



Los Angeles County Employees Retirement Association

2025 Investigation of Experience
for Retirement Benefit Assumptions

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February 10, 2026

Board of Investments
Los Angeles County Employees Retirement Association
300 North Lake Avenue, Suite 820
Pasadena, CA 91101-4199

Re: Los Angeles County Employees Retirement Association

Dear Trustees of the Board:

It is a pleasure to submit this report of our investigation of the experience of the Los Angeles County Employees Retirement Association (LACERA) for the three-year period ending June 30, 2025. The results of this investigation are the basis for recommended changes in actuarial assumptions for the actuarial valuation of retirement benefits to be performed as of June 30, 2025.

The purpose of this report is to communicate the results of our review of the actuarial methods and the economic and demographic assumptions to be used in the completion of the upcoming valuation. Several of our recommendations represent changes from the prior methods or assumptions and are designed to better anticipate the emerging experience of LACERA.

We have provided financial information showing the estimated hypothetical impact of the recommended assumptions if they had been used in the June 30, 2024 actuarial valuation. We believe the recommended assumptions provide a reasonable estimate of anticipated experience affecting LACERA. Nevertheless, the emerging costs will vary from those presented in this report to the extent that actual experience differs from that projected by the actuarial assumptions. Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as the following:

- Plan experience differing from the actuarial assumptions,
- Future changes in the actuarial assumptions,
- Increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as potential additional contribution requirements due to changes in the plan's funded status), and
- Changes in the plan provisions or accounting standards.

Due to the scope of this assignment, we did not perform an analysis of the potential range of such measurements.

Reliance

In preparing this report, we relied without audit on information (some oral and some in writing) supplied by LACERA's staff. This information includes, but is not limited to, statutory provisions, employee data, and financial information. We used LACERA's benefit provisions as stated in our June 30, 2024 actuarial valuation report. In our examination, after discussion with LACERA and making certain adjustments, we have found the data to be reasonably consistent and comparable with data used for other purposes. The experience study results are dependent on the integrity of this information. If any of this information is inaccurate or incomplete, our determinations may need to be revised.

Actuarial assumptions

This investigation of experience report recommends assumptions to be used in the valuation to provide an estimate of the System's financial condition as of a single date. The valuation can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct. Determining results using alternative assumptions is outside the scope of our engagement.

We certify that the assumptions developed in this report satisfy Actuarial Standard of Practice No. 27 (Selection of Assumptions for Measuring Pension Obligations).

No legal duty to third-party recipients

Milliman's work is prepared solely for the internal business use of LACERA. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exception(s):

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Models

These results were developed using models employing standard actuarial techniques. We have reviewed the models, including their inputs, calculations, and outputs for consistency, reasonableness, and appropriateness to the intended purpose and in compliance with generally accepted actuarial practice and relevant actuarial standards of practice. Reliance on other experts is reflected in Milliman's capital market assumptions, and in Milliman's expected return model maintained by Milliman investment consultants.

Qualifications and Certification

The consultants who worked on this assignment are retirement actuaries. Milliman's advice is not intended to be a substitute for qualified legal, investment, or accounting counsel.

The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

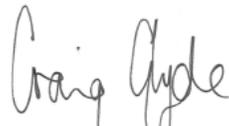
On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the principles prescribed by the Actuarial Standards Board and the *Code of Professional Conduct and Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States*, published by the American Academy of Actuaries. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

We would like to acknowledge the help in the preparation of the data for this investigation given by the LACERA staff. We look forward to our discussions and the opportunity to respond to your questions and comments at your next meeting.

Sincerely,



Nick Collier, ASA, EA, MAAA
Consulting Actuary



Craig Glyde, ASA, EA, MAAA
Consulting Actuary

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1. Executive Summary and Recommendations

Milliman has performed the triennial investigation of experience for the period ending June 30, 2025. Although new information is added to our investigation based on the study period, the analysis and accompanying recommendations encompass a longer period by reflecting results from prior investigations. This report contains the findings of this investigation and includes several recommended changes in assumptions.

Calculating appropriate contribution rates is dependent on the assumptions used to project the future benefit payments and then to discount the value of future benefits to determine the present values. Therefore, the assumptions are critical in assisting LACERA to determine adequate funding for future retirement benefits.

Summary

This section describes the key findings of this investigation of experience. We have recommended several changes to the assumptions. If adopted, these changes will impact the Funded Ratio as of June 30, 2025 and the member and employer contribution rates effective July 1, 2026. The potential impact on member rates is discussed on the next page. The potential impact on employer rates is discussed at the end of this section.

We will refer to our recommended assumptions as the “recommended” or “proposed” assumptions throughout this report. We have provided a summary of the proposed changes to the assumptions later in this section. The Board of Investments has the ultimate decision on the assumptions to be used in the actuarial valuation.

Study Period

In our review of demographic experience and assumptions, other than merit salary increases, we considered data from the period 2016 to 2025. For merit salary increases we considered data from 2010 to 2025. Including these longer periods in the study helps to lower the potential impact that short-term variance in actual experience may have on the selection of assumptions, and should result in smoother, more gradual changes in assumptions over time. However, it is also important to consider any trends in the data that have materialized over the duration of those longer periods. For that reason, we also considered the actual experience during the most recent three-year period (2022 to 2025). When recommending assumptions, our primary focus was on the longer-term period, but we also accounted for the most recent three-year period if it was inconsistent with the longer period. This means that any recommended assumption should be more consistent with actual experience over those periods than the current assumptions.

We also considered whether it was appropriate to include, with or without adjustment, experience from the years most affected by the COVID-19 pandemic. To do this, we considered whether our recommend assumptions would be materially different if we excluded data from the 2019 to 2022 study period entirely. In general, we did not believe our recommendations would be materially different and as a result we retained that experience. However, in certain cases, such as in our review of mortality experience, our recommended assumptions reflect that mortality experience for that period was higher than the other periods.

Actuarial Methods and Member Contribution Rates

Section 3 describes the actuarial methods used in performing our valuation and in assisting LACERA to administer the plan.

We are not recommending any changes in the actuarial methods used in the valuation.

An update to the operating tables LACERA uses in the calculation of optional forms of payment will be needed to reflect any changes in the general wage growth, merit salary, retiree COLA, retiree mortality, and investment return assumptions. There are recommended changes to the merit salary and mortality assumptions which will affect the operating tables.

New member contribution rates will be calculated using the assumptions adopted. We have estimated the new member rates based on the proposed assumptions. The actual member contribution rates cannot be determined until completion of the June 30, 2025 valuation. Sample member contribution rate increases are shown in the following table. Note that all estimated member contribution rates include the proposed demographic assumption changes and are the total member contribution rate (i.e., Normal + COLA).

	Change as a % of Pay	Average Monthly Pay	Estimated Increase in Monthly \$
<u>General Plan D:</u>			
- Entry Age 25	0.42%	\$ 9,500	\$40
- Entry Age 35	0.46%	\$ 9,500	\$44
- Entry Age 45	0.47%	\$ 9,500	\$45
General Plan G:	-0.10%	\$ 7,000	(\$7)
<u>Safety Plan B:</u>			
- Entry Age 25	0.35%	\$ 13,000	\$46
- Entry Age 35	0.12%	\$ 13,000	\$16
- Entry Age 45	-0.03%	\$ 13,000	(\$4)
Safety Plan C:	0.27%	\$ 9,200	\$25

Notes

1. Final member contribution rates will be determined when the June 30, 2025 actuarial valuation is completed.
2. Estimated changes are based on the estimated percent of pay change and the average monthly compensation for active members of the specified plan.

Economic Assumptions

Section 4 discusses the economic assumptions: price inflation (both local and national), general wage growth (which includes price inflation and productivity), payroll growth, investment return, and future retiree COLA increases.

We are recommending the following changes related to the price inflation assumption.

- We recommend the national price inflation be reduced from 2.75% to 2.50% to for consistency with long term forecasts. The national price inflation is directly reflected in the valuation in the projection of the PEPRA compensation limit and indirectly affects other assumptions such as local price inflation and the investment return assumption.
- We recommend the local price inflation assumption remains at 2.75%. This respects historical trends that show Los Angeles-area inflation has exceeded US inflation over a long period. The local price inflation assumption indirectly affects the general wage growth, payroll and COLA assumptions.
- We recommend the wage inflation assumption remain equal to the local price inflation plus 0.5%, for a total of 3.25%, as there is a high correlation in the long term between price and wage inflation. Similarly, we recommend the payroll growth assumption remain at 3.25% equal to the general wage assumption.
- We recommend no change in the assumed cost-of-living adjustment (COLA) for retiree benefits, which is equal to the price inflation assumption subject to plan maximum increases and COLA accumulation bank levels. Due to current COLA accumulation bank levels, the assumed COLA for current Plan A retirees is recommended to be 3.0%. For future Plan A retirees the assumed COLA is equal to local price inflation. For all other plans the assumed COLA is 2.0% (with pro-rata adjustment based on pre-2002 service for General Plan E).

Based on Milliman’s mid-year 2025 capital market assumptions, the expected return net of investment and administrative expenses over the next 10 years is 6.7% and the expected return over the next 20 years is 7.2%. We recommend retaining the current investment return assumption of 7.0%. Combined with the recommended decrease in the national price inflation assumption this is roughly equivalent to an increase in the real rate of investment return assumption from 4.25% to 4.50%. This increase in the assumed real rate of return is consistent with changes in the capital market assumptions of many investment advisors over the last several years.

