

# City of San José Police and Fire Department Retirement Plan

## Demographic Experience Study as of June 30, 2023

Produced by Cheiron

November 2023

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**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
DEMOGRAPHIC EXPERIENCE STUDY AS OF JUNE 30, 2023**

**SECTION 1 – EXECUTIVE SUMMARY**

Actuarial assumptions are intended to be long term in nature and should be both individually reasonable and consistent in the aggregate with no significant bias except when provisions for adverse deviation are explicitly included. The purpose of this experience study is to evaluate whether the current demographic assumptions adequately reflect the long-term expectations for the Plan, and if not, to recommend any adjustments that might be needed. It is important to note that significant changes in the actuarial assumptions are not typically recommended, unless there are known fundamental changes in expectations that would warrant such significant changes. In accordance with the San José Municipal Code, demographic experience studies are performed every two years.

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 the Plan, with some adjustments where future experience is expected to differ from historical experience and with deference to standard tables where the Plan’s experience is not fully credible and a standard table is available. For purposes of this study, merit salary increases are also considered a demographic assumption because the assumption is based primarily on the Plan’s historical experience.

The table below shows the Plan’s historical liability gains and losses by source for the last four actuarial valuations, reflecting experience since the demographic experience studies in 2019 and 2021. Salary increases were the primary source of losses during this period, particularly in the last two years. There were also consistent but smaller losses from retirements and terminations. Disability incidence and mortality provided consistent gains during the period.

**Table 1-1**

<b>Historical Sources of Liability (Gain) or Loss</b>					
<b>Source</b>	<b>Year Ending June 30th</b>				<b>Total</b>
	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	
Salary Increases	\$ (14,405)	\$ 9,202	\$ 24,411	\$ 71,972	\$ 91,179
Retirement	(1,099)	2,685	4,524	1,986	8,096
Termination	4,229	6,401	2,269	4,826	17,724
Mortality	2,648	(5,753)	(2,043)	(3,934)	(9,082)
Disability	(7,377)	(3,353)	(7,701)	(6,235)	(24,666)
Other	653	(2,456)	(1,195)	1,006	(1,992)

*Dollar amounts in thousands*

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**SECTION 1 – EXECUTIVE SUMMARY**

**SUMMARY OF DEMOGRAPHIC ASSUMPTION ANALYSIS**

This experience study specifically analyzes and proposes the following changes to demographic assumptions.

**Table 1-2**

<b>Demographic Assumption</b>	<b>Proposed Changes</b>
Merit Salary Scale	<ul style="list-style-type: none"> <li>• No changes</li> </ul>
Retirement Rates	<ul style="list-style-type: none"> <li>• Split rates for 20-29 years of service into 20-24 and 25-29 years of service</li> <li>• Same/lower rates for 20-24 years of service</li> <li>• Higher rates for 25-29 years of service</li> <li>• Lower rates 30+ years of service</li> </ul>
Disability Rates	<ul style="list-style-type: none"> <li>• Lower disability incidence rates</li> <li>• Same rates for Police and Fire</li> </ul>
Mortality Rates	<ul style="list-style-type: none"> <li>• Lower mortality rates for healthy retirees</li> </ul>
Termination Rates	<ul style="list-style-type: none"> <li>• Lower termination rates for Police</li> </ul>
Reciprocity	<ul style="list-style-type: none"> <li>• No changes</li> </ul>
Family Composition	<ul style="list-style-type: none"> <li>• No changes</li> </ul>
Administrative Expenses	<ul style="list-style-type: none"> <li>• Prior year’s expenses increased by wage inflation and allocated to tier groups in proportion to assets</li> </ul>

The proposed changes are expected to slightly increase City contribution rates and decrease member contribution rates, particularly for Tier 2 members.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**SECTION 2 – CERTIFICATION**

The purpose of this report is to present the results of the experience study of the City of San José Police and Fire Department Retirement Plan (“The Plan”) covering demographic experience through June 30, 2023. This report is for the use of the Plan in selecting assumptions to be used in actuarial valuations beginning June 30, 2023.

In preparing our report, we relied on information (some oral and some written) supplied by the Plan. This information includes, but is not limited to, the plan provisions, employee data, and financial information. 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.

Cheiron utilizes ProVal actuarial valuation software leased from Winklevoss Technologies (WinTech) to develop exposures and decrements for demographic experience studies. We have relied on WinTech as the developer of ProVal. We have a basic understanding of ProVal 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 experience study.

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 exclusively for the Plan for the purpose described herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user.



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Consulting Actuary



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Principal Consulting Actuary

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
DEMOGRAPHIC EXPERIENCE STUDY AS OF JUNE 30, 2023**

**SECTION 3 – DEMOGRAPHIC ASSUMPTIONS**

**INTRODUCTION TO ANALYSIS OF DEMOGRAPHIC ASSUMPTIONS**

For the demographic assumptions (other than merit salary scale), we determined the ratio of the actual number of decrements for each membership group compared to the expected number of decrements (A/E ratio or actual-to-expected ratio). For example, if the A/E ratio is 90 percent, it means that for every 100 decrements expected, there were only 90 actual decrements in the analysis. If the assumption is perfect, this ratio will be 100 percent, and any recommended assumption change should move from the current A/E ratio towards 100 percent unless future experience is expected to be different than the experience during the period of study.

In addition, we calculated the 90 percent confidence interval, which represents the range within which the true decrement rate during the experience study period fell with 90 percent confidence. (If there is insufficient data to calculate a confidence interval, no confidence interval will be shown.) We generally propose assumption changes when the current assumption is outside the 90 percent 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 disability and mortality rates, we compare the Plan's experience to that of a benchmark table and only adjust the benchmark table to the extent the Plan's experience is large enough to be credible and to ensure that the aggregate mortality or disability rate falls within the 90 percent confidence interval of aggregate experience.

To track how well the assumption fits the pattern of the data, we calculate the percentage of the assumptions that fall within the 90 percent confidence interval, and we calculate an r-squared statistic for each assumption. R-squared can be thought of as the percentage of the variation in actual data explained by the assumption. Ideally, all the assumptions would fall within the 90 percent confidence interval and r-squared would equal 100 percent although this is never the case. Any proposed assumption change should increase the percentage of assumptions within the confidence interval and should increase the r-squared compared to the current assumption making it closer to 100 percent unless the pattern of future decrements is expected to be different from the pattern experienced during the period of study.

Except as otherwise noted, this analysis is based on the last 10 years of plan experience. We reviewed the experience during the pandemic, and if it was materially different than other experience, we considered whether it should be included in the study as representative of a potential future trend or excluded from the study because it was not likely to represent future experience.

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**SECTION 3 – DEMOGRAPHIC ASSUMPTIONS  
MERIT SALARY INCREASES**

**MERIT SALARY INCREASES**

Wage inflation is one of two components of total individual salary increases. In this section, the analysis develops the second of these components: the merit increase. Generally, newer employees are more likely to earn a step increase or receive a promotion, so their salary increases tend to be greater than those for longer service employees.

The merit salary increase assumption is added to the wage inflation assumption to calculate the total salary increase expected for an individual. To analyze the merit component, the across-the-board wage increase negotiated for a given year, representing wage inflation, is subtracted from the average total salary increase for continuing active members at each year of service.

The analysis of the merit salary increase assumption is based on experience from 2014 through 2023. Table 3-S1 below shows the actual increases, the current assumption, and the proposed assumption. Chart 3-S1 on the following page shows the information graphically.

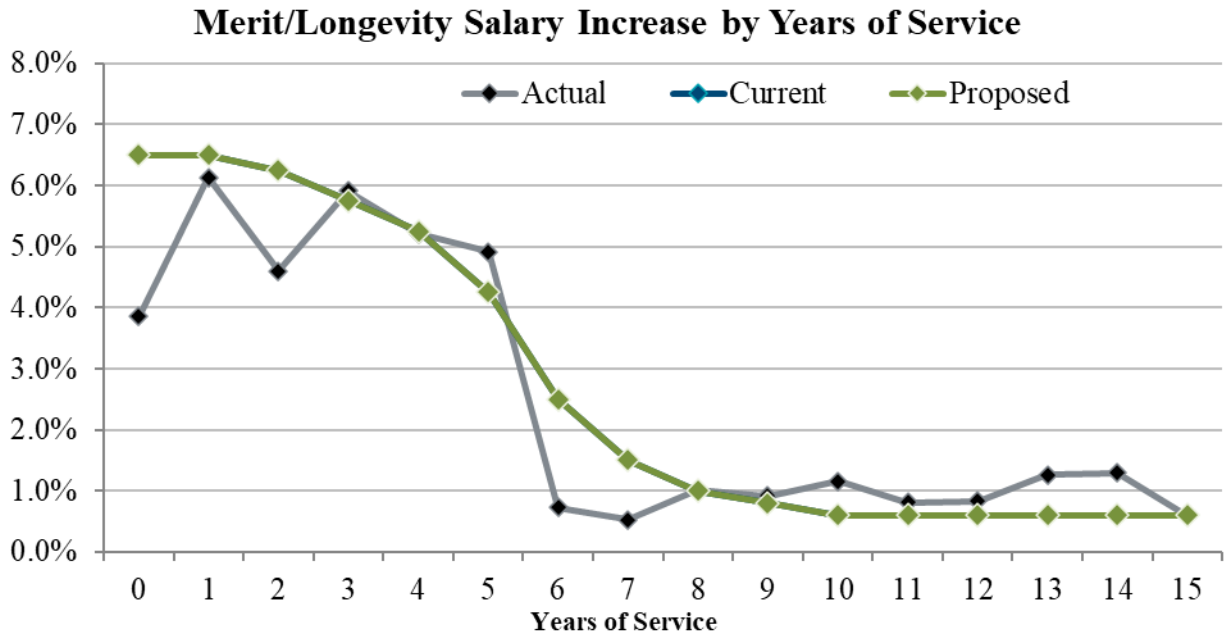
**Table 3-S1**

<b>Merit/Longevity Salary Increases</b>			
<b>Service</b>	<b>Actual</b>	<b>Current</b>	<b>Proposed</b>
<b>0</b>	<b>3.86%</b>	<b>6.50%</b>	<b>6.50%</b>
<b>1</b>	<b>6.14%</b>	<b>6.50%</b>	<b>6.50%</b>
<b>2</b>	<b>4.60%</b>	<b>6.25%</b>	<b>6.25%</b>
<b>3</b>	<b>5.92%</b>	<b>5.75%</b>	<b>5.75%</b>
<b>4</b>	<b>5.21%</b>	<b>5.25%</b>	<b>5.25%</b>
<b>5</b>	<b>4.92%</b>	<b>4.25%</b>	<b>4.25%</b>
<b>6</b>	<b>0.73%</b>	<b>2.50%</b>	<b>2.50%</b>
<b>7</b>	<b>0.52%</b>	<b>1.50%</b>	<b>1.50%</b>
<b>8</b>	<b>1.02%</b>	<b>1.00%</b>	<b>1.00%</b>
<b>9</b>	<b>0.92%</b>	<b>0.80%</b>	<b>0.80%</b>
<b>10</b>	<b>1.16%</b>	<b>0.60%</b>	<b>0.60%</b>
<b>11</b>	<b>0.82%</b>	<b>0.60%</b>	<b>0.60%</b>
<b>12</b>	<b>0.83%</b>	<b>0.60%</b>	<b>0.60%</b>
<b>13</b>	<b>1.26%</b>	<b>0.60%</b>	<b>0.60%</b>
<b>14</b>	<b>1.29%</b>	<b>0.60%</b>	<b>0.60%</b>
<b>15</b>	<b>0.60%</b>	<b>0.60%</b>	<b>0.60%</b>

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SECTION 3 – DEMOGRAPHIC ASSUMPTIONS  
MERIT SALARY INCREASES

Chart 3-S1



Merit salary increases have been lower than expected for early years of service, with the average experience in the first three years of service heavily affected by one year of low increases. The average merit salary increases after the first three years of service remain close to our assumption, and decline afterward. We are not proposing any changes at this time, but will continue to monitor the experience specifically for increases at 10 or more years of service.



