

San Luis Obispo County Pension Trust

**Actuarial Experience Study for
January 1, 2017 through
December 31, 2021**

Produced by Cheiron

June 2022



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June 2, 2022

Board of Trustees
San Luis Obispo County Pension Trust
1000 Mill Street
San Luis Obispo, California 93408

Dear Members of the Board:

The purpose of this report is to provide the results of an Actuarial Experience Study of the San Luis Obispo County Pension Trust (SLOCPT, the Trust) covering actuarial experience from January 1, 2017, through December 31, 2021. This report is for the use of the SLOCPT Board of Trustees (the Board) in selecting assumptions to be used in actuarial valuations beginning January 1, 2022.

In preparing our report, we relied on information (some oral and some written) supplied by SLOCPT. 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.

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

This report was prepared for the SLOCPT Board of Trustees for the purposes 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 such party.

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

Sincerely,
Cheiron



Anne D. Harper, FSA, MAAA, EA
Principal Consulting Actuary



Alice I. Alsberghe, ASA, MAAA, EA
Consulting Actuary

**SAN LUIS OBISPO COUNTY PENSION TRUST
EXPERIENCE STUDY REPORT AS OF DECEMBER 31, 2021**

SECTION I – EXECUTIVE SUMMARY

Actuarial assumptions (economic and demographic) are intended to be long-term in nature and should be both individually reasonable and consistent in the aggregate. The purpose of this experience study is to evaluate whether or not the current assumptions adequately reflect the long-term expectations for SLOCPT, and if not, to propose adjustments. It is important to note that frequent and significant changes in the actuarial assumptions are not typically proposed, unless there are known fundamental changes in expectations of the economy, or with respect to SLOCPT’s membership or assets that would warrant such frequent or significant changes.

Actuarial Assumption	Current	Proposed	Comments
Inflation	2.25%	2.25% to 2.50%	Purpose reducing real rate of return by either increasing inflation, or
Investment Return	6.75%	6.50% to 6.75%	Reducing investment return or a combination of both
Salary Merit Increase	0.00% to 5.25%	0.00% to 5.25%	Different rates for Safety/Probation
Payroll Growth	2.75%	2.75% to 3.00%	Assumption will change based on inflation assumption
Interest Rate -Member Contributions	6.00%	5.750%	Adopted by the Board at Nov 2021 Meeting
Mortality			
Post Retirement Mortality- Base table	Pub-2010	Pub-2010	Use Safety tables for Safety/Probation
Active member mortality- Base table	Pub-2010	Pub-2010	Use Safety tables for Safety/Probation
Disabled member mortality- Base table	Pub-2010	Pub-2010	No Change - Miscellaneous table for all classes
Mortality Improvement Projection scale	MP-2019	MP-2021	
Retirement rates	See Appendix B	See Appendix A	Separate rates for service less than 25 years, and more than 25 years
Vested termination	See Appendix B	See Appendix A	From age-based to service-based rates
Refunds	See Appendix B	See Appendix A	From age-based to service-based rates
Disability rates	See Appendix B	See Appendix A	No Change
Percent married	80% Males 60% Females	70% Males 55% Females	
COLA - Tier 1	2.50%	2.50% to 2.75%	Assumption will change based on inflation assumption
COLA - Tier 2 & 3	2.00%	2.00%	
Reserve/Reciprocal	70%/30%	70%/30%	No Change

**SAN LUIS OBISPO COUNTY PENSION TRUST
EXPERIENCE STUDY REPORT AS OF DECEMBER 31, 2021**

SECTION I – EXECUTIVE SUMMARY

SUMMARY OF ECONOMIC ASSUMPTION ANALYSIS

The specific economic assumptions analyzed in this report are price inflation, wage inflation, COLA growth, and the discount rate. These assumptions have a significant impact on the contribution rates in the short term and the risk of negative outcomes in the long term.

The Board of Trustees elected to decrease the nominal investment return or discount rate from 7.00% to 6.875% (net of investment and administrative expenses) and the price inflation assumption from 2.50% to 2.25% based on the previous experience study in 2020. At the May 24, 2021 Board of Trustees meeting, the Board adopted to reduce the discount rate from 6.875% to 6.75% net of investment expenses only and to add an explicit administrative expenses assumption. The inflation assumption was maintained at 2.25%, resulting in a real rate of return of 4.50%.

It should be noted that Verus, the Trust's investment consultant, predicts a lower nominal and real rate of investment return in the short-term and long-term for SLOCPT's asset allocation. Verus' most recent capital market expectations over a 10-year period indicate a 6.28% expected nominal return with a 3.78% expected real return and 2.50% inflation. Verus' expectations over a 30-year period are higher with a 6.56% expected nominal return with a 4.26% real return and 2.30% inflation.

Based on recent price inflation and future market expectations, we propose the Board consider increasing the inflation assumption by 0.25% to 2.50%. Incremental changes made to the price inflation should also apply to wage inflation and COLA growth since price inflation is a building block of these assumptions. Finally, we believe reasonable ranges for the nominal rate of return to be between 6.50% to 6.75% and the real rate of return to be between 4.25% to 4.50%.

SECTION I – EXECUTIVE SUMMARY

SUMMARY OF DEMOGRAPHIC ASSUMPTION ANALYSIS

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

- **Retirement rates** – Propose separate rates for all Classes (Miscellaneous, Probation, and Safety) and Tiers based on the number of years of service a member has at retirement with higher rates for members with 25 or more years of service.
- **Termination rates** – Propose changing termination rates from age-based to service-based for all Classes
- **Refund rates** – Propose changing termination rates from age-based to service- based for all Classes.
- **Disability rates** – Propose no changes to disability assumptions.
- **Mortality rates** – Propose using the Pub-2010 Safety (Above-Median) base tables for Safety and Probation members. Generational improvement for all members based on MP-2021.
- **Merit salary increases** – Propose separate rates for Miscellaneous members and Safety/Probation members. Slight increases to rates for Miscellaneous members after six years of service with an ultimate rate of 0%. Slight increases to rates for Safety/Probation members after six years of service with an ultimate rate of 0%.
- **Other assumptions** – Minor changes to other assumptions, including family composition.

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

**SAN LUIS OBISPO COUNTY PENSION TRUST
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SECTION I – EXECUTIVE SUMMARY

COST OF ECONOMIC AND DEMOGRAPHIC ASSUMPTION CHANGES

Among the demographic assumptions, the proposed changes to the mortality, retirement, and salary merit increase assumptions have the largest impact on contribution rates. This table summarizes the estimated cost impact – for the Miscellaneous, Probation, Safety, and combined membership – of the proposed changes to the demographic assumptions contained in this report.

Estimated Impact of Proposed Assumption Changes on Actuarially Determined Contribution Rates				
	Misc	Probation	Safety	Total
Proposed Demographic Assumption Changes:				
Mortality Rates	-0.60%	-0.96%	-1.16%	-0.69%
Retirement Rates	0.56%	0.63%	0.59%	0.56%
Termination and Withdrawal Rates	0.22%	-0.28%	-0.41%	0.11%
Merit Scale	0.34%	1.14%	1.07%	0.47%
Family Composition	<u>-0.09%</u>	<u>-0.14%</u>	<u>-0.26%</u>	<u>-0.12%</u>
Estimated Impact of Demographic Assumption Changes	0.43%	0.38%	-0.18%	0.34%
Potential Economic Assumption Changes:				
1) Increase inflation assumption from 2.25% to 2.50%, and increase COLA growth assumption for Tier 1 members in pay status from 2.50% to 2.75%	2.41%	3.43%	3.67%	2.62%
2) Decrease assumed rate of return from 6.75% to 6.625%	1.42%	1.84%	2.16%	1.54%
3) Decrease assumed rate of return from 6.75% to 6.50%	2.86%	3.73%	4.37%	3.10%

**SECTION II – ECONOMIC ASSUMPTIONS
PRICE INFLATION**

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

- **Price inflation** – used indirectly as an underlying component of other economic assumptions.
- **Wage inflation** – across the board wage growth used to project benefits and to amortize the unfunded liability as a level percentage of expected payroll.
- **COLA growth** – rate at which inflation-linked post-retirement COLAs are expected to change.
- **Discount rate** – used both to project long-term asset growth and to discount future cash flows in calculating the liabilities and costs of the Plan.

In order to develop recommendations for each of these assumptions, we considered historical data, both nationally and for the Plan, and expectations for the future, as expressed by the Plan’s and other external investment consultants and the Board.

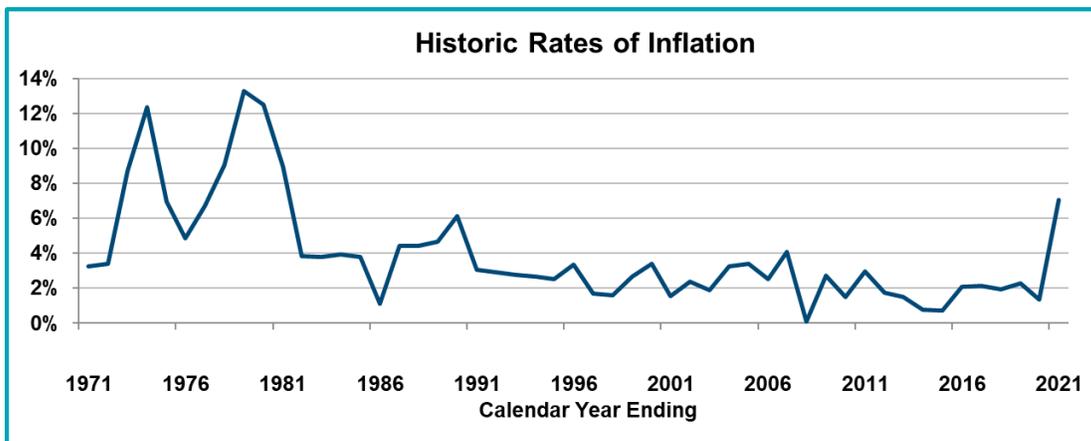
PRICE INFLATION

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

Historical Data

Chart II-1 below shows inflation (CPI-U) for the U.S. by individual year for the last 50 years.

Chart II-1



**SAN LUIS OBISPO COUNTY PENSION TRUST
EXPERIENCE STUDY REPORT AS OF DECEMBER 31, 2021**

**SECTION II – ECONOMIC ASSUMPTIONS
PRICE INFLATION**

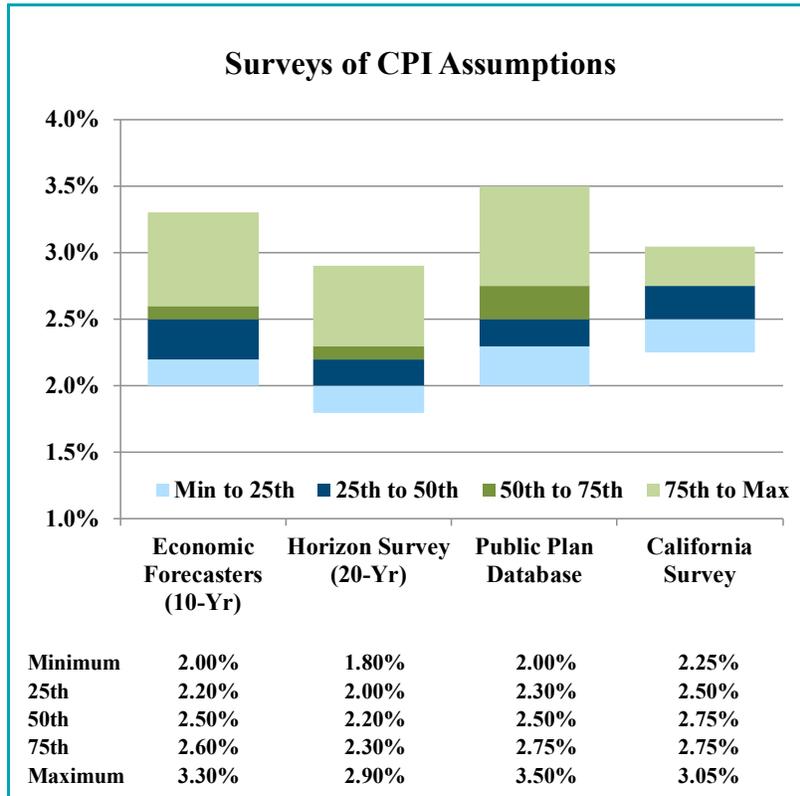
Over the 50 years ending December 2021, the geometric average inflation rate for the U.S. has been about 3.9%, but this average is heavily influenced by the high inflation rates in the 1970s and early 1980s. If you remove these periods of high inflation, the average inflation rate for the 30-year period is 2.9%, and it has been only 2.1% over the 10 years ending December 2021.

Future Expectations

The Federal Reserve publishes a quarterly survey of professional economic forecasters that includes their forecasts of inflation over the next 10 years. The survey for the first quarter of 2022 shows a median inflation forecast of 2.5%, a minimum forecast of 2.0% and a maximum of 3.3%.

Chart II-2 below shows the distribution of the professionals’ forecasts for average inflation over the next 10 years compared to the assumptions from the Horizon Actuarial Services Survey of Capital Market Assumptions (2021 Edition), the 2020 Data Survey from US Public Plan (PPD) maintained by the Center for Retirement Research at Boston College and our 2021 internal survey of California public pension plans.

Chart II-2

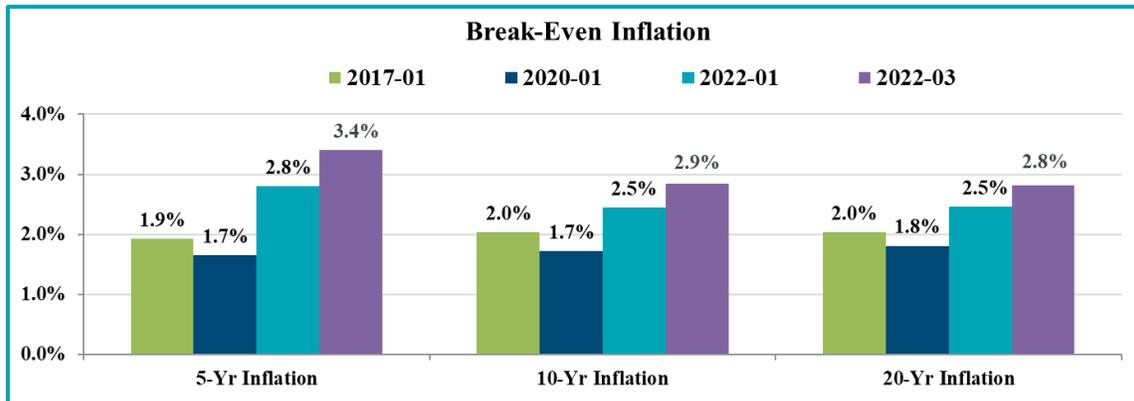


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**SECTION II – ECONOMIC ASSUMPTIONS
PRICE INFLATION**

Verus, the Board’s investment consultant, uses an inflation assumption of 2.5% for the next 10 years and 2.3% over the next 30 years. A broader survey of 39 investment advisors, as published by the Horizon Actuarial Services, reflects a 2.1% average assumption over the next 10 years and 2.2% over the next 20 years. Finally, SLOCPT’s current inflation assumption of 2.25% is the lowest in California and is lower than the median of the economic forecasters.

Chart II-3



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

Another measure of the future expectations of inflation is called “break-even inflation” which is the difference between yields on nominal Treasury securities and Treasury Inflation-Protected Securities (TIPS) at the same maturity. Break-even inflation is the level of inflation needed for an investment in TIPS to “break even” with an investment in conventional treasury bonds of the same maturity. Break-even inflation rates increased from January 1, 2020 to January 1, 2022 to 2.5% or higher for all maturities. Recent market data show that the expectation has continued to increase during the first part of 2022 to 2.75% or higher, depending on the maturity. Longer-term expectations are lower than short-term expectations.

Based on all of these considerations, we believe a reasonable range for long-term price inflation for use in the Plan’s actuarial valuations is between 2.25% and 2.75%.

**SAN LUIS OBISPO COUNTY PENSION TRUST
EXPERIENCE STUDY REPORT AS OF DECEMBER 31, 2021**

**SECTION II – ECONOMIC ASSUMPTIONS
WAGE INFLATION AND COLA GROWTH**

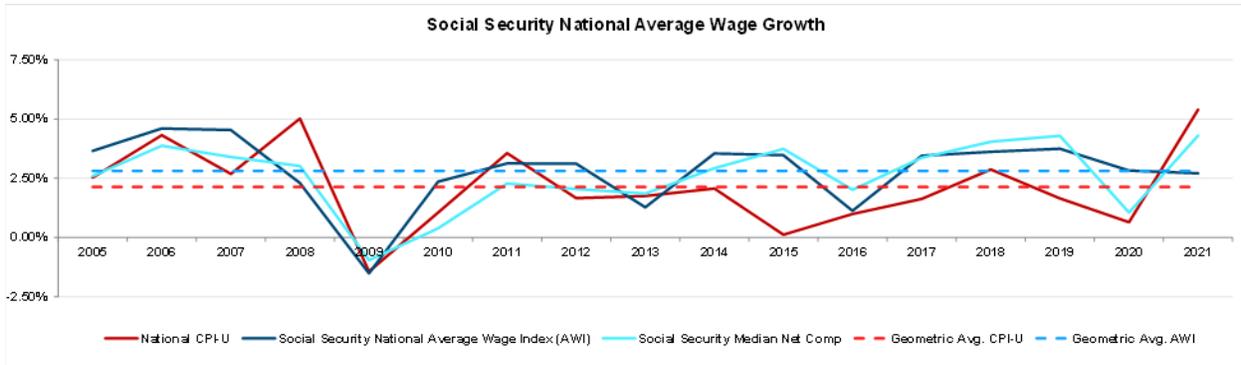
WAGE INFLATION

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

Wage inflation is used in the actuarial valuation as the minimum expected salary increase for an individual and, for purposes of amortizing the unfunded actuarial liability, the rate at which payroll is expected to grow over the long-term, assuming a stable active member population. SLOCPT’s current wage inflation assumption is 2.75%, with 2.25% inflation and 0.50% real wage growth.

Chart III-3 shows the increase in national average wages (as reported by the Social Security Administration) compared to inflation from 2005 through 2021.

Chart II-4



Over this period, national wage inflation averaged approximately 2.8% compared to annual price inflation of 2.1%, making real wage increases about 0.7% above inflation. However, over the same time period the increase in the median real wage was only 0.5% per year, as much of the growth in wages was clustered at the top end of the wage scale.

It is acceptable to assume some additional level of base payroll increase beyond general inflation. Potential reasons contributing to the increase may include the presence of strong union representation in the collective bargaining process, competition in hiring among other similar employers, and regional factors – such as the local inflation index exceeding the national average, as has sometimes proven the case in parts of California. Also, the Social Security Administration projects real wage growth of 0.5% - 1.8% going forward in their Social Security solvency projections included in the 2021 annual Trustees Report. However, recent higher rates of inflation have resulted in negative real wage growth for US workers in 2021, and the expectation of higher inflation in the short term is anticipated to continue to put downward pressure on real wages, at least in the short term.

**SAN LUIS OBISPO COUNTY PENSION TRUST
EXPERIENCE STUDY REPORT AS OF DECEMBER 31, 2021**

**SECTION II – ECONOMIC ASSUMPTIONS
WAGE INFLATION AND COLA GROWTH**

We propose any change that is made to the inflation assumption is also made to assumed wage inflation, to keep the same assumption of real wage growth 0.50%, the lowest end of the Social Security Administration’s projections.

COLA GROWTH

Members of SLOCPT are eligible to receive automatic Cost-of-Living Adjustments (COLAs), based on the growth in the Los Angeles-Long Beach-Anaheim and San Francisco-Oakland-Hayward Consumer Price Indices (CPI-U) and a 3.0% or 2.0% cap, depending on their Tier, and the annual COLA increase. Any increase in the CPI above the maximum increase for Tier 1 can be banked for future years in which the change in the CPI is below the maximum increase.

