



**Alameda County Employees' Retirement Association
BOARD OF RETIREMENT**

**ACTUARIAL COMMITTEE/BOARD MEETING
NOTICE and AGENDA**

ACERA MISSION:

To provide ACERA members and employers with flexible, cost-effective, participant-oriented benefits through prudent investment management and superior member services.

**Thursday, August 20, 2026
12:30 pm**

LOCATION AND TELECONFERENCE	COMMITTEE MEMBERS	
ACERA C.G. "BUD" QUIST BOARD ROOM 475 14TH STREET, 10TH FLOOR OAKLAND, CALIFORNIA 94612-1900 MAIN LINE: 510.628.3000 FAX: 510.268.9574 The public can observe the meeting and offer public comment by using the below Webinar ID and Passcode after clicking on the below link or calling the below call-in number. https://zoom.us/join Call-In Number: 1 699 900 6833 Webinar ID: 879 6337 8479 Passcode: 699406 For help joining a Zoom meeting, see: https://support.zoom.us/hc/en-us/articles/201362193	ROSS CLIPPINGER, CHAIR	ELECTED SAFETY
	OPHELIA BASGAL, VICE CHAIR	APPOINTED
	SCOTT FORD	ELECTED GENERAL
	HENRY LEVY	TREASURER
	ELIZABTEH ROGERS	ELECTED RETIRED

The Alternate Retired Member votes in the absence of the Elected Retired Member, or, if the Elected Retired Member is present, then votes if both Elected General members, or the Safety Member and an Elected General member, are absent.

The Alternate Safety Member votes in the absence of the Elected Safety, either of the two Elected General Members, or both the Retired and Alternate Retired members.

This is a meeting of the Actuarial Committee if a quorum of the Actuarial Committee attends, and it is a meeting of the Board if a quorum of the Board attends. This is a joint meeting of the Actuarial Committee and the Board if a quorum of each attends.

Board and Committee agendas and minutes and all documents distributed to the Board or a Committee in connection with a public meeting (unless exempt from disclosure) are posted online at www.acera.org and also may be inspected at 475 14th Street, 10th Floor, Oakland, CA 94612-1900.

Public comments are limited to four (4) minutes per person in total. The order of the items on the agenda is subject to change without notice.

Note regarding accommodations: If you require a reasonable modification or accommodation for a disability, please contact ACERA between 9:00 a.m. and 5:00 p.m. at least 72 hours prior to the meeting at accommodation@acera.org or at 510-628-3000.

ACTUARIAL COMMITTEE/BOARD MEETING

NOTICE and AGENDA, Page 2 of 2 – Thursday, August 20, 2026

Call to Order: 12:30 pm

Roll Call

Public Input

Action Items: Matters for Discussion and Possible Motion by the Committee

None

Information Items: These items are not presented for Committee action but consist of status updates and cyclical reports

1. Presentation and discussion of the Triennial Experience for years 2023-2025 and the economic and non-economic assumptions.

-Satjit Dale

-Eva Yum, Segal

- Daniel Siblik, Segal

Trustee Input

Future Discussion Items

October

- Discussion and possible motion to adopt the Triennial Experience for years 2023-2025

Establishment of Next Meeting Date

The next meeting is scheduled for Thursday, October 15, 2026, at 11:00 a.m.

Adjournment



MEMORANDUM TO THE ACTUARIAL COMMITTEE

DATE: August 20, 2026
TO: Members of the Actuarial Committee
FROM: Satjit Dale, Assistant Chief Executive Officer 
SUBJECT: Triennial Actuarial Experience Study (2022-2025)

Executive Summary

The Segal Group (Segal) has prepared ACERA's triennial actuarial experience study for the period covering December 1, 2022¹ to November 30, 2025. The study utilizes census data from this period as well as prior periods for certain assumptions, examines other relevant inputs, and provides the recommended actuarial assumptions, both economic and demographic, to be used in the December 31, 2026 valuation. Recommendations for the major actuarial assumption categories are outlined below in a chart for your quick review and on pages 5-8 in the report. Segal recommends continuations or changes to the following major actuarial assumption categories:

Economic Assumption Compendium (See p.5 of experience study for more detail)	
Category	Abridged Recommendation
a) Inflation Assumption	a) Maintain the inflation assumption at 2.50% per annum
b) Retiree Cost-of-Living	b) Maintain the COLA at 2.75% per annum for those tiers with a 3.00% maximum adjustment and maintain the COLA at 2.00% per annum for those tiers with 2.00% maximum adjustment
c) Investment Return Assumption	c) Reduce the investment return assumption from 7.00% to 6.75%
d) Salary Increase Assumption	d) Maintain current inflation assumption of 2.50%, maintain current "across-the-board" salary assumption of 0.50%, introduce separate assumptions for Legacy and PEPRA members, and increase merit & promotion salary assumptions to reflect past experience
Demographic Assumption Compendium (See pp. 6- 8 of experience study for more detail)	
Category	Abridged Recommendation
Retirement Rates	Adjust rates to reflect recent experience

¹ For clarity, the December 1, 2022, date reflects the start of the 2023 actuarial year. The experience study covers calendar years 2023 to 2025

Demographic Assumption Compendium - Continued	
Category	Abridged Recommendation
Other Retirement Related Assumptions: a) Deferred Vested Retirement Age b) Reciprocity c) Eligible Survivor Age and Gender d) Pre-Retirement Death Optional Form Election	a) Maintain current assumptions for all groups except Safety members without reciprocity and reduce assumption from 56 to 55 for Safety members without reciprocity b) Maintain current assumption that 20% of future General inactive members will be covered by a reciprocal system and reduce assumption from 45% to 40% of future Safety inactive members that will be covered by a reciprocal system c) Maintain current assumption of 70% for males and 50% for females expected to have an eligible survivor at retirement and maintain current assumption that male retirees are three years older than their female survivors and that female retirees are two years younger than their male survivors d) Increase assumption for child beneficiary type from 50% to 55%, reduce assumption for parent beneficiary type from 25% to 20%, and maintain current assumption for sibling and other beneficiary type at 25%
Mortality Rates	Recommendations vary depending on category of membership. Refer to pp. 6 -7
Termination Rates	Adjust rates to reflect lower overall termination experience for General members and higher overall termination experience for Safety members.
Disability Incidence Rates	Adjust rates to reflect lower incidence of disability for General and Safety members. Increase the service connected disability assumption from 70% to 75% for General members (the remaining future disabled members are assumed to be non-service connected) and maintain the assumption at 100% for Safety members.
Sick Leave Conversion	Maintain current assumption for General members and reduce assumption from 0.006 to 0.005 years of additional service per year of employment for Safety members

Retiree Health Assumptions	Maintain the current medical participation and spousal coverage assumptions. Covered spouse age difference: Maintain current assumption for spouse/domestic partner age difference for future male retirees at 3 years younger than the member, and increase the assumption for future female retirees from 1 to 2 years older than the member
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Summary

The final results of the study are provided in the accompanying actuarial report and will be further discussed by the actuaries. The information provided in the chart below is the estimated financial impact of the proposed assumption changes as if they were applied to the December 31, 2025, actuarial valuation.

Cost Impact of Recommended Assumptions		
Change in Costs	Contribution Rate	Total increase in annual dollar amount
Employer	2.38%	\$37.65
Member	0.75%	\$11.96
Impact on UAAL and Funded Percentage		
Increase in UAAL	\$365.38	
Change in Funded Status	From 91.6% to 89.1%	



Alameda County Employees' Retirement Association

Actuarial Experience Study

**Analysis of Experience During the Period
December 1, 2022 through November 30, 2025**

August 6, 2026

Board of Retirement
Alameda County Employees' Retirement Association
475 14th Street, Suite 1000
Oakland, CA 94612-1900

Dear Board Members:

We are pleased to submit this report of our review of the actuarial experience for Alameda County Employees' Retirement Association (ACERA). This study utilizes the census data for the period December 1, 2022 through November 30, 2025 as well as prior periods for certain assumptions, examines other relevant inputs, and provides the recommended actuarial assumptions, both economic and demographic, to be used in the December 31, 2026 valuation.

We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. The actuarial calculations were completed under the supervision of Eva Yum, FSA, MAAA, Enrolled Actuary and Mehdi Riazi, FSA, MAAA, FCA, Enrolled Actuary.

Segal makes no representation or warranty as to the future status of the Plan and does not guarantee any particular result. This document does not constitute legal, tax, accounting or investment advice or create or imply a fiduciary relationship. The Board is encouraged to discuss any issues raised in this report with the Plan's legal, tax and other advisors before taking, or refraining from taking, any action.

We look forward to reviewing this report with you and answering any questions you may have.

Sincerely,

Daniel Siblik, ASA, MAAA, FCA, EA
Vice President and Actuary

Eva Yum, FSA, MAAA, EA
Vice President and Actuary

Mehdi Riazi, FSA, MAAA, FCA, EA
Vice President and Actuary

DNA/jl

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Section 1: Introduction and Summary

To project the cost and liabilities of a pension plan, assumptions are made about all future events that could affect the amount and timing of the benefits to be paid and the assets to be accumulated. Each year actual experience is compared against the projected experience, and to the extent there are differences, the future contribution requirement is adjusted.

If assumptions are modified, contribution requirements are adjusted to take into account a change in the projected experience in all future years. There is a difference in both philosophy and cost impact between recognizing actuarial deviations as they occur annually and changing the actuarial assumptions. Taking into account one year's gains or losses without making a change in the assumptions treats that year's experience as temporary and assumes that, over the long run, experience will return to what was originally assumed. Changing assumptions reflects a fundamental change in thinking about the future and has a much greater effect on the current contribution requirements than recognizing gains or losses as they occur.

The use of realistic actuarial assumptions is important in maintaining adequate funding, while paying the promised benefit amounts to participants already retired and to those near retirement. The actuarial assumptions used do not determine the "actual cost" of the plan. The actual cost is determined solely by the benefits and administrative expenses paid out, offset by investment income received. However, it is desirable to estimate as closely as possible what the actual cost will be to permit an orderly method for setting aside contributions today to provide benefits in the future, and to maintain equity among generations of participants and taxpayers.

This study was undertaken to review the economic and demographic actuarial assumptions and to compare the actual experience with that expected under the current assumptions during the three-year experience period from December 1, 2022 through November 30, 2025.¹ The study was performed in accordance with Actuarial Standard of Practice (ASOP) No. 27 "Selection of Assumptions for Measuring Pension Obligations" and ASOP No. 6 "Measuring Retiree Group Benefit Obligations and Determining Retiree Group Benefits Program Periodic Costs or Actuarially Determined Contributions". These ASOPs provide guidance for the selection of the various actuarial assumptions utilized in pension and OPEB actuarial valuations. Based on the results of this study and expected future experience, we are recommending various changes in the current actuarial assumptions.

Section 2 provides background on the basic principles and methodology used in the review of the economic and demographic actuarial assumptions. A detailed discussion of each assumption and reasons for the recommended changes is found in *Section 3* for the economic assumptions and *Section 4* for the demographic assumptions. The cost impact of the recommended changes is detailed in *Section 5*. Lastly, a summary of the current actuarial assumptions is provided in *Appendix A*, and a summary of the recommended actuarial assumptions is provided in *Appendix B*.

¹ The census data is for the period December 1, 2022 through November 30, 2025 because the December 31 valuations have been prepared based on participant data provided by ACERA as of November 30.

Section 1: Introduction and Summary

Summary of recommendations

Page	Actuarial Assumption	Recommendation
12	Inflation: Future increases in the Consumer Price Index (CPI), which drives investment returns and active member salary increases.	Maintain the inflation assumption at 2.50% per annum as discussed in <i>Section 3(A)</i> .
14	Cost-of-living adjustment (COLA): Future increases to a member's retirement benefit.	For those tiers with a 3.00% maximum COLA, maintain the retiree COLA assumption at 2.75% per annum (based on our recommended inflation assumption of 2.50% plus a margin for adverse deviation of 0.25%) as discussed in <i>Section 3 (A)</i> . For tiers with a 2.00% maximum COLA, maintain the retiree COLA assumption at 2.00% per annum.
15	Investment return: The estimated average net rate of return on current and future assets of the Association as of the valuation date. This rate is used to discount liabilities.	Reduce the investment return assumption from 7.00% to 6.75% per annum as discussed in <i>Section 3(B)</i> .
23	Salary increases: Increases in the salary of a member between the date of the valuation to the date of separation from active service. This assumption has three components: • Inflationary salary increases • Real “across-the-board” salary increases • Merit and promotion increases	Maintain the inflationary salary increase assumption at 2.50% and maintain the real “across-the-board” salary increase assumption at 0.50%. Adjust the merit and promotion salary increases as developed in <i>Section 3(C)</i> to reflect past experience. This includes introducing separate merit and promotion salary increases for legacy and PEPRA members. The recommended total rates of salary increases anticipate higher increases than the current assumptions for General and Safety members.
30	Payroll growth: Used to amortize the unfunded actuarial accrued liability (UAAL) in determining the UAAL contribution rate.	Maintain the payroll growth assumption (combined inflationary and real “across-the-board” salary increases) at 3.00%.
33	Additional cashout: Additional pay elements included in earnable compensation during the member's final average earnings period.	Adjust the additional cashout assumptions to those developed in <i>Section 3(C)</i> . Recommend overall increase in the additional cashout assumptions based on recent experience.

Section 1: Introduction and Summary

Page	Actuarial Assumption	Recommendation
35	Mortality rates - healthy: The probability of dying at each age for non-disabled members. Mortality rates are used to anticipate life expectancies.	Adjust the mortality tables for statutory Retirement Plan benefits and discretionary SRBR non-OPEB benefits as follows: Healthy retirees: Change base tables from Pub-2010 Healthy Retiree Amount-Weighted Above-Median mortality tables to Pub-2016 Healthy Retiree Amount-Weighted Above-Median mortality tables. Adjust the base tables to reflect partial credibility of ACERA's experience. Overall, the recommended assumptions anticipate more deaths for General members and fewer deaths for Safety members than previously projected. Beneficiaries not in pay status: Change mortality tables to be consistent with the mortality tables recommended for General healthy retirees. Beneficiaries in pay status: Change base tables from Pub-2010 Contingent Survivor Amount-Weighted Above-Median mortality tables to Pub-2016 Contingent Survivor Amount-Weighted Above-Median mortality tables. Adjust the base tables to reflect partial credibility of ACERA's experience to anticipate more deaths than previously projected. Pre-retirement mortality: Change base tables from Pub-2010 Employee Amount-Weighted Above-Median mortality tables to Pub-2016 Employee Amount-Weighted Above-Median mortality tables. Adjust the base tables to reflect partial credibility of ACERA's experience to anticipate more deaths for General and Safety members than previously projected. Mortality projection: Maintain generational mortality improvement projection with Scale MP-2021. Discretionary SRBR OPEB benefits: Use the headcount-weighted versions of the mortality tables used for statutory Retirement Plan benefits and discretionary SRBR non-OPEB benefits. Mortality for member contribution rates, optional forms and reserves: Adjust the mortality rates to those developed in <i>Section 4(A)</i> for member contribution rates. A discussion of mortality rates for optional forms and reserves is also provided in <i>Section 4(A)</i>. Pre-retirement death type: Maintain the assumption that pre-retirement deaths are non-service connected for General and Safety members.

Section 1: Introduction and Summary

Page	Actuarial Assumption	Recommendation
47	Mortality rates — disabled: The probability of dying at each age for disabled members. Mortality rates are used to project life expectancies.	Adjust the mortality tables for statutory Retirement Plan benefits and discretionary SRBR non-OPEB benefits as follows: Disabled retirees: Change base tables from Pub-2010 Disabled Retiree Amount-Weighted mortality tables to Pub-2016 Disabled Retiree Amount-Weighted mortality tables. Adjust the base tables to reflect partial credibility of ACERA's experience to anticipate fewer deaths for General members and slightly more deaths for Safety members than previously projected. Mortality projection: Maintain generational mortality improvement projection with Scale MP-2021. Discretionary SRBR OPEB benefits: Use the headcount-weighted versions of the mortality tables used for statutory Retirement Plan benefits and discretionary SRBR non-OPEB benefits.
53	Disability incidence rates: The probability of becoming disabled at each age.	Adjust the disability rates to those developed in <i>Section 4(C)</i> to reflect a lower incidence of disability overall for General and Safety members. Increase the service connected disability assumption from 70% to 75% for General members (the remaining future disabled members are assumed to be non-service connected) and maintain the assumption at 100% for Safety members.
57	Termination rates: The probability of leaving employment at each age and receiving either a refund of member contributions or a deferred vested retirement benefit.	Adjust the termination rates to those developed in <i>Section 4(D)</i> to reflect a lower incidence of termination for General members and a slightly higher incidence of termination for Safety members.
63	Retirement rates: The probability of retirement at each age at which participants are eligible to retire. Includes retirement age for deferred vested members.	For active members, adjust the current retirement rates to those developed in <i>Section 4(E)</i>. For deferred vested members that work for a reciprocal employer, maintain the assumed retirement age at 61 for General members and 55 for Safety members. For deferred vested members that do not work for a reciprocal employer, maintain the assumed retirement age at 62 for General members and decrease the assumed retirement age from 56 to 55 for Safety members.

Section 1: Introduction and Summary

Page	Actuarial Assumption	Recommendation
79	Miscellaneous assumptions including: • Reciprocity • Future benefit accruals • Sick leave conversion • Unreported data for members • Form of payment • Percent with eligible survivor • Eligible survivor age and gender • Pre-retirement death optional form election	Maintain the current proportion of future inactive members expected to be covered by a reciprocal system at 20% for General members and reduce the current proportion of future inactive members expected to be covered by a reciprocal system from 45% to 40% for Safety members. Maintain the current future benefit accrual assumption. Maintain the current sick leave assumption for General members and decrease the sick leave assumption for Safety members. Adjust the assumption for members with unknown gender and maintain the form of payment assumption as outlined in <i>Section 4(F)</i>. For active and deferred vested members, maintain the current percent with eligible survivor assumption at 70% for males and at 50% for females. Maintain the survivor age difference assumption that male retirees are three years older than their female survivors and that female retirees are two years younger than their male survivors. Adjust the pre-retirement death optional form election assumptions as outlined in <i>Section 4(F)</i>.
84	Retiree health assumptions: Assumptions related to the valuation of the discretionary SRBR OPEB benefits.	Maintain the current medical participation and spousal coverage assumptions. Adjust the spouse age difference assumptions to those developed in <i>Section 4(G)</i>.

Cost impact summary

We have estimated the impact of the recommended assumption changes as if they were applied to the December 31, 2025 actuarial valuation. If adopted by the Board, these assumptions would first apply with the December 31, 2026 actuarial valuation. The tables below show the impact on key results due to the recommended assumption changes separately for the economic assumptions (including the merit and promotion salary increases) and demographic assumptions. More details, including the contribution impact by cost group, can be found in *Section 5*.

Section 1: Introduction and Summary

Cost Impact Based on December 31, 2025 Actuarial Valuation (\$ in millions)

Assumption	Impact on Average Employer Contribution Rates	Impact on Average Member Contribution Rates
Changes in economic assumptions	2.88%	0.79%
Changes in demographic assumptions	(0.50%)	(0.04%)
Total increase in average contribution rate	2.38%	0.75%
Total increase in annual dollar amount²	\$37.65	\$11.96

Assumption	Impact on Funded Status
Increase in UAAL due to changes in economic assumptions	\$451.98
Decrease in UAAL due to changes in demographic assumptions	(86.60)
Total increase in UAAL	\$365.38
Change in funded ratio on VVA basis	91.6% to 89.1%

Of the various recommended assumption changes, the most significant rate increase is due to the change in the investment return assumption.

² Based on December 31, 2025 projected annual payroll as determined under each set of assumptions.

Section 2: Background and Methodology

In this report, we analyzed both economic and demographic assumptions.

The primary economic assumptions reviewed are inflation, investment return, salary increases, and additional cashout. Demographic assumptions include the probabilities of certain events occurring in the population of members, referred to as “decrements” (e.g., termination from service, disability retirement, service retirement, and death before and after retirement).

In addition to decrements, other demographic assumptions reviewed in this study include the percent of members assumed to go on to work for a reciprocal system, reciprocal salary increases, percentage of members with an eligible spouse or domestic partner, survivor age difference, conversion of service from unused sick leave, and pre-retirement death optional form election. This report also includes an analysis of eligible retirees who chose to be covered by the Health Plan, spouse/domestic partner coverage, and spouse/domestic partner age difference.

It should be noted that with the exception of selecting the merit and promotion salary increases, the mortality assumptions and the percent married assumption on an amount-weighted or benefit-weighted basis, all the demographic assumptions in this report have been selected on a headcount-weighted basis. A value of “N/A” represents a service bucket for which there were no exposures over the time-period measured.

Economic assumptions

Economic assumptions consist of:

- **Inflation:** Increases in the price of goods and services. The inflation assumption reflects the basic return that investors expect from securities markets. It also reflects the expected basic salary increase for active employees and drives increases in the allowances of retired members (if any).
- **Investment return:** Expected long-term rate of return on the Association’s investments after accounting for certain investment and administrative expenses. This assumption has a significant impact on contribution rates.
- **Salary increases:** In addition to inflationary increases, it is assumed that salaries will also grow by real “across-the-board” pay increases in excess of price inflation. It is also assumed that employees will receive raises above these average increases as they advance in their careers, which are commonly referred to as merit and promotion increases. Payments to amortize any unfunded actuarial accrued liability (UAAL) are calculated to increase each year by the price inflation rate plus any real “across-the-board” pay increases that are assumed.

The setting of the economic assumptions is described in *Section 3*.

Section 2: Background and Methodology

Demographic assumptions

To determine the probability of an event occurring, we examine the “decrements” and “exposures” of that event. For example, when considering termination from service, we compare the number of employees who actually terminate in a specific service category/group (the number of “decrements”) with those who could have terminated (the number of “exposures”). If there were 500 active employees in the 3–4 years of service category at the beginning of the year and 50 of them left during the year, the probability of termination in that service category is $50 \div 500$, or 10%.

The reliability of the resulting probability depends heavily on both the number of decrements and the number of exposures. For instance, if there are only a few people in a high service category at the beginning of the year (number of exposures), the probability of termination developed for that service category may be less credible, particularly if it does not align with the pattern shown for the other service categories. Similarly, when considering the mortality decrement, if an age category has many exposures but very few decrements (actual deaths), then the probability developed for that category would also be considered less reliable.

One reason we use several years of experience for such a study is to enhance statistical reliability by increasing the number of exposures and decrements. Another reason for using several years of data is to smooth out any fluctuations that may occur from one year to the next. Nevertheless, we also calculate the rates on a yearly basis to check for any emerging trends in recent years.

Segal has routinely reviewed the experience over the most recent three-year period and the prior three-year period when setting assumptions, for a total of six years. (We note that for setting the mortality assumptions, we have used the data for a fifteen-year period.) As noted above, using more years of data tends to smooth out year-to-year fluctuations in the actual experience.

We have not proposed assumptions specific to active Safety Tier 1 members because there are no more active Safety Tier 1 members as of the December 31, 2025 valuation.

The setting of the demographic assumptions is provided in *Section 4*.

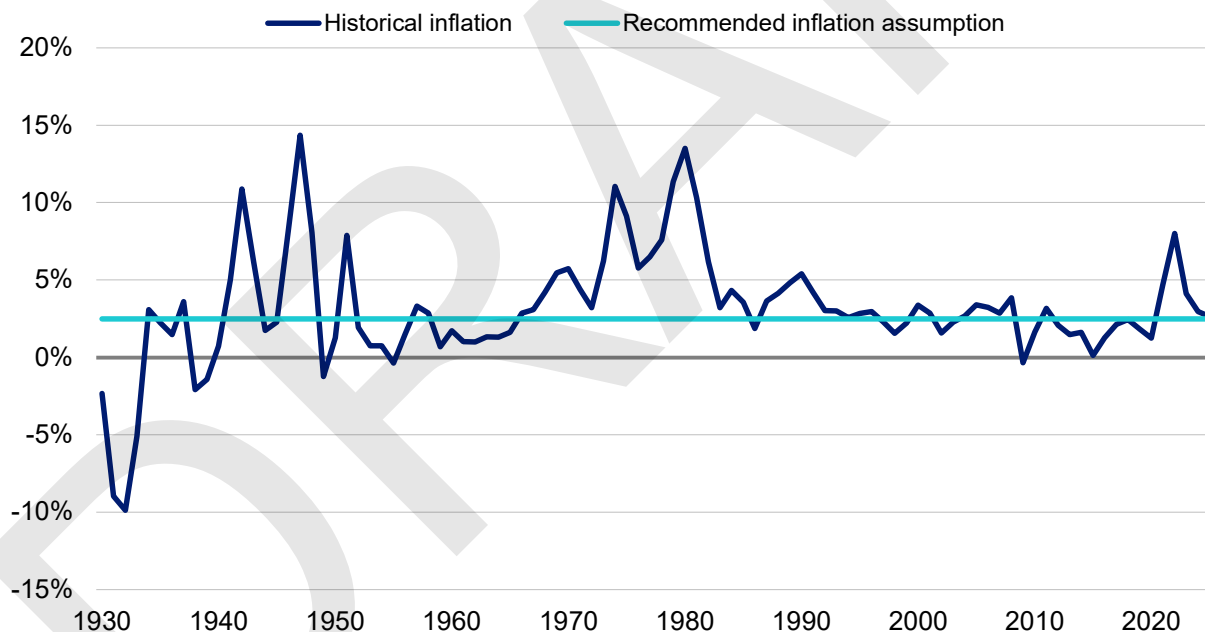
Section 3: Economic Assumptions

A. Inflation

Unless an investment grows at least as fast as prices increase, investors will experience a reduction in the inflation-adjusted value of their investment. There may be times when “riskless” investments return more or less than inflation, but over the long term, investment market forces will generally require an issuer of fixed income securities to maintain a minimum return that protects investors from inflation.

The inflation assumption is long term in nature, so our analysis begins with a review of historical information. The following graph compares historical inflation rates with the recommended inflation assumption of 2.50%. We then proceed with a discussion of other sources of inflation data to provide additional context to our recommendation.

Historical Consumer Price Index (CPI) — 1930 to 2025³
(U.S. City Average — All Urban Consumers)



There was a spike in inflation that started in the second quarter of 2021 and continued into 2022. The rate of inflation started to decrease after the Federal Reserve began raising interest rates around the second quarter of 2022. As inflation continued to decrease, the Federal Reserve changed course in late 2024 and reduced interest rates three times. After a period of no changes, the Federal Reserve cut interest rates again three times in late 2025.⁴ Based on the most recent data, the change in the CPI from December 2024 to December 2025 was 2.7%.

³ Source: Bureau of Labor Statistics — Based on CPI for All Items in U.S. city average, all urban consumers, not seasonally adjusted (Series ID: CUUR0000SA0).

⁴ As of early 2026, the Federal Reserve’s median projection of the interest rate for the year-end target range is 3.25%–3.50%. This target implies one additional 25-basis-point cut in 2026, building on the series of reductions that occurred in late 2024 and 2025.

Section 3: Economic Assumptions

According to the Public Plans Database,⁵ the median inflation assumption was 2.50% in the 2024 fiscal year valuations for 243⁶ public pension plans across the U.S. In California, CalSTRS and four⁷ 1937 Act CERL systems currently use an inflation assumption of 2.75%, while CalPERS and the 16 remaining 1937 Act CERL systems (including ACERA) use an assumption of 2.50%.⁸

ACERA's investment consultant, NEPC, LLC (formerly known as New England Pension Consultants), anticipates an annual inflation rate of 2.70% over a 30-year horizon.⁹ The average inflation assumption provided by NEPC and five other investment advisory firms retained by Segal's California public sector clients, as well as Segal's investment advisory division (Segal Marco Advisors), was 2.49%. The time horizon used by the investment consultants included in our review, with the exception of one investment consultant that uses a one-year horizon, generally ranges from 20 years to 30 years.

To find a forecast of inflation based on a longer time horizon, we referred to the Social Security Administration's (SSA) 2026 report on the financial status of the Social Security program.¹⁰ The projected average increase in the CPI over the next 75 years under the intermediate cost assumptions used in that report was 2.40%, which the SSA has maintained for several years. The SSA report also includes alternative projections using lower and higher inflation assumptions of 1.80% and 3.00%, respectively.

Finally, we also compared the yields on the 30-year inflation indexed U.S. Treasury bonds to comparable traditional U.S. Treasury bonds.¹¹ This "break-even rate" is commonly regarded as a market-based gauge of future inflation expectations. While this measure can be quite volatile, it is worth noting that during the peak of the most recent inflation spike this break-even rate exceeded 2.50% in only a single month, April 2022 (2.55%). As of July 2026, the difference in yields was 2.20%.

The following graph shows ACERA's historical and recommended inflation assumptions as well as the two metrics just discussed. In effect, this compares ACERA's assumption to two separate independent forecasts, one based on market observations and one developed by economists at the SSA. The graph shows that over the observed period, ACERA's assumption has been gradually decreasing as it converges with the other metrics and seems to be in a stable place at this point in time.

⁵ Public Plans Data is produced by the Center for Retirement Research at Boston College in partnership with the MissionSquare Research Institute, National Association of State Retirement Administrators, and the Government Finance Officers Association.

⁶ Among 253 large public retirement funds, the 2024 fiscal year inflation assumption was not available for 10 of the public retirement funds in the survey data as of March 2026.

⁷ We note that none of these four 1937 Act CERL Systems are served by Segal.

⁸ Eight of these 1937 Act CERL systems use a 2.50% inflation assumption with a 2.75% COLA assumption.

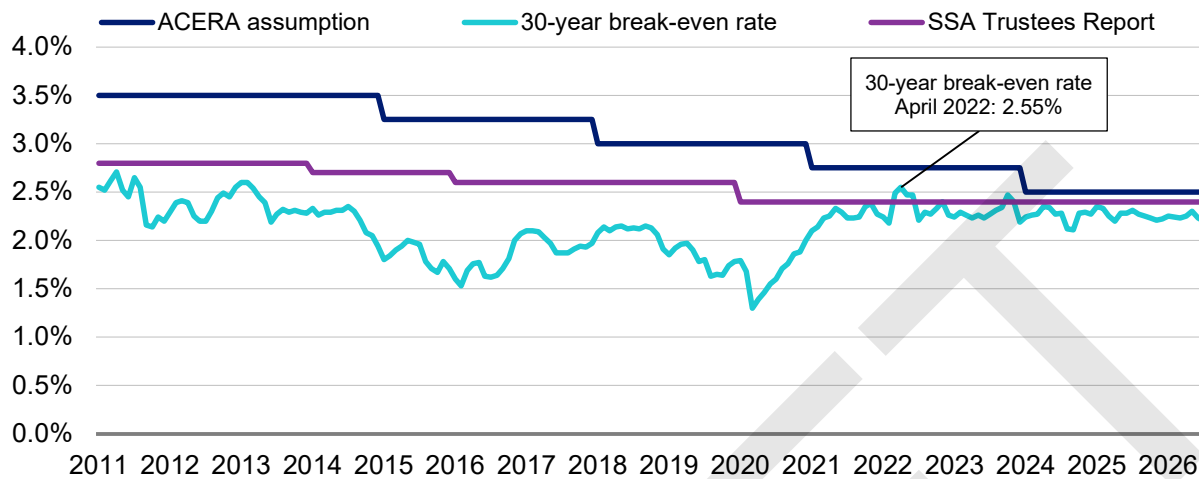
⁹ The annual inflation assumption used by NEPC is 2.5% over a 10-year horizon.

¹⁰ Source: "Social Security Administration: The 2026 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds."

¹¹ Source: Board of Governors of the Federal Reserve System.

Section 3: Economic Assumptions

Historical Inflation Forecasts



The setting of the inflation assumption using the information outlined above is a somewhat subjective process, and Segal does not apply a specific weight to each of the metrics in determining our recommended inflation assumption. Based on consideration of all the above metrics, beginning in 2021 we have been recommending the same 2.50% inflation assumption in our experience studies for our California public retirement association clients.

We recommend maintaining the annual inflation assumption at 2.50%.

Retiree cost-of-living increases

In our last experience study as of November 30, 2022, the Board maintained the recommended cost-of-living adjustments (COLA) assumption of 2.75% for Tiers 1 and 3. The assumption of 2.75% included a 0.25% margin above the recommended inflation assumption, to reflect the experience from the December CPI for the San Francisco-Oakland-Hayward Area that is used by the Board to set COLAs. The table below shows the change in the December CPI for the San Francisco Area and the U.S. City Average for the most recent 5, 10, and 20-year periods ending December 31, 2025.

Comparison of Changes in December CPI

Period	Change in December CPI for San Francisco-Oakland-Hayward	Change in December CPI for U.S. City Average
5-Year Average	3.43%	4.46%
10-Year Average	3.26%	3.20%
20-Year Average	2.88%	2.52%

We recommend maintaining the retiree COLA assumption of 2.75% per year for Tiers 1 and 3, which includes a 0.25% margin above our recommended inflation assumption to mitigate actuarial losses that may arise from future COLA increases greater than the inflation assumption. We recommend no change in the 2.00% assumption used to value the post-retirement COLA for Tiers 2 and 4.

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B. Investment return

The investment return assumption is comprised of two primary components, inflation and real rate of return, with adjustments for certain expenses and risk.

Real rate of return

This component represents the portfolio's expected incremental investment market returns over inflation. Generally, when an investor takes on greater investment risk, the return on the investment is expected to also be greater, at least in the long run.¹² This additional risk and return is expected to vary by asset class and empirical data supports that expectation. For that reason, real rate of return assumptions are developed for each asset class and the resulting assumption for a retirement plan's portfolio will vary based on the Board's asset allocation.

The Association's target asset allocation and corresponding real rate of return assumptions (net of investment management expenses) are shown in the following table. The first column of returns are determined by reducing NEPC's nominal 30-year arithmetic return assumptions by their assumed 2.70% inflation rate. The second column of returns shows the average real rate of return assumptions provided to us by NEPC, five other investment advisors to Segal's California public sector retirement clients and Segal Marco Advisors. We believe these averages are a reasonable consensus of long-term future market returns in excess of inflation.

ACERA's Asset Allocation and Arithmetic Real Rate of Return Assumptions

Asset Class	ACERA's Target Asset Allocation	NEPC's Real Rate of Return Assumption	Average Real Rate of Return Assumption from Seven Investment Firms
Global equity	48.00%	5.84%	5.97%
US aggregate bond	5.00%	2.73%	2.48%
US TIPS	2.50%	2.48%	2.15%
US treasury bond	2.50%	2.21%	2.41%
Real estate - core	4.70%	4.63%	4.57%
Private equity	11.00%	10.11%	9.18%
Private debt	6.80%	6.97%	5.98%
Global multi-sector fixed income	4.00%	3.95%	3.95% ¹³
Real estate – non-core	1.90%	8.04%	8.04% ¹³
Private debt – real estate	1.60%	4.67%	4.67% ¹³
Private real assets – natural resources	1.50%	9.85%	9.85% ¹³
Private real assets – infrastructure	4.50%	4.62%	4.62% ¹³
Hedge fund	6.00%	4.19%	4.19% ¹³
Total	100.00%	5.85%	5.73%

¹² However, an argument can also be made that taking on more risk in the portfolio could justify a greater risk margin in the actuarial assumption used, to help manage that risk.

¹³ There is a larger disparity in returns for this asset class among the firms surveyed, so NEPC's assumption is applied in lieu of the average to more closely reflect the underlying investments made specifically for ACERA.

Section 3: Economic Assumptions

Generally, the above are representative of “indexed” returns for securities that are publicly traded, returns net of fees for securities that are non-publicly traded and do not include any additional returns (“alpha”) from active management. Consideration of returns without alpha is consistent with the Actuarial Standard of Practice No. 27, Section 3.7.3.d, which states:

“Investment Manager Performance — Anticipating superior (or inferior) investment manager performance may be unduly optimistic (or pessimistic). The actuary should not assume that superior or inferior returns will be achieved, net of investment expenses, from an active investment management strategy compared to a passive investment management strategy unless the actuary believes, based on relevant supporting data, that such superior or inferior returns represent a reasonable expectation over the measurement period.”