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**SECTION 3 – DEMOGRAPHIC ASSUMPTIONS  
RETIREMENT RATES**

**RETIREMENT RATES**

**TIER 1**

The current retirement rates vary by age and are applied only to members who are eligible to retire with no early retirement reduction. There are separate rates for Police and Fire. All members are currently assumed to retire when they reach age 62 or have 30 or more years of service. The data represents experience from 2014 through 2023. The retirement experience in this study supports separate rates for members with less than 24 years of service, members with 25 to 29 years of service, and members with 30 or more years of service. The tables below show the calculation of actual-to-expected ratios, the percentage of rates that are within the 90 percent confidence interval, and the r-squared statistic for each group analyzed. The accompanying charts show the information graphically.

Table 3-R1 below and Chart 3-R1 on the following page show the analysis for Tier 1 Police members with 20 to 24 years of service. The rates of retirement are slightly lower than the current assumption, so we propose a slight decrease to the assumption for ages 58 through 61. The proposed assumption increases the aggregate A/E ratio from 92% to 95%.

**Table 3-R1**

<b>Police Tier 1 Retirement Rates - 20 to 24 Years of Service</b>									
<b>Age</b>	<b>Exposures</b>	<b>Retirements</b>			<b>Retirement Rates</b>			<b>A/E Ratios</b>	
		<b>Actual</b>	<b>Current</b>	<b>Proposed</b>	<b>Actual</b>	<b>Current</b>	<b>Proposed</b>	<b>Current</b>	<b>Proposed</b>
55	53	15	16	16	28.3%	30.0%	30.0%	94%	94%
56	31	10	9	9	32.3%	30.0%	30.0%	108%	108%
57	22	5	7	7	22.7%	30.0%	30.0%	76%	76%
58	11	5	6	5	45.5%	50.0%	45.0%	91%	101%
59	4	1	2	2	25.0%	50.0%	45.0%	50%	56%
60	6	4	3	3	66.7%	50.0%	45.0%	133%	148%
61	2	0	1	1	0.0%	50.0%	45.0%	0%	0%
<b>TOTAL</b>	<b>129</b>	<b>40</b>	<b>43</b>	<b>42</b>	<b>31.0%</b>	<b>33.6%</b>	<b>32.7%</b>	<b>92%</b>	<b>95%</b>
<b>Confidence Interval %</b>			<b>100%</b>	<b>100%</b>					
<b>R-squared</b>			<b>96%</b>	<b>96%</b>					

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**SECTION 3 – DEMOGRAPHIC ASSUMPTIONS  
RETIREMENT RATES**

**Chart 3-R1**

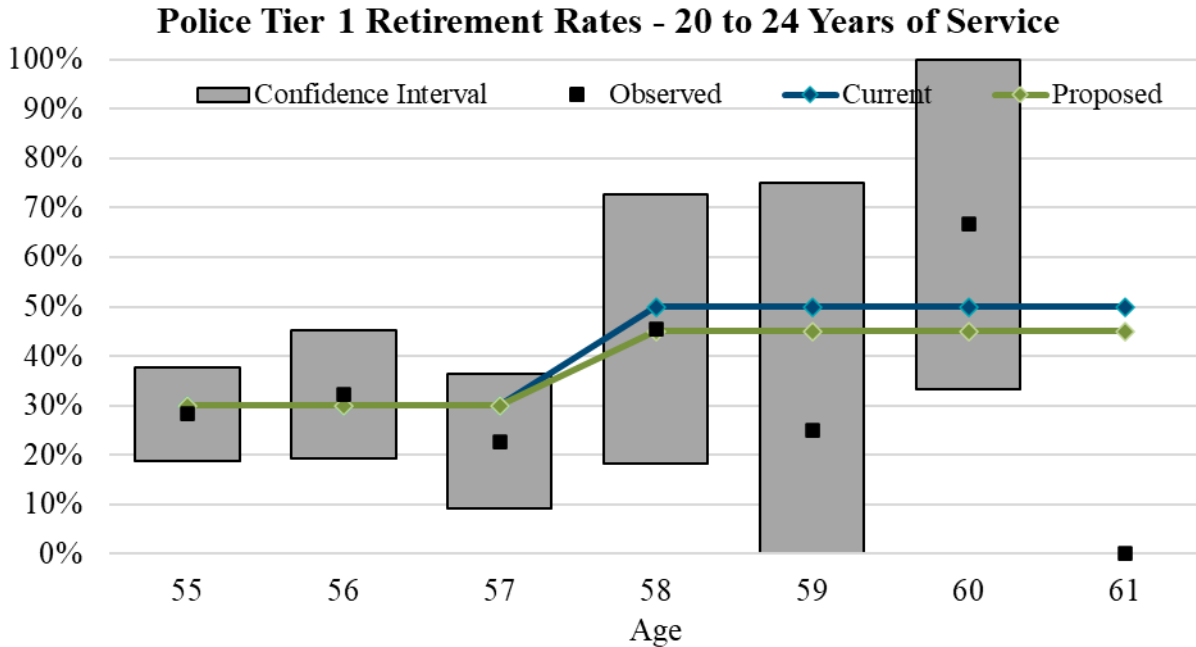


Table 3-R2 below and Chart 3-R2 on the following page show the analysis for Tier 1 Fire members with 20 to 24 years of service. The data is consistent with the current assumption, and no change is proposed.

**Table 3-R2**

<b>Fire Tier 1 Retirement Rates - 20 to 24 Years of Service</b>									
Age	Exposures	Retirements			Retirement Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
55	53	15	16	16	28.3%	30.0%	30.0%	94%	94%
56	30	7	8	8	23.3%	25.0%	25.0%	93%	93%
57	22	3	4	4	13.6%	20.0%	20.0%	68%	68%
58	20	6	6	6	30.0%	27.5%	27.5%	109%	109%
59	6	3	2	2	50.0%	27.5%	27.5%	182%	182%
60	3	1	1	1	33.3%	27.5%	27.5%	121%	121%
61	2	1	1	1	50.0%	27.5%	27.5%	182%	182%
<b>TOTAL</b>	<b>136</b>	<b>36</b>	<b>36</b>	<b>36</b>	<b>26.5%</b>	<b>26.7%</b>	<b>26.7%</b>	<b>99%</b>	<b>99%</b>
<b>Confidence Interval %</b>			<b>100%</b>	<b>100%</b>					
<b>R-squared</b>			<b>97%</b>	<b>97%</b>					

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**SECTION 3 – DEMOGRAPHIC ASSUMPTIONS  
RETIREMENT RATES**

**Chart 3-R2**

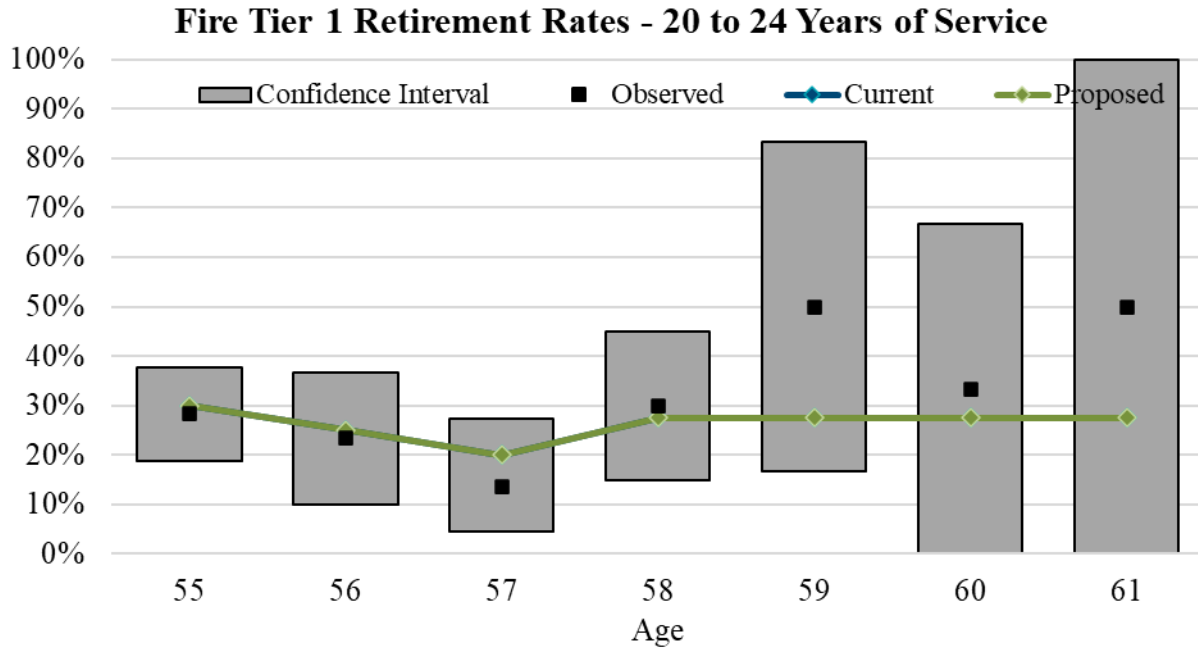


Table 3-R3 and Chart 3-R3 on the following page show the analysis for Tier 1 Police members with 25 to 29 years of service. The rates of retirement are slightly higher than the current assumption. We propose changes for ages 52 through 57. The proposed changes decrease the aggregate A/E from 105% to 100%.