The following table shows our recommended economic assumptions.

	Economic Assumptions	
	Current	Proposed
Investment Return ⁽¹⁾	7.00%	7.00%
National Price Inflation	2.75%	2.50%
Local Price Inflation	2.75%	2.75%
General Wage Growth	3.25%	3.25%
Payroll Growth	3.25%	3.25%
COLAs for Retirees (Plan A / Other Plans) ⁽²⁾	2.75%/2.00%	2.75%/2.00%

1. Net of both investment and administration expenses. For GASB financial reporting, the recommended investment return assumption remains at 7.15%.
2. The Plan E COLA is a pro-rated percentage of 2.00% based on pre-2002 service. Due to Plan A COLA accumulation balances, current retirees and beneficiaries are assumed to receive 3.00% COLAs.

Demographic Assumptions

In our analysis of the active demographic assumptions, we reflect the impact of compensation levels by weighting the results by compensation. That is, a member with annual compensation of \$80,000 has twice the impact on the observed rates in comparison to a member with annual compensation of \$40,000. We observed some differences in member behavior based on compensation. For example, members with higher levels of compensation tended to have higher probabilities of retiring at a given age. These compensation-weighted probabilities are shown as the “Actual” bars in the graphs in Section 5 through Section 9. This approach is consistent with the previous experience study. For the analysis of retired mortality, we use a similar approach based on benefit weighting, so that the experience of retirees with larger benefits has a larger impact on the observed rates than the experience of those with smaller benefits. These benefit-weighted probabilities are shown as the “Actual” bars in the graphs in Section 11. Using this weighted approach better aligns the assumptions to the liabilities.

Merit Salary Increases

Section 5 discusses the individual salary increases due to promotion and longevity – the merit component of salaries. Merit salary increases were generally higher than the assumed increases. We are recommending increases in the assumption for both General and Safety members at most service levels to reflect actual experience.

Death from Active Status

Section 6 discusses the probability of a member dying while in active employment.

For nonservice-connected deaths, the actual rates were greater than what the current assumptions predicted. We recommend updating the base tables underlying the ordinary death assumption to reflect the most recent tables released by the Society of Actuaries (with scaling adjustments) and keeping the mortality improvement projection scale unchanged. These updated base tables are known as the Pub-2016 Public Retirement Plans Mortality Tables (Pub-2016) and contain separate tables for General and Safety members, which is a similar structure to the Pub-2010 tables currently in use by LACERA. LACERA participated in the development of the Pub-2016 mortality tables by providing mortality experience data to the Society of Actuaries (SOA).

For the service-connected death assumption, we are not recommending a change given the limited data for this assumption.

Service Retirement

Section 7 discusses the probability of an eligible active member taking a service retirement at a specific age and service level. The results of our study showed actual service retirement rates, weighted by compensation, that were somewhat higher than expected by the assumptions for General members, but significantly lower for Safety members. The main reason for this difference in the results for Safety members in this study is that we have adjusted for the relatively high number of Safety disability retirement awards that occur after service retirement commencement.

Safety members who initially commence a service retirement benefit are often subsequently awarded a service-connected disability retirement, and their retirement “status” is recharacterized accordingly. In our analysis, we have considered the ultimate retirement status as the reason the member retired from service. That is, we have treated as disability retirements those members who initially commenced a service retirement who were subsequently awarded a disability retirement. The result of this adjustment is that actual service retirements were significantly lower than expected by the current assumptions (which were based on analysis that did not fully reflect this adjustment) and actual disability retirements were significantly higher than expected.

Based on the above, we are recommending significant changes to the rates of service retirement, particularly for Safety members. These proposed changes are offset by proposed changes to the disability retirement rates.

Disability Retirement

Section 8 discusses the probability of an active member becoming disabled. We studied both service-connected disability and nonservice-connected disability.

As discussed above in the Service Retirement section, we observed significantly lower service retirements and significantly higher disability retirements. As a result, we are recommending higher service-connected disability retirement assumptions, particularly for Safety members.

Effectively all disability retirements among Safety members are service-connected disabilities. Therefore, we only study nonservice-connected disability experience of General members. As we have observed in prior experience studies the rates of nonservice-connected disability were lower than expected by the assumptions. We are recommending reductions to the nonservice-connected disability rates for General members to reflect this continuing pattern.

Termination

Section 9 summarizes the results of our study of terminations of employment for reasons other than death, service retirement, or disability. As used in the actuarial valuation, termination rates refer to both voluntary and involuntary terminations of employment.

The results of our study showed actual termination rates, weighted by compensation, that were higher than those expected by the assumptions. We are recommending increases to the termination rates at most service levels for General Plans D and G, and Safety members, with relatively minor changes for General Plan E.

Probability of Refund

In Section 10, we report the actual number of vested members electing a refund upon termination of employment.

We recommend lowering the probability of refund for General members who have between 5 and 15 years of service and increasing it for members with 25 or more years of service.

For Safety members we recommend lowering the probability of refund for members who have between 5 and 7 years of service and increasing it slightly for members who have 13 or more years of service to better reflect the actual experience of members at different service levels.

Retiree Mortality

We recommend updating the base tables underlying the retiree mortality assumptions to reflect the most recent tables released by the Society of Actuaries (with scaling adjustments) and keeping the mortality improvement projection scale (which is the most recently published scale) unchanged. These updated base tables are known as the Pub-2016 Public Retirement Plans Mortality Tables (Pub-2016) and contain separate tables for General and Safety members, which is a similar structure as the Pub-2010 tables currently in use by LACERA. LACERA participated in the development of the Pub-2016 mortality tables by providing mortality experience data to the Society of Actuaries (SOA).

Additional details are provided in Section 11.

Miscellaneous Assumptions

Section 12 discusses some other assumptions that are made. We are recommending the following:

- Updating the assumption for the age at which deferred vested members will commence their retirement benefit.
- Updating the current assumption for the probability of a deferred vested member establishing reciprocity and retiring with another system – from 17% to 18% for General members and from 36% to 37% for Safety members.

Estimated Financial Impact

The following exhibit is designed to give the reader an idea of how the proposed changes may affect LACERA as a whole. Note that these estimates represent the immediate impact. Ultimately, the long-term cost of any retirement system is based on the benefits provided by employers, and the actual experience of the system.

The financial impact was evaluated by performing additional valuations with the June 30, 2024 valuation data and benefits, and reflecting the proposed assumption changes. This allows us to evaluate the relative financial impact of the various proposed changes; however, it should be noted that these are just estimates and the actual impact may vary when the June 30, 2025 valuation is completed. We have projected these results forward to June 30, 2025. Note that the impact of the various assumption changes by component is somewhat dependent on the order in which they are evaluated.

Projected Results of June 30, 2025 Valuation (Proposed Assumptions)

	Funded Ratio	Total Employer Contribution	
		% of Payroll	\$ millions
June 30, 2024 Valuation	80.9%	25.61%	\$ 2,745
Estimated June 30, 2025 Valuation (before changes)	82.5%	24.90%	\$ 2,669
Recommended Economic Assumption Changes			
CPI-U Increase	0.0%	-0.06%	\$ (6)
Recommended Demographic Assumption Changes			
Merit Salary Increases	-0.2%	0.56%	\$ 60
Service Retirement / Disability	-0.1%	0.11%	12
Termination / Refund	-0.1%	-0.10%	(11)
Mortality	-0.3%	0.27%	29
Other	0.0%	0.02%	2
Demographic Assumption Changes	-0.7%	0.86%	\$ 92
Recommended Changes			
Total Recommended Changes	-0.7%	0.80%	\$ 86
Estimated June 30, 2025 Valuation (with all changes)	81.8%	25.70%	\$ 2,755

Notes

1. Impact estimated based on June 30, 2024 actuarial valuation. New assumptions will be implemented with the June 30, 2025 actuarial valuation and affect contribution rates effective July 1, 2026, so actual results will vary.
2. The estimated June 30, 2025 results (before changes) reflect the actual return for the prior year. Details are discussed in our Preliminary Funding Estimate letter, dated October 6, 2025.
3. Estimated employer contribution amount based on estimated fiscal year 2025 to 2026 Covered Payroll.
4. Impact of proposed changes will vary by plan; however, increase for the combined General plans is projected to be 0.71% and for the combined Safety plans is 1.20%.

Conclusion

We recommend that the Board adopt the proposed actuarial assumptions and methods shown in Appendix A. We believe these assumptions reasonably reflect future expectations.

2. Introduction

Funding and Valuation Principles

While our goal is to make the best possible estimate of future experience, it is important to recognize that the future will almost certainly differ from our current best estimates of it. Routine scheduled evaluations of the actuarial assumptions, such as through this experience investigation, are a sound methodology to identify where assumptions differ from emerging experience and to fine-tune the actuarial estimates to keep them as close as possible to emerging experience.

The actuarial assumptions are usually divided into two groups: economic and demographic. The economic assumptions must not only reflect LACERA's actual experience but also consider the long-term expectation of future economic growth for the nation as well as the global economy. The non-economic, or demographic assumptions, are based on LACERA's actual experience, adjusted to reflect trends and historical experience. Thus, economic assumptions are more subjective than demographic assumptions, and demographic assumptions are much more dependent on recent experience.

