub-2010 Non-Safety Disabled Retiree mortality table [*PubNS-2010 Disabled Retiree*] as published by the Society of Actuaries with a 127.7% adjustment for males and 117.2% adjustment for females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2018.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

APPENDIX B – SUMMARY OF CURRENT ASSUMPTIONS

7. Retirement

Retirement rates for State Tier 1-4 members are as follows:

State Tiers 1-4 Retirement Rates			
Age	Less Than 25 Years of Service	25 Years of Service	26 or More Years of Service
< 49	N/A	3.50%	2.00%
49	N/A	3.50	2.00
50	N/A	3.50	3.50
51	N/A	3.50	3.50
52	N/A	6.00	4.25
53	N/A	6.00	5.50
54	N/A	7.00	6.75
55	N/A	17.50	18.00
56	N/A	17.50	15.00
57	N/A	17.50	14.00
58	N/A	20.00	14.00
59	N/A	20.00	14.00
60	5.00	20.00	17.00
61	5.00	30.00	17.00
62	8.00	36.50	27.00
63	8.00	36.50	24.00
64	8.00	36.50	21.00
65	12.00	44.00	25.00
66	17.00	55.00	30.00
67	16.00	50.00	26.00
68	15.00	47.00	23.00
69	15.00	47.00	23.00
70	15.00	47.00	26.00
71	15.00	47.00	23.00
72	15.00	47.00	21.00
73	15.00	47.00	21.00
74	15.00	47.00	21.00
75	100.00	100.00	100.00

Rates apply upon retirement eligibility by tier.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

APPENDIX B – SUMMARY OF CURRENT ASSUMPTIONS

Retirement rates for Local employers' Tier 1-4 members are as follows:

Local Employers' Tiers 1-4 Retirement Rates			
Age	Less Than 25 Years of Service	25 Years of Service	26 or More Years of Service
< 49	N/A	3.00%	2.25%
49	N/A	3.00	3.00
50	N/A	3.50	3.50
51	N/A	4.25	3.75
52	N/A	4.75	3.75
53	N/A	7.00	5.00
54	N/A	7.00	6.00
55	N/A	15.00	15.00
56	N/A	17.00	13.00
57	N/A	18.00	12.00
58	N/A	18.00	12.00
59	N/A	18.00	12.00
60	4.50	18.00	14.00
61	4.50	18.00	14.00
62	7.50	34.00	25.00
63	7.50	34.00	22.00
64	7.50	34.00	20.00
65	11.00	35.00	20.00
66	15.00	43.00	26.00
67	14.00	40.00	26.00
68	13.00	40.00	22.00
69	13.00	37.00	22.00
70	13.00	37.00	24.00
71	13.00	37.00	24.00
72	13.00	37.00	20.00
73	13.00	37.00	20.00
74	13.00	37.00	20.00
75	100.00	100.00	100.00

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

APPENDIX B – SUMMARY OF CURRENT ASSUMPTIONS

Retirement rates for State Tier 5 members are as follows:

State Tier 5 Retirement Rates					
Age	Less Than 25 Years of Service	25 Years of Service	26 to 29 Years of Service	30 Years of Service	31 or More Years of Service
< 49	N/A	N/A	N/A	3.50%	2.00%
49	N/A	N/A	N/A	3.50	2.00
50	N/A	N/A	N/A	3.50	3.50
51	N/A	N/A	N/A	3.50	3.50
52	N/A	N/A	N/A	6.00	4.25
53	N/A	N/A	N/A	6.00	5.50
54	N/A	N/A	N/A	7.00	6.75
55	N/A	N/A	N/A	17.50	18.00
56	N/A	N/A	N/A	17.50	15.00
57	N/A	N/A	N/A	17.50	14.00
58	N/A	N/A	N/A	20.00	14.00
59	N/A	N/A	N/A	20.00	14.00
60	N/A	N/A	N/A	20.00	17.00
61	N/A	N/A	N/A	30.00	17.00
62	N/A	N/A	N/A	36.50	27.00
63	N/A	N/A	N/A	36.50	24.00
64	N/A	N/A	N/A	36.50	21.00
65	12.00	44.00	44.00	44.00	25.00
66	17.00	55.00	30.00	30.00	30.00
67	16.00	50.00	26.00	26.00	26.00
68	15.00	47.00	23.00	23.00	23.00
69	15.00	47.00	23.00	23.00	23.00
70	15.00	47.00	26.00	26.00	26.00
71	15.00	47.00	23.00	23.00	23.00
72	15.00	47.00	21.00	21.00	21.00
73	15.00	47.00	21.00	21.00	21.00
74	15.00	47.00	21.00	21.00	21.00
75	100.00	100.00	100.00	100.00	100.00

PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021

APPENDIX B – SUMMARY OF CURRENT ASSUMPTIONS

Retirement rates for Local employers' Tier 5 members are as follows:

Local Employers' Tier 5 Retirement Rates					
Age	Less Than 25 Years of Service	25 Years of Service	26 to 29 Years of Service	30 Years of Service	31 or More Years of Service
< 49	N/A	N/A	N/A	3.00%	2.25%
49	N/A	N/A	N/A	3.00	3.00
50	N/A	N/A	N/A	3.50	3.50
51	N/A	N/A	N/A	4.25	3.75
52	N/A	N/A	N/A	4.75	3.75
53	N/A	N/A	N/A	7.00	5.00
54	N/A	N/A	N/A	7.00	6.00
55	N/A	N/A	N/A	15.00	15.00
56	N/A	N/A	N/A	17.00	13.00
57	N/A	N/A	N/A	18.00	12.00
58	N/A	N/A	N/A	18.00	12.00
59	N/A	N/A	N/A	18.00	12.00
60	N/A	N/A	N/A	18.00	14.00
61	N/A	N/A	N/A	18.00	14.00
62	N/A	N/A	N/A	34.00	25.00
63	N/A	N/A	N/A	34.00	22.00
64	N/A	N/A	N/A	34.00	20.00
65	11.00	35.00	35.00	35.00	20.00
66	15.00	43.00	26.00	26.00	26.00
67	14.00	40.00	26.00	26.00	26.00
68	13.00	40.00	22.00	22.00	22.00
69	13.00	37.00	22.00	22.00	22.00
70	13.00	37.00	24.00	24.00	24.00
71	13.00	37.00	24.00	24.00	24.00
72	13.00	37.00	20.00	20.00	20.00
73	13.00	37.00	20.00	20.00	20.00
74	13.00	37.00	20.00	20.00	20.00
75	100.00	100.00	100.00	100.00	100.00

Retirement rates for members of Prosecutors Part (Chapter 366, P.L. 2001) are as follows:

- Members with less than 25 years of service: 6.0% for all ages,
- Members with 25 years of service: 50.0% for all ages,
- Members with 26 or more years of service: 25.0% for all ages.

Rates apply upon retirement eligibility. 100% retirement is assumed at age 70.

**PUBLIC EMPLOYEES' RETIREMENT SYSTEM OF NEW JERSEY
EXPERIENCE STUDY AS OF JUNE 30, 2021**

APPENDIX B – SUMMARY OF CURRENT ASSUMPTIONS

Retirement rates for members of WCJ Part (Chapter 140, P.L. 2021) are as follows:

Age	Less than 15 Years of WCJ Part Service	15-19 Years of WCJ Part Service	20 or more Years of WCJ Part Service
<60	0.0%	0.0%	0.0%
60	2.0	5.0	20.0
61	2.0	5.0	20.0
62	2.0	5.0	20.0
63	2.0	5.0	20.0
64	2.0	5.0	20.0
65	5.0	40.0	30.0
66	2.0	50.0	20.0
67	2.0	60.0	20.0
68	2.0	60.0	20.0
69	2.0	60.0	20.0
70	100.0	100.0	100.0

8. Family Composition Assumptions

For members not currently in receipt, 100% of members are assumed married to spouses of the opposite sex. Males are assumed to be three years older than females.

For purposes of the optional form of payment death benefit for members currently in receipt, beneficiary status is based on the beneficiary allowance reported. If no beneficiary date of birth is provided, the beneficiary is assumed to be the member's spouse of the opposite sex with males assumed to be three years older than females.

No additional dependent children or parents are assumed.



Classic Values, Innovative Advice