It is important to determine an assumed rate of COLA growth by reflecting the inflation metric that impacts the actual COLA growth rate. The Tier 1 COLA growth rate assumption of 2.50% is 0.25% higher than the price inflation assumption of 2.25% due to the expected difference in the average SLOCPT inflation and the U.S. price inflation. Table II-1 below shows historically that the inflation in California is higher than the average U.S. inflation. We propose maintaining the “California” inflation adjustment of 0.25%, in addition to the price inflation assumption, for the COLA growth assumption.

Table II-1

Price Inflation Comparison					
	U.S.	San Francisco	Los Angeles	SLOCPT Average	Difference
30-year	2.37%	2.75%	2.47%	2.61%	0.24%
10-year	2.14%	3.03%	2.55%	2.79%	0.65%
5-year	2.92%	3.22%	3.55%	3.39%	0.47%

Since Tiers 2 and 3 have a cap of 2.0% and assumed price inflation is above 2.0%, the COLA growth assumption is 2.0%.

**SECTION II – ECONOMIC ASSUMPTIONS
DISCOUNT RATE**

DISCOUNT RATE

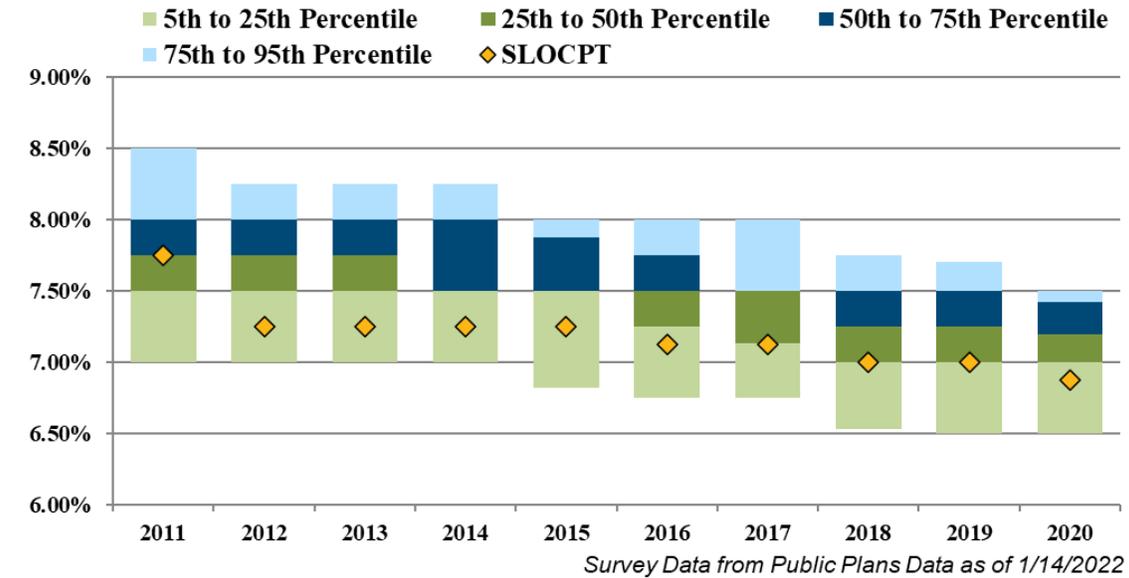
The discount rate (investment rate of return) assumption is generally the most significant of all the assumptions employed in actuarial valuations. The discount rate is based on the long-term expected return on plan investments. In the short term, a higher discount rate results in lower expected contributions. However, over the long term, actual contributions will depend on actual investment returns and not the discount rate (or expected investment returns). If actual investment returns are lower than expected, contribution rates will increase in the future. It is important to set a realistic discount rate so that projections of future contributions for budgeting purposes will not be biased.

Other Large Public Retirement Plans

Based on the Public Plans Data (PPD) which covers most of the largest public retirement systems in the country, there has been a general movement over at least the last decade to reduce the discount rate used in actuarial valuations. Chart II-5 below shows the change in the distribution of assumptions since 2010. The median assumption is now 7.20% and the number of plans using a discount rate 7.0% or lower has increased significantly. San Luis Obispo County Pension Trust has been at or lower than the 25th percentile since 2012.

Chart II-5

Discount Rate

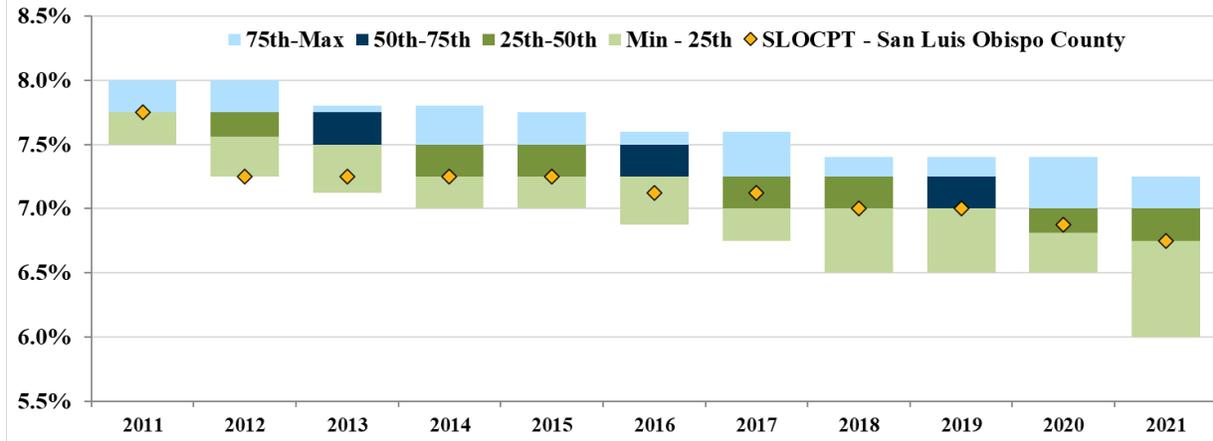


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**SECTION II – ECONOMIC ASSUMPTIONS
DISCOUNT RATE**

In our survey of California retirement systems, the median assumption is even lower at 7.00% with over half of the 39 systems using the median rate. Only three systems were using a rate of 7.00% or higher in 2021. Chart II-6 below shows the change in discount rate assumptions for California systems from 2011 to 2021.

**Chart II-6
Discount Rate Trends
Cheiron Survey of California Systems**



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**SECTION II – ECONOMIC ASSUMPTIONS
DISCOUNT RATE**

Target Asset Allocation and Future Expectations

The discount rate assumption depends on the anticipated average level of inflation and the anticipated average *real rate of return*. The real rate of return is the investment return in excess of underlying inflation. The expected average real rate of return is heavily dependent on asset mix: the portion of assets in stocks, bonds, and other asset classes. Table II-2 below shows SLOCPT’s Strategic Asset Allocation (SAA) and expected returns for each asset class and in total.

Table II-2

SLOCPT Strategic Asset Allocation (SAA) <i>(Verus 2022 Capital Market Assumptions)</i>			
Asset Category	Target Allocation	Arithmetic Return	Geometric Return
Cash	4%	0.4%	0.4%
Global Equity	30%	7.1%	5.7%
Private Equity	18%	12.4%	9.5%
US TIPS	8%	1.8%	1.7%
US Treasury	7%	1.7%	1.5%
Short Duration	6%	1.6%	1.5%
Private Credit	12%	7.8%	6.8%
Real Estate	5%	7.2%	6.5%
Value Add Real Estate	5%	9.8%	8.5%
Infrastructure	5%	8.0%	6.6%
Total	100%	6.9%	6.3%
Real Return		4.4%	3.8%

Table II-3 on the next page shows the expected nominal geometric return based on the Board’s current target asset allocation and the Plan’s investment consultant (Verus) and a survey of multiple investment consultants published by Horizon Actuarial Services in 2021 over both a 10 and 20- year time horizon). The table also shows the underlying inflation assumption used in the development of these capital market assumptions and computes the expected real rate of return (nominal investment return in excess of inflation).

For some classes in the SLOCPT portfolio – in particular Private Equity, Short-Term Government Fixed Income, Private Credit, and Value-Add Real Estate – the Horizon survey did not include specific assumptions, therefore the Verus assumptions were used for these classes.

**SAN LUIS OBISPO COUNTY PENSION TRUST
EXPERIENCE STUDY REPORT AS OF DECEMBER 31, 2021**

**SECTION II – ECONOMIC ASSUMPTIONS
DISCOUNT RATE**

Table II-3

SLOCPT Portfolio Return Expectations			
Source	Nominal	Inflation	Real
Verus (10-year)	6.28%	2.50%	3.78%
Horizon Survey (10-year)	6.42%	2.12%	4.30%
Verus (30-year)	6.56%	2.30%	4.26%
Horizon Survey (20-year)	<u>7.01%</u>	<u>2.23%</u>	<u>4.78%</u>
Average	6.57%	2.29%	4.28%
Current SLOCPT Assumptions	6.75%	2.25%	4.50%

Based on these capital market assumptions, we calculated an expected geometric return of 6.56% and 7.01% under the Verus 30-year and the Horizon 20-year survey assumptions, respectively, but only a 6.28% and 6.42% return under the Verus and Horizon 10-year survey assumptions, respectively. SLOCPT’s current nominal rate of return of 6.75% and real rate of return of 4.50% are both on average about 0.2% higher than investment consultants’ expectations.

We believe reasonable ranges for the nominal rate of return to be between 6.50% to 6.75% and the real rate of return to be between 4.25% to 4.50%. However, while short-term considerations should not be unduly weighted when setting the discount rate, stakeholders should be aware of the following factors regarding short-term expectations:

- Many investment consultants expect poor rates of return in the immediate and near-term future. They reason that there is little in the way of yields on fixed income, and that the equity markets are fully valued.
- We believe that near- and mid-term return projections should be considered along with long-term projections. Fund performance is usually measured over five to ten years; longer measurement periods are often considered less relevant because of the potential for changes in the economy and in the investment markets.
- If Verus and much of the investment community are correct in their projections, we can expect returns below the 6.75% assumed rate for a number of years. This will result in actuarial losses and increases in employer contribution rates, assuming other assumptions have no gains or losses.

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EXPERIENCE STUDY REPORT AS OF DECEMBER 31, 2021**

**SECTION II – ECONOMIC ASSUMPTIONS
DISCOUNT RATE**

Anecdotally, we have begun to see modest increases in capital market expectations over the past few months due to the recent high level of inflation and corresponding expected increases in interest rates. We propose that the Board and staff continue to conduct at least a brief discussion of this assumption annually, in consultation with the Plan’s actuary and investment consultant, to determine if changes are appropriate.

**SAN LUIS OBISPO COUNTY PENSION TRUST
EXPERIENCE STUDY REPORT AS OF DECEMBER 31, 2021**

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

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 SLOCPT, with some adjustments where future experience is expected to differ from historical experience and with deference to standard tables where SLOCPT 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 SLOCPT's historical experience.

MERIT SALARY INCREASES

Salary increases consist of three components: Increases due to cost-of-living maintenance (inflation), increases related to non-inflationary pressures on base pay (such as productivity increases), and increases in individual pay due to merit, promotion, and longevity. Increases due to cost-of-living and non-inflationary base pay factors were addressed in an earlier section of this report.

The merit salary increase assumption is analyzed by membership class and by service. Generally, newer members are more likely to earn a longevity or step increase or receive a promotion, so their merit salary increases tend to be greater than those for longer service members.

We used a longitudinal study to analyze the merit increases, wherein we reviewed the average increase in pay for each level of service. To analyze the merit component, we subtracted the Plan's real wage from the total pay increases experienced by each member during the experience study period. We have computed the real wage growth by calculating the increase in the average salary across all active members (calculated separately for Miscellaneous and Safety/Probation) each year and adjusting for changes in the average service level.

Currently, merit salary increases are the same for all membership classes. Also, the current assumption is that merit salary increases are zero after six years of service. We are proposing separate merit salary increase assumptions for Miscellaneous members and for Safety and Probation members. Our analysis of SLOCPT's historical experience shows merit salary increases continuing in service years beyond six; therefore, we are also proposing a longer service period of merit salary increases before assuming 0%.

Chart III-1 and Chart III-2 on the following pages analyze the pay patterns for Miscellaneous and Safety/Probation members, respectively, for the five-year period from 2017 through 2021. Our charts will generally show the current assumption (dark blue line) compared to the actual experience (teal line) and the proposed assumption (green line).

Table III-1 and Table III-2 summarize the current and proposed merit salary increase assumptions by years of service.

**SAN LUIS OBISPO COUNTY PENSION TRUST
EXPERIENCE STUDY REPORT AS OF DECEMBER 31, 2021**

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

We have proposed new assumptions with slightly higher increases for Miscellaneous members with 7 to 20 years of service.

Chart III-1 – Miscellaneous Merit Salary Increase

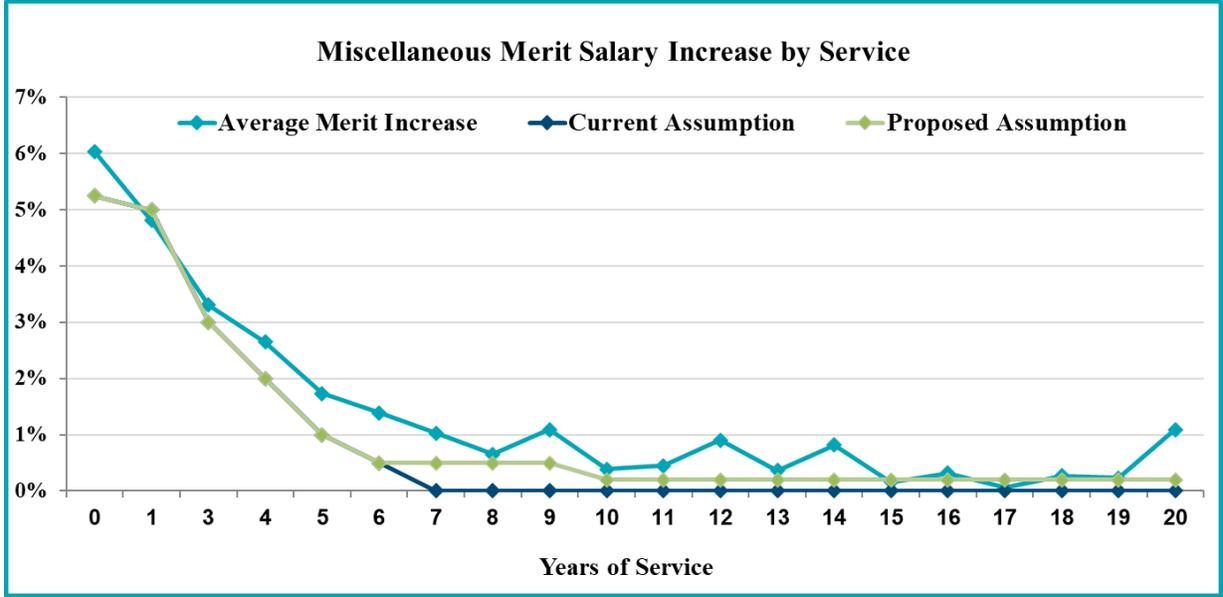


Table III-1 – Miscellaneous Merit Salary Increase

Miscellaneous - Merit Salary Increases		
Service	Current	Proposed
0	5.25%	5.25%
1	5.00%	5.00%
2	4.00%	4.00%
3	3.00%	3.00%
4	2.00%	2.00%
5	1.00%	1.00%
6	0.50%	0.50%
7 - 9	0.00%	0.50%
10 - 20	0.00%	0.20%
21+	0.00%	0.00%

**SAN LUIS OBISPO COUNTY PENSION TRUST
EXPERIENCE STUDY REPORT AS OF DECEMBER 31, 2021**

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

We have proposed new assumptions with a lower increase for Safety and Probation members with 1 year of service and a slightly higher increases for Safety members with 7 to 24 years of service.

Chart III-2 – Safety and Probation Merit Salary Increase

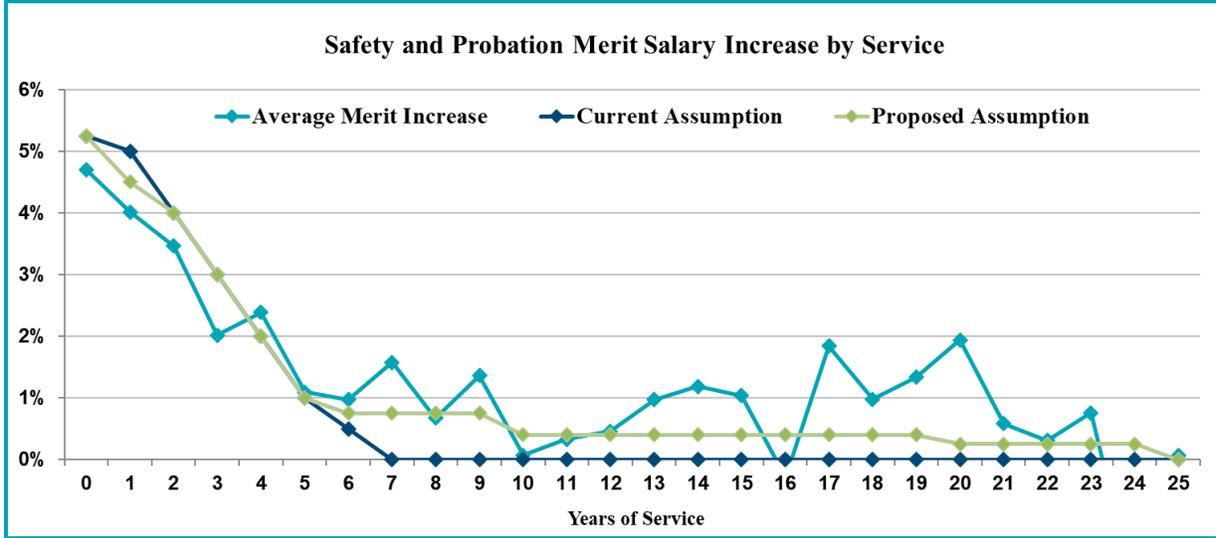


Table III-2 – Safety and Probation Merit Salary Increase

Safety and Probation - Merit Salary Increases		
Service	Current	Proposed
0	5.25%	5.25%
1	5.00%	4.50%
2	4.00%	4.00%
3	3.00%	3.00%
4	2.00%	2.00%
5	1.00%	1.00%
6	0.50%	0.75%
7 - 9	0.00%	0.75%
10 - 19	0.00%	0.40%
20 - 24	0.00%	0.25%
25+	0.00%	0.00%

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**SECTION III – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES**

ANALYSIS OF OTHER DEMOGRAPHIC ASSUMPTIONS

For all of the remaining demographic assumptions, we determined the ratio of the actual number of decrements for each membership class compared to the expected number of decrements (A/E ratio or actual-to-expected ratio). If the assumption is perfect, this ratio will be 100%. Otherwise, any proposed assumption change should move from the current A/E ratio towards 100% unless future experience is expected to be different than the experience during the period of study.

We also calculate an R-Squared statistic for each assumption. R-Squared measures how well the assumption fits the actual data and can be thought of as the percentage of the variation in actual data explained by the assumption. Ideally, R-Squared would equal 1.00 although this is never the case. Any proposed assumption change should increase the R-Squared compared to the current assumption making it closer to 1.00 unless the pattern of future decrements is expected to be different from the pattern experienced during the period of study.

In addition, we calculated the 90% confidence interval, which represents the range within which the true decrement rate during the experience study period fell with 90% confidence. (If there is insufficient data to calculate a confidence interval, the confidence interval is shown as the entire range of the graph.) We generally propose assumption changes when the current assumption is outside the 90% confidence interval of the observed experience. However, adjustments are made to account for differences between future expectations and historical experience to account for the past experience represented by the current assumption and to maintain a neutral to slight conservative bias in the selection of the assumption. When analyzing the retirement, termination, withdrawal, and disability experience, we only considered 2017-2019 calendar years. Demographic patterns during COVID (2020 and 2021) are not good indications of future behavior and experience. However, our charts and tables show all experience from January 1, 2017 to December 31, 2021.