Overview

This report presents the results of an investigation of the economic and demographic experience and future expectations of LACERA. We will refer to this investigation as an experience study.

Throughout this report, we refer to "expected" and "proposed" actuarial assumptions. The "expected" assumptions are those used for our actuarial valuation of LACERA as of June 30, 2024. They may also be referred to as the "current" assumptions. The current assumptions and methods were adopted by the Board based on Milliman's 2022 experience study. The "proposed" or "recommended" assumptions are those we recommend for use in the valuation as of June 30, 2025 and for subsequent valuations until further changes are made.

The choice of economic assumptions (price inflation, investment return, general wage growth, payroll growth, and retiree COLA increase) is discussed in Section 4 of this report. These assumptions are generally chosen on the basis of expectations as to the effect of future economic conditions on the operation of LACERA.

Sections 5 through 12 of this report show the results of our study of demographic assumptions. These assumptions tend to be more objective than the economic assumptions. The exhibits are detailed comparisons between actual and expected decrements (members leaving active or retired status, for reasons such as retirement or death) on both the current and proposed bases. Each exhibit is identified by two numbers corresponding to the section of the report and the specific exhibit within that section. For example, Exhibit 7-1 is referenced in Section 7, retirement rates.

For each type of assumption, graphs show the actual, the expected and proposed rates, usually by some combination of gender, plan, years of service, and age. Ratios larger than 100% on the current basis generally indicate that the rates may need to be raised; ratios smaller than 100% generally indicate that rates may need to be lowered.

On most exhibits, the actual decrement rates for the periods 2016 to 2025 and 2022 to 2025 are shown as bar graphs on either a quinquennial-age basis, a years-of-service basis, or on an age basis. The current assumptions – the "expected" rates – used in the June 30, 2024 actuarial valuation, are shown, as well as the new proposed assumptions, as line graphs. Therefore, the assumption changes we are proposing are illustrated by the difference between the two lines in each exhibit. Note that in cases where no change is being proposed, only the proposed rate line is shown. On most graphs, we have also shown the actual results from the prior study period for comparison.

Actuarial Standard of Practice No. 27: Selection of Assumptions for Measuring Pension Obligations

Actuarial Standard of Practice No. 27 (ASOP 27) provides guidance to actuaries performing actuarial services that involve selecting assumptions, including for measuring defined benefit plan obligations.

Because no one knows what the future holds, the best an actuary can do is to use professional judgment to estimate possible future outcomes. These estimates are based on a mixture of past experience, future expectations, and professional judgment. The actuary should consider a number of factors, including the purpose and nature of the measurement, and appropriate recent and long-term historical data. The standard also advises the actuary not to give undue weight to experience that may not be relevant to future experience. This could include recent experience that is attributable to a specific event and it is unreasonable to assume that such experience will continue.

ASOP 27 states that each economic assumption selected by the actuary should be reasonable. The assumption is reasonable if it has the following characteristics:

- It is appropriate for the purpose of the measurement.
- It takes into account relevant historical and current economic data.
- It reflects the actuary's estimate of future experience and observation of the estimates in market data.
- It has no significant bias (i.e., it is not significantly optimistic or pessimistic), but may specifically make provision for adverse deviation.

Each assumption should individually satisfy this standard. Furthermore, with respect to any particular valuation, each assumption should be consistent with other assumptions.

In our opinion, the assumptions we are recommending for Board consideration in this report have been developed in accordance with ASOP 27.

Actuarial Standard of Practice No. 44: Selection and Use of Asset Valuation Methods for Pension Valuations

Actuarial Standard of Practice No. 44 (ASOP 44) governs the selection of asset valuation methods. For plans using an asset smoothing method, considerations include: 1) whether actuarial investment gains and losses are recognized over a reasonable period of time; 2) whether there is any significant bias toward the smoothed value overstating or understating compared to the market value; and 3) whether realized and unrealized actuarial investment gains and losses are treated similarly. In our opinion, the asset valuation method recommended in this report has been developed in accordance with ASOP 44.

3. Actuarial Methods

As part of the triennial investigation, we have reviewed the valuation methods and other issues related to the actuarial assumptions. Actuarial Standard of Practice No. 4 (ASOP 4), *Measuring Pension Obligations and Determining Pension Plan Costs or Contributions*, provides guidance to actuaries giving advice on selecting actuarial methods for defined benefit plans. Actuarial Standard of Practice No. 44 (ASOP 44), *Selection and Use of Asset Valuation Methods for Pension Valuations*, provides guidance on methods for recognizing investment gains and losses through the asset valuation method. As part of the current experience study, we reviewed the valuation methods and other issues related to the actuarial assumptions in the context of these ASOPs. This section contains a discussion of actuarial cost methods, the valuation of assets, and other miscellaneous assumptions used in the valuation.

Actuarial Cost Method

The actuarial valuation is prepared using the entry age actuarial cost method. We believe that this cost method is appropriate for LACERA's valuation. It is also the cost method that is required for financial reporting under GASB Statements 67 and 68. We recommend no change. Note that this is by far the most common method used for public sector retirement systems (used by about 90% of large public retirement systems), as it results in more stability in normal costs and provides a level allocation of costs as a percentage of pay over each individual's working lifetime. The entry age actuarial cost method satisfies the requirements of ASOP 4 for cost methods.

Valuation Assets

We believe that the current asset valuation method where actuarial asset gains and losses are smoothed over five years and any unrecognized gains/losses from prior years are offset against the current year loss/gain continues to be appropriate for LACERA's valuation. A five-year period is used by a majority of large public retirement systems. The asset valuation method satisfies the requirements of ASOP 44 that discusses the selection of asset valuation methods and is consistent with guidelines of the California Actuarial Advisory Panel (CAAP).

Amortization of UAAL

Under LACERA's current amortization policy, annual changes in the Unfunded Actuarial Accrued Liability (UAAL) are funded over separate 20-year periods as a level percentage of payroll. If there is an increase in the UAAL due to changes in the benefit provisions, a 10-year period is used. These annual payments are referred to as "layers." This approach of amortizing the changes in the UAAL due to assumption changes and actuarial gains and losses over 20 years is consistent with actuarial guidance and similar to most other California public sector retirement systems.

Treatment of STAR Reserve

Under LACERA's funding policy, the reserve value for STAR benefits is excluded from the Valuation Assets, and any potential future STAR benefits are excluded from the liability portion of the valuation. We recommend continuing to use this approach, as it keeps consistent the treatment of STAR benefits in the liabilities and the STAR Reserve in Valuation Assets.

Administrative Expense Treatment

Expenses are reflected in a valuation either implicitly or explicitly. Under the implicit method, an adjustment is made to the investment return assumption to reflect that administrative expenses are paid from investment earnings. Under the explicit method, the member and/or employer contribution rates are loaded by a percentage or amount to estimate the administrative expenses for the coming year. LACERA uses the implicit method. We believe this method is appropriate for LACERA and recommend continued usage.

Operating Tables

We are recommending changes in the mortality assumption and in the merit salary increase assumption. If either or both of these changes are adopted, the operating tables should be updated to reflect the change.

Blended Mortality Table

We have studied the following factors that apply to the blended mortality tables used in the operating factors:

- **Gender Proportion:** We found that males account for 36% of the total present value of benefits for current General members and 84% for current Safety members, compared to 37% and 85% respectively in the prior study.

We are recommending the General Unisex mortality table use a blending of 35% male and 65% female (no change) and the Safety Unisex mortality table use a blending of 85% male and 15% female (no change).

- **Assumed Retirement Year:** Since a generational mortality assumption is complex administratively to apply for operating tables, we recommend a static projection of mortality rates be used instead. To generate the static mortality table we recommend using the average retirement age of General (age 64) and Safety members (age 56) and project the base mortality table rate to 2029 for that age. Mortality rates at all other ages would then be projected to the corresponding year based on the average retirement age in 2029. For example, age 64 is the average retirement age for General members, so the mortality base table rate for age 64 is projected to 2029. The mortality rate at age 74 (10 years from age 64) would then be the base table rate for age 74 projected an additional 10 years to 2039. Note that we recommend that the projected mortality rates be limited such that the rates not be greater than the corresponding base mortality rate.
- **Retirement Type:** LACERA uses healthy mortality (i.e., the mortality table used for service retirees) in cases where a member retires as a disability, but the benefit is based on the service retirement formula. We believe this continues to be a reasonable approach.

Reflecting the proposed assumptions in the optional monthly annuities will result in changes in the modified (or Unmodified Plus) benefit amount for future retirees who elect optional forms of payment. It will not affect the unmodified benefit.

4. Economic Assumptions

This section discusses the economic assumptions.

The following table shows the current economic assumptions and our recommended assumptions, where the only change is to the national price inflation assumption.

	Economic Assumptions	
	Current	Proposed
Investment Return ⁽¹⁾	7.00%	7.00%
National Price Inflation	2.75%	2.50%
Local Price Inflation	2.75%	2.75%
General Wage Growth	3.25%	3.25%
Payroll Growth	3.25%	3.25%
COLAs for Retirees (Plan A / Other Plans) ⁽²⁾	2.75%/2.00%	2.75%/2.00%

1. Net of both investment and administration expenses. For GASB financial reporting, the recommended investment return assumption is 0.16% higher.
2. The first of the two numbers applies to Plan A; the second number applies to the remainder of the plans (although the Plan E COLA is pro-rated percentage of 2.00% based on pre-2002 service). To account for existing Plan A COLA balances, current retirees and beneficiaries are assumed to receive 3.00% annual COLAs.