The following are some observations about the returns provided above:

- The investment consultants and Segal’s investment advisory division included in our sample provided us with their expected real rates of return for each asset class over time horizons that varied from one year to 30 years. In general, the time horizon used by an individual investment consultant is not necessarily consistent with the time horizon of the actuarial assumption, which is used to discount cashflows over the expected lifetime of each plan member.
- Using an average of real rate of return assumptions allows ACERA’s investment return assumption to reflect a broad range of capital market information and to help reduce year to year volatility in the investment return assumption.
- We recommend the 5.73% portfolio net real rate of return, as calculated above, be used in the determination of ACERA’s investment return assumption.
 - This return is 0.16% lower than the 5.89% net return that was used three years ago in the review of the recommended investment return assumption for the December 31, 2023 valuation.
 - The 0.16% decrease in the portfolio net real rate of return since 2023 is due to changes in the real rate of return assumptions provided by the investment advisory firms (-0.54% under the 2023 asset allocation), changes in ACERA’s target asset allocation (+0.49%) and the interaction effect between these changes (-0.11%).
 - Even though there is a reduction in the real rates of return between the 2023 study and the current study, it is worth noting that the real rates of return provided in the capital market assumptions in the current study are generally higher than those in the 10-year period following the Global Financial Crisis, and so altogether should be used with caution in selecting a long-term investment return assumption.

Association expenses

For funding purposes, the real rate of return assumption for the portfolio needs to be adjusted for investment expenses expected to be paid from investment income. As the investment consultants discussed in the prior section provide us with real rates of return that are net of expected investment manager fees, we only need to make adjustments for investment consulting fees, custodian fees and other miscellaneous investment expenses. Current practice for ACERA also adjusts for expected administrative expenses.

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The following table shows the administrative and investment expenses as a percentage of the beginning of year actuarial value of assets.

Administrative and Investment Expenses as a Percentage of Actuarial Value of Assets (\$ in '000s)

Year Ended December 31	Actuarial Value of Assets ¹⁴	Administrative Expenses	Investment Expenses ¹⁵	Administrative Expenses as %	Investment Expenses as %	Total %
2020	\$8,528,591	\$16,226	\$6,565	0.19%	0.08%	0.27%
2021	8,986,482	16,577	4,867	0.18%	0.05%	0.23%
2022	10,707,916	17,026	5,841	0.16%	0.05%	0.21%
2023	11,092,625	17,576	6,617	0.16%	0.06%	0.22%
2024	11,571,614	20,380	6,799	0.18%	0.06%	0.24%
2025	12,116,951	21,933	7,534	0.18%	0.06%	0.24%

Administrative and Investment Expenses Averages and Assumptions

Averaging Period and Assumption	Expense Percentage
Current assumption	0.30%
Three-year average (2023–2025)	0.23%
Six-year average (2020–2025)	0.24%
Recommended assumption	0.25%

We recommend decreasing the expense component of the investment return assumption from 0.30% to 0.25%.

Adjustment to expected geometric real rate of return

The recommended 5.73% real rate of return assumption was based on expected arithmetic average returns. A retirement system using an expected arithmetic average return as the discount rate in a funding valuation is expected, over long periods of time, to have no surplus or asset shortfall relative to its expected obligations assuming all other actuarial assumptions are met in the future.¹⁶

Beginning with the previous study, we have converted the portfolio's arithmetic average return to a geometric average return. A retirement system using a geometric average return as the discount rate in a funding valuation will, over long periods of time, have an equal likelihood of having a surplus or asset shortfall relative to its expected obligations assuming all actuarial assumptions are met in the future.¹⁷ The majority of public plans across the United States use geometric average return to determine the expected return on assets.

¹⁴ As of beginning of plan year.

¹⁵ Equals the sum of investment consulting fees, custodian fees and other miscellaneous investment expenses. Excludes investment manager fees.

¹⁶ The mathematical terminology for this is that the mean (or average) surplus or asset shortfall is expected to be zero.

¹⁷ The mathematical terminology for this is that over time the median surplus or asset shortfall is expected to be zero.

Section 3: Economic Assumptions

For any given asset portfolio, the geometric average return will be less than the arithmetic average return.¹⁸ The difference depends on the variability of the portfolio as measured by its standard deviation. Based on the portfolio's standard deviation of 14.38% provided by NEPC the adjustment to a geometric average return reduces the expected return by 0.96%.

Risk adjustment

The real rate of return assumption for the portfolio is further adjusted to reflect the potential risk of shortfalls in the return assumptions. ACERA's asset allocation determines this portfolio risk, since risk levels are driven by the variability of returns for the various asset classes and the correlation of returns among those asset classes. This portfolio risk is incorporated into the real rate of return assumption through a risk adjustment.

The purpose of the risk adjustment (as measured by the corresponding confidence level) is to increase the likelihood of achieving the actuarial investment return assumption in the long term.¹⁹ It also acknowledges that investment results carry significant volatility over time, and yet the recommended assumption is a static number that does not explicitly convey this risk or its ramifications. The practice of including a risk adjustment helps mitigate some of this risk and is consistent with our experience that retirement plan fiduciaries would generally prefer that returns exceed the assumed rate more often than not.

The confidence level associated with a particular risk adjustment represents a relative likelihood that future investment earnings would equal or exceed the assumed earnings over a 15-year period. The 15-year time horizon represents an approximation of the "duration" of the fund's liabilities, where the duration of a liability represents the sensitivity of that liability to interest rate variations.

Three years ago, the Board adopted an investment return assumption of 7.00%. That return implied a risk adjustment of 0.31%, corresponding to a 15-year confidence level of 54%, based on an annual portfolio return standard deviation of 12.90% provided by Verus in 2023.

If we use the same 54% 15-year confidence level from our last study to set this year's risk adjustment, based on the current annual portfolio return standard deviation of 14.38% provided by NEPC, the corresponding risk adjustment would be 0.37%. Together with the other investment return components, this would result in an investment return assumption of 6.65%, which is lower than the current assumption of 7.00%.

Based on Segal's general practice of using one-quarter percentage point increments for economic assumptions, we considered an investment return assumption of 6.75% which would produce a risk adjustment of 0.27% and a corresponding confidence level of 53%. For comparison, the current net investment return assumption of 7.00% would have a confidence level of 50% under this model.

¹⁸ This is because the expected geometric average return reflects expected median outcomes, while the expected arithmetic average return reflects expected average or mean outcomes. Expected median outcomes are lower than expected average outcomes because they are less affected by the possibility of extraordinary ("outlier") favorable outcomes.

¹⁹ This type of risk adjustment is referred to in the Actuarial Standards of Practice as a "margin for adverse deviation."

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Recommended investment return assumption

The following table summarizes the components of the recommended investment return assumption. For comparison purposes, we have also included similar values from the last study.

Recommended Investment Return Assumption

Assumption Component	December 31, 2026 Recommended Value	December 31, 2026 Current Value	December 31, 2023 Adopted Value
Inflation	2.50%	2.50%	2.50%
Arithmetic real rate of return	5.73%	5.73%	5.89%
Expense adjustment	(0.25%)	(0.25%)	(0.30%)
Geometric return adjustment	(0.96%)	(0.96%)	(0.78%)
Risk adjustment	(0.27%)	(0.02%)	(0.31%)
Total	6.75%	7.00%	7.00%
Confidence level	53%	50%	54%

We recommend reducing the investment return assumption from 7.00% to 6.75% per annum.

Comparison with historical assumptions

The table below shows ACERA's recommended investment return assumption and the corresponding risk adjustment and confidence level compared to similar values from prior studies.

Adopted for the Valuation as of ²⁰	Investment Return	Risk Adjustment	Confidence Level
December 31, 2011	7.80%	0.53%	56%
December 31, 2014	7.60%	0.29%	53%
December 31, 2017	7.25%	0.20%	53%
December 31, 2020	7.00%	0.36%	54%
December 31, 2023	7.00%	0.31%	54%
December 31, 2026 (Recommended)	6.75%	0.27%	53%

As we have discussed in prior experience studies, the risk adjustment model and associated confidence level are most useful as a means for comparing how ACERA has positioned itself relative to risk over periods of time.²¹ The use of a 53% confidence level should be considered in context with other factors, including:

²⁰ Based on expected geometric average returns starting in 2023.

²¹ In particular, it would not be appropriate to use this type of risk adjustment as a measure of determining an investment return rate that is "risk-free."

Section 3: Economic Assumptions

- As noted above, the confidence level is more of a relative measure than an absolute measure, and so can be reevaluated and reset for future comparisons. This is particularly true when comparing confidence levels developed using different models, as we have shown above between 2020 and 2023 when we transitioned from the arithmetic model to the geometric model.
- The confidence level is based on the standard deviation of the portfolio that is determined and provided to us by NEPC. The standard deviation is a statistical measure of the future volatility of the portfolio and so is itself based on assumptions about future portfolio volatility and can be considered somewhat of a “soft” number.
- We have not taken into account any additional returns (“alpha”) that might be earned on active management. If active management generates enough alpha to more than cover its related expenses, returns would increase.
- As with any model, the results of the risk adjustment model should be evaluated for reasonableness and consistency. This is discussed in the later section on “Comparison with other public retirement associations”.

Impact of 50/50 excess earnings allocation on investment return assumption

The recommended investment return assumption has been developed without taking into consideration any impact of the 50/50 allocation between the retirement and SRBR asset pools of the Article 5.5 “excess earnings” benefits. This is based on our understanding that Article 5.5 of the Statute, which authorizes the allocation of 50% of excess earnings to the SRBR, does not allow for the use of a different investment return for funding than is used for interest crediting. This would appear in effect to preclude the prefunding of the SRBR through the use of an assumption lower than the market earnings assumption (which is currently 7.00%).

As required by the Actuarial Standard of Practice (ASOP) No. 4 (“Measuring Pension Obligations and Determining Pension Plan Costs or Contributions”), we performed a simplified stochastic model²² in 2023 to estimate the impact of the 50% allocation of future excess earnings to the SRBR. The results of our model indicated that the 50/50 allocation of future excess earnings would have about the same impact as an “outflow” (i.e., assets not available to fund the benefits included in the valuation) that would average approximately 0.75% of assets over time. **For informational purposes only**, when we applied the results of our stochastic model to the most recent December 31, 2025 funding valuation, we included the estimated impact that such an annual outflow would have on the employer’s contribution rate and on the actuarial accrued liability measured in that valuation, using the current 7.00% investment return assumption.

Using the same simplified stochastic model, we have estimated the impact of the 50% allocation of future excess earnings to the SRBR using the data and recommended results included in this study. Based on that analysis, we recommend that the 0.75% assumption be increased to 0.80% in the December 31, 2026 valuation in preparing the informational purposes only disclosures. Similar to our prior review, we have excluded the amount of deferred and

²² In our model, we assume the median return of the portfolio will equal our expected investment return assumption.

Section 3: Economic Assumptions

unrecognized investment gains/losses as of the date of the most recent December 31, 2025 valuation in this review because those amounts have fluctuated over time.

We observed that this assumption has increased directly in response to the change in the portfolio's standard deviation. The portfolio's standard deviation and our recommended assumption for the 50/50 excess earnings allocation in the past experience studies are as follows:

Experience Study Ending December 31	Portfolio Standard Deviation	50/50 Excess Earnings Allocation Impact
2014	14.40%	0.75%
2017	11.52%	0.60%
2020	12.20%	0.65%
2023	12.90%	0.75%
2026	14.38%	0.80%

Comparison with alternative model

To maintain a robust analytical framework, we have employed an alternative model for comparison by evaluating the recommended 6.75% assumption based on the expected geometric return for the entire portfolio net of investment management expenses but using a fully stochastic approach and a different source for capital market assumptions.

Under this alternative model, over a 15-year period, there is a 58% likelihood that future average geometric returns will meet or exceed 6.75%²³ developed using the capital market assumptions compiled by Horizon Actuarial Services based on their most recent survey published in August 2025. This 58% likelihood of achieving a 6.75% return is lower than the corresponding likelihood of 59% (for achieving a 7.00% return) that we observed in this comparison during the assumption review in 2023. Note that the likelihood of 59% we calculated in the prior study was based on the capital market assumptions provided in the Horizon Survey updated through August 2023.

Comparison with other public retirement systems

One final review of the recommended investment return assumption is to compare it against those used by other public retirement associations, both in California and nationwide.

An investment return of 6.75% or lower is becoming more common among California public sector retirement associations. Of the twenty 1937 Act CERL systems, one uses a 7.25% investment assumption, six use 7.00%, eight use 6.75%, four use 6.50%, and one uses 6.25%. Furthermore, CalSTRS currently uses a 7.00% investment return assumption, CalPERS uses a 6.80% investment return assumption, while the San Jose and San Diego City retirement systems use investment return assumptions of 6.625% and 6.50%, respectively.

²³ We performed this stochastic simulation using the capital market assumptions included in the 2025 survey prepared by Horizon Actuarial Services. That simulation was performed using 10,000 trial outcomes of future market returns, using assumptions from 20-year arithmetic returns, standard deviations and correlation matrix that were found in the 2025 survey that included responses from 41 investment advisors.

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The following table compares ACERA's recommended investment return assumption against those of the 239²⁴ large public retirement funds in their 2024 fiscal year valuations based on information found in the Public Plans Database²⁵, which is produced in partnership with NASRA.

Assumption	ACERA	Public Plan Data Low	Public Plan Data Median	Public Plan Data High
Investment return	6.75%	4.31%	7.00%	7.50%

The detailed survey results show that 72% of the systems have reduced their investment return assumption from 2017 to 2024. State systems outside of California tend to change their economic assumptions less frequently and so may lag behind emerging practices in this area. The National Conference on Public Employee Retirement Systems (NCPERS) also conducts an annual survey of public plans nationwide, and their 2026 survey reports an average investment return assumption of 6.67%.

²⁴ Among 246 large public retirement funds, the 2024 fiscal year investment return assumption was not available for 7 of the public retirement funds in the Public Plans Database as of March 2026.

²⁵ Public Plans Data website — Produced in partnership with the National Association of State Retirement Administrators (NASRA).

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C. Salary increases

Salary increases impact plan costs in two ways:

1. Increasing members' benefits (since benefits are a function of the members' highest average pay) and future normal cost collections; and
2. Increasing total active member payroll which in turn generates lower UAAL contribution rates as a percent of payroll.

As an employee progresses through his or her career, increases in pay are expected to come from three sources, inflation, real “across-the-board” increases and merit and promotion increases. Each of these assumptions is discussed in more detail below.

Inflation

Unless pay grows at least as fast as consumer prices grow, employees will experience a reduction in their standard of living. There may be times when pay increases lag or exceed inflation, but over the long term, labor market forces may require an employer to maintain its employees' standards of living.

As discussed earlier in this report, we recommend maintaining the annual inflation assumption at 2.50%.

Real “across-the-board” pay increases

These increases are typically termed productivity increases since they are considered to be derived from the ability of an organization or an economy to produce goods and services in a more efficient manner. As that occurs, at least some portion of the value of these improvements can provide a source for pay increases. These increases are typically assumed to extend to all employees “across the board.” The State and Local Government Workers Employment Cost Index produced by the Department of Labor provides evidence that real “across-the-board” pay increases have averaged about 0.1%–0.4% annually during the last ten to twenty years.

We also referred to the annual report on the financial status of the Social Security program published in June 2026. In that report, real “across-the-board” pay increases are forecast to be 1.14% per year under the intermediate assumptions.

The real pay increase assumption is generally considered a more “macroeconomic” assumption that is not necessarily based on individual plan experience. However, the following table compares ACERA's recent salary experience to the change in CPI over the three-year and six-year period ending December 31, 2025.

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Valuation Date	Actual Average ²⁶ Wage Inflation	Actual Change in CPI ²⁷
December 31, 2020	2.47%	2.00%
December 31, 2021	4.19%	4.24%
December 31, 2022	4.26%	4.88%
December 31, 2023	3.05%	2.62%
December 31, 2024	4.91%	2.38%
December 31, 2025	6.15%	3.04%
Three-year average (2023–2025)	4.70%	2.68%
Six-year average (2020–2025)	4.17%	3.19%

Based on the above information, we recommend maintaining the real “across-the-board” salary increase assumption at 0.50%.

Merit and promotion increases

As the name implies, these increases come from an employee’s career advancement. This form of pay increase differs from the previous two, since it is specific to the individual. For ACERA, we continue to recommend service-specific merit and promotion increase assumptions.

The annual merit and promotion increases are determined by measuring the actual increases received by members over the experience period, net of the assumed inflationary and real “across-the-board” pay increases. This is accomplished by:

1. Measuring each continuing member’s actual salary increase over each year of the experience period;
2. Excluding any members with increases of more than 50% or decreases of more than 25% during any particular year;
3. Categorizing these increases into groups by years of service;
4. Removing the assumed inflation and real “across-the-board” increases each year;
5. Averaging these annual increases over the experience period on a salary-weighted basis, with higher weights assigned to experience from members with larger salaries; and
6. Modifying current assumptions to reflect some portion of these measured increases reflective of their “credibility.”

To be consistent with the other economic assumptions, these merit and promotion assumptions should be used in combination with the assumed inflation and real “across-the-board” increases recommended in this study.

²⁶ Reflects the increase in average salary for members at the beginning of the year versus those at the end of the year. It does not reflect the average salary increases received by members who worked the full year.

²⁷ Based on the change in the December CPI for the San Francisco-Oakland-Hayward Area compared to the prior year.

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Merit and promotion increases are measured separately for General and Safety members. **Note that beginning with this experience study, we are also recommending separate merit and promotion increase assumptions for legacy members (i.e., General Tiers 1, 2, and 3, and Safety Tiers 2, 2C, and 2D) and PEPRAs members (i.e., General and Safety Tier 4).**

Due to the high variability of the actual salary increases, we have analyzed this assumption using data for the past six years. We believe that when the experience from the current and prior study is combined, it provides a more reasonable representation of potential future merit and promotion salary increases over the long term.

While preparing the recommended merit and promotion increase assumptions, we took into account that the most recent three-year period included significant salary adjustments, likely in response to the high inflationary period after COVID. Therefore, we have generally not increased the rates (after considering credibility) by as much as the actual rates may seem to imply. We will continue to monitor the rates and reevaluate in the next experience study if the higher salary adjustments continue over a longer period of time.

The following table shows the General legacy members' actual average merit and promotion increases by years of service over the three-year period from December 1, 2022 through November 30, 2025. As mentioned above, we have also included the actual average increases based on the past six years (December 1, 2019 through November 30, 2025). These actual increases were reduced by the assumed inflation plus "across-the-board" increase. The current and recommended assumptions are also shown.

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General Tiers 1, 2 and 3 — Merit and Promotion Salary Increases

Years of Service	Current Expected Increase	Actual 3 Year Average	Actual 6 Year Average	Recommended Expected Increase
Less than 1	5.00%	4.59%	2.96%	5.00%
1 – 2	5.00%	4.45%	4.40%	5.00%
2 – 3	4.40%	3.08%	3.68%	4.40%
3 – 4	3.00%	4.31%	4.50%	3.00%
4 – 5	2.10%	5.59%	2.50%	2.10%
5 – 6	1.60%	5.04%	2.63%	1.60%
6 – 7	1.50%	1.87%	1.78%	1.50%
7 – 8	1.50%	3.43%	1.69%	1.50%
8 – 9	1.20%	2.08%	2.20%	1.50%
9 – 10	1.00%	1.75%	1.84%	1.20%
10 – 11	0.85%	2.11%	2.05%	1.10%
11 or more	0.45%	3.69%	2.62%	0.75%
Actual / Expected (6 Years)	102.0%			101.7%

For General legacy members with less than eight years of service, we recommend maintaining the current merit and promotion salary increases due to the overall low level of experience for those service categories. For General legacy members with eight or more years of service, we recommend increasing the current merit and promotion salary increases.

Chart 1 on page 31 compares the actual merit and promotion increase experience for General legacy members with the current and recommended assumptions.

The following table shows similar information for General Tier 4 members.

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General Tier 4— Merit and Promotion Salary Increases

Years of Service	Current Expected Increase	Actual 3 Year Average	Actual 6 Year Average	Recommended Expected Increase
Less than 1	5.00%	4.50%	4.22%	5.00%
1 – 2	5.00%	6.84%	6.11%	5.00%
2 – 3	4.40%	5.51%	4.77%	4.50%
3 – 4	3.00%	4.61%	4.07%	3.25%
4 – 5	2.10%	3.64%	3.14%	2.50%
5 – 6	1.60%	3.86%	3.30%	2.00%
6 – 7	1.50%	3.73%	3.08%	2.00%
7 – 8	1.50%	3.79%	3.39%	2.00%
8 – 9	1.20%	3.67%	3.42%	1.70%
9 – 10	1.00%	4.41%	4.23%	1.50%
10 – 11	0.85%	4.90%	4.77%	1.10%
11 or more	0.45%	4.40%	3.73%	0.75%
Actual / Expected (6 Years)	101.1%			100.9%

For General Tier 4 members with less than 10 years of service, we recommend increasing the merit and promotion salary increases for most service categories. For General Tier 4 members with 10 or more years of service, we recommend the same merit and promotion salary increases that are recommended for General legacy members with 10 or more years of service due to the overall low level of experience for General Tier 4 members in those service categories.

Chart 2 on page 31 compares the actual merit and promotion increase experience for General Tier 4 members with the current and recommended assumptions.

The following table shows similar information for Safety legacy members.

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Safety Tiers 2, 2C, and 2D — Merit and Promotion Salary Increases

Years of Service	Current Expected Increase	Actual 3 Year Average	Actual 6 Year Average	Recommended Expected Increase
Less than 1	8.40%	N/A	16.17%	8.40%
1 – 2	8.40%	3.18%	8.42%	8.40%
2 – 3	8.40%	2.92%	2.46%	8.40%
3 – 4	5.40%	6.14%	3.82%	5.40%
4 – 5	4.00%	5.63%	4.18%	4.00%
5 – 6	2.50%	7.69%	2.97%	2.50%
6 – 7	1.80%	1.40%	1.16%	1.80%
7 – 8	1.60%	1.82%	1.92%	1.60%
8 – 9	1.20%	3.37%	2.34%	1.50%
9 – 10	1.20%	4.38%	3.58%	1.50%
10 – 11	1.00%	2.99%	2.97%	1.45%
11 or more	1.00%	4.14%	3.26%	1.40%
Actual / Expected (6 Years)	102.2%			101.8%

For Safety legacy members with less than eight years of service, we recommend maintaining the current merit and promotion salary increases due to the overall low level of experience for those service categories. For Safety legacy members with eight or more years of service, we recommend increasing the current merit and promotion salary increases.

Chart 3 on page 32 compares the actual merit and promotion increase experience for Safety legacy members with the current and recommended assumptions.

The following table shows similar information for Safety Tier 4 members.

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Safety Tier 4 — Merit and Promotion Salary Increases

Years of Service	Current Expected Increase	Actual 3 Year Average	Actual 6 Year Average	Recommended Expected Increase
Less than 1	8.40%	7.72%	6.79%	9.00%
1 – 2	8.40%	11.23%	11.10%	9.00%
2 – 3	8.40%	10.84%	10.45%	9.00%
3 – 4	5.40%	8.33%	7.63%	5.80%
4 – 5	4.00%	7.30%	6.34%	4.50%
5 – 6	2.50%	6.02%	4.93%	3.00%
6 – 7	1.80%	4.16%	3.56%	2.10%
7 – 8	1.60%	3.53%	3.17%	1.80%
8 – 9	1.20%	3.69%	3.53%	1.60%
9 – 10	1.20%	3.78%	3.78%	1.50%
10 – 11	1.00%	4.34%	4.27%	1.45%
11 or more	1.00%	4.05%	4.00%	1.40%
Actual / Expected (6 Years)	101.9%			101.4%

For Safety Tier 4 members with less than 10 years of service, we recommend increasing the merit and promotion salary increases for all service categories. For Safety Tier 4 members with 10 or more years of service, we recommend the same merit and promotion salary increases that are recommended for Safety legacy members with 10 or more years of service due to the overall low level of experience for Safety Tier 4 members in those service categories.

Chart 4 on page 32 compares the actual merit and promotion increase experience for Safety Tier 4 members with the current and recommended assumptions.

Section 3: Economic Assumptions

Total payroll growth

Projected increases in active member payrolls are used to develop the UAAL contribution rate. Future values are determined as a product of the number of employees in the workforce and the average pay for all employees. The average pay for all employees increases only by inflation and real “across-the-board” pay increases. The merit and promotion increases are not included, because this average pay is not specific to an individual.

Under the Board’s current practice, the UAAL contribution rate is developed by assuming the number of active members will remain about the same, so that the total payroll for all active members will increase annually over the amortization periods at the same assumed rates of inflation plus real “across-the-board” salary increase assumptions as are used to project the members’ future benefits. Note again that this does not include the assumed merit and promotion increases, because longer service members are assumed to be replaced by new members.

As part of reviewing the current practice, we have summarized in the table below how the number of active members and total payroll has changed over the last six valuations.

Active Members and Projected Payroll²⁸

Year Ended December 31	Number of Active Members	Projected Payroll (\$ in ‘000s)
2020	11,322	\$1,155,697
2021	11,326	1,204,499
2022	11,346	1,258,029
2023	11,547	1,319,397
2024	11,865	1,422,264
2025	12,143	1,545,121
Average Annual Rate of Increase	1.42%	6.00%

As can be observed from the above table, the average annual rate of increase in the projected payroll during the above period was 6.00% before accounting for the 1.42% average annual change in the total active workforce (and 4.58% after netting out the impact due to the change in the active workforce).

After considering the above factors and experience, we recommend maintaining the payroll growth assumption at 3.00% annually (consistent with the combined recommended inflation and real “across-the-board” salary increase assumptions).

²⁸ Projected payroll is used to develop the UAAL contribution rate in the actuarial valuation.

Section 3: Economic Assumptions

Chart 1: Merit and Promotion Salary Increases
General Tiers 1, 2 and 3 Members

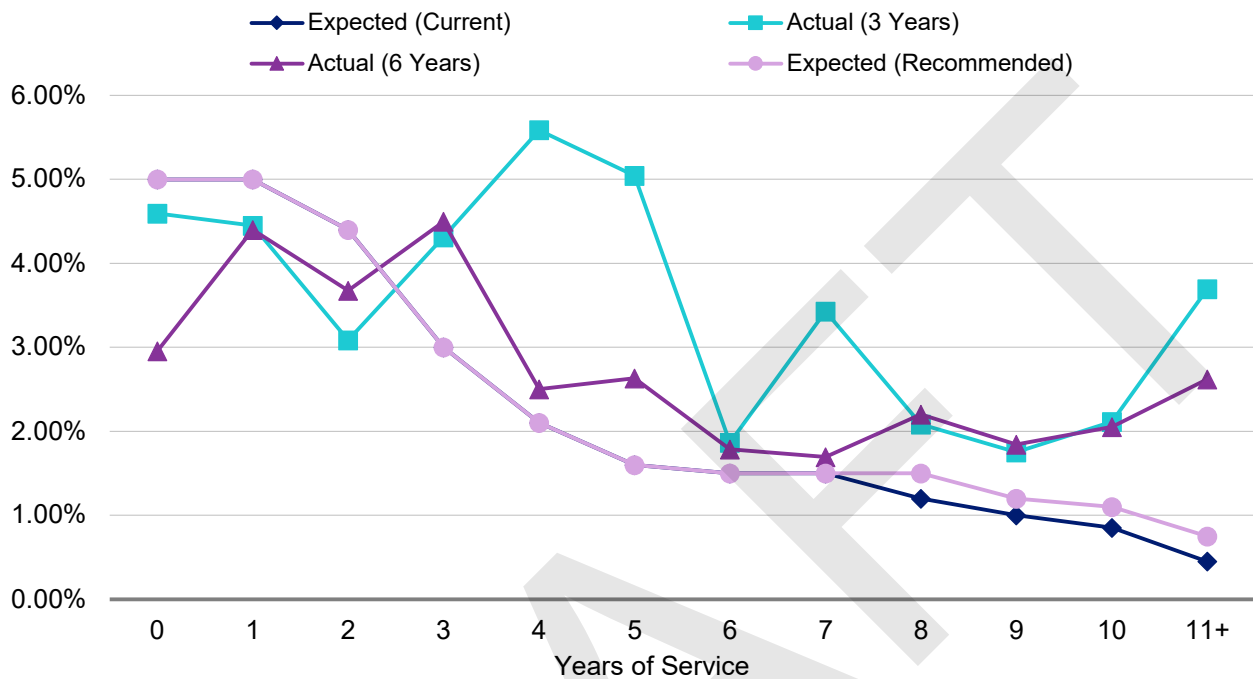
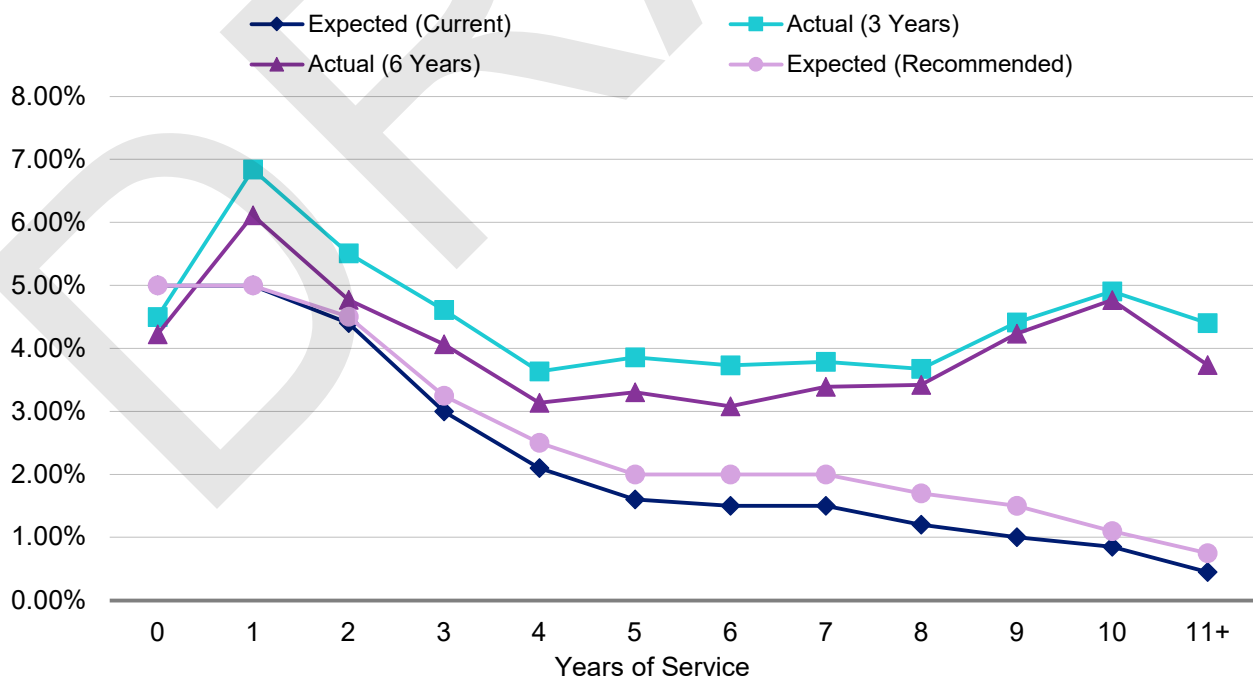


Chart 2: Merit and Promotion Salary Increases
General Tier 4 Members



Section 3: Economic Assumptions

Chart 3: Merit and Promotion Salary Increases
Safety Tiers 2, 2C, and 2D Members

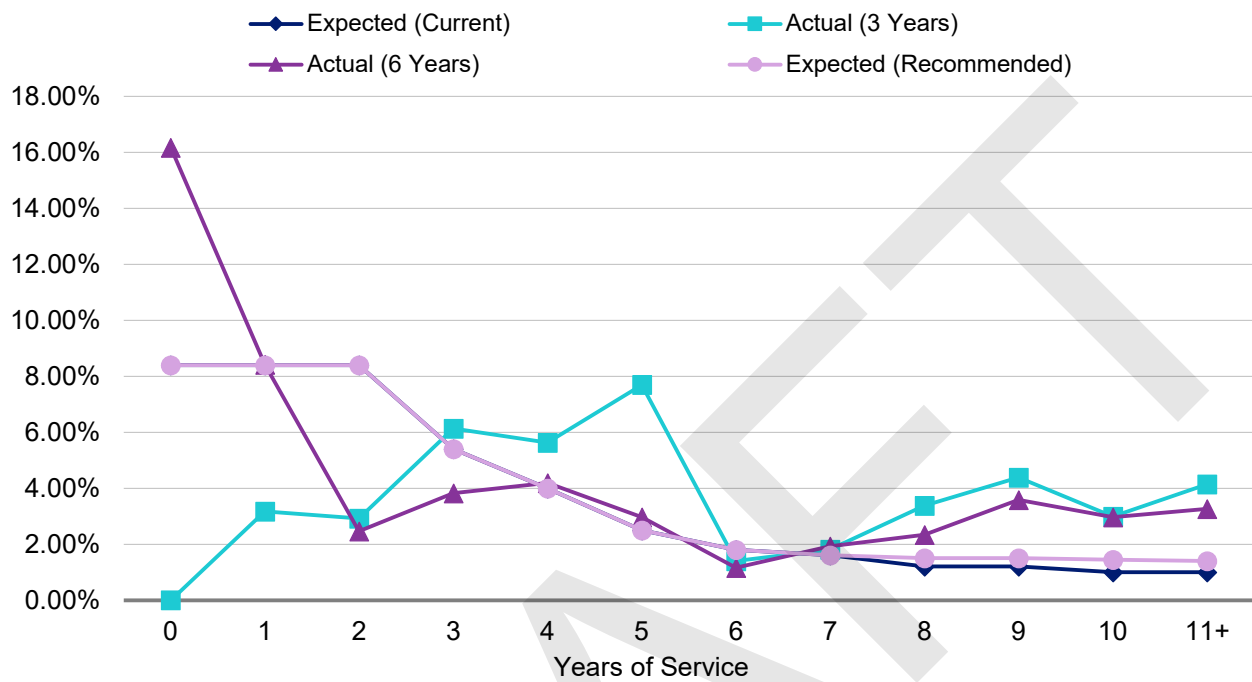
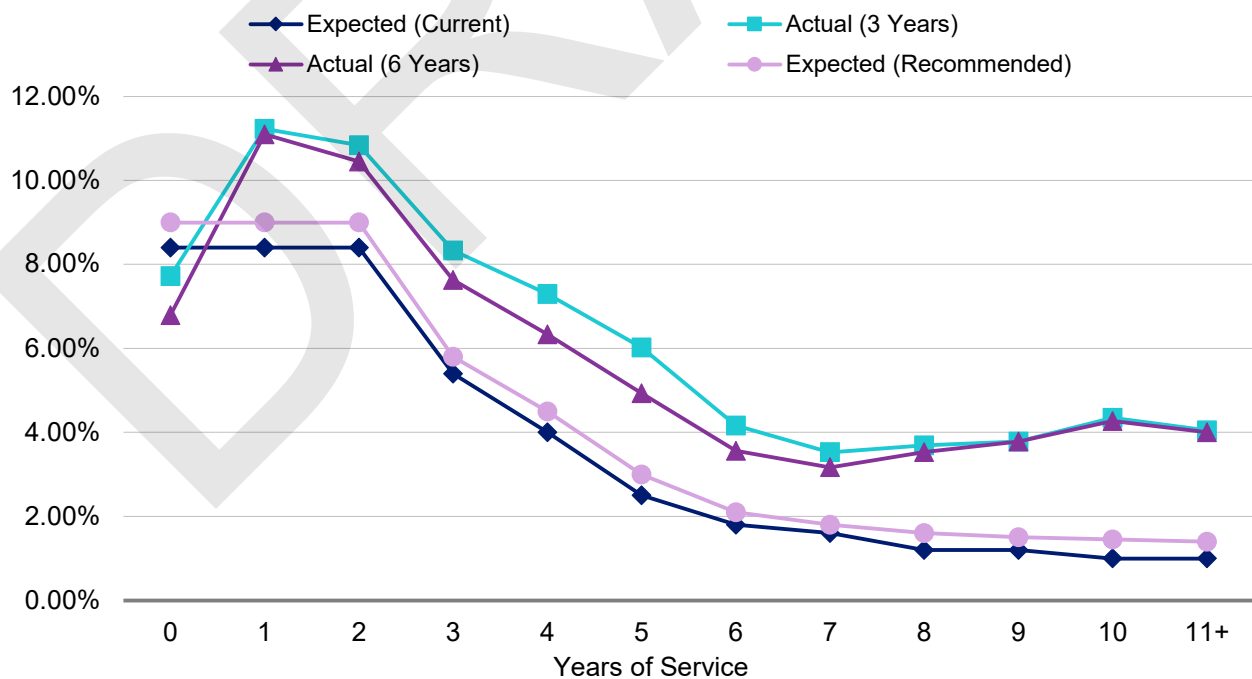


Chart 4: Merit and Promotion Salary Increases
Safety Tier 4 Members



Section 3: Economic Assumptions

Additional cashout

Under the Ventura Settlement, employers agreed to include several additional pay elements as Earnable Compensation for non-PEPRA members. There are two categories within which these additional pay elements fall:

- **Ongoing Pay Elements:** Those that are expected to be received relatively uniformly over a member's employment years; and
- **Additional Cashout Elements:** Those that are expected to be received only during the member's final average earnings pay period.

