



Employee Retirement System of the City of Providence

Experience and Assumption Study
July 1, 2021 to June 30, 2024 Experience

Bolton

Submitted by:

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Bolton

July 9, 2025

Gina Costa
Internal Auditor
City of Providence, RI
25 Dorrance Street
Providence, RI 02903

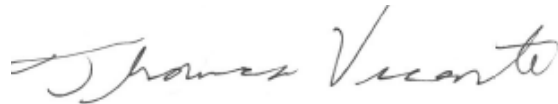
Dear Gina,

This report presents the results of our experience study of the Employee Retirement System of the City of Providence and includes our recommended changes to plan assumptions. These recommendations are generally based on:

- Our findings from the study of the demographic and economic experience for the period July 1, 2021 through June 30, 2024, and
- Our expectations, based on professional judgement, estimates inherent in market data, emerging trends, and expert opinions, of future experience.

We summarize our recommendations in the *Summary of Recommendations* section and provide details of our analysis in the *Demographic Assumptions* and *Economic Assumptions* sections. Finally, we present in the *Impact of Changes* section the effect of the proposed changes on plan liabilities and funding levels based on the July 1, 2024 actuarial valuation. If adopted, the actual recommended changes will be implemented for the July 1, 2025 actuarial valuation, which will produce the actuarially determined contribution for the fiscal year ending June 30, 2027.

Respectfully submitted,



Thomas Vicente, FSA, EA, FCA, MAAA



Jordan McClane, FSA, EA, FCA, MAAA



Section I. Introduction

An actuarial valuation uses assumptions about future demographic and economic experience in order to estimate future benefit payments and calculate the liabilities and normal cost of a pension plan. Actuarial Standard of Practice (ASOP) number 27 requires the actuary to select assumptions that are individually reasonable and consistent with other assumptions. In addition, it requires the actuary to disclose the rationale for the assumptions used in the valuation. An experience study analyzes past experience and considers future expectations to assist in developing reasonable assumptions that are consistent with each other and to provide reasonable rationale for selecting each material assumption.

This report reviews the actuarial experience of the Employee Retirement System of the City of Providence (the Plan) during the three-year period from July 1, 2021 to June 30, 2024, to determine whether changes in actuarial assumptions are warranted. Based on the review of plan experience and considerations regarding future expectations, several changes in actuarial assumptions are recommended.

Section V of this report presents the impact of proposed assumption changes on the liabilities and funding levels had these new assumptions been in place for the July 1, 2024 valuation. Actual changes will first impact the July 1, 2025 valuation, which will develop the contributions for FY 2027.

The long-term cost of the plans is not dependent on assumptions but rather is based on actual plan experience, including changes in plan demographics and fluctuations in the general economy (such as variations in inflation or interest rate levels), which translate into tangible costs for the plan through:

- (1) the plan benefits paid (including cost-of-living adjustments, COLAs, as applicable),
- (2) the investment return on plan assets, and
- (3) the payment of other plan-related expenses.

Actuarial assumptions are critical in calculating the current value of expected future plan benefits. Such a calculation should occur regularly (generally, annually) to determine an appropriate contribution for prefunding benefits. As actual experience differs from the assumptions, the expected cost of the Plan and, consequently, the contributions to fund the Plan generally will gradually change. Ideally, the assumptions will closely track actual experience. However, for some assumptions (e.g., investment return), actual experience will commonly and materially vary from the assumption from year to year. Reasonable assumptions should be appropriate for the purpose of the measurement and should be unbiased in nature such that they balance expected upward and downward deviations in experience.

While the cost of the plan will self-adjust to reflect actual experience, it is important to review and reset the assumptions from time to time to:

- (1) minimize experience gains and losses,
- (2) reduce contribution volatility, and
- (3) achieve a better level of intergenerational taxpayer equity.

For some assumptions (e.g., mortality), the experience of the Plan alone is insufficient to be statistically significant, and as such, industry tables and experience should be considered when setting those assumptions.



Also, certain economic assumptions (e.g., inflation) require longer periods of experience to be considered in conjunction with future expectations. Three actuarial valuation assumptions tied to the economy are:

- (1) Increases to the Consumer Price Index (CPI) used to determine post-retirement cost of living adjustments (COLAs)
- (2) salary increases, and
- (3) investment return

In conducting this experience study, we emphasized the importance of developing assumptions that reflect a best estimate of *future* plan experience. Rather than change every assumption to exactly match actual recent experience, we have analyzed the *trends* inherent in that experience and have developed assumptions that reflect expectations of future experience.

Bolton has prepared this report exclusively for the City of Providence. The purpose of this report is to provide recommended assumption changes and the impact of those recommendations on plan liabilities, normal cost, and funded status. This report may not be used or relied upon by any other party or for any other purpose; Bolton Partners is not responsible for the consequences of any unauthorized use.

This report is based on 2021 – 2024 census data provided by the City of Providence for the actuarial valuations. The City is solely responsible for the validity, accuracy and comprehensiveness of this information. If the data supplied are not accurate and complete, the experience study results may differ significantly from the results that would be obtained with accurate and complete information; such a scenario could require a later revision of this report. We have not audited the data; however, based on our review, the data appears to be reasonable and appropriate for the purpose being used.

The experience study report was completed using both proprietary and third-party models (including software and tools). We have tested these models to ensure they are used for their intended purposes, within their known limitations, and without any known material inconsistencies unless otherwise stated.

The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report. We are not aware of any direct or material indirect financial interest or relationship, including investments or other services that could create a conflict of interest that would impair the objectivity of our work.

We are available to answer any questions on the material in this report or to provide explanations or further details as appropriate.

Thomas Vicente, FSA, EA, FCA, MAAA

Jordan McClane, FSA, EA, FCA, MAAA

Section II. Summary of Recommendations

The years included in this study experienced a variety of high-impact events, including investment market highs and lows, fluctuations in the economy and government spending, COVID, and high inflation. Other than COVID, these events are not rare but subject the study to “starting point bias.” The bias concern is that results based on averaging past data points (e.g., salary increases, mortality) during periods of high volatility may depend largely on the start and end points of the period studied. Thus, the average may not represent our expectations for the future. Deciding what is an outlier versus a new reality requires judgement. For example, the Society of Actuaries tracked higher mortality due to COVID but decided against updating mortality improvement scales for 2021 - 2024. Similarly, recent inflation levels might not yet be fully reflected in wages and, as such, wages may experience more upward pressure in the future. For this study we have relied on experience, judgement, and caution when making recommendations.

Although the study period followed the onset of COVID, demographic experience for the fiscal year ending June 30, 2020 did not appear to drastically differ from the years that followed. Based on these findings, we did not make special adjustments to the actual experience or recommended assumptions for the impact of the pandemic.

We have the following recommendations related to the *demographic* assumptions:

- Update to the most recent public sector **mortality** table and projection scale
- Update the **retirement** rates
- Update and separate the **turnover** rates before and after 10 years of service
- Decrease the load for assumed **service purchases** for Class B

We have the following recommendations related to the *economic* assumptions:

- Add an **administrative expense load** to the normal cost
- Increase **salary increase rates**

We recommend no changes to the following assumptions:

- Discount rate
- Disability rates
- Marriage percentage and spouse age difference
- Inflation

Overall, the impact of the assumption changes was a 1.8% reduction in plan liabilities. This was driven primarily by the change in the mortality assumption and assumed retirement rates.

We discuss the actual experience and the reasons for these recommended assumption changes in Sections III (*Demographic Assumptions*) and IV (*Economic Assumptions*) and show the effect of these changes in Section V (*Impact of Changes*).



Section III. Demographic Assumptions

This section addresses our review and recommendations regarding all demographic assumptions.

Mortality

We recommend updating to the most recent public sector mortality table and projection scale. This is a change from the Pub-2010 mortality tables with generation projection using Scale MP-2019 to the Pub-2016 mortality tables with generational projection using Scale MP-2021.

The current assumption is:

Post-Retirement Healthy Retiree:

Class A: PubG-2010 Retiree Mortality Table projected generationally from the 2010 base year using Scale MP-2019

Class B: PubS-2010 Retiree Mortality Table projected generationally from the 2010 base year using Scale MP-2019

Post-Retirement Disabled Retiree:

Class A: PubG-2010 Disabled Retiree Mortality Table projected generationally from the 2010 base year using Scale MP-2019

Class B: PubS-2010 Disable Retiree Mortality Table projected generationally from the 2010 base year using Scale MP-2019

Post-Retirement Survivor:

Pub-2010 Contingent Survivor Mortality Table projected generationally from the 2010 base year using Scale MP-2019

Pre-Retirement:

Class A: PubG-2010 Employee Mortality Table projected generationally from the 2010 base year using Scale MP-2019

Class B: PubS-2010 Employee Mortality Table projected generationally from the 2010 base year using Scale MP-2019

Numerous studies, including by the Society of Actuaries and mortality data analytics firm ClubVita, have shown that mortality rates are correlated with income level. Members with larger pensions are generally expected to (1) live longer, on average, than members with lower pensions and, all else equal, (2) represent more of the Plan's liability. Below we analyze both headcount-weighted mortality rates and amount-weighted (by benefit) mortality rates.