We believe this proposed set of assumptions is reasonable and satisfies ASOP 27 (discussed in Section 3).

1. Price Inflation (National and Local)

Use in the Valuation

When we refer to inflation in this report, we are generally referring to price inflation, both on a local and national basis. The price inflation assumptions do not have a direct impact on the valuation results, except where it affects the assumed retiree COLA to be paid (local inflation) and the assumed increase in the PEPRWA wage limit (national inflation). The national inflation assumption has an indirect impact on the results of the actuarial valuation through the development of the investment return assumption, and the local price inflation assumption indirectly affects the general wage and payroll increase assumptions.

Historical Perspective

The data for inflation shown below is based on the national Consumer Price Index, US City Average, All Urban Consumers (CPI-U) as published by the Bureau of Labor Statistics.

Although economic activities in general and inflation in particular do not lend themselves to prediction on the basis of historical analysis, historical patterns and long-term trends are a factor to be considered in developing the inflation assumption.

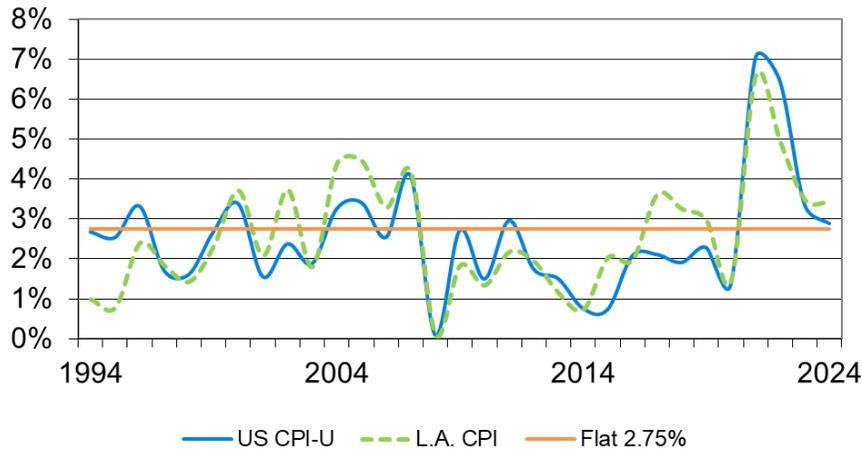
There are numerous ways to review historical data, with significantly differing results. The table below shows the compounded annual inflation rate for various 10-year and longer periods ending in December 2024. Note that the 50-year average is influenced by the inflation of the late 1970s and early 1980s. The last 30 years have averaged closer to 2.5% on both a local and national basis.

	CPI Increase	
	National	Local
10 Year Periods		
2015-2024	3.00%	3.36%
2005-2014	2.12%	2.11%
1995-2004	2.43%	2.44%
1985-1994	3.58%	3.83%
1975-1984	7.33%	7.56%
1995-2024 (30 Years)	2.52%	2.63%
1985-2024 (40 Years)	2.78%	2.93%
1975-2024 (50 Years)	3.68%	3.84%

The inflation assumption, as it relates to the investment return assumption should be based on national and even global inflation; whereas the inflation assumption used in the wage growth, payroll growth, and retiree COLA increase assumptions should be based on anticipated inflation in the Los Angeles-area. There have been some differences between U.S. and Los Angeles-area CPI changes over time. As shown in the above chart, local inflation has been equal to or greater than national inflation for each decade. For the 50-year period from 1975 to 2024 the CPI increase for the Los Angeles area has been on average 0.16% higher than national inflation.

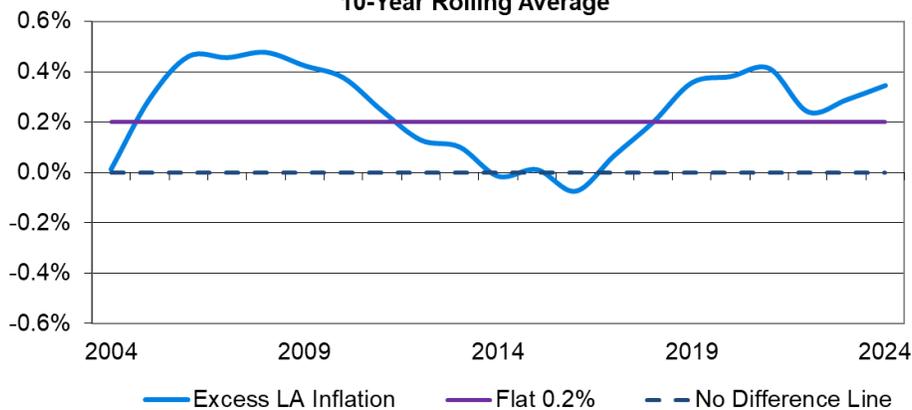
The following graph shows historical CPI increases. The national CPI increase was less than 2.75% for almost all years from 2008 to 2020, bookended by higher inflation in the years before 2008 and after 2020. Post 2020 inflation has decreased after an initial jump in 2021 but still remains above the current assumption of 2.75%.

Historical Inflation



Also shown in the graph for comparison are CPI increases specific to the Los Angeles area, which has generally tracked national CPI but has been slightly greater. This can be better seen by displaying the same period but showing 10-year averages of the difference between local and national price inflation (below). For the 20-year period (actually 1994-2024 since 10-year averages are presented), Los Angeles-area inflation exceeded US national inflation by about 0.2% on average.

Historical Inflation -- Los Angeles vs US 10-Year Rolling Average



Forecasts of Inflation

Since the U.S. Treasury started issuing Treasury Inflation Protected Securities (TIPS), it is possible to determine the approximate rate of inflation anticipated by the financial markets by comparing the yields on inflation indexed bonds with traditional fixed income government bonds. Current market prices at the end of October 2025 suggest investors expect inflation to be about 2.4% over the next 20 years.

In the 2025 Social Security Administration Trustees Report, the projected average annual increase in CPI over the next 75 years under the intermediate cost assumptions is 2.4%.

Most long-term forecasts of future price inflation by economists and investment professionals are lower than 2.75%. For example, Milliman’s capital market assumptions project inflation of 2.3% over the next 20 years, Meketa projects inflation of 2.7% over the next 20 years, and the 2025 Horizon survey of capital market assumptions (which surveys about 40 investment advisors) includes 20-year assumed inflation of 2.4%.

Recommendation

Long-term forecasts are lower than the current 2.75% national price inflation assumption. Consistent with forecasts, we recommend lowering the national inflation assumption to 2.50%. However, we recommend keeping the local price inflation assumption at 2.75% to reflect that Los Angeles-area price inflation has exceeded national price inflation over an extended period.

Price Inflation	
National Price Inflation	
Current Assumption	2.75%
Recommended Assumption	2.50%
Local Price Inflation	
Current Assumption	2.75%
Recommended Assumption	2.75%

2. Wage and Payroll Growth

Use in the Valuation

General wage growth is the rate of wage growth for LACERA's continuing active employee population attributable to local price inflation and real wage growth. Real wage growth reflects increases in wages due to productivity and market adjustments. It is used to project future salaries of LACERA's employees.

Payroll wage growth is the growth rate of LACERA's total active employee population payroll. It is used to project the total payroll of LACERA over time and is primarily used in the calculation of the Unfunded Actuarial Accrued Liability (UAAL) employer contribution rate.

It is common among public retirement systems for the payroll growth rate and the general wage growth rate to be the same unless the population is expected to increase or decrease over time.

In addition to general wage growth, salaries of individual employees tend to increase due to promotion and longevity increase, which typically occur even in the absence of inflation. The promotion and longevity assumptions, referred to as the merit salary scale, will be reviewed with demographic assumptions (see Section 5).

The current assumptions are (a) general wage growth of 0.50% above the local price inflation assumption, and (b) general wage growth equal to payroll wage growth.

National Historical Perspective

We have used statistics from the Social Security Administration on the National Average Wage back to 1972. For consistency with our observations of other indices, the table below shows the compounded annual rates of wage growth for various 10-year periods and for the 50-year period ending in 2024. The excess of wage growth over price inflation represents "productivity" (or the increase in the standard of living, also called the real wage inflation rate).

Decade	Wage Growth	CPI Increase	Real Wage Inflation
2015-2024	4.0%	3.0%	1.0%
2005-2014	2.7%	2.1%	0.6%
1995-2004	4.1%	2.4%	1.7%
1985-1994	3.9%	3.6%	0.3%
1975-1984	7.2%	7.3%	-0.1%
Prior 50 Years			
1975-2024	4.4%	3.7%	0.7%

LACERA-Specific Experience

We reviewed the increase in the average compensation for LACERA members since 1999. Over that period, general wage growth averaged about 3.1% annually, compared to average annual local price inflation of about 2.9%. Therefore, for LACERA members we estimate real wage inflation has averaged 0.2% over that period. The chart below shows LACERA-specific experience over select time periods.