For mortality rates, we compare SLOCPT's experience to that of a standard table and, if warranted, adjust the tables to bring the proposed assumption closer to an A/E ratio of 100%.

See Appendices A and B for a full listing of all the proposed and prior assumptions.

**SECTION III – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES**

RETIREMENT RATES

The current retirement rates vary by age, membership class (Miscellaneous, Probation, and Safety), and plan tier (Tier I and Tier II/III) and are applied to all members who are eligible to retire. Generally, members with more service are more likely to retire than members with fewer years of service since the retirement benefit is greater, at any given age. We propose separate retirement assumptions by age, membership class, and plan tier for service groups as follows:

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

In general, actual retirements rates during COVID were higher than historic rates. As a result, the proposed rates may not always be within the confidence interval due to the inclusion of COVID experience in calculating these intervals.

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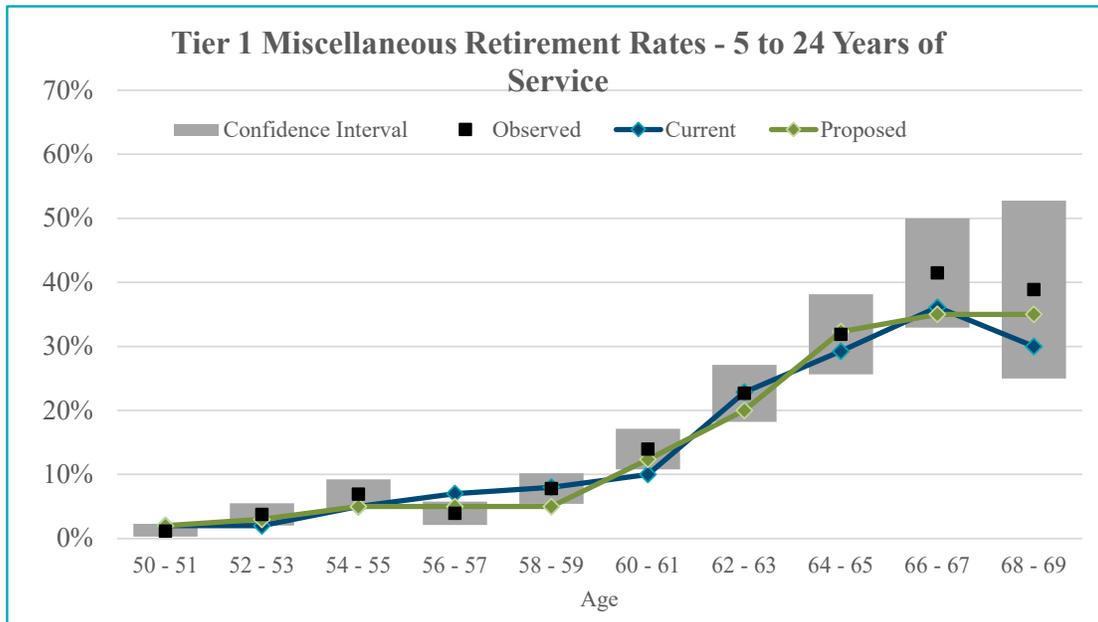
**SECTION III – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES**

Table III-R1 shows the calculation of actual-to-expected ratios and the R-Squared statistic for Miscellaneous Tier 1 members with 5 to 24 years of service. Chart III-R1 shows the information graphically along with the 90% confidence interval. The data shows more actual retirements than expected under the current assumption. Actual retirements rates during COVID were higher than historic rates. The new assumptions result in a small increase the aggregate A/E ratio from 109% to 112%. But more importantly, the R-Squared statistic (how the assumption fits the actual data) improves from 88% to 94%.

Table III-R1 – Miscellaneous Tier 1 Retirement

Tier 1 Miscellaneous Retirement Rates - 5 to 24 Years of Service									
Age	Exposures	Retirements			Retirement Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
50 - 51	346	4	7	7	1.2%	2.0%	2.0%	58%	58%
52 - 53	344	13	7	10	3.8%	2.0%	3.0%	189%	126%
54 - 55	346	24	17	17	6.9%	5.0%	5.0%	139%	139%
56 - 57	330	13	23	17	3.9%	7.0%	5.0%	56%	79%
58 - 59	333	26	27	17	7.8%	8.0%	5.0%	98%	156%
60 - 61	315	44	32	39	14.0%	10.0%	12.3%	140%	113%
62 - 63	247	56	56	49	22.7%	22.9%	20.0%	99%	113%
64 - 65	160	51	47	52	31.9%	29.3%	32.3%	109%	99%
66 - 67	82	34	30	29	41.5%	36.1%	35.0%	115%	118%
68 - 69	36	14	11	13	38.9%	30.0%	35.0%	130%	111%
TOTAL	2,539	279	256	249	11.0%	10.1%	9.8%	109%	112%
Confidence Interval %			70%	90%					
R-squared			88%	94%					

Chart III-R1 – Miscellaneous Tier 1 Retirement



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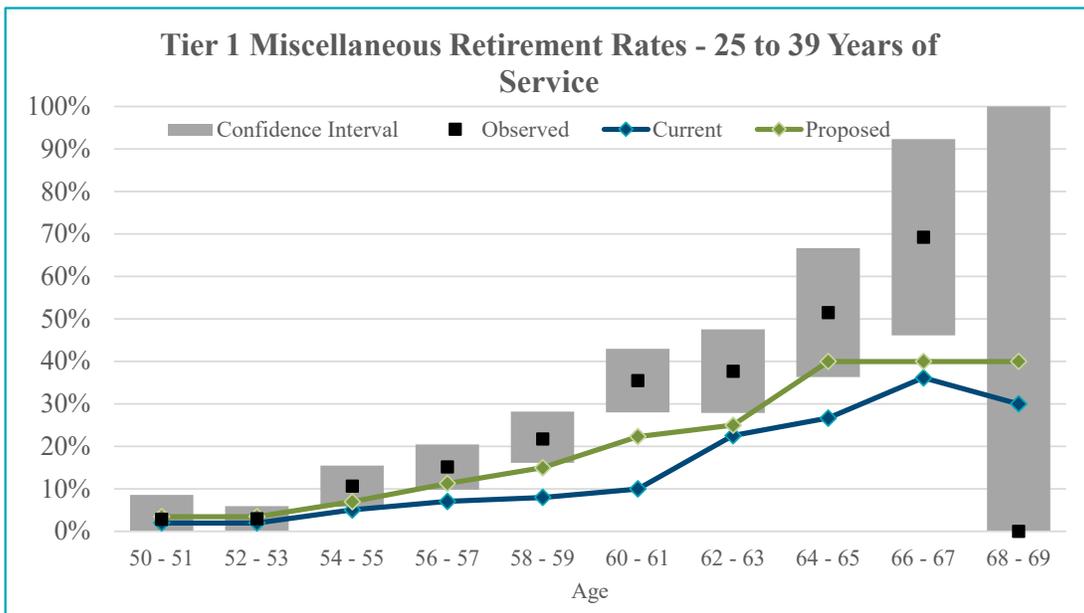
**SECTION III – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES**

Table III-R2 shows the calculation of actual-to-expected ratios and the R-Squared statistic for Miscellaneous Tier 1 members with 25 to 39 years of service. Chart III-R2 shows the information graphically along with the 90% confidence interval. The proposed rates were increased but not always to be within the confidence interval due to higher retirement during COVID. The data shows more actual retirements than expected under the current assumption. The proposed assumption increases the aggregate number of assumed retirements. The new assumptions decrease the aggregate A/E ratio from 224% to 143%. The R-Squared statistic improves, increasing from 79% to 98%.

Table III-R2 – Miscellaneous Tier 1 Retirement

Tier 1 Miscellaneous Retirement Rates - 25 to 39 Years of Service									
Age	Exposures	Retirements			Retirement Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
50 - 51	35	1	1	1	2.9%	2.0%	3.5%	143%	82%
52 - 53	67	2	1	2	3.0%	2.0%	3.5%	149%	85%
54 - 55	103	11	5	7	10.7%	5.1%	7.0%	210%	153%
56 - 57	132	20	9	15	15.2%	7.1%	11.3%	214%	134%
58 - 59	124	27	10	19	21.8%	8.0%	15.0%	272%	145%
60 - 61	107	38	11	24	35.5%	10.0%	22.3%	355%	159%
62 - 63	61	23	14	15	37.7%	22.5%	25.0%	167%	151%
64 - 65	33	17	9	13	51.5%	26.7%	40.0%	193%	129%
66 - 67	13	9	5	5	69.2%	36.2%	40.0%	191%	173%
68 - 69	5	0	2	2	0.0%	30.0%	40.0%	0%	0%
TOTAL	680	148	66	104	21.8%	9.7%	15.3%	224%	143%
Confidence Interval %			30%	60%					
R-squared			79%	98%					

Chart III-R2 – Miscellaneous Tier 1 Retirement



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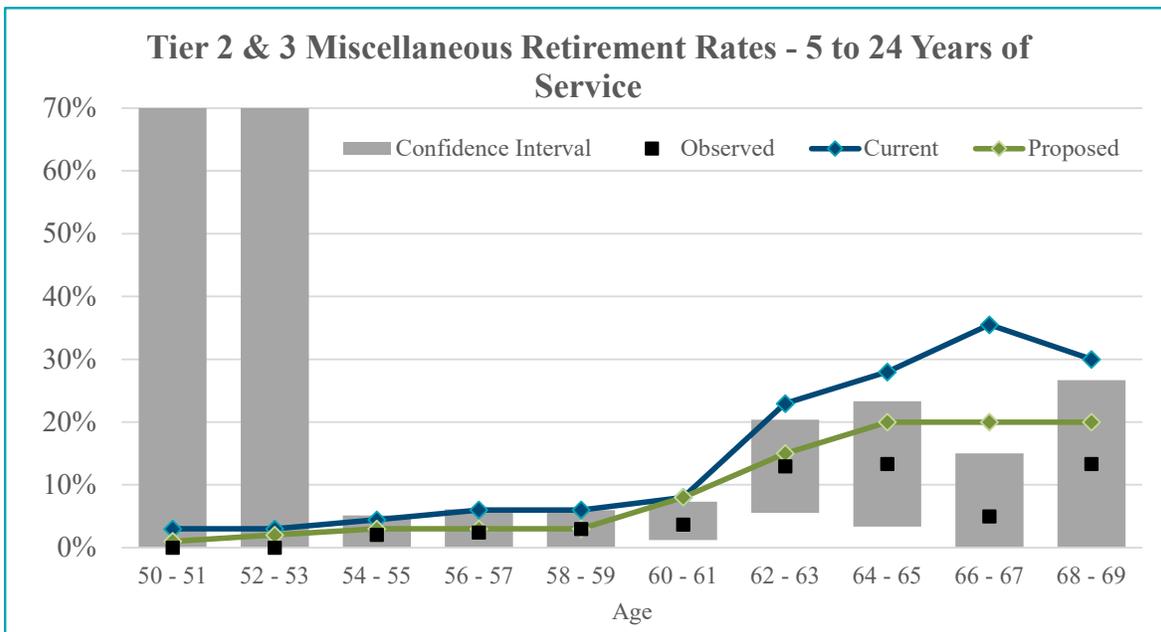
**SECTION III – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES**

Table III-R3 shows the calculation of actual-to-expected ratios and the R-Squared statistic for Miscellaneous Tier 2 and 3 members with 5 to 24 years of service. Chart III-R3 shows the information graphically along with the 90% confidence interval. The data shows fewer actual retirements than expected under the current assumption. The proposed assumption decreases the aggregate number of assumed retirements and decreases the retirement rate for most age bands to be more in line with the experience. The new assumptions increase the aggregate A/E ratio from 41% to 61%. The R-Squared statistic decreases slightly from 83% to 77%.

Table III-R3 – Miscellaneous Tiers 2 and 3 Retirement

Tier 2 & 3 Miscellaneous Retirement Rates - 5 to 24 Years of Service									
Age	Exposures	Retirements			Retirement Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
50 - 51	60	0	2	1	0.0%	3.0%	1.0%	0%	0%
52 - 53	91	0	3	2	0.0%	3.0%	2.0%	0%	0%
54 - 55	98	2	4	3	2.0%	4.4%	3.0%	46%	68%
56 - 57	82	2	5	2	2.4%	6.0%	3.0%	41%	81%
58 - 59	67	2	4	2	3.0%	6.0%	3.0%	50%	100%
60 - 61	82	3	7	7	3.7%	8.0%	8.0%	46%	46%
62 - 63	54	7	12	8	13.0%	23.0%	15.0%	56%	86%
64 - 65	30	4	8	6	13.3%	28.0%	20.0%	48%	67%
66 - 67	20	1	7	4	5.0%	35.5%	20.0%	14%	25%
68 - 69	15	2	5	3	13.3%	30.0%	20.0%	44%	67%
TOTAL	599	23	57	37	3.8%	9.5%	6.3%	41%	61%
Confidence Interval %			40%	80%					
R-squared			83%	77%					

Chart III-R3 – Miscellaneous Tiers 2 and 3 Retirement



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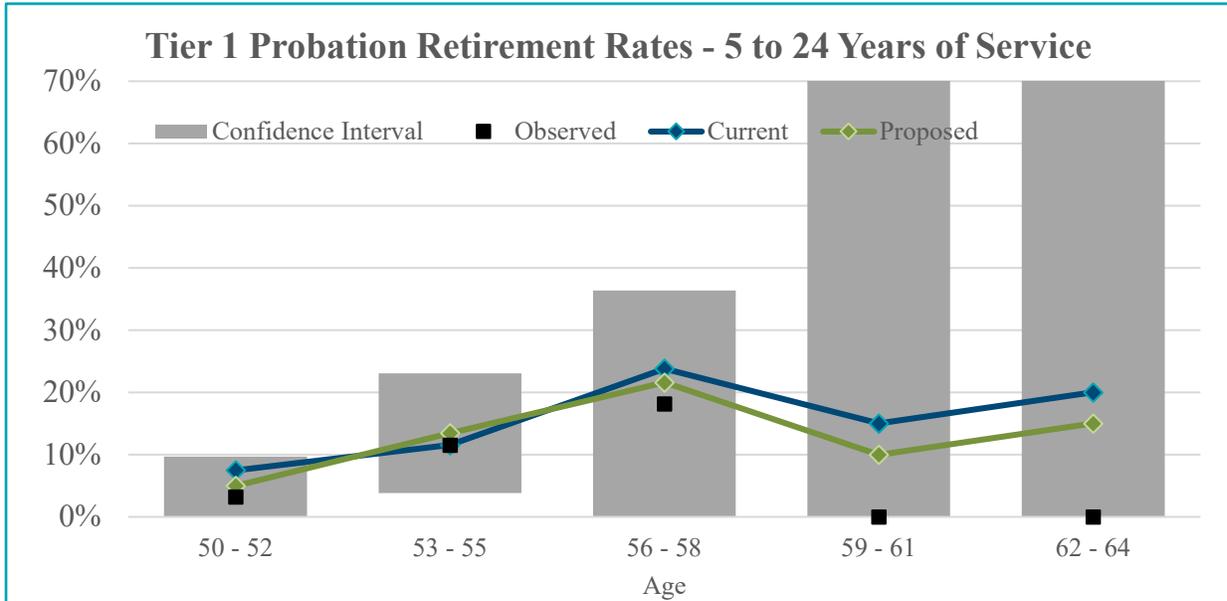
**SECTION III – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES**

Table III-R4 shows the calculation of actual-to-expected ratios and the R-Squared statistic for Probation Tier 1 members with 5 to 24 years of service. Chart III-R4 shows the information graphically along with the 90% confidence interval. The data shows lower actual retirements than expected under the current assumption. The proposed assumption makes decreases to the aggregate expected retirements to be more in line with actual experience. The new assumptions increase the aggregate A/E ratio from 63% to 70%. The R-Squared statistic improves, increasing from 83% to 97%.

Table III-R4 – Probation Tier 1 Retirement

Tier 1 Probation Retirement Rates - 5 to 24 Years of Service									
Age	Exposures	Retirements			Retirement Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
50 - 52	31	1	2	2	3.2%	7.5%	5.0%	43%	65%
53 - 55	26	3	3	4	11.5%	11.5%	13.5%	100%	86%
56 - 58	11	2	3	2	18.2%	23.8%	21.6%	76%	84%
59 - 61	3	0	0	0	0.0%	15.0%	10.0%	0%	0%
62 - 64	6	0	1	1	0.0%	20.0%	15.0%	0%	0%
TOTAL	77	6	10	9	7.8%	12.5%	11.2%	63%	70%
Confidence Interval %			100%	100%					
R-squared			83%	97%					

Chart III-R4 – Probation Tier 1 Retirement



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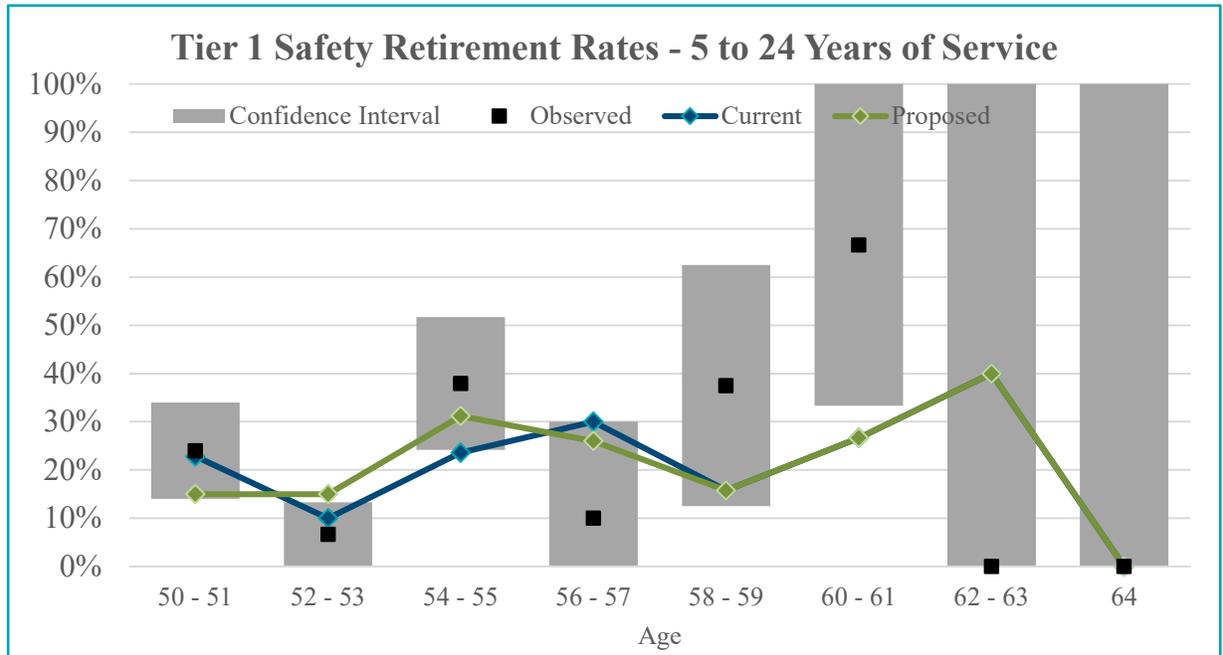
**SECTION III – DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES**

Table III-R5 shows the calculation of actual-to-expected ratios and the R-Squared statistic for Safety Tier 1 members with 5 to 24 years of service. Chart III-R5 shows the information graphically along with the 90% confidence interval. The data shows higher actual retirements than expected under the current assumption. The proposed assumption slightly decreases the aggregate number of assumed retirements but increases the retirement rate for certain age bands to be more in line with the experience. The new assumptions increase the aggregate A/E ratio from 120% to 123%. The R-Squared statistic decreases slightly from 84% to 80%.