The first category is recognized in the actuarial calculations by virtue of being included in the current pay of active members. The second category requires an actuarial assumption to anticipate its impact on a member's retirement benefit.

Data has been collected since 1997 to estimate additional cashout for active members as a percentage of current pay. Because of the uncertainty associated with additional cashout (e.g., vacation accrual and sell off policies, maximum vacation carryover, vacation usage, etc.) a range of estimates was determined. An assumption was then recommended for additional cashout.

On June 17, 2021, the Board decided to change how much vacation sell back and cash out can be included in the compensation earnable and eliminated "straddling" for Tier 1 and 2 members who retire after June 17, 2021. As a result, we have only considered retirements after June 17, 2021 in setting the additional cashout assumption.

In the current valuation, General Tier 3 shares the same additional cashout assumption as General Tier 1 because both of these Tiers use final 1-year average compensation. However, after discussion with ACERA, we understand that no vacation cashout can be included in the final average earnings for General Tier 3 members, and so **we will no longer apply an additional cashout assumption for General Tier 3.**

Service retirements

In the following table, we have summarized the observed vacation cash out from members who retired from service during December 1, 2022–November 30, 2025. (We have also included the experience over the last 4.5 years.) Note that in this table, Safety Tier 2 includes Safety Tier 2C and Safety Tier 2D members. Safety Tier 2C and Safety Tier 2D share the same additional cashout assumption as Safety Tier 2 because each of these Tiers uses final 3-year average compensation.

The current and recommended additional cashout assumptions for members who are expected to retire from service are as follows:

Section 3: Economic Assumptions

Average Leave Cashout as a % of Final Average Pay by Tier (Service Retirement)

Year Ended December 31	General Tier 1	General Tier 2	Safety Tiers 2, 2C and 2D
2023	5.34%	2.78%	3.60%
2024	5.24%	2.80%	1.64%
2025	4.37%	3.49%	4.32%
Actual experience (3 years)	5.14%	3.07%	3.40%
Actual experience (4.5 years)	4.86%	2.96%	3.04%
Count of retiring members (3 years)	24	702	141
Current assumption	5.0%	2.7%	2.3%
Proposed assumption	5.0%	2.9%	2.8%

Based on this information, we recommend maintaining the additional cashout assumption for service retirement for General Tier 1 members and increasing the additional cashout assumption for service retirement for members in General Tier 2 and Safety Tiers 2, 2C 2D.

Disability retirements

We have also received data to analyze the additional cashout assumptions for disabled retirees. The current and recommended additional cashout assumptions for members who are expected to retire from disability are as follows:

Average Leave Cashout as a % of Final Average Pay by Tier (Disability Retirement)

Year Ended December 31	General Tier 1	General Tier 2	Safety Tiers 2, 2C and 2D
2023	N/A	N/A	0.76%
2024	N/A	N/A	4.33%
2025	N/A	3.21%	4.65%
Actual experience (3 years)	N/A	3.21%	3.97%
Actual experience (4.5 years)	N/A	1.91%	3.42%
Count of retiring members (3 years)	0	2	19
Current assumption	4.0%	1.0%	2.2%
Proposed assumption	4.0%	1.5%	2.8%

Based on this information, we recommend maintaining the additional cashout assumption for disability retirement for General Tier 1 members and increasing the additional cashout assumption for disability retirement for members in General Tier 2 and Safety Tiers 2, 2C and 2D.

Section 4: Demographic Assumptions

A. Mortality rates — healthy

The “healthy” mortality rates project the life expectancy of a member who retires from service (i.e., who did not retire on a disability pension). Also, the “healthy” pre-retirement (employee) mortality rates project what proportion of members will live to retirement.

In 2019, the Retirement Plans Experience Committee (RPEC) of the SOA published the first family of mortality tables based exclusively on public sector pension plan experience in the United States referred to as the Pub-2010 Public Retirement Plans Mortality Tables (Pub-2010). In 2025, RPEC published an updated family of mortality tables, referred to as the Pub-2016 Public Retirement Plans Mortality Tables (Pub-2016).²⁹

Within the Pub-2010 and Pub-2016 family of mortality tables, there are separate tables by job categories of General, Safety and Teachers. Included with the mortality tables is the analysis prepared by RPEC that continues to observe that benefit amount for healthy retirees and salary for employees are the most significant predictors of mortality differences within the job categories. Therefore, Pub-2010 and Pub-2016 include mortality rates developed on an “amount-weighted” basis, with higher credibility assigned to experience from annuitants and employees receiving larger benefits and salaries, respectively. The Pub-2016 mortality tables were developed with specific above-median and below-median variations, to reflect that salary and benefit amounts are strong predictors of lifespan differences.

We recommend the “amount-weighted” tables from the Pub-2016 family of mortality tables be used (adjusted for ACERA experience as discussed herein), as well as using the “above-median” tables where applicable.

A generational mortality table provides dynamic projections of mortality experience for each cohort of retirees. For example, the mortality rate for someone who is 65 next year will be slightly less than for someone who is 65 this year. In general, using generational mortality anticipates increases in the cost of the plan over time as participants’ life expectancies are projected to increase and is now the established practice within the actuarial profession.

RPEC has historically published annual updates to their mortality improvement scale. However, the mortality data observed during 2020 was severely impacted by the COVID-19 pandemic and RPEC has not released a new mortality improvement scale that incorporates the substantially higher rate of mortality experience from 2020. Therefore, Scale MP-2021 remains the most recent mortality improvement scale published as of the date of this report.

We recommend continuing to apply Scale MP-2021 generationally where each future year has its own mortality table that reflects the forecasted improvements.

²⁹ The Pub-2016 family of mortality tables have been developed without experience from the COVID-19 pandemic.

Section 4: Demographic Assumptions

In order to reflect more ACERA experience in our analysis of the mortality assumption, we have used experience over a 15-year period by using data from the current experience study period (from December 1, 2022 through November 30, 2025) and the last four experience studies covering the periods from December 1, 2010 through November 30, 2022.

In 2008 the SOA published an article recommending that mortality assumptions include an adjustment for credibility. Under this approach, the number of deaths needed for full credibility in a given cohort for a headcount-weighted mortality table is just over 1,000,³⁰ where full credibility means a 90% confidence that the actual experience will be within 5% of the expected value. For ACERA, the number of actual deaths differs for each cohort and varies from 8 deaths for Safety active females to 1,611 deaths for General healthy retiree females over the 15-year period studied. In our recommended assumptions, we have adjusted the Pub-2016 mortality tables to fit ACERA's experience based on the partial credibility for each cohort.

Post-retirement mortality (service retirements)

The current mortality tables used for post-retirement mortality are as follows:

- **General members**
 - Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with Scale MP-2021.
- **Safety members**
 - Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 5% for males and unadjusted for females, projected generationally with Scale MP-2021.

The following table shows the observed benefit-weighted deaths for healthy retired members based on the actual experience during the 15-year period. Also shown are the expected benefit-weighted deaths under the current and recommended assumptions.

Healthy Retiree Mortality – Benefit-Weighted Deaths (\$ in millions)

Gender	General Current Expected	General Actual	General Recomm. Expected	Safety Current Expected	Safety Actual	Safety Recomm. Expected
Male	\$4.08	\$4.20	\$4.11	\$1.58	\$1.60	\$1.51
Female	4.43	4.52	4.49	0.29	0.38	0.31
Total	\$8.51	\$8.72	\$8.60	\$1.88	\$1.98	\$1.81
Actual / Expected	102.4%		101.3%	105.6%		109.3%³¹

Notes

1. Experience shown above is weighted by annual benefit amounts for deceased members.

³⁰ The number of deaths needed for full credibility for an "amount" weighted mortality table is generally higher and based on the dispersion of the benefit amount for a given retiree group.

³¹ If we used the benchmark Pub-2016 Safety Healthy Retiree table without any adjustment, the recommended actual to expected ratio would be 114.8%. Because of the lower credibility for the Safety membership group, we have only adjusted the table partially to reflect ACERA's experience.

Section 4: Demographic Assumptions

2. Expected amounts under the current and recommended generational mortality tables are based on mortality rates from the base year projected with mortality improvements to the year the death occurred (or was expected to occur).
3. Results may not add due to rounding.

As shown in the table above, the recommended mortality tables have an actual to expected ratio of about 101% and 109% for General and Safety, respectively, after adjustments for partial credibility. In future years the ratios should remain around these levels as long as actual mortality improves at the same rates as anticipated by the generational mortality tables.

Based on standard statistical theory, the data used in our analysis is only partially credible under the recommended “amount-weighted” basis when dispersion of retirees’ benefit amounts is considered, particularly for the Safety membership groups (for example, a credibility of 22% for Safety females). Therefore, the recommended mortality tables reflect only a partial adjustment for actual ACERA experience.

We recommend updating the retirement plan’s post-retirement mortality assumptions for service retirements to the following:

- **General members**
 - Pub-2016 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with Scale MP-2021.
- **Safety members**
 - Pub-2016 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 5% for males and females, projected generationally with Scale MP-2021.

For the purpose of setting the assumptions for the OPEB SRBR valuation, we have also provided in the table below the actual and expected deaths computed without weighting these by benefit amounts and using the headcount-weighted version of the Pub-2016 tables.

Healthy Retiree Mortality — Headcount-Weighted Deaths

Gender	General Current Expected	General Actual	General Recomm. Expected	Safety Current Expected	Safety Actual	Safety Recomm. Expected
Male	1,041	1,116	1,050	238	258	228
Female	1,583	1,611	1,612	53	67	56
Total	2,624	2,727	2,662	291	325	284
Actual / Expected	103.9%		102.4%	111.7%		114.3%

Notes

1. Experience shown above is weighted by headcounts for deceased members instead of by monthly benefit amounts.

Section 4: Demographic Assumptions

2. Expected deaths under the current and recommended generational mortality table are based on mortality rates from the base year projected with mortality improvements to the year the death occurred (or was expected to occur).
3. Results may not add due to rounding.

We recommend updating the OPEB SRBR valuation's post-retirement mortality assumptions for service retirements to the following:

- **General members**
 - Pub-2016 General Healthy Retiree Headcount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with Scale MP-2021.
- **Safety members**
 - Pub-2016 Safety Healthy Retiree Headcount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 5% for males and females, projected generationally with Scale MP-2021.

Chart 5 on page 44 compares the actual to expected deaths on an amount-weighted basis for General service retirement members over the 15-year period for the current and recommended assumptions.

Chart 6 on page 44 compares the actual to expected deaths on an amount-weighted basis for Safety service retirement members over the 15-year period for the current and recommended assumptions.

Chart 7 on page 45 compares the actual to expected deaths on a headcount-weighted basis for General service retirement members over the 15-year period for the current and recommended assumptions provided for the OPEB SRBR valuation.

Chart 8 on page 45 compares the actual to expected deaths on a headcount-weighted basis for Safety service retirement members over the 15-year period for the current and recommended assumptions provided for the OPEB SRBR valuation.

Chart 9 and Chart 10 on page 46 show the life expectancies (i.e., expected future lifetime) under the current and recommended tables for General service retirement members and Safety service retirement members, respectively, on an amount-weighted basis. Life expectancies under the current and recommended generational mortality rates are based on age in 2026. In practice, assumed life expectancies will increase in accordance with the mortality improvement scale.

Beneficiary mortality

The current mortality tables used for beneficiary mortality are as follows:

- **Beneficiaries not in pay status as of valuation**
 - Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with Scale MP-2021.

Section 4: Demographic Assumptions

- **Beneficiaries in pay status as of valuation**

- Pub-2010 General Contingent Survivor Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 5% for males and unadjusted for females, projected generationally with Scale MP-2021.

The Pub-2016 Contingent Survivor mortality tables (as well as the Pub-2010 Contingent Survivor mortality tables) are developed based only on beneficiary data after the death of the member. This is consistent with the data that we have available for ACERA beneficiaries and we have confirmed that the Pub-2016 Contingent Survivor mortality rates are comparable to ACERA's actual mortality experience for beneficiaries.

Because the Contingent Survivor mortality tables reflect beneficiary mortality experience only **after** the death of the member, in the prior study we recommended the use of two separate mortality tables for beneficiaries, based on the pay status of the beneficiary. In particular, we recommended that the General Healthy Retiree mortality tables be used for beneficiary mortality (both before and after the **expected** death of the General or Safety member) when calculating the liability for the continuance to a beneficiary of a surviving member. Upon the **actual** death of the member (i.e., for all beneficiaries in pay status as of the valuation date), we recommended that the Contingent Survivor mortality tables, adjusted for ACERA experience, be used. We note that the use of different mortality tables (before and after the death of the member) has been found by the RPEC to be reasonable.

The following table shows the observed benefit-weighted deaths for beneficiaries based on actual experience during the 15 years studied. Also shown are the expected benefit-weighted deaths under the current and recommended assumptions.

Beneficiary Mortality — Benefit-Weighted Deaths (\$ in millions)

Gender	Current Expected	Actual	Recomm. Expected
Male	\$0.32	\$0.37	\$0.34
Female	1.40	1.45	1.45
Total	\$1.72	\$1.81	\$1.79
Actual / Expected	105.2%		101.3%

Notes

1. Experience shown above is weighted by annual benefit amounts for deceased beneficiaries.
2. Expected amounts under the current and recommended generational mortality table are based on mortality rates from the base year projected with mortality improvements to the year the death occurred (or was expected to occur).
3. Results may not add due to rounding.

As shown in the table above, the recommended mortality table has an actual to expected ratio of about 101% after adjustments for partial credibility. In future years the ratio should remain

Section 4: Demographic Assumptions

around these levels as long as actual mortality improves at the same rates as anticipated by the generational mortality tables.

The recommended mortality table reflects current experience to the extent that the experience is credible based on standard statistical theory. For many plans, including ACERA, there is less data available for beneficiaries than there is for retirees, so it is given relatively less credibility and the recommended tables are adjusted by less than they would be if the experience for beneficiaries had full credibility.

We recommend updating the retirement plan's beneficiary mortality assumptions to the following:

- **Beneficiaries not in pay status as of valuation**
 - Pub-2016 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with Scale MP-2021.
- **Beneficiaries in pay status as of valuation**
 - Pub-2016 General Contingent Survivor Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with Scale MP-2021.

For the purpose of setting the assumptions for the OPEB SRBR valuation, we have also provided in the table below the actual and expected deaths computed without weighting these by benefit amounts and using the headcount-weighted version of the Pub-2016 tables.

Beneficiary Mortality – Headcount-Weighted Deaths

Gender	Current Expected	Actual	Recomm. Expected
Male	220	233	233
Female	657	677	673
Total	878	910	906
Actual / Expected	103.7%		100.4%

Notes

1. Experience shown above is weighted by headcounts for deceased beneficiaries instead of by monthly benefit amounts.
2. Expected deaths under the current and recommended generational mortality table are based on mortality rates from the base year projected with mortality improvements to the year the death occurred (or was expected to occur).
3. Results may not add due to rounding.

We recommend updating the OPEB SRBR valuation's beneficiary mortality assumptions to the following:

- **Beneficiaries not in pay status as of valuation**
 - Pub-2016 General Healthy Retiree Headcount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with Scale MP-2021.

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- **Beneficiaries in pay status as of valuation**
 - Pub-2016 General Contingent Survivor Headcount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with Scale MP-2021

As noted above, we continued to recommend the use of separate mortality tables for beneficiaries before and after the actual death of the member.

Pre-retirement mortality

The current mortality tables used for pre-retirement mortality are as follows:

- **General members**
 - Pub-2010 General Employee Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with Scale MP-2021.
- **Safety members**
 - Pub-2010 Safety Employee Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with Scale MP-2021.

The table below shows the observed salary-weighted deaths for active members based on the actual experience during the 15 years studied. Also shown are the expected salary-weighted deaths under the current and recommended assumptions.

Pre-Retirement Mortality — Salary-Weighted Deaths (\$ in millions)

Gender	General Current Expected	General Actual	General Recomm. Expected	Safety Current Expected	Safety Actual	Safety Recomm. Expected
Male	\$7.61	\$9.49	\$8.39	\$1.73	\$2.11	\$1.81
Female	8.43	11.60	9.61	0.34	0.96	0.39
Total	\$16.04	\$21.10	\$18.00	\$2.08	\$3.07	\$2.20
Actual / Expected	131.6%		117.2%³²	147.9%		139.3%³³

Notes

1. Experience shown above is weighted by annual salary for deceased members.
2. Expected amounts under the current and recommended generational mortality table are based on mortality rates from the base year projected with mortality improvements to the year the death occurred (or was expected to occur).
3. Results may not add due to rounding.

As shown in the table above, the recommended mortality tables have an actual to expected ratio of about 117% and 139% for General and Safety, respectively after adjustments for partial

³² If we used the benchmark Pub-2016 General Employee table without any adjustment, the recommended actual to expected ratio would be 123.0%.

³³ If we used the benchmark Pub-2016 Safety Employee table without any adjustment, the recommended actual to expected ratio would be 140.5%.

Section 4: Demographic Assumptions

credibility. In future years the ratios should remain around these levels as long as actual mortality improves at the same rates as anticipated by the generational mortality tables.

The recommended mortality tables reflect current experience to the extent that the experience is credible based on standard statistical theory. For many plans, there is generally less mortality experience available for actives, so it is given little credibility and the recommended tables are adjusted by less than they would be if the experience for actives had full credibility.

We recommend updating the retirement plan's pre-retirement mortality assumptions to the following:

- **General members**
 - Pub-2016 General Employee Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 5% for males and females, projected generationally with Scale MP-2021.
- **Safety members**
 - Pub-2016 Safety Employee Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates unadjusted for males and increased by 5% for females, projected generationally with Scale MP-2021.

For the purpose of setting the assumptions for the OPEB SRBR valuation, we have also provided in the table below the actual and expected deaths computed without weighting these by benefit amounts and using the headcount-weighted version of the Pub-2016 tables.

Pre-Retirement Mortality — Headcount-Weighted Deaths

Gender	General Current Expected	General Actual	General Recomm. Expected	Safety Current Expected	Safety Actual	Safety Recomm. Expected
Male	82	100	89	14	16	15
Female	99	149	112	3	8	4
Total	180	249	201	18	24	19
Actual / Expected	138.1%		123.9%	135.5%		126.3%

Notes

1. Experience shown above is weighted by headcounts for deceased members instead of by annual salary.
2. Expected deaths under the current and recommended generational mortality table are based on mortality rates from the base year projected with mortality improvements to the year the death occurred (or was expected to occur).
3. Results may not add due to rounding.

We recommend updating the OPEB SRBR valuation's pre-retirement mortality assumptions to the following:

Section 4: Demographic Assumptions

- **General members**

- Pub-2016 General Employee Headcount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 5% for males and females, projected generationally with Scale MP-2021.

- **Safety members**

- Pub-2016 Safety Employee Headcount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates unadjusted for males and increased by 5% for females, projected generationally with Scale MP-2021.

Currently, our assumption is that 100% of pre-retirement deaths are non-service connected.

Based on actual experience that all pre-retirement deaths during the three-year experience study period were non-service connected, we recommend maintaining the current assumption for pre-retirement mortality that 100% of pre-retirement deaths are non-service connected for both General and Safety members.

Mortality table for member contributions, optional forms of payment and reserves

There are administrative reasons why a generational mortality table is more difficult to implement for determining member contributions for legacy tiers (i.e., General Tiers 1, 2, and 3, and Safety Tiers 1, 2, 2C, and 2D), optional forms of payment and reserves. For determining member contributions, one emerging practice is to approximate the use of a generational mortality table by the use of a static table with projection of the mortality improvement from the measurement year over a period that is close to the duration of the benefit payments for active legacy members. We recommend the use of this approximation for determining member contributions for employees in the legacy tiers.

We recommend updating the mortality tables used for determining contributions to the following:

- **General members**

- Pub-2016 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected 30 years (from 2016) with Scale MP-2021, weighted 30% male and 70% female.

- **Safety members**

- Pub-2016 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 5% for males and females, projected 30 years (from 2016) with Scale MP-2021, weighted 75% male and 25% female.

For optional forms of payment and reserves, there are administrative issues that we may need to resolve with ACERA and its vendor maintaining the pension administration software before we can recommend a comparable generational scale to anticipate future mortality improvement. We will provide a recommendation to the Association for use in reflecting mortality improvement for determining optional forms of payments and reserves after we have those discussions with the Association and its vendor.

Section 4: Demographic Assumptions

Chart 5: Service Retired Benefit-Weighted Deaths (\$ in millions)
General Members

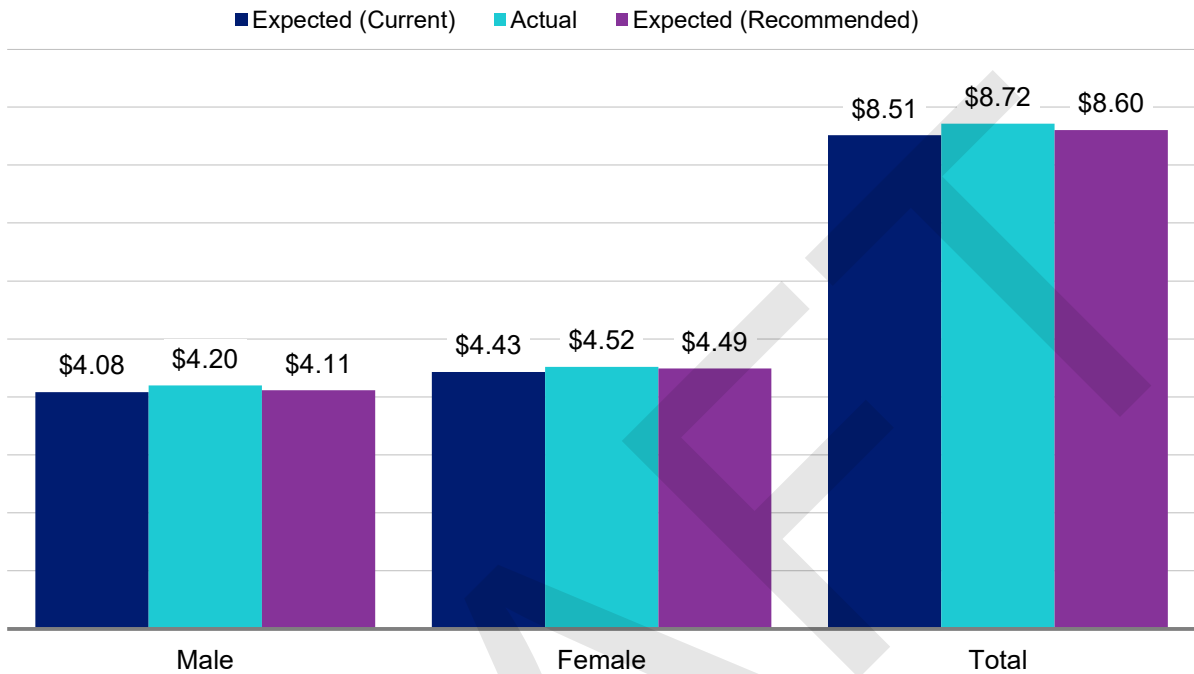
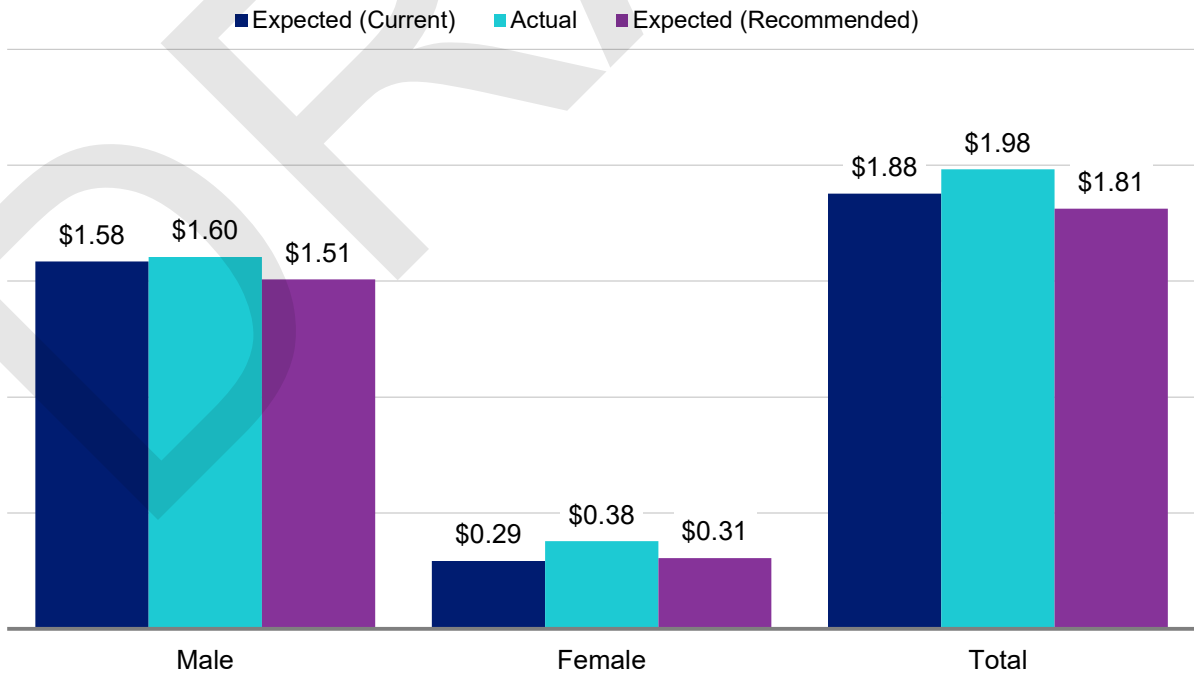


Chart 6: Service Retired Benefit-Weighted Deaths (\$ in millions)
Safety Members



Section 4: Demographic Assumptions

Chart 7: Service Retired Headcount-Weighted Deaths
General Members

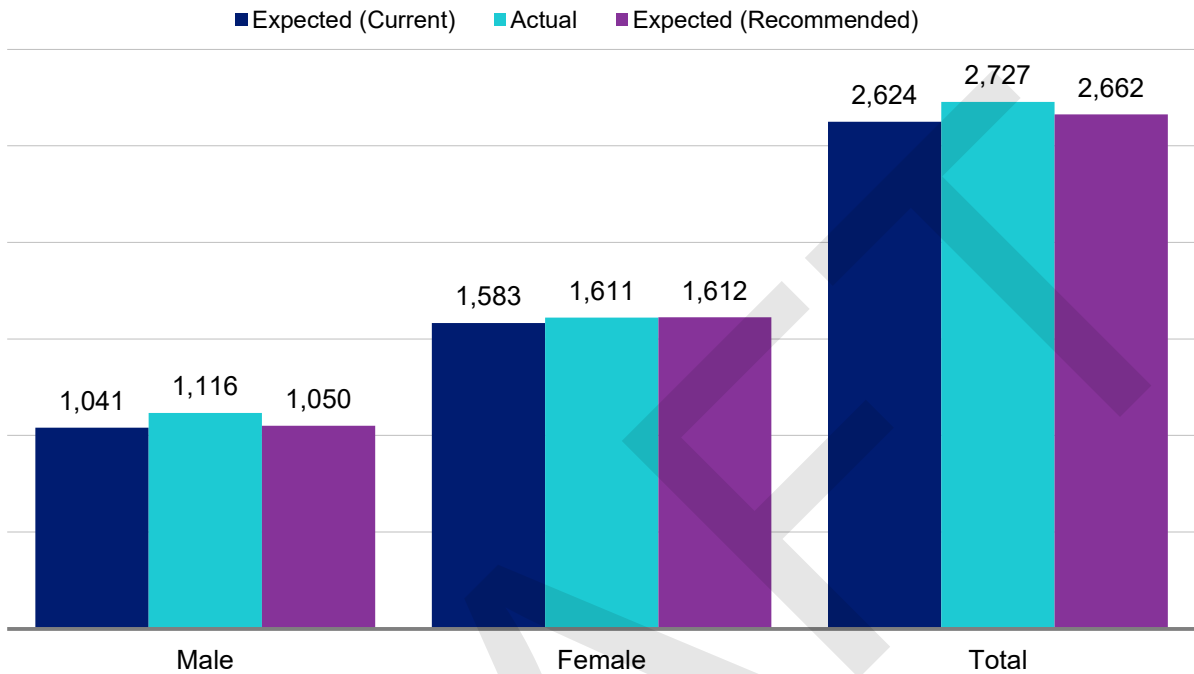
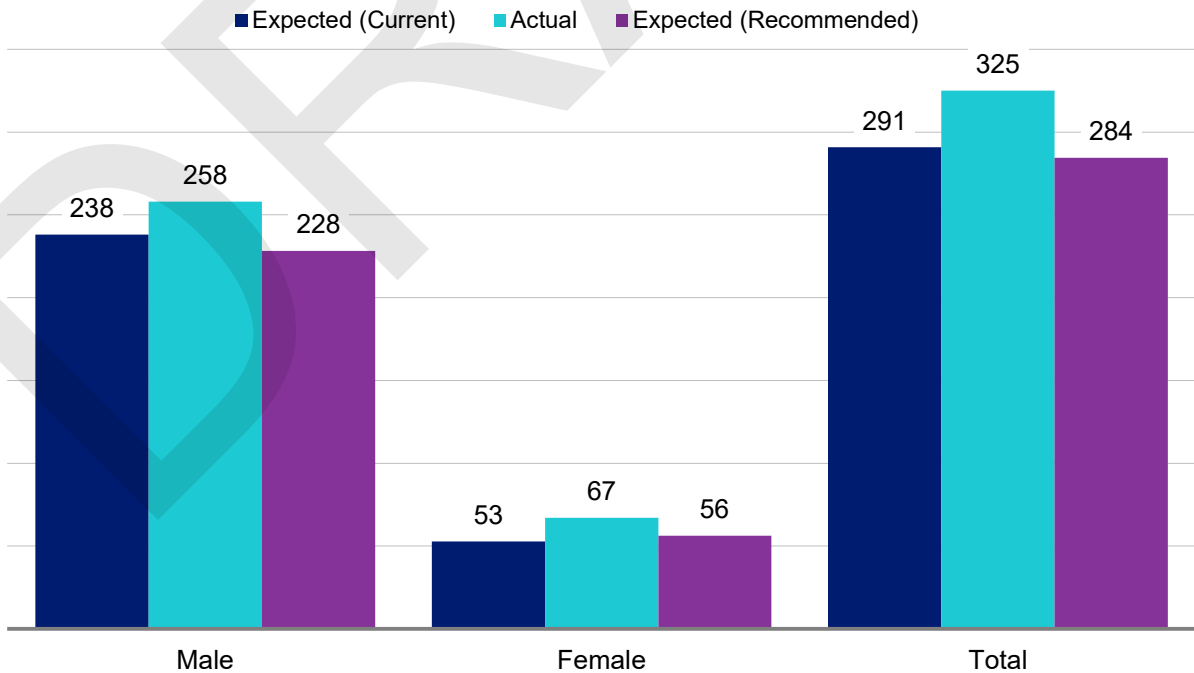


Chart 8: Service Retired Headcount-Weighted Deaths
Safety Members



Section 4: Demographic Assumptions

Chart 9: Service Retired Benefit-Weighted Life Expectancies in 2026
General Members

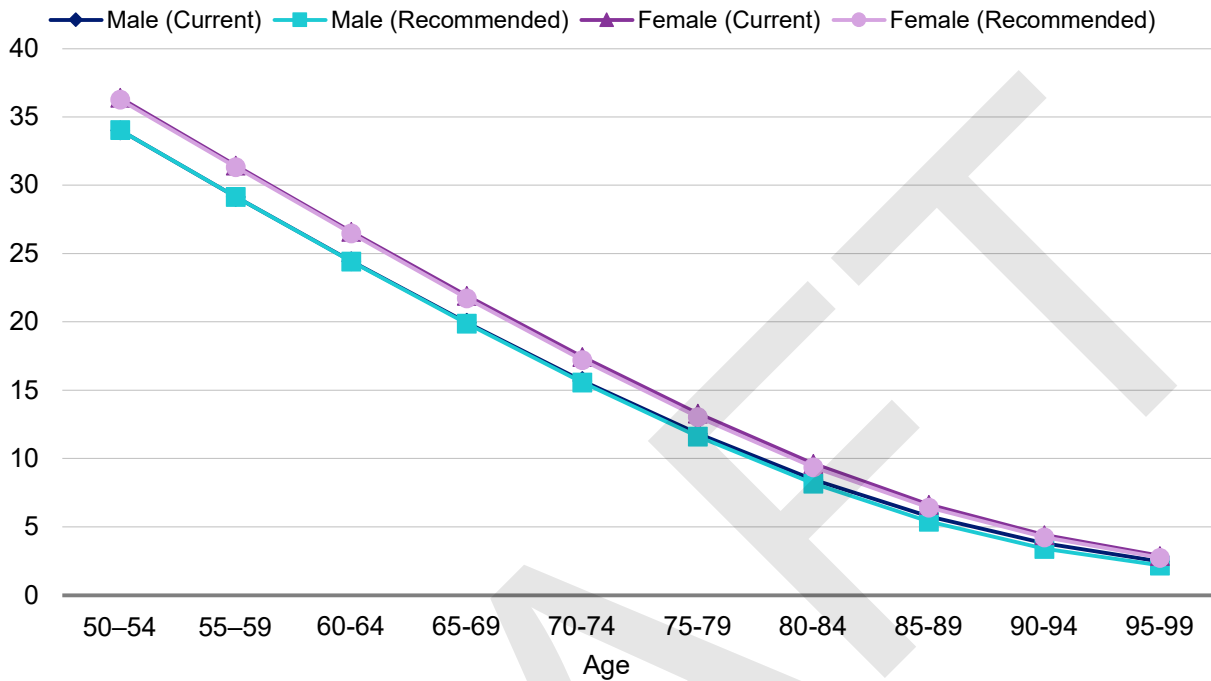
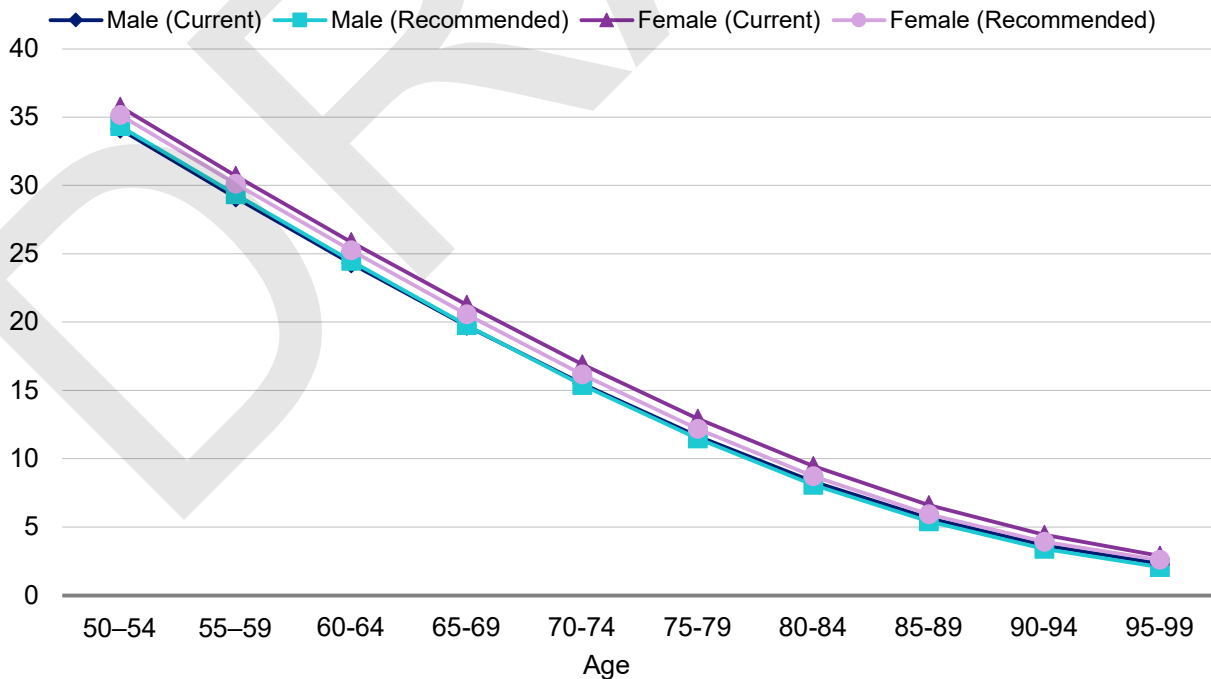


Chart 10: Service Retired Benefit-Weighted Life Expectancies in 2026
Safety Members



Section 4: Demographic Assumptions

B. Mortality rates — disabled

Since mortality rates for disabled members can vary from those of healthy members, a different mortality assumption is often used.