Period	General Wage Growth*	=	CPI Increase	+	Real Wage Inflation
2015-2024	3.5%		3.2%		0.3%
2005-2024	3.1%		2.8%		0.3%
1999-2024	3.1%		2.9%		0.2%

Period	Wage Growth		CPI Increase		Real Wage Inflation
2016-2025	3.6%		3.6%		0.0%

It can be difficult to accurately determine how much of general wage growth is directly attributable to local price inflation and how much is due to real wage growth as wage increases can be tied to overall budgets, bargaining agreements and other market pressures. In periods of high inflation, such as recently, it is possible that real wage growth is lower than it may be in periods of lower price inflation. We believe it is reasonable to assume that wages will continue to grow at a greater rate than price inflation over the long term.

Recommendations

1. Real wage growth / general wage growth

Nationally, over the last 30 years and each of the last three decades, actual average annual real wage growth has been higher than the current assumption. This is also true over the last 50 years but with the periods 1975 – 1995 experiencing lower actual average real wage growth than the current assumption. Conversely for LACERA members, actual average annual real wage growth has been lower than the current assumption over the last 25 years.

As mentioned above, we believe it is reasonable to assume that wages will continue to grow at a greater rate than price inflation over the long term and therefore are recommending that the long-term assumed real wage inflation rate remain at 0.50% per year.

Real Wage Inflation Rate	
Current assumption	0.50%
Recommended assumption	0.50%

The wage growth assumption is the total of the local price inflation assumption and the real wage inflation rate. If the real wage inflation assumption remains at 0.50% and the local price inflation assumption is set at 2.75%, this would result in a total wage growth assumption of 3.25%.

2. Payroll growth / growth in active membership

The aggregate payroll of LACERA is expected to increase, without accounting for the possibility of an increase (or decrease) in active membership.

We recommend continuing with the assumption that no future growth or decline in active membership will occur. This assumption affects the Unfunded Actuarial Accrued Liability (UAAL) amortization payment rate. With no assumed growth in membership, future salaries are assumed to grow due to wage growth increases only. If increases should occur because of additional members, there will be a larger pool of salaries over which to spread the UAAL, if any, resulting in an actuarial gain

The current payroll increase assumption is equal to the general wage growth assumption of 3.25%. It is our general recommendation to set these two assumptions to be equal, unless the active population is projected to decline or there is projected to be a material change in the make-up of the population. Over the past 20 years LACERA has experienced an overall increase in its active population, and we believe it is reasonable to assume the active population will remain at approximately the current level. We are not aware of any expected changes in the make-up of the population (such as an increased proportion of lower-paid employees) that would materially affect the payroll. Therefore, we are recommending that the payroll increase assumption continue to be set equal to total wage growth assumption.

3. Investment Return

Use in the Valuation

The investment return assumption is one of the primary determinants in the calculation of the expected cost of LACERA’s benefits, providing a discount of future benefit payments that reflects the time value of money. This assumption has a direct impact on the calculation of liabilities, normal costs, member contribution rates, and the factors for optional forms of benefits (operating tables).

The current investment return assumption is 7.00% per year, net of all administrative and investment-related expenses.

2025 Expected Long-Term Investment Return

To estimate the expected long-term return we looked at capital market assumptions from three sources: Milliman, Meketa (LACERA’s external investment consultant), and a survey of other investment consulting firms (Horizon Survey of Capital Market Assumptions, 2025 edition). We have combined these capital market assumptions with LACERA’s target asset allocation. Note that most investment advisors provide 10-year expected return assumptions, and many provide 20-year or longer assumptions.

Combining capital market assumptions with the target asset allocation policy, we calculated both the 10 and 20-year expected returns using the Milliman and Horizon capital market assumptions. Meketa provided its expected returns. These expected returns have been reduced for administrative and investment expenses, as discussed later, and are the median expected return on a geometric basis for LACERA’s target portfolio. We have also included the associated national price inflation assumptions for the capital market assumptions. A higher inflation assumption will generally lead to a higher expected return, although not necessarily on a one-to-one basis. Note that these inflation assumptions are close to the 2.5% recommended national price inflation previously discussed.

2025 CMAs	Meketa	Milliman	Horizon
Based on 10-Year Assumptions			
Median Annualized Return	7.2%	6.7%	7.3%
Assumed Inflation	2.3%	2.3%	2.4%
Based on 20-Year Assumptions			
Median Annualized Return	8.4%	7.2%	7.7%
Assumed Inflation	2.7%	2.3%	2.4%

Notes:

1. Returns are net of assumed expenses of 0.20% of assets.
2. Milliman expected returns reflect updated capital market assumptions as of June 30, 2025. Horizon and Meketa expected returns are as of January 2025.
3. The Horizon Survey reports a limited number of asset classes. In cases where there was not a corresponding asset class in the survey, Milliman’s assumptions for the corresponding time horizon were used.
4. Horizon 10-year assumptions include some consultants with less than 10 years. Horizon 20-year assumptions include some consultants with more than 20 years and are based on a subset of the full group.

When actuaries recommend the investment return assumption, they generally consider a long-term time horizon. As shown in the above table, we have considered the 10-year and 20-year time horizons in making our recommendation, primarily because LACERA is a mature plan and over half the value of accrued liabilities are expected to be paid in the next 15 years. Over that period, we also expect significant cash inflows as contributions are made to amortize the UAAL. Net (negative) cashflows over that period are relatively smaller until the UAAL is fully amortized; thereafter, the level of contributions decreases and the negative cashflows increases. For context of a longer-term time horizon, based on Milliman’s 2025 CMAs the median annualized expected return over 30 years is 10 basis points higher than the 20-year median annualized return, at 7.3% net of expenses.

Administrative and Investment-Related Expenses

The investment return used for the valuation is assumed to be net of all administrative and investment-related expenses.

Capital market assumptions are already effectively net of investment management expenses. We assume that there will be other fixed investment expenses of 0.05% of assets for investment-related expenses such as custodian bank fees and outside consultants.

The following table shows the ratio of administrative expenses to the LACERA Plan assets over the last 10 fiscal years ending June 30. The expense ratio is calculated as the expense amount divided by the beginning asset balance at fair market value.

Year Beginning	Beginning Market Assets	Admin. Expense	
		Amount	Ratio
2015	\$48,818	\$67	0.14%
2016	47,847	67	0.14
2017	52,743	78	0.15
2018	56,300	83	0.15
2019	58,295	85	0.15
2020	58,510	91	0.16
2021	73,012	100	0.14
2022	70,290	112	0.16
2023	73,852	118	0.16
2024	79,202	127	0.16

Note that administration expenses include LACERA investment staff salaries and other expenses.

For the administrative expenses, we have assumed no change in the assumption to 0.15% of market assets as the actual ratio has been close to this over the last 10-15 years. Accounting for this, combined with the 0.05% we have assumed for investment-related expenses, we have included a reduction of 0.20% in our calculation of the expected investment return. For example, Meketa calculated a 7.4% 10-year expected return, so we have used 7.2% in our analysis, reflecting this 0.20% reduction rounded to the nearest 0.10%.

The expense assumption does not have a direct impact on the actuarial valuation results, but it does provide a measure of gross return on investments that will be needed to meet the actuarial assumption used for the valuation. For example, our recommended investment return assumption is 7.00%, so LACERA would need to earn a gross return on its assets of 7.20% in order to net the 7.00% for funding purposes.

We recommend the 0.15% adjustment for administrative expenses be added to the investment return assumption adopted to determine the discount rate used in LACERA's GASB 67 and 68 valuations, as GASB requires the discount rate to be the long-term expected rate of return gross of administrative expenses, but net of investment expenses.

Excess Earnings

Section 31592.2 of the 1937 Act provides the Retirement Board with the authority to set aside earnings of the retirement fund during any year in excess of the total interest credited to contributions when such surplus exceeds 1.00% of the total assets of the retirement system.

Under LACERA's Actuarial Funding Policy, the Board of Investments may distribute excess earnings once the plan is fully funded and then only to provide limited benefits on the basis of excess earnings. Since it is expected to be quite some time before LACERA once again reaches full funding status, the likelihood of any excess earnings being distributed for discretionary benefits is quite low in the foreseeable future. Further, California Government Code Section 7522.44 may further restrict the Board's ability to distribute excess earnings. Therefore, for purposes of the 2025 experience study, we do not propose to recognize any additional excess earnings benefits for future years when setting the investment return assumption. This issue should be addressed again in 2028 as part of the 2028 experience study.

If the Board of Investments determines that the fund should share excess earnings with members when times are good, but the fund is not able to collect additional revenue when investment returns lag expectations, there is a cost to LACERA over time. Thus, if the Board changes its policy toward excess earnings, it must find some way to recognize an obligation for benefits attributable to excess earnings. An excess earnings policy would result in increased payments made by LACERA to members over the long term. If these potential future benefits are not recognized in setting the investment return assumption or in determining LACERA's future benefit payments, the total liabilities will be understated.