Table III-R5 – Safety Tier 1 Retirement

Tier 1 Safety Retirement Rates - 5 to 24 Years of Service									
Age	Exposures	Retirements			Retirement Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
50 - 51	50	12	11	8	24.0%	22.8%	15.0%	105%	160%
52 - 53	30	2	3	5	6.7%	10.0%	15.0%	67%	44%
54 - 55	29	11	7	9	37.9%	23.6%	31.2%	161%	122%
56 - 57	10	1	3	3	10.0%	30.0%	26.0%	33%	38%
58 - 59	8	3	1	1	37.5%	15.8%	15.8%	238%	238%
60 - 61	6	4	2	2	66.7%	26.7%	26.7%	250%	250%
62 - 63	1	0	0	0	0.0%	40.0%	40.0%	0%	0%
64	0	0	0	0	0.0%	0.0%	0.0%	0%	0%
TOTAL	134	33	28	27	24.6%	20.5%	20.1%	120%	123%
Confidence Interval %				75%	75%				
R-squared				84%	80%				

Chart III-R5 – Safety Tier 1 Retirement



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**SECTION III – DEMOGRAPHIC ASSUMPTIONS
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We have not shown the data for Probation and Safety Tier 1 members with 25 or more years of service due to the low number of actual retirements in that service group. Also, we have not shown the data for most Tiers 2 & 3 experience due to the low number of actual retirements in those Tiers. Therefore, we have used our professional judgment to propose retirement rates by age, membership class, and plan tier for these service groups based on the rate of retirement patterns exhibited by Tier 1 members in the specific group.

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**SECTION III – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES**

Termination rates (vested termination rates and withdrawal rates) reflect the frequency at which active members leave employment for reasons other than retirement, death, or disability. Currently, the vested termination rates are based on age only and the withdrawal rates are based on age and service for Miscellaneous, Safety, and Probation members. We have found that the rate of termination is more related to years of service rather than age. This methodology also avoids under-weighting the liabilities that can occur if using age-based rates only. The termination rates do not apply once members are eligible for a service retirement benefit.

Vested Termination Rates

Vested termination rates apply to active members who are eligible for reduced or unreduced retirement benefits. Table III-T1 shows the calculation of actual-to-expected ratios and the R-Squared statistic for Miscellaneous members. Chart III-T1a shows the information graphically along with the 90% confidence interval for the current assumption by age and Chart III-T1b shows the current and proposed assumptions by service. The current assumption rates are shown as a weighted average of the age-based rates within the respective service bands.

The data shows actual vested termination rates close to expected under the current assumption. We are proposing to base vested termination rates on service using the following rates starting at five years of service, to be more in line with experience. The proposed assumption maintains the aggregate assumed rate of termination and the aggregate A/E ratio remains at 87%. The R-Squared statistic improves, increasing slightly.

Table III-T1: Miscellaneous Vested Termination

Miscellaneous Vested Termination Rates									
Service	Exposures	Terminations			Termination Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current*	Proposed	Current	Proposed
5 - 7	1,531	77	69	78	5.0%	4.5%	5.1%	111%	99%
8 - 10	1,065	41	40	43	3.8%	3.8%	4.0%	101%	96%
11 - 13	1,144	34	39	37	3.0%	3.4%	3.3%	88%	91%
14 - 16	916	18	27	27	2.0%	3.0%	2.9%	66%	67%
17 - 19	861	19	23	22	2.2%	2.7%	2.6%	82%	85%
20 - 22	564	6	14	10	1.1%	2.5%	1.7%	43%	63%
23 - 25	317	1	6	5	0.3%	2.0%	1.5%	16%	21%
26 - 28	302	3	5	5	1.0%	1.7%	1.5%	57%	66%
29 - 31	172	1	3	3	0.6%	1.6%	1.5%	35%	39%
32 - 34	85	0	2	1	0.0%	1.8%	1.5%	0%	0%
TOTAL	6,957	200	229	229	2.9%	3.3%	3.3%	87%	87%
Confidence Interval %			70%	80%					
R-squared			97%	99%					

**The current assumptions were determined by age. This table shows service bands, so the current termination rates are a weighted average of the age-based rates within the respective service bands.*

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**SECTION III – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES**

Chart III-T1a: Miscellaneous Vested Termination

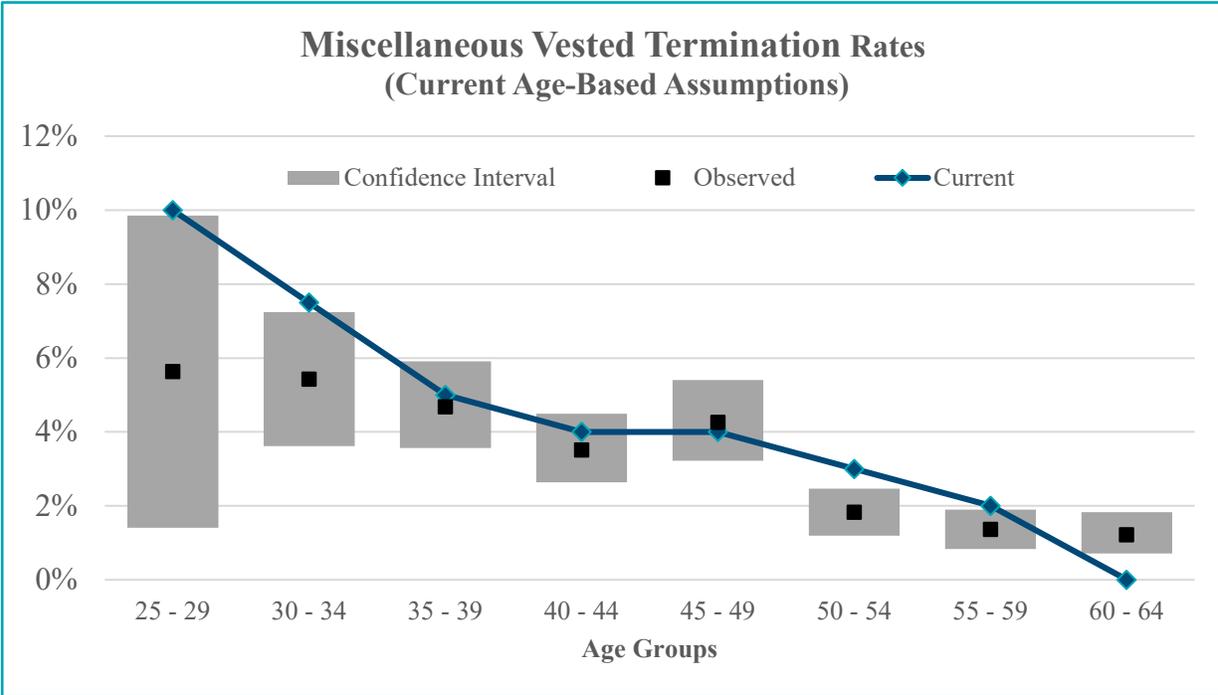
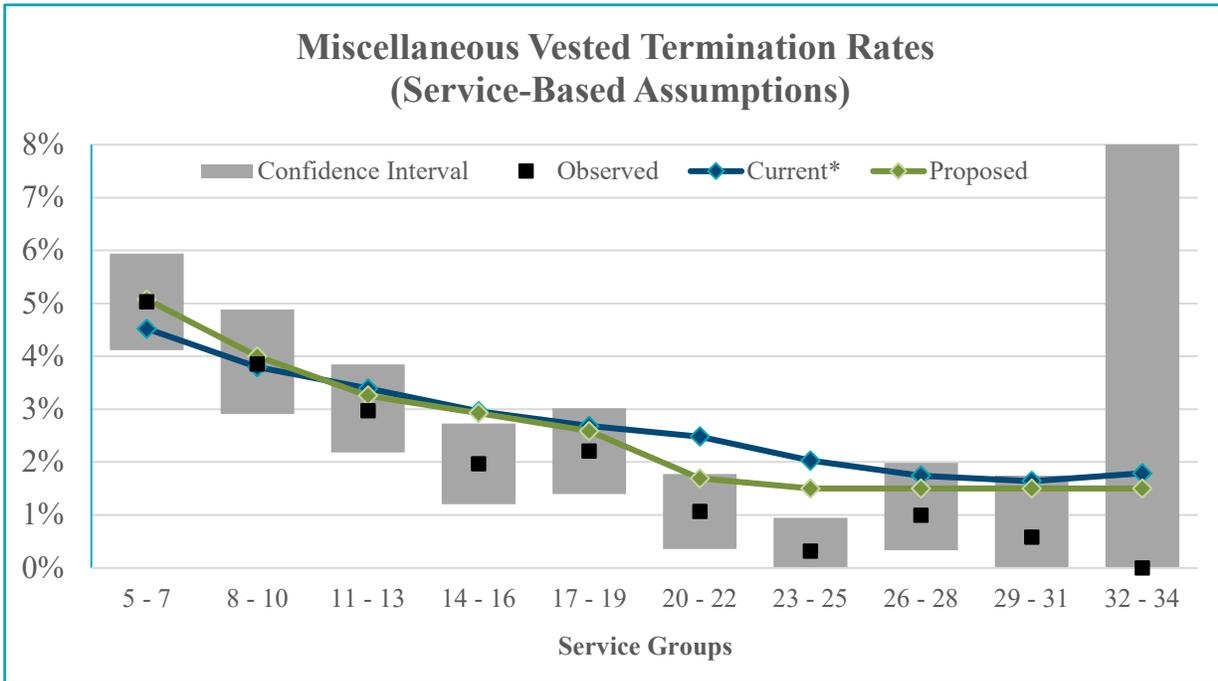


Chart III-T1b: Miscellaneous Vested Termination



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**SECTION III – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES**

Table III-T2 shows the calculation of actual-to-expected ratios and the R-Squared statistic for Safety and Probation members. Chart III-T2a shows the information graphically along with the 90% confidence interval for the current assumption by age and Chart III-T2b shows the current and proposed assumptions by service. The current assumption rates are shown as a weighted average of the age-based rates within the respective service bands.

The data shows actual vested termination rates close to expected under the current assumption. We are proposing to base vested termination rates on service using the following rates starting at five years of service, to be more in line with experience. The proposed assumption increases the aggregate assumed rate of termination to align with the actual experience and the aggregate A/E ratio decreases to 102%. The R-Squared statistic improves, increasing from 88% to 98%.

Table III-T2: Safety and Probation Vested Termination

Safety and Probation Vested Termination Rates									
Service	Exposures	Terminations			Termination Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current*	Proposed	Current	Proposed
5 - 9	408	11	6	10	2.7%	1.5%	2.4%	180%	111%
10 - 14	382	8	6	6	2.1%	1.5%	1.7%	143%	123%
15 - 19	275	3	4	4	1.1%	1.4%	1.4%	80%	81%
20 - 24	284	3	4	4	1.1%	1.3%	1.3%	79%	85%
25 - 29	80	0	1	1	0.0%	1.2%	1.0%	0%	0%
TOTAL	1,429	25	20	24	1.7%	1.4%	1.7%	124%	102%
Confidence Interval %			100%	100%					
R-squared			88%	98%					
<i>*The current assumptions were determined by age. This table shows service bands, so the current termination rates are a weighted average of the age-based rates within the respective service bands.</i>									

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**SECTION III – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES**

Chart III-T2a: Safety and Probation Vested Termination

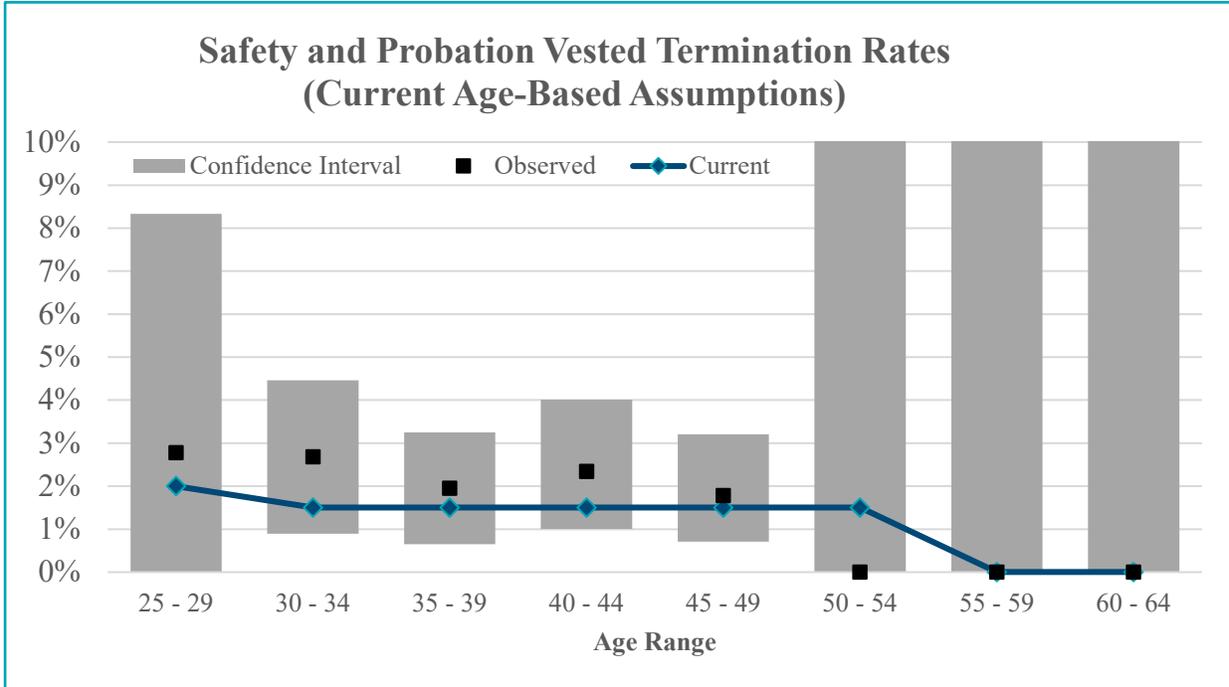
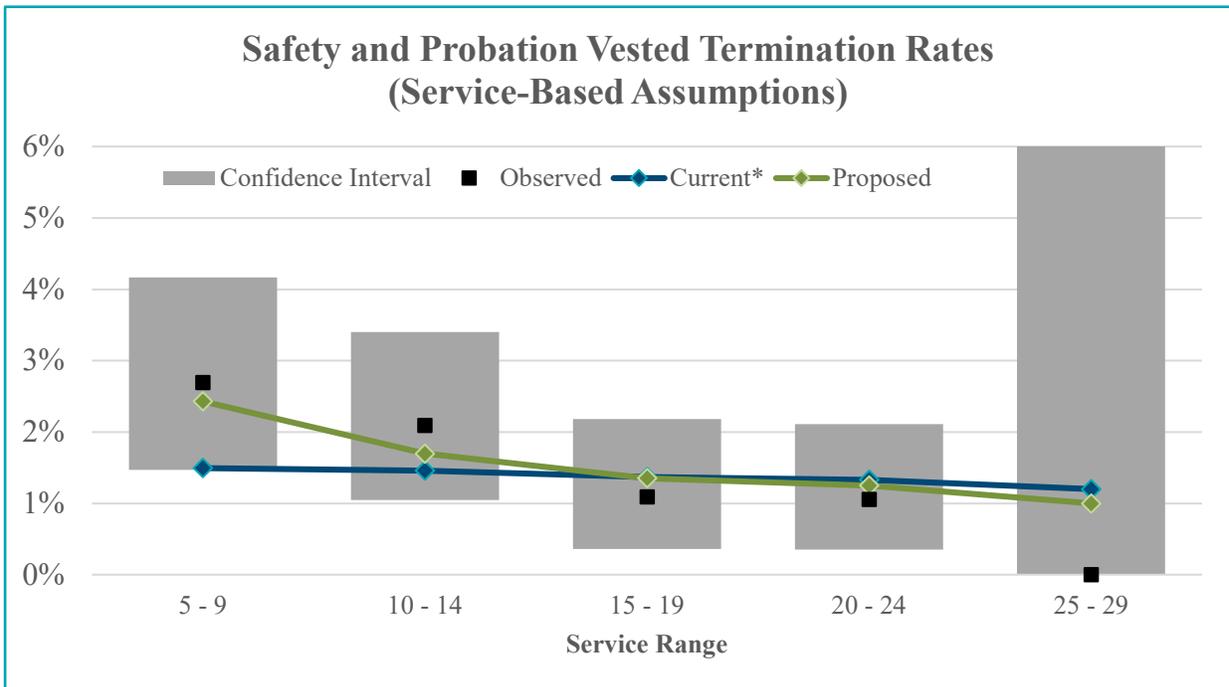


Chart III-T2b: Safety and Probation Vested Termination



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**SECTION III – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES**

Withdrawal Rates

Rates of withdrawal apply to active members who terminate their employment and withdraw their member contributions, forfeiting entitlement to future Plan benefits. When a vested member terminates employment, they have the option of receiving a refund of contributions with interest or a deferred annuity.

Table III-T3 shows the calculation of actual-to-expected ratios and the R-Squared statistic for Miscellaneous members. Chart III-T3a shows the information graphically along with the 90% confidence interval for the current assumption by age and Chart III-T3b shows the current and proposed assumptions by service. The current assumption rates are shown as a weighted average of the age-based rates within the respective service bands.

The data shows actual withdrawal rates close to expected under the current assumption. We are proposing to base withdrawal rates on service using the following rates starting at zero years of service, to be more in line with experience. The proposed assumption increases the aggregate assumed rate of withdrawal and the aggregate A/E ratio decreases to 86%. The R-Squared statistic improves, increasing from 88% to 99%. We note that because the number of withdrawals and exposures is quite high, a higher degree of credibility can be assigned to the withdrawal experience, and therefore we are comfortable proposing service-based assumptions that align closely with the data.