The current mortality tables used for disabled mortality are as follows:

- **General members**
 - Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females) with rates unadjusted for males and decreased by 10% for females, projected generationally with Scale MP-2021.
- **Safety members**
 - Pub-2010 Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females) with rates increased by 5% for males and unadjusted for females, projected generationally with Scale MP-2021.

The following table shows the observed benefit-weighted deaths for disability retired members based on the actual experience during the 15 years studied. Also shown are the expected benefit-weighted deaths under the current and recommended assumptions.

The recommended mortality tables have an actual to expected ratio of 93% and 105% for General and Safety, respectively, after adjustments for partial credibility. In future years the ratios should remain around these levels as long as actual mortality improves at the same rates as anticipated by the generational mortality tables.

Disabled Retiree Mortality — Benefit-Weighted Deaths (\$ in millions)

Gender	General Current Expected	General Actual	General Recomm. Expected	Safety Current Expected	Safety Actual	Safety Recomm. Expected
Male	\$0.27	\$0.23	\$0.23	\$0.25	\$0.28	\$0.25
Female	0.47	0.39	0.43	0.05	0.03	0.06
Total	\$0.74	\$0.62	\$0.66	\$0.30	\$0.31	\$0.30
Actual / Expected	83.6%		93.5%³⁴	104.8%		104.5%³⁵

Notes

1. Experience shown above is weighted by annual benefit amounts for deceased members.
2. Expected amounts under the current and recommended generational mortality table are based on mortality rates from the base year projected with mortality improvements to the year the death occurred (or was expected to occur).
3. Results may not add due to rounding.

³⁴ If we used the benchmark Pub-2016 Non-Safety Disabled Retiree table without any adjustment, the recommended actual to expected ratio would be 90.4%.

³⁵ If we used the benchmark Pub-2016 Safety Disabled Retiree table without any adjustment, the recommended actual to expected ratio would be 107.6%.

Section 4: Demographic Assumptions

Similar to mortality rates for service retirees, the recommended mortality tables reflect current experience to the extent that the experience is credible based on standard statistical theory. For ACERA, there is much less data available for disabled retirees, so it is given little credibility and the recommended tables are adjusted by less than they would be if the experience for disabled retirees had full credibility.

We recommend updating the retirement plan's mortality tables used for disabled mortality to the following:

- **General members**
 - Pub-2016 Non-Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females) with rates unadjusted for males and decreased by 5% for females, projected generationally with Scale MP-2021.
- **Safety members**
 - Pub-2016 Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females) with rates increased by 5% for males and decreased by 5% for females, projected generationally with Scale MP-2021.

For the purpose of setting the assumptions for the OPEB SRBR valuation, we have also provided in the table below the actual and expected deaths computed without weighting these by benefit amounts and using the headcount-weighted version of the Pub-2016 tables.

Disabled Retiree Mortality — Headcount-Weighted Deaths

Gender	General Current Expected	General Actual	General Recomm. Expected	Safety Current Expected	Safety Actual	Safety Recomm. Expected
Male	92	88	79	56	57	54
Female	201	171	175	15	9	15
Total	293	259	254	72	66	69
Actual / Expected	88.3%		101.8%	92.3%		95.6%

Notes

1. Experience shown above is weighted by headcounts for deceased members instead of by monthly benefit amounts.
2. Expected deaths under the current and recommended generational mortality table are based on mortality rates from the base year projected with mortality improvements to the year the death occurred (or was expected to occur).
3. Results may not add due to rounding.

We recommend updating the OPEB SRBR valuation's mortality tables used for disabled mortality to the following:

Section 4: Demographic Assumptions

- **General members**

- Pub-2016 Non-Safety Disabled Retiree Headcount-Weighted Mortality Table (separate tables for males and females) with rates unadjusted for males and decreased by 5% for females, projected generationally with Scale MP-2021.

- **Safety members**

- Pub-2016 Safety Disabled Retiree Headcount-Weighted Mortality Table (separate tables for males and females) with rates increased by 5% for males and decreased by 5% for females, projected generationally with Scale MP-2021.

Chart 11 on page 50 compares the actual to expected deaths on an amount-weighted basis for General disabled retirement members over the 15-year period for the current and recommended assumptions.

Chart 12 on page 50 compares the actual to expected deaths on an amount-weighted basis for Safety disabled retirement members over the 15-year period for the current and recommended assumptions.

Chart 13 on page 51 compares the actual to expected deaths on a headcount-weighted basis for General disabled retirement members over the 15-year period for the current and recommended assumptions provided for the OPEB SRBR valuation.

Chart 14 on page 51 compares the actual to expected deaths on a headcount-weighted basis for Safety disabled retirement members over the 15-year period for the current and recommended assumptions provided for the OPEB SRBR valuation.

Chart 15 and Chart 16 on page 52 show the life expectancies (i.e., expected future lifetime) under the current and recommended tables for General disabled retirement members and Safety disabled retirement members, respectively, on an amount-weighted basis. Life expectancies under the current and recommended generational mortality rates are based on age in 2026. In practice, assumed life expectancies will increase in accordance with the mortality improvement scale.

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Chart 11: Disability Retired Benefit-Weighted Deaths (\$ in millions)
General Members

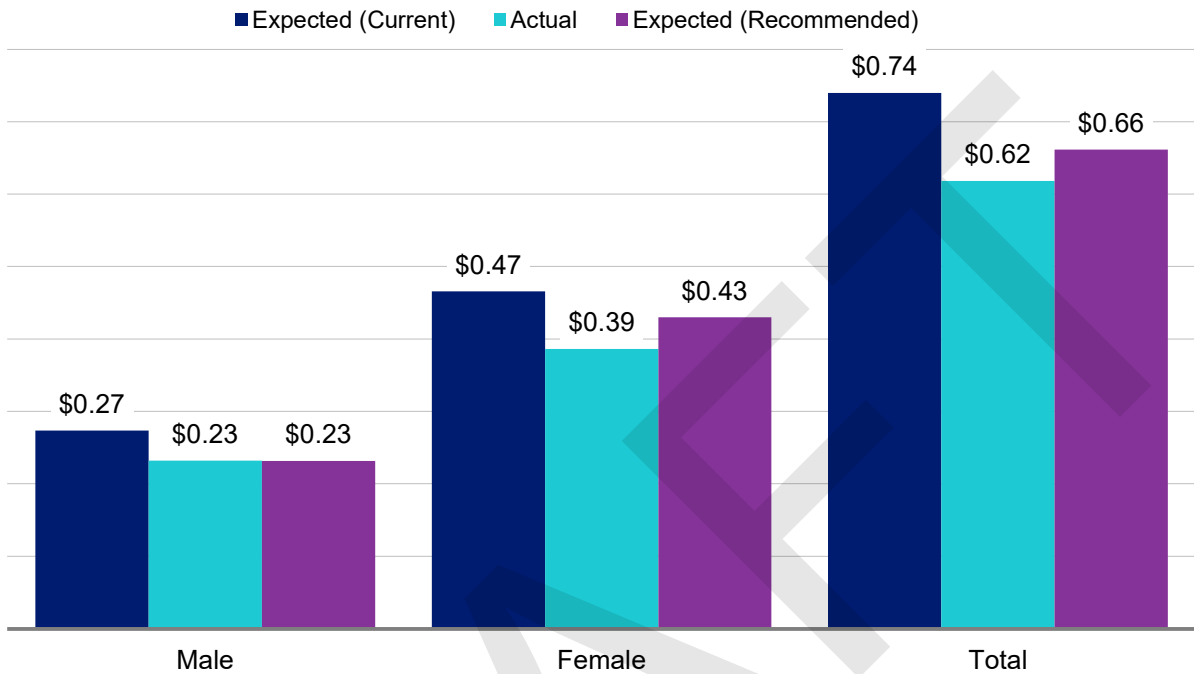
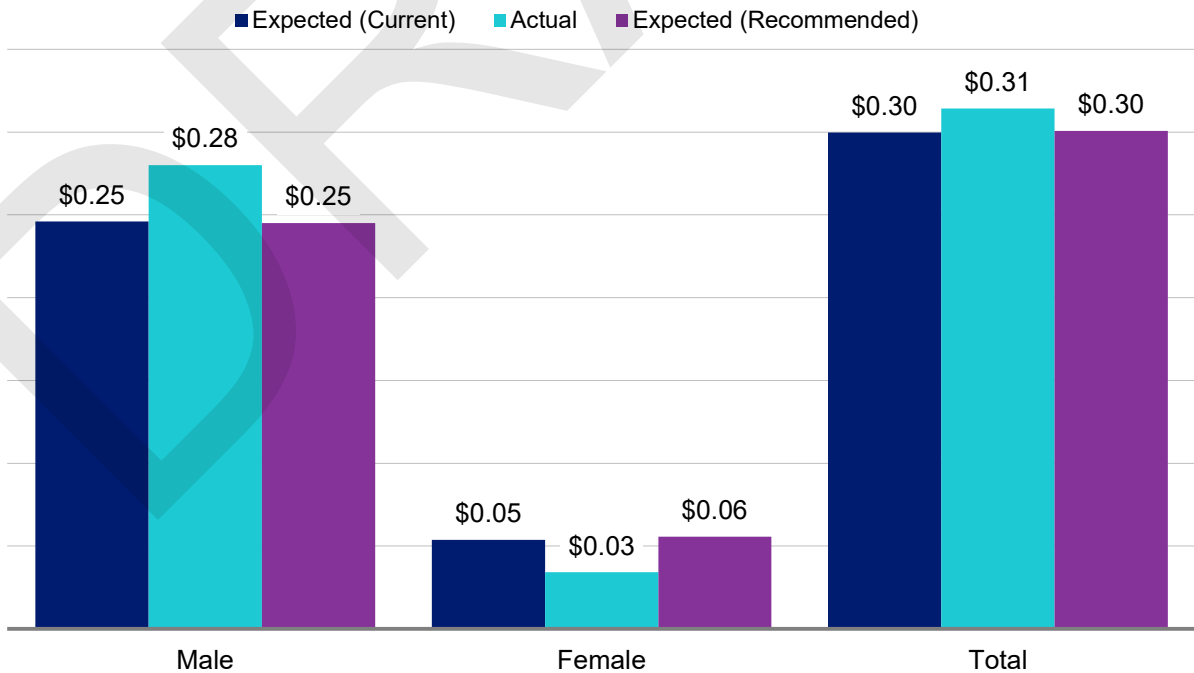


Chart 12: Disability Retired Benefit-Weighted Deaths (\$ in millions)
Safety Members



Section 4: Demographic Assumptions

Chart 13: Disabled Retiree Headcount-Weighted Deaths
General Members

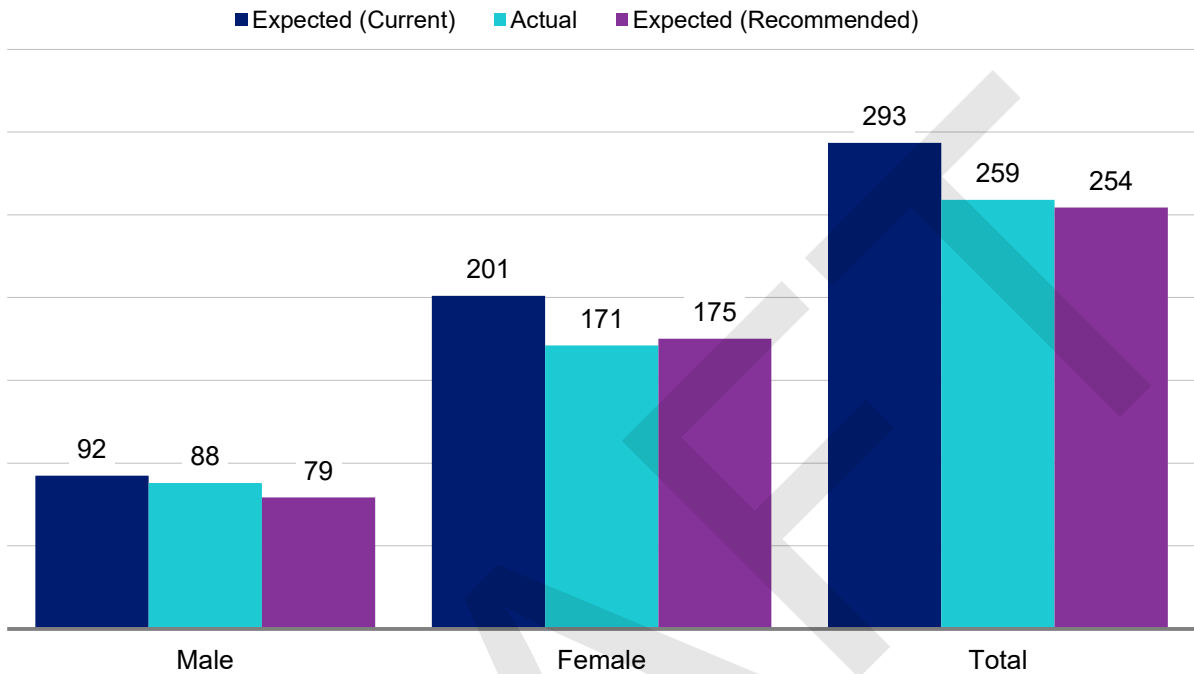
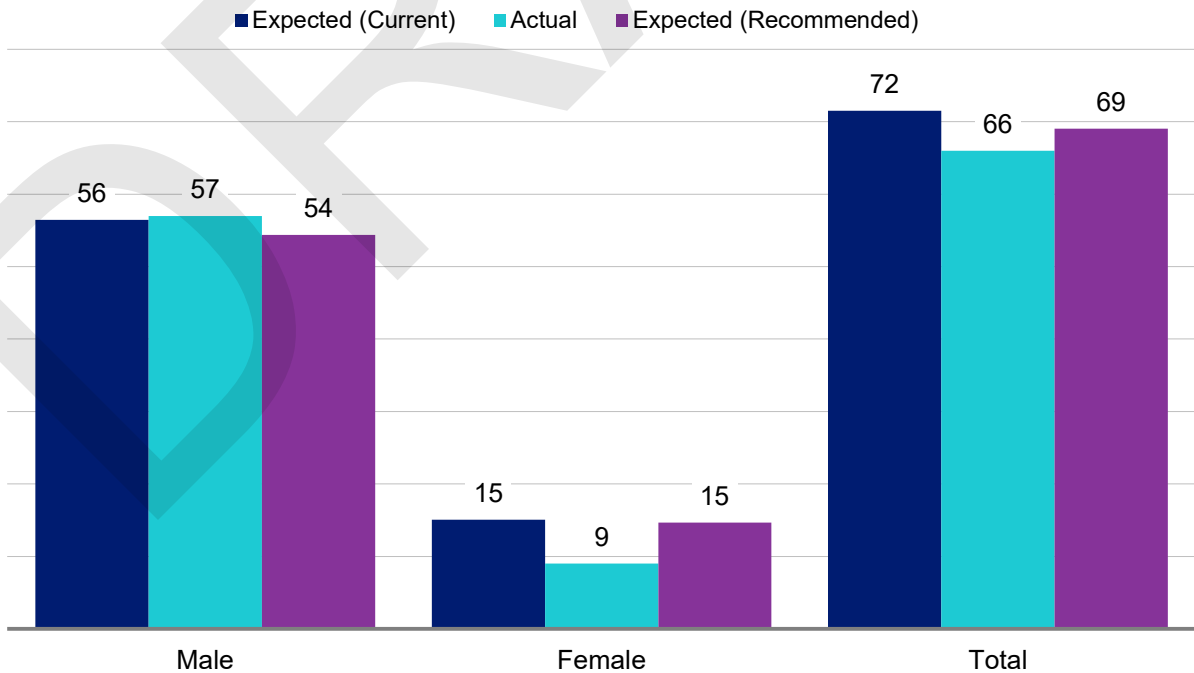


Chart 14: Disabled Retiree Headcount-Weighted Deaths
Safety Members



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Chart 15: Disability Retired Benefit-Weighted Life Expectancies in 2026
General Members

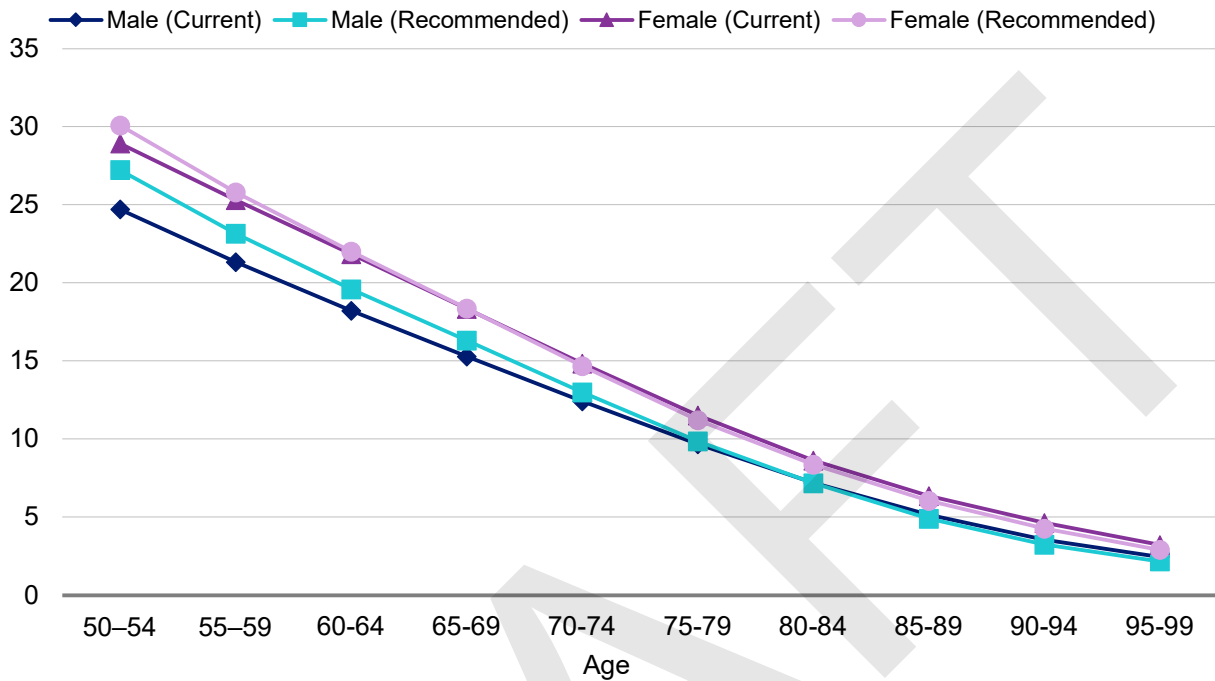
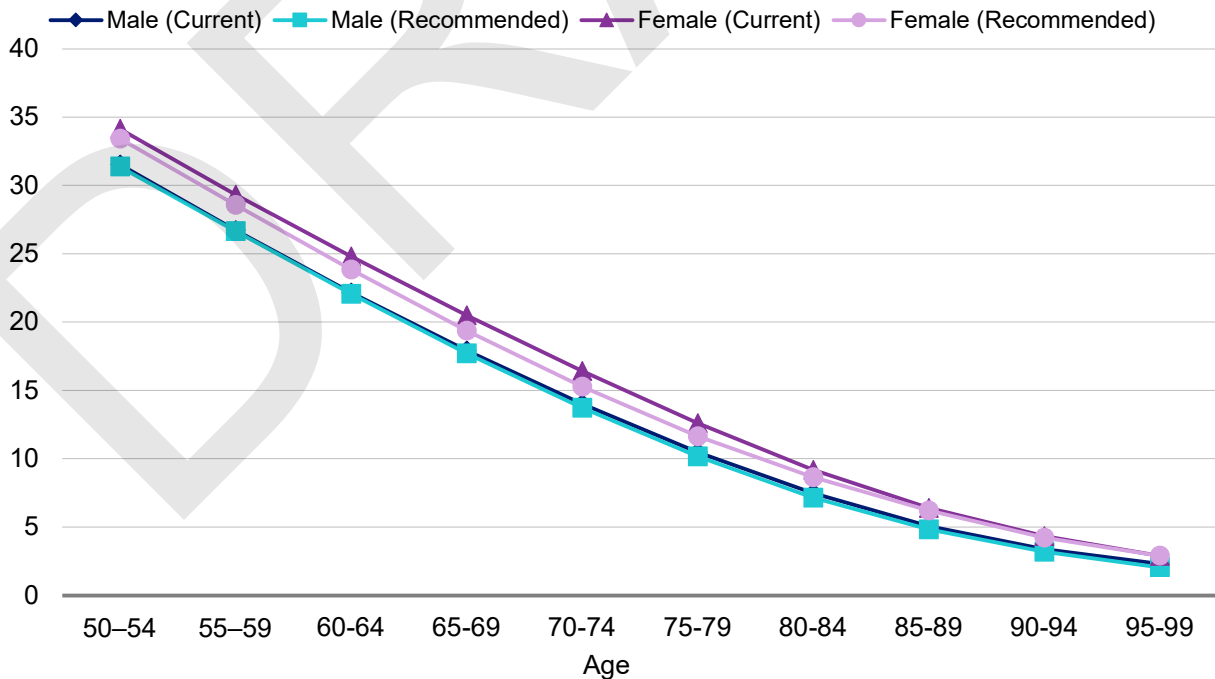


Chart 16: Disability Retired Benefit-Weighted Life Expectancies in 2026
Safety Members



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C. Disability incidence rates

When a member becomes disabled, he or she may be entitled to at least a 50% of pay pension (service connected disability), or a pension that depends upon the member's years of service (non-service connected disability).

Under current assumptions, there is an overall incidence of disability assumed, set as a function of the member's age. This is combined with an assumption that a member will receive either a service connected disability or a non-service connected disability.

We recommend maintaining the current structure of the disability incidence rate assumption.

To increase the credibility of the data, particularly for Safety members, we have also included and considered the actual experience over the past six years. The following tables show the observed overall rate of disability incidence based on actual experience during the three-year period from December 1, 2022 through November 30, 2025 as well as the six-year period from December 1, 2019 through November 30, 2025. Also shown are the current and recommended assumptions.

General — Disability Incidence Rates

Age	Current Expected Rate	Actual Rate (3 Years)	Actual Rate (6 Years)	Recommended Expected Rate
20 – 24	0.00%	0.00%	0.00%	0.00%
25 – 29	0.01%	0.00%	0.00%	0.01%
30 – 34	0.03%	0.00%	0.00%	0.02%
35 – 39	0.06%	0.00%	0.03%	0.04%
40 – 44	0.09%	0.02%	0.02%	0.06%
45 – 49	0.15%	0.09%	0.10%	0.12%
50 – 54	0.25%	0.05%	0.12%	0.20%
55 – 59	0.35%	0.15%	0.32%	0.35%
60 – 64	0.35%	0.21%	0.24%	0.35%
65 – 69	0.50%	0.27%	0.43%	0.45%
70 – 74	0.70%	1.07%	1.14%	0.90%
Actual / Expected (6 Years)	71.5%			79.1%

We recommend decreasing the disability incidence assumption at most ages for General members, while increasing the assumption for members over age 70.

Chart 17 on page 55 compares the number of actual disabilities for General members over the past six years to the current and recommended assumptions.

Chart 18 on page 55 compares the actual disability incidence experience for General members with the current and recommended assumptions.

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Safety – Disability Incidence Rates

Age	Current Expected Rate	Actual Rate (3 Years)	Actual Rate (6 Years)	Recommended Expected Rate
20 – 24	0.00%	0.00%	0.00%	0.00%
25 – 29	0.05%	0.00%	0.00%	0.04%
30 – 34	0.60%	0.51%	0.37%	0.50%
35 – 39	1.20%	1.87%	1.58%	1.40%
40 – 44	1.70%	1.75%	1.53%	1.60%
45 – 49	1.70%	1.35%	1.42%	1.60%
50 – 54	2.75%	2.51%	2.58%	2.70%
55 – 59	4.20%	3.05%	4.13%	4.20%
60 – 64	4.60%	6.08%	4.58%	4.60%
Actual / Expected (6 Years)	95.2%			96.5%

We recommend adjusting the disability incidence assumption at most ages for Safety members, resulting in an overall lower expected disability incidence.

Chart 19 on page 56 compares the number of actual disabilities for Safety members over the past six years to the current and recommended assumptions.

Chart 20 on page 56 compares the actual disability incidence experience for Safety members with the current and recommended assumptions.

Service connected vs. non-service connected disability

The following table shows the observed percent of new disabled members that received a service connected disability based on the actual experience over the past three years as well as the actual experience over the past six years. Also shown are the current and recommended assumptions.

Disabled Members Receiving a Service Connected Disability

Line Description	General	Safety
Current assumption	70%	100%
Actual percent (3 years)	76%	99%
Actual percent (6 years)	73%	99%
Recommended assumption	75%	100%

We recommend increasing the assumption for future disabled members receiving a service connected disability for General members from 70% to 75% and maintaining the assumption for Safety members at 100%. The remaining percentages are assumed to be non-service connected disabilities (25% for General members and 0% for Safety members).

Section 4: Demographic Assumptions

Chart 17: Actual Number of Disabilities Compared to Expected
General Members

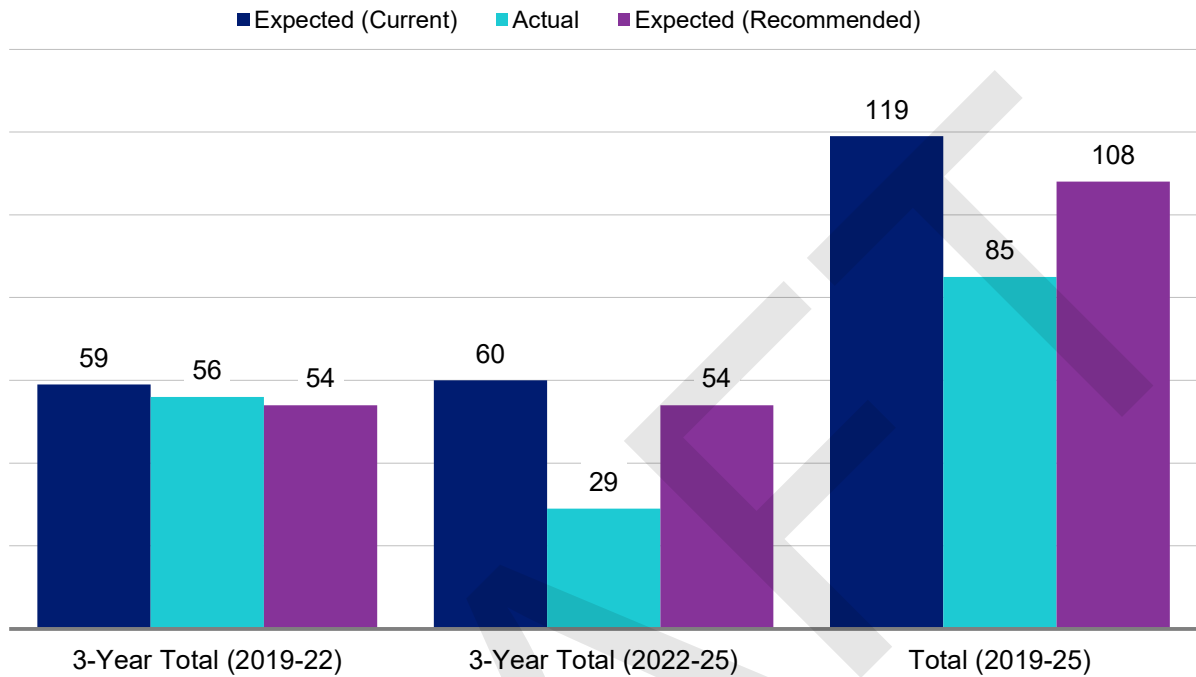
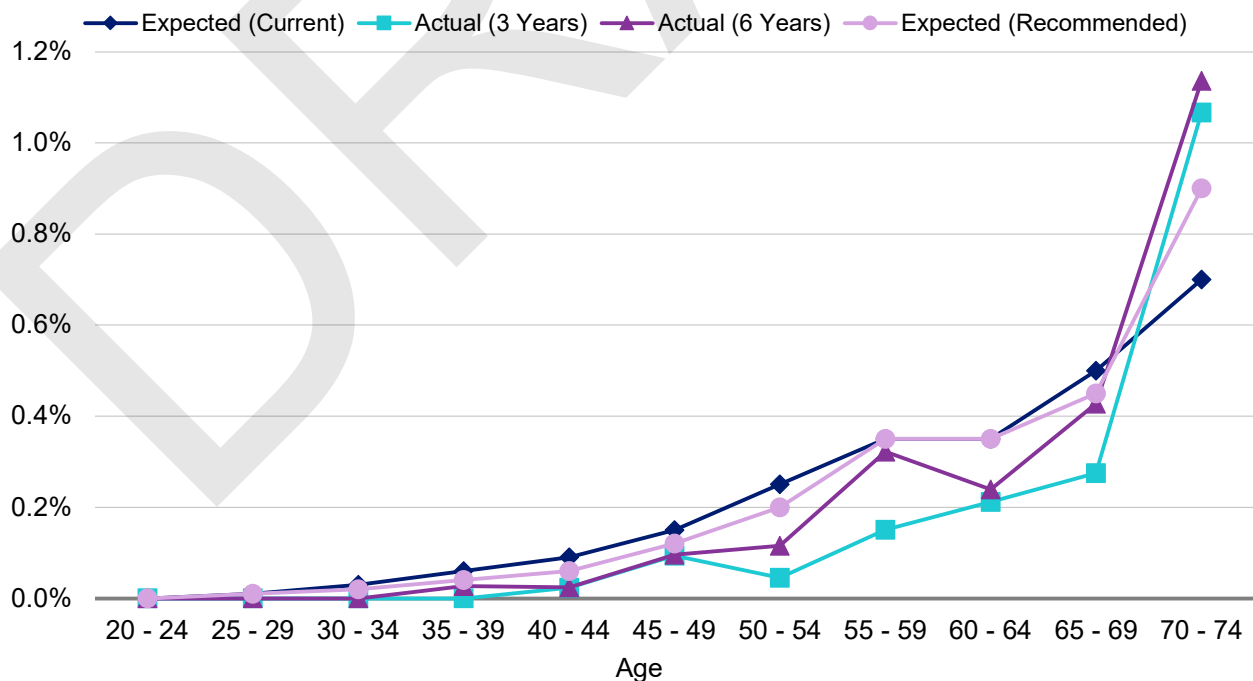


Chart 18: Disability Rates
General Members



Section 4: Demographic Assumptions

Chart 19: Actual Number of Disabilities Compared to Expected
Safety Members

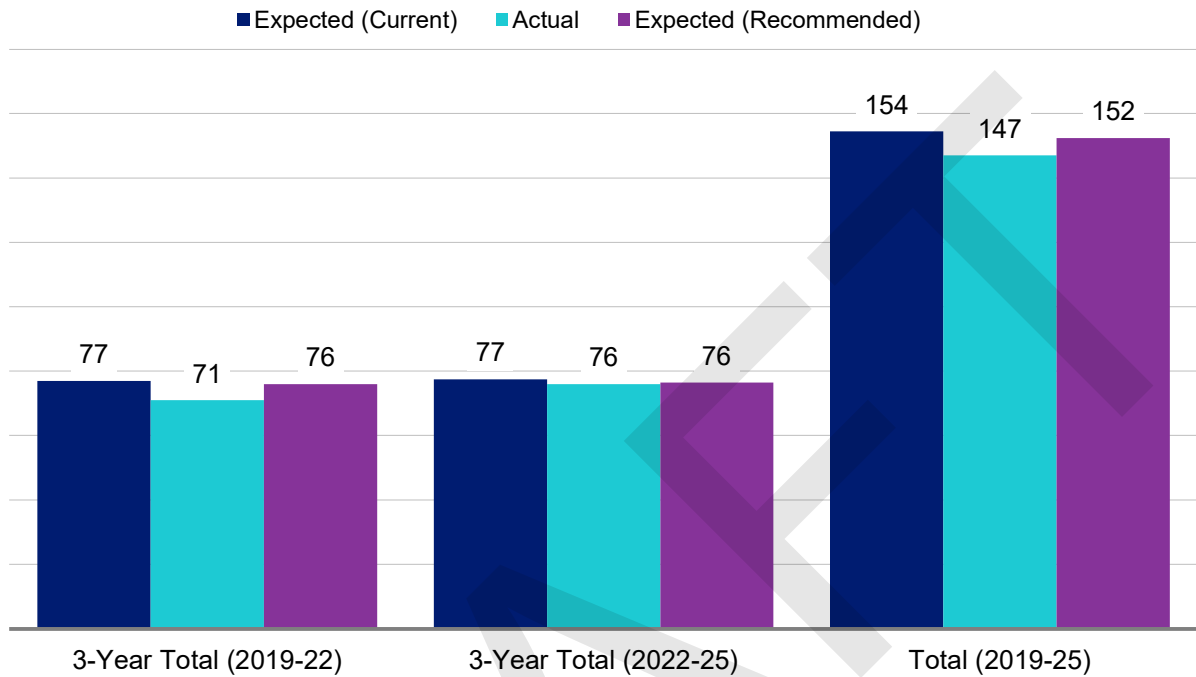
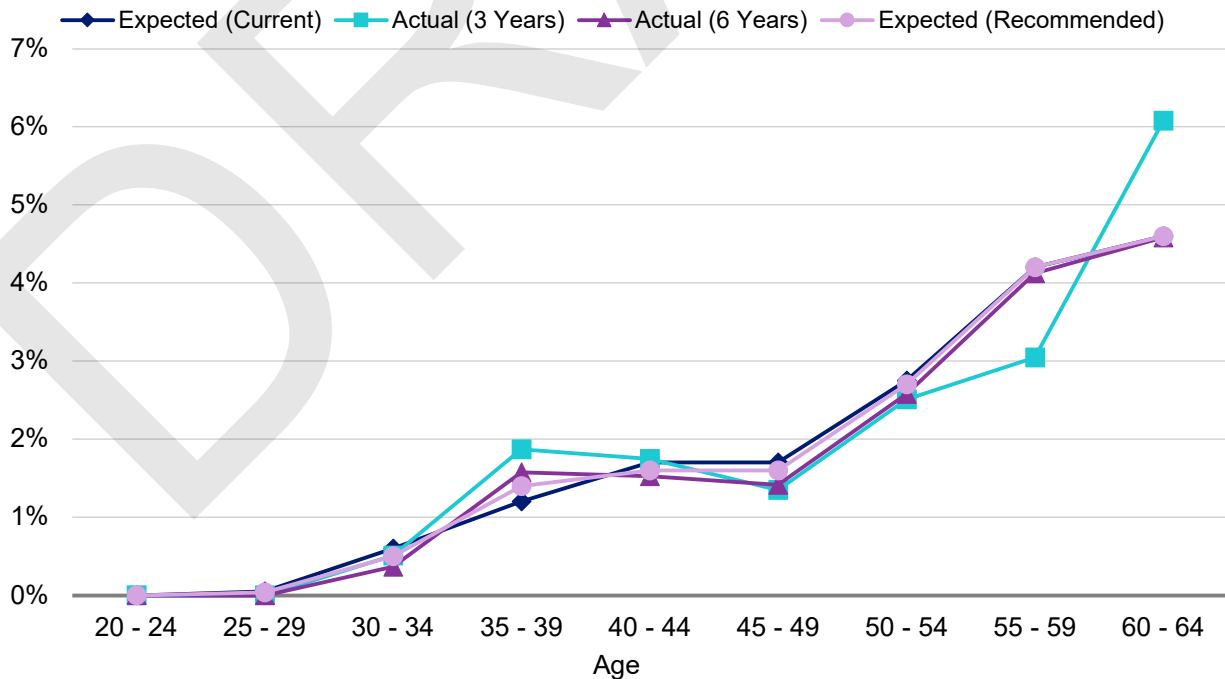


Chart 20: Disability Rates
Safety Members



Section 4: Demographic Assumptions

D. Termination rates

Termination rates include all terminations for reasons other than death, disability, or retirement. Additionally, when a member terminates from service, they can choose between receiving an immediate refund of member contributions or, if they leave their contributions on deposit they will be entitled to a deferred vested benefit.

Under current assumptions, there is an overall incidence of termination assumed, set as a function of the member's years of service and applied until the member is first eligible, and assumed, to retire. This is combined with an assumption that a member will choose between a refund of member contributions and a deferred vested benefit.

We recommend maintaining the current structure of the termination rate assumption.