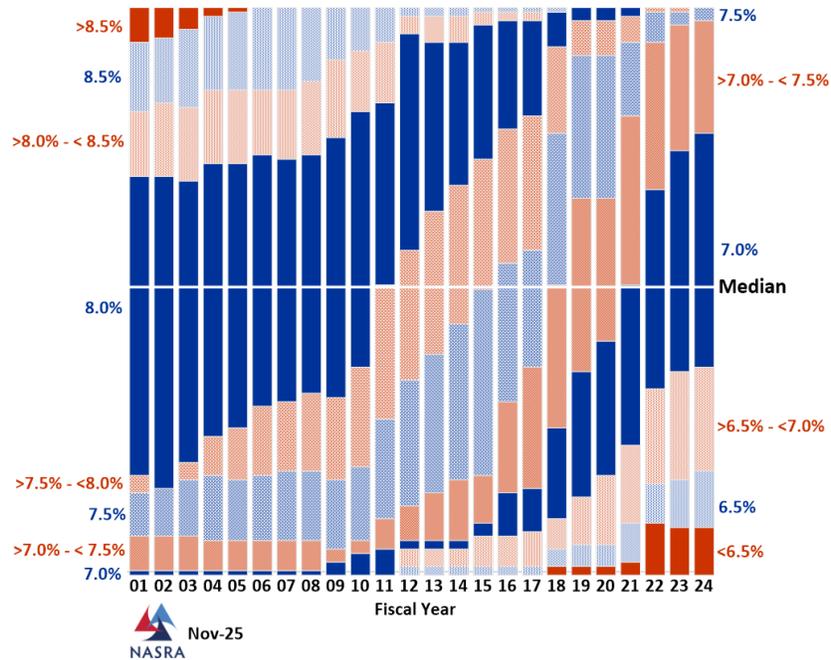
Real Rate of Return

Note that maintaining the current investment return assumption combined with the recommended decrease in the national price inflation assumption from 2.75% to 2.50% is roughly equivalent to an increase in the real rate of investment return assumption from 4.25% to 4.50% (based on a building block approach). This increase is consistent with the increase in expected real returns of many investment advisors over the last several years. In the 2022 experience study report, Milliman's 20-year capital market assumptions included an approximate 4.30% median real rate of investment return assumption, compared to the approximate 4.90% included in this year's 20-year capital market assumptions (based on a building block approach).

Peer System Comparison

According to the *Public Fund Survey*, the average investment return assumption for statewide systems steadily declined over the first two decades of this century. Over the last few years, this has somewhat levelled off. As of the most recent study, the median rate is 7.0%. The following chart shows a progression of the distribution of the investment return assumptions. In 2001, very few systems had an assumption of 7.0% or lower and over 80% had an assumption of 8.0% or greater. As of fiscal year 2025, over 70% have an assumption of 7.0% or lower.

Distribution of Investment Return Assumptions



Recommendation

We recommend LACERA retain its 7.0% investment return assumption. Based on our expected return analysis, we believe the current 7.0% assumption is reasonable.

Investment Return (net of all expenses)	
Current assumption	7.0%
Recommended Assumption	7.0%

4. Post-Retirement Cost-of-Living Adjustments (COLA)

Use in the Valuation

Estimates of future retiree COLAs affect the future benefits assumed to be paid to current and future retirees and beneficiaries and are directly related to the local price inflation assumption.

Recommendation

The current assumption is that retiree COLAs will be equal to local price inflation subject to plan maximum increases and COLA accumulation bank levels. Due to current COLA accumulation bank levels, the assumed COLA for current Plan A retirees (those retired before April 1, 2025) is 3.0%. For other Plan A retirees the assumed COLA is equal to local price inflation. For all other plans the assumed COLA is 2.0% (with pro-rata adjustment based on pre-2002 service for General Plan E). We recommend this assumption be continued.

5. Salary Increases Due to Promotion and Longevity (Merit Increases)

As discussed in Section 4, estimates of future salaries are based on assumptions for two types of increases:

1. Increases in each individual's salary due to promotion or longevity, which occur even in the absence of inflation; and
2. Increases in the general wage level of the membership, which are closely related to inflation and increases in productivity.

In section 4, we reviewed the general wage growth assumption. In this section, we will study increases due to promotion or longevity. We generally refer to these increases as merit increases.

Results

Merit increases are assumed to be related to two factors. We studied each of these factors to see if they were significant, and, if so, what the impact was. Our findings were as follows:

- **Service:** Members in the early stages of their careers tend to get larger merit increases. In studies of LACERA and other retirement systems, we have found years of service to have the most significant impact on merit increases, and we again found this to be true with LACERA.
- **Membership:** Safety members generally receive larger salary increases than General members, particularly later in their career.

For General members we observed higher than assumed increases at all service levels, with the largest differences being observed at lower service levels.

Similar to prior experience studies, we observed that Safety members received larger merit increases at certain service levels (19, 24 and 29 years of service), consistent with bargained contracts for deputy sheriffs which include longevity pay increases at those service levels. Other than those service levels, for Safety members we observed higher than assumed increases at 10 years of service and above and slightly lower than assumed increases at service intervals less than 10 years.

Methodology

In studying merit increases, we first calculated the increase in member salaries that was due to general wage growth. We then remove this from the total salary increase actually observed for each individual in successive years. The remaining portion of salary increase is the merit increase.

There can be significant year-to-year variations in salary growth for many reasons, and this can lead to disparities in the observed merit salary increases. To reduce these variations and to capture full economic cycles, we include 15 years of salary data in our studies of merit salary increases. We also reviewed the results for the prior three study periods (2016 to 2025) to identify any trends and ensure that any recommendations are consistent with both longer term and shorter-term experience. In general, the average merit increases over the last 9 years have been higher than the 15-year average; however, given the variations that can occur over shorter timeframes, we relied primarily on the 15-year analysis in making our recommendations. We believe this method provides a level of protection against over-adjusting based on shorter term experience that could reverse over upcoming economic cycles.

Recommendations

For General members, merit salary increases were higher than assumed for members at all service intervals. We recommend increases in the merit salary increase assumption for General members at all service levels to better reflect this experience.

For Safety members, our main observation was that merit salary increases were higher than assumed for members with at least 10 years of service. At some shorter service levels, we observed smaller merit salary increases than assumed. These observations were consistent with prior studies. We recommend decreases in the merit salary increase assumption at service years 2 to 8 and increases at most service levels starting at 9 years of service. The recommended rates are shown numerically in Appendix A.

For Safety members, we also recommend removing the “spikes” in the assumed salary increases at service levels 19, 24 and 29 years. While we did observe higher increases at those levels, their inclusion in the assumption can lead to discontinuities in the calculation of member contribution rates, particularly for legacy plans where members with higher entry ages are not expected to reach the higher service levels under the member contribution rate formula. Including these “spikes” will also result in member contribution rates that anticipate their continuation prospectively. Instead, we recommend including an implicit allowance for the effect of these “spikes” in the merit increase assumption at all years, so that the reliance on increases at specific service levels is reduced.

Exhibit 5-1
 Salary Increases by Service – General Members

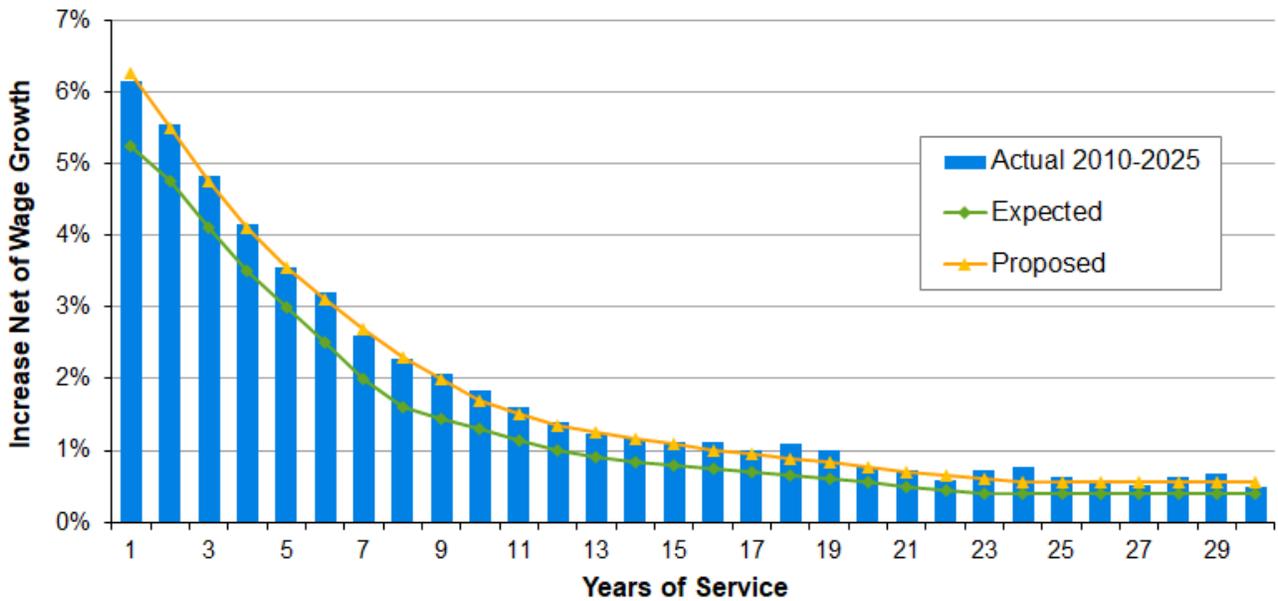
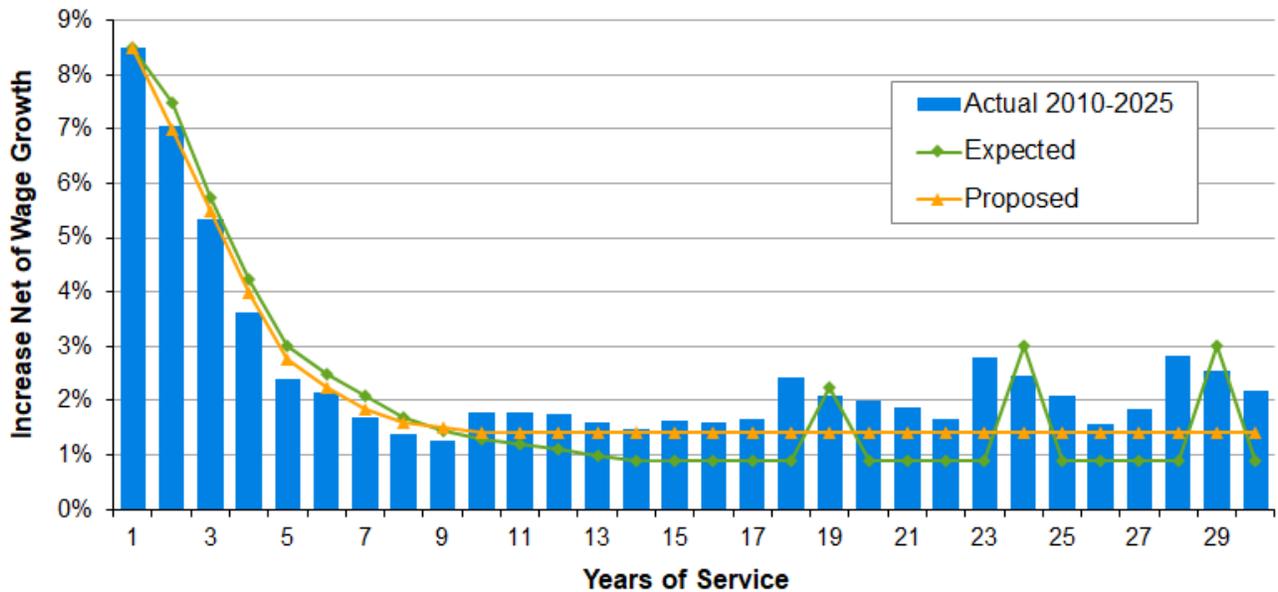