Class A

The mortality experience over the last three years is as follows:

Population	Headcount-Weighted		Actual/ Expected	Amount-Weighted		Actual/ Expected
	Expected	Actual		Expected	Actual	
Healthy Retirees	136.6	207	152%	\$200,913	\$243,925	121%
Disabled Retirees	11.2	12	107%	\$19,617	\$19,346	99%
Survivor	29.1	36	124%	\$36,965	\$45,448	123%
Pre-Retirement	9.6	5	52%	N/A	N/A	N/A



Class B

The mortality experience over the last three years is as follows:

Population	Headcount-Weighted		Actual/ Expected	Amount-Weighted		Actual/ Expected
	Expected	Actual		Expected	Actual	
Healthy Retirees	44.3	49	111%	\$154,552	\$178,178	115%
Disabled Retirees	33.1	44	133%	\$206,225	\$265,067	129%
Survivor	44.5	58	130%	\$125,508	\$164,965	131%
Pre-Retirement	2.2	3	140%	N/A	N/A	N/A

Although recent mortality experience for healthy retirees, disabled retirees, and beneficiaries generally shows greater mortality than anticipated by the assumptions, the experience over the last three years lacks the number of deaths required for full credibility. There are various approaches to credibility analysis, but Limited Fluctuation Credibility Theory (LFCT) is perhaps the most well known and most widely used. The number of deaths for full credibility depends on the level of confidence and margin of error. A number often quoted, including in IRS mortality regulations, is 1,082 deaths. In the absence of full credibility, partial credibility can be assigned to subject experience. However, given that the analyzed years for this experience study immediately followed the onset of the COVID-19 pandemic in 2020 and that the number of actual deaths for the largest exposure group (healthy retirees) was only 124, **we recommend using the newest industry mortality tables for public sector employees, unadjusted for subject credibility, with the latest generational projection scales:**

Post-Retirement Healthy Retiree:

Class A: PubG-**2016** Retiree Mortality Table projected generationally from the 2016 base year using Scale MP-**2021**

Class B: PubS-**2016** Retiree Mortality Table projected generationally from the 2016 base year using Scale MP-**2021**

Post-Retirement Disabled Retiree:

Class A: PubG-**2016** Disabled Retiree Mortality Table projected generationally from the 2016 base year using Scale MP-**2021**

Class B: PubS-**2016** Disable Retiree Mortality Table projected generationally from the 2016 base year using Scale MP-**2021**

Post-Retirement Survivor:

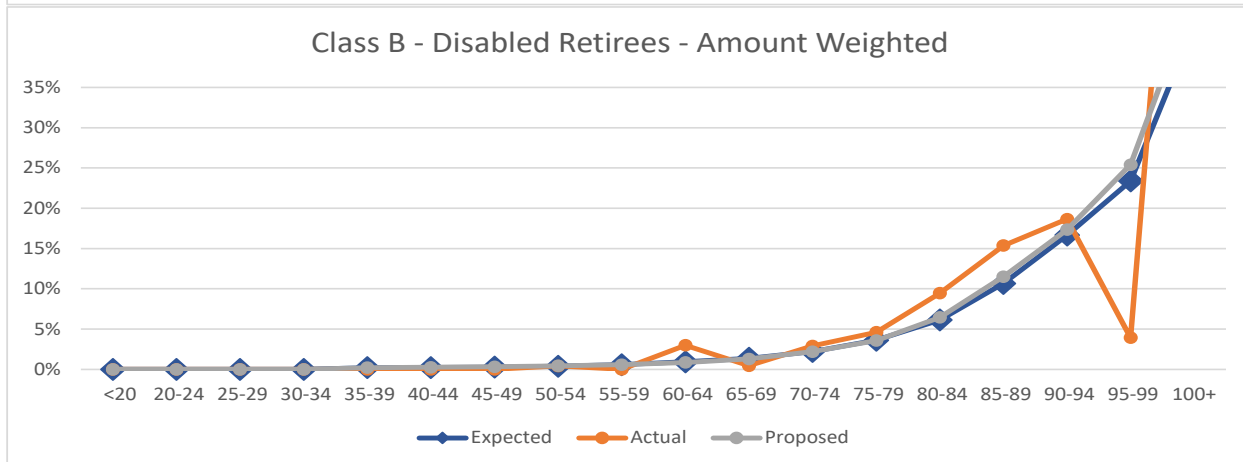
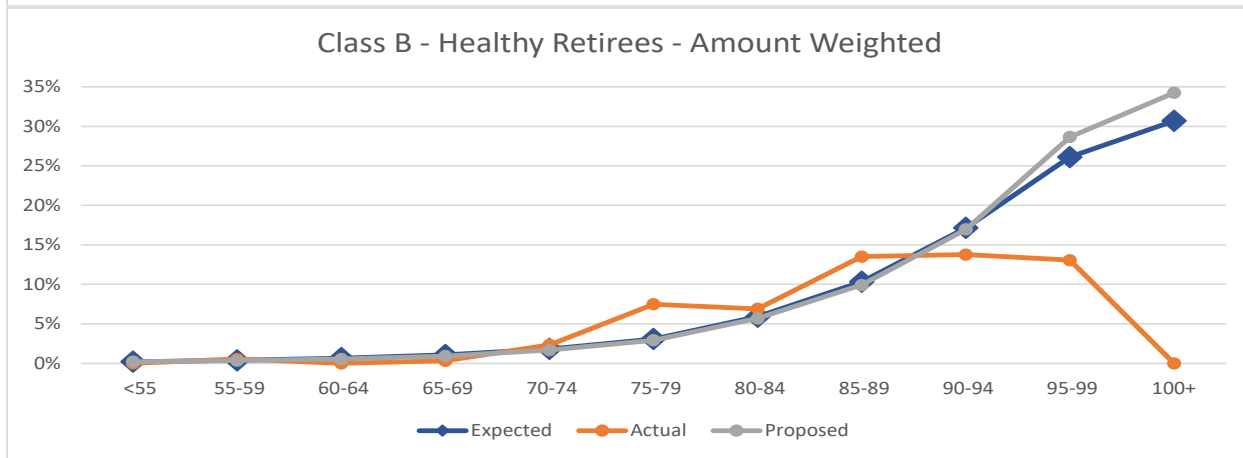
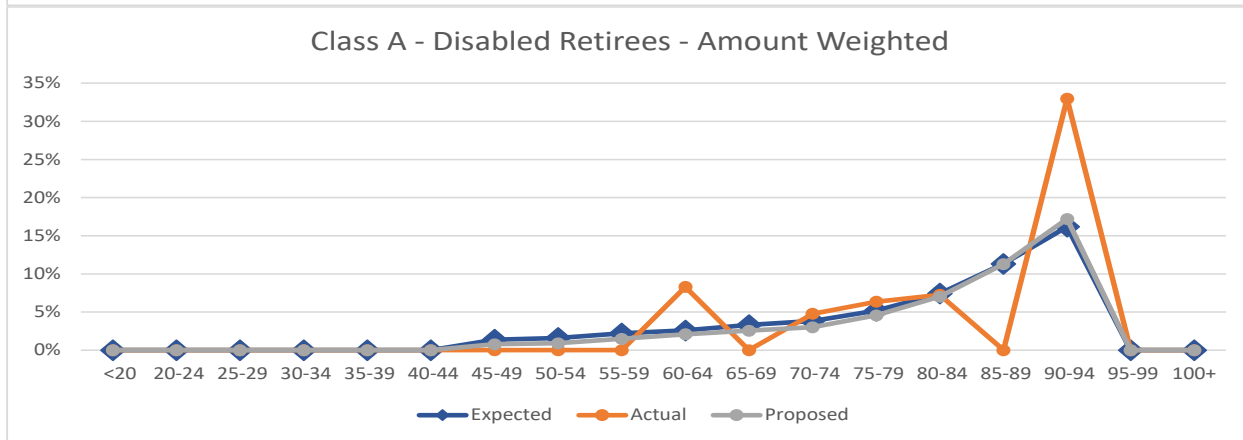
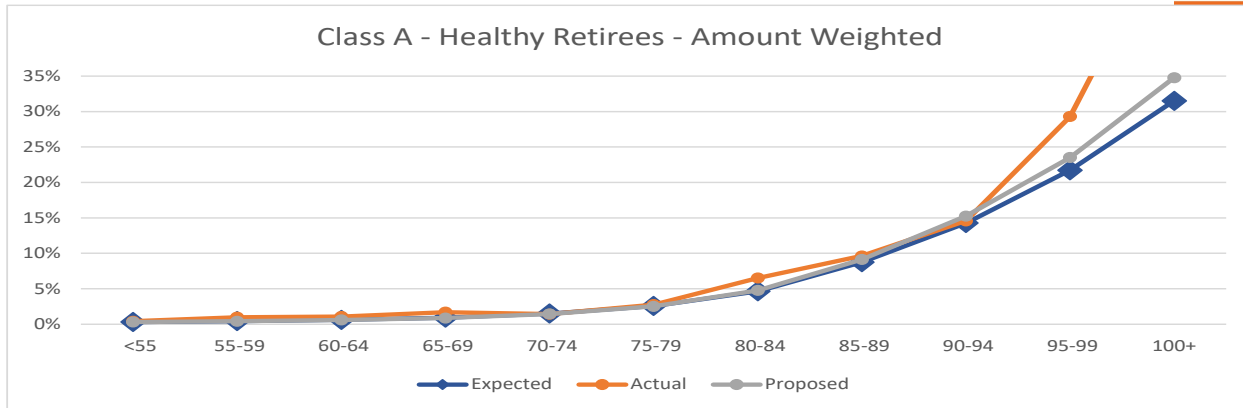
Pub-**2016** Contingent Survivor Mortality Table projected generationally from the 2016 base year using Scale MP-**2021**

Pre-Retirement:

Class A: PubG-**2016** Employee Mortality Table projected generationally from the 2016 base year using Scale MP-**2021**

Class B: PubS-**2016** Employee Mortality Table projected generationally from the 2016 base year using Scale MP-**2021**

The following graphs show the amount-weighted mortality rates for the actual experience, as well as the current assumptions and proposed assumptions for the healthy and disabled groups.



Retirement

We recommend several updates to the retirement rates:

- **Class A:** eliminate the prior two-tier structure given the limited exposures in the first tier, decrease rates at earlier ages, and increase rates at later ages to better fit ongoing patterns.
- **Class B Fire:** no changes as the current assumption is a relatively good fit to the data.
- **Class B Police:** separate the table from that used for Class B Fire to better reflect the data and extend the first age of 100% retirement from age 60 to age 65.