It is important to note that not every year of service category has enough exposures and/or decrements such that the results for that category are statistically credible even when looking at six years' worth of experience. This is mainly the case for the higher service categories, since most members in those categories are eligible to retire and therefore have been excluded from our review of termination experience.

The following tables show the observed overall rate of termination based on actual experience during the three-year period from December 1, 2022 through November 30, 2025 as well as the six-year period from December 1, 2019 through November 30, 2025. Also shown are the current and recommended assumptions.

Section 4: Demographic Assumptions

General — Termination Rates

Years of Service	Current Expected Rate	Actual Rate (3 Years)	Actual Rate (6 Years)	Recommended Expected Rate
Less than 1	12.25%	12.84%	12.76%	12.50%
1 – 2	9.25%	8.58%	9.04%	9.00%
2 – 3	8.00%	7.08%	7.66%	7.75%
3 – 4	6.25%	5.44%	5.79%	6.00%
4 – 5	6.25%	5.40%	5.95%	6.00%
5 – 6	6.25%	5.25%	6.23%	6.00%
6 – 7	5.75%	5.12%	5.57%	5.75%
7 – 8	5.00%	4.23%	5.02%	5.00%
8 – 9	4.00%	5.02%	4.44%	4.50%
9 – 10	4.00%	3.91%	4.26%	4.00%
10 – 11	4.00%	3.45%	4.03%	4.00%
11 – 12	4.00%	3.66%	3.89%	4.00%
12 – 13	3.25%	5.09%	3.69%	3.75%
13 – 14	3.25%	4.50%	3.35%	3.50%
14 – 15	3.25%	2.87%	2.74%	3.00%
15 – 16	3.25%	2.82%	3.65%	3.00%
16 – 17	3.00%	2.33%	2.25%	2.75%
17 – 18	3.00%	1.28%	1.89%	2.75%
18 – 19	3.00%	2.39%	3.01%	2.75%
19 – 20	2.75%	3.97%	2.21%	2.50%
20 or more	2.75%	1.32%	2.12%	2.25%
Actual / Expected (6 Years)	98.7%			99.9%

We recommend adjusting the termination rates at certain service categories for General members. Overall, the proposed rates represent a slight decrease from the current rates for General members.

Chart 21 on page 61 compares the number of actual to expected terminations for General members over the past six years for the current and recommended assumptions.

Chart 22 on page 61 compares the actual terminations experience for General members with the current and recommended assumptions.

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Safety – Termination Rates

Years of Service	Current Expected Rate	Actual Rate (3 Years)	Actual Rate (6 Years)	Recommended Expected Rate
Less than 1	5.20%	13.30%	10.29% ³⁶	5.75%
1 – 2	4.20%	6.81%	5.16% ³⁷	4.25%
2 – 3	4.20%	4.00%	4.10%	4.25%
3 – 4	4.00%	5.16%	4.18%	4.00%
4 – 5	4.00%	3.41%	3.36%	4.00%
5 – 6	4.00%	3.73%	5.56%	4.00%
6 – 7	4.00%	1.53%	6.31%	3.75%
7 – 8	2.40%	0.87%	2.12%	2.00%
8 – 9	2.00%	1.35%	1.45%	2.00%
9 – 10	2.00%	2.61%	1.63%	2.00%
10 – 11	2.00%	0.00%	2.21%	2.00%
11 – 12	2.00%	1.74%	1.48%	2.00%
12 – 13	2.00%	4.11%	3.61%	2.00%
13 – 14	2.00%	1.96%	1.53%	2.00%
14 – 15	2.00%	0.00%	2.08%	2.00%
15 – 16	1.50%	0.75%	1.11%	1.50%
16 – 17	1.40%	2.38%	1.56%	1.40%
17 – 18	1.30%	0.64%	0.86%	1.30%
18 – 19	1.20%	0.98%	1.05%	1.20%
19 – 20	1.10%	0.00%	0.57%	1.10%
20 or more	1.00%	N/A	100.00%	1.00%
Actual / Expected (6 Years)	118.1%			117.7%

For Safety members it is especially important to note that due to the overall low level of termination, many of the years of service categories do not have enough decrements to be statistically credible. Therefore, while we are recommending adjustments based on the actual rates we have seen over the past six years, we have not increased or decreased the rates (after considering credibility) by as much as the actual rates may seem to imply.

We recommend adjusting the termination rates at certain service categories for Safety members. Overall, the proposed rates represent a slight increase from the current rates for Safety members.

³⁶ The actual termination rate observed for this service category for 2023 was atypical at over 20% compared to the actual rate of about 6.27% for the 6-year period excluding 2023. Accordingly, we have excluded the 2023 experience in setting the recommended rate for this service category.

³⁷ The actual termination rate observed for this service category for 2023 was atypical at over 10% compared to the actual rate of about 3.26% for the 6-year period excluding 2023. Accordingly, we have excluded the 2023 experience in setting the recommended rate for this service category.

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Chart 23 on page 62 compares the number of actual to expected terminations for Safety members over the past six years for the current and recommended assumptions.

Chart 24 on page 62 compares the actual terminations experience for Safety members under the current and recommended assumptions.

Election of refund of member contributions

As mentioned above, when a member terminates from service, they can choose between receiving an immediate refund of member contributions or, if they leave their contributions on deposit, they will be entitled to a deferred vested benefit.

The following table shows the observed percent of members who elected a refund of contributions based on the actual experience during the three-year period from December 1, 2022 through November 30, 2025 as well as the six-year period from December 1, 2019 through November 30, 2025. Also shown are the current and recommended assumptions.

General – Percent of Total Terminations Assumed to Receive Refund of Contributions

Line Description	Less than 5 Years of Service	5 or More Years of Service
Current assumption	55.0%	25.0%
Actual percent (3 years)	56.7%	30.7%
Actual percent (6 years)	54.5%	26.7%
Recommended assumption	55.0%	25.0%

Safety – Percent of Total Terminations Assumed to Receive Refund of Contributions

Line Description	Less than 5 Years of Service	5 or More Years of Service
Current assumption	55.0%	25.0%
Actual percent (3 years)	49.4%	17.9%
Actual percent (6 years)	52.7%	22.3%
Recommended assumption	55.0%	25.0%

We recommend maintaining the assumptions for the percentage of members electing a refund of contributions. The assumed percent of members who leave their contributions on deposit and receive a deferred vested benefit is equal to 100% minus the percent assumed to elect a refund of contributions.

Section 4: Demographic Assumptions

Chart 21: Actual Number of Terminations Compared to Expected
General Members

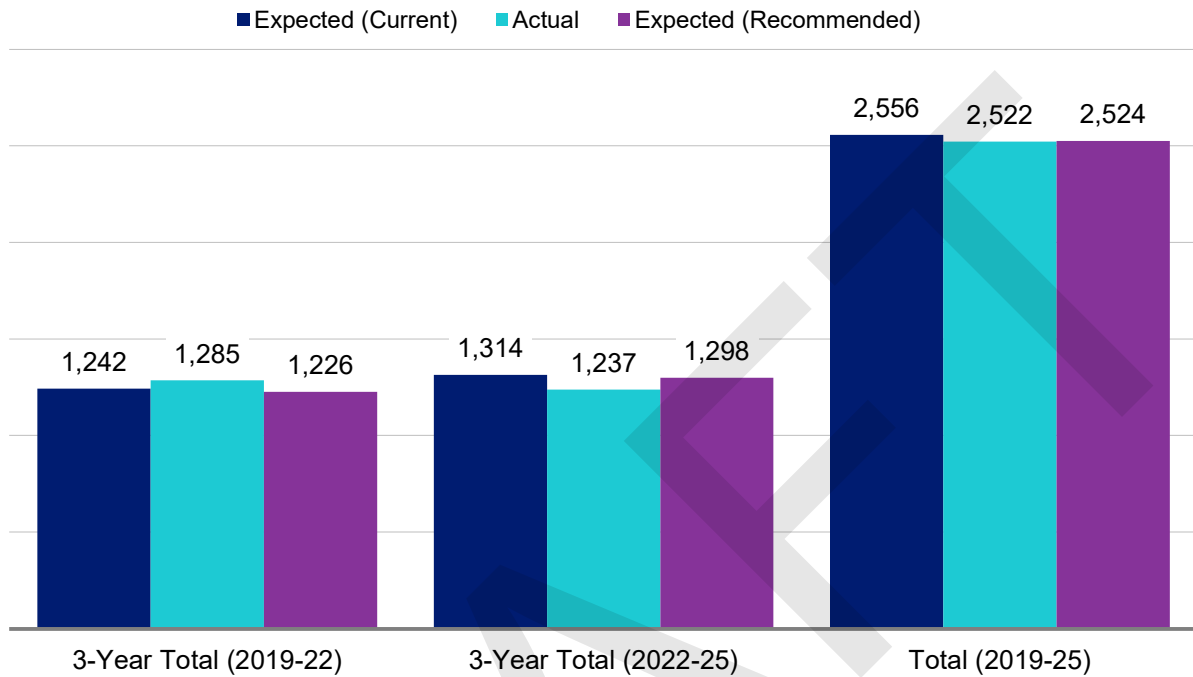
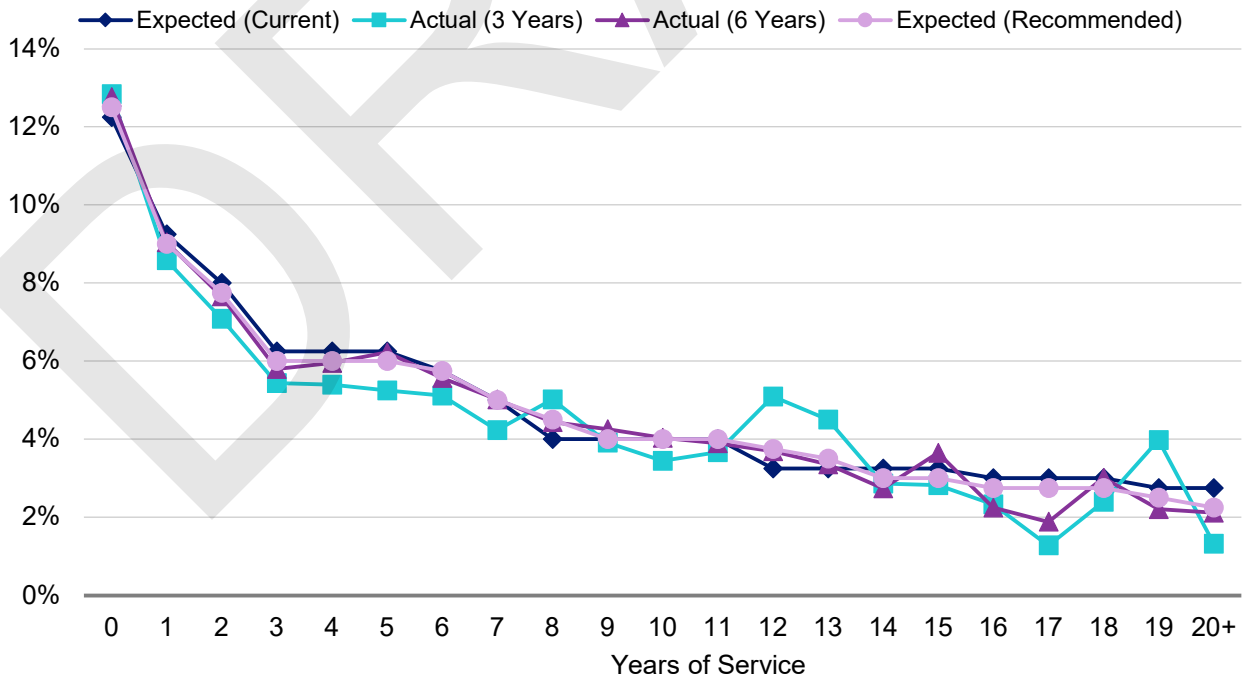


Chart 22: Termination Rates
General Members



Section 4: Demographic Assumptions

Chart 23: Actual Number of Terminations Compared to Expected
Safety Members

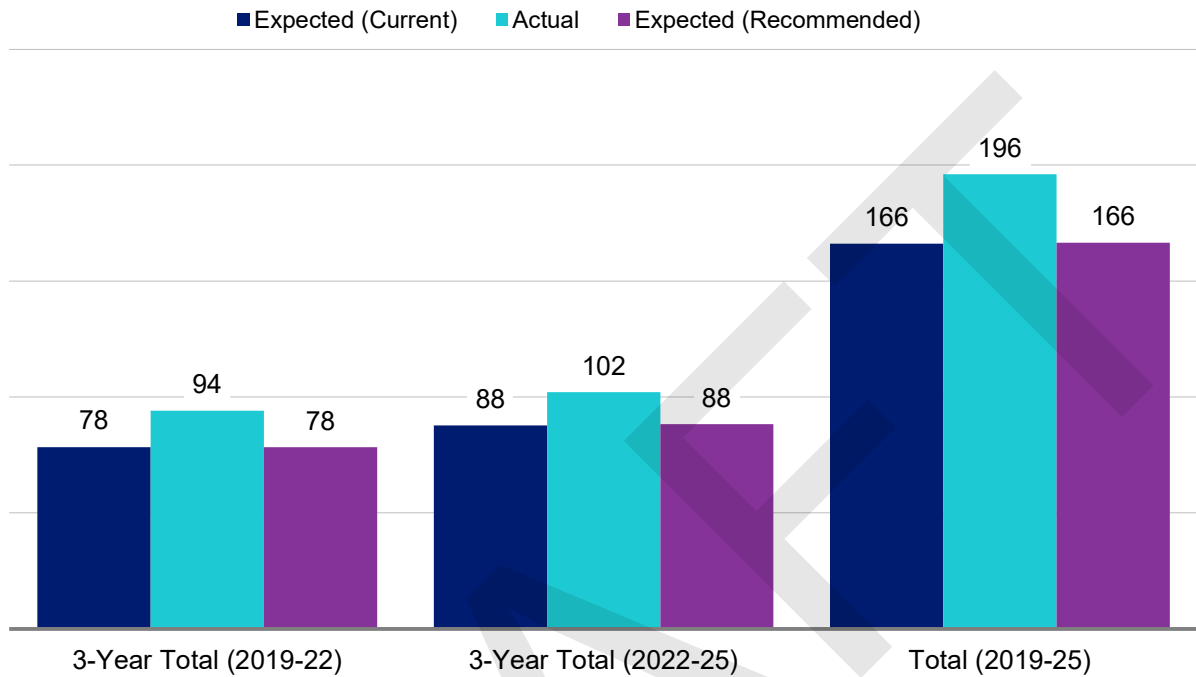
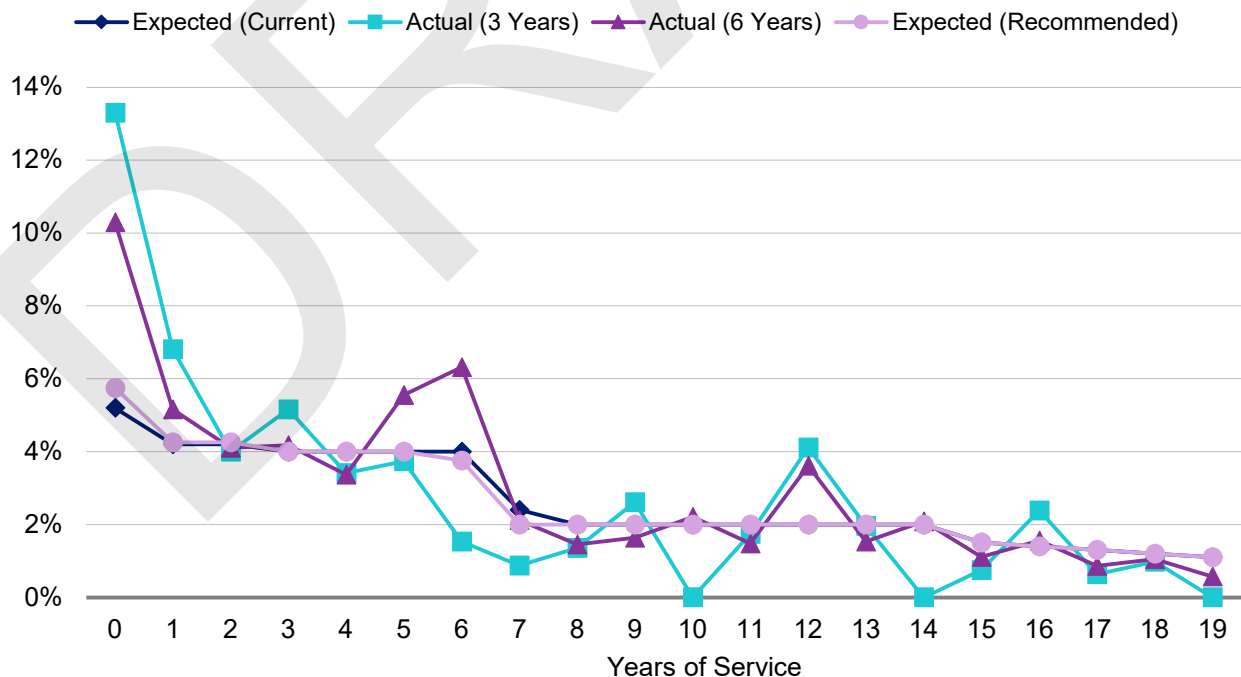


Chart 24: Termination Rates
Safety Members



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E. Retirement rates

The age at which a member retires from service will affect both the amount of benefits that will be paid to that member as well as the period over which funding must take place.

The Association's current retirement rates for the non-PEPRA plans³⁸ are separated into:

1. General Tier 1
2. General Tier 2
3. General Tier 3
4. Safety Tier 2 (and Safety Tier 2D)
5. Safety Tier 2C

For members who are covered under the PEPRA plans, the retirement rates are separated into:

1. General Tier 4
2. Safety Tier 4

Currently, the assumed retirement rates for General Tier 2, General Tier 4, Safety Tiers 2 and 2D, and Safety Tier 4 are a function of both age and years of service (YOS). For General Tiers 1 and 3 and Safety Tier 2C³⁹ that are closed to new entrants and have relatively fewer active members, we will continue to recommend that retirement rates be structured as a function of only age.

To increase the credibility of the data, we have also included and considered the actual experience over the past six years. The following tables show the observed service retirement rates based on actual experience during the three-year period from December 1, 2022 through November 30, 2025 as well as the six-year period from December 1, 2019 through November 30, 2025. Also shown are the current and recommended assumptions.

Chart 25 on page 72 compares the number of actual to expected retirements for General members over the past six years for the current and recommended assumptions.

Chart 26 on page 72 compares the number of actual to expected retirements for Safety members over the past six years for the current and recommended assumptions.

³⁸ We have not proposed retirement assumptions for Safety Tier 1 members because there are no more Safety Tier 1 active members as of the December 31, 2025 valuation date.

³⁹ Safety Tier 2C also includes a retirement rate of 100% after a member accrues a benefit of 100% of final average earnings.

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General Tier 1 — Retirement Rates

Age	Current Expected Rate	Actual Rate (3 Years)	Actual Rate (6 Years)	Recomm. Expected Rate
50	2.00%	0.00%	0.00%	2.00%
51	4.00%	0.00%	0.00%	4.00%
52	4.00%	0.00%	0.00%	4.00%
53	5.00%	0.00%	0.00%	5.00%
54	5.00%	0.00%	0.00%	5.00%
55	6.00%	40.00%	16.67%	6.00%
56	10.00%	0.00%	0.00%	10.00%
57	14.00%	0.00%	11.76%	14.00%
58	14.00%	14.29%	15.79%	14.00%
59	14.00%	11.11%	13.64%	14.00%
60	25.00%	14.29%	21.74%	25.00%
61	25.00%	28.57%	40.00%	25.00%
62	30.00%	33.33%	27.78%	30.00%
63	26.00%	40.00%	21.43%	24.00%
64	26.00%	16.67%	21.88%	24.00%
65	26.00%	12.50%	18.18%	24.00%
66	26.00%	13.33%	21.88%	24.00%
67	26.00%	23.08%	26.67%	24.00%
68	26.00%	20.00%	21.74%	24.00%
69	31.00%	0.00%	11.76%	26.00%
70	36.00%	40.00%	41.18%	34.00%
71	36.00%	25.00%	12.50%	34.00%
72	36.00%	0.00%	16.67%	34.00%
73	36.00%	50.00%	66.67%	34.00%
74	36.00%	0.00%	0.00%	34.00%
75 and over	100.00%	12.50%	12.50%	100.00%
Actual / Expected (6 Years)	72.4%			75.6%

We recommend decreasing the retirement rates overall for General Tier 1 members age 63 and older.

Chart 27 on page 73 compares the actual retirement experience with the current and recommended assumptions for General Tier 1 members.

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General Tier 2 — Retirement Rates

Age	<30 YOS Current Expected Rate	<30 YOS Actual Rate (3 Years)	<30 YOS Actual Rate (6 Years)	<30 YOS Recomm. Expected Rate	30+ YOS Current Expected Rate	30+ YOS Actual Rate (3 Years)	30+ YOS Actual Rate (6 Years)	30+ YOS Recomm. Expected Rate
50	1.50%	1.62%	1.43%	1.50%	3.00%	0.00%	0.00%	2.00%
51	1.50%	0.87%	1.12%	1.50%	3.00%	0.00%	0.00%	2.00%
52	2.00%	0.97%	1.38%	1.50%	3.00%	0.00%	0.00%	2.00%
53	2.00%	1.49%	1.52%	1.50%	3.00%	0.00%	0.00%	2.00%
54	2.50%	2.16%	2.55%	2.50%	3.00%	0.00%	1.37%	2.50%
55	3.00%	2.58%	3.18%	3.00%	5.00%	7.32%	6.09%	6.00%
56	3.50%	4.23%	4.22%	4.00%	5.00%	3.23%	4.05%	6.00%
57	4.00%	3.82%	4.05%	4.00%	5.00%	12.36%	7.39%	6.00%
58	4.50%	4.03%	4.58%	4.50%	7.00%	6.36%	7.30%	7.00%
59	5.00%	5.47%	5.40%	5.00%	10.00%	8.87%	10.53%	10.00%
60	7.50%	7.28%	7.20%	7.50%	12.00%	12.86%	14.62%	12.00%
61	9.50%	8.22%	9.27%	9.50%	12.00%	13.33%	11.39%	12.00%
62	15.00%	10.82%	14.23%	14.00%	23.00%	31.53%	27.62%	25.00%
63	15.00%	13.87%	13.76%	14.00%	25.00%	19.77%	23.08%	25.00%
64	17.00%	13.31%	14.70%	15.00%	28.00%	21.74%	25.40%	25.00%
65	27.00%	18.45%	23.41%	25.00%	35.00%	40.00%	42.16%	38.00%
66	27.00%	21.03%	22.04%	25.00%	35.00%	27.27%	36.36%	35.00%
67	27.00%	22.79%	22.94%	25.00%	35.00%	35.29%	38.64%	35.00%
68	30.00%	30.19%	29.11%	27.00%	35.00%	21.43%	21.21%	35.00%
69	30.00%	16.67%	21.29%	27.00%	35.00%	41.18%	37.04%	35.00%
70	30.00%	37.70%	29.17%	27.00%	30.00%	15.38%	11.11%	27.00%
71	30.00%	13.95%	16.19%	27.00%	30.00%	22.22%	11.76%	27.00%
72	30.00%	27.78%	28.00%	27.00%	30.00%	0.00%	20.00%	27.00%
73	30.00%	12.90%	15.69%	27.00%	30.00%	28.57%	18.18%	27.00%
74	30.00%	27.27%	25.81%	27.00%	30.00%	12.50%	18.18%	27.00%
75 and over	100.00%	25.71%	28.74%	100.00%	100.00%	41.18%	34.38%	100.00%
Actual / Expected (6 Years)	86.3%			91.5%	96.3%			95.3%
Actual / Expected (6 Years, exclude 75 and over)	90.3%			96.2%	101.7%			100.5%

We recommend decreasing the retirement rates overall for General Tier 2 members with less than 30 years of service and increasing the retirement rates overall for those with 30 or more years of service.

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Chart 28 on page 73 compares the actual retirement experience with the current and recommended assumptions for General Tier 2 members with less than 30 years of service.

Chart 29 on page 74 compares the actual retirement experience with the current and recommended assumptions for General Tier 2 members with 30 or more years of service.

General Tier 3 – Retirement Rates

Age	Current Expected Rate	Actual Rate (3 Years)	Actual Rate (6 Years)	Recomm. Expected Rate
50	10.00%	N/A	0.00%	10.00%
51	10.00%	100.00%	33.33%	10.00%
52	10.00%	N/A	0.00%	10.00%
53	10.00%	N/A	33.33%	10.00%
54	10.00%	0.00%	0.00%	10.00%
55	12.00%	100.00%	33.33%	12.00%
56	14.00%	0.00%	0.00%	13.00%
57	16.00%	0.00%	0.00%	14.00%
58	18.00%	0.00%	0.00%	15.00%
59	20.00%	0.00%	0.00%	15.00%
60	20.00%	25.00%	16.67%	20.00%
61	20.00%	25.00%	16.67%	20.00%
62	30.00%	N/A	0.00%	25.00%
63	25.00%	0.00%	0.00%	25.00%
64	25.00%	0.00%	0.00%	25.00%
65	50.00%	50.00%	50.00%	50.00%
66	50.00%	N/A	0.00%	50.00%
67	50.00%	0.00%	50.00%	50.00%
68	50.00%	100.00%	100.00%	50.00%
69	50.00%	N/A	N/A	50.00%
70	60.00%	N/A	N/A	50.00%
71	60.00%	N/A	N/A	50.00%
72	60.00%	N/A	N/A	50.00%
73	60.00%	N/A	N/A	50.00%
74	60.00%	N/A	N/A	50.00%
75 and over	100.00%	N/A	N/A	100.00%
Actual / Expected (6 Years)	65.2%			68.6%

We recommend decreasing the retirement rates overall for General Tier 3 members.

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Chart 30 on page 74 compares the actual retirement experience with the current and recommended assumptions for General Tier 3 members.

General Tier 4 — Retirement Rates

Age	<30 YOS Current Expected Rate	<30 YOS Actual Rate (3 Years)	<30 YOS Actual Rate (6 Years)	<30 YOS Recomm. Expected Rate	30+ YOS Current Expected Rate	30+ YOS Recomm. Expected Rate
52	3.00%	1.19%	0.78%	2.00%	3.00%	3.00%
53	2.00%	0.00%	0.00%	1.50%	2.00%	2.00%
54	2.00%	0.60%	0.87%	1.50%	2.00%	2.00%
55	2.00%	1.23%	0.88%	1.50%	5.00%	2.00%
56	2.00%	0.00%	0.50%	1.50%	2.50%	2.00%
57	2.00%	3.85%	2.66%	2.50%	3.50%	4.00%
58	4.00%	0.78%	2.63%	3.00%	4.00%	4.00%
59	4.00%	1.98%	2.31%	3.00%	4.50%	4.00%
60	4.00%	2.68%	2.72%	3.00%	5.00%	5.00%
61	4.00%	2.56%	2.19%	3.00%	5.00%	5.00%
62	12.00%	0.89%	2.27%	9.00%	18.00%	15.00%
63	12.00%	5.04%	5.20%	9.00%	15.00%	15.00%
64	12.00%	7.34%	6.96%	9.00%	17.00%	15.00%
65	23.00%	10.89%	13.43%	20.00%	25.00%	25.00%
66	23.00%	11.54%	13.76%	20.00%	30.00%	25.00%
67	23.00%	21.05%	17.44%	20.00%	30.00%	25.00%
68	23.00%	16.13%	15.79%	20.00%	30.00%	25.00%
69	20.00%	19.23%	13.95%	20.00%	30.00%	25.00%
70	20.00%	16.22%	20.00%	20.00%	25.00%	25.00%
71	20.00%	17.24%	11.36%	20.00%	25.00%	25.00%
72	20.00%	22.22%	19.35%	20.00%	25.00%	25.00%
73	20.00%	5.56%	3.85%	20.00%	25.00%	25.00%
74	20.00%	15.38%	10.53%	20.00%	25.00%	25.00%
75 and over	100.00%	17.39%	17.07%	100.00%	100.00%	100.00%
Actual / Expected (6 Years)	51.2%			59.2%		

We recommend decreasing the retirement rates overall for General Tier 4 members with less than 30 years of service. There was only one active member with 30 or more years of service in General Tier 4 over the past three years, so no actual rates for that group are shown in the above table. We have based our recommended rates for General Tier 4 members with 30 or more years of service on a combination of the current assumptions,

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the recommended rates for General Tier 4 members with less than 30 years of experience, and the recommended rates for General Tier 2 members.

Chart 31 on page 75 compares the actual retirement experience with the current and recommended assumptions for General Tier 4 members with less than 30 years of service.

Chart 32 on page 75 compares the actual retirement experience with the current and recommended assumptions for General Tier 4 members with 30 or more years of service.

Safety Tier 2 and Tier 2D — Retirement Rates

Age	<30 YOS Current Expected Rate	<30 YOS Actual Rate (3 Years)	<30 YOS Actual Rate (6 Years)	<30 YOS Recomm. Expected Rate	30+ YOS Current Expected Rate	30+ YOS Actual Rate (3 Years)	30+ YOS Actual Rate (6 Years)	30+ YOS Recomm. Expected Rate
45	2.00%	3.66%	4.39%	3.00%	0.00%	N/A	N/A	0.00%
46	2.00%	0.00%	2.25%	2.00%	0.00%	N/A	N/A	0.00%
47	2.00%	2.22%	1.87%	2.00%	0.00%	N/A	N/A	0.00%
48	4.00%	3.33%	4.76%	4.00%	0.00%	N/A	N/A	0.00%
49	10.00%	7.50%	7.78%	9.00%	18.00%	N/A	100.00%	18.00%
50	14.00%	17.99%	17.14%	15.00%	18.00%	N/A	N/A	18.00%
51	10.00%	14.29%	11.30%	11.00%	24.00%	N/A	100.00%	24.00%
52	10.00%	13.27%	9.64%	11.00%	24.00%	N/A	N/A	24.00%
53	10.00%	9.76%	12.02%	11.00%	25.00%	0.00%	0.00%	24.00%
54	11.00%	9.41%	7.55%	11.00%	27.00%	0.00%	20.00%	24.00%
55	11.00%	15.38%	15.87%	13.00%	29.00%	0.00%	12.50%	24.00%
56	12.00%	8.06%	9.26%	11.00%	32.00%	50.00%	37.50%	32.00%
57	12.00%	13.33%	9.89%	11.00%	32.00%	50.00%	25.00%	32.00%
58	14.00%	18.42%	15.19%	14.00%	37.00%	N/A	33.33%	40.00%
59	14.00%	20.00%	14.04%	14.00%	37.00%	100.00%	75.00%	40.00%
60	30.00%	14.71%	20.00%	25.00%	37.00%	100.00%	66.67%	45.00%
61	30.00%	4.55%	24.44%	25.00%	37.00%	100.00%	66.67%	45.00%
62	30.00%	23.53%	33.33%	30.00%	37.00%	N/A	0.00%	45.00%
63	30.00%	33.33%	31.58%	30.00%	37.00%	N/A	50.00%	45.00%
64	30.00%	20.00%	18.18%	30.00%	37.00%	0.00%	50.00%	45.00%
65 and over	100.00%	11.11%	23.53%	100.00%	100.00%	40.00%	25.00%	100.00%
Actual / Expected (6 Years)	88.4%			87.3%	87.6%			85.6%
Actual / Expected (6 Years, exclude 65 and over)	101.5%			99.9%	121.3%			117.1%

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We recommend an overall increase in the retirement rates for Safety Tier 2 and Tier 2D members with less than 30 years of service, and for those with 30 or more years of service.

Chart 33 on page 76 compares the actual retirement experience with the current and recommended assumptions for Safety Tier 2 and Tier 2D members with less than 30 years of service.

Chart 34 on page 76 compares the actual retirement experience with the current and recommended assumptions for Safety Tier 2 and Tier 2D members with 30 or more years of service.

Safety Tier 2C — Retirement Rates

Age	Current Expected Rate	Actual Rate (3 Years)	Actual Rate (6 Years)	Recomm. Expected Rate
50	4.00%	0.00%	25.00%	4.00%
51	2.00%	0.00%	0.00%	2.00%
52	2.00%	0.00%	0.00%	2.00%
53	3.00%	0.00%	0.00%	3.00%
54	6.00%	0.00%	0.00%	6.00%
55	10.00%	100.00%	100.00%	10.00%
56	12.00%	N/A	N/A	12.00%
57	20.00%	N/A	N/A	20.00%
58	10.00%	N/A	N/A	10.00%
59	15.00%	100.00%	100.00%	15.00%
60	40.00%	100.00%	100.00%	37.00%
61	40.00%	N/A	N/A	37.00%
62	40.00%	0.00%	N/A	37.00%
63	40.00%	0.00%	0.00%	37.00%
64	40.00%	0.00%	0.00%	37.00%
65 and over	100.00%	0.00%	0.00%	100.00%
Actual / Expected (6 Years)	153.8%			159.7%

Due to very limited experience, we are not recommending any changes in the retirement rates for Safety Tier 2C members at ages 50-59. Based on changes we recommend for Safety Tier 2 and Safety Tier 4 at ages 60-64, we recommend decreasing the retirement rates for Safety Tier 2C members age 60 and older.

Chart 35 on page 77 compares the actual retirement experience with the current and recommended assumptions for Safety Tier 2C members.

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Safety Tier 4 — Retirement Rates

Age	<30 YOS Current Expected Rate	<30 YOS Actual Rate (3 Years)	<30 YOS Actual Rate (6 Years)	<30 YOS Recomm. Expected Rate	30+ YOS Current Expected Rate	30+ YOS Recomm. Expected Rate
50	4.00%	0.00%	0.00%	3.00%	4.00%	3.00%
51	2.00%	0.00%	0.00%	2.00%	2.00%	2.00%
52	2.00%	0.00%	0.00%	2.00%	2.00%	2.00%
53	3.00%	0.00%	0.00%	2.00%	3.00%	2.00%
54	6.00%	0.00%	0.00%	5.00%	6.00%	5.00%
55	10.00%	0.00%	9.09%	10.00%	10.00%	10.00%
56	12.00%	12.50%	5.26%	10.00%	12.00%	12.00%
57	20.00%	7.14%	16.00%	18.00%	20.00%	20.00%
58	10.00%	11.11%	13.33%	10.00%	10.00%	10.00%
59	15.00%	0.00%	7.14%	10.00%	15.00%	15.00%
60	40.00%	14.29%	15.38%	30.00%	60.00%	50.00%
61	40.00%	14.29%	18.75%	30.00%	60.00%	50.00%
62	40.00%	0.00%	0.00%	30.00%	60.00%	50.00%
63	40.00%	20.00%	25.00%	30.00%	60.00%	50.00%
64	40.00%	0.00%	0.00%	30.00%	60.00%	50.00%
65 and over	100.00%	0.00%	0.00%	100.00%	100.00%	100.00%
Actual / Expected (6 Years)	39.4%			48.1%		

We recommend decreasing the retirement rates overall for Safety Tier 4 members with less than 30 years of service and for those with 30 or more years of service. There were no active members with 30 or more years of service in Safety Tier 4 over the past three years, so no actual rates for that group are shown in the above table. We have based our recommended rates for Safety Tier 4 members with 30 or more years of service on a combination of the current assumptions, the recommended rates for Safety Tier 4 members with less than 30 years of experience, and the recommended rates for Safety Tier 2 and Tier 2D members.

Chart 36 on page 77 compares the actual retirement experience with the current and recommended assumptions for Safety Tier 4 members with less than 30 years of service.

Chart 37 on page 78 compares the actual retirement experience with the current and recommended assumptions for Safety Tier 4 members with 30 or more years of service.

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Deferred vested members

The following tables show the observed deferred vested retirement age based on the actual experience over the past six years, separately for those who went on to work at a reciprocal retirement association and those that did not. Also shown are the current and recommended assumptions.

General Members' Deferred Vested Retirement Age

Line Description	Reciprocal Members	Non-Reciprocal Members
Current assumption	61.0	62.0
Actual average age (6 years)	61.3	62.8
Recommended assumption	61.0	62.0

We recommend maintaining the General deferred vested retirement assumption at age 61 for those covered by a reciprocal retirement system and age 62 for those who are non-reciprocal.

Safety Members' Deferred Vested Retirement Age

Line Description	Reciprocal Members	Non-Reciprocal Members
Current assumption	55.0	56.0
Actual average age (6 years)	54.8	54.3
Recommended assumption	55.0	55.0

We recommend maintaining the Safety deferred vested retirement assumption at age 55 for those covered by a reciprocal retirement system and decreasing the assumption from age 56 to age 55 for those who are non-reciprocal.