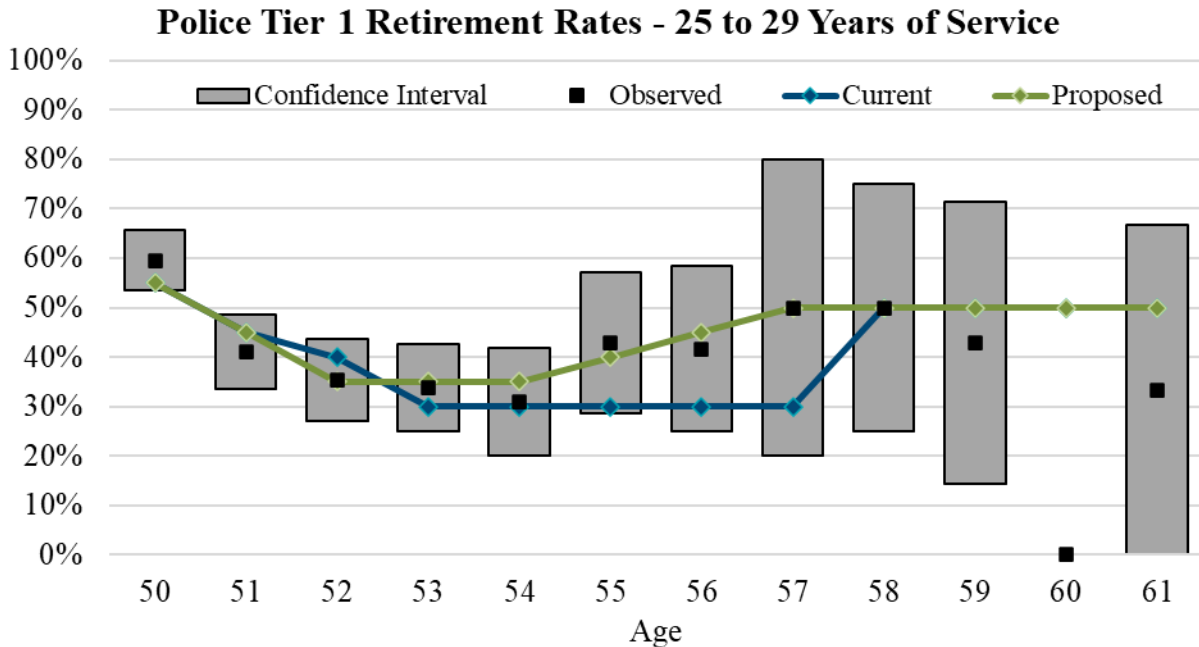
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**SECTION 3 – DEMOGRAPHIC ASSUMPTIONS  
RETIREMENT RATES**

**Table 3-R3**

Police Tier 1 Retirement Rates - 25 to 29 Years of Service									
Age	Exposures	Retirements			Retirement Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
50	163	97	90	90	59.5%	55.0%	55.0%	108%	108%
51	107	44	48	48	41.1%	45.0%	45.0%	91%	91%
52	85	30	34	30	35.3%	40.0%	35.0%	88%	101%
53	80	27	24	28	33.8%	30.0%	35.0%	113%	96%
54	55	17	17	19	30.9%	30.0%	35.0%	103%	88%
55	35	15	11	14	42.9%	30.0%	40.0%	143%	107%
56	24	10	7	11	41.7%	30.0%	45.0%	139%	93%
57	10	5	3	5	50.0%	30.0%	50.0%	167%	100%
58	8	4	4	4	50.0%	50.0%	50.0%	100%	100%
59	7	3	4	4	42.9%	50.0%	50.0%	86%	86%
60	4	0	2	2	0.0%	50.0%	50.0%	0%	0%
61	3	1	2	2	33.3%	50.0%	50.0%	67%	67%
<b>TOTAL</b>	<b>567</b>	<b>249</b>	<b>237</b>	<b>249</b>	<b>43.9%</b>	<b>41.8%</b>	<b>43.8%</b>	<b>105%</b>	<b>100%</b>
<b>Confidence Interval %</b>			<b>100%</b>	<b>100%</b>					
<b>R-squared</b>			<b>99%</b>	<b>99%</b>					

**Chart 3-R3**



**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**SECTION 3 – DEMOGRAPHIC ASSUMPTIONS  
RETIREMENT RATES**

Table 3-R4 below and Chart 3-R4 on the following page show the analysis for Tier 1 Fire members with 25 to 29 years of service. The rates of retirement are higher than the current assumption. We propose changes for all ages. The proposed assumptions decrease the aggregate A/E from 116% to 98%, increase the percentage of rates that are within the confidence interval, and increase the r-squared from 84% to 91%.

**Table 3-R4**

<b>Fire Tier 1 Retirement Rates - 25 to 29 Years of Service</b>									
<b>Age</b>	<b>Exposures</b>	<b>Retirements</b>			<b>Retirement Rates</b>			<b>A/E Ratios</b>	
		<b>Actual</b>	<b>Current</b>	<b>Proposed</b>	<b>Actual</b>	<b>Current</b>	<b>Proposed</b>	<b>Current</b>	<b>Proposed</b>
50	47	21	16	21	44.7%	35.0%	45.0%	128%	99%
51	38	8	13	11	21.1%	35.0%	30.0%	60%	70%
52	40	14	14	16	35.0%	35.0%	40.0%	100%	88%
53	41	21	14	16	51.2%	35.0%	40.0%	146%	128%
54	31	12	11	12	38.7%	35.0%	40.0%	111%	97%
55	22	10	7	9	45.5%	30.0%	40.0%	152%	114%
56	11	4	3	4	36.4%	25.0%	40.0%	145%	91%
57	9	1	2	4	11.1%	20.0%	40.0%	56%	28%
58	10	5	3	4	50.0%	27.5%	40.0%	182%	125%
59	8	3	2	3	37.5%	27.5%	40.0%	136%	94%
60	4	0	1	2	0.0%	27.5%	40.0%	0%	0%
61	1	2	0	0	200.0%	27.5%	40.0%	727%	500%
<b>TOTAL</b>	<b>249</b>	<b>96</b>	<b>83</b>	<b>98</b>	<b>38.6%</b>	<b>33.3%</b>	<b>39.4%</b>	<b>116%</b>	<b>98%</b>
<b>Confidence Interval %</b>			<b>80%</b>	<b>90%</b>					
<b>R-squared</b>			<b>84%</b>	<b>91%</b>					

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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**SECTION 3 – DEMOGRAPHIC ASSUMPTIONS  
RETIREMENT RATES**

**Chart 3-R4**

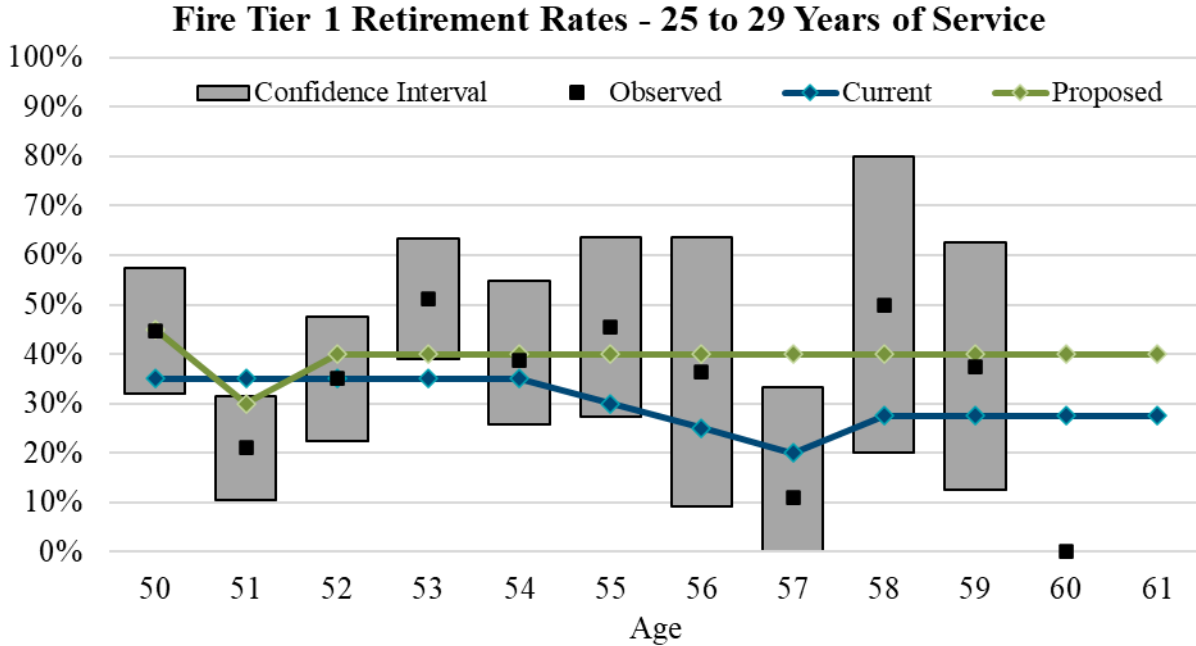


Table 3-R5 and Chart 3-R5 on the following page show the analysis for Tier 1 Police members with 30 or more years of service. While there is not a lot of data because most members retire by the time they have 30 years of service, the rates of retirement are clearly lower than the current assumption of 100%. We propose changing the assumption to 60% for all ages. The proposed assumptions increase the aggregate A/E from 60% to 100%.

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**SECTION 3 – DEMOGRAPHIC ASSUMPTIONS  
RETIREMENT RATES**

**Table 3-R5**

<b>Police Tier 1 Retirement Rates - 30 to 35 Years of Service</b>									
Age	Exposures	Retirements			Retirement Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
50	0	0	0	0	0.0%	100.0%	60.0%	0%	0%
51	0	0	0	0	0.0%	100.0%	60.0%	0%	0%
52	4	3	4	2	75.0%	100.0%	60.0%	75%	125%
53	1	1	1	1	100.0%	100.0%	60.0%	100%	167%
54	5	2	5	3	40.0%	100.0%	60.0%	40%	67%
55	6	5	6	4	83.3%	100.0%	60.0%	83%	139%
56	2	1	2	1	50.0%	100.0%	60.0%	50%	83%
57	4	1	4	2	25.0%	100.0%	60.0%	25%	42%
58	3	2	3	2	66.7%	100.0%	60.0%	67%	111%
59	1	1	1	1	100.0%	100.0%	60.0%	100%	167%
60	0	0	0	0	0.0%	100.0%	60.0%	0%	0%
61	1	0	1	1	0.0%	100.0%	60.0%	0%	0%
<b>TOTAL</b>	<b>25</b>	<b>15</b>	<b>25</b>	<b>15</b>	<b>60.0%</b>	<b>100.0%</b>	<b>60.0%</b>	<b>60%</b>	<b>100%</b>
<b>Confidence Interval %</b>			<b>67%</b>	<b>100%</b>					
<b>R-squared</b>			<b>76%</b>	<b>76%</b>					

**Chart 3-R5**

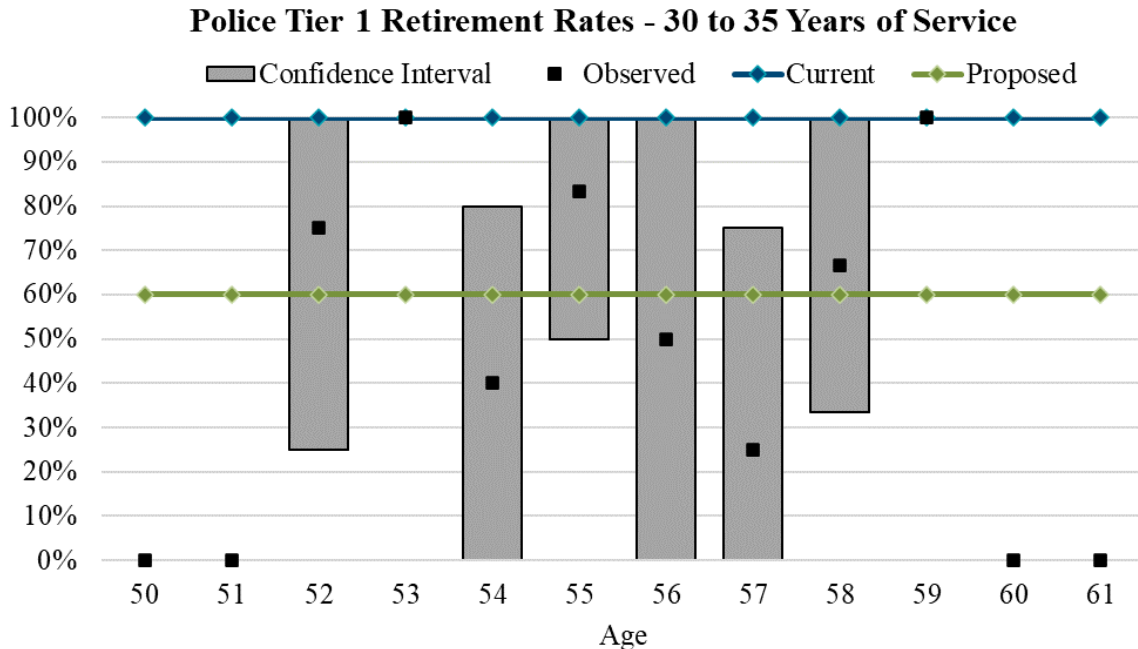


Table 3-R6 and Chart 3-R6 on the following page show the analysis for Tier 1 Fire members with 30 or more years of service. While there is not a lot of data because most members retire by the time they have 30 years of service, the rates of retirement are clearly lower than the current

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RETIREMENT RATES**

assumption of 100%. We propose changing the assumption to 50% for ages 50 to 54. The proposed assumptions increase the aggregate A/E from 36% to 59%.