Table III-T3: Miscellaneous Withdrawal

Miscellaneous Withdrawal Rates									
Service	Exposures	Withdrawals			Withdrawal Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current*	Proposed	Current	Proposed
0 - 1	1,749	280	184	296	16.0%	10.5%	16.9%	152%	95%
2 - 3	1,762	155	176	195	8.8%	10.0%	11.0%	88%	80%
4 - 5	1,319	48	80	54	3.6%	6.1%	4.1%	60%	88%
6 - 7	913	6	14	16	0.7%	1.5%	1.8%	42%	38%
8 - 9	698	1	9	9	0.1%	1.2%	1.3%	12%	11%
10 - 14	1,840	13	15	13	0.7%	0.8%	0.7%	84%	100%
15 - 19	1,448	5	6	7	0.3%	0.4%	0.5%	86%	69%
20 - 24	784	2	1	4	0.3%	0.1%	0.5%	201%	51%
TOTAL	10,513	510	485	594	4.9%	4.6%	5.6%	105%	86%
Confidence Interval %			38%	63%					
R-squared			88%	99%					
<i>*The current assumptions were determined primarily by age. This table shows service bands, so the current withdrawal rates are a weighted average of the age-based rates within the respective service bands.</i>									

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**SECTION III – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES**

Chart III-T3a: Miscellaneous Withdrawal

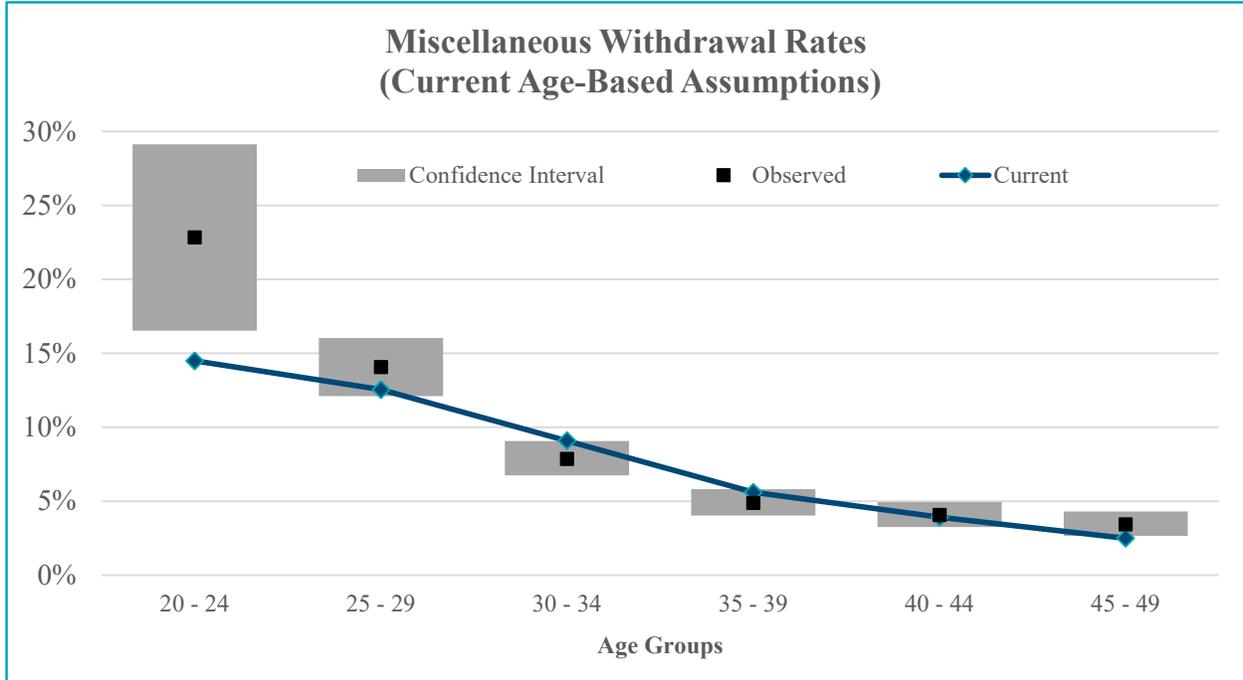
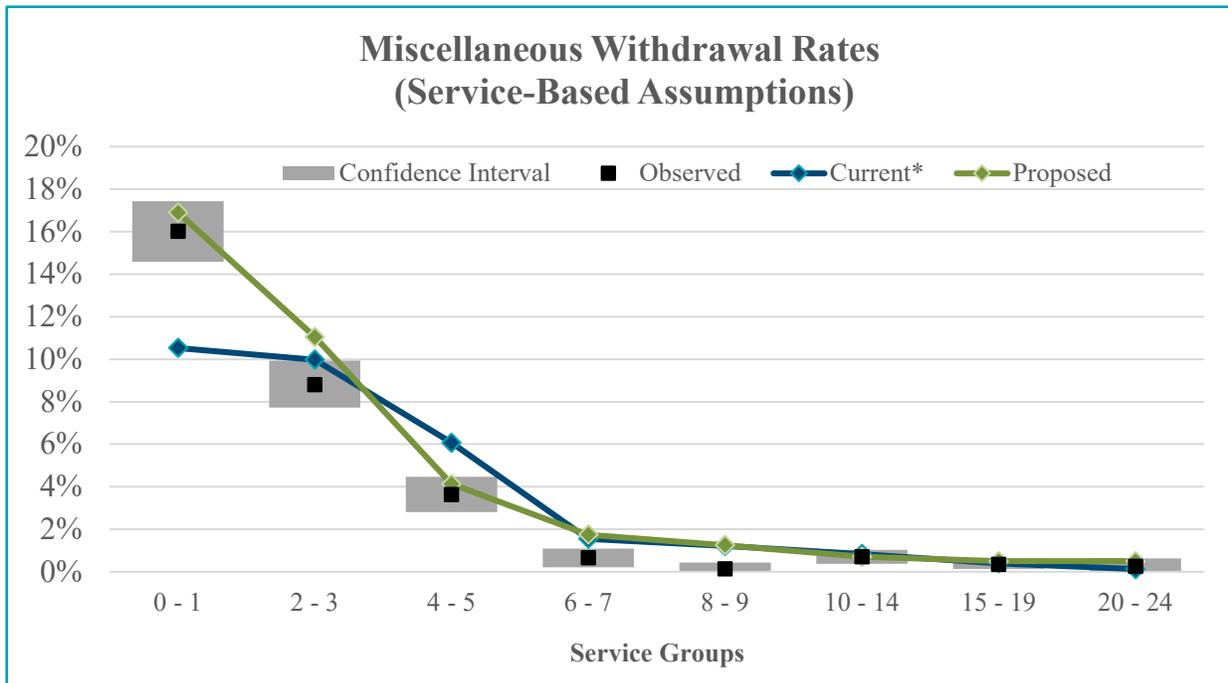


Chart III-T3b: Miscellaneous Withdrawal



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**SECTION III – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES**

Table III-T4 shows the calculation of actual-to-expected ratios and the R-Squared statistic for Safety and Probation members. Chart III-T4a shows the information graphically along with the 90% confidence interval for the current assumption by age and Chart III-T4b shows the current and proposed assumptions by service. The current assumption rates are shown as a weighted average of the age-based rates within the respective service bands.

The data shows actual withdrawal rates higher than expected under the current assumption. We are proposing to base withdrawal rates on service using the following rates starting at zero years of service, to be more in line with experience. The proposed assumption increases the aggregate assumed rate of withdrawal and the aggregate A/E ratio decreases from 150% to 95%. The R-Squared statistic improves, increasing from 85% to 97%.

Table III-T4: Safety and Probation Withdrawal

Safety and Probation Withdrawal Rates									
Service	Exposures	Withdrawals			Withdrawal Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current*	Proposed	Current	Proposed
0 - 1	209	21	9	18	10.0%	4.4%	8.7%	226%	116%
2 - 3	249	14	11	14	5.6%	4.3%	5.5%	130%	102%
4 - 5	206	5	5	7	2.4%	2.6%	3.5%	93%	69%
6 - 7	166	1	1	3	0.6%	0.8%	1.5%	74%	39%
8 - 9	140	1	1	1	0.7%	0.7%	1.0%	101%	71%
10 - 11	151	2	1	2	1.3%	0.6%	1.0%	216%	132%
12 - 13	161	0	1	2	0.0%	0.5%	1.0%	0%	0%
14 - 15	132	1	1	1	0.8%	0.4%	1.0%	185%	76%
TOTAL	1,414	45	30	48	3.2%	2.1%	3.4%	150%	95%
Confidence Interval %			88%	100%					
R-squared			85%	97%					
<i>*The current assumptions were determined primarily by age. This table shows service bands, so the current withdrawal rates are a weighted average of the age-based rates within the respective service bands.</i>									

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**SECTION III – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES**

Chart III-T4a: Safety and Probation Withdrawal

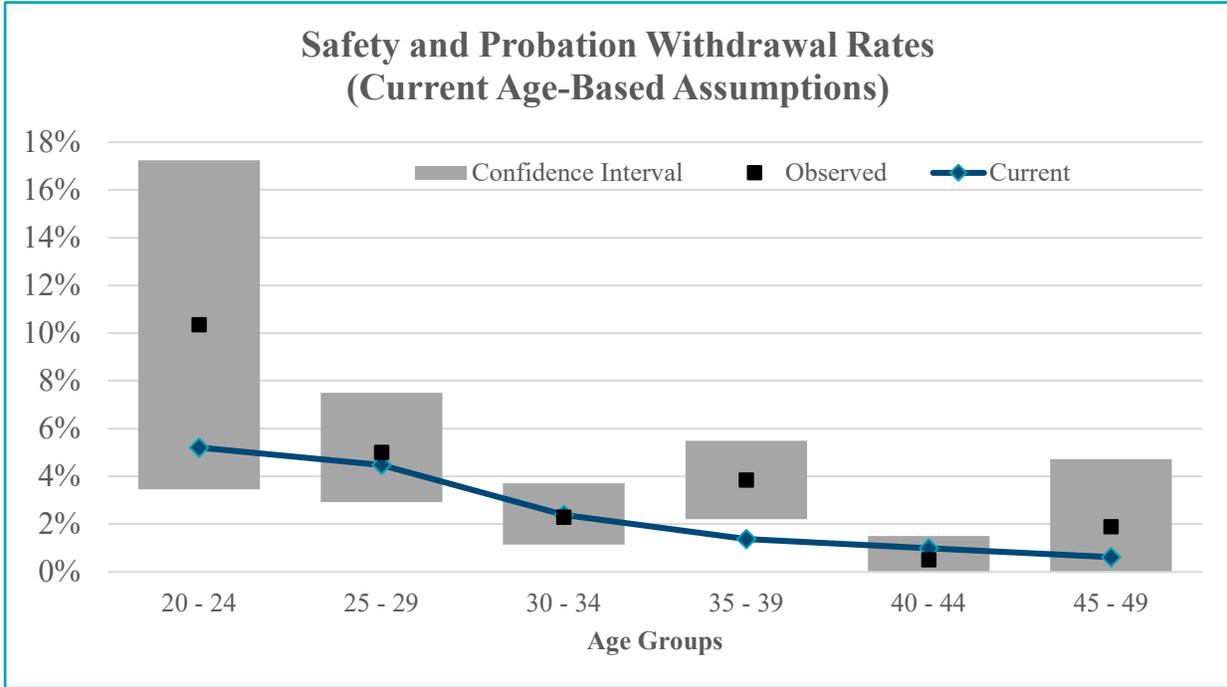
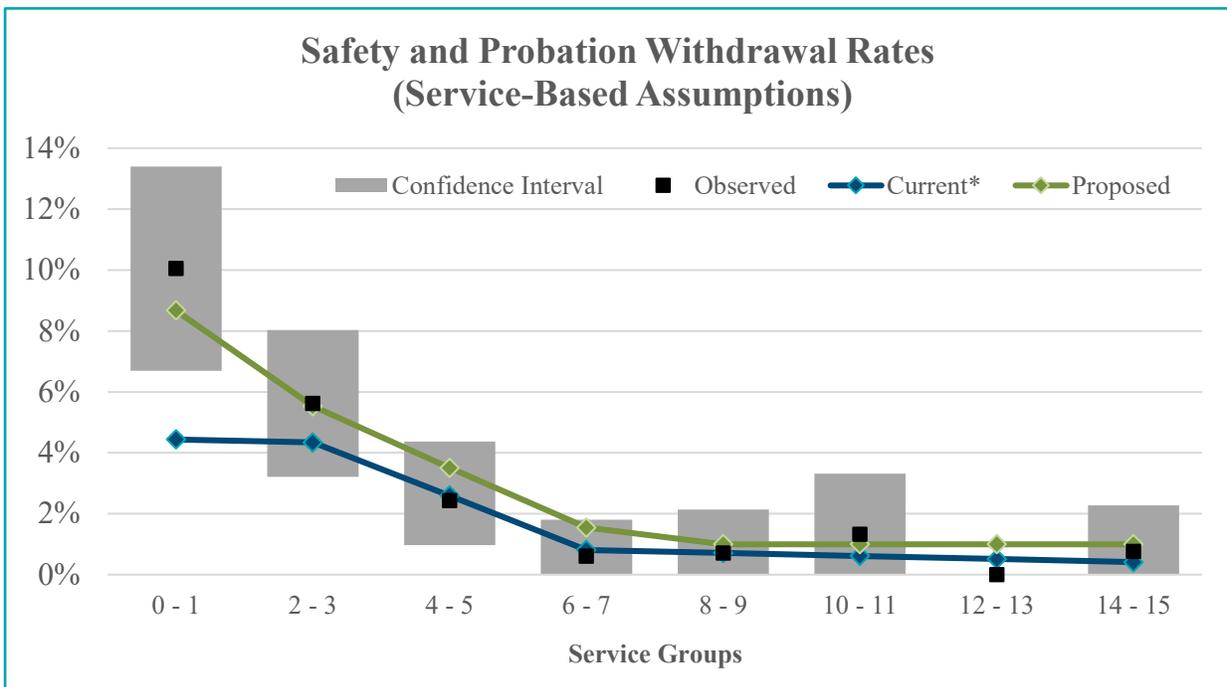


Chart III-T4b: Safety and Probation Withdrawal



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**SECTION III – DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES**

Reciprocal Transfers

All members who terminate employment, regardless of length of service credited, have the option of receiving a refund of contributions with interest or leaving the accumulated contributions with interest in deposit with the Plan. The reciprocal transfer assumption assumes a member terminates employment, leaves their contributions with interest in the Plan, and works for a reciprocal employer.

Table III-T5 below shows the experience for the percentage of terminated members who retire from a reciprocal system. We performed the analysis from two different perspectives. The first method (Termination Analysis), which covers five years of experience, looks at the number of members who notify SLOCPT that they have been employed at a reciprocal retirement system when they terminate SLOCPT employment. The second method (Retirement Analysis), which covers the three most recent years of experience, looks at the number of members who retire from a terminated status at SLOCPT but were employed at a reciprocal system.

The first analysis results in lower rates of reciprocity. This is likely due to members not reporting to SLOCPT that they were hired at a reciprocal system and the information only becoming available once the member retires from the reciprocal system.

Based on the overall analysis, we are not proposing any changes to the current assumption. The assumption is that 30% of vested terminated members who leave their member contributions on deposit with the Plan are reciprocal transfers. In addition, all non-vested terminated members are assumed to take a refund of contributions with interest. We will continue to monitor this assumption in the next experience study.

Table III-T5: Reciprocal Transfers

Percentage of Members With Reciprocity	
Termination Analysis	
Members who terminated and left contributions on deposit	288
Members who terminated and went to a reciprocal system	65
Percentage of terminated members with reciprocity	23%
Retirement Analysis	
Members who retired from terminated or reciprocal status	79
Members who retired from reciprocal status	29
Percentage of retirements with reciprocity	37%

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**SECTION III – DEMOGRAPHIC ASSUMPTIONS
DISABILITY RATES**

This section analyzes the incidence of disability by the age of the member by membership class. Generally, there is a very low rate of disability, and the disability assumption only has a minor impact on the liabilities as a whole. Given the lack of credible data, less emphasis is placed on the aggregate A/E ratios, confidence intervals, and R-Squared statistics. Overall, the assumed rates of disability remain within reason relative to actual experience. We are not proposing any changes to this assumption.

In addition, it is assumed that all disabilities for Safety members are assumed to be service-related and no disabilities for Miscellaneous and Probation members are assumed to be service-related. We are not proposing any change to this assumption.

Table III-D1 shows the calculation of actual-to-expected ratios and the R-Squared statistic for all disabilities for Miscellaneous members, and Chart III-D1 shows the information graphically.

The data shows actual disability rates that are lower than the current assumption. Due to the low number of actual disabilities and the lack of sufficient credible data for comparison, we are not proposing any changes to this assumption.

Table III-D1: Miscellaneous Disability

Miscellaneous Disability Rates									
Age Band	Exposures	Disabilities*			Average Disability Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
35 - 39	1,634	0	1	1	0.00%	0.05%	0.05%	0%	0%
40 - 44	1,474	1	1	1	0.07%	0.07%	0.07%	98%	98%
45 - 49	1,302	2	1	1	0.15%	0.10%	0.10%	161%	161%
50 - 54	1,560	1	2	2	0.06%	0.12%	0.12%	53%	53%
55 - 59	1,614	1	2	2	0.06%	0.15%	0.15%	43%	43%
60 - 64	1,203	0	2	2	0.00%	0.17%	0.17%	0%	0%
TOTAL	8,787	5	9	9	0.06%	0.11%	0.11%	54%	54%
Confidence Interval %			100%	100%					
R-squared			0%	0%					

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**SECTION III – DEMOGRAPHIC ASSUMPTIONS
DISABILITY RATES**

Chart III-D1: Miscellaneous Disability

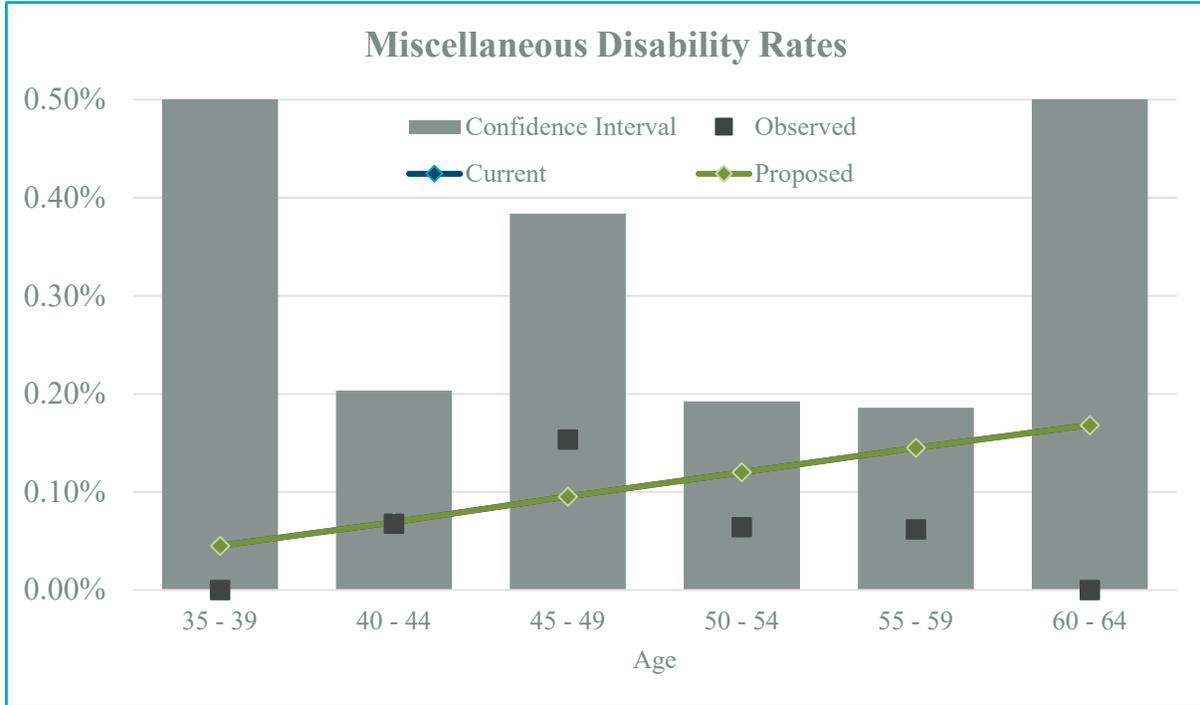


Table III-D2 on the next page shows the calculation of actual-to-expected ratios and the R-Squared statistic for all disabilities for Safety and Probation members, and Chart III-D2 shows the information graphically.

The data shows actual disability rates that are higher than the current assumption. Due to the low number of actual disabilities and the lack of sufficient credible data for comparison, we are not proposing any changes to this assumption.