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Chart 25: Actual Number of Retirements Compared to Expected
General Members

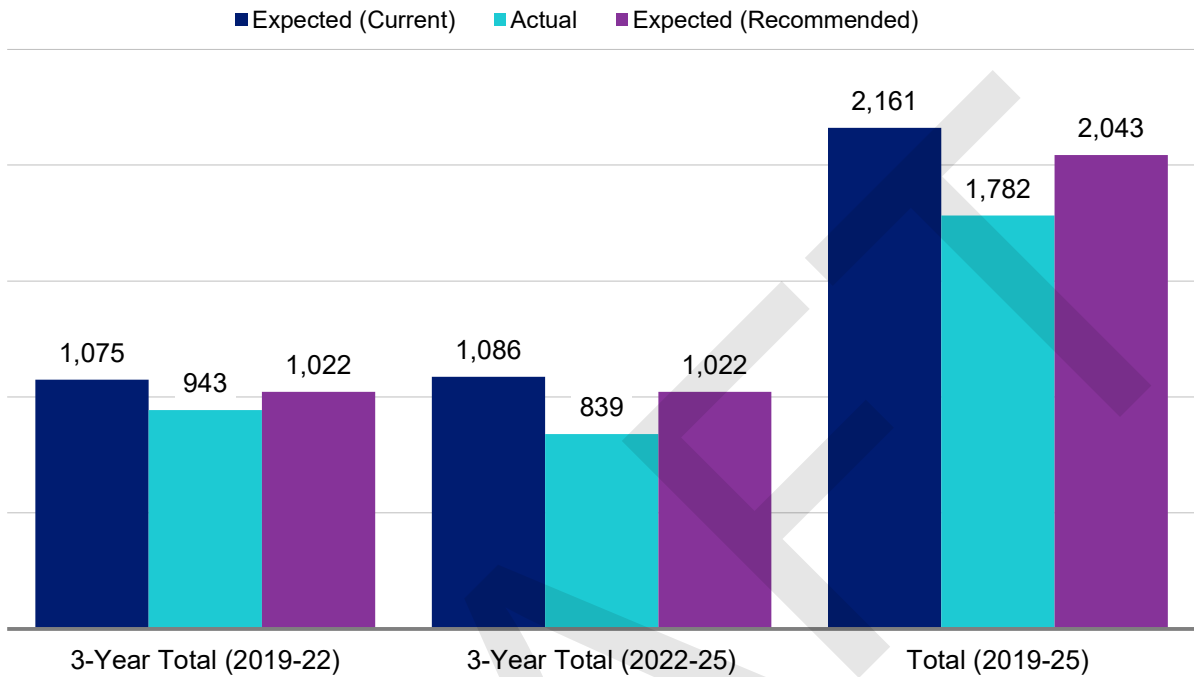
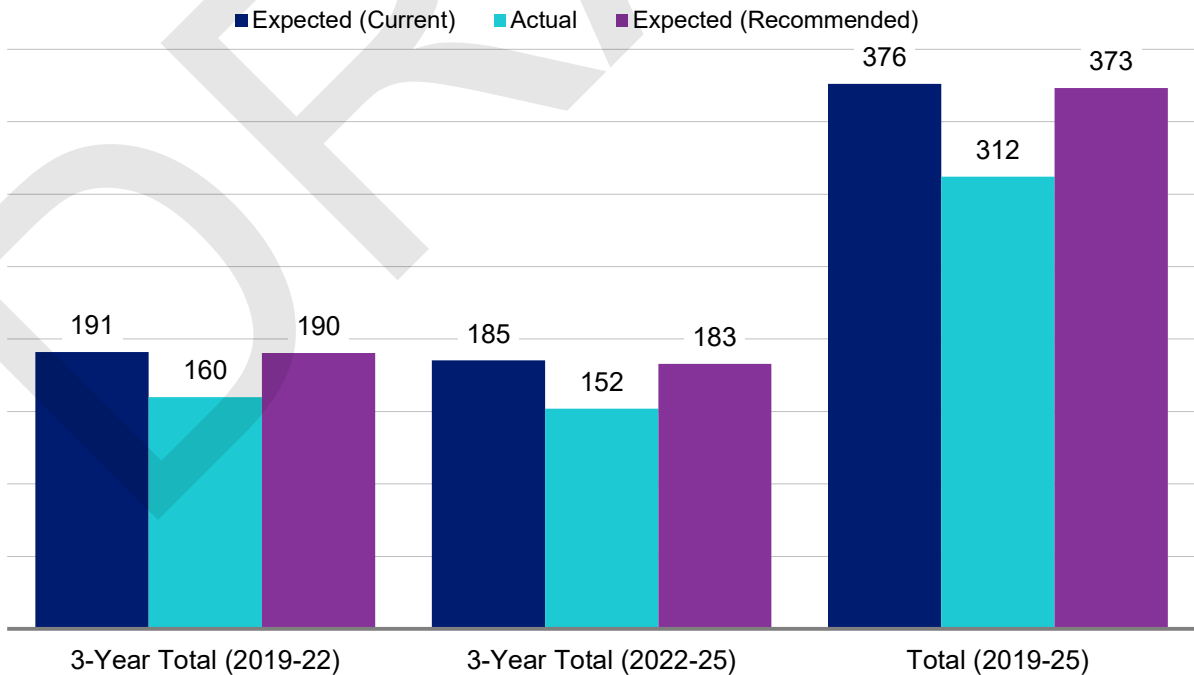


Chart 26: Actual Number of Retirements Compared to Expected
Safety Members



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Chart 27: Retirement Rates
General Tier 1 Members

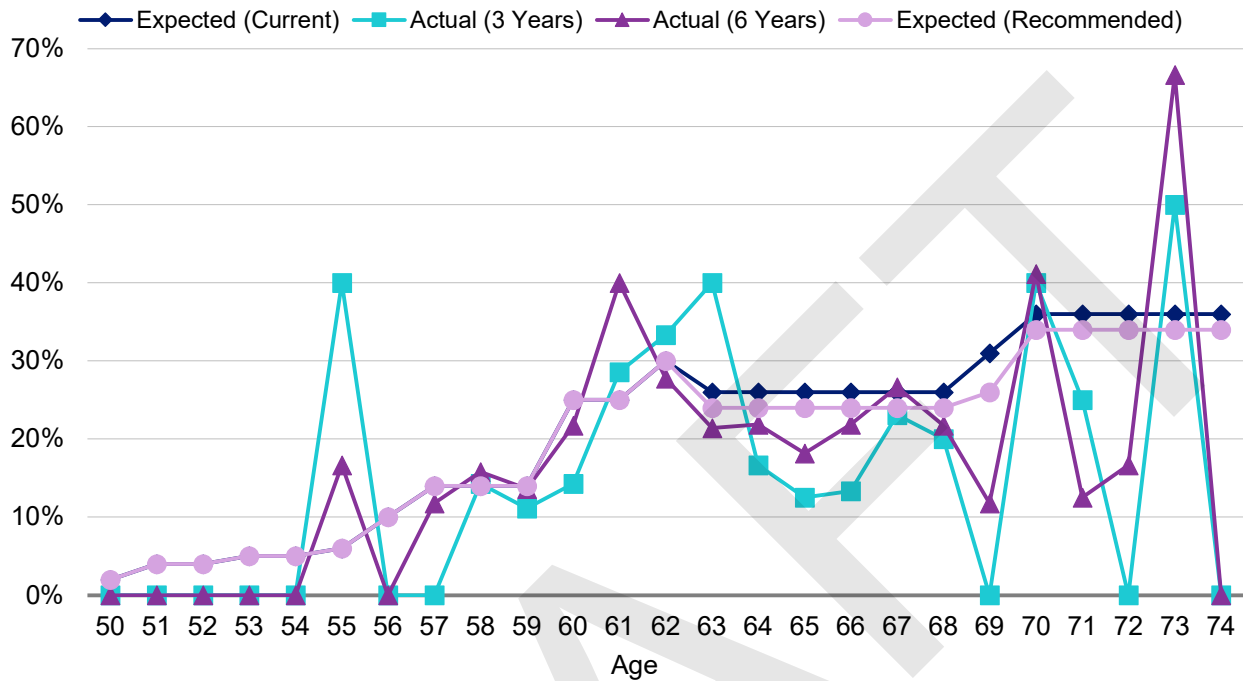
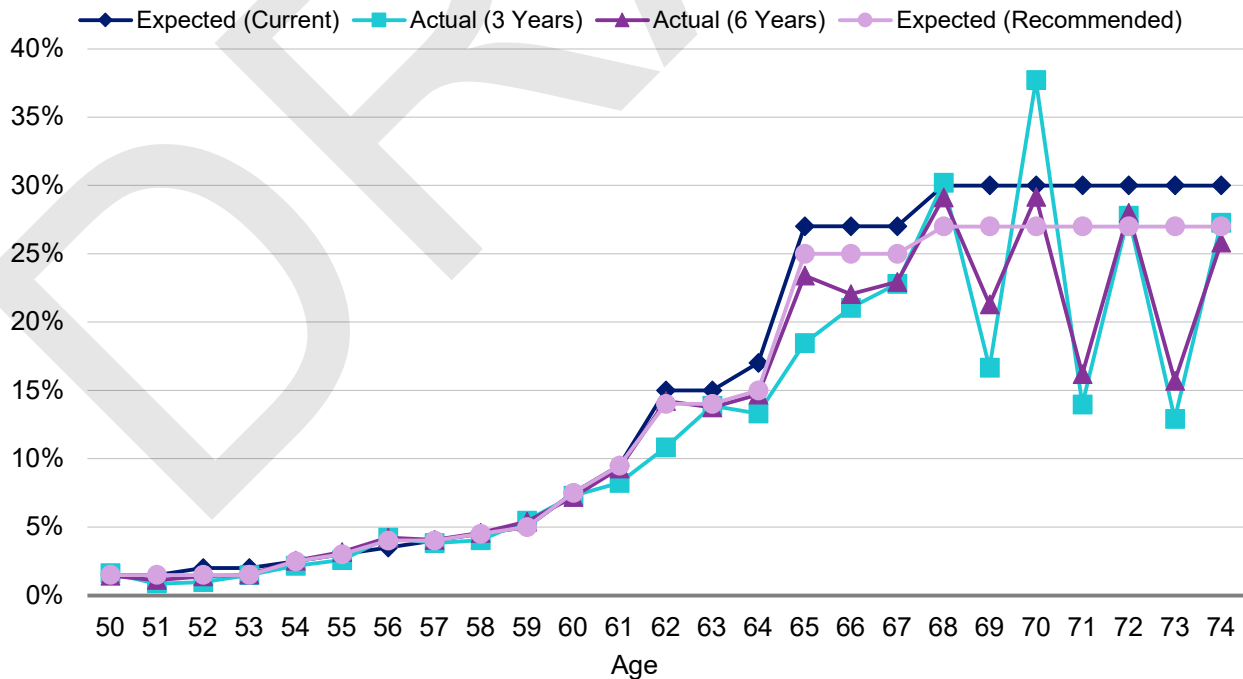


Chart 28: Retirement Rates
General Tier 2 Members with less than 30 Years of Service



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Chart 29: Retirement Rates

General Tier 2 Members with 30 or more Years of Service

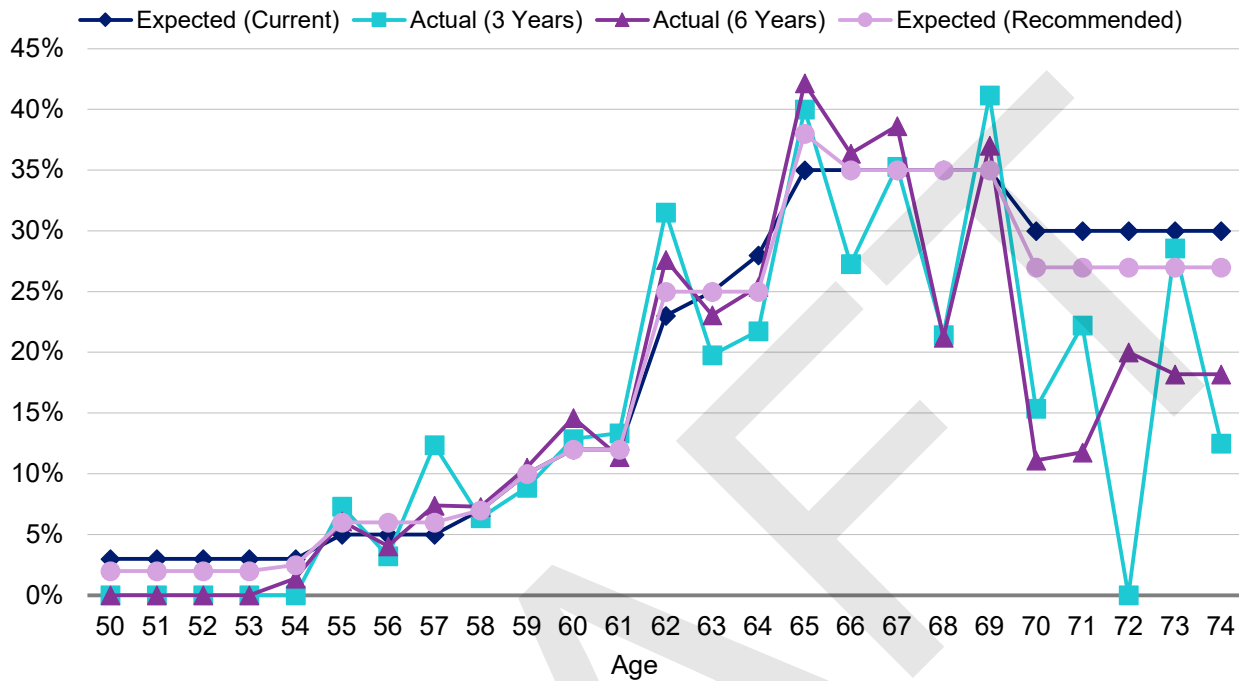
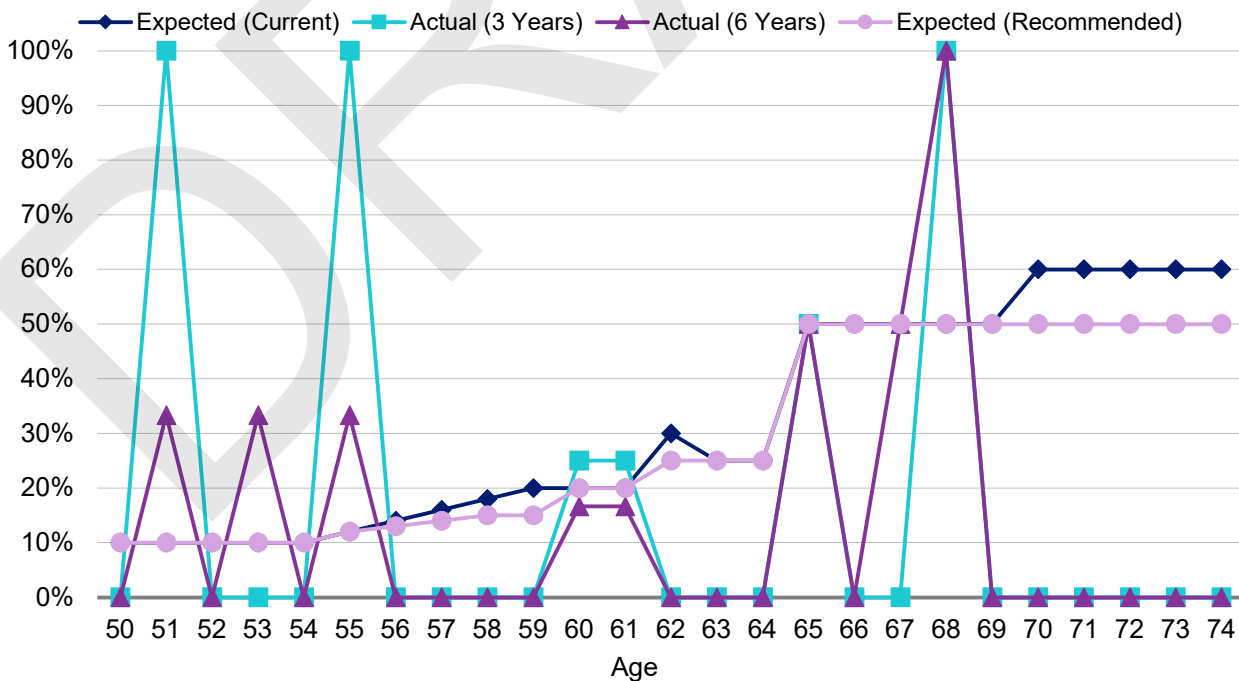


Chart 30: Retirement Rates

General Tier 3 Members



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Chart 31: Retirement Rates

General Tier 4 Members with less than 30 Years of Service

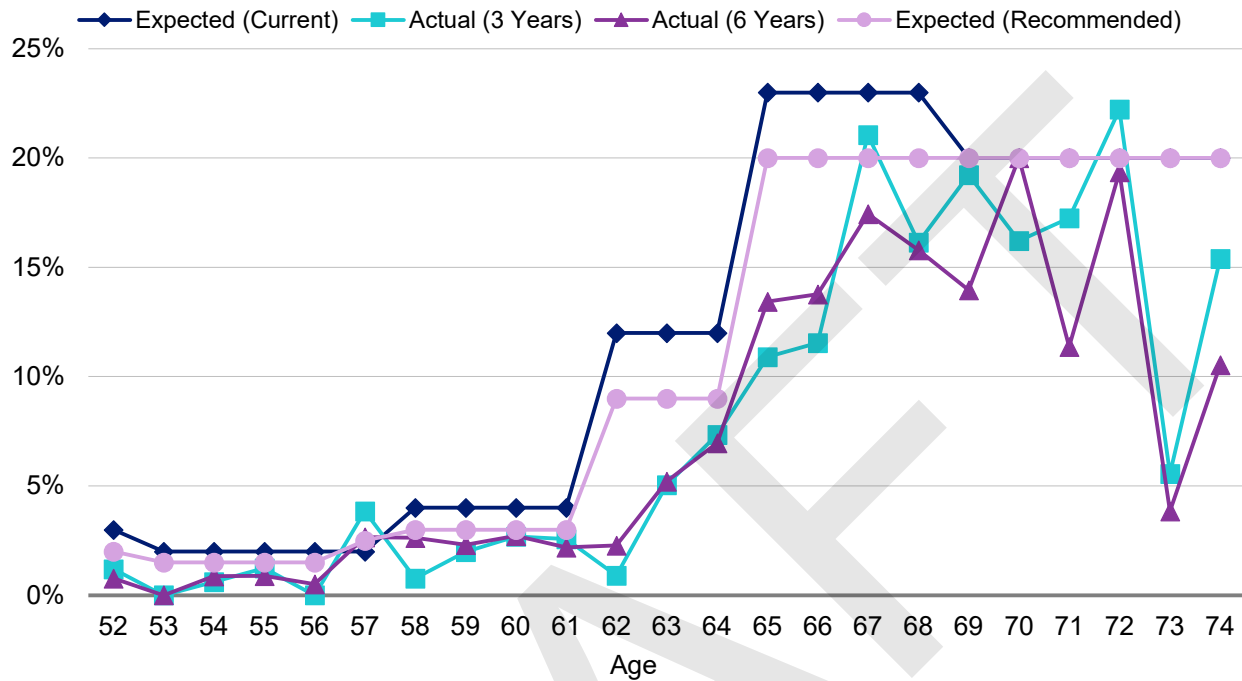
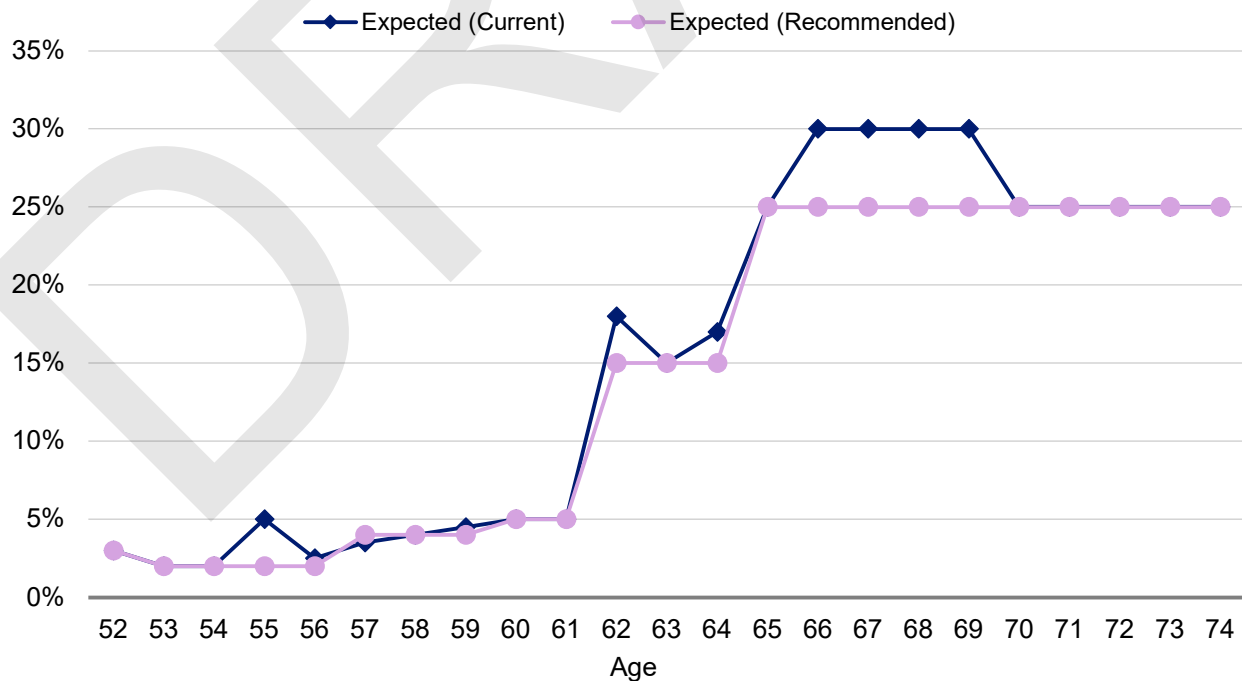


Chart 32: Retirement Rates

General Tier 4 Members with 30 or more Years of Service



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Chart 33: Retirement Rates

Safety Tier 2 and 2D Members with less than 30 Years of Service

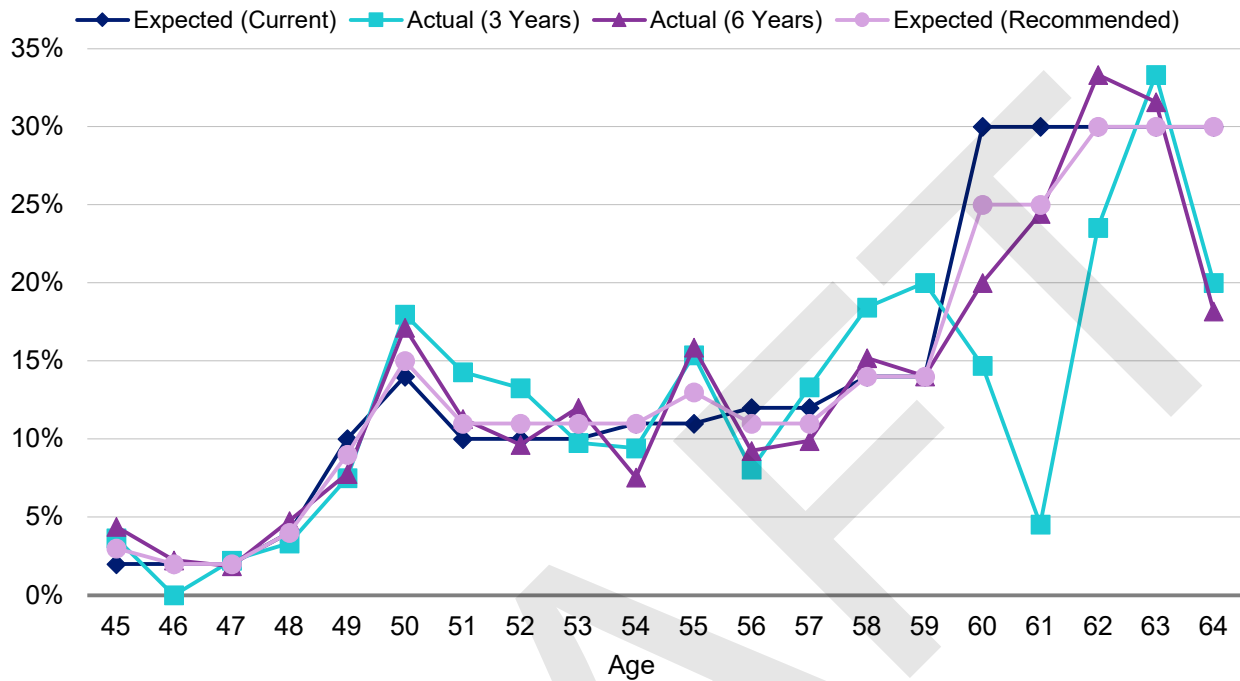
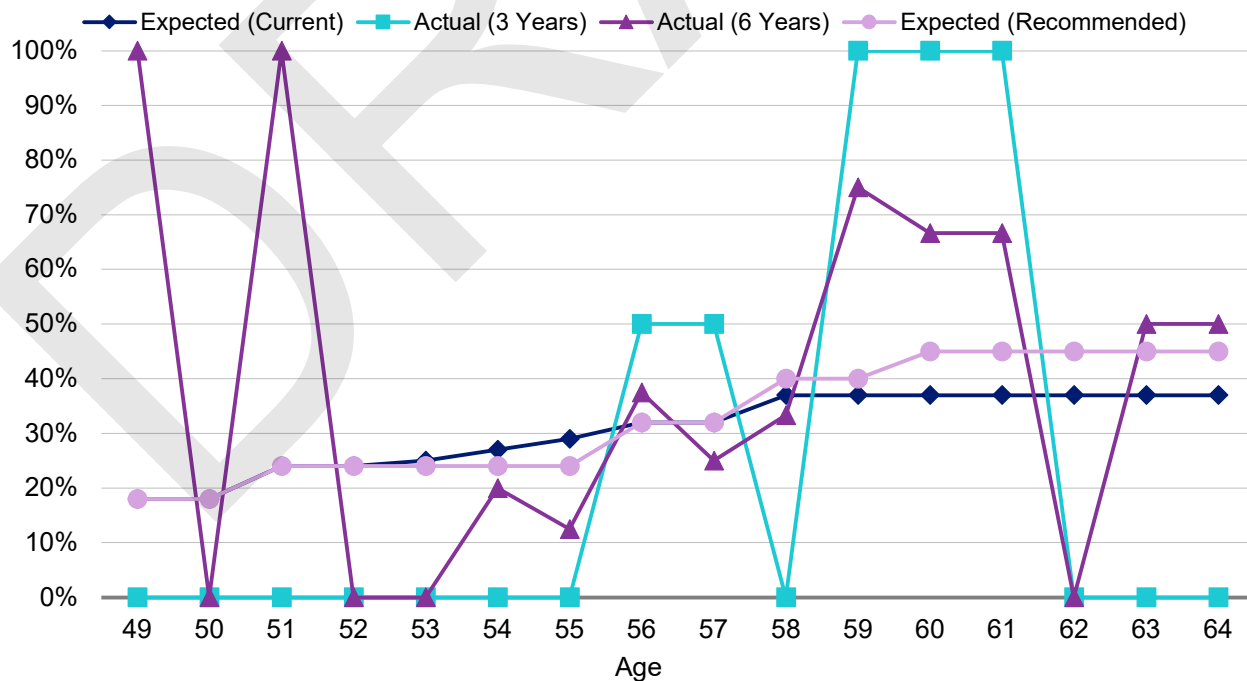


Chart 34: Retirement Rates

Safety Tier 2 and 2D Members with 30 or more Years of Service



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Chart 35: Retirement Rates
Safety Tier 2C Members

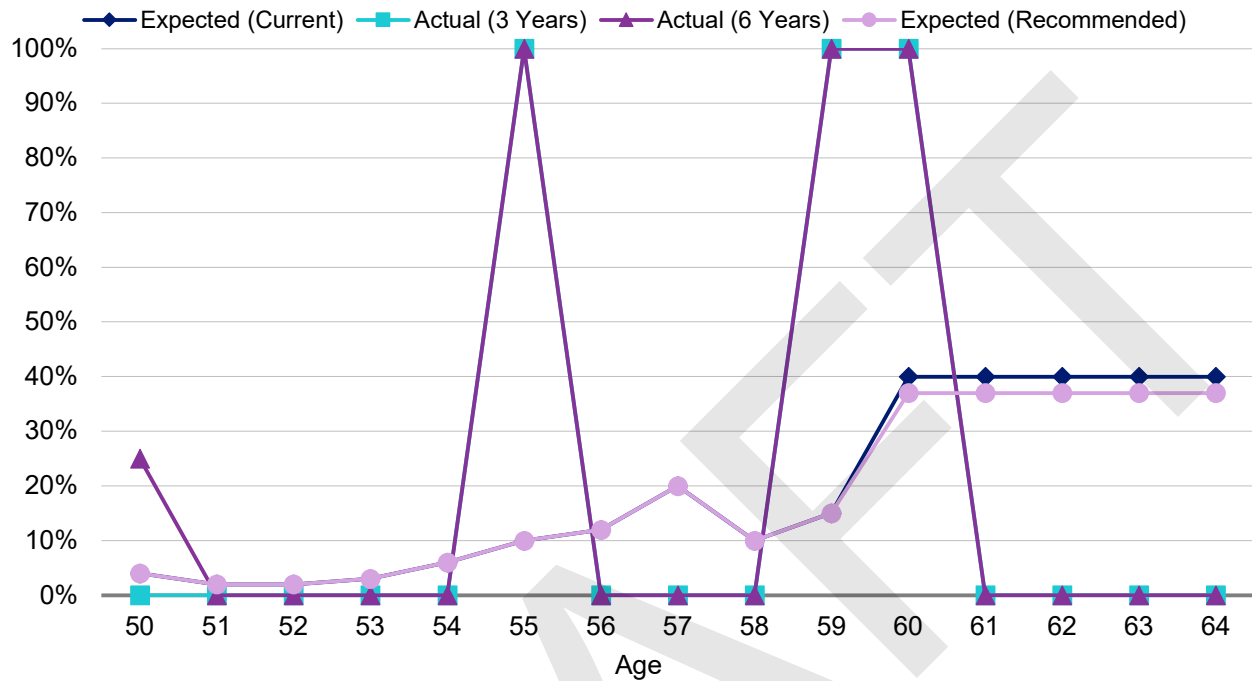
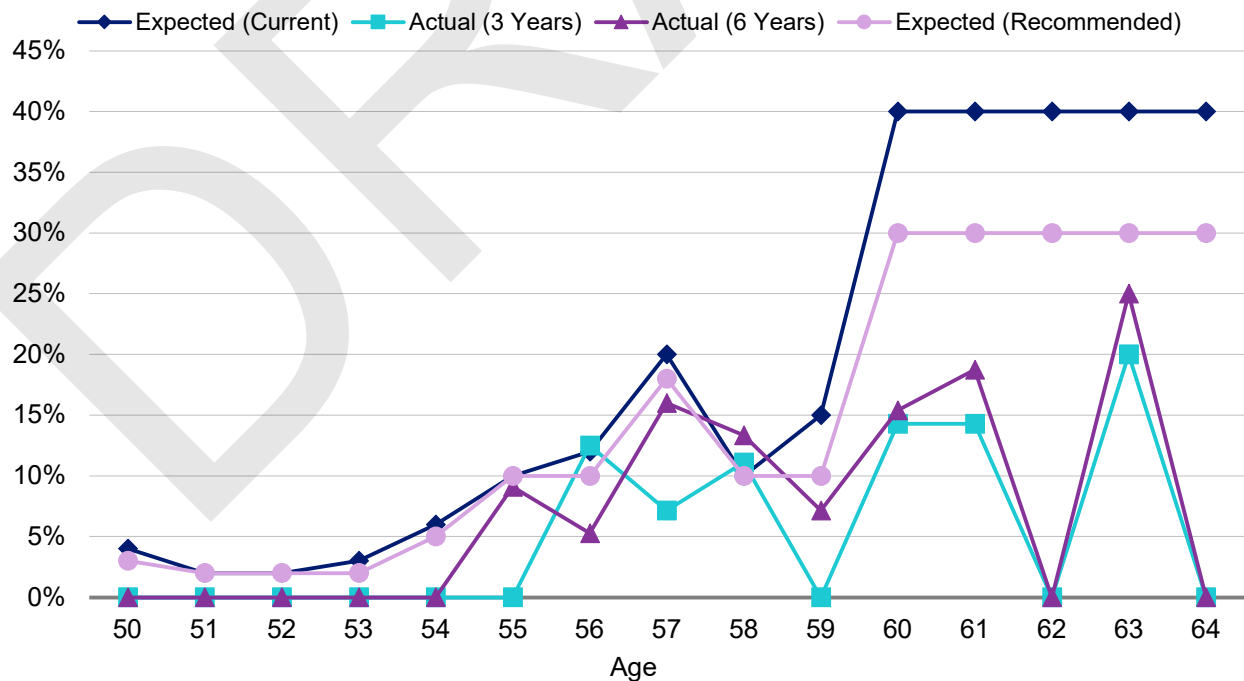
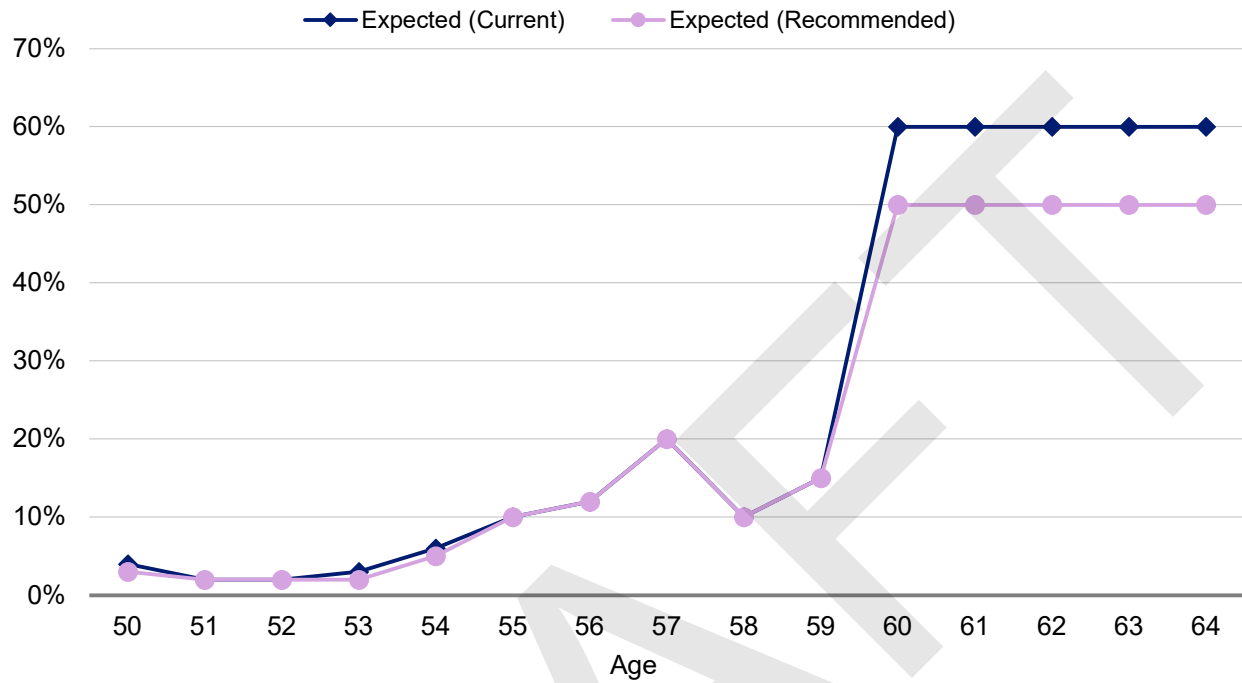


Chart 36: Retirement Rates
Safety Tier 4 Members with less than 30 Years of Service



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Chart 37: Retirement Rates
Safety Tier 4 Members with 30 or more Years of Service



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F. Miscellaneous assumptions

Reciprocity

Under the current assumptions, a percentage of future inactive members are assumed to be covered by a reciprocal retirement system.

The following table shows the observed reciprocity percent based on the actual experience of all deferred members over the last six years. Also shown are the current and recommended assumptions.