Class A

For Class A, eligibility for normal retirement and early retirement is as follows:

Membership Date	Normal Retirement		Early Retirement
	Elig Set 1	Elig Set 2	
Before 7/1/95	Age 55 & 0 YOS	25 YOS	N/A
Between 7/1/95 and 6/30/96	Age 55 & 0 YOS	30 YOS	N/A
Between 7/1/96 and 6/30/04	Age 55 & 0 YOS	30 YOS	N/A
Between 7/1/04 and 6/30/09	Age 60 & 10 YOS	30 YOS	Age 55 & 10 YOS
On or After 7/1/09	Age 62 & 10 YOS	30 YOS	Age 55 & 10 YOS

YOS = years of service

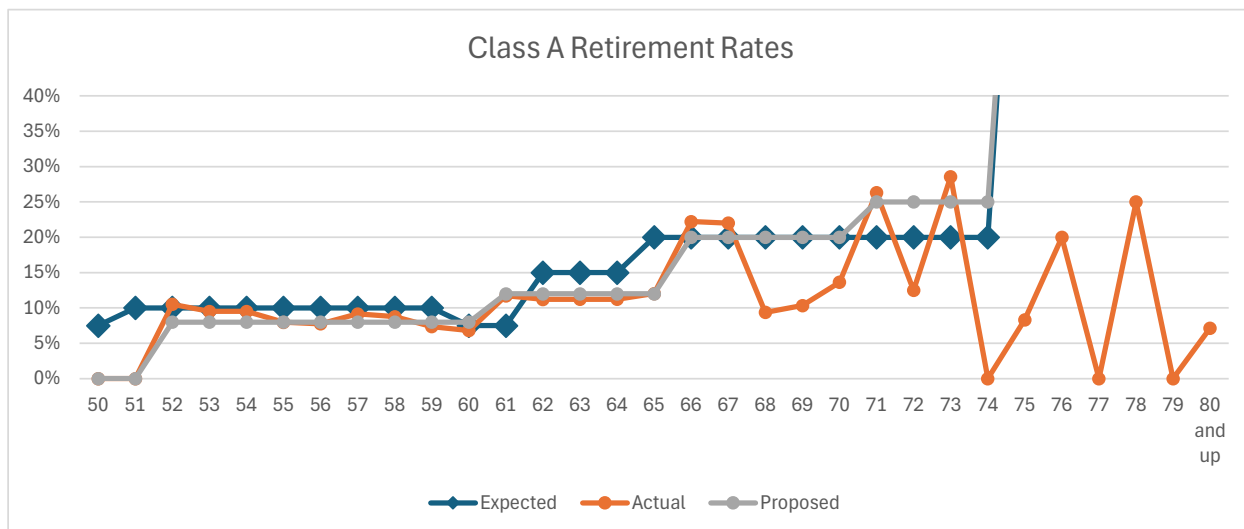
The current retirement assumptions are based on age and differ by whether members have more or less than 10 years of service. Given that nearly all exposures (99%) in the study were members with more than 10 years of service, we did not separately analyze retirements prior to and after achieving 10 years of service and have instead reviewed aggregate experience. The current and proposed retirement rates are presented below.

Assumed Retirement Rate Class A				Assumed Retirement Rate Class A (continued)			
Age	Current		Proposed	Age	Current		Proposed
	< 10 YOS	>= 10 YOS			< 10 YOS	>= 10 YOS	
50	4.5%	7.5%	0.0%	63	13.0%	15.0%	12.0%
51	5.0%	10.0%	0.0%	64	14.0%	15.0%	12.0%
52	5.5%	10.0%	0.0%	65	15.0%	20.0%	12.0%
53	6.0%	10.0%	8.0%	66	15.0%	20.0%	20.0%
54	6.5%	10.0%	8.0%	67	15.0%	20.0%	20.0%
55	7.0%	10.0%	8.0%	68	15.0%	20.0%	20.0%
56	7.0%	10.0%	8.0%	69	15.0%	20.0%	20.0%
57	7.0%	10.0%	8.0%	70	15.0%	20.0%	20.0%
58	7.0%	10.0%	8.0%	71	15.0%	20.0%	25.0%
59	7.0%	10.0%	8.0%	72	15.0%	20.0%	25.0%
60	10.0%	7.5%	8.0%	73	15.0%	20.0%	25.0%
61	11.0%	7.5%	12.0%	74	15.0%	20.0%	25.0%
62	12.0%	15.0%	12.0%	75	100.0%	100.0%	100.0%

The following table shows, by age, the number of retirement exposures, the expected number of retirements using the current assumptions, the actual number of retirements, the actual-to-expected ratios using the current assumptions, the expected number of retirements using the proposed assumptions, and the actual-to-expected ratios using the proposed assumptions.

Presented beneath the table is a graph of the rates of retirement based on actual experience, the current retirement assumptions, and the proposed retirement assumptions.

Retirement Rates Class A						
Age	Exposures	Expected from Current Assumptions	Actual	Actual / Expected	Expected from Proposed Assumption	Actual / Expected (Proposed Rates)
50	12	0.9	0	0%	0	0%
51	17	1.7	0	0%	0	0%
52	19	1.9	2	105%	1.5	132%
53	21	2.1	2	95%	1.7	119%
54	21	2.1	2	95%	1.7	119%
55	138	13.7	11	80%	11.0	100%
56	129	12.9	10	78%	10.3	97%
57	131	13.1	12	92%	10.5	115%
58	137	13.7	12	88%	11.0	109%
59	136	13.6	10	74%	10.9	92%
60	147	11.1	10	90%	11.8	85%
61	128	9.6	15	156%	15.4	98%
62	107	16.1	12	75%	12.8	93%
63	89	13.4	10	75%	10.7	94%
64	98	14.7	11	75%	11.8	94%
65	83	16.6	10	60%	10.0	100%
66	72	14.4	16	111%	14.4	111%
67	50	10.0	11	110%	10.0	110%
68	32	6.4	3	47%	6.4	47%
69	29	5.8	3	52%	5.8	52%
70	22	4.4	3	68%	4.4	68%
71	19	3.8	5	132%	4.8	105%
72	16	3.2	2	63%	4.0	50%
73	14	2.7	4	148%	3.5	114%
74	14	2.8	0	0%	3.5	0%
75+	44	44.0	5	11%	44.0	11%
Total	1,725	254.5	181	71%	231.7	78%





Class B Fire

For Class B Fire, eligibility for normal retirement is as follows:

Membership Date	Normal Retirement		Mandatory Retirement
	Elig Set 1	Elig Set 2	
Before 9/18/10	Age 55 & 0 YOS	20 YOS	Age 60
Between 9/18/10 and 6/30/11	Age 55 & 0 YOS	23 YOS	Age 60
Between 7/1/11 and 6/30/12	Age 55 & 0 YOS	23 YOS	Age 60
On or After 7/1/12	Age 55 & 0 YOS	23 YOS	Age 60

YOS = years of service

The assumed retirement rates for Class B Fire and Police are the same. Although both are uniformed, we separately analyzed retirement rates for the two groups given the differences in the occupations. The current and proposed (**no changes**) retirement rates are presented below.

Age	Assumed Retirement Rates Class B Fire	
	Current	Proposed
40	5.50%	
41	5.50%	
42	5.50%	
43	5.50%	
44	5.50%	
45	5.75%	
46	6.00%	
47	6.25%	
48	6.50%	
49	6.75%	
50	7.00%	
51	7.25%	
52	7.50%	No
53	7.75%	Changes
54	8.00%	
55	10.00%	
56	12.50%	
57	15.00%	
58	17.50%	
59	25.00%	
60	100.00%	
61	100.00%	
62	100.00%	
63	100.00%	
64	100.00%	
65+	100.00%	

The following table shows, by age, the number of retirement exposures, the expected number of retirements using the current assumptions, the actual number of retirements, the actual-to-expected ratios using the current assumptions, the expected number of retirements using the proposed assumptions, and the actual-to-expected ratios using the proposed assumptions.

Presented beneath the table is a graph of the rates of retirement based on actual experience, the current retirement assumptions, and the proposed retirement assumptions.

Retirement Rates Class B Fire						
Age	Exposures	Expected from Current Assumptions	Actual	Actual / Expected	Expected from Proposed Assumption	Actual / Expected (Proposed Rates)
40	1	0.1	0	0%	0.1	0%
41	4	0.2	0	0%	0.2	0%
42	8	0.4	1	227%	0.4	227%
43	10	0.6	0	0%	0.6	0%
44	7	0.4	0	0%	0.4	0%
45	7	0.4	1	248%	0.4	248%
46	7	0.4	0	0%	0.4	0%
47	9	0.6	1	178%	0.6	178%
48	11	0.7	2	280%	0.7	280%
49	11	0.7	1	135%	0.7	135%
50	18	1.3	2	159%	1.3	159%
51	29	2.1	1	48%	2.1	48%
52	30	2.3	0	0%	2.3	0%
53	28	2.2	6	276%	2.2	276%
54	18	1.4	2	139%	1.4	139%
55	23	2.3	1	43%	2.3	43%
56	20	2.5	3	120%	2.5	120%
57	20	3.0	4	133%	3.0	133%
58	20	3.5	2	57%	3.5	57%
59	23	5.8	3	52%	5.8	52%
60	18	18.0	17	94%	18.0	94%
61	0	0.0	0	0%	0.0	0%
62	1	1.0	1	100%	1.0	100%
63	0	0.0	0	0%	0.0	0%
64	0	0.0	0	0%	0.0	0%
65+	0	0.0	0	0%	0.0	0%
Total	323	49.8	48	96%	49.8	96%





Class B Police

For Class B Police, eligibility for normal retirement is as follows:

Membership Date	Normal Retirement		Mandatory Retirement
	Elig Set 1	Elig Set 2	
Before 7/1/95	Age 55 & 0 YOS	20 YOS	Age 65
Between 7/1/95 and 8/31/01	Age 55 & 0 YOS	20 YOS	Age 65
Between 9/1/01 and 6/30/11	Age 55 & 0 YOS	20 YOS	Age 65
On or After 7/1/11	Age 55 & 0 YOS	25 YOS	Age 65

YOS = years of service

The current and proposed retirement rates are presented below. The only proposed change is to extend out the first age of 100% assumed retirement from age 60 to age 65 to more closely align with experience.

Assumed Retirement Rates Class B Police		
Age	Current	Proposed
40	5.50%	5.50%
41	5.50%	5.50%
42	5.50%	5.50%
43	5.50%	5.50%
44	5.50%	5.50%
45	5.75%	5.75%
46	6.00%	6.00%
47	6.25%	6.25%
48	6.50%	6.50%
49	6.75%	6.75%
50	7.00%	7.00%
51	7.25%	7.25%
52	7.50%	7.50%
53	7.75%	7.75%
54	8.00%	8.00%
55	10.00%	10.00%
56	12.50%	12.50%
57	15.00%	15.00%
58	17.50%	17.50%
59	25.00%	25.00%
60	100.00%	25.00%
61	100.00%	25.00%
62	100.00%	25.00%
63	100.00%	25.00%
64	100.00%	25.00%
65+	100.00%	100.00%

The following table shows, by age, the number of retirement exposures, the expected number of retirements using the current assumptions, the actual number of retirements, the actual-to-expected ratios using the current assumptions, the expected number of retirements using the proposed assumptions, and the actual-to-expected ratios using the proposed assumptions.

Presented beneath the table is a graph of the rates of retirement based on actual experience, the current retirement assumptions, and the proposed retirement assumptions.