**Table 3-R6**

Fire Tier 1 Retirement Rates - 30 to 35 Years of Service									
Age	Exposures	Retirements			Retirement Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
50	2	1	2	1	50.0%	100.0%	50.0%	50%	100%
51	2	0	2	1	0.0%	100.0%	50.0%	0%	0%
52	3	1	3	2	33.3%	100.0%	50.0%	33%	67%
53	4	1	4	2	25.0%	100.0%	50.0%	25%	50%
54	6	2	6	3	33.3%	100.0%	50.0%	33%	67%
55	4	2	4	4	50.0%	100.0%	100.0%	50%	50%
56	0	0	0	0	0.0%	100.0%	100.0%	0%	0%
57	1	1	1	1	100.0%	100.0%	100.0%	100%	100%
58	0	0	0	0	0.0%	100.0%	100.0%	0%	0%
59	1	1	1	1	100.0%	100.0%	100.0%	100%	100%
60	0	0	0	0	0.0%	100.0%	100.0%	0%	0%
61	1	1	1	1	100.0%	100.0%	100.0%	100%	100%
<b>TOTAL</b>	<b>22</b>	<b>8</b>	<b>22</b>	<b>14</b>	<b>36.4%</b>	<b>100.0%</b>	<b>61.4%</b>	<b>36%</b>	<b>59%</b>
<b>Confidence Interval %</b>			<b>40%</b>	<b>100%</b>					
<b>R-squared</b>			<b>64%</b>	<b>80%</b>					

**Chart 3-R6**





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RETIREMENT RATES**

**TIER 2**

New Tier 2 retirement rates were developed in April 2017 for the implementation of Measure F based on experience from CalPERS for a plan with comparable benefits. The period of this experience study does not include any retirement experience for Tier 2. As a result, we are not proposing any changes to the retirement rate assumptions for Tier 2.

**RETIREMENT AGE FOR TERMINATED VESTED MEMBERS**

Tier 1 terminated vested members are eligible to retire as early as age 50 with 25 years of service and age 55 with 20 years of service. Currently, we assume Tier 1 terminated vested members with 25 or more years of service will retire at age 50 and terminated vested members with less than 25 years of service will retire at age 55. We propose no change to this assumption.

Tier 2 terminated vested members receive an actuarially equivalent benefit if they retire before age 60. For valuation purposes, Tier 2 terminated vested members are assumed to retire at age 60.

**SECTION 3 – DEMOGRAPHIC ASSUMPTIONS  
DISABILITY RATES**

**DISABILITY RATES**

This section analyzes the incidence of disability by the age of the employee. There is one unisex assumption for males and females at each age. Unlike many of the other demographic assumptions that rely exclusively on the experience of the plan, disability rates are a blend between a table based on a much larger data set and adjustments to that table to better match the Plan’s actual experience to the extent it is credible.

The current assumption for Police members is based on the sum of the 2014 CalPERS police industrial and non-industrial disability rates for public agencies adjusting the rates to 90 percent of the CalPERS rates for ages under 50 and 140 percent of the CalPERS rates for ages 50 and older. The current assumption for Fire members is based on the sum of the 2014 CalPERS fire industrial and non-industrial disability rates for public agencies adjusting the rates to 90 percent of the CalPERS rates for ages under 50 and 180 percent of the CalPERS rates for ages 50 and older.

Disability reforms appear to have reduced rates of disability for both Police and Fire members, particularly for members aged 50 or older. To reflect the experience after the reforms while maintaining a sufficient amount of data for analysis, we did not use data prior to 2016. We also excluded experience after 2021 because there is a lag in processing disabilities that makes data in the most recent years unreliable. We also found that the disability experience for Police and Fire members was similar, so we combined the data into a single analysis.

Table 3-D1 summarizes our analysis of the disability incidence assumption for all active Police and Fire members showing the calculation of actual-to-expected ratios, the percentage of rates that are within the 90 percent confidence interval, and the r-squared statistic. Actual rates of disability are significantly lower than the current assumption for ages 50 and older. The proposed assumption of 104% of the 2021 CalPERS Police Officers & Firefighters (POFF) industrial and non-industrial rates improves the A/E ratio from 46% to 109%.

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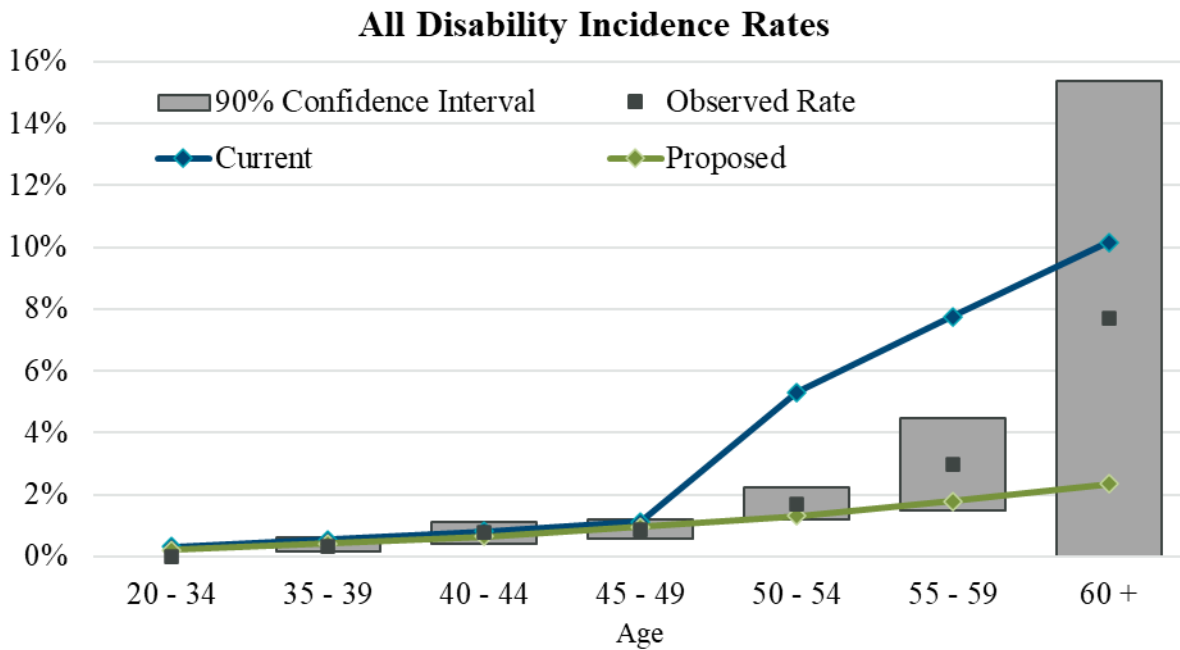
**SECTION 3 – DEMOGRAPHIC ASSUMPTIONS  
DISABILITY RATES**

**Table 3-D1**

All Disability Incidence Rates									
Age Band	Exposures	Disabilities			Average Disability Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
20 - 34	2,157	0	7	4	0.00%	0.31%	0.21%	0%	0%
35 - 39	1,474	5	8	6	0.34%	0.53%	0.41%	64%	83%
40 - 44	1,706	13	14	11	0.76%	0.80%	0.63%	95%	120%
45 - 49	2,393	21	27	23	0.88%	1.12%	0.95%	78%	93%
50 - 54	1,660	28	88	22	1.69%	5.31%	1.31%	32%	129%
55 - 59	335	10	26	6	2.99%	7.75%	1.78%	39%	168%
60 +	26	2	3	1	7.69%	10.17%	2.34%	76%	329%
<b>Total</b>	<b>9,751</b>	<b>79</b>	<b>172</b>	<b>72</b>	<b>0.81%</b>	<b>1.76%</b>	<b>0.74%</b>	<b>46%</b>	<b>109%</b>
<b>Confidence Interval %</b>			<b>67%</b>	<b>100%</b>					
<b>R-squared</b>			<b>60%</b>	<b>70%</b>					

Chart 3-D1 below shows the actual disability rates for age bands of Police and Fire members, the 90 percent confidence interval for each age band, the current assumption, and the proposed assumption. As noted above, the proposed assumption reflects the lower disability rates for ages 50 and older.

**Chart 3-D1**



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**SECTION 3 – DEMOGRAPHIC ASSUMPTIONS  
DISABILITY RATES**

**PROPORTION OF DUTY AND NON-DUTY DISABILITIES**

When a member suffers from a disability, the nature of the disablement determines the benefit amount they will receive while disabled. The current assumption is that 100 percent of disabilities are duty related.

The June 30, 2023 valuation data has 848 disabled retirees, 820 (over 96%) are retired due to duty-related disabilities. We propose maintaining the assumed percentage of duty-related disabilities at 100 percent.

**SECTION 3 – DEMOGRAPHIC ASSUMPTIONS  
MORTALITY RATES**

## **MORTALITY RATES**

Post-retirement mortality assumptions are typically developed separately by sex for both healthy annuitants and disabled annuitants. Pre-retirement mortality assumptions are also developed separately for males and females. Unlike many of the other demographic assumptions that rely exclusively on the experience of the plan, for mortality, published mortality tables and projection scales serve as the primary basis for the assumption.

The steps in our analysis are as follows:

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

When actual experience of the Plan is compared to that of the published table, the experience is weighted based on the amount of benefit being paid (or salary for active members). Mortality studies in the U.S. have consistently shown that higher income individuals have longer life expectancies than lower income individuals. Because higher income individuals also typically have higher pension benefit amounts, it is important for a pension plan to use assumptions that are weighted to reflect the impact on the Plan's liability.

Historically, pension plans used a static mortality assumption. That is, the same mortality rates were used for all members regardless of their year of birth. With mortality improvements, however, we expect that the mortality rate at age 70, for example, will be different for someone who is currently age 40 than it is for someone who is age 70 today.

A generational mortality assumption uses a separate mortality table for each year of birth so that the mortality rate at age 70 of someone who is 40 today reflects 30 years of expected mortality improvement while the rate for someone who is currently age 70 does not. A generational assumption more accurately measures the liability associated with each individual. Consequently, the Society of Actuaries and others strongly recommend the use of generational mortality assumptions.

### **Mortality Projection Scale**

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 Society of Actuaries published mortality improvement scales each year from 2014 to 2021. However, with the impact of COVID on mortality, no new scales have been published. Consequently, we propose continuing to use the MP-2021 mortality projection scale.