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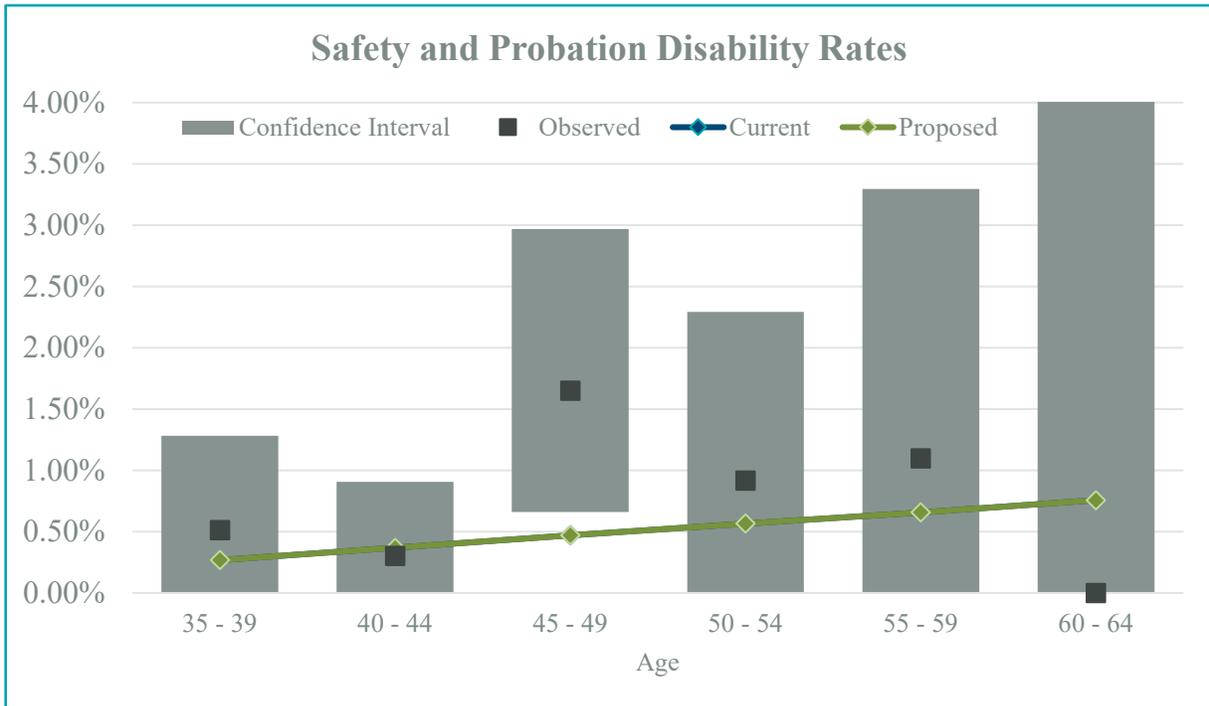
**SECTION III – DEMOGRAPHIC ASSUMPTIONS
DISABILITY RATES**

Table III-D2: Safety and Probation Disability

Safety and Probation Disability Rates									
Age Band	Exposures	Disabilities*			Average Disability Rates			A/E Ratios	
		Actual	Current	Proposed	Actual	Current	Proposed	Current	Proposed
35 - 39	390	2	1	1	0.51%	0.27%	0.27%	191%	191%
40 - 44	331	1	1	1	0.30%	0.37%	0.37%	82%	82%
45 - 49	303	5	1	1	1.65%	0.47%	0.47%	350%	350%
50 - 54	218	2	1	1	0.92%	0.57%	0.57%	162%	162%
55 - 59	91	1	1	1	1.10%	0.66%	0.66%	167%	167%
60 - 64	19	0	0	0	0.00%	0.76%	0.76%	0%	0%
TOTAL	1,352	11	6	6	0.81%	0.42%	0.42%	194%	194%
Confidence Interval %			83%	83%					
R-squared			56%	56%					

*Current and proposed values shown are rounded to the ones place. Totals may differ from visible total due to rounding.

Chart III-D2: Safety and Probation Disability



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**SECTION III – DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES**

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

In January 2019, the Retirement Plans Experience Committee (RPEC) of the SOA completed an extensive mortality study and published a new set of mortality tables for U.S. public pension plans, the Pub-2010 Mortality Tables, with separate tables for teachers, safety members, and other public employees. The experience covered 35 public systems with 78 plans from calendar years 2008–2013, which included approximately 46 million exposures and 580 thousand deaths. Since benefits for retirees and salaries for active members are a significant predictor of mortality differences, separate tables were also developed for Above-Median and Below-Median. RPEC also published the most recent mortality improvement projection scale, MP-2021. We used these tables as the basis for our analysis.

The steps in our analysis are as follows:

1. Select a standard mortality table that, based on experience, most closely matches the anticipated experience of SLOCPT.
2. Compare actual SLOCPT experience to what would have been predicted by the selected standard table for the period of the experience study.
3. Adjust the standard table depending on the level of credibility for SLOCPT experience. This adjusted table is called the base table.
4. Select an appropriate standard mortality improvement projection scale and apply it to the base table.

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**SECTION III – DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES**

Based on the last experience study performed by the prior actuary, SLOCPT elected to use the following base tables:

Active members

- Sex Distinct Public General 2010 Amount-Weighted Above-Median Income Employee Mortality Table, with generational mortality improvements projected from 2010 using Projection Scale MP-2019, without adjustment.

Healthy retirees and beneficiaries

- Sex Distinct Public General 2010 Amount-Weighted Above-Median Income Retiree Mortality Table, with generational mortality improvements projected from 2010 using Projection Scale MP-2019, with a 99% multiplier for males and a 101% multiplier for females.

Disabled members

- Sex Distinct Public General 2010 Amount-Weighted Above-Median Income Disabled Retiree Mortality Table, with generational mortality improvements projected from 2010 using Projection Scale MP-2019, without adjustment.

Since the prior experience study, the Society of Actuaries' Retirement Plans Experience Committee (RPEC) has released a new mortality improvement scale, Scale MP-2021, which reflects more up-to-date data than was used in the development of Scale MP-2019.

MP-2021 continues to represent the Society of Actuaries' most advanced actuarial methodology in incorporating mortality improvement trends with actual recent mortality rates, by using rates that vary not only by age but also by calendar year – known as a two-dimensional approach to projecting mortality improvements. Scale MP-2021 was designed with the intent of being applied to mortality on a generational basis. The effect of this is to build in an automatic expectation of future improvements in mortality.

SLOCPT's mortality experience over the past five years matches well with the Pub-2010 mortality rates for members, after applying the improvement projections from the base year of the tables (2010) using the new MP-2021 mortality improvement projections through the mid-point of the five-year period (2019).

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**SECTION III – DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES**

Based on SLOCPT’s mortality experience from December 31, 2016, through December 31, 2021, we are proposing the following base mortality tables:

Active members

- **Miscellaneous Members:** Sex Distinct Public General 2010 Amount-Weighted Above-Median Income Employee Mortality Table, with generational mortality improvements projected from 2010 using Projection Scale MP-2021, without adjustment.
- **Safety and Probation Members:** Sex Distinct Public Safety 2010 Amount-Weighted Above-Median Income Employee Mortality Table, with generational mortality improvements projected from 2010 using Projection Scale MP-2021, without adjustment.

Healthy retirees and beneficiaries

- **Miscellaneous Members and all beneficiaries:** Sex Distinct Public General 2010 Amount-Weighted Above-Median Income Retiree Mortality Table, with generational mortality improvements projected from 2010 using Projection Scale MP-2021, without adjustment.
- **Safety and Probation Members:** Sex Distinct Public Safety 2010 Amount-Weighted Above-Median Income Retiree Mortality Table, with generational mortality improvements projected from 2010 using Projection Scale MP-2021, without adjustment.

Disabled members

- **All Members:** Sex Distinct Public General 2010 Amount-Weighted Disabled Retiree Mortality Table, with generational mortality improvements projected from 2010 using Projection Scale MP-2021, without adjustment.

We propose using the Pub-2010 Mortality Tables by job category as developed by RPEC. Specifically, we propose using the Pub-2010 General Tables for Miscellaneous Members, all beneficiaries, and all disabled members. We propose using the Pub-2010 Safety Tables for Safety and Probation Members who are active or healthy retirees. We also propose projecting these base tables generationally using the MP-2021 mortality improvement scale described above for all types of mortality.

Rather than weighting the experience based on the number of members living and dying, we have weighted the experience based on benefit size (salary for current active members). This approach has been proposed by RPEC, since members with larger benefits are expected to live longer, and a benefit-weighted approach helps avoid underestimating the liabilities.

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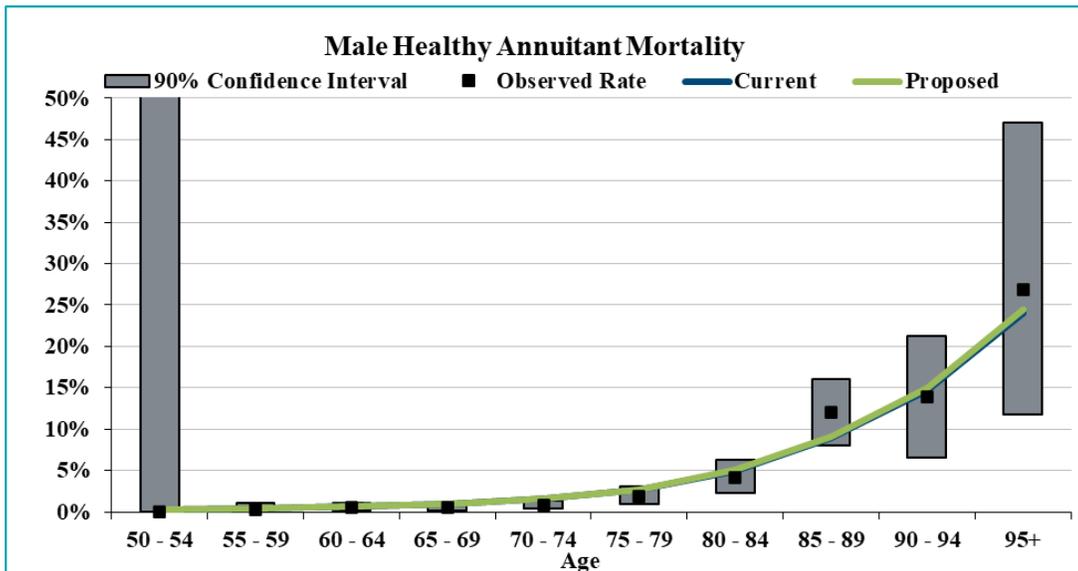
**SECTION III – DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES**

As shown in Table III-M1 and Table III-M2 that follow, our proposed mortality rates for Miscellaneous healthy annuitants do not significantly change the expected number of deaths, with A/E ratios increasing by 0% and 1% for male and female annuitants, respectively. They do, however use the most recent mortality improvement projection scale, better aligning them with up-to-date research on the topic. To perform our comparisons, the applicable Pub-2010 base rates were projected from their base year (2010) to the midpoint of the five-year study period (2019).

Table III-M1 – Miscellaneous Healthy Annuitant Male Mortality

Healthy Annuitant Mortality - Base Table for Males								
Age Band	Exposures	Actual Deaths	Weighted Exposures	Weighted Deaths			A/E Ratios	
				Actual	Current	Proposed	Current	Proposed
50 - 54	31	0	40,593	0	132	133	0%	0%
55 - 59	197	2	457,819	1,265	2,159	2,170	59%	58%
60 - 64	673	5	2,300,691	12,917	15,778	15,908	82%	81%
65 - 69	1,102	8	4,012,890	21,733	39,538	39,899	55%	54%
70 - 74	1,007	11	3,908,160	31,447	61,449	61,674	51%	51%
75 - 79	496	13	1,929,126	36,241	51,877	51,967	70%	70%
80 - 84	221	10	742,103	31,218	37,106	37,276	84%	84%
85 - 89	162	20	351,290	42,184	31,569	31,862	134%	132%
90 - 94	61	11	117,769	16,411	17,338	17,582	95%	93%
95 +	17	5	33,509	8,999	8,059	8,189	112%	110%
Total	3,967	85	13,893,951	202,415	265,005	266,659	76%	76%

Chart III-M1 – Miscellaneous Healthy Annuitant Male Mortality



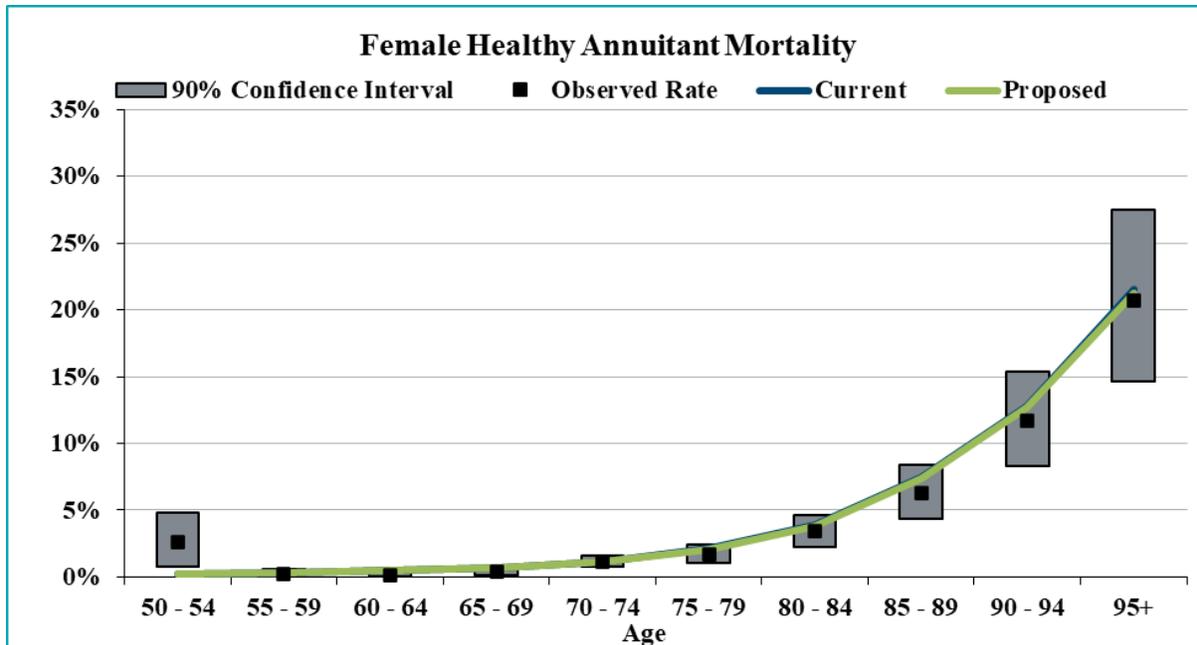
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SECTION III – DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES

Table III-M2 – Miscellaneous Healthy Annuitant Female Mortality

Healthy Annuitant Mortality - Base Table for Females								
Age Band	Exposures	Actual Deaths	Weighted Exposures	Weighted Deaths			A/E Ratios	
				Actual	Current	Proposed	Current	Proposed
50 - 54	124	2	171,004	4,454	420	402	1060%	1108%
55 - 59	492	4	1,003,397	2,119	3,489	3,370	61%	63%
60 - 64	1,442	6	3,349,688	4,099	15,817	15,470	26%	26%
65 - 69	2,011	10	4,981,515	18,426	35,079	34,290	53%	54%
70 - 74	1,739	26	3,887,067	43,561	45,816	44,683	95%	97%
75 - 79	1,043	17	2,012,455	34,347	42,641	41,717	81%	82%
80 - 84	578	23	979,487	33,796	37,846	37,164	89%	91%
85 - 89	370	18	542,222	34,263	40,401	39,947	85%	86%
90 - 94	240	35	312,959	36,699	40,177	39,866	91%	92%
95 +	109	22	148,723	30,769	31,996	31,672	96%	97%
Total	8,148	163	17,388,517	242,532	293,681	288,582	83%	84%

Chart III-M2 – Miscellaneous Healthy Annuitant Female Mortality



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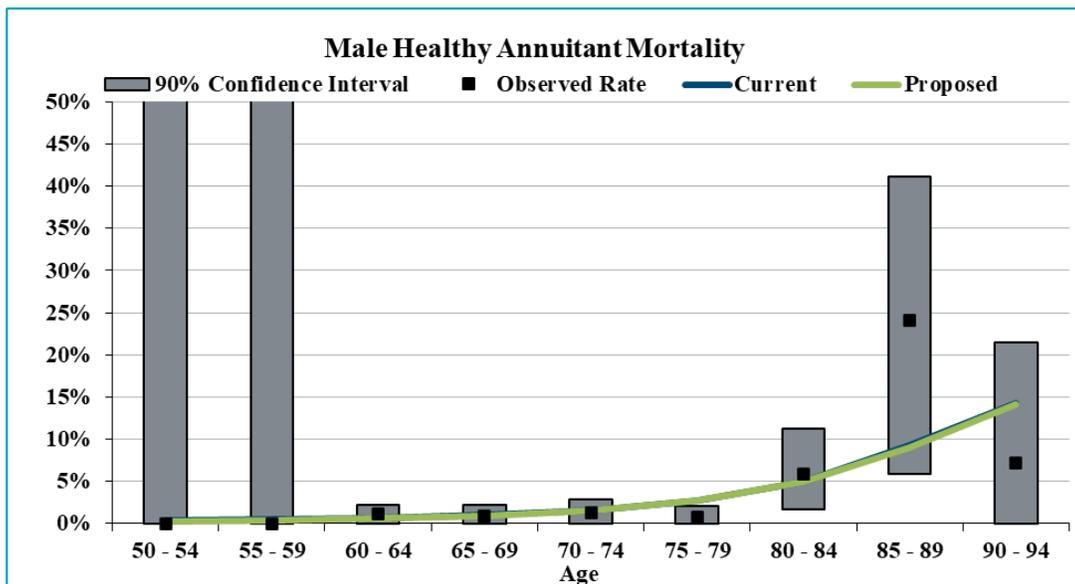
**SECTION III – DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES**

Table III-M3 and Table III-M4 summarize our analysis and selection of the base mortality table for healthy Safety and Probation male and female retirees. As shown in Table III-M3 our proposed mortality rates for male Safety and Probation healthy annuitants are close to recent experience with an A/E ratio of 99%. For Safety and Probation members, we analyzed the experience for beneficiaries with the Miscellaneous annuitant experience, rather than as Safety and Probation retiree experience. As a result, there are only two deaths among female Safety retirees. Given the limited experience data, we propose using the same Safety Pub-2010 Table for females as is used for males.