Exhibit 5-2
 Salary Increases by Service – Safety Members



6. Death from Active Status

Under the current assumptions, at any given age the probability of death for an active member is lower than for a retired member. We continue to believe this is reasonable as a person who is actively working tends to be healthier on average, and therefore less likely to die than the general population.

Deaths from active service can be either “service-connected” or “nonservice-connected.” Nonservice-connected deaths are also called “ordinary deaths.”

In general, active member mortality is different based on the age and gender of the member, and their membership class (General or Safety) as described below. We separately studied the mortality experience of active members by each of these factors.

- **Age:** Members at older ages tend to have a greater probability of dying than younger members. This is almost universally true in mortality studies.
- **Gender:** Male members tend to have higher rates of mortality than females while in active status. This is generally true for all mortality studies.
- **Membership:** Safety members have comparatively lower rates of mortality while in active status than General members. These lower rates of death while still in active employment are most likely a result of the earlier retirement ages available to Safety members and their higher rates of disability while active. That is, Safety members who are less healthy than the rest of the population will tend to leave active employment sooner, and only the healthiest group remains in active Safety employment at ages 50 and above when there is a higher probability of active death.

Mortality assumptions generally include two components: a mortality base table, and a mortality improvement scale. The mortality base table reflects the experience of a set of studied lives over a fixed time period, and the mortality improvement scale adjusts those base mortality rates for people of different ages and birth years to reflect that over time an individual is expected to have a longer life expectancy than a person that was their same age with an earlier birth year, in the past.

The Society of Actuaries (SOA) publishes mortality improvement scales. These improvement scales are a complex matrix of rates that vary based on a member’s age and birth year and include projections for past and future years until reaching an “ultimate” rate of improvement for individual ages at a future year. LACERA’s current mortality assumptions use the ultimate rates of the MP-2021 mortality improvement scale which was issued in the fall of 2021 and remains the most recent mortality improvement scale published by the SOA.

Results: Service-Connected Deaths

The current assumptions for service-connected deaths are zero for General members and 0.01% per year for Safety members. Since the actual experience is extremely limited, we recommend retaining the current service-connected death assumption for active members. The data is not statistically significant enough to merit studying it separately.

Results: Nonservice-Connected Deaths (Ordinary Deaths)

The table below shows a comparison of the actual-to-expected deaths of active members by plan and gender for this study period, weighted by compensation. The study period of July 1, 2016 to June 30, 2025 overlaps with the COVID-19 pandemic and this at least partially explains the higher number of deaths compared to expected, and the elevated levels of active mortality over this period may not reasonably be expected to continue.

The table below summarizes the annual compensation-weighted actual active member mortality experience for both periods 2016 to 2025 and 2022 to 2025. An Actual / Expected (A/E) ratio greater than 100% indicates there was more compensation weighted mortality from active status than expected by the current assumptions and indicates that the mortality assumption may need to be adjusted so that the expected amount of mortality is closer to the actual amount. The lower Actual / Expected ratio for the period 2022 to 2025 indicates that annual compensation weighted mortality was lower over that period than over the entire nine-year period for General members.

Active mortality (weighted by compensation)							
Plan	Gender	2016 to 2025			2022 to 2025		
		Actual	Expected	Actual / Expected	Actual	Expected	Actual / Expected
General A-D & G	Male	38,950,644	32,465,165	120%	13,255,872	12,256,301	108%
General A-D & G	Female	40,400,748	35,488,192	114%	14,092,956	13,380,880	105%
Safety	Male	15,518,028	10,757,777	144%	6,626,268	3,743,531	177%
Safety	Female	1,545,852	1,145,365	135%	921,948	423,582	218%
	Total	96,415,272	79,856,499	121%	34,897,044	29,804,294	117%

Note that Plan E has been excluded from this study as we believe that these deaths may be under-reported because Plan E does not provide a death benefit for active members.

Recommendation

We recommend updating the base tables underlying the ordinary death assumption to reflect the most recent tables released by the Society of Actuaries (with scaling adjustments) and keeping the mortality improvement projection scale unchanged. A summary of the active mortality assumption (current and proposed) is shown below:

Class	Gender	Current Table	Proposed Table
General	Male	PubG-2010 (120%) Employee Male	PubG-2016 (110%) Employee Male
General	Female	PubG-2010 (130%) Employee Female	PubG-2016 (120%) Employee Female
Safety	Male	PubS-2010 (100%) Employee Male	PubS-2016 (120%) Employee Male
Safety	Female	PubS-2010 (100%) Employee Female	PubS-2016 (120%) Employee Female

Both the current and proposed assumptions include the ultimate mortality improvement rates from the MP-2021 scale.

The table below summarizes the annual compensation-weighted actual active member mortality experience for both periods 2016 to 2025 and 2022 to 2025. The proposed assumption results in a larger amount of compensation-weighted mortality than the current assumption, as reflected in the Actual / Proposed (A/P) ratios which are lower than the corresponding A/E ratios based on the current assumption.

Active mortality (weighted by compensation)							
Plan	Gender	2016 to 2025			2022 to 2025		
		Actual	Proposed	Actual / Proposed	Actual	Proposed	Actual / Proposed
General A-D & G	Male	38,950,644	33,467,109	116%	13,255,872	12,956,642	102%
General A-D & G	Female	40,400,748	35,307,496	114%	14,092,956	13,693,776	103%
Safety	Male	15,518,028	13,757,640	113%	6,626,268	4,966,906	133%
Safety	Female	1,545,852	1,519,457	102%	921,948	577,801	160%
	Total	96,415,272	84,051,702	115%	34,897,044	32,195,125	108%

The results of the study are shown graphically in Exhibits 6-1 to 6-4. The proposed rates are also shown numerically in Appendix A.

See Section 11 (Retiree Mortality) for additional discussion about mortality improvement.