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**SECTION 3 – DEMOGRAPHIC ASSUMPTIONS  
MORTALITY RATES**

The current assumptions are based on the Pub-2010 tables published in January 2019, by the Society of Actuaries. These tables were developed exclusively using public plan experience and contain separate tables based on public safety member mortality experience. The Pub-2010 tables (other than disability) are also separated based on income or benefit amount. We found the above median income safety tables to provide the best fit for members and the main general tables to provide the best fit for beneficiaries.

Our analysis is based on the Plan’s experience from 2009 through 2023, producing a central year for the study of 2016. Since the central year of the Pub-2010 tables is 2010, our analysis adjusts those tables for mortality improvement to 2016 using scale MP-2021 to compare to the Plan’s experience.

**Healthy Retiree Mortality**

<b>Base Mortality Table for Healthy Retirees</b>			
<b>Assumption</b>	<b>Published Table</b>	<b>Male Factor</b>	<b>Female Factor</b>
Current	PubS-2010(A) Healthy Retirees	1.002	1.002
Proposed	PubS-2010(A) Healthy Retirees	0.972	0.972

The table below summarizes our analysis and development of the base mortality tables for healthy retirees. The actual-to-expected ratios are shown on the right side of the table. The ratio for the current assumption for males is 92 percent. Since this is a benefit-weighted analysis, this means that there were \$92 of benefits that ceased due to actual deaths for every \$100 of benefits expected to cease. Given the credibility of the data, we propose to reduce the factor currently applied to the published table from 1.002 to 0.972, which increases the A/E ratio to 95 percent.

The A/E ratio for the current assumption for females is 29%, but there were only three deaths in the analysis. Since this data is not credible, we continue to apply the same adjustment factor for females that we apply for males, which increases the A/E ratio for females to 30%.

**Table 3-M1**

<b>Healthy Retiree Mortality</b>								
<b>Sex</b>	<b>Exposures</b>	<b>Actual Deaths</b>	<b>Weighted Exposures</b>	<b>Weighted Deaths</b>			<b>A/E Ratios</b>	
				<b>Actual</b>	<b>Current</b>	<b>Proposed</b>	<b>Current</b>	<b>Proposed</b>
Male	12,031	133	105,391,666	979,765	1,066,383	1,034,455	92%	95%
Female	736	3	5,903,880	10,555	36,045	34,966	29%	30%
<b>Total</b>	<b>12,767</b>	<b>136</b>	<b>111,295,546</b>	<b>990,320</b>	<b>1,102,428</b>	<b>1,069,421</b>	<b>90%</b>	<b>93%</b>

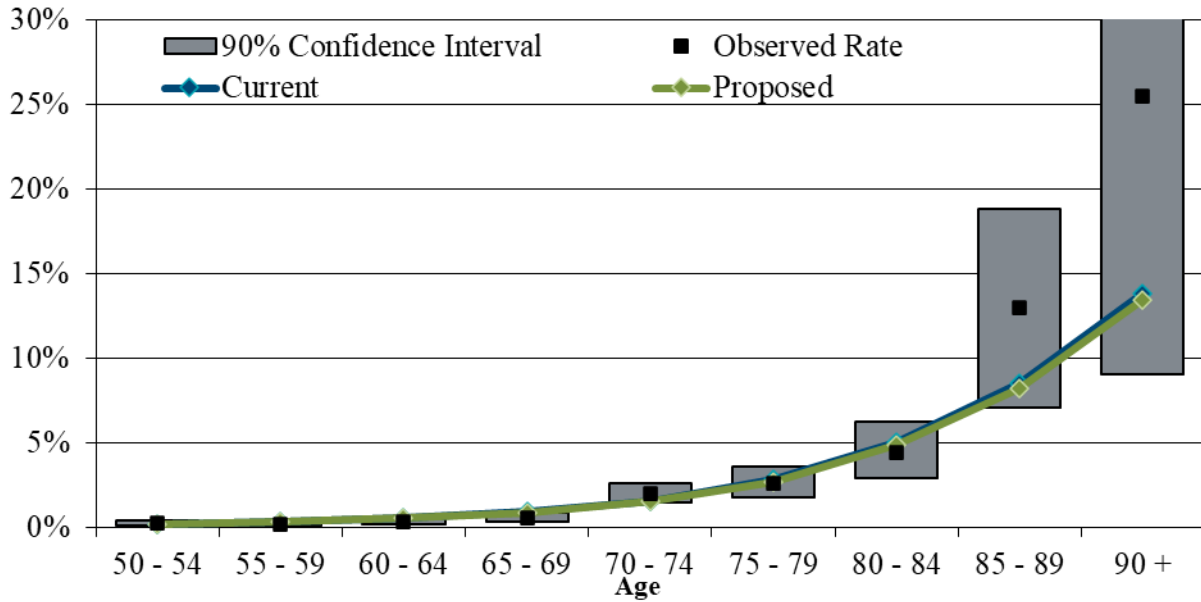
**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
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MORTALITY RATES**

The chart below shows the actual mortality rates for male retirees for five-year age bands from age 50 to age 89 plus all experience for ages 90 and older, the 90 percent confidence interval for each age band, the current assumption, and the proposed base table assumption. Given the lack of data, there is no chart for female retirees.

**Chart 3-M1**

**Male Healthy Retiree Mortality**



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**SECTION 3 – DEMOGRAPHIC ASSUMPTIONS  
MORTALITY RATES**

**Disabled Retiree Mortality**

<b>Base Mortality Table for Disabled Retirees</b>			
<b>Assumption</b>	<b>Published Table</b>	<b>Male Factor</b>	<b>Female Factor</b>
Current	PubS-2010 Disabled Retirees	0.915	0.915
Proposed	PubS-2010 Disabled Retirees	0.915	0.915

The table below summarizes our analysis and development of the base mortality table for disabled retirees. The actual-to-expected ratios are shown on the right side of the table. For the current assumption, the actual-to-expected ratio is 95 percent for males and 71 percent for females. As with healthy retiree mortality, the data for females is not credible, so we apply the same adjustment factor of 0.915 that we use for males to the published table. We propose no changes for disabled retiree mortality.

**Table 3-M2**

<b>Disabled Retiree Mortality</b>								
<b>Sex</b>	<b>Exposures</b>	<b>Actual Deaths</b>	<b>Weighted Exposures</b>	<b>Weighted Deaths</b>			<b>A/E Ratios</b>	
				<b>Actual</b>	<b>Current</b>	<b>Proposed</b>	<b>Current</b>	<b>Proposed</b>
Male	11,554	296	83,682,641	1,737,552	1,830,184	1,830,179	95%	95%
Female	506	5	3,311,598	16,751	23,490	23,490	71%	71%
<b>Total</b>	<b>12,060</b>	<b>301</b>	<b>86,994,239</b>	<b>1,754,303</b>	<b>1,853,674</b>	<b>1,853,668</b>	<b>95%</b>	<b>95%</b>

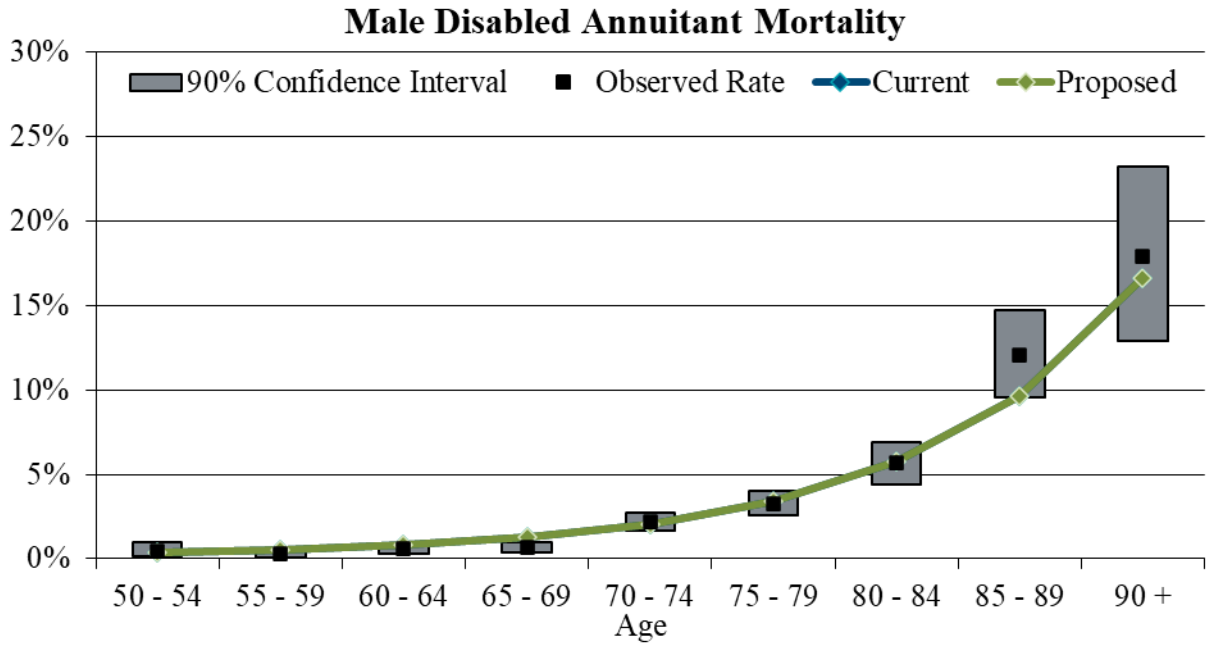
The chart on the following page shows the actual mortality rates for male disabled retirees for five-year age bands from age 55 to age 89 plus all experience for ages 90 and older, the 90 percent confidence interval for each age band, the current assumption, and the proposed base table assumption. Given the lack of data, there is no chart for female retirees.



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Chart 3-M2



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**SECTION 3 – DEMOGRAPHIC ASSUMPTIONS  
MORTALITY RATES**

**Beneficiary Mortality**

<b>Base Mortality Table for Beneficiaries</b>			
<b>Assumption</b>	<b>Published Table</b>	<b>Male Factor</b>	<b>Female Factor</b>
Current	PubG-2010 Healthy Retirees	1.032	1.032
Proposed	PubG-2010 Healthy Retirees	1.032	1.032

The Plan’s valuation data for beneficiaries is only maintained after the death of the retiree. In the SOA’s analysis, mortality rates for contingent survivors are higher than the mortality rates for similarly categorized retirees. There have been studies documenting a grieving widow(er) effect on mortality, but the higher mortality rates could also be due to other factors correlated with beneficiary status. Because the beneficiary data available is only after the retiree’s death, we would expect the mortality tables to produce higher actual-to-expected ratios.

The table below summarizes our analysis and development of the base mortality table for beneficiaries. The actual-to-expected ratios are shown on the right side of the table. For the current assumption, the actual-to-expected ratio is 119 percent for males and 117 percent for females. The data for males is not credible, so we apply the same adjustment factor of 1.032 that we use for females to the published table. We propose no changes for beneficiary mortality.