Retirement Rates Class B Police						
Age	Exposures	Expected from Current Assumptions	Actual	Actual / Expected	Expected from Proposed Assumption	Actual / Expected (Proposed Rates)
40	1	0.1	0	0%	0.1	0%
41	2	0.1	0	0%	0.1	0%
42	4	0.2	0	0%	0.2	0%
43	6	0.3	2	606%	0.3	606%
44	10	0.6	0	0%	0.6	0%
45	13	0.8	1	133%	0.7	134%
46	11	0.7	0	0%	0.7	0%
47	18	1.1	3	265%	1.1	267%
48	10	0.7	0	0%	0.7	0%
49	15	1.0	2	198%	1.0	198%
50	15	1.1	0	0%	1.1	0%
51	33	2.4	0	0%	2.4	0%
52	43	3.2	3	93%	3.2	93%
53	42	3.3	9	277%	3.3	276%
54	35	2.8	5	179%	2.8	179%
55	33	3.3	3	91%	3.3	91%
56	37	4.6	8	173%	4.6	173%
57	24	3.6	3	83%	3.6	83%
58	25	4.4	3	68%	4.4	69%
59	17	4.3	1	24%	4.3	24%
60	17	17.0	3	18%	4.3	71%
61	14	14.0	2	14%	3.5	57%
62	10	10.0	0	0%	2.5	0%
63	8	8.0	2	25%	2.0	100%
64	5	5.0	0	0%	1.3	0%
65+	7	7.0	6	86%	7.0	86%
Total	455	99.4	56	56%	58.8	95%

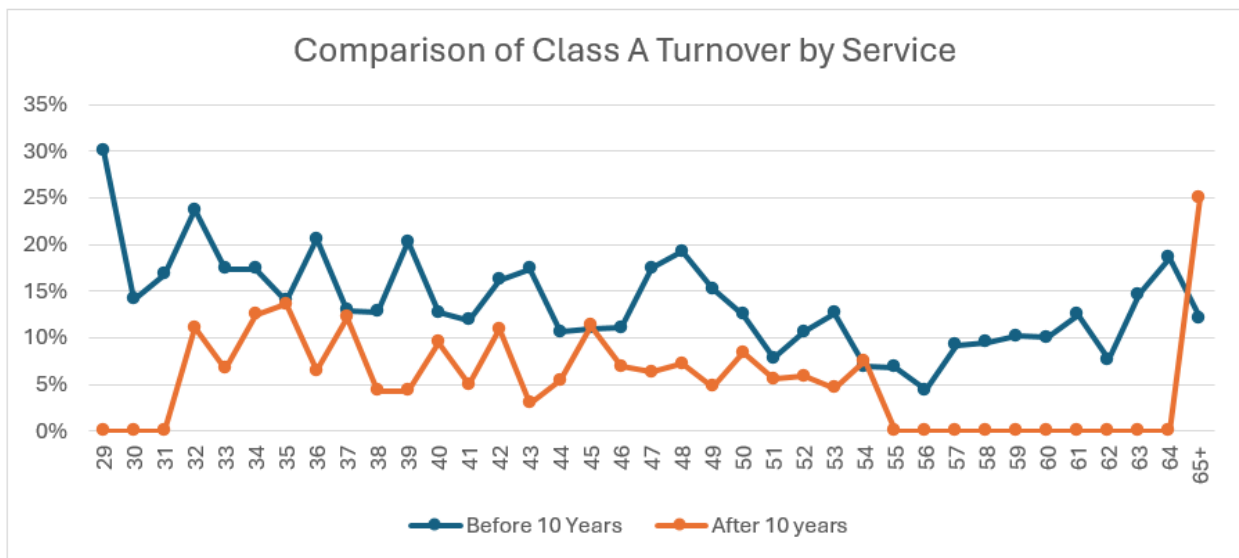


Termination of Employment

The current turnover tables use a single rate for each age. However, current research and the experience of the plan also indicate a relationship between turnover and years of service. We recommend separate turnover rates before and after attaining 10 years of service and adjusting the rates to better fit experience.

Class A

As shown below, termination rates are lower at a given age for members who have at least ten years of service compared to those who have less than ten years of service.



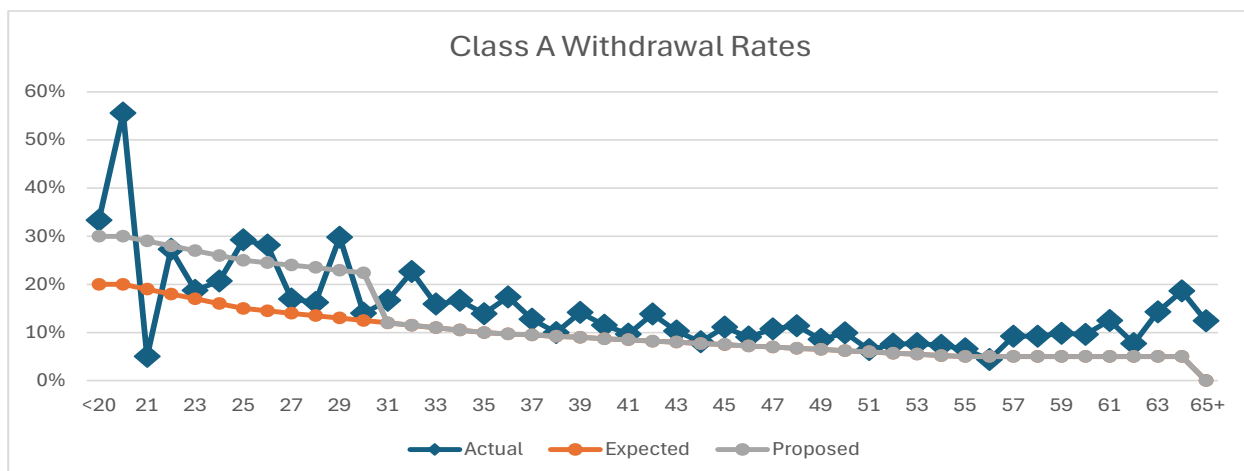
The current and proposed rates are presented below.

Assumed Termination Rates Class A			
Age	Current	Proposed	
		< 10 YOS	>= 10 YOS
<20	20.0%	30.0%	N/A
20	20.0%	30.0%	N/A
21	19.0%	29.0%	N/A
22	18.0%	28.0%	N/A
23	17.0%	27.0%	N/A
24	16.0%	26.0%	N/A
25	15.0%	25.0%	N/A
26	14.5%	24.5%	14.5%
27	14.0%	24.0%	14.0%
28	13.5%	23.5%	13.5%
29	13.0%	23.0%	13.0%
30	12.5%	22.5%	12.5%
31	12.0%	12.0%	12.0%
32	11.5%	11.5%	11.5%
33	11.0%	11.0%	11.0%
34	10.5%	10.5%	10.5%
35	10.0%	10.0%	10.0%
36	9.7%	9.7%	9.7%
37	9.5%	9.5%	9.5%

Assumed Termination Rates Class A (continued)			
Age	Current	Proposed	
		< 10 YOS	>= 10 YOS
38	9.2%	9.2%	9.2%
39	9.0%	9.0%	9.0%
40	8.7%	8.7%	8.7%
41	8.5%	8.5%	8.5%
42	8.2%	8.2%	8.2%
43	8.0%	8.0%	8.0%
44	7.7%	7.7%	7.7%
45	7.5%	7.5%	7.5%
46	7.2%	7.2%	7.2%
47	7.0%	7.0%	7.0%
48	6.7%	6.7%	6.7%
49	6.5%	6.5%	6.5%
50	6.2%	6.2%	6.2%
51	6.0%	6.0%	6.0%
52	5.7%	5.7%	5.7%
53	5.5%	5.5%	5.5%
54	5.2%	5.2%	5.2%
55+	5.0%	5.0%	5.0%

The table below compares the expected results using the prior assumption to the expected results using the proposed assumption in relation to the actual turnover experience.

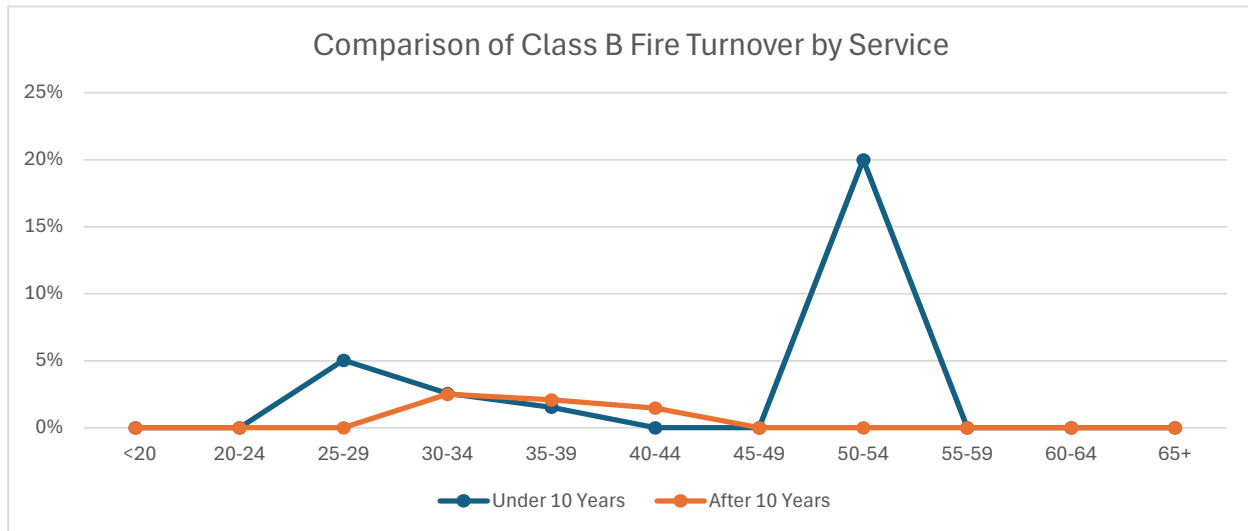
Termination Rates Class A						
Age	Exposures	Expected from Current Assumptions	Actual	Actual / Expected	Expected from Proposed Assumption	Actual / Expected (Proposed Rates)
<20	3	0.6	1	167%	0.9	111%
20	9	1.8	5	278%	2.7	185%
21	20	3.8	1	26%	5.8	17%
22	33	5.9	9	152%	9.2	97%
23	48	8.2	9	110%	13.0	69%
24	58	9.3	12	129%	15.1	80%
25	65	9.8	19	195%	16.3	117%
26	64	9.3	18	194%	15.7	115%
27	59	8.3	10	121%	14.2	71%
28	80	10.8	13	120%	18.8	69%
29	104	13.5	31	229%	23.8	130%
30	93	11.6	13	112%	20.8	62%
31	108	13.0	18	139%	13.0	139%
32	106	12.2	24	197%	12.2	197%
33	107	11.8	17	144%	11.8	144%
34	108	11.3	18	159%	11.3	159%
35	115	11.5	16	139%	11.5	139%
36	138	13.4	24	179%	13.4	179%
37	149	14.2	19	134%	14.2	134%
38	140	12.9	14	109%	12.9	109%
39	120	10.8	17	157%	10.8	157%
40	113	9.8	13	132%	9.8	132%
41	124	10.5	12	114%	10.5	114%
42	123	10.1	17	169%	10.1	169%
43	136	10.9	14	129%	10.9	129%
44	149	11.5	12	105%	11.5	105%
45	153	11.5	17	148%	11.5	148%
46	144	10.4	13	125%	10.4	125%
47	158	11.1	17	154%	11.1	154%
48	149	10.0	17	170%	10.0	170%
49	164	10.7	14	131%	10.7	131%
50	171	10.6	17	160%	10.6	160%
51	171	10.3	11	107%	10.3	107%
52	185	10.6	14	133%	10.5	133%
53	208	11.4	16	140%	11.4	140%
54	205	10.7	15	141%	10.7	141%
55+	705	27.6	72	261%	27.6	261%
Total	4,785	391.3	599	153%	454.7	132%