Table III-M3 – Safety and Probation Healthy Annuitant Male Mortality

Healthy Annuitant Mortality - Base Table for Males								
Age Band	Exposures	Actual Deaths	Weighted Exposures	Weighted Deaths			A/E Ratios	
				Actual	Current	Proposed	Current	Proposed
50 - 54	134	-	706,537	-	2,154	1,397	0%	0%
55 - 59	249	-	1,392,868	-	6,276	4,565	0%	0%
60 - 64	224	2	1,231,193	13,505	8,094	6,942	167%	195%
65 - 69	223	3	1,163,456	10,985	11,334	10,937	97%	100%
70 - 74	176	2	801,554	9,805	12,542	12,404	78%	79%
75 - 79	98	1	376,206	2,926	10,332	10,275	28%	28%
80 - 84	62	5	223,266	13,164	11,073	10,929	119%	120%
85 - 89	17	3	51,031	12,328	4,737	4,630	260%	266%
90 - 94	14	2	18,107	1,311	2,578	2,557	51%	51%
95 +	-	-	-	-	-	-	0%	0%
Total	1,197	18	5,964,217	64,024	69,120	64,636	93%	99%

Chart III-M3 - Safety Healthy Annuitant Male Mortality



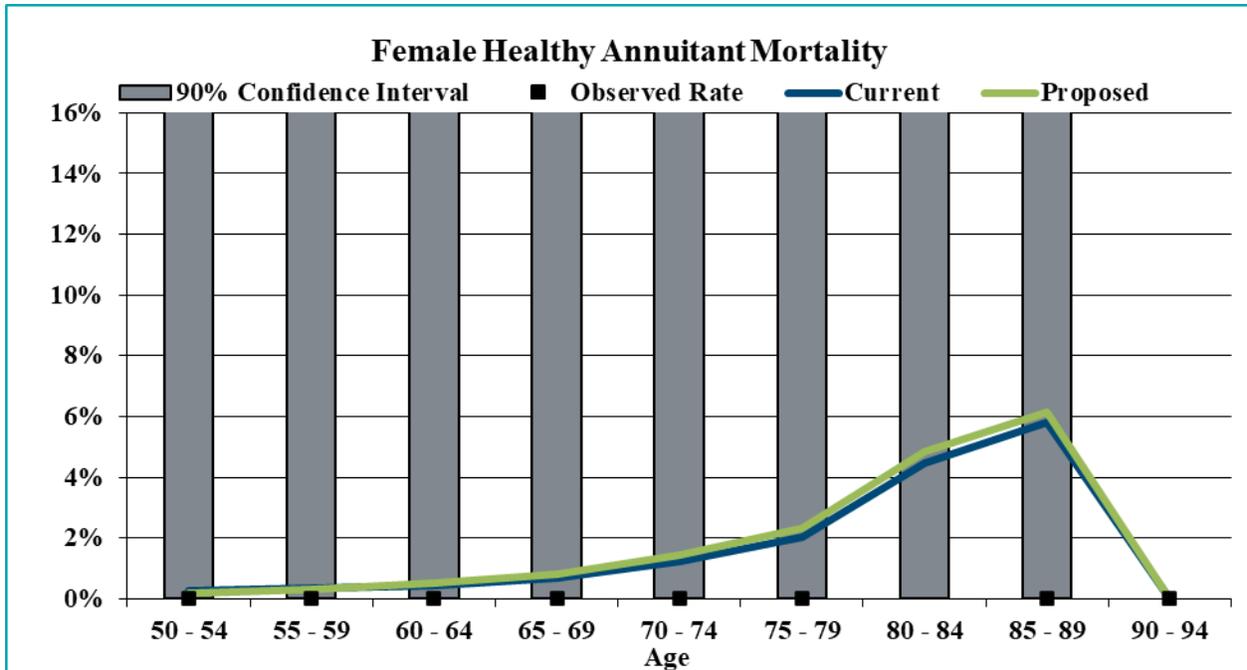
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**SECTION III – DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES**

Table III-M4 - Safety Healthy Annuitant Female Mortality

Healthy Annuitant Mortality - Base Table for Females								
Age Band	Exposures	Actual Deaths	Weighted Exposures	Weighted Deaths			A/E Ratios	
				Actual	Current	Proposed	Current	Proposed
50 - 54	34	0	116,956	0	287	213	0%	0%
55 - 59	79	0	381,554	0	1,278	1,231	0%	0%
60 - 64	61	0	233,710	0	1,050	1,203	0%	0%
65 - 69	37	0	160,089	0	1,093	1,303	0%	0%
70 - 74	32	0	94,321	0	1,155	1,350	0%	0%
75 - 79	21	0	65,870	0	1,332	1,525	0%	0%
80 - 84	6	2	18,508	3,136	829	899	378%	349%
85 - 89	1	0	3,299	0	192	203	0%	0%
90 - 94	0	0	0	0	0	0	0%	0%
95 +	0	0	0	0	-	0	0%	0%
Total	271	2	1,074,306	3,136	7,217	7,927	43%	40%

Chart III-M4 - Safety Healthy Annuitant Female Mortality



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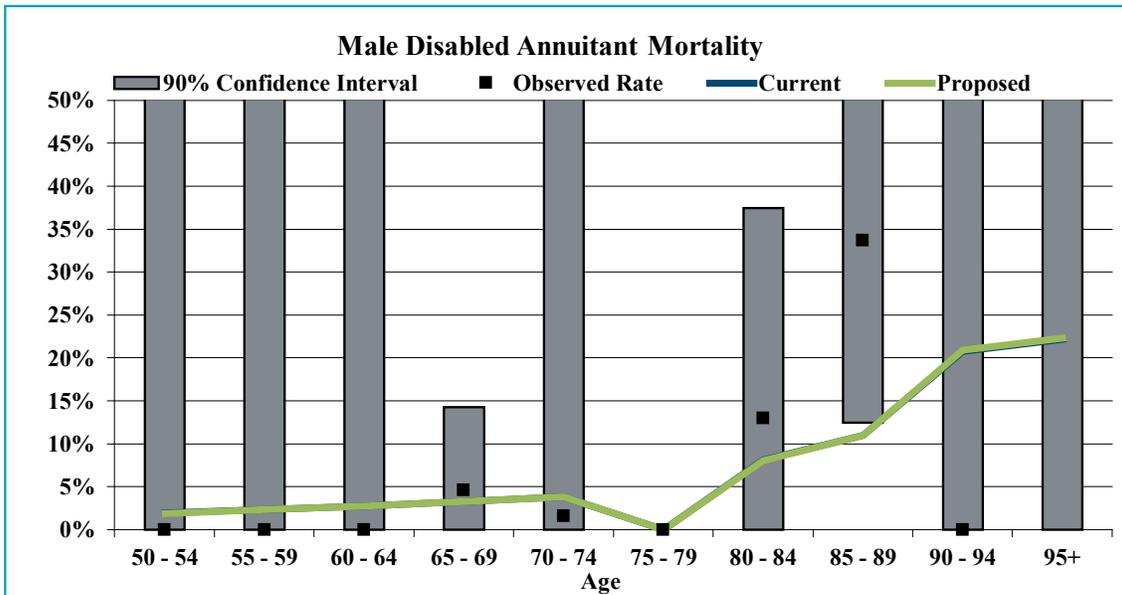
**SECTION III – DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES**

Table III-M5 and Table III-M6 summarize our analysis and selection of the base mortality table for disabled Miscellaneous male and female retirees. As shown in Table III-M5, the current mortality rates for male disabled Miscellaneous retirees are relatively close to recent experience with an A/E ratio 87%. As shown in Table III-M6, there was only one death among female disabled Miscellaneous retirees. Given the limited experience data, we propose using the same General Pub-2010 Disabled Annuitant Table for females as is used for males.

Table III-M5 – Miscellaneous Disabled Annuitant Male Mortality

Disabled Annuitant Mortality - Base Table for Males								
Age Band	Exposures	Actual Deaths	Weighted Exposures	Weighted Deaths			A/E Ratios	
				Actual	Current	Proposed	Current	Proposed
50 - 54	1	0	2,839	0	55	55	0%	0%
55 - 59	27	0	42,096	0	991	986	0%	0%
60 - 64	28	0	52,287	0	1,459	1,456	0%	0%
65 - 69	21	1	44,630	2,060	1,463	1,462	141%	141%
70 - 74	9	0	25,759	408	990	985	41%	41%
75 - 79	0	0	0	0	0	0	0%	0%
80 - 84	8	1	13,826	1,796	1,122	1,116	160%	161%
85 - 89	8	1	3,927	1,324	433	432	306%	307%
90 - 94	0	0	77	0	16	16	0%	0%
95 +	2	2	80	80	18	18	451%	448%
Total	104	5	185,522	5,668	6,546	6,524	87%	87%

Chart III-M5 – Miscellaneous Disabled Annuitant Male Mortality



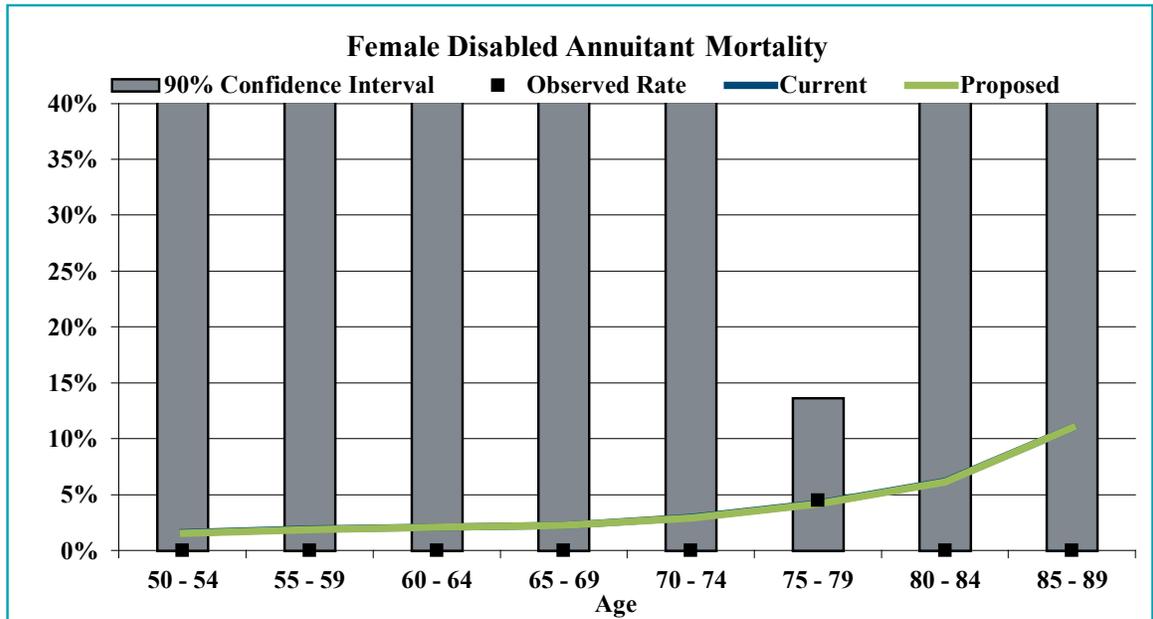
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**SECTION III – DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES**

Table III-M6 – Miscellaneous Disabled Annuitant Female Mortality

Disabled Annuitant Mortality - Base Table for Females								
Age Band	Exposures	Actual Deaths	Weighted Exposures	Weighted Deaths			A/E Ratios	
				Actual	Current	Proposed	Current	Proposed
50 - 54	19	0	17,299	0	281	271	0%	0%
55 - 59	49	0	58,347	0	1,147	1,117	0%	0%
60 - 64	105	0	163,074	0	3,455	3,411	0%	0%
65 - 69	55	0	64,964	0	1,482	1,463	0%	0%
70 - 74	37	0	42,985	0	1,281	1,262	0%	0%
75 - 79	22	1	28,336	1,270	1,197	1,183	106%	107%
80 - 84	3	0	6,288	0	392	388	0%	0%
85 - 89	8	0	14,343	0	1,581	1,580	0%	0%
90 - 94	2	0	3,847	0	505	506	0%	0%
95 +	0	0	0	0	-	0	0%	0%
Total	300	1	399,483	1,270	11,320	11,182	11%	11%

Chart III-M6 – Miscellaneous Disabled Annuitant Female Mortality



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**SECTION III – DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES**

Table III-M7 summarize our analysis and selection of the base mortality table for male disabled Safety and Probation retirees. As shown in Table III-M7, the current mortality rates for male disabled Safety and Probation retirees are relatively close to recent experience with an A/E ratio 94%. We do not propose any change to the current table, and we propose using the same General Pub-2010 Disabled Annuitant Table for females as is used for males.

Table III-M7 – Safety and Probation Disabled Annuitant Male Mortality

Disabled Annuitant Mortality - Base Table for Males								
Age Band	Exposures	Actual Deaths	Weighted Exposures	Weighted Deaths			A/E Ratios	
				Actual	Current	Proposed	Current	Proposed
50 - 54	38	0	131,706	0	2,275	2,269	0%	0%
55 - 59	43	0	221,359	0	5,106	5,078	0%	0%
60 - 64	42	0	133,141	3,599	3,691	3,683	98%	98%
65 - 69	12	0	78,395	0	2,632	2,629	0%	0%
70 - 74	39	1	132,314	12,622	5,252	5,220	240%	242%
75 - 79	14	2	33,425	4,717	1,746	1,731	270%	272%
80 - 84	2	0	6,606	0	465	462	0%	0%
85 - 89	5	0	8,553	0	1,027	1,026	0%	0%
90 - 94	0	0	0	0	0	0	0%	0%
95 +	0	0	0	0	0	0	0%	0%
Total	195	3	745,500	20,937	22,193	22,097	94%	95%

We have not shown the data for the disabled Safety and Probation mortality experience for females or for any of the active mortality experience, as the number of deaths is very low and is not enough data to produce sufficiently credible assumptions. Therefore, we have used our professional judgment to propose appropriate base tables based the respective General and Safety Pub-2010 Employee mortality rates for active members according to membership class. In addition, we applied the same generational improvement scales as proposed for all other members.

**SAN LUIS OBISPO COUNTY PENSION TRUST
EXPERIENCE STUDY REPORT AS OF DECEMBER 31, 2021**

**SECTION III – DEMOGRAPHIC ASSUMPTIONS
OTHER DEMOGRAPHIC ASSUMPTIONS**

FAMILY COMPOSITION

The current assumption for percentage married is that 80% of active male and 60% of active female SLOCPT members will have beneficiaries eligible for a surviving spouse allowance. This assumption will also be applied to determine the number of active members eligible for a pre-retirement surviving spouse death benefit. Table III-O1 shows the results of the analysis during the experience study period for members who retired or became disabled.

Table III-O1: Percent Married

Percent of Retired, Disabled and Active DROP Members with Spouses or Domestic Partners						
	<u>Males</u>			<u>Females</u>		
	Disabled, Retirees or DROP members	Eligible Spouses	Percent Eligible	Disabled, Retirees or DROP members	Eligible Spouses	Percent Eligible
Actual Experience	76	48	63%	244	116	48%
Current Assumption			80%			60%
Proposed Assumption			70%			55%

We propose changing the current assumptions for males to 70% and females to 55% to match recent experience more closely.

The current assumption for age difference of those married for surviving spouse benefits is that male members are three years older than their spouses and female members are assumed to be three years younger than their spouses. Table III-O2 compiles the average age difference for retired or disabled members between spouses and domestic partners.

This information is used to predict spouse age for future retirees. We propose changing the assumption for male members to be four years older than their spouses and for female members to be two years younger than their spouses to match recent experience more closely.

Table III-O3: Age Difference

Age Difference Between Retired or Disabled Members and Spouses or Domestic Partners		
	<u>Males</u>	<u>Females</u>
	Spouse Age (Years Younger)	Spouse Age (Years Younger)
Actual Experience	4.13	-1.98
Current Assumption	3	3
Proposed Assumption	4	-2
<i>*Members with spouse outlier age differences greater than 20 years were excluded from this analysis</i>		

**SAN LUIS OBISPO COUNTY PENSION TRUST
EXPERIENCE STUDY REPORT AS OF DECEMBER 31, 2021**

**SECTION III – DEMOGRAPHIC ASSUMPTIONS
OTHER DEMOGRAPHIC ASSUMPTIONS**

PLAN EXPENSES

An explicit administrative expense assumption was adopted by the Board of Trustees at their May 24, 2021 Board meeting and was effective with the January 1, 2021 actuarial valuation. The administrative expense assumption was set at \$2.3 million, assumed to increase annually at the payroll growth rate of 2.75%. This explicit administrative expense was added as a component of the Actuarially Determined Contribution.

The actual Plan administrative expenses for FYE 2020 were \$2,569,774. Using the average expenses over the three prior years (FYE 2018-2020) and adjusting for assumed expense growth equal to wage inflation, we proposed, and the Board adopted an assumed Plan administrative expense of \$2,300,000 for FYE 2021. These expenses are split between employees and employers based on their share of the overall contributions. Expenses are expected to grow with wage inflation (by 2.75% per year) in future years.

We do not propose any change to the administrative expense assumption at this time, continuing with the assumed amount of \$2,363,250 for FYE 2022, as indexed for inflation.

**SAN LUIS OBISPO COUNTY PENSION TRUST
EXPERIENCE STUDY REPORT AS OF DECEMBER 31, 2021**

APPENDIX A – SUMMARY OF PROPOSED ASSUMPTIONS

The proposed assumptions are listed below. The assumptions are based on this experience study covering the period from January 1, 2017 through December 31, 2021.

1. Rate of Return

Assets are assumed to earn 6.75% net of investment expenses.

2. Administrative Expenses

Administrative expenses are assumed to be \$2,363,250 for the next year, to be split between employees and employers based on their share of the overall contributions. Administrative expenses are assumed to increase by the assumed wage inflation each year.

3. Cost-of-Living

The cost-of-living as measured by the Consumer Price Index (CPI) is assumed to increase at the rate of 2.50% per year. The price inflation assumption is used for increasing the compensation limit that applies to Tier 3 (PEPRA) members.

COLA Growth

The COLA growth assumption for members in pay status is assumed inflation plus an additional 0.25% “California” adjustment for Tier 1 Members. For Tier 2 and Tier 3 members it is 2.0%.

4. Internal Revenue Code Section 415 Limit

The Internal Revenue Code Section 415 maximum benefit limitations are not reflected in the valuation for funding purposes. Any limitation is reflected in a member’s benefit after retirement.

5. Internal Revenue Code Section 401(a)(17)

The Internal Revenue Code Section 401(a)(17) maximum compensation limitation is not reflected in the valuation for funding purposes. Any limitation is reflected in a member’s benefit after retirement.

6. Interest on Member Contributions

The annual credited interest rate on member contributions is assumed to be 5.75%. The actual crediting rate was changed to 5.75% at the November 2021 Board meeting, with Additional Contributions credited at 0.98%.

**SAN LUIS OBISPO COUNTY PENSION TRUST
EXPERIENCE STUDY REPORT AS OF DECEMBER 31, 2021**

APPENDIX A – SUMMARY OF PROPOSED ASSUMPTIONS

7. Family Composition

Percentage married for all active members who retire, become disabled, or die during active service is shown in the table below. Male members are assumed to be four years older than their spouses and female members are assumed to be two years younger than their spouses.

Percentage Married	
Gender	Percentage
Males	70%
Females	55%

8. Payroll Growth

Price inflation component: 2.50%

Productivity increase component: 0.50%

Total Payroll Growth: 3.00%

**SAN LUIS OBISPO COUNTY PENSION TRUST
EXPERIENCE STUDY REPORT AS OF DECEMBER 31, 2021**

APPENDIX A – SUMMARY OF PROPOSED ASSUMPTIONS

9. Increases in Pay

Price inflation component: 2.50%

Productivity increase component: 0.50%

Additional longevity and promotion component:

Miscellaneous Merit Increases		Safety Merit Increases	
Service	Rate	Service	Rate
0	5.25%	0	5.25%
1	5.00%	1	4.50%
2	4.00%	2	4.00%
3	3.00%	3	3.00%
4	2.00%	4	2.00%
5	1.00%	5	1.00%
6	0.50%	6	0.75%
7	0.50%	7	0.75%
8	0.50%	8	0.75%
9	0.50%	9	0.75%
10	0.20%	10	0.40%
11	0.20%	11	0.40%
12	0.20%	12	0.40%
13	0.20%	13	0.40%
14	0.20%	14	0.40%
15	0.20%	15	0.40%
16	0.20%	16	0.40%
17	0.20%	17	0.40%
18	0.20%	18	0.40%
19	0.20%	19	0.40%
20	0.20%	20	0.25%
21+	0.00%	21	0.25%
		22	0.25%
		23	0.25%
		24	0.25%
		25+	0.00%

Increases are compound rather than additive.

**SAN LUIS OBISPO COUNTY PENSION TRUST
EXPERIENCE STUDY REPORT AS OF DECEMBER 31, 2021**

APPENDIX A – SUMMARY OF PROPOSED ASSUMPTIONS

10. Rates of Termination

Sample rates of termination are shown in the following table below.

Rates of Termination		
Service	Miscellaneous	Safety/Probation
0	0.00%	0.00%
1	0.00%	0.00%
2	0.00%	0.00%
3	0.00%	0.00%
4	0.00%	0.00%
5	5.50%	2.75%
6	5.00%	2.50%
7	4.50%	2.25%
8	4.25%	2.25%
9	4.00%	2.25%
10	3.75%	2.00%
11	3.50%	2.00%
12	3.25%	1.50%
13	3.00%	1.50%
14	3.00%	1.50%
15	3.00%	1.50%
16	2.75%	1.50%
17	2.75%	1.25%
18	2.50%	1.25%
19	2.50%	1.25%
20	2.00%	1.25%
21	1.50%	1.25%
22	1.50%	1.25%
23	1.50%	1.25%
24	1.50%	1.25%
25	1.50%	1.00%
26	1.50%	1.00%
27	1.50%	1.00%
28	1.50%	1.00%
29	1.50%	1.00%
30	1.50%	0.00%
31	1.50%	0.00%
32	1.50%	0.00%
33	1.50%	0.00%
34	1.50%	0.00%
35+	0.00%	0.00%

**Termination rates do not apply once member is eligible for retirement*

**SAN LUIS OBISPO COUNTY PENSION TRUST
EXPERIENCE STUDY REPORT AS OF DECEMBER 31, 2021**

APPENDIX A – SUMMARY OF PROPOSED ASSUMPTIONS

11. Rates of Withdrawal

Rates of withdrawal apply to active members who terminate their employment and withdraw their member contributions, forfeiting entitlement to future Plan benefits.