**Table 3-M3**

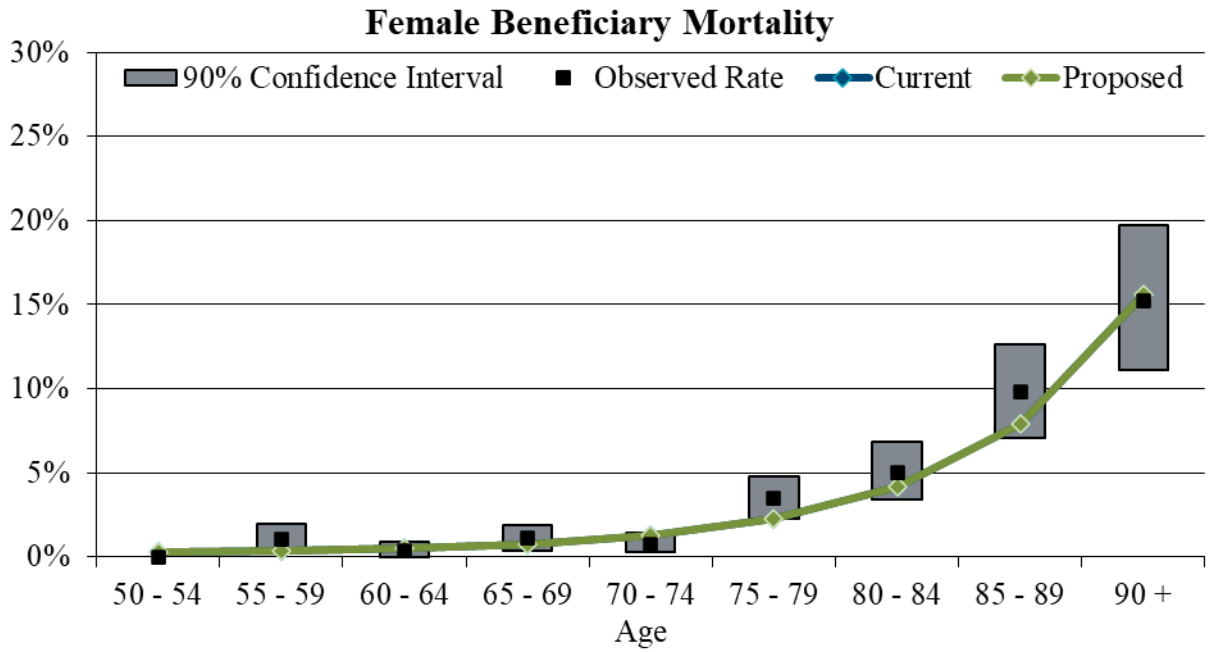
<b>Beneficiary Mortality</b>								
<b>Sex</b>	<b>Exposures</b>	<b>Actual Deaths</b>	<b>Weighted Exposures</b>	<b>Weighted Deaths</b>			<b>A/E Ratios</b>	
				<b>Actual</b>	<b>Current</b>	<b>Proposed</b>	<b>Current</b>	<b>Proposed</b>
Male	38	2	104,877	3,843	3,235	3,235	119%	119%
Female	3,643	119	12,572,895	372,189	318,511	318,511	117%	117%
<b>Total</b>	<b>3,681</b>	<b>121</b>	<b>12,677,772</b>	<b>376,033</b>	<b>321,746</b>	<b>321,746</b>	<b>117%</b>	<b>117%</b>

The chart on the next page shows the actual mortality rates for female beneficiaries for five-year age bands from age 50 to age 89 plus all experience for ages 90 and older, the 90 percent confidence interval for each age band, the current assumption, and the proposed base table assumption. Given the lack of data, there is no chart for male beneficiaries.

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Chart 3-M3



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MORTALITY RATES**

**Non-Annuitant Mortality**

<b>Base Mortality Table for Non-Annuitants</b>			
<b>Assumption</b>	<b>Published Table</b>	<b>Male Factor</b>	<b>Female Factor</b>
Current	PubS-2010(A) Employees	0.979	0.979
Proposed	PubS-2010(A) Employees	0.979	0.979

The table below summarizes our analysis and development of the base mortality table for non-annuitants. The actual-to-expected ratios are shown on the right side of the table. For the current assumption, the actual-to-expected ratio is 70 percent for males and 121 percent for females. With only 12 combined deaths, the actual experience of the Plan is not credible. We propose no change.

**Table 3-M4**

<b>Non-Annuitant Mortality</b>								
<b>Sex</b>	<b>Exposures</b>	<b>Actual Deaths</b>	<b>Weighted Exposures</b>	<b>Weighted Deaths</b>			<b>A/E Ratios</b>	
				<b>Actual</b>	<b>Current</b>	<b>Proposed</b>	<b>Current</b>	<b>Proposed</b>
Male	22,308	11	2,840,388,424	1,404,956	2,011,004	2,011,004	70%	70%
Female	1,961	1	245,011,475	147,510	122,088	122,088	121%	121%
<b>Total</b>	<b>24,269</b>	<b>12</b>	<b>3,085,399,899</b>	<b>1,552,466</b>	<b>2,133,093</b>	<b>2,133,093</b>	<b>73%</b>	<b>73%</b>

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**SECTION 3 – DEMOGRAPHIC ASSUMPTIONS  
TERMINATION RATES**

**TERMINATION RATES**

The current termination assumptions vary depending on the member’s years of service. The data represents the experience of the Plan from 2014 through 2023. Tier 1 and Tier 2 members are analyzed together although setting the assumption based on service effectively divides the two tiers.

Table 3-T1 below shows the calculation of actual-to-expected ratios, the percentage of rates within the 90 percent confidence interval, and the r-squared statistic for Police members; and Chart 3-T1 on the following page shows the information graphically.

**Table 3-T1**

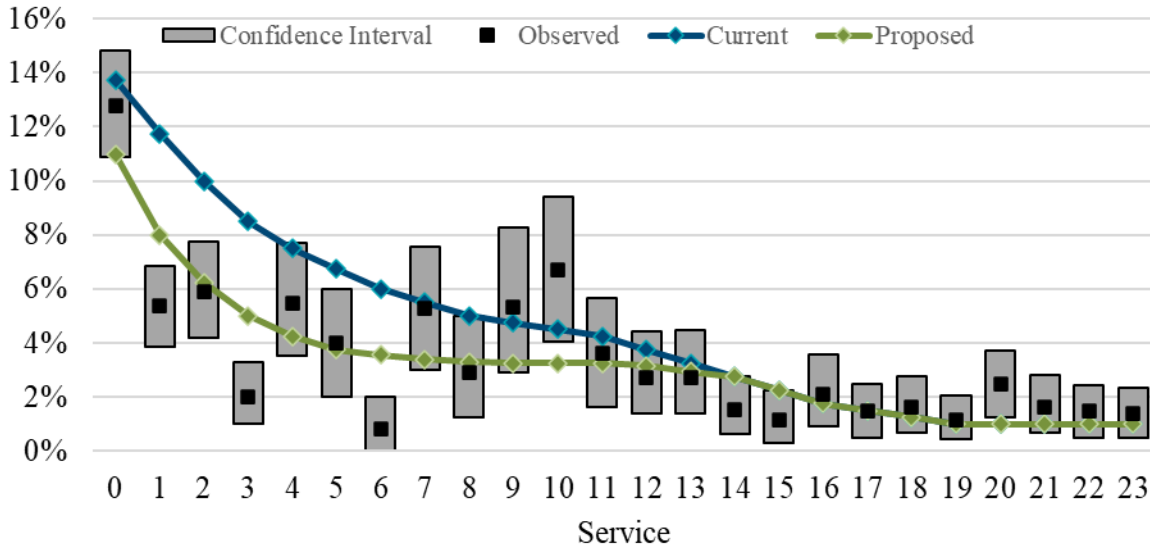
Police Termination Rates - Ages 20 to 61									
Service	Exposures	Terminations			Termination Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
0	790	101	109	87	12.78%	13.75%	11.00%	93%	116%
1	597	32	70	48	5.36%	11.75%	8.00%	46%	67%
2	476	28	48	30	5.88%	10.00%	6.25%	59%	94%
3	397	8	34	20	2.02%	8.50%	5.00%	24%	40%
4	311	17	23	13	5.47%	7.50%	4.25%	73%	129%
5	250	10	17	9	4.00%	6.75%	3.75%	59%	107%
6	251	2	15	9	0.80%	6.00%	3.55%	13%	22%
7	265	14	15	9	5.28%	5.50%	3.40%	96%	155%
8	241	7	12	8	2.90%	5.00%	3.30%	58%	88%
9	206	11	10	7	5.34%	4.75%	3.25%	112%	164%
10	223	15	10	7	6.73%	4.50%	3.25%	149%	207%
11	248	9	11	8	3.63%	4.25%	3.25%	85%	112%
12	293	8	11	9	2.73%	3.75%	3.15%	73%	87%
13	292	8	9	9	2.74%	3.25%	2.95%	84%	93%
14	326	5	9	9	1.53%	2.75%	2.75%	56%	56%
15	354	4	8	8	1.13%	2.25%	2.25%	50%	50%
16	334	7	6	6	2.10%	1.75%	1.75%	120%	120%
17	400	6	6	6	1.50%	1.50%	1.50%	100%	100%
18	434	7	5	5	1.61%	1.25%	1.25%	129%	129%
19	443	5	4	4	1.13%	1.00%	1.00%	113%	113%
20	404	10	4	4	2.48%	1.00%	1.00%	248%	248%
21	429	7	4	4	1.63%	1.00%	1.00%	163%	163%
22	409	6	4	4	1.47%	1.00%	1.00%	147%	147%
23	427	6	4	4	1.41%	1.00%	1.00%	141%	141%
<b>TOTAL</b>	<b>8,800</b>	<b>333</b>	<b>448</b>	<b>328</b>	<b>3.78%</b>	<b>5.09%</b>	<b>3.73%</b>	<b>74%</b>	<b>102%</b>
<b>Confidence Interval %</b>			<b>71%</b>	<b>79%</b>					
<b>R-squared</b>			<b>84%</b>	<b>91%</b>					

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
DEMOGRAPHIC EXPERIENCE STUDY AS OF JUNE 30, 2023**

**SECTION 3 – DEMOGRAPHIC ASSUMPTIONS  
TERMINATION RATES**

**Chart 3-T1**

**Police Termination Rates - Ages 20 to 61**



In aggregate, the data shows lower actual termination rates than expected under the current assumption with an actual-to-expected ratio of 74 percent. Somewhat high termination experience in 2014 and 2015 balanced out the low termination experience during the pandemic. The proposed assumptions decrease the termination rates for members with less than 14 years of service which increases the A/E ratio to 102 percent.

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**SECTION 3 – DEMOGRAPHIC ASSUMPTIONS  
TERMINATION RATES**

Table 3-T2 shows the calculation of actual-to-expected ratios, the percentage of rates within the 90 percent confidence interval, and the r-squared statistic for Fire members; and Chart 3-T2 shows the information graphically.