Class B Fire

Similar to the retirement rates, the current assumed termination rates for Class B Fire and Police are the same. Although both groups are uniformed, we analyzed termination rates separately for the two groups to determine if experience varied enough to warrant separate assumptions. The current and proposed retirement rates are presented below.

We analyzed termination rates separately for members with more than 10 years of service and members with less than 10 years of service. Although not as drastic as Class A, termination rates are lower at a given age for members who have at least ten years of service compared to those who have less than 10 years of service. The proposed rates reflect this delineation.



The current and proposed rates are presented below.

Assumed Termination Rates Class B Fire			
Age	Current	Proposed	
		< 10 YOS	>= 10 YOS
<20	3.00%	5.0%	N/A
20	2.50%	5.0%	N/A
21	2.50%	5.0%	N/A
22	2.50%	5.0%	N/A
23	2.50%	5.0%	N/A
24	2.00%	5.0%	N/A
25	1.90%	3.0%	N/A
26	1.80%	3.0%	2.5%
27	1.70%	3.0%	2.5%
28	1.60%	3.0%	2.5%
29	1.50%	3.0%	2.5%
30	1.40%	2.0%	2.0%
31	1.30%	2.0%	2.0%
32	1.20%	2.0%	2.0%
33	1.10%	2.0%	2.0%
34	1.00%	2.0%	2.0%
35	0.90%	1.0%	1.0%
36	0.80%	1.0%	1.0%
37	0.70%	1.0%	1.0%

Assumed Termination Rates Class B Fire (continued)			
Age	Current	Proposed	
		< 10 YOS	>= 10 YOS
38	0.65%	1.0%	1.0%
39	0.60%	1.0%	1.0%
40	0.55%	1.0%	1.0%
41	0.51%	1.0%	1.0%
42	0.47%	1.0%	1.0%
43	0.43%	1.0%	1.0%
44	0.39%	1.0%	1.0%
45	0.35%	1.0%	0.0%
46	0.31%	1.0%	0.0%
47	0.27%	1.0%	0.0%
48	0.23%	1.0%	0.0%
49	0.19%	1.0%	0.0%
50	0.15%	1.0%	0.0%
51	0.12%	1.0%	0.0%
52	0.09%	1.0%	0.0%
53	0.06%	1.0%	0.0%
54	0.03%	1.0%	0.0%
55+	0.00%	0.0%	0.0%

The table below compares the expected results using the prior assumption to the expected results using the proposed assumptions in relation to the actual turnover experience over the exposure period.

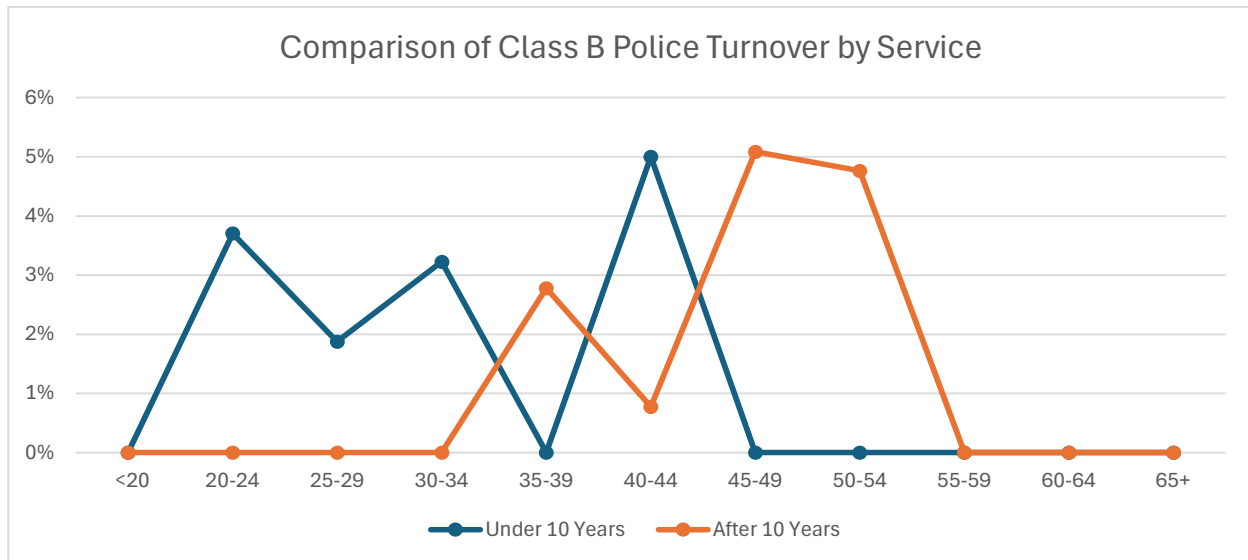
Termination Rates Class B Fire						
Age	Exposures	Expected from Current Assumptions	Actual	Actual / Expected	Expected from Proposed Assumption	Actual / Expected (Proposed Rates)
<24	23	0.5	0	0%	1.2	0%
25-29	120	2.0	6	300%	3.6	167%
30-34	274	3.3	7	214%	5.5	128%
35-39	227	1.7	4	237%	2.3	176%
40-44	127	0.6	1	161%	1.3	79%
45-49	60	0.2	0	0%	0.2	0%
50-54	31	0.0	1	3333%	0.1	2000%
55+	0	0.0	0	0%	0.0	0%
Total	862	8.3	19	229%	14.0	135%



Class B Police

The analysis for Class B Police followed the same approach as was used for Class B Fire. Although Fire and Police both are uniformed, we analyzed termination rates separately for the two groups to determine if experience varied enough to warrant separate assumptions.

We analyzed termination rates separately for members with more than 10 years of service and members with less than 10 years of service. Although not as drastic as Class A, termination rates are lower at a given age for members who have at least ten years of service compared to those who have less than 10 years of service. The proposed rates reflect this delineation.



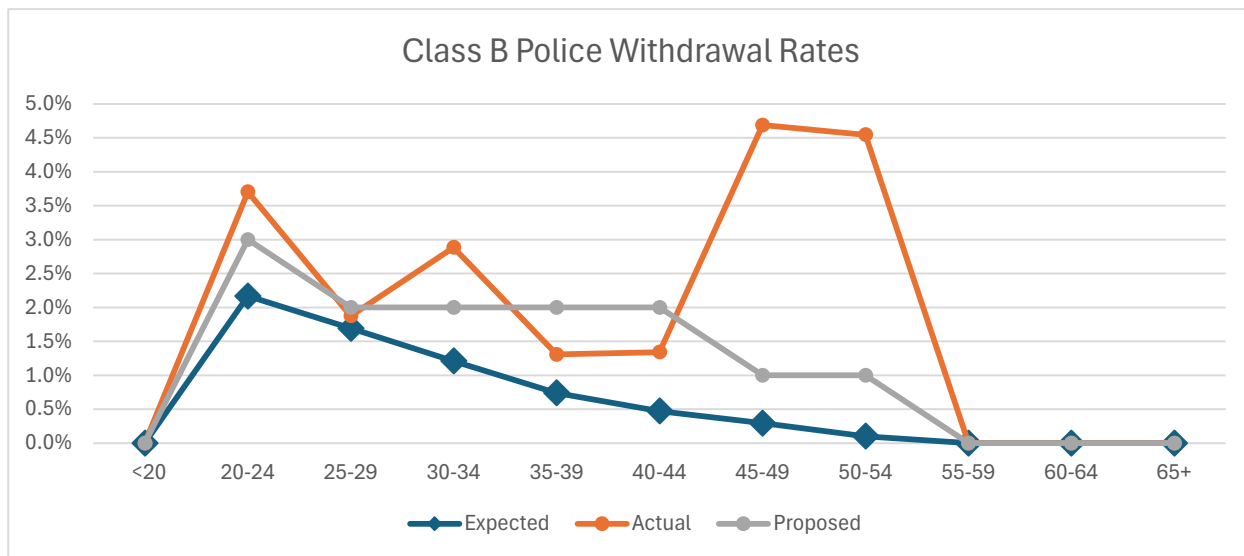
The current and proposed retirement rates are presented below.

Assumed Termination Rates Class B Police			
Age	Current	Proposed	
		< 10 YOS	>= 10 YOS
<20	3.00%	3.0%	N/A
20	2.50%	3.0%	N/A
21	2.50%	3.0%	N/A
22	2.50%	3.0%	N/A
23	2.50%	3.0%	N/A
24	2.00%	3.0%	N/A
25	1.90%	2.0%	N/A
26	1.80%	2.0%	2.0%
27	1.70%	2.0%	2.0%
28	1.60%	2.0%	2.0%
29	1.50%	2.0%	2.0%
30	1.40%	2.0%	2.0%
31	1.30%	2.0%	2.0%
32	1.20%	2.0%	2.0%
33	1.10%	2.0%	2.0%
34	1.00%	2.0%	2.0%
35	0.90%	2.0%	2.0%
36	0.80%	2.0%	2.0%
37	0.70%	2.0%	2.0%

Assumed Termination Rates Class B Police (continued)			
Age	Current	Proposed	
		< 10 YOS	>= 10 YOS
38	0.65%	2.0%	2.0%
39	0.60%	2.0%	2.0%
40	0.55%	2.0%	2.0%
41	0.51%	2.0%	2.0%
42	0.47%	2.0%	2.0%
43	0.43%	2.0%	2.0%
44	0.39%	2.0%	2.0%
45	0.35%	1.0%	1.0%
46	0.31%	1.0%	1.0%
47	0.27%	1.0%	1.0%
48	0.23%	1.0%	1.0%
49	0.19%	1.0%	1.0%
50	0.15%	1.0%	1.0%
51	0.12%	1.0%	1.0%
52	0.09%	1.0%	1.0%
53	0.06%	1.0%	1.0%
54	0.03%	1.0%	1.0%
55+	0.00%	0.0%	0.0%

The table below compares the expected results using the prior assumption to the expected results using the proposed assumptions in relation to the actual turnover experience in the exposure period.