Rates of Withdrawal		
Service	General	Safety
0	20.00%	10.00%
1	15.00%	8.00%
2	12.00%	6.00%
3	10.00%	5.00%
4	6.00%	4.00%
5	2.00%	3.00%
6	1.75%	2.00%
7	1.75%	1.00%
8	1.50%	1.00%
9	1.00%	1.00%
10	1.00%	1.00%
11	1.00%	1.00%
12	0.50%	1.00%
13	0.50%	1.00%
14	0.50%	1.00%
15	0.50%	1.00%
16	0.50%	0.00%
17	0.50%	0.00%
18	0.50%	0.00%
19	0.50%	0.00%
20	0.50%	0.00%
21	0.50%	0.00%
22	0.50%	0.00%
23	0.50%	0.00%
24	0.50%	0.00%
25	0.00%	0.00%
26	0.00%	0.00%
27	0.00%	0.00%
28	0.00%	0.00%
29	0.00%	0.00%
30+	0.00%	0.00%

**SAN LUIS OBISPO COUNTY PENSION TRUST
EXPERIENCE STUDY REPORT AS OF DECEMBER 31, 2021**

APPENDIX A – SUMMARY OF PROPOSED ASSUMPTIONS

12. Reciprocal Transfers

30% of vested terminated Members that leave their member contributions on deposit with the Plan are assumed to be reciprocal.

Reciprocal members are assumed to remain with the reciprocal agency until retirement, and receive annual salary increases of 3.00%.

**SAN LUIS OBISPO COUNTY PENSION TRUST
EXPERIENCE STUDY REPORT AS OF DECEMBER 31, 2021**

APPENDIX A – SUMMARY OF PROPOSED ASSUMPTIONS

13. Rates of Disability

Representative disability rates of active participants are shown below.

Rates of Disability		
Age	Miscellaneous	Safety and Probation
25 or less	0.010%	0.030%
26	0.010%	0.050%
27	0.010%	0.070%
28	0.010%	0.090%
29	0.010%	0.110%
30	0.010%	0.130%
31	0.015%	0.150%
32	0.020%	0.170%
33	0.025%	0.190%
34	0.030%	0.210%
35	0.035%	0.230%
36	0.040%	0.250%
37	0.045%	0.270%
38	0.050%	0.290%
39	0.055%	0.310%
40	0.060%	0.330%
41	0.065%	0.350%
42	0.070%	0.370%
43	0.075%	0.390%
44	0.080%	0.410%
45	0.085%	0.430%
46	0.090%	0.450%
47	0.095%	0.470%
48	0.100%	0.490%
49	0.105%	0.510%
50	0.110%	0.530%
51	0.115%	0.550%
52	0.120%	0.570%
53	0.125%	0.590%
54	0.130%	0.610%
55	0.135%	0.630%
56	0.140%	0.650%
57	0.145%	0.670%
58	0.150%	0.690%
59	0.155%	0.710%
60	0.160%	0.730%
61	0.165%	0.750%
62	0.170%	0.770%
63	0.175%	0.790%
64	0.180%	0.810%
65 or more	0.000%	0.000%

All disabilities for Safety members are assumed to be service-related and no disabilities for Miscellaneous and Probation members are assumed to be service-related.

APPENDIX A – SUMMARY OF PROPOSED ASSUMPTIONS

14. Rates of Mortality for Healthy Lives

Mortality rates for Miscellaneous active members are based on the sex distinct Public General 2010 Amount-Weighted Above-Median Income Employee Mortality Table, with generational mortality improvements projected from 2010 using Projection Scale MP-2021, without adjustment.

Mortality rates for Safety and Probation active members are based on the sex distinct Public Safety 2010 Amount-Weighted Above-Median Income Employee Mortality Table, with generational mortality improvements projected from 2010 using Projection Scale MP-2021, without adjustment.

Mortality rates for healthy Miscellaneous annuitants are based on the sex distinct Public General 2010 Amount-Weighted Above-Median Income Retiree Mortality Table, with generational mortality improvements projected from 2010 using Projection Scale MP-2021.

Mortality rates for healthy Safety and Probation annuitants are based the sex distinct Public Safety 2010 Amount-Weighted Above-Median Income Retiree Mortality Table, with generational improvements projected from 2010 using Projection Scale MP-2021.

15. Rates of Mortality for Disabled Lives

Mortality rates for Miscellaneous disabled members are based on the sex distinct Public General 2010 Amount-Weighted Disabled Retiree Mortality Table, with generational mortality improvements projected from 2010 using Projection Scale MP-2021, without adjustment.

Mortality rates for Safety and Probation disabled members are based on the sex distinct Public Safety 2010 Amount-Weighted Disabled Retiree Mortality Table, with generational mortality improvements projected from 2010 using Projection Scale MP-2021, without adjustment.

**SAN LUIS OBISPO COUNTY PENSION TRUST
EXPERIENCE STUDY REPORT AS OF DECEMBER 31, 2021**

APPENDIX A – SUMMARY OF PROPOSED ASSUMPTIONS

16. Rates of Retirement

Rates of retirement are based on age and service according to the following tables.

Rates of Retirement for YOS Less Than 25						
Age	Tier 1			Tiers 2 and 3		
	Miscellaneous	Probation	Safety	Miscellaneous	Probation	Safety
50	2.00%	5.00%	15.00%	1.00%	2.50%	6.75%
51	2.00%	5.00%	15.00%	1.00%	2.50%	6.75%
52	3.00%	5.00%	15.00%	2.00%	2.50%	7.50%
53	3.00%	5.00%	15.00%	2.00%	2.50%	7.50%
54	5.00%	15.00%	25.00%	3.00%	5.00%	7.50%
55	5.00%	25.00%	40.00%	3.00%	5.00%	7.50%
56	5.00%	25.00%	30.00%	3.00%	5.00%	7.50%
57	5.00%	20.00%	20.00%	3.00%	10.00%	7.50%
58	5.00%	7.50%	12.00%	3.00%	7.50%	8.25%
59	5.00%	7.50%	18.00%	3.00%	7.50%	11.25%
60	10.00%	10.00%	25.00%	8.00%	7.50%	15.00%
61	15.00%	10.00%	30.00%	8.00%	7.50%	18.75%
62	20.00%	15.00%	40.00%	15.00%	15.00%	22.50%
63	20.00%	15.00%	50.00%	15.00%	15.00%	30.00%
64	30.00%	15.00%	75.00%	20.00%	15.00%	45.00%
65	35.00%	100.00%	100.00%	20.00%	100.00%	100.00%
66	35.00%			20.00%		
67	35.00%			20.00%		
68	35.00%			20.00%		
69	35.00%			20.00%		
70+	100.00%			100.00%		

Rates of Retirement for YOS 25 or More						
Age	Tier 1			Tiers 2 and 3		
	Miscellaneous	Probation	Safety	Miscellaneous	Probation	Safety
50	3.50%	7.50%	25.00%	1.75%	5.00%	12.00%
51	3.50%	7.50%	25.00%	1.75%	5.00%	12.00%
52	3.50%	7.50%	20.00%	2.50%	5.00%	12.00%
53	3.50%	7.50%	20.00%	2.50%	5.00%	12.00%
54	7.00%	15.00%	30.00%	5.50%	10.00%	12.00%
55	7.00%	35.00%	40.00%	5.50%	10.00%	12.00%
56	7.00%	25.00%	40.00%	6.00%	10.00%	12.00%
57	15.00%	25.00%	30.00%	10.00%	15.00%	12.00%
58	15.00%	12.00%	20.00%	10.00%	10.00%	10.00%
59	15.00%	12.00%	20.00%	10.00%	10.00%	12.50%
60	20.00%	15.00%	30.00%	15.00%	10.00%	18.00%
61	25.00%	15.00%	35.00%	15.00%	10.00%	20.00%
62	25.00%	20.00%	50.00%	20.00%	20.00%	30.00%
63	25.00%	20.00%	50.00%	20.00%	20.00%	30.00%
64	40.00%	20.00%	75.00%	25.00%	20.00%	45.00%
65	40.00%	100.00%	100.00%	25.00%	100.00%	100.00%
66	40.00%			25.00%		
67	40.00%			25.00%		
68	40.00%			25.00%		
69	40.00%			25.00%		
70+	100.00%			100.00%		

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APPENDIX B – SUMMARY OF PRIOR ASSUMPTIONS

The return and administrative experience assumptions were adopted by the Board at their May 24, 2021 meeting, based on the information presented by Cheiron and the Plan’s investment consultant (Verus) updated capital market assumptions. The other assumptions used in this report reflect the results of an Experience Study performed by the prior actuary covering the period from January 1, 2015 through December 31, 2019 and adopted by the Board for the January 1, 2020 actuarial valuation. More details on the rationale for these assumptions can be found in the Actuarial Experience Study dated May 5, 2020.

1. Rate of Return

Assets are assumed to earn 6.75% net of investment expenses.

2. Administrative Expenses

Administrative expenses are assumed to be \$2.3 million for the next year, to be split between employees and employers based on their share of the overall contributions. Administrative expenses are assumed to increase by the assumed wage inflation of 2.75% each year.

3. Cost-of-Living Increases

The cost-of-living as measured by the Consumer Price Index (CPI) is assumed to increase at the rate of 2.25% per year. The price inflation assumption is used for increasing the compensation limit that applies to Tier 3 (PEPRA) members.

COLA Growth

The COLA growth assumption for members in pay status is assumed inflation plus an additional 0.25% “California” adjustment for Tier 1 Members. For Tier 2 and Tier 3 members it is 2.0%.

4. Internal Revenue Code Section 415 Limit

The Internal Revenue Code Section 415 maximum benefit limitations are not reflected in the valuation for funding purposes. Any limitation is reflected in a member’s benefit after retirement.

5. Internal Revenue Code Section 401(a)(17)

The Internal Revenue Code Section 401(a)(17) maximum compensation limitation is not reflected in the valuation for funding purposes. Any limitation is reflected in a member’s benefit after retirement.

**SAN LUIS OBISPO COUNTY PENSION TRUST
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APPENDIX B – SUMMARY OF PRIOR ASSUMPTIONS

6. Interest on Member Contributions

The annual credited interest rate on member contributions is assumed to be 6.00%. The actual crediting rate was changed to 5.875% at the November 2020 Board meeting, with Additional Contributions credited at 0.28%.

7. Family Composition

Percentage married for all active members who retire, become disabled, or die during active service is shown in the table below. Male members are assumed to be three years older than their spouses and female members are assumed to be three years younger than their spouses.

Percentage Married	
Gender	Percentage
Males	80%
Females	60%

8. Increases in Pay

Price inflation component: 2.25%
 Productivity increase component: 0.50%
 Additional Merit component based on service:

Merit Increases		Total Increases	
Service	Rate	Service	Rate
0	5.25%	0	8.00%
1	5.00%	1	7.75%
2	4.00%	2	6.75%
3	3.00%	3	5.75%
4	2.00%	4	4.75%
5	1.00%	5	3.75%
6	0.50%	6	3.25%
7+	0.00%	7+	2.75%

Increases are compound rather than additive.

9. Payroll Growth

Price inflation component: 2.25%
 Productivity increase component: 0.50%
 Total Payroll Growth: 2.75%

**SAN LUIS OBISPO COUNTY PENSION TRUST
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APPENDIX B – SUMMARY OF PRIOR ASSUMPTIONS

10. Rates of Termination

Rates of termination based on age and group are shown in the following table below. Vested termination rates are applied after the member is eligible for reduced or unreduced retirement benefits.

Rates of Vested Termination		
Age	Miscellaneous	Safety and Probation
24 or less	10.00%	3.00%
25	10.00%	2.00%
26	10.00%	2.00%
27	10.00%	2.00%
28	10.00%	2.00%
29	10.00%	2.00%
30	7.50%	1.50%
31	7.50%	1.50%
32	7.50%	1.50%
33	7.50%	1.50%
34	7.50%	1.50%
35	5.00%	1.50%
36	5.00%	1.50%
37	5.00%	1.50%
38	5.00%	1.50%
39	5.00%	1.50%
40	4.00%	1.50%
41	4.00%	1.50%
42	4.00%	1.50%
43	4.00%	1.50%
44	4.00%	1.50%
45	4.00%	1.50%
46	4.00%	1.50%
47	4.00%	1.50%
48	4.00%	1.50%
49	4.00%	1.50%
50	3.00%	1.50%
51	3.00%	1.50%
52	3.00%	1.50%
53	3.00%	1.50%
54	3.00%	1.50%
55	2.00%	0.00%
56	2.00%	
57	2.00%	
58	2.00%	
59	2.00%	
60 or more	0.00%	

Termination rates do not apply once a member is eligible for retirement.

**SAN LUIS OBISPO COUNTY PENSION TRUST
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APPENDIX B – SUMMARY OF PRIOR ASSUMPTIONS

11. Rates of Withdrawal

Rates of withdrawal apply to active Members who terminate their employment and withdraw their member contributions, forfeiting entitlement to future Plan benefits.

Age	Rates of Withdrawal			
	Miscellaneous		Safety and Probation	
	<5 YOS	≥ 5 YOS	<5 YOS	≥ 5 YOS
24 or less	14.50%	8.50%	5.20%	1.50%
25	13.00%	7.75%	5.00%	1.50%
26	13.00%	7.75%	5.00%	1.50%
27	13.00%	7.75%	5.00%	1.50%
28	13.00%	7.75%	5.00%	1.50%
29	13.00%	7.75%	5.00%	1.50%
30	11.50%	3.75%	4.70%	1.50%
31	11.50%	3.75%	4.70%	1.00%
32	11.50%	3.75%	4.70%	1.00%
33	11.50%	3.75%	4.70%	1.00%
34	11.50%	3.75%	4.70%	1.00%
35	10.00%	2.00%	4.00%	1.00%
36	10.00%	2.00%	4.00%	0.50%
37	10.00%	2.00%	4.00%	0.50%
38	10.00%	2.00%	4.00%	0.50%
39	10.00%	2.00%	4.00%	0.50%
40	10.00%	1.25%	3.50%	0.50%
41	10.00%	1.25%	3.50%	0.50%
42	10.00%	1.25%	3.50%	0.50%
43	10.00%	1.25%	3.50%	0.50%
44	10.00%	1.25%	3.50%	0.50%
45	8.00%	0.50%	2.50%	0.50%
46	8.00%	0.50%	2.50%	0.00%
47	8.00%	0.50%	2.50%	
48	8.00%	0.50%	2.50%	
49	8.00%	0.50%	2.50%	
50	6.00%	0.00%	1.50%	
51	6.00%		1.50%	
52	6.00%		1.50%	
53	6.00%		1.50%	
54	6.00%		1.50%	
55	6.00%		0.00%	
56	6.00%			
57	6.00%			
58	6.00%			
59	6.00%			
60	6.00%			
61	6.00%			
62	6.00%			
63	6.00%			
64	6.00%			
65 or more	0.00%			

**SAN LUIS OBISPO COUNTY PENSION TRUST
EXPERIENCE STUDY REPORT AS OF DECEMBER 31, 2021**

APPENDIX B – SUMMARY OF PRIOR ASSUMPTIONS

12. Reciprocal Transfers

30% of vested terminated Members that leave their member contributions on deposit with the Plan are assumed to be reciprocal.

Reciprocal members are assumed to remain with the reciprocal agency until retirement, and receive annual salary increases of 2.75%.

**SAN LUIS OBISPO COUNTY PENSION TRUST
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APPENDIX B – SUMMARY OF PRIOR ASSUMPTIONS

13. Rates of Disability

Representative disability rates of active participants are shown below.

Rates of Disability		
Age	Miscellaneous	Safety and Probation
25 or less	0.010%	0.030%
26	0.010%	0.050%
27	0.010%	0.070%
28	0.010%	0.090%
29	0.010%	0.110%
30	0.010%	0.130%
31	0.015%	0.150%
32	0.020%	0.170%
33	0.025%	0.190%
34	0.030%	0.210%
35	0.035%	0.230%
36	0.040%	0.250%
37	0.045%	0.270%
38	0.050%	0.290%
39	0.055%	0.310%
40	0.060%	0.330%
41	0.065%	0.350%
42	0.070%	0.370%
43	0.075%	0.390%
44	0.080%	0.410%
45	0.085%	0.430%
46	0.090%	0.450%
47	0.095%	0.470%
48	0.100%	0.490%
49	0.105%	0.510%
50	0.110%	0.530%
51	0.115%	0.550%
52	0.120%	0.570%
53	0.125%	0.590%
54	0.130%	0.610%
55	0.135%	0.630%
56	0.140%	0.650%
57	0.145%	0.670%
58	0.150%	0.690%
59	0.155%	0.710%
60	0.160%	0.730%
61	0.165%	0.750%
62	0.170%	0.770%
63	0.175%	0.790%
64	0.180%	0.810%
65 or more	0.000%	0.000%

All disabilities for Safety members are assumed to be service-related and no disabilities for Miscellaneous and Probation members are assumed to be service-related.

APPENDIX B – SUMMARY OF PRIOR ASSUMPTIONS

14. Rates of Mortality for Healthy Lives

Mortality rates for General active members are based on the sex distinct Public General 2010 Amount-Weighted Above-Median Income Employee Mortality Table, with generational mortality improvements projected from 2010 using Projection Scale MP-2019, without adjustment.

Mortality rates for healthy annuitants are based on the sex distinct Public General 2010 Amount-Weighted Above-Median Income Retiree Mortality Table, with generational mortality improvements projected from 2010 using Projection Scale MP-2019 with a 99% multiplier for males, and a 101% multiplier for females.

15. Rates of Mortality for Disabled Lives

Mortality rates for disabled members are based on distinct Public General 2010 Amount-Weighted Above-Median Income Disabled Retiree Mortality Table, with generational mortality improvements projected from 2010 using Projection Scale MP-2019, without adjustment.

**SAN LUIS OBISPO COUNTY PENSION TRUST
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APPENDIX B – SUMMARY OF PRIOR ASSUMPTIONS

16. Rates of Retirement

Rates of retirement are based on age, group, and tier according to the following table.

Rates of Retirement						
Age	Tier 1			Tiers 2 and 3		
	Miscellaneous	Probation	Safety	Miscellaneous	Probation	Safety
<50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
50	2.00%	7.50%	25.00%	3.00%	7.50%	9.00%
51	2.00%	7.50%	20.00%	3.00%	7.50%	9.00%
52	2.00%	7.50%	10.00%	3.00%	7.50%	10.00%
53	2.00%	7.50%	10.00%	3.00%	7.50%	10.00%
54	4.00%	7.50%	12.00%	3.00%	7.50%	10.00%
55	6.00%	25.00%	40.00%	6.00%	7.50%	10.00%
56	6.00%	25.00%	30.00%	6.00%	7.50%	10.00%
57	8.00%	25.00%	30.00%	6.00%	7.50%	10.00%
58	8.00%	12.00%	12.00%	6.00%	9.00%	11.00%
59	8.00%	12.00%	18.00%	6.00%	9.00%	15.00%
60	10.00%	15.00%	25.00%	8.00%	10.00%	20.00%
61	10.00%	15.00%	30.00%	8.00%	10.00%	25.00%
62	25.00%	20.00%	40.00%	25.00%	20.00%	30.00%
63	20.00%	20.00%	50.00%	20.00%	20.00%	40.00%
64	20.00%	20.00%	75.00%	20.00%	20.00%	60.00%
65	40.00%	100.00%	100.00%	40.00%	100.00%	100.00%
66	40.00%			40.00%		
67	30.00%			30.00%		
68	30.00%			30.00%		
69	30.00%			30.00%		
70	100.00%			100.00%		

Tier 1 Reserve Members are assumed to retire at the later of age 55 or attained age. All other Reciprocal and Reserve members are assumed to retire at the later of age 60 or attained age.



Classic Values, Innovative Advice