**Table 3-T2**

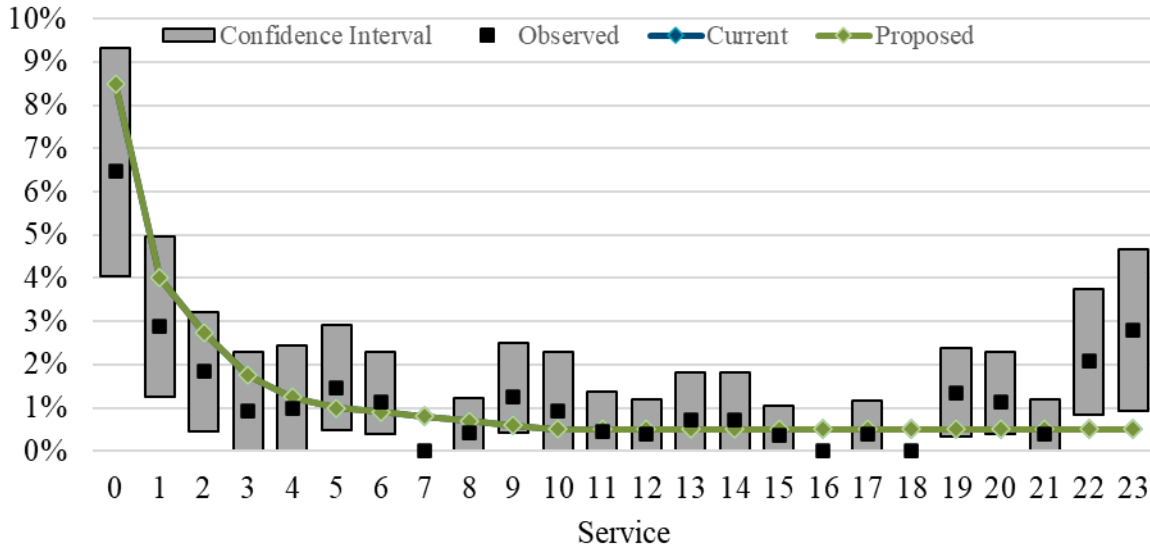
Fire Termination Rates - Ages 20 to 61									
Service	Exposures	Terminations			Termination Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
0	247	16	21	21	6.48%	8.50%	8.50%	76%	76%
1	242	7	10	10	2.89%	4.00%	4.00%	72%	72%
2	218	4	6	6	1.83%	2.75%	2.75%	67%	67%
3	217	2	4	4	0.92%	1.75%	1.75%	53%	53%
4	205	2	3	3	0.98%	1.25%	1.25%	78%	78%
5	205	3	2	2	1.46%	1.00%	1.00%	146%	146%
6	262	3	2	2	1.15%	0.90%	0.90%	127%	127%
7	256	0	2	2	0.00%	0.80%	0.80%	0%	0%
8	244	1	2	2	0.41%	0.70%	0.70%	59%	59%
9	240	3	1	1	1.25%	0.60%	0.60%	208%	208%
10	217	2	1	1	0.92%	0.50%	0.50%	184%	184%
11	217	1	1	1	0.46%	0.50%	0.50%	92%	92%
12	249	1	1	1	0.40%	0.50%	0.50%	80%	80%
13	277	2	1	1	0.72%	0.50%	0.50%	144%	144%
14	273	2	1	1	0.73%	0.50%	0.50%	147%	147%
15	285	1	1	1	0.35%	0.50%	0.50%	70%	70%
16	248	0	1	1	0.00%	0.50%	0.50%	0%	0%
17	257	1	1	1	0.39%	0.50%	0.50%	78%	78%
18	280	0	1	1	0.00%	0.50%	0.50%	0%	0%
19	295	4	1	1	1.36%	0.50%	0.50%	271%	271%
20	262	3	1	1	1.15%	0.50%	0.50%	229%	229%
21	252	1	1	1	0.40%	0.50%	0.50%	79%	79%
22	240	5	1	1	2.08%	0.50%	0.50%	417%	417%
23	214	6	1	1	2.80%	0.50%	0.50%	561%	561%
<b>TOTAL</b>	<b>5,902</b>	<b>70</b>	<b>70</b>	<b>70</b>	<b>1.19%</b>	<b>1.19%</b>	<b>1.19%</b>	<b>99%</b>	<b>99%</b>
<b>Confidence Interval %</b>			<b>79%</b>	<b>79%</b>					
<b>R-squared</b>			<b>77%</b>	<b>77%</b>					

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
DEMOGRAPHIC EXPERIENCE STUDY AS OF JUNE 30, 2023**

**SECTION 3 – DEMOGRAPHIC ASSUMPTIONS  
TERMINATION RATES**

**Chart 3-T2**

**Fire Termination Rates - Ages 20 to 61**



The data shows actual termination rates are close to those expected under the current assumption with an actual-to-expected ratio of 99 percent. No changes are proposed for Fire member termination rates.



**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
DEMOGRAPHIC EXPERIENCE STUDY AS OF JUNE 30, 2023**

**SECTION 3 – DEMOGRAPHIC ASSUMPTIONS  
RECIPROCITY**

**RECIPROCITY**

If an employee terminates employment and works for a reciprocal employer, the employee's retirement benefit is ultimately based on the employee's service with the City of San José and Final Compensation based on employment with any reciprocal employer. The current assumption is that 75 percent of terminating employees work for reciprocal employers and receive salary increases equal to the payroll growth assumption. We don't have good data for this assumption as the reciprocal data includes those with reciprocal service before and after their service with San José, and many vested members do not report their reciprocal service until applying for retirement benefits. We intend to work with the Office of Retirement Services for the next experience study to isolate recent retirees from vested status and identify those who claimed reciprocal service. No changes are proposed to the reciprocity assumption at this time.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
DEMOGRAPHIC EXPERIENCE STUDY AS OF JUNE 30, 2023**

**SECTION 3 – DEMOGRAPHIC ASSUMPTIONS  
FAMILY COMPOSITION**

**FAMILY COMPOSITION**

Members who are married or have a domestic partner at the time of retirement are entitled to an unreduced joint and survivor annuity. The current assumption is that 85 percent of members qualify for an automatic spousal continuance at retirement. Based on recent experience, no change is proposed to this assumption.

In addition, spouses/domestic partners of male retirees are assumed to be three years younger than the retiree, and spouses/domestic partners of female retirees are assumed to be 3 years older than the retiree. Spouses/domestic partners are also assumed to be the opposite gender of the retiree. Based on recent experience, no change is proposed to this assumption.

The family composition analyses examined the data for all retirements since July 1, 2009.

<b>Family Composition Assumptions</b>				
<b>Year</b>	<b>Total New Retirees</b>	<b>New Retirees with J&amp;S Benefit</b>	<b>Percent Married</b>	<b>Average Age Difference (Male - Female)</b>
2009-2010	130	108	83%	3.3
2010-2011	105	80	76%	2.8
2011-2012	71	62	87%	2.1
2012-2013	63	56	89%	3.3
2013-2014	56	46	82%	3.4
2014-2015	94	69	73%	2.0
2015-2016	55	42	76%	3.0
2016-2017	64	52	81%	2.9
2017-2018	75	54	72%	2.5
2018-2019	83	70	84%	2.6
2019-2020	84	68	81%	1.9
2020-2021	98	88	90%	3.1
2021-2022	90	77	86%	2.4
2022-2023	101	89	88%	2.9
<b>Total</b>	<b>1169</b>	<b>961</b>	<b>82%</b>	<b>2.7</b>

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
DEMOGRAPHIC EXPERIENCE STUDY AS OF JUNE 30, 2023**

**SECTION 3 – DEMOGRAPHIC ASSUMPTIONS  
ADMINISTRATIVE EXPENSES**

**ADMINISTRATIVE EXPENSES**

Administrative expenses are incurred on active employees when collecting contributions and retaining records, on retirees to calculate and pay benefits, and on the plan as a whole for legal, actuarial, and auditing services. Historically, the total administrative expenses were divided by headcount to allocate them to the different groups within the plan.

For example, administrative expenses for FYE 2023 were assumed to be \$1,415 per pension member and were assumed to increase each year with wage inflation (3.00%). The current assumption for FYE 2024 is \$1,457 per member.

The allocation of administrative expenses by headcount has not proven to match their actual allocation. We understand that expenses that can be attributed to a specific group are allocated to that group, but any remaining expenses are allocated in proportion to assets. The table below shows the administrative expenses for the last four years for each group and tier as a percentage of their Market Value of Assets.

**Administrative Expenses as % of Assets**

FYE	Police		Fire	
	Tier 1	Tier 2	Tier 1	Tier 2
2023	0.16%	0.16%	0.15%	0.15%
2022	0.13%	0.12%	0.13%	0.12%
2021	0.16%	0.15%	0.15%	0.14%
2020	0.16%	0.16%	0.16%	0.14%
2019	0.15%	0.15%	0.15%	0.11%
2018	0.17%	0.15%	0.17%	0.15%
2017	0.15%	0.14%	0.16%	0.28%

Administrative expenses do not vary much between tiers as a percentage of assets. Consequently, we propose changing the administrative expense assumption to equal the administrative expenses paid by the Plan in the most recent fiscal year, increased with wage inflation to the year the contribution will be paid, and allocated to groups and tiers in proportion to their respective market values of assets. Total administrative expenses would continue to be assumed to increase with wage inflation each year in the future.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
DEMOGRAPHIC EXPERIENCE STUDY AS OF JUNE 30, 2023**

**APPENDIX A – SUMMARY OF CURRENT DEMOGRAPHIC ASSUMPTIONS**

**DEMOGRAPHIC ASSUMPTIONS**

**1. Merit Salary Increase Rate**

The following merit component is added to wage inflation based on an individual member’s years of service:

**Table A-1**

Merit Salary Increases	
Years of Service	Increase
0	6.50%
1	6.50
2	6.25
3	5.75
4	5.25
5	4.25
6	2.50
7	1.50
8	1.00
9	0.80
10+	0.60

**2. Rates of Retirement**

Rates of retirement are based on age and service according to the following Tables A-2, A-3, and A-4. Tier 1 rates only apply when the member is eligible for unreduced benefits.

**Table A-2**

Tier 1 Rates of Retirement by Age and Service				
Age	Police		Fire	
	<30 Years	30+ Years	<30 Years	30+ Years
50	55.0%	100.0%	35.0%	100.0%
51	45.0	100.0	35.0	100.0
52	40.0	100.0	35.0	100.0
53	30.0	100.0	35.0	100.0
54	30.0	100.0	35.0	100.0
55	30.0	100.0	30.0	100.0
56	30.0	100.0	25.0	100.0
57	30.0	100.0	20.0	100.0
58 – 61	50.0	100.0	27.5	100.0
62+	100.0	100.0	100.0	100.0

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
DEMOGRAPHIC EXPERIENCE STUDY AS OF JUNE 30, 2023**

**APPENDIX A – SUMMARY OF CURRENT DEMOGRAPHIC ASSUMPTIONS**

**Table A-3**

<b>Tier 2 Rates of Retirement by Age and Service Police</b>				
<b>Age</b>	<b>5 - 19 Years</b>	<b>20 - 24 Years</b>	<b>25 – 29 Years</b>	<b>30+ Years</b>
50 – 56	2.0%	2.0%	2.0%	5.0%
57 – 59	7.5	10.0	20.0	100.0
60 – 61	10.0	20.0	35.0	100.0
62 – 64	25.0	50.0	75.0	100.0
65+	100.0	100.0	100.0	100.0

**Table A-4**

<b>Tier 2 Rates of Retirement by Age and Service Fire</b>				
<b>Age</b>	<b>5 - 19 Years</b>	<b>20 - 24 Years</b>	<b>25 – 29 Years</b>	<b>30+ Years</b>
50 – 56	1.0%	1.0%	1.0%	2.5%
57 – 59	5.0	7.5	15.0	100.0
60 – 61	7.5	15.0	25.0	100.0
62 – 64	20.0	35.0	50.0	100.0
65+	100.0	100.0	100.0	100.0

Tier 1 vested terminated members are assumed to retire at age 50 if they have 25 or more years of service or at age 55 if they have less than 25 years of service. Tier 2 vested terminated members are assumed to retire at age 60.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
DEMOGRAPHIC EXPERIENCE STUDY AS OF JUNE 30, 2023**

**APPENDIX A – SUMMARY OF CURRENT DEMOGRAPHIC ASSUMPTIONS**

**3. Rates of Termination**

Rates of termination are shown in Table A-5 below.