Percent of Inactive Members at Reciprocal System

Line Description	General	Safety
Current assumption	20.0%	45.0%
Actual experience (6 years)	19.5%	35.4%
Recommended assumption	20.0%	40.0%

We recommend maintaining the reciprocal assumption at 20% for General members and decreasing the reciprocal assumption from 45% to 40% for Safety members.

Under the current assumptions, we assume reciprocal members will receive annual salary increase from the date of termination to the expected date of retirement based on the ultimate salary increase assumptions for actives.

We recommend maintaining the annual reciprocal salary increase assumption to be the same as the ultimate salary increase assumptions for active members. Specifically, we recommend 3.75% and 4.40% annual salary increase assumptions for General and Safety reciprocal members, respectively.

Future benefit accruals

Benefits are based on the years of service and compensation earned by the member. In order to project benefits and determine the liabilities, an assumption about the amount of service earned by members each year is necessary.

We recommend maintaining the current assumption that employees accrue 1.0 year of service annually.

Sick leave conversion

If a member terminates employment prior to retiring, the member loses all of their accrued sick leave. Members that retire directly from active status can convert 50% of their unused sick leave to increase the service credit used in the calculation of their retirement benefit. To anticipate this additional benefit, the actuarial valuation includes an assumption for the conversion of unused sick leave to additional years of service at retirement, per year of employment.

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The following table shows the average years of converted unused sick leave per year of employment (reflecting the 50% conversion provision) over the past three years. Also shown are the current and recommended assumptions.

Average Years of Converted Unused Sick Leave (at 50% Conversion) per Year of Employment

Line Description	General	Safety
Current assumption	0.0030	0.0060
Actual experience (3 years)	0.0025	0.0034
Recommended assumption	0.0030	0.0050

We recommend maintaining the current unused sick leave assumption of 0.003 years of additional service credit at retirement for each year of employment for General members and decreasing the assumption from 0.006 to 0.005 years of additional service for Safety members.

Unreported data for members

When various elements of valuation data are not available, an assumption must be made in order to project benefits and determine liabilities.

The following table shows the gender of active members based on actual experience as of November 30, 2025. Also shown are the current and recommended assumptions for members with unreported gender.

Assumption for Unreported Gender

Line Description	General Male Member	General Female Member	Safety Male Member	Safety Female Member
Current assumption	100.0%	0.0%	100.0%	0.0%
Actual percent as of November 30, 2025	31.1%	68.9%	76.3%	23.7%
Recommended assumption	0.0%	100.0%	100.0%	0.0%

We recommend updating the assumption for members with unreported gender to assume General members are female and to continue assuming Safety members are male. In addition, beneficiaries are assumed to be the opposite gender of the member.

Form of payment

In prior valuations, it was assumed that all members would select the unmodified option at retirement. Actual experience for recent new retirees shows that around 85% select the unmodified option at retirement.

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We recommend maintaining the assumption that all members will elect the unmodified option at retirement.

Percent with eligible survivor

The value of a member's retirement, disability, or death benefit depends on the percentage of members who are assumed to have an eligible spouse or domestic partner.

The following table shows the observed percentage of new retirees, weighted by benefit amounts, who were reported with an eligible spouse or domestic partner at the time of retirement based on the actual experience over the past three years. Also shown are the current and recommended assumptions.

New Retirees with Eligible Spouse or Domestic Partner

Line Description	Male Member	Female Member
Current assumption	70.0%	50.0%
Actual percent (3 years)	69.4%	48.5%
Recommended assumption	70.0%	50.0%

We recommend maintaining the percent with eligible survivor assumption for male members at 70% and for female members at 50%.

Eligible survivor age and gender

Since the present value of the survivor's automatic continuance benefit is dependent on the survivor's age and gender, we must also have assumptions for these demographics of the survivor.

The following table shows the member's age as compared to the survivor's age for new retirees with an eligible spouse or domestic partner at the time of retirement based on the actual experience over the past three years. Also shown are the current and recommended assumptions.

Member's Age as Compared to Survivor's Age

Line Description	Male Retiree	Female Retiree ⁴⁰
Current assumption	3 years older	2 years younger
Actual experience (3 years)	3.4 years older	0.8 years younger
Recommended assumption	3 years older	2 years younger

We recommend maintaining the survivor assumption that male retirees are three years older than their survivor and that female retirees are two years younger than their survivor.

⁴⁰ When we exclude age differences of greater than 20 years from recent experience, female retirees are 1.6 years younger than their survivors based on actual experience over the past three years.

Section 4: Demographic Assumptions

We recommend maintaining the survivor assumption that male retirees have a female survivor, and female retirees have a male survivor. This recommendation is consistent with the actual data for most members as of November 30, 2025, even with the inclusion of domestic partners.

Pre-retirement death optional form election

Active members may elect an Optional Settlement 2 (or Optional Settlement 4 for more than one beneficiary) allowance before death to provide a 100% continuance benefit, subject to actuarial adjustment, to a spouse, domestic partner or other designated beneficiary in the event of death while in active service.

For this experience study, ACERA provided beneficiary relationship information for active members who have made an advance optional form election for pre-retirement death.⁴¹ Of approximately 950 active members who have made such an election, 569 members (about 60%) had designated a spouse or domestic partner as beneficiary. Given the recommended assumption that 70% of male members and 50% of female members are expected to be married at retirement or active death, **we recommend continuing to use the same assumption to anticipate the proportion of active members who are expected to elect an Optional Settlement 2 to provide coverage for their spouse or domestic partner upon active death.**

The remaining 381 members who had made an advance optional form election designated a beneficiary who was not a spouse or domestic partner.⁴² The observed distribution of beneficiary types and the recommended assumptions are shown below.⁴³

Optional Settlement 2 Election Beneficiary Types for Active Death

Line Description	Child	Parent	Sibling (and other)
Current assumption	50.0%	25.0%	25.0%
Actual percent (3 years)	57.9%	14.4%	27.7%
Recommended assumption	55.0%	20.0%	25.0%

Optional Settlement 2 Election Age Difference for Active Death

Line Description	Child	Parent	Sibling (and other)
Current assumption	30 years younger	30 years older	Same age
Actual experience (3 years)	29.3 years younger	28.0 years older	0.8 years younger
Recommended assumption	30 years younger	30 years older	Same age

⁴¹ Similar information for members who actually died while active is not readily available.

⁴² We excluded a further six records for which a beneficiary age comparison could not be determined due to a missing beneficiary date of birth or because the beneficiary was identified as a trust or will. Of the remaining 375 members included in the analysis, 174 were reported with multiple beneficiaries. Each of these members was assigned to a single beneficiary category based on the youngest expected beneficiary or, equivalently, the longest expected benefit payment period.

⁴³ Based on the observed experience, we recommend including all beneficiaries whose relationship to the member does not imply a predictable age difference (such as friends, cousins, or ex-spouses) within the "Sibling (and other)" category.

Section 4: Demographic Assumptions

For active members assumed to be unmarried at the time of pre-retirement death, we recommend updating the beneficiary type assumptions used for advance optional form election to those shown in the table above. We recommend maintaining the current age difference assumptions.

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Section 4: Demographic Assumptions

G. Retiree health assumptions

Retiree medical coverage election

Based on the plan's experience and re-enrollment options, the retiree medical coverage assumption is based on the member's age. The actual election rates shown below are based on retirements during December 1, 2020 through November 30, 2025. Because 2023 was an atypical year for under age 65 participation (65.1%) and 2025 was an atypical year for age 65 and older participation (74.6%), five years of data were analyzed. Also shown are the current and proposed assumptions.

Eligible Retirees who Elected Medical

Age	Current Rate	Actual Rate	Proposed Rate
Under Age 65*	75%	69.6%	75%
Age 65 and Older	90%	85.2%	90%

* 60% of eligible retirees under age 65 without medical coverage are assumed to elect medical coverage upon reaching age 65.

Although the percentages shown above could suggest that a downward adjustment to the current participation assumptions is warranted, we recommend maintaining the existing assumptions at this time. The experience results presented above reflect all eligible retirees with at least 10 years of service. However, among retirees with 20 or more years of service, who are eligible for the maximum subsidy and account for the majority of the plan's liabilities, actual participation rates over the most recent three-year period were closely aligned with the current assumptions: 76.4% for retirees under age 65 and 90.0% for retirees age 65 and older. As a result, from a liability perspective, the degree of conservatism embedded in the current assumptions is considerably smaller than the aggregate participation rates shown above might imply.

In addition, the Board implemented several changes to the SRBR in 2026 that expanded access to exchange-based coverage for non-Medicare retirees and enhanced benefits for Medicare retirees who elect exchange-based individual plans. These changes may increase future participation levels, making us hesitant to reduce the current assumptions, particularly given the relatively modest margin for conservatism already reflected in the assumptions.

Given the small margin for conservatism in the current assumptions and the potential for increased participation resulting from recent Board actions, we recommend no changes to the participation assumptions as part of this experience study. Participation assumptions are among the most significant drivers of retiree health liabilities and therefore should not be adjusted based solely on recent experience that may not be representative of future behavior. We will continue to monitor retiree enrollment patterns and reassess these assumptions as additional experience emerges.

Section 4: Demographic Assumptions

Spousal coverage

The implicit medical retiree subsidy varies depending on whether future retirees that elect to continue health coverage at retirement also have an eligible spouse that opts for health coverage. Spouses of future retirees can only receive the implicit subsidy; the spousal coverage assumption applies only for the implicit subsidy.

The following table shows the observed percentage of new retirees receiving a medical subsidy who were reported with a covered Spouse based on the actual experience over the past three years. Also shown are the current and proposed assumptions.

New Retirees with Spouse Coverage

Line Description	New Male Retiree	New Female Retiree
Current Assumption	35%	15%
Actual Experience	35%	15%
Proposed Assumption	35%	15%

Based on the above, we recommend maintaining the current percentage of future retirees assumed to cover their spouse.

Covered spouse age difference

The following tables show the observed spouse's age for new retirees who elected to cover their spouse based on the actual experience over the past three years. Also shown are the current and proposed assumptions.

Covered Spouse's Age Compared to the Member's Age

Line Description	New Male Retiree	New Female Retiree
Current Assumption	3 years younger	1 year older
Actual Experience	2 years younger	2 years older
Proposed Assumption	3 years younger	2 years older

Based on the above, we recommend increasing the assumed spouse age difference for future female retirees from 1 year to 2 years older and maintaining the current assumption for future male retirees at 3 years younger.

Section 5: Cost Impact

This section presents the estimated impact of the recommended economic assumptions from *Section 3* and the recommended demographic assumptions from *Section 4*. The cost impact is estimated by recalculating the December 31, 2025 actuarial valuation using the recommended assumptions. The actual impact of the recommended assumptions will be measured as of the December 31, 2026 valuation.

Cost Impact Based on December 31, 2025 Actuarial Valuation (\$ in millions)

Assumption	Impact on Average Employer Contribution Rates	Impact on Average Member Contribution Rates
Changes in economic assumptions	2.88%	0.79%
Changes in demographic assumptions	(0.50%)	(0.04%)
Total increase in average contribution rate	2.38%	0.75%
Total increase in annual dollar amount⁴⁴	\$37.65	\$11.96

Assumption	Impact on Funded Status
Increase in UAAL due to changes in economic assumptions	\$451.98
Decrease in UAAL due to changes in demographic assumptions	(86.60)
Total increase in UAAL	\$365.38
Change in funded ratio on VVA basis	91.6% to 89.1%

Of the various assumption changes, the most significant rate increase is due to the change in the investment return assumption.

The table on the following page shows the changes in key valuation results due to the recommended assumption changes, as if they were applied in the December 31, 2025 actuarial valuation. If all of the proposed assumption changes were implemented, the Plan's average employer rate would have increased by 2.38% of compensation, and the average member rate would have increased by 0.75% of compensation, for a total contribution rate increase of 3.13% of payroll. The Plan's Unfunded Actuarial Accrued Liability would have increased by \$365 million, causing the funded ratio to decrease from 91.6% to 89.1% on a valuation value of assets basis.

⁴⁴ Based on December 31, 2025 projected annual payroll as determined under each set of assumptions.

Section 5: Cost Impact

Employer Contribution Rate Increases/(Decreases) (% of Payroll)

Plans and Employer	Normal Cost	UAAL	Total	Annual Amount (\$ in '000s) ⁴⁵
County Only				
General Tier 1	1.01%	1.32%	2.33%	\$66
General Tier 2	0.87%	1.32%	2.19%	7,878
General Tier 4	0.59%	1.32%	1.91%	9,536
Safety Tier 2	2.30%	3.05%	5.35%	4,894
Safety Tier 2C	1.64%	3.05%	4.69%	145
Safety Tier 2D	1.85%	3.05%	4.90%	1,033
Safety Tier 4	0.78%	3.05%	3.83%	4,896
County Combined	0.88%	1.70%	2.58%	\$28,448
AHS, Court & First 5 Only				
General Tier 1	1.01%	1.24%	2.25%	3
General Tier 2	0.87%	1.24%	2.11%	3,479
General Tier 4	0.59%	1.24%	1.83%	5,482
Other Districts				
General Tier 1 (non-LARPD)	1.01%	1.19%	2.20%	51
General Tier 2	0.87%	1.19%	2.06%	11
General Tier 4 (non-LARPD)	0.59%	1.19%	1.78%	77
General Tier 1 (LARPD)	1.01%	2.14%	3.15%	17
General Tier 3	0.05%	2.14%	2.19%	29
General Tier 4 (LARPD)	0.59%	2.14%	2.73%	49
General (non-LARPD)	0.70%	1.29%	1.99%	\$26,583
LARPD	0.47%	2.14%	2.61%	\$95
All Safety	1.46%	3.05%	4.51%	\$10,968
All Categories Combined	0.82%	1.56%	2.38%	\$37,646

⁴⁵ Based on December 31, 2025 projected annual payroll as determined under each set of assumptions.

Section 5: Cost Impact

Average Member Contribution Rate Increases/(Decreases) (% of Payroll)

Plans and Employer	Total	Annual Amount (\$ in '000s) ⁴⁶
General Tier 1	1.16%	\$68
General Tier 2	0.83%	4,369
General Tier 3	0.50%	7
General Tier 4	0.59%	4796
Safety Tier 2	1.44%	1,345
Safety Tier 2C	1.17%	36
Safety Tier 2D	1.35%	291
Safety Tier 4	0.78%	1,052
All Categories Combined	0.75%	\$11,964

⁴⁶ Based on December 31, 2025 projected annual payroll as determined under each set of assumptions.

Appendix A: Current Actuarial Assumptions

Economic assumptions

Net investment return

7.00%, net of administrative and investment expenses.

Employee contribution crediting rate

7.00%, credited semi-annually.

Inflation

2.50% per year.

Retiree cost of living increases

The actual COLA granted by ACERA on the April 1 following the valuation date would be reflected in the valuation for nonactive members.

General Tier 1, General Tier 3, and Safety Tier 1

For tiers with a 3.00% maximum COLA, retiree COLA increases of 2.75% per year.

For members with a sufficient COLA bank, withdrawals from the bank can be made to increase the retiree COLA up to 3% per year.

General Tier 2, General Tier 4, Safety Tier 2, Safety Tier 2C, Safety Tier 2D, and Safety Tier 4

For tiers with a 2.00% maximum COLA, retiree COLA increases of 2.00% per year.

Increase in Internal Revenue Code (IRC) Section 401(a)(17) compensation limit

2.50% per year from the valuation date.

Increase in Section 7522.10 compensation limit

2.50% per year from the valuation date.

Appendix A: Current Actuarial Assumptions

Payroll growth

Inflation of 2.50% per year plus “across-the-board” salary increases of 0.50% per year, used to amortize the UAAL as a level percentage of payroll.

Salary increases

The annual rate of compensation increase includes inflation of 2.50%, “across-the-board” increase of 0.50%, and a merit and promotion increase that varies by service.

Merit and Promotion Salary Increases

Years of Service	General	Safety
Less than 1	5.00%	8.40%
1 – 2	5.00%	8.40%
2 – 3	4.40%	8.40%
3 – 4	3.00%	5.40%
4 – 5	2.10%	4.00%
5 – 6	1.60%	2.50%
6 – 7	1.50%	1.80%
7 – 8	1.50%	1.60%
8 – 9	1.20%	1.20%
9 – 10	1.00%	1.20%
10 – 11	0.85%	1.00%
11 or more	0.45%	1.00%

Additional cashout assumptions

Additional pay elements are expected to be received during a member’s final average earnings period. The percentages, added to the final average salary, are:

Additional Pay Elements

Group and Tier	Service Retirement	Disability Retirement
General Tier 1	5.0%	4.0%
General Tier 2	2.7%	1.0%
General Tier 3	5.0%	4.0%
General Tier 4	N/A	N/A
Safety Tier 1	6.0%	5.0%
Safety Tier 2	2.3%	2.2%
Safety Tier 2C	2.3%	2.2%
Safety Tier 2D	2.3%	2.2%
Safety Tier 4	N/A	N/A

Appendix A: Current Actuarial Assumptions

Demographic assumptions

Mortality for statutory Retirement Plan benefits

The Pub-2010 mortality tables and adjustments shown below reasonably reflect the mortality experience as of the measurement date. These mortality tables were adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

Post-retirement mortality rates

- **Service retirees**
 - **General:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with Scale MP-2021.
 - **Safety:** Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), with rates increased by 5% for males and unadjusted for females, projected generationally with Scale MP-2021.
- **Disabled retirees**
 - **General:** Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females), with rates unadjusted for males and decreased by 10% for females, projected generationally with Scale MP-2021.
 - **Safety:** Pub-2010 Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females) with rates increased by 5% for males and unadjusted for females, projected generationally with Scale MP-2021.
- **Beneficiaries**
 - **Not currently in pay status:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with Scale MP-2021.
 - **In pay status:** Pub-2010 General Contingent Survivor Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 5% for males and unadjusted for females, projected generationally with Scale MP-2021.

Pre-retirement mortality rates

- **General:** Pub-2010 General Employee Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with Scale MP-2021.
- **Safety:** Pub-2010 Safety Employee Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with Scale MP-2021.

Appendix A: Current Actuarial Assumptions

Pre-Retirement Mortality Rates — Before Generational Projection from 2010

Age	General Male	General Female	Safety Male	Safety Female
20	0.04%	0.01%	0.04%	0.01%
25	0.02%	0.01%	0.03%	0.02%
30	0.03%	0.01%	0.04%	0.02%
35	0.04%	0.02%	0.04%	0.03%
40	0.06%	0.03%	0.05%	0.04%
45	0.09%	0.05%	0.07%	0.06%
50	0.13%	0.08%	0.10%	0.08%
55	0.19%	0.11%	0.15%	0.11%
60	0.28%	0.17%	0.23%	0.14%
65	0.41%	0.27%	0.35%	0.20%
70	0.61%	0.44%	0.66%	0.39%

Pre-Retirement Death Type

Pre-Retirement Death Type	General	Safety
Service connected	0%	0%
Non-service connected	100%	100%

Mortality rates for legacy member contributions

- **General:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected 30 years (from 2010) with Scale MP-2021, weighted 30% male and 70% female.
- **Safety:** Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 5% for males and unadjusted for females, projected 30 years (from 2010) with Scale MP-2021, weighted 75% male and 25% female.

Appendix A: Current Actuarial Assumptions

Disability

Disability Rates from Active Status

Age	General	Safety
20	0.00%	0.00%
25	0.01%	0.03%
30	0.02%	0.38%
35	0.05%	0.96%
40	0.08%	1.50%
45	0.13%	1.70%
50	0.21%	2.33%
55	0.31%	3.62%
60	0.35%	4.44%
65	0.44%	0.00%
70	0.62%	0.00%

Disability Type

Disability Type	General	Safety
Service connected	70%	100%
Non-service connected	30%	0%

Appendix A: Current Actuarial Assumptions

Termination

Termination rates are set to zero once a member is eligible to retire.

Termination Rates from Active Status

Years of Service	General	Safety
Less than 1	12.25%	5.20%
1 – 2	9.25%	4.20%
2 – 3	8.00%	4.20%
3 – 4	6.25%	4.00%
4 – 5	6.25%	4.00%
5 – 6	6.25%	4.00%
6 – 7	5.75%	4.00%
7 – 8	5.00%	2.40%
8 – 12	4.00%	2.00%
12 – 15	3.25%	2.00%
15 – 16	3.25%	1.50%
16 – 17	3.00%	1.40%
17 – 18	3.00%	1.30%
18 – 19	3.00%	1.20%
19 – 20	2.75%	1.10%
20 or more	2.75%	1.00%

Benefit Election for Future Inactives

Years of Service	Refund of Member Contributions	Deferred Benefit
Less than 5	55%	45%
5 or more	25%	75%

Assumptions for Current and Future Inactives with a Deferred Benefit

Assumption Type	General	Safety
Retirement age		
Non-reciprocal members with less than 5 years	70	70
Non-reciprocal members with 5 or more years	62	56
Reciprocal members	61	55
Reciprocity assumptions		
Future inactives assumed to work for reciprocal employer	20%	45%
Annual salary increases from separation date		
Reciprocal members	3.45%	4.00%

Appendix A: Current Actuarial Assumptions

Retirement rates

Retirement rates apply to members who are eligible to retire at the age shown. Retirement rates for Safety Tiers 1 and 2C are 100% after a member accrues a benefit of 100% of final average earnings.

Retirement Rates from Active Status – General

Age	Tier 1	Tier 2 Service < 30	Tier 2 Service ≥ 30	Tier 3	Tier 4 Service < 30	Tier 4 Service ≥ 30
50	2.0%	1.5%	3.0%	10.0%	0.0%	0.0%
51	4.0%	1.5%	3.0%	10.0%	0.0%	0.0%
52	4.0%	2.0%	3.0%	10.0%	3.0%	3.0%
53	5.0%	2.0%	3.0%	10.0%	2.0%	2.0%
54	5.0%	2.5%	3.0%	10.0%	2.0%	2.0%
55	6.0%	3.0%	5.0%	12.0%	2.0%	5.0%
56	10.0%	3.5%	5.0%	14.0%	2.0%	2.5%
57	14.0%	4.0%	5.0%	16.0%	2.0%	3.5%
58	14.0%	4.5%	7.0%	18.0%	4.0%	4.0%
59	14.0%	5.0%	10.0%	20.0%	4.0%	4.5%
60	25.0%	7.5%	12.0%	20.0%	4.0%	5.0%
61	25.0%	9.5%	12.0%	20.0%	4.0%	5.0%
62	30.0%	15.0%	23.0%	30.0%	12.0%	18.0%
63	26.0%	15.0%	25.0%	25.0%	12.0%	15.0%
64	26.0%	17.0%	28.0%	25.0%	12.0%	17.0%
65	26.0%	27.0%	35.0%	50.0%	23.0%	25.0%
66	26.0%	27.0%	35.0%	50.0%	23.0%	30.0%
67	26.0%	27.0%	35.0%	50.0%	23.0%	30.0%
68	26.0%	30.0%	35.0%	50.0%	23.0%	30.0%
69	31.0%	30.0%	35.0%	50.0%	20.0%	30.0%
70	36.0%	30.0%	30.0%	60.0%	20.0%	25.0%
71	36.0%	30.0%	30.0%	60.0%	20.0%	25.0%
72	36.0%	30.0%	30.0%	60.0%	20.0%	25.0%
73	36.0%	30.0%	30.0%	60.0%	20.0%	25.0%
74	36.0%	30.0%	30.0%	60.0%	20.0%	25.0%
75 and over	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Appendix A: Current Actuarial Assumptions

Retirement Rates from Active Status – Safety

Age	Tier 1	Tier 2, 2D Service < 30	Tier 2, 2D Service ≥ 30	Tier 2C	Tier 4 Service < 30	Tier 4 Service ≥ 30
45	0.0%	2.0%	0.0%	0.0%	0.0%	0.0%
46	0.0%	2.0%	0.0%	0.0%	0.0%	0.0%
47	0.0%	2.0%	0.0%	0.0%	0.0%	0.0%
48	0.0%	4.0%	0.0%	0.0%	0.0%	0.0%
49	0.0%	10.0%	18.0%	0.0%	0.0%	0.0%
50	35.0%	14.0%	18.0%	4.0%	4.0%	4.0%
51	30.0%	10.0%	24.0%	2.0%	2.0%	2.0%
52	25.0%	10.0%	24.0%	2.0%	2.0%	2.0%
53	35.0%	10.0%	25.0%	3.0%	3.0%	3.0%
54	45.0%	11.0%	27.0%	6.0%	6.0%	6.0%
55	45.0%	11.0%	29.0%	10.0%	10.0%	10.0%
56	45.0%	12.0%	32.0%	12.0%	12.0%	12.0%
57	45.0%	12.0%	32.0%	20.0%	20.0%	20.0%
58	45.0%	14.0%	37.0%	10.0%	10.0%	10.0%
59	45.0%	14.0%	37.0%	15.0%	15.0%	15.0%
60	45.0%	30.0%	37.0%	40.0%	40.0%	60.0%
61	45.0%	30.0%	37.0%	40.0%	40.0%	60.0%
62	45.0%	30.0%	37.0%	40.0%	40.0%	60.0%
63	45.0%	30.0%	37.0%	40.0%	40.0%	60.0%
64	45.0%	30.0%	37.0%	40.0%	40.0%	60.0%
65 and over	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Survivor assumptions

Survivor Assumptions for Actives and Inactives

Member Gender	% with Survivor at Retirement or Pre-Retirement Death	Survivor Age	Survivor Gender
Male	70%	3 years younger than member	Female
Female	50%	2 years older than member	Male

Form of payment

All active and inactive members are assumed to elect the unmodified option at retirement.

Appendix A: Current Actuarial Assumptions

Future benefit accruals

1.0 year of service per year of employment, plus 0.003 years of additional service for General members and 0.006 years of additional service for Safety members, to anticipate conversion of unused sick leave for each year of employment.

Unknown data for members

Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male. If not provided, salary is assumed to be equal to the average salary of the membership group.

Inclusion of deferred vested members

All deferred vested members to the extent they are reported by ACERA are included.

Data adjustment

Data as of November 30 has been adjusted to December 31 by adding one month of age and, for active members, one month of service.

Pre-retirement death optional form election

All active members with five or more years of service are assumed to elect the optional settlement 2 allowance that leaves a 100% continuance to their beneficiary upon the member's non-service connected pre-retirement death. We made the simplifying assumption that the beneficiary is of the opposite sex of the member. 70% of male members and 50% of female members are assumed to elect an eligible spouse or domestic partner as their beneficiary. The beneficiary assumptions for those who are assumed to be unmarried at pre-retirement death are as follows:

Beneficiary Assumptions for Unmarried Actives

Beneficiary Type	Percentage	Age Difference with Active Member
Child	50%	30 years younger
Sibling	25%	Same age
Parent	25%	30 years older

Appendix A: Current Actuarial Assumptions

Retiree health assumptions

Participation

For active members, 75% of eligible members under age 65 and 90% of eligible members age 65 and over are assumed to elect medical coverage upon retirement.

60% of eligible retirees under age 65 without medical coverage are assumed to elect medical coverage upon reaching age 65.

Spouse/domestic partner coverage

For all active and inactive members, 35% of male participants and 15% of female participants who receive a retiree health subsidy are assumed to be married or have a qualified domestic partner and elect dependent coverage.

Future male retirees are assumed to be 3 years older than their female spouses/domestic partners. Future female retirees are assumed to be 1 year younger than their male spouses/domestic partners.

Mortality tables

Headcount-weighted versions of the mortality tables are used for the retiree health valuation.

Appendix B: Recommended Actuarial Assumptions

Economic assumptions

Net investment return

6.75%, net of administrative and investment expenses.

Employee contribution crediting rate

6.75%, credited semi-annually.

Inflation

2.50% per year.

Retiree cost of living increases

The actual COLA granted by ACERA on the April 1 following the valuation date would be reflected in the valuation for nonactive members.

General Tier 1, General Tier 3, and Safety Tier 1

For tiers with a 3.00% maximum COLA, retiree COLA increases of 2.75% per year.

For members with a sufficient COLA bank, withdrawals from the bank can be made to increase the retiree COLA up to 3% per year.

General Tier 2, General Tier 4, Safety Tier 2, Safety Tier 2C, Safety Tier 2D, and Safety Tier 4

For tiers with a 2.00% maximum COLA, retiree COLA increases of 2.00% per year.

Increase in IRC Section 401(a)(17) compensation limit

2.50% per year from the valuation date.

Increase in Section 7522.10 compensation limit

2.50% per year from the valuation date.

Payroll growth

Inflation of 2.50% per year plus “across-the-board” salary increases of 0.50% per year, used to amortize the UAAL as a level percentage of payroll.

Appendix B: Recommended Actuarial Assumptions

Salary increases

The annual rate of compensation increase includes inflation of 2.50%, “across-the-board” increase of 0.50%, and a merit and promotion increase that varies by service.

Merit and Promotion Salary Increases

Years of Service	General Legacy	General PEPRA	Safety Legacy	Safety PEPRA
Less than 1	5.00%	5.00%	8.40%	9.00%
1 – 2	5.00%	5.00%	8.40%	9.00%
2 – 3	4.40%	4.50%	8.40%	9.00%
3 – 4	3.00%	3.25%	5.40%	5.80%
4 – 5	2.10%	2.50%	4.00%	4.50%
5 – 6	1.60%	2.00%	2.50%	3.00%
6 – 7	1.50%	2.00%	1.80%	2.10%
7 – 8	1.50%	2.00%	1.60%	1.80%
8 – 9	1.50%	1.70%	1.50%	1.60%
9 – 10	1.20%	1.50%	1.50%	1.50%
10 – 11	1.10%	1.10%	1.45%	1.45%
11 or more	0.75%	0.75%	1.40%	1.40%

Additional cashout assumptions

Additional pay elements are expected to be received during a member’s final average earnings period. The percentages, added to the final average salary, are:

Additional Pay Elements

Group and Tier	Service Retirement	Disability Retirement
General Tier 1	5.0%	4.0%
General Tier 2	2.9%	1.5%
General Tier 3	N/A	N/A
General Tier 4	N/A	N/A
Safety Tier 2	2.8%	2.8%
Safety Tier 2C	2.8%	2.8%
Safety Tier 2D	2.8%	2.8%
Safety Tier 4	N/A	N/A

Appendix B: Recommended Actuarial Assumptions

Demographic assumptions

Mortality for statutory Retirement Plan benefits

The Pub-2016 mortality tables and adjustments shown below reasonably reflect the mortality experience as of the measurement date. These mortality tables were adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

Post-retirement mortality rates

- **Service retirees**
 - **General:** Pub-2016 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with Scale MP-2021.
 - **Safety:** Pub-2016 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 5% for males and females, projected generationally with Scale MP-2021.
- **Disabled retirees**
 - **General:** Pub-2016 Non-Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females) with rates unadjusted for males and decreased by 5% for females, projected generationally with Scale MP-2021.
 - **Safety:** Pub-2016 Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females) with rates increased by 5% for males and decreased by 5% for females, projected generationally with Scale MP-2021.
- **Beneficiaries**
 - **Not currently in pay status:** Pub-2016 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with Scale MP-2021.
 - **In pay status:** Pub-2016 General Contingent Survivor Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with Scale MP-2021.

Pre-retirement mortality rates

- **General:** Pub-2016 General Employee Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 5% for males and females, projected generationally with Scale MP-2021.
- **Safety:** Pub-2016 Safety Employee Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates unadjusted for males and increased by 5% for females, projected generationally with Scale MP-2021.

Appendix B: Recommended Actuarial Assumptions

Pre-Retirement Mortality Rates — Before Generational Projection from 2016

Age	General Male	General Female	Safety Male	Safety Female
20	0.03%	0.01%	0.02%	0.01%
25	0.03%	0.01%	0.03%	0.01%
30	0.03%	0.02%	0.04%	0.02%
35	0.04%	0.03%	0.04%	0.03%
40	0.06%	0.04%	0.05%	0.04%
45	0.09%	0.06%	0.07%	0.07%
50	0.13%	0.09%	0.10%	0.10%
55	0.20%	0.13%	0.16%	0.14%
60	0.31%	0.20%	0.27%	0.21%
65	0.47%	0.31%	0.45%	0.33%
70	0.72%	0.48%	0.84%	0.52%

Pre-Retirement Death Type

Pre-Retirement Death Type	General	Safety
Service connected	0%	0%
Non-service connected	100%	100%

Mortality rates for legacy member contributions

- **General:** Pub-2016 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected 30 years (from 2016) with Scale MP-2021, weighted 30% male and 70% female.
- **Safety:** Pub-2016 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 5% for males and females, projected 30 years (from 2016) with Scale MP-2021, weighted 75% male and 25% female.

Appendix B: Recommended Actuarial Assumptions

Disability

Disability Rates from Active Status

Age	General	Safety
20	0.00%	0.00%
25	0.01%	0.02%
30	0.02%	0.32%
35	0.03%	1.04%
40	0.05%	1.52%
45	0.10%	1.60%
50	0.17%	2.26%
55	0.29%	3.60%
60	0.35%	4.44%
65	0.41%	0.00%
70	0.72%	0.00%

Disability Type

Disability Type	General	Safety
Service connected	75%	100%
Non-service connected	25%	0%

Appendix B: Recommended Actuarial Assumptions

Termination

Termination rates are set to zero once a member is eligible to retire.

Termination Rates from Active Status

Years of Service	General	Safety
Less than 1	12.50%	5.75%
1 – 2	9.00%	4.25%
2 – 3	7.75%	4.25%
3 – 6	6.00%	4.00%
6 – 7	5.75%	3.75%
7 – 8	5.00%	2.00%
8 – 9	4.50%	2.00%
9 – 12	4.00%	2.00%
12 – 13	3.75%	2.00%
13 – 14	3.50%	2.00%
14 – 15	3.00%	2.00%
15 – 16	3.00%	1.50%
16 – 17	2.75%	1.40%
17 – 18	2.75%	1.30%
18 – 19	2.75%	1.20%
19 – 20	2.50%	1.10%
20 or more	2.25%	1.00%

Benefit Election for Future Inactives

Years of Service	Refund of Member Contributions	Deferred Benefit
Less than 5	55%	45%
5 or more	25%	75%

Assumptions for Current and Future Inactives with a Deferred Benefit

Assumption Type	General	Safety
Retirement age		
Non-reciprocal members with less than 5 years	70	70
Non-reciprocal members with 5 or more years	62	55
Reciprocal members	61	55
Reciprocity assumptions		
Future inactives assumed to work for reciprocal employer	20%	40%
Annual salary increases from separation date		
Reciprocal members	3.75%	4.40%

Appendix B: Recommended Actuarial Assumptions

Retirement rates

Retirement rates apply to members who are eligible to retire at the age shown. Retirement rates for Safety Tier 2C are 100% after a member accrues a benefit of 100% of final average earnings.