Termination Rates Class B Police						
Age	Exposures	Expected from Current Assumptions	Actual	Actual / Expected	Expected from Proposed Assumption	Actual / Expected (Proposed Rates)
<24	27	0.6	1	169%	0.8	123%
25-29	160	2.7	3	111%	3.2	94%
30-34	208	2.5	6	238%	4.2	144%
35-39	153	1.1	2	177%	3.1	65%
40-44	149	0.7	2	286%	3.0	67%
45-49	64	0.2	3	1579%	0.6	469%
50-54	44	0.0	2	5000%	0.4	455%
55+	0	0.0	0	0%	0.0	0%
Total	805	7.9	19	241%	15.3	124%



Disability Incidence

We do not recommend any changes to the current disability incidence rates. There is not sufficient data to develop a new set of rates for any of the groups.

Disabled plan members can retire under either an ordinary or accidental (duty-related) disability. To qualify for an ordinary disability retirement, the member must have at least ten years of service. There is no age or service requirement to qualify for an accidental disability retirement.

Class A

The assumed disability rates are based on age. The current and proposed (**no changes**) assumed disability incidence rates at a few sample ages are presented below:

Assumed Disability Rates Class A		
Age	Current	Proposed
30	0.04%	
40	0.08%	No
50	0.17%	Changes
60	0.27%	

The current assumption is that 33.33% of all disabilities are duty related (accidental) and 66.66% are non-duty related (ordinary). All five disabilities that occurred during the experience study period were accidental. However, given the low number of total disabilities and that the assumption does not have a material impact on the valuation, **no changes** are recommended to the percentage of disabilities that are assumed to be accidental versus ordinary.

Disability Rates Class A						
Age	Exposures	Expected from Current Assumptions	Actual	Actual / Expected	Expected from Proposed Assumptions	Actual / Expected (Proposed Rates)
<40	1,727	0.8	0	0%	0.8	0%
40-49	1,422	1.8	0	0%	1.8	0%
50-59	2,037	4.2	2	48%	4.2	48%
60+	1,333	4.3	3	70%	4.3	70%
Totals	6,519	11.0	5	45%	11.0	45%



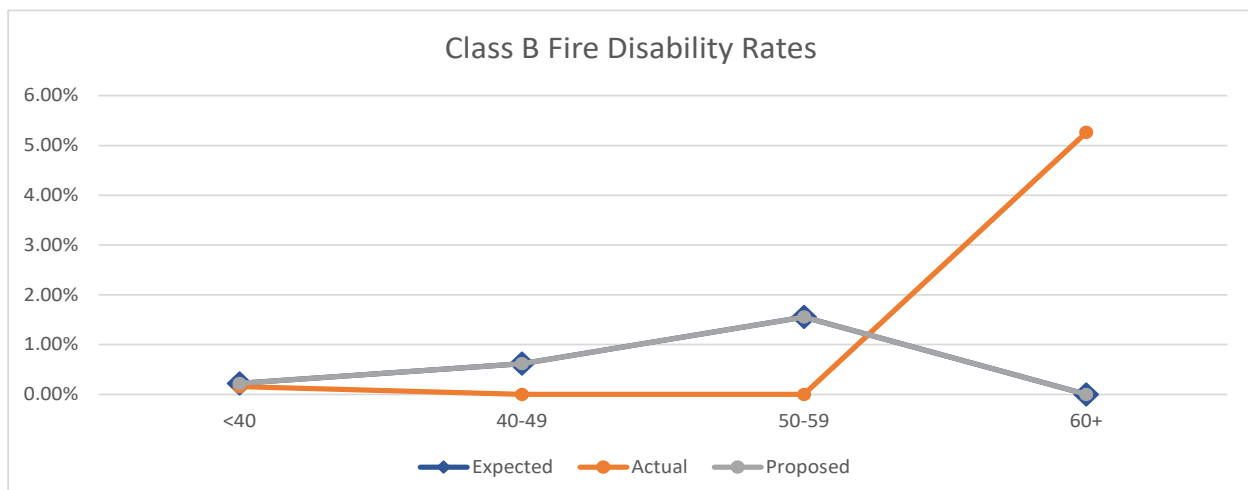
Class B Fire

The assumed disability rates are based on age and the same rates are used for Fire and Police. The current and proposed (**no changes**) assumed disability incidence rates at a few sample ages are presented below:

Assumed Disability Rates Class B Fire		
Age	Current	Proposed
20	0.08%	
25	0.13%	
30	0.19%	
35	0.25%	
40	0.37%	No Changes
45	0.66%	
50	1.14%	
55	1.64%	
60	2.28%	

The current assumption is that 90% of all disabilities are duty related (accidental) and 10% are non-duty related (ordinary). Only two disability retirements occurred during the experience study period and both were classified as accidental. However, given the low number of total disabilities and that the assumption does not have a material impact on the valuation, **no changes** are recommended to the percentage of disabilities that are assumed to be accidental versus ordinary.

Disability Rates Class B Fire						
Age	Exposures	Expected from Current Assumptions	Actual	Actual / Expected	Expected from Proposed Assumptions	Actual / Expected (Proposed Rates)
<40	644	1.4	1	70%	1.4	70%
40-49	262	1.6	0	0%	1.6	0%
50-59	260	4.0	0	0%	4.0	0%
60+	19	0.0	1	N/A	0.0	N/A
Totals	1,185	7.1	2	28%	7.1	28%



Class B Police

As noted on the previous page, the same assumed disability rates are used for Fire and Police. The current and proposed (**no changes**) assumed disability incidence rates at a few sample ages are presented below:

Assumed Disability Rates Class B Police		
Age	Current	Proposed
20	0.08%	
25	0.13%	
30	0.19%	
35	0.25%	
40	0.37%	No
45	0.66%	Changes
50	1.14%	
55	1.64%	
60	2.28%	

The current assumption is that 90% of all disability retirements are duty related (accidental) and 10% are non-duty related (ordinary). All four disability retirements that occurred during the experience study period were accidental. However, given the low number of total disabilities and that the assumption does not have a material impact on the valuation, **no changes** are recommended to the percentage of disabilities that are assumed to be accidental versus ordinary.

Disability Rates Class B Police						
Age	Exposures	Expected from Current Assumptions	Actual	Actual / Expected	Expected from Proposed Assumptions	Actual / Expected (Proposed Rates)
<40	548	1.2	0	0%	1.2	0%
40-49	303	1.9	0	0%	1.9	0%
50-59	348	5.4	3	56%	5.4	56%
60+	61	0.0	1	N/A	0.0	N/A
Totals	1,260	8.4	4	48%	8.4	48%



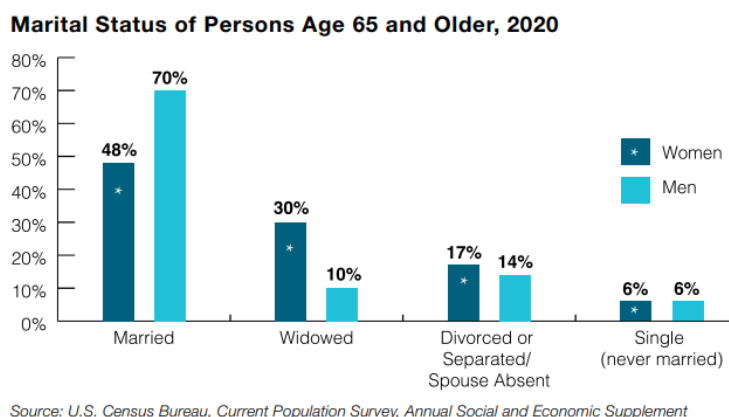
Survivor Benefit Assumptions

Marriage Assumptions

The normal form of benefit for Class B members is an annuity that, upon the member's death, continues to the surviving spouse in an amount equal to 67.5% of the amount the member was receiving. For Class B members in payment, actual beneficiary information is used. In the absence of beneficiary information, a Class B retired participant is assumed to be married on the valuation date to a spouse of the opposite sex, with females assumed to be three years younger than males. Note that, in the last three years, there have been 80 deaths of retired Class B members and 59 new surviving beneficiaries added (approximately 74%).

Both Class A and Class B also provide pre-retirement death benefits to surviving spouses. For active members of Class A and Class B, 80% are assumed to be married at benefit commencement (for example, at retirement for the retirement benefit and at date of death for the pre-retirement death benefit).

Nationally, rates of marriage vary by age and have generally decreased over time. A May 2021 report titled *2020 Profile of Older Americans*, which was published by the Administration for Community Living using data from U.S. Census Bureau, found that 70% of males over age 65 were married in 2020:



According to November 2024 data¹ from the U.S. Census Bureau, only about 51% of individuals age 15 or older are married.

The 80% marriage assumption is higher than national marriage rates, providing a margin for adverse deviation. **We recommend retaining the 80% marriage assumption.**

¹ <https://www.census.gov/data/tables/time-series/demo/families/marital.html>



Service Purchase

Class A and Class B members may purchase previous Providence service, federal service, or military service. The current and proposed assumed service purchase loads expressed in years of service are presented below.

Assumed Service Purchase Load (in service years)		
Class	Current	Proposed
A	0.0 years	0.00 years
B Fire	0.5 years	0.25 years
B Police	1.0 years	0.25 years

Few calculations (less than 5%) that we have performed for the City of Providence since 2021 have identified purchased service on the request form. The calculations that did include a separate line for purchased service did not involve many years of purchased service. Although we recognize the potential for purchased service to have been included, but not separately identified, in the service totals of benefit calculation requests, the current assumptions seem too high based on the observed requests. **We recommend a decrease in the assumed service purchase load used in the valuation for Class B members.**

Section IV. Economic Assumptions

Inflation

The inflation assumption is one of the principle building blocks for all other economic assumptions including the investment return assumption, salary increases, and, indirectly, the cost-of-living adjustments (COLAs) assumption. Another way that inflation may impact the COLA provided to retirees is through the restriction that a retiree’s benefit cannot exceed 150% of the Rhode Island state median income, which itself is a function of wage inflation in the state of Rhode Island. As a result of these interconnections, our economic experience analysis starts with the inflation assumption. The current inflation assumption is 2.50%.