**Table A-5**

Service	Rates of Termination	
	Police	Fire
0	13.75%	8.50%
1	11.75	4.00
2	10.00	2.75
3	8.50	1.75
4	7.50	1.25
5	6.75	1.00
6	6.00	0.90
7	5.50	0.80
8	5.00	0.70
9	4.75	0.60
10	4.50	0.50
11	4.25	0.50
12	3.75	0.50
13	3.25	0.50
14	2.75	0.50
15	2.25	0.50
16	1.75	0.50
17	1.50	0.50
18	1.25	0.50
19+	1.00	0.50

Termination rates do not apply once retirement rates apply.

Tier 1 members who terminate with less than 10 years of service and Tier 2 members who terminate with less than 5 years of service are assumed to receive a refund of contributions. For terminating employees who are not assumed to receive a refund, 75% are assumed to subsequently work for a reciprocal employer and receive 3.00% pay increases per year.

**4. Rates of Disability**

For Police, disability rates are equal to the CalPERS police industrial and non-industrial rates for public agencies multiplied by 90 percent for ages under 50 and 140 percent for ages 50 and older. For Fire, disability rates are equal to the CalPERS fire industrial and non-industrial rates for public agencies multiplied by 90% for ages under 50 and

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
DEMOGRAPHIC EXPERIENCE STUDY AS OF JUNE 30, 2023**

**APPENDIX A – SUMMARY OF CURRENT DEMOGRAPHIC ASSUMPTIONS**

180 percent for ages 50 and older. Sample disability rates of active participants are provided in Table A-6.

**Table A-6**

<b>Rates of Disability at Selected Ages</b>		
<b>Age</b>	<b>Police</b>	<b>Fire</b>
25	0.16%	0.03%
30	0.45	0.08
35	0.74	0.15
40	1.03	0.28
45	1.32	0.50
50	2.70	5.08
55	6.88	7.54
60	8.71	10.77
65	10.47	14.84

100 percent of disabilities are assumed to be duty related.

**5. Rates of Mortality**

Mortality rates for actives, retirees, beneficiaries, terminated vested, and reciprocals are based on the sex-distinct employee and annuitant mortality tables shown below. Future mortality improvements are reflected by applying the SOA MP-2021 projection scale on a generational basis from the base year of 2010.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
DEMOGRAPHIC EXPERIENCE STUDY AS OF JUNE 30, 2023**

**APPENDIX A – SUMMARY OF CURRENT DEMOGRAPHIC ASSUMPTIONS**

**Table A-7**

Category	Base Mortality Tables	
	Male	Female
<b>Healthy Retirees</b>	1.002 times the 2010 Public Safety Above Median Income Mortality Table (PubS-2010(A)) for Healthy Retirees	1.002 times the 2010 Public Safety Above Median Income Mortality Table (PubS-2010(A)) for Healthy Retirees
<b>Disabled Retiree</b>	0.915 times the 2010 Public Safety Mortality Table (PubS-2010) for Disabled Retirees	0.915 times the 2010 Public Safety Mortality Table (PubS-2010) for Disabled Retirees
<b>Beneficiaries</b>	1.032 times the 2010 General Member Mortality Table (PubG-2010) for Healthy Retirees	1.032 times the 2010 General Member Mortality Table (PubG-2010) for Healthy Retirees
<b>Healthy Non-Annuitant</b>	0.979 times the 2010 Public Safety Above Median Income Mortality Table (PubS-2010(A)) for Employees	0.979 times the 2010 Public Safety Above Median Income Mortality Table (PubS-2010(A)) for Employees

It is assumed that 50% of active deaths are service related.

**6. Family Composition**

Percentage married is shown in the following Table A-8. Women are assumed to be three years younger than men.

**Table A-8**

Gender	Percentage Married
	Percentage
Males	85%
Females	85%

**7. Administrative Expenses**

Based on the 2021 Experience Study, the administrative expense assumption was set to \$1,334 per member for FYE 2022 with annual increases equal to the assumed wage inflation of 3.00%. For FYE 2025, administrative expenses are assumed to equal \$1,457 per member.



**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
DEMOGRAPHIC EXPERIENCE STUDY AS OF JUNE 30, 2023**

**APPENDIX B – SUMMARY OF PROPOSED DEMOGRAPHIC ASSUMPTIONS**

**DEMOGRAPHIC ASSUMPTIONS**

**1. Merit Salary Increase Rate**

The following merit component is added to wage inflation based on an individual member’s years of service:

**Table B-1**

<b>Merit Salary Increases</b>	
<b>Years of Service</b>	<b>Increase</b>
0	6.50%
1	6.50
2	6.25
3	5.75
4	5.25
5	4.25
6	2.50
7	1.50
8	1.00
9	0.80
10+	0.60

**2. Rates of Retirement**

Rates of retirement are based on age and service according to the following Tables B-2, B-3, and B-4. Tier 1 rates only apply when the member is eligible for unreduced benefits.

**Table B-2**

<b>Tier 1 Rates of Retirement</b>						
<b>Age</b>	<b>Police Years of Service</b>			<b>Fire Years of Service</b>		
	<b>&lt;25</b>	<b>25 – 29</b>	<b>30+</b>	<b>&lt;25</b>	<b>25 – 29</b>	<b>30+</b>
50	0.0%	55.0%	60.0%	0.0%	45.0%	50.0%
51	0.0	45.0	60.0	0.0	30.0	50.0
52	0.0	35.0	60.0	0.0	40.0	50.0
53	0.0	35.0	60.0	0.0	40.0	50.0
54	0.0	35.0	60.0	0.0	40.0	50.0
55	30.0	40.0	60.0	30.0	40.0	100.0
56	30.0	45.0	60.0	25.0	40.0	100.0
57	30.0	50.0	60.0	20.0	40.0	100.0
58 – 61	45.0	50.0	60.0	27.5	40.0	100.0
62+	100.0	100.0	100.0	100.0	100.0	100.0

**Table B-3**

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
DEMOGRAPHIC EXPERIENCE STUDY AS OF JUNE 30, 2023**

**APPENDIX B – SUMMARY OF PROPOSED DEMOGRAPHIC ASSUMPTIONS**

<b>Police Tier 2 Rates of Retirement</b>				
<b>Age</b>	<b>Years of Service</b>			
	<b>5 - 19</b>	<b>20 - 24</b>	<b>25 – 29</b>	<b>30+</b>
50 – 56	2.0%	2.0%	2.0%	5.0%
57 – 59	7.5	10.0	20.0	100.0
60 – 61	10.0	20.0	35.0	100.0
62 – 64	25.0	50.0	75.0	100.0
65+	100.0	100.0	100.0	100.0

**Table B-4**

<b>Fire Tier 2 Rates of Retirement</b>				
<b>Age</b>	<b>Years of Service</b>			
	<b>5 - 19</b>	<b>20 - 24</b>	<b>25 – 29</b>	<b>30+</b>
50 – 56	1.0%	1.0%	1.0%	2.5%
57 – 59	5.0	7.5	15.0	100.0
60 – 61	7.5	15.0	25.0	100.0
62 – 64	20.0	35.0	50.0	100.0
65+	100.0	100.0	100.0	100.0

Tier 1 vested terminated members are assumed to retire at age 50 if they have 25 or more years of service or at age 55 if they have less than 25 years of service. Tier 2 vested terminated members are assumed to retire at age 60.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
DEMOGRAPHIC EXPERIENCE STUDY AS OF JUNE 30, 2023**

**APPENDIX B – SUMMARY OF PROPOSED DEMOGRAPHIC ASSUMPTIONS**

**3. Rates of Termination**

Rates of termination are shown in Table B-5 below.

**Table B-5**

<b>Rates of Termination</b>		
<b>Service</b>	<b>Police</b>	<b>Fire</b>
0	11.00%	8.50%
1	8.00	4.00
2	6.25	2.75
3	5.00	1.75
4	4.25	1.25
5	3.75	1.00
6	3.55	0.90
7	3.40	0.80
8	3.30	0.70
9	3.25	0.60
10	3.25	0.50
11	3.25	0.50
12	3.15	0.50
13	2.95	0.50
14	2.75	0.50
15	2.25	0.50
16	1.75	0.50
17	1.50	0.50
18	1.25	0.50
19+	1.00	0.50

Termination rates do not apply once retirement rates apply.

Tier 1 members who terminate with less than 10 years of service and Tier 2 members who terminate with less than 5 years of service are assumed to receive a refund of contributions. For terminating employees who are not assumed to receive a refund, 75% are assumed to subsequently work for a reciprocal employer and receive 3.00% pay increases per year.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
DEMOGRAPHIC EXPERIENCE STUDY AS OF JUNE 30, 2023**

**APPENDIX B – SUMMARY OF PROPOSED DEMOGRAPHIC ASSUMPTIONS**

**4. Rates of Disability**

For Police and Fire, disability rates are equal to the CalPERS Police Officers & Firefighters (POFF) industrial and non-industrial rates multiplied by 104%. Sample disability rates of active participants are provided in Table B-6.

**Table B-6**

<b>Rates of Disability at Selected Ages</b>	
Age	Disability Incidence
25	0.12%
30	0.20
35	0.33
40	0.52
45	0.80
50	1.17
55	1.65
60	2.24
65	2.96

All disabilities are assumed to be duty related.

**5. Rates of Mortality**

Mortality rates for actives, retirees, beneficiaries, terminated vested, and reciprocals are based on the sex-distinct employee and annuitant mortality tables shown below. Future mortality improvements are reflected by applying the SOA MP-2021 projection scale on a generational basis from the base year of 2010.

**CITY OF SAN JOSÉ POLICE AND FIRE DEPARTMENT RETIREMENT PLAN  
DEMOGRAPHIC EXPERIENCE STUDY AS OF JUNE 30, 2023**

**APPENDIX B – SUMMARY OF PROPOSED DEMOGRAPHIC ASSUMPTIONS**

**Table B-7**

Category	Base Mortality Tables	
	Male	Female
<b>Healthy Retirees</b>	0.972 times the 2010 Public Safety Above Median Income Mortality Table (PubS-2010(A)) for Healthy Retirees	0.972 times the 2010 Public Safety Above Median Income Mortality Table (PubS-2010(A)) for Healthy Retirees
<b>Disabled Retiree</b>	0.915 times the 2010 Public Safety Mortality Table (PubS-2010) for Disabled Retirees	0.915 times the 2010 Public Safety Mortality Table (PubS-2010) for Disabled Retirees
<b>Beneficiaries</b>	1.032 times the 2010 General Member Mortality Table (PubG-2010) for Healthy Retirees	1.032 times the 2010 General Member Mortality Table (PubG-2010) for Healthy Retirees
<b>Healthy Non-Annuitant</b>	0.979 times the 2010 Public Safety Above Median Income Mortality Table (PubS-2010(A)) for Employees	0.979 times the 2010 Public Safety Above Median Income Mortality Table (PubS-2010(A)) for Employees

It is assumed that 50 percent of active deaths are service related.

**6. Family Composition**

Percentage married is shown in the following Table B-8. Women are assumed to be three years younger than men.

**Table B-8**

Gender	Percentage Married
	Percentage
Males	85%
Females	85%

**7. Administrative Expenses**

Administrative expenses are assumed to equal the prior year’s actual administrative expenses increased by the wage inflation assumption to the year of the contribution. Administrative expenses are allocated to tier groups in proportion to each groups’ market value of assets.



*Classic Values, Innovative Advice*