Retirement Rates from Active Status – General

Age	Tier 1	Tier 2 Service < 30	Tier 2 Service ≥ 30	Tier 3	Tier 4 Service < 30	Tier 4 Service ≥ 30
50	2.0%	1.5%	2.0%	10.0%	0.0%	0.0%
51	4.0%	1.5%	2.0%	10.0%	0.0%	0.0%
52	4.0%	1.5%	2.0%	10.0%	2.0%	3.0%
53	5.0%	1.5%	2.0%	10.0%	1.5%	2.0%
54	5.0%	2.5%	2.5%	10.0%	1.5%	2.0%
55	6.0%	3.0%	6.0%	12.0%	1.5%	2.0%
56	10.0%	4.0%	6.0%	13.0%	1.5%	2.0%
57	14.0%	4.0%	6.0%	14.0%	2.5%	4.0%
58	14.0%	4.5%	7.0%	15.0%	3.0%	4.0%
59	14.0%	5.0%	10.0%	15.0%	3.0%	4.0%
60	25.0%	7.5%	12.0%	20.0%	3.0%	5.0%
61	25.0%	9.5%	12.0%	20.0%	3.0%	5.0%
62	30.0%	14.0%	25.0%	25.0%	9.0%	15.0%
63	24.0%	14.0%	25.0%	25.0%	9.0%	15.0%
64	24.0%	15.0%	25.0%	25.0%	9.0%	15.0%
65	24.0%	25.0%	38.0%	50.0%	20.0%	25.0%
66	24.0%	25.0%	35.0%	50.0%	20.0%	25.0%
67	24.0%	25.0%	35.0%	50.0%	20.0%	25.0%
68	24.0%	27.0%	35.0%	50.0%	20.0%	25.0%
69	26.0%	27.0%	35.0%	50.0%	20.0%	25.0%
70	34.0%	27.0%	27.0%	50.0%	20.0%	25.0%
71	34.0%	27.0%	27.0%	50.0%	20.0%	25.0%
72	34.0%	27.0%	27.0%	50.0%	20.0%	25.0%
73	34.0%	27.0%	27.0%	50.0%	20.0%	25.0%
74	34.0%	27.0%	27.0%	50.0%	20.0%	25.0%
75 and over	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Appendix B: Recommended Actuarial Assumptions

Retirement Rates from Active Status – Safety

Age	Tier 2, 2D Service < 30	Tier 2, 2D Service ≥ 30	Tier 2C	Tier 4 Service < 30	Tier 4 Service ≥ 30
45	3.0%	0.0%	0.0%	0.0%	0.0%
46	2.0%	0.0%	0.0%	0.0%	0.0%
47	2.0%	0.0%	0.0%	0.0%	0.0%
48	4.0%	0.0%	0.0%	0.0%	0.0%
49	9.0%	18.0%	0.0%	0.0%	0.0%
50	15.0%	18.0%	4.0%	3.0%	3.0%
51	11.0%	24.0%	2.0%	2.0%	2.0%
52	11.0%	24.0%	2.0%	2.0%	2.0%
53	11.0%	24.0%	3.0%	2.0%	2.0%
54	11.0%	24.0%	6.0%	5.0%	5.0%
55	13.0%	24.0%	10.0%	10.0%	10.0%
56	11.0%	32.0%	12.0%	10.0%	12.0%
57	11.0%	32.0%	20.0%	18.0%	20.0%
58	14.0%	40.0%	10.0%	10.0%	10.0%
59	14.0%	40.0%	15.0%	10.0%	15.0%
60	25.0%	45.0%	37.0%	30.0%	50.0%
61	25.0%	45.0%	37.0%	30.0%	50.0%
62	30.0%	45.0%	37.0%	30.0%	50.0%
63	30.0%	45.0%	37.0%	30.0%	50.0%
64	30.0%	45.0%	37.0%	30.0%	50.0%
65 and over	100.0%	100.0%	100.0%	100.0%	100.0%

Survivor assumptions

Survivor Assumptions for Actives and Inactives

Member Gender	% with Survivor at Retirement or Pre-Retirement Death	Survivor Age	Survivor Gender
Male	70%	3 years younger than member	Female
Female	50%	2 years older than member	Male

Form of payment

All active and inactive members are assumed to elect the unmodified option at retirement.

Appendix B: Recommended Actuarial Assumptions

Future benefit accruals

1.0 year of service per year of employment, plus 0.003 years of additional service for General members and 0.005 years of additional service for Safety members, to anticipate conversion of unused sick leave for each year of employment.

Unknown data for members

Same as those exhibited by members with similar known characteristics. If not specified, General members are assumed to be female and Safety members are assumed to be male. If not provided, salary is assumed to be equal to the average salary of the membership group.

Inclusion of deferred vested members

All deferred vested members to the extent they are reported by ACERA are included.

Data adjustment

Data as of November 30 has been adjusted to December 31 by adding one month of age and, for active members, one month of service.

Pre-retirement death optional form election

All active members with five or more years of service are assumed to elect the optional settlement 2 allowance that leaves a 100% continuance to their beneficiary upon the member's non-service connected pre-retirement death. We made the simplifying assumption that the beneficiary is of the opposite sex of the member. 70% of male members and 50% of female members are assumed to elect an eligible spouse or domestic partner as their beneficiary. The beneficiary assumptions for those who are assumed to be unmarried at pre-retirement death are as follows:

Beneficiary Assumptions for Unmarried Actives

Beneficiary Type	Percentage	Age Difference with Active Member
Child	55%	30 years younger
Sibling and other	25%	Same age
Parent	20%	30 years older

Appendix B: Recommended Actuarial Assumptions

Retiree health assumptions

Participation

For active members, 75% of eligible members under age 65 and 90% of eligible members age 65 and over are assumed to elect medical coverage upon retirement.

60% of eligible retirees under age 65 without medical coverage are assumed to elect medical coverage upon reaching age 65.

Spouse/domestic partner coverage

For all active and inactive members, 35% of male participants and 15% of female participants who receive a retiree health subsidy are assumed to be married or have a qualified domestic partner and elect dependent coverage.

Future male retirees are assumed to be 3 years older than their female spouses/domestic partners. Future female retirees are assumed to be 2 years younger than their male spouses/domestic partners.

Mortality tables

Headcount-weighted versions of the mortality tables are used for the retiree health valuation.



Alameda County Employees' Retirement Association

Actuarial Experience Study

Analysis for the period from December 1, 2022 through November 30, 2025

August 20, 2026 / Daniel Siblik / Eva Yum

Agenda

Actuarial Experience Study Overview

Summary of Recommendations

Actuarial Cost Impact

Taking a Closer Look

Actuarial Experience Study Overview

Actuarial Experience Study Overview

Why do we need experience studies?

Develop recommended assumptions for annual actuarial valuation

- Reviews economic and demographic assumptions every three years
- Current study is based on the **three-year** period from 2022-2025
 - Most assumptions include experience from prior studies to increase the “credibility”

Segal’s role is to make appropriate recommendations to the Board

- Recommendations follow guidance of Actuarial Standards of Practice
 - Assumptions are reasonable individually and in aggregate (ASOP No. 27)

Purpose of the Actuarial Assumptions

What do the assumptions do?



Economic

How will assets grow?

How will salaries and benefits increase?

How will UAAL be amortized?

What type of benefits will be paid?

When will benefits be paid and how long?



Demographic

Actuaries make assumptions as to when and how a member will leave active service and estimate the amount, duration and present value of the expected benefits paid.

Role of Actuarial Assumptions and Methods

$$C + I = B + E$$

Contributions + Interest Income
equals
Benefit Payments + Expenses

- Assumptions do not directly affect the **payment** of benefits, only the **timing** of contributions
 - Actuarial valuation determines the “current” cost, not the ultimate cost

Actuarial Assumption Impacts

How do the assumptions impact liabilities and costs?

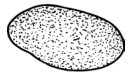
Economic



Inflation



Investment return



Salary increase

Demographic



Post-retirement mortality



Pre-retirement mortality



Retirement



Termination



Disability (General members)



Disability (Safety members)

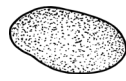
Scale of relative impact of assumptions



Boulder



Rock



Pebble



Sand

Summary of Recommendations

Summary of Economic Assumptions



Assumption	Recommendation
Inflation	• Maintain current assumption of 2.50%
Cost-of-Living Increases	• Maintain current assumption of 2.75% for tiers with a 3.00% maximum COLA • Maintain current assumption of 2.00% for tiers with a 2.00% maximum COLA
Investment Return	• Reduce investment return assumption from 7.00% to 6.75%
Payroll Growth	• Maintain current assumption of 3.00%
Salary Increase	• Maintain current inflation assumption of 2.50% • Maintain current “across-the-board” salary assumption of 0.50% • Introduce separate assumptions for Legacy and PEPRA members • Increase merit & promotion salary assumptions to reflect past experience
Additional Cashout	• Adjust assumptions to reflect recent experience • Remove General Tier 3 assumptions
Impact of 50/50 Excess Earnings Allocation on Investment Return	• For informational purposes only • Estimated impact increases outflow from 0.75% to 0.80% of assets

Summary of Demographic Assumptions

Rates of decrement



Assumption	Recommendation
Mortality	• Adopt new Pub-2016 base tables (amount-weighted for Pension Plan & non-OPEB SRBR and headcount-weighted for OPEB SRBR benefits) • Adopt new adjustments to base tables to reflect ACERA experience • Maintain latest MP-2021 projection scale
Disability	• Adjust rates to reflect lower incidence of disability for General and Safety members
Termination	• Adjust rates to reflect lower overall termination experience for General members and higher overall termination experience for Safety members
Retirement	• Adjust rates to reflect recent experience

Summary of Demographic Assumptions

Miscellaneous assumptions

Assumption	Recommendation
Deferred Vested Retirement Age	• Maintain current assumptions for all groups except Safety members without reciprocity • Reduce assumption from 56 to 55 for Safety members without reciprocity
Reciprocity	• Maintain current assumption that 20% of future General inactive members will be covered by a reciprocal system • Reduce assumption from 45% to 40% of future Safety inactive members that will be covered by a reciprocal system
Survivor Assumptions	• Maintain current assumption of 70% for males and 50% for females expected to have an eligible survivor at retirement • Maintain current assumption that male retirees are three years older than their female survivors and that female retirees are two years younger than their male survivors
Pre-Retirement Death Optional Form Election	• Increase assumption for child beneficiary type from 50% to 55% • Reduce assumption for parent beneficiary type from 25% to 20% • Maintain current assumption for sibling and other beneficiary type at 25%
Sick Leave Conversion	• Maintain current assumption for General members • Reduce assumption from 0.006 to 0.005 years of additional service per year of employment for Safety members

Summary of Demographic Assumptions

Retiree health assumptions

Assumption	Recommendation
Retiree Health	- Coverage election: Maintain current assumptions for electing medical coverage at 75% for actives under age 65, 90% for actives age 65 and over, and 60% upon reaching age 65 for retirees under age 65 without medical coverage - Spousal coverage: Maintain current assumptions for percentage of future retirees covering their spouse/domestic partner at 35% for males and 15% for females - Covered spouse age difference: Maintain current assumption for spouse/domestic partner age difference for future male retirees at 3 years younger than the member, and increase the assumption for future female retirees from 1 to 2 years older than the member

Actuarial Cost Impact

Estimated Actuarial Impact (1 of 2)

Modeled as of December 31, 2025

Actual cost impact will be reflected in the December 31, 2026 valuation

Component	Economic Assumptions	Demographic Assumptions	Total Change
Employer normal cost rate	+0.92%	-0.10%	+0.82%
Employer UAAL rate	<u>+1.96%</u>	<u>-0.40%</u>	<u>+1.56%</u>
Total Employer rate	+2.88%	-0.50%	+2.38%
Total Member rate	+0.79%	-0.04%	+0.75%
UAAL	+\$452 M	-\$87 M	+\$365 M
VVA funded ratio	-3.1%	+0.6%	-2.5%

Estimated Actuarial Impact (2 of 2)

Modeled as of December 31, 2025

Actual cost impact will be reflected in the December 31, 2026 valuation

Component	Current Assumptions	Total Change	Recommended Assumptions
Employer normal cost rate	10.56%	+0.82%	11.38%
Employer UAAL rate	<u>9.52%</u>	<u>+1.56%</u>	<u>11.08%</u>
Total Employer rate*	20.08%	+2.38%	22.46%
Total Member rate	9.78%	+0.75%	10.53%
UAAL	\$1,090 M	+\$365 M	\$1,455 M
VVA funded ratio	91.6%	-2.5%	89.1%

* For employers with active member payroll. The UAAL contribution for ACOE, expressed as a level dollar amount and when made on April 1, 2027, is \$134 K under the current assumptions and \$130 K under the recommended assumptions, for a total change of \$(4) K.

Employer Contribution Rate Impact

Modeled as of December 31, 2025 as % of payroll

Cost Group	Current Assumptions	Total Change	Recommended Assumptions
County General Tier 1	17.99%	+2.33%	20.32%
County General Tier 2	16.22%	+2.19%	18.41%
County General Tier 4	15.97%	+1.91%	17.88%
County Safety Tier 2	29.61%	+5.35%	34.96%
County Safety Tier 2C	33.27%	+4.69%	37.96%
County Safety Tier 2D	30.97%	+4.90%	35.87%
County Safety Tier 4	27.06%	+3.83%	30.89%
AHS, Court and First 5 General Tier 1	25.02%	+2.25%	27.27%
AHS, Court and First 5 General Tier 2	23.25%	+2.11%	25.36%
AHS, Court and First 5 General Tier 4	23.00%	+1.83%	24.83%
Housing and LAFCO General Tier 1	29.51%	+2.20%	31.71%
Housing and LAFCO General Tier 2	27.74%	+2.06%	29.80%
Housing and LAFCO General Tier 4	27.49%	+1.78%	29.27%
LARPD General Tier 1	13.00%	+3.15%	16.15%
LARPD General Tier 3	18.83%	+2.19%	21.02%
LARPD General Tier 4	10.98%	+2.73%	13.71%
All Categories Combined	20.08%	+2.38%	22.46%

Member Contribution Rate Impact

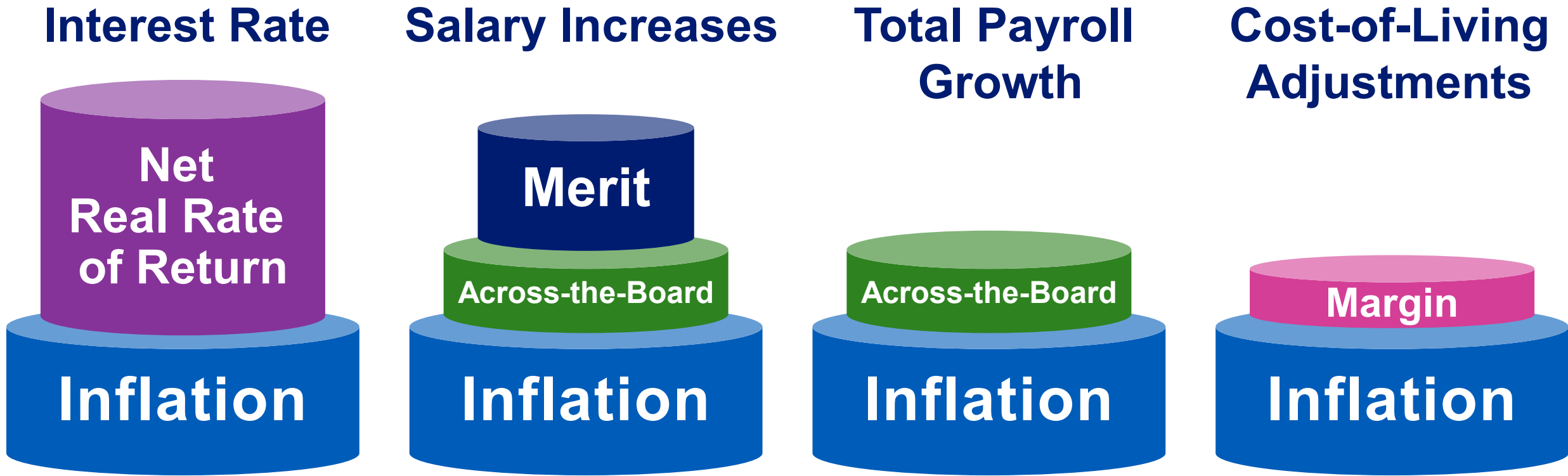
Modeled as of December 31, 2025 as % of payroll

Cost Group	Current Assumptions	Total Change	Recommended Assumptions
General Tier 1	9.83%	+1.16%	10.99%
General Tier 2	7.73%	+0.83%	8.56%
General Tier 3	13.69%	+0.50%	14.19%
General Tier 4	8.96%	+0.59%	9.55%
Safety Tier 2	16.38%	+1.44%	17.82%
Safety Tier 2C	14.31%	+1.17%	15.48%
Safety Tier 2D	16.65%	+1.35%	18.00%
Safety Tier 4	17.40%	+0.78%	18.18%
All Categories Combined	9.78%	+0.75%	10.53%

Taking a Closer Look

Summary of Economic Assumptions

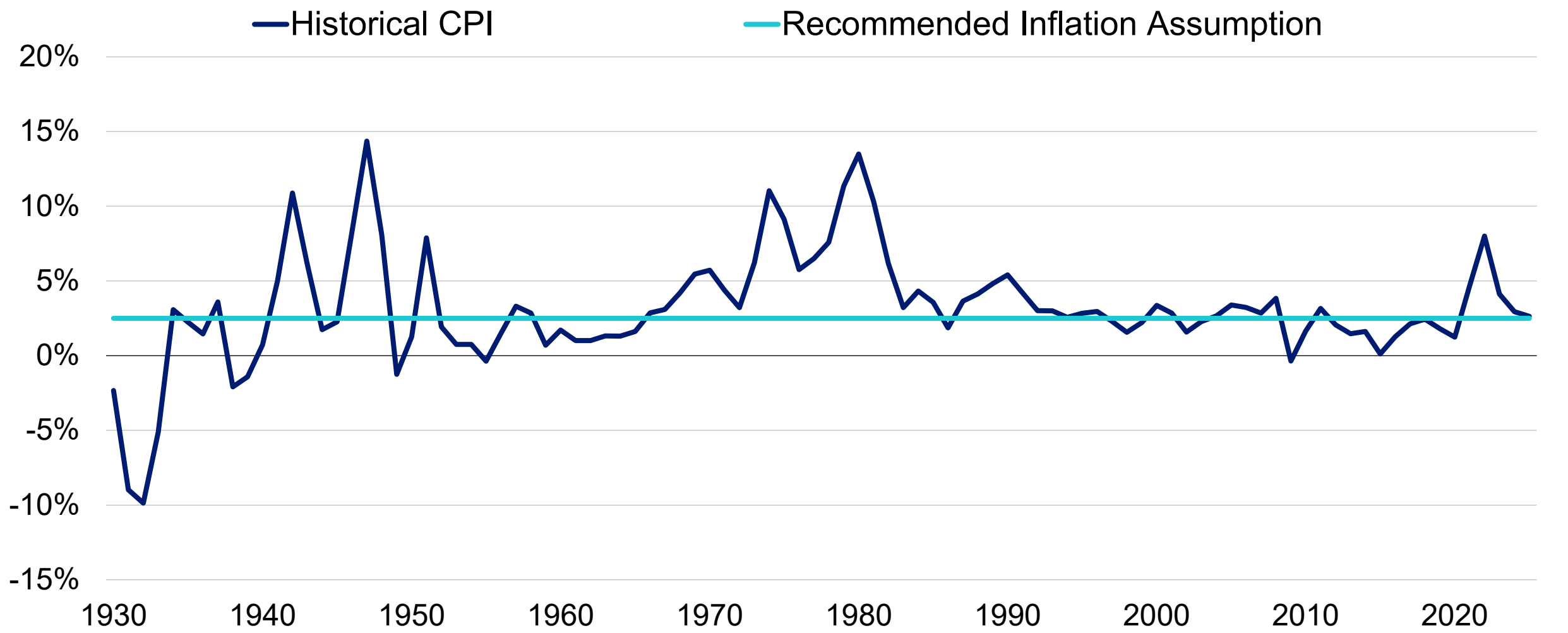
What are the components of the economic assumptions?



Each component should be consistent across all economic assumptions

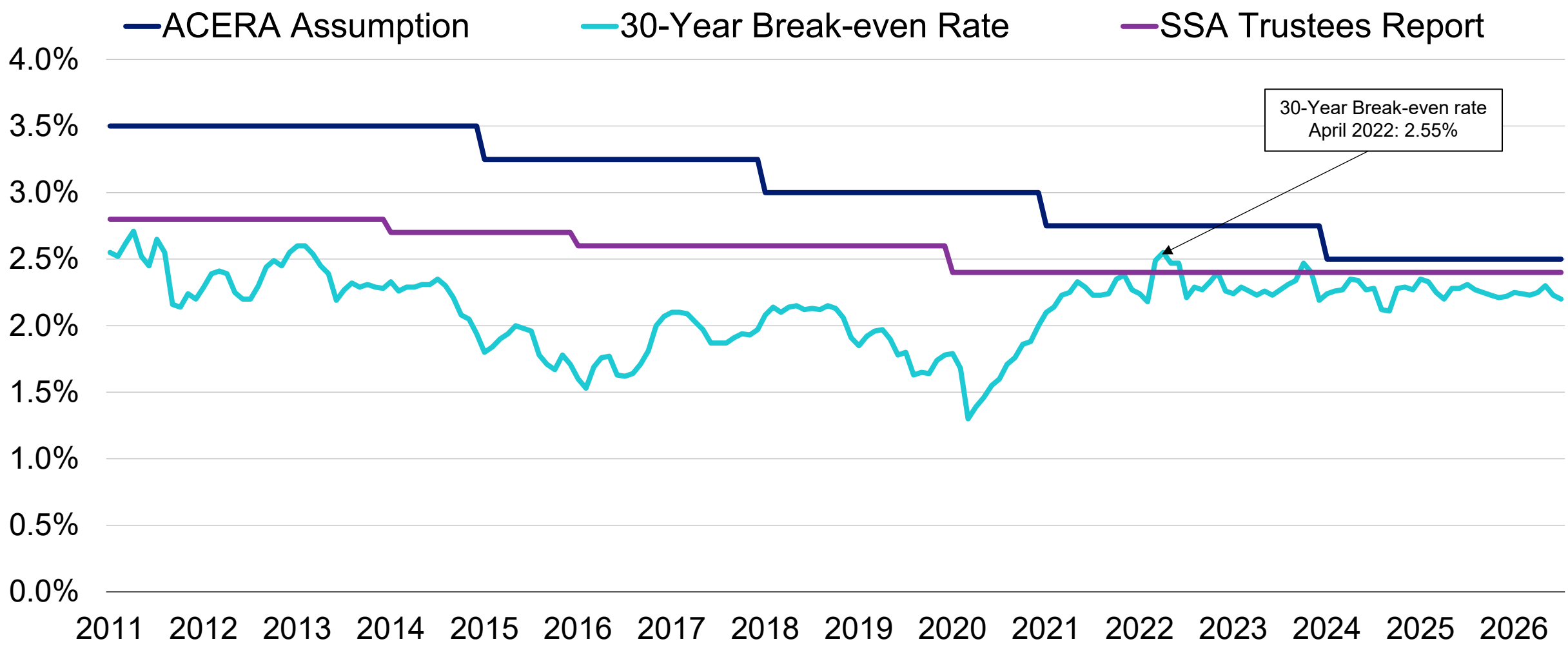
Historical Consumer Price Index (CPI)

Price inflation historical review



Historical Inflation Forecasts

Price inflation comparisons



Price Inflation Assumption

Looking forward

Future expectations

- Investment consultant survey average inflation is 2.49%
 - NEPC: 2.70% annual inflation over 30 years
- Social Security Administration: 2.40% average CPI over 75 years
- Market implied forward inflation hovering between 2%-2.5%
- Public Plan Database: 2.50% median inflation assumption

Recommend maintaining annual inflation assumption at 2.50%

Investment Earnings Assumption

Putting it all together

Assumption Component	December 31, 2026 Recommended	December 31, 2026 Current	December 31, 2023 Adopted
Inflation	2.50%	2.50%	2.50%
Portfolio expected arithmetic real return	5.73%	5.73%	5.89%
Expense adjustment	(0.25%)	(0.25%)	(0.30%)
Adjustment to expected geometric real return	(0.96%)	(0.96%)	(0.78%)
Risk adjustment	(0.27%)	(0.02%)	(0.31%)
Total	6.75%	7.00%	7.00%
Confidence level	53%	50%	54%

Risk Adjustment

Risk adjustment

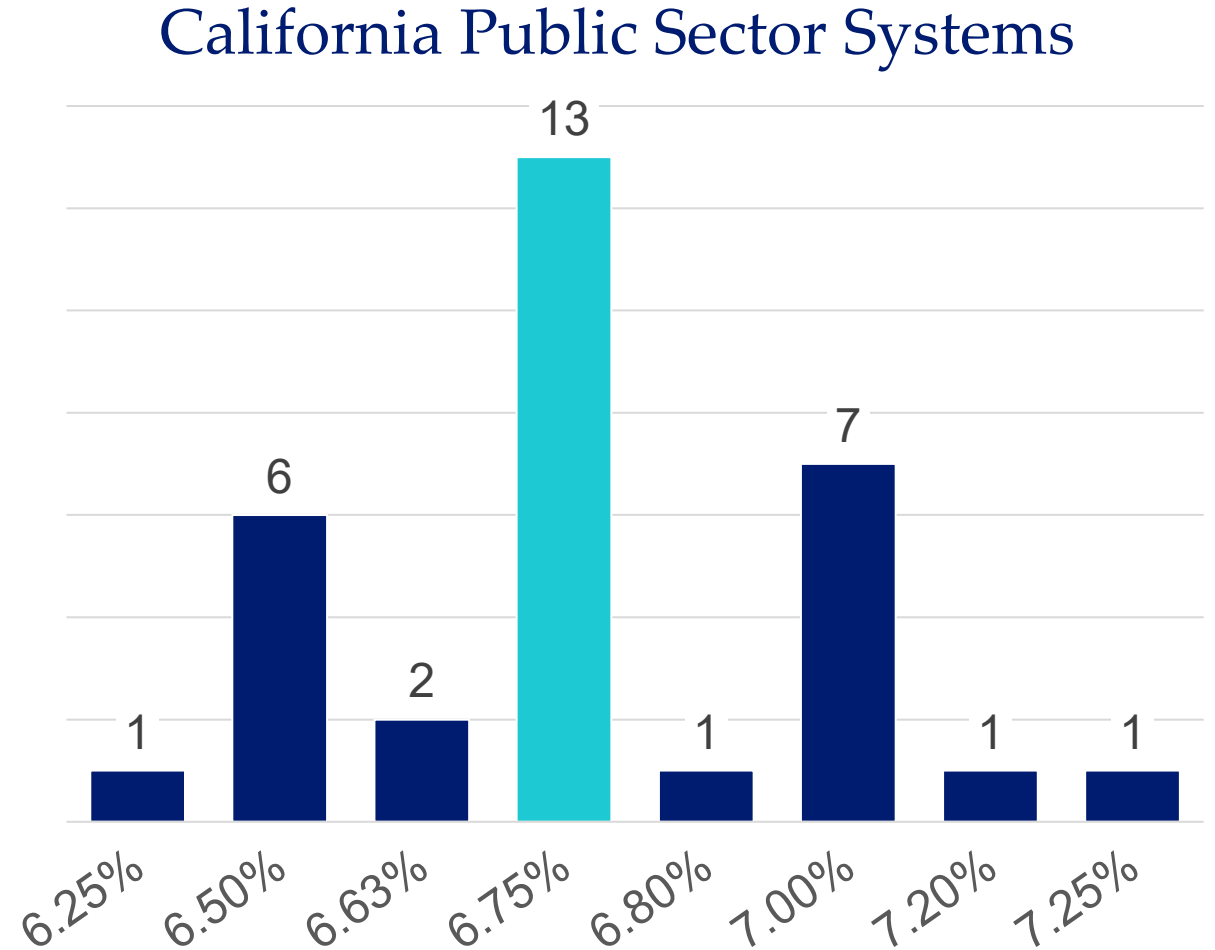
- **Decrease** in risk adjustment
 - Results in **slightly lower** confidence level under **6.75% recommendation**
- Compares risk position over time

Adopted for the Valuation as of	Investment Return	Risk Adjustment	Confidence Level
December 31, 2011	7.80%	0.53%	56%
December 31, 2014	7.60%	0.29%	53%
December 31, 2017	7.25%	0.20%	53%
December 31, 2020	7.00%	0.36%	54%
December 31, 2023	7.00%	0.31%	54%
December 31, 2026 (Recommended)	6.75%	0.27%	53%

Comparison with Other Systems

How does the 6.75% recommendation compare?

- **National** median is 7.00%
 - NCPERS' survey mean is 6.67%
 - 49 public fund responses for 2025
 - Public Plan's survey mean is 6.91%
 - 239 large public funds in their 2024 fiscal year valuation
 - 72% of the systems have reduced their investment return assumption from 2017 to 2024
 - State systems outside California tend to lag emerging practices



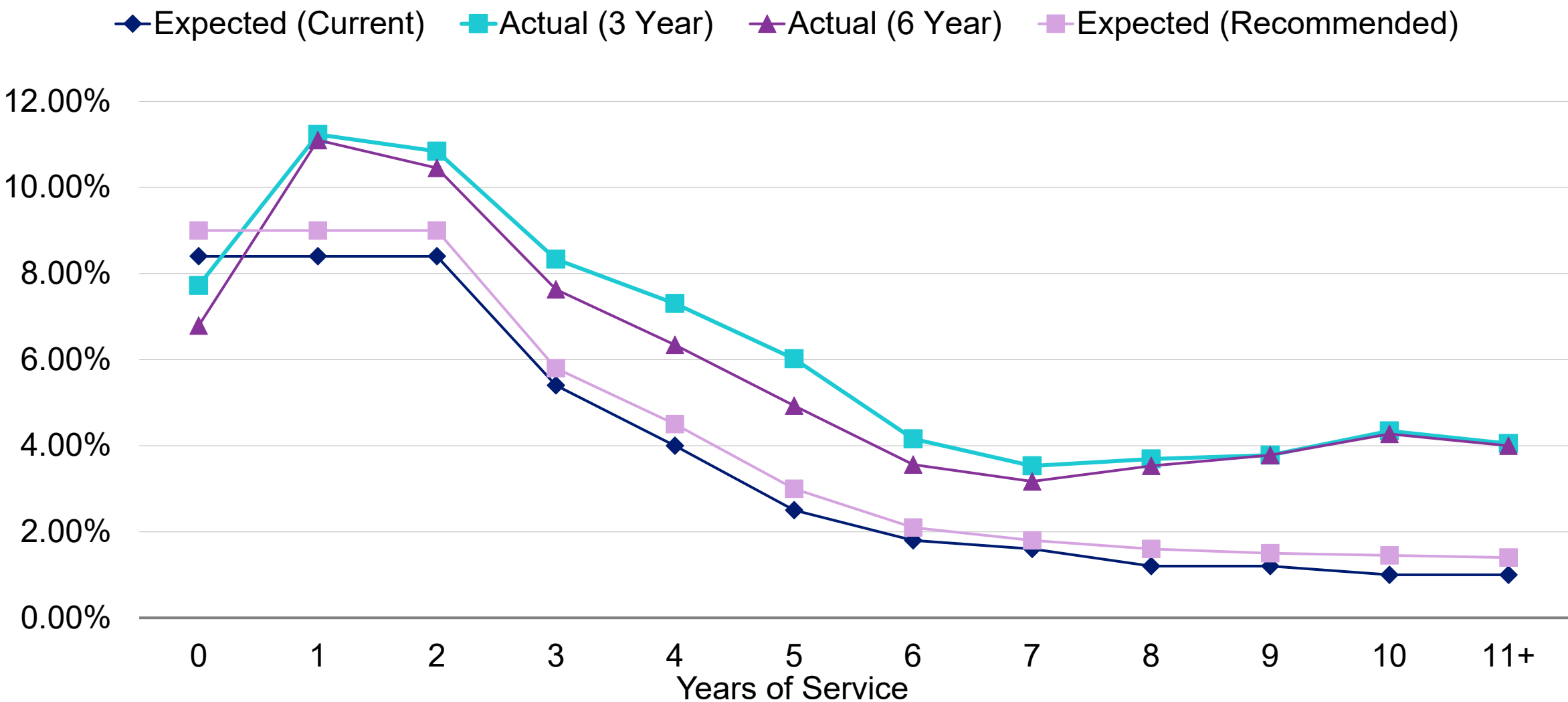
Assumed Salary Increase

What are the components of this assumption?

- **Inflation increases: 2.50%**
 - Assumed to equal price inflation assumption
- **Real “across-the-board” pay increases: 0.25%**
 - Averaged **0.1%–0.4%** during the last ten to twenty years according to an index produced by the Department of Labor
 - Projected to be **1.14%** in the Social Security program’s 2026 annual report
 - For reference, ACERA’s wage inflation exceeded price inflation by an average of **0.98%** over the last six years
- **Merit and promotion increases: 0.75%–9.00%, vary by tier & service**
 - Based on observed increases for employees at each service level
 - Reflects an individual employee’s career advancement

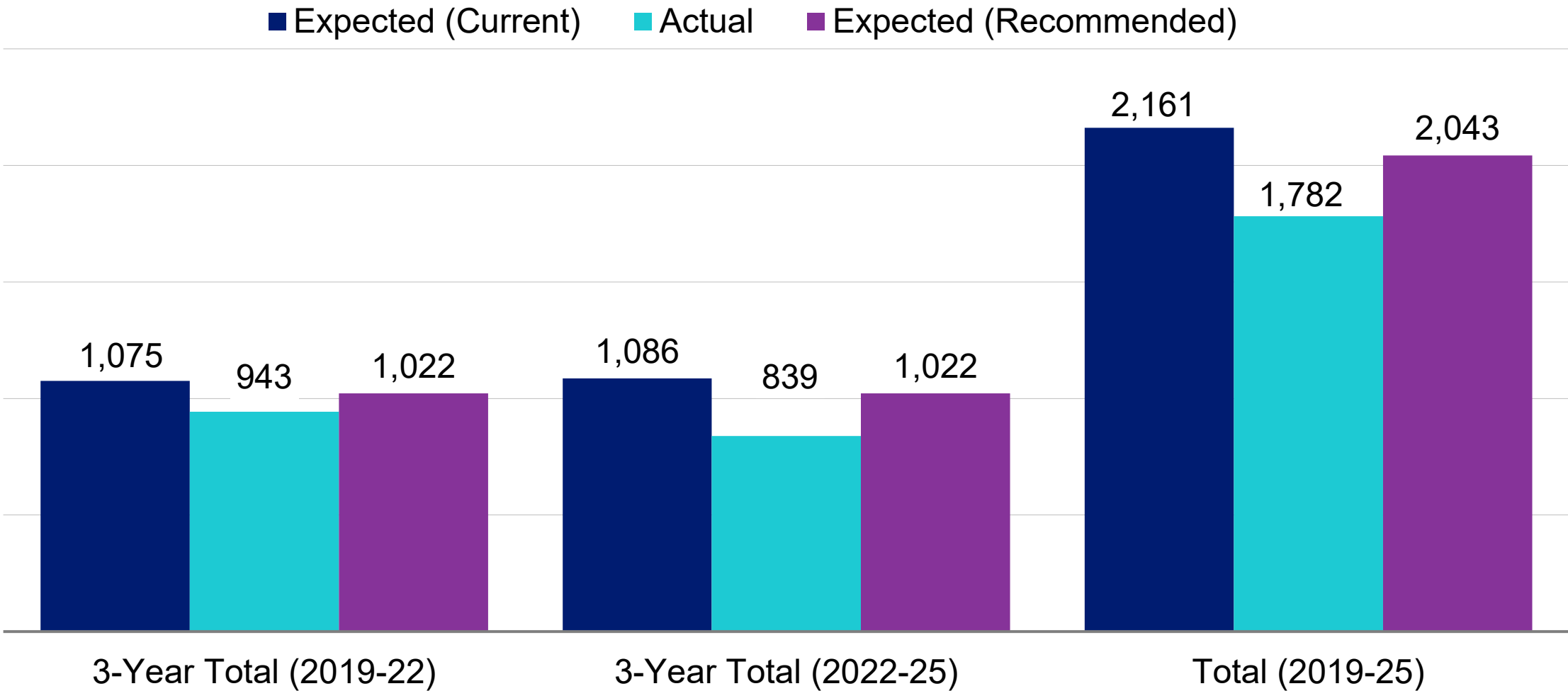
Merit and Promotion Increase Example

Safety Tier 4 Members



Retirement Assumption Example

General Members



Note: Results may not add due to rounding.

Thank You

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| Appendix

Calculation of Geometric Return

Calculation of Geometric Return

How do we calculate the geometric return of a portfolio?

- First, calculate the arithmetic average return for the portfolio, based on each asset class's expected arithmetic return
- Second, convert to a geometric average return by applying a reduction to the arithmetic average which models the impact of volatility

*“If the actuary is trying to determine the forward looking expected geometric return for an entire portfolio from individual asset classes, this **cannot be accomplished** by taking the appropriate weightings from the individual asset classes' forward looking expected geometric returns.*

*In approximating the forward looking expected geometric return for the entire portfolio, the actuary would **first determine the forward-looking expected arithmetic return for the entire portfolio** and then subtract one-half of the variance of the entire portfolio.”*

Source: Educational Material in Appendix 3 to Actuarial Standard of Practice No. 27 (Superseded), Effective September 2013

Calculation of Geometric Return Example

How do we calculate the geometric return of a portfolio?

Asset Class	Allocation	Arithmetic Return	Geometric Return	Standard Deviation
Equity	60%	8.00%	6.68%	17.00%
Bond	40%	3.50%	3.33%	6.00%
Portfolio	100%	6.20%	5.60%	10.94%

Portfolio arithmetic return = $(60\% \times 8.00\%) + (40\% \times 3.50\%) = \mathbf{6.20\%}$

Portfolio geometric return = $6.20\% - ((10.94\%)^2 \div 2) = \mathbf{5.60\%}$

- Approximately equal to portfolio arithmetic return minus one-half of portfolio variance (reduction due to volatility)

The portfolio geometric return **is not equal** to the weighted average of geometric returns

- $(60\% \times 6.68\%) + (40\% \times 3.33\%) = 5.34\%$, which is lower than the portfolio geometric return calculated above
- A simple weighted average of geometric returns does not reflect the correlations between asset classes

Source: "Forecasting Investment Returns and Expected Return Assumptions for Pension Actuaries", American Academy of Actuaries Pension Practice Council, February 2019