For the inflation assumption, we considered the following:

- Past experience – based on the Consumer Price Index for all Urban Consumers (CPI-U) over the last 5, 10, 15, 20, 25, and 30 years
- Current expectations of future experience – based on investment experts’ analysis and the Federal Reserve forecasts of future expected inflation.

Past Inflation Experience

Presented below are the average annual increases in the CPI-U over multiple time periods (ending with the annual average for calendar year 2024):

	Averaging Period					
	5 years	10 years	15 years	20 years	25 years	30 years
CPI-U Annual Average	4.18%	2.85%	2.57%	2.57%	2.56%	2.53%

Experts’ Inflation Expectations

We considered the following:

- The 2024 edition of the *Horizon Survey of Capital Market Assumptions* (Horizon Survey), which encompasses capital market assumptions from over 40 investment advisors, shows an average 10-year future expected inflation rate of 2.42% and a 20-year rate of 2.44%.
- The Federal Reserve Bank of St. Louis’ 10-year expected inflation rate and 30-year expected inflation rates in June 2025 were 2.34% and 2.46%, respectively.
- in their 2025 Trustees Report, the Social Security Administration uses a long-term intermediate inflation assumption of 2.4%.

We note that, after the onset of the COVID pandemic, the economy experienced high levels of inflation, driven, in part, by supply chain and workforce disruptions as well as consumer behavior changes.

Recommended Inflation Assumption

Given the historical long-term annual averages, expectations of future inflation from investment managers, the Federal Reserve Bank of St. Louis, and Social Security, **we recommend keeping the current inflation assumption of 2.50%.**

Discount Rate

The single assumption that has the largest effect on the determination of plan liabilities, funding levels, and near-term actuarially determined contributions (ADCs) is the discount rate. For many public sector pension plans, the discount rate assumption is set equal to the expected return on assets assumption to minimize expected gains and losses and reduce contribution volatility. However, they are two distinct assumptions covered in separate sections (3.7 Selecting an Investment Return Assumption and 3.8 Selecting a Discount Rate) of Actuarial Standard of Practice # 27 (Selection of Assumptions for Measuring Pension Obligations). The application of such an equivalence in a valuation demonstrates that, for the purpose of the valuation, the pension payouts (plan liabilities) are valued in relation to the expected return on assets.

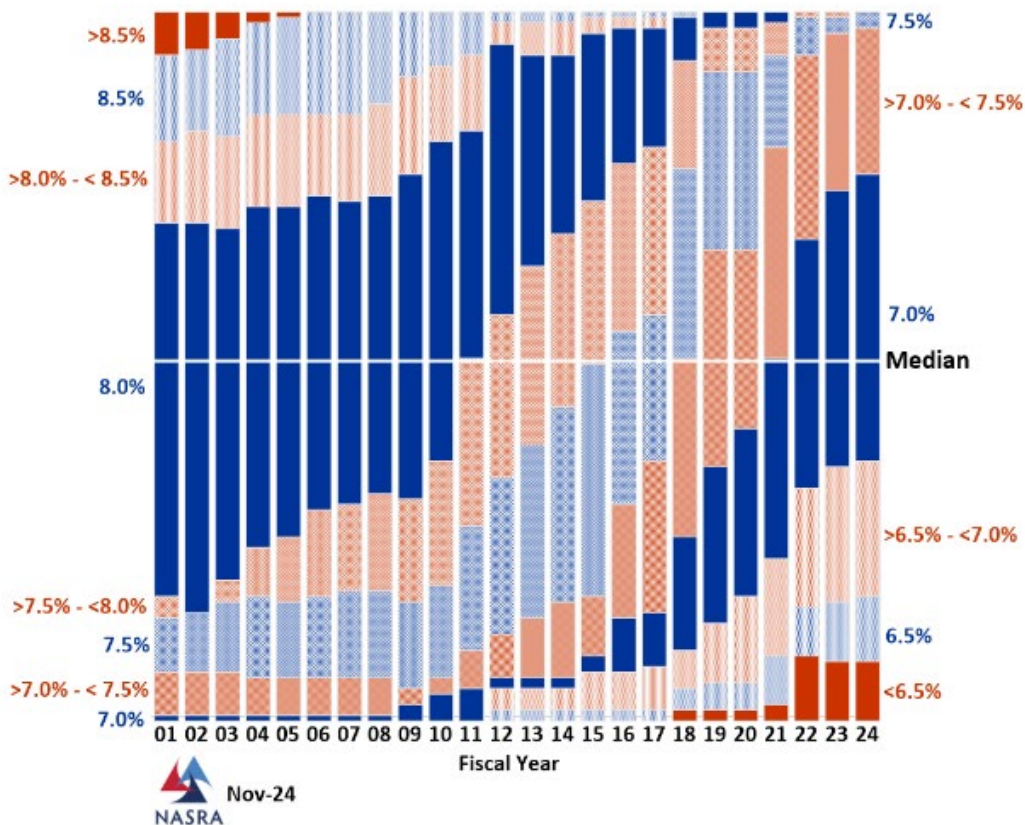
Section 3.7 of ASOP 27 lists a series of considerations when determining the investment return assumption, such as inflation, illiquidity, credit risk, macroeconomic conditions, investment volatility, investment manager performance, expenses, and others. Many of these considerations can be reviewed through an analysis of the expected return and volatility of returns for the plan's assets based on a target allocation of investments, which is often stated in the plan's investment policy statement (IPS).

To evaluate the reasonableness of the current assumption, we used capital market assumptions provided in Horizon Actuarial Services' *Survey of Capital Market Assumptions – 2024 Edition* to develop an expected portfolio geometric return based on the policy targets in the July 2022 IPS. Using the following mapping, the expected 20-year geometric annual return is 6.96%.

The table below summarizes Horizon's 2024 CMAs and our derivation of the portfolio return.

Horizon Asset Class	Target Allocation	Arithmetic Return (2024 CMAs)		
		10 Year	20 Year	St. Dev
US Equity - Large Cap	20.75%	7.74%	8.25%	16.52%
US Equity - Small/Mid Cap	34.50%	9.04%	9.50%	20.57%
Non-US Equity - Developed	10.75%	8.61%	9.08%	18.06%
Non-US Equity - Emerging	2.00%	10.31%	11.00%	23.61%
US Corporate Bonds - Core	17.00%	5.10%	5.04%	5.90%
US Corporate Bonds – Long Duration	0.00%	5.64%	5.71%	10.98%
US Corp Bonds - High Yield	0.00%	6.61%	6.86%	9.94%
Non-US Debt - Developed	2.00%	3.95%	4.00%	7.33%
Non-US Debt - Emerging	0.00%	6.73%	6.89%	10.76%
US Treasuries (Cash Equivalent)	5.00%	3.69%	3.44%	1.10%
TIPS (Inflation-Protected)	0.00%	4.57%	4.48%	6.10%
Real Estate	0.00%	7.43%	7.38%	16.61%
Hedge Funds	8.00%	6.24%	6.52%	8.03%
Commodities	0.00%	6.45%	6.56%	17.81%
Infrastructure	0.00%	8.56%	8.56%	16.02%
Private Equity	0.00%	11.55%	12.33%	22.57%
Private Debt	0.00%	9.02%	9.09%	12.00%
Total	100.00%			
Portfolio Arithmetic Return		7.49%	7.82%	
Portfolio Variance				1.71%
Portfolio Standard Deviation				13.1%
Portfolio Geometric Return (Net of Investment Expenses)		6.63%	6.96%	

Another data point for reference is the National Association of State Retirement Administrators (NASRA) survey of discount rates (shown below). The graph shows that the most prevalent and median discount rate used across State level programs is 7.00%.



Some plan sponsors utilize a conservative-leaning assumption for their funding valuations since the contribution requirements increase following years in which investment returns do not meet the assumption. As such, they set the discount rate assumption lower than the expected investment return to increase the probability that the fund's return will meet or exceed the discount rate.

From a fiduciary standpoint, one of the primary goals of a pension system is to adequately and systematically fund the plan to ensure that promised benefits can be paid in full. Achieving this goal often entails the consideration of supporting, and sometimes competing, objectives, such as mitigating undo pressure on the sponsor, participants, or other stakeholders and balancing contribution development and volatility with intergenerational equity.

The current rate of return assumption of 7.00% is supported by the investment mix and current capital market assumptions. However, the City could consider lowering the discount rate if a greater than 50% probability of meeting the long-term assumption probability is desired.

Administrative Expenses

Currently, there is no load to the normal cost for administrative expenses.

We recommend adding an expense load to the normal cost equal to the average of the prior two years of administrative expenses, rounded to the nearest \$10,000.



Pay Increases

Generally, the salary increase assumption is comprised of three components: general price inflation, wage inflation in excess of price inflation (sometimes referred to as productivity), and merit increase. The salary increase assumption structure for Providence has an additional component, longevity increase, which is associated with the merit increase. The values for each of the first three components are added together and the longevity component is then layered on top.

Class A

The current and proposed assumptions for Class A members are:

1. General Inflation: 2.50% *plus*
2. Wage Inflation Increment: 0.50% *plus*
3. Service-based merit increase:
 - a. Current: 0.00%
 - b. Proposed: 1.50% annually for first 10 years, 1.00% for next 10 years, 0.00% thereafter
4. Longevity Increases

<u>Hired Prior to 10/24/99</u>	
Years of Service	Rate of Base Wage Increase
5-9	4%
10-14	5%
15-19	6%
20+	7%

<u>Hired 10/24/99 to 6/30/15</u>	
Years of Service	Rate of Base Wage Increase
7-11	3%
12-16	4%
17-19	5%
20+	6%

<u>Hired After 6/30/15</u>	
Years of Service	Rate of Base Wage Increase
7-11	2%
12-16	3%
17-19	4%
20+	5%

The final resulting salary scales are presented below. Note, the first column represents years of service (YOS) at the beginning of the year, with the indicated rate applied at the end of the year.

<u>Hired Prior to 10/24/99</u>		
YOS	Current	Proposed
0	3.00%	4.50%
1	3.00%	4.50%
2	3.00%	4.50%
3	3.00%	4.50%
4	7.12%	8.68%
5	3.00%	4.50%
6	3.00%	4.50%
7	3.00%	4.50%
8	3.00%	4.50%
9	3.99%	5.50%
10	3.00%	4.00%
11	3.00%	4.00%
12	3.00%	4.00%
13	3.00%	4.00%
14	3.98%	4.99%
15	3.00%	4.00%
16	3.00%	4.00%
17	3.00%	4.00%
18	3.00%	4.00%
19	3.97%	4.98%
20+	3.00%	3.00%

<u>Hired 10/24/99 to 6/30/15</u>		
YOS	Current	Proposed
0	3.00%	4.50%
1	3.00%	4.50%
2	3.00%	4.50%
3	3.00%	4.50%
4	3.00%	4.50%
5	3.00%	4.50%
6	6.09%	7.63%
7	3.00%	4.50%
8	3.00%	4.50%
9	3.00%	4.50%
10	3.00%	4.00%
11	4.00%	5.01%
12	3.00%	4.00%
13	3.00%	4.00%
14	3.00%	4.00%
15	3.00%	4.00%
16	3.99%	5.00%
17	3.00%	4.00%
18	3.00%	4.00%
19	3.98%	4.99%
20+	3.00%	3.00%

<u>Hired After 6/30/15</u>		
YOS	Current	Proposed
0	3.00%	4.50%
1	3.00%	4.50%
2	3.00%	4.50%
3	3.00%	4.50%
4	3.00%	4.50%
5	3.00%	4.50%
6	6.09%	6.59%
7	3.00%	4.50%
8	3.00%	4.50%
9	3.00%	4.50%
10	3.00%	4.00%
11	4.00%	5.02%
12	3.00%	4.00%
13	3.00%	4.00%
14	3.00%	4.00%
15	3.00%	4.00%
16	3.99%	5.01%
17	3.00%	4.00%
18	3.00%	4.00%
19	3.98%	5.00%
20+	3.00%	3.00%



Class B Fire

The current and proposed assumptions for Class B Fire members are:

1. General Inflation: 2.50% *plus*
2. Wage Inflation Increment: 0.50% *plus*
3. Service-based merit increase:
 - a. Current: 0.00%
 - b. Proposed: 1.50% annually for first 10 years, 1.00% for next 10 years, 0.00% thereafter
4. Longevity Increases

<u>Hired Prior to 7/1/96</u>		<u>On or After 7/1/96</u>	
Years of Service	Rate of Base Wage Increase	Years of Service	Rate of Base Wage Increase
5-9	8%	7-11	7%
10-14	9%	12-16	8%
15-19	10%	17-19	9%
20+	11%	20+	11%

The final resulting salary scales are presented below. Note, the first column represents years of service (YOS) at the beginning of the year, with the indicated rate applied at the end of the year.

<u>Hired Prior to 7/1/96</u>			<u>On or After 7/1/96</u>		
YOS	Current	Proposed	YOS	Current	Proposed
0	3.00%	4.50%	0	3.00%	4.50%
1	3.00%	4.50%	1	3.00%	4.50%
2	3.00%	4.50%	2	3.00%	4.50%
3	3.00%	4.50%	3	3.00%	4.50%
4	11.24%	12.86%	4	10.21%	11.82%
5	3.00%	4.50%	5	3.00%	4.50%
6	3.00%	4.50%	6	3.00%	4.50%
7	3.00%	4.50%	7	3.00%	4.50%
8	3.00%	4.50%	8	3.00%	4.50%
9	3.95%	5.47%	9	3.96%	5.48%
10	3.00%	4.00%	10	3.00%	4.00%
11	3.00%	4.00%	11	3.00%	4.00%
12	3.00%	4.00%	12	3.00%	4.00%
13	3.00%	4.00%	13	3.00%	4.00%
14	3.94%	4.95%	14	3.95%	4.96%
15	3.00%	4.00%	15	3.00%	4.00%
16	3.00%	4.00%	16	3.00%	4.00%
17	3.00%	4.00%	17	3.00%	4.00%
18	3.00%	4.00%	18	3.00%	4.00%
19	3.94%	4.95%	19	3.94%	4.95%
20+	3.00%	3.00%	20+	3.00%	3.00%



Class B Police

The current and proposed assumptions for Class B Police members are:

1. General Inflation: 2.50% *plus*
2. Wage Inflation Increment: 0.50% *plus*
3. Service-based merit increase:
 - a. Current: 0.00%
 - b. Proposed: 0.75% annually for first 10 years, 0.50% for next 10 years, 0.00% thereafter
4. Longevity Increases

<u>Hired Prior to 7/1/98</u>	
Years of Service	Rate of Base Wage Increase
6-10	8%
11-15	9%
16-20	10%
21+	11%

<u>Hired 7/1/98 to 8/31/16</u>	
Years of Service	Rate of Base Wage Increase
6-10	7%
11-15	8%
16-20	9%
21+	10%

<u>Hired After 8/31/16</u>	
Years of Service	Rate of Base Wage Increase
6-10	4%
11-15	5%
16-20	6%
21+	7%

The final resulting salary scales are presented below. Note, the first column represents years of service (YOS) at the beginning of the year, with the indicated rate applied at the end of the year.

<u>Hired Prior to 7/1/98</u>		
YOS	Current	Proposed
0	3.00%	3.75%
1	3.00%	3.75%
2	3.00%	3.75%
3	3.00%	3.75%
4	3.00%	3.75%
5	11.24%	12.05%
6	3.00%	3.75%
7	3.00%	3.75%
8	3.00%	3.75%
9	3.00%	3.75%
10	3.95%	4.46%
11	3.00%	3.50%
12	3.00%	3.50%
13	3.00%	3.50%
14	3.00%	3.50%
15	3.94%	4.45%
16	3.00%	3.50%
17	3.00%	3.50%
18	3.00%	3.50%
19	3.00%	3.50%
20	3.94%	3.94%
21+	3.00%	3.00%

<u>Hired 7/1/98 to 8/31/16</u>		
YOS	Current	Proposed
0	3.00%	3.75%
1	3.00%	3.75%
2	3.00%	3.75%
3	3.00%	3.75%
4	3.00%	3.75%
5	10.21%	11.01%
6	3.00%	3.75%
7	3.00%	3.75%
8	3.00%	3.75%
9	3.00%	3.75%
10	3.96%	4.47%
11	3.00%	3.50%
12	3.00%	3.50%
13	3.00%	3.50%
14	3.00%	3.50%
15	3.95%	4.46%
16	3.00%	3.50%
17	3.00%	3.50%
18	3.00%	3.50%
19	3.00%	3.50%
20	3.94%	3.94%
21+	3.00%	3.00%

<u>Hired After 8/31/16</u>		
YOS	Current	Proposed
0	3.00%	3.75%
1	3.00%	3.75%
2	3.00%	3.75%
3	3.00%	3.75%
4	3.00%	3.75%
5	7.12%	7.90%
6	3.00%	3.75%
7	3.00%	3.75%
8	3.00%	3.75%
9	3.00%	3.75%
10	3.99%	4.50%
11	3.00%	3.50%
12	3.00%	3.50%
13	3.00%	3.50%
14	3.00%	3.50%
15	3.98%	4.49%
16	3.00%	3.50%
17	3.00%	3.50%
18	3.00%	3.50%
19	3.00%	3.50%
20	3.97%	3.97%
21+	3.00%	3.00%

All recommended salary scale assumptions are based on Providence compensation grids and long-term expectations of pay increases.



Section V. Impact of Changes

If the recommended changes had been implemented for the July 1, 2024 actuarial valuation, they would have had the following impacts on the actuarial accrued liability, the total normal cost, the actuarially determined contribution (ADC), and the funded ratio. Note that any assumption changes that are adopted will first take effect for the July 1, 2025 valuation, which will develop the contribution for FY 2027.

Class A				
(\$, in millions)	Actuarial Accrued Liability	Total Normal Cost	Actuarially Determined Contribution	Funded Ratio
A. Current Assumptions	603.3	13.6	38.7	28.0%
B. Proposed Assumptions	595.6	14.7	38.6	28.5%
C. Dollar Difference (B. – A.)	(7.7)	1.1	(0.1)	0.5%
D. Percentage Difference (B. / A. - 1)	(1.3%)	8.0%	(0.3%)	1.8%

Class B Fire				
(\$, in millions)	Actuarial Accrued Liability	Total Normal Cost	Actuarially Determined Contribution	Funded Ratio
A. Current Assumptions	621.6	8.8	39.9	28.0%
B. Proposed Assumptions	617.0	9.3	40.0	28.5%
C. Dollar Difference (B. – A.)	(4.7)	0.5	0.1	0.5%
D. Percentage Difference (B. / A. - 1)	(0.8%)	5.6%	0.3%	1.8%

Class B Police				
(\$, in millions)	Actuarial Accrued Liability	Total Normal Cost	Actuarially Determined Contribution	Funded Ratio
A. Current Assumptions	611.1	8.2	39.2	28.0%
B. Proposed Assumptions	591.3	8.6	38.3	28.5%
C. Dollar Difference (B. – A.)	(19.8)	0.3	(0.9)	0.5%
D. Percentage Difference (B. / A. - 1)	(3.2%)	4.0%	(2.2%)	1.8%

Total				
(\$, in millions)	Actuarial Accrued Liability	Total Normal Cost	Actuarially Determined Contribution	Funded Ratio
A. Current Assumptions	1,836.0	30.7	117.8	28.0%
B. Proposed Assumptions	1,803.9	32.6	116.9	28.5%
C. Dollar Difference (B. – A.)	(32.1)	1.9	(0.9)	0.5%
D. Percentage Difference (B. / A. - 1)	(1.8%)	6.2%	(0.7%)	1.8%



The highest-impact individual assumption changes are summarized below:

- The update to the mortality tables had the largest impact on the liability and that impact was fairly uniform across the three populations.
- The impact of the updates to the retirement rates was most pronounced for Class B Police, where the change represented a 5.4% decrease in the active liability.
- In total across all three groups, the updates to the salary scale tables had a more significant impact on normal cost (increase of 7.2%) than liability (increase of 0.2%).

Taken as a whole, the net financial change is relatively small (as a percentage). Despite the modest net overall impact on plan liabilities and costs, we feel that it is important to make updates that reflect emerging trends and patterns so that the Plan stays current and all assumptions can meet the individually reasonable standard.