Exhibit 6-1
 Nonservice-Connected Death – General A-D & G Male Members

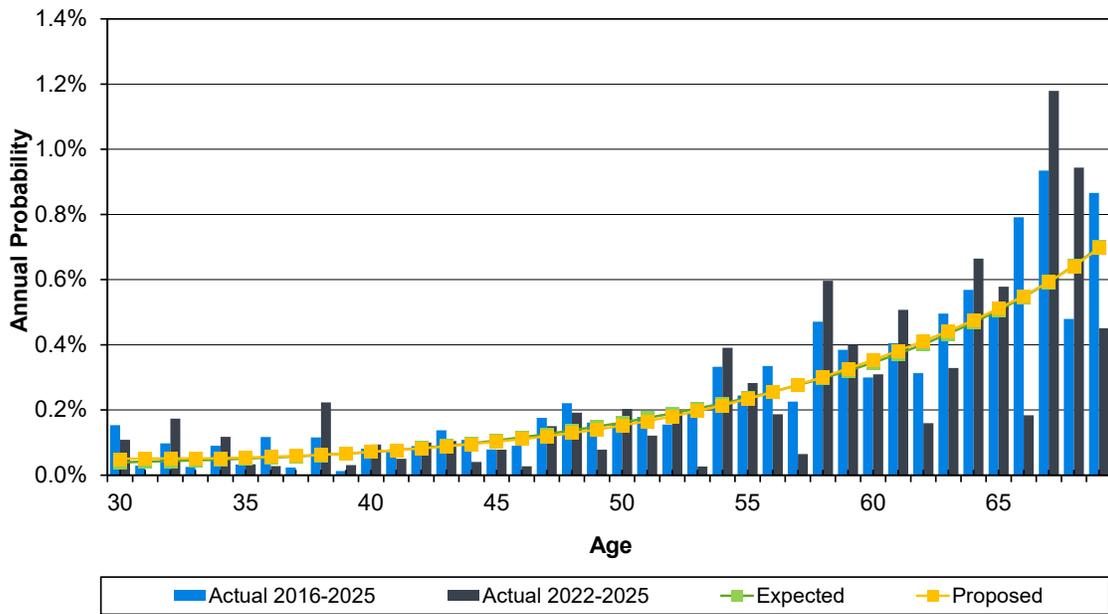


Exhibit 6-2
 Nonservice-Connected Death – General A-D & G Female Members

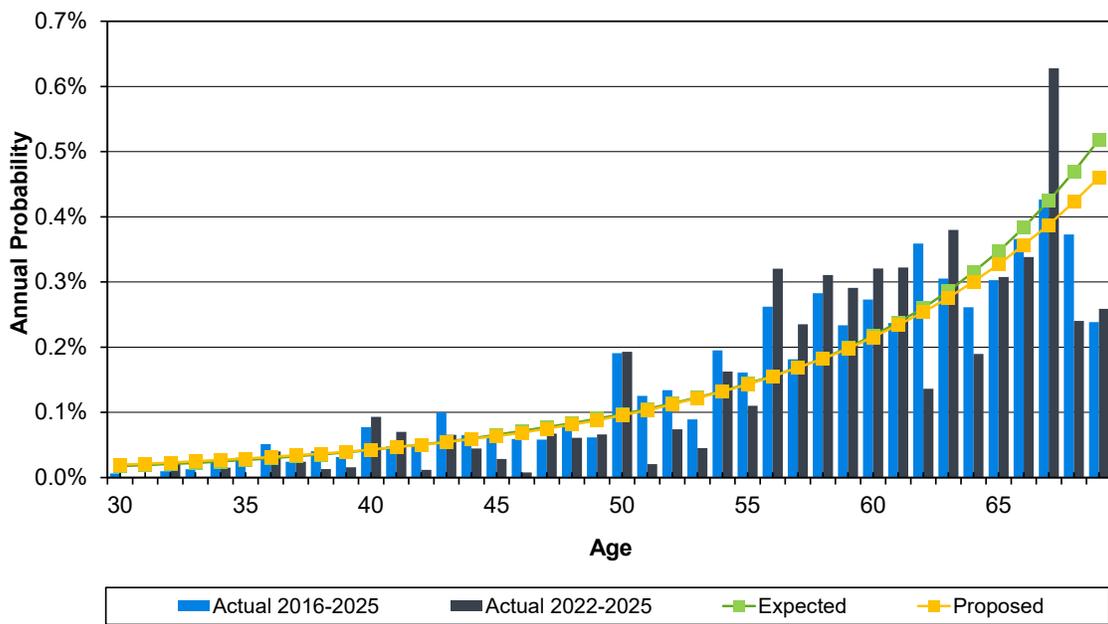


Exhibit 6-3
 Nonservice-Connected Death – Safety Male Members

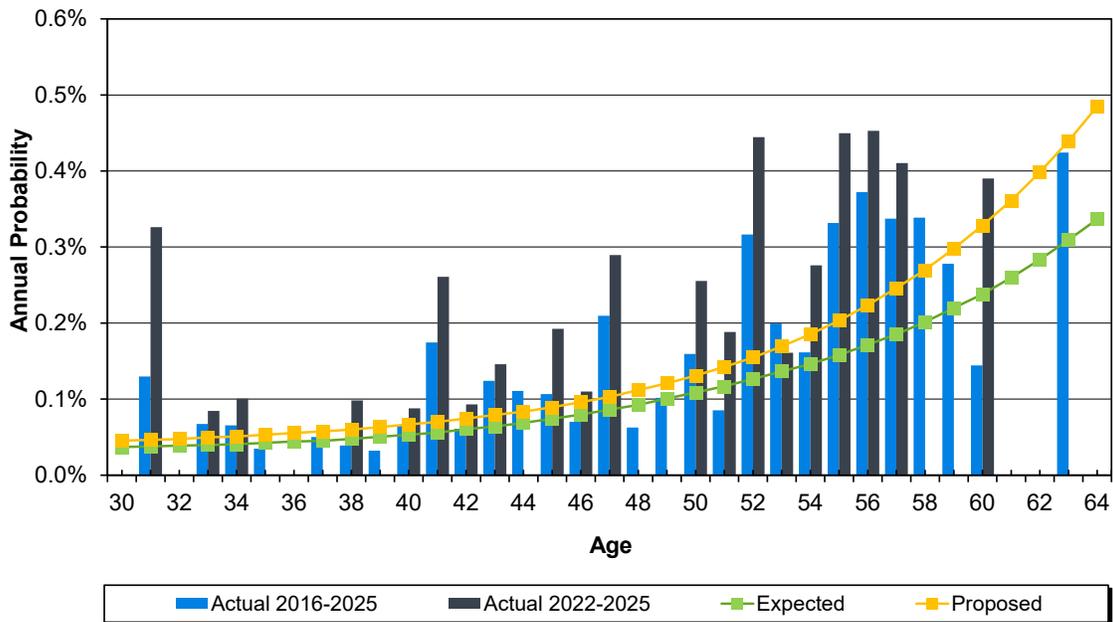
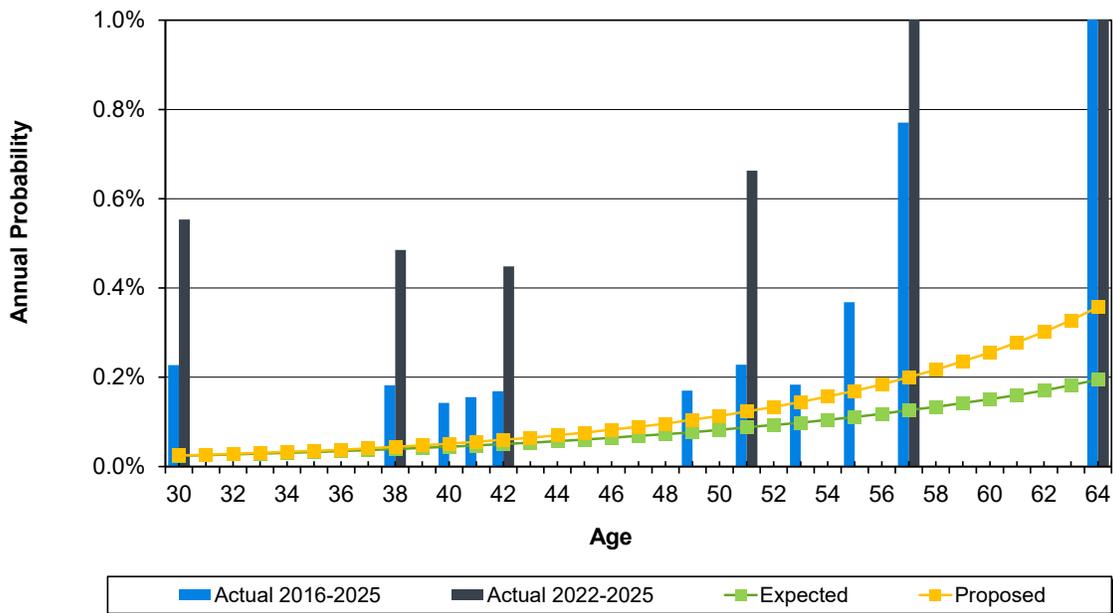


Exhibit 6-4
 Nonservice-Connected Death – Safety Female Members



7. Service Retirements

Exhibits 7-1 through 7-3 show the actual and expected rates of service retirements, in aggregate, during the study period. These rates are weighted by compensation level.

General Plans A through C have about 50 combined active members as of June 30, 2025 and Safety Plan A has 0 active members. There were not enough service retirements in any of these plans to perform a meaningful statistical analysis of their experience. As such, our analysis relies primarily on the experience of General Plans D and E, and Safety Plan B although we include all legacy members in the analysis.

General Plan G and Safety Plan C have very few actual service retirements since most members in those plans entered LACERA within the last 12 years and therefore tend to be younger on average than the overall active population, and have fewer years of service, on average.

Overall Results

As can be seen in the following table, overall, the actual amount of annual compensation-weighted retirements for General Plans A-D (ages 50 – 74) was higher than expected by the assumptions and the actual amount of compensation-weighted retirements for Safety Plans A-B (ages less than 65) was significantly lower than expected. General Plan E (ages 55 – 74) actual retirements in total were in line with expectations.

Service Retirements (weighted by compensation)						
Plan	2016 to 2025			2022 to 2025		
	Actual	Expected	Actual / Expected	Actual	Expected	Actual / Expected
General A-D & G	1,312,859	1,170,648	112%	505,394	437,505	116%
General E	623,637	618,591	101%	212,846	213,092	100%
Safety	270,902	508,955	53%	107,386	180,579	59%
Total	2,207,399	2,298,194	96%	825,626	831,175	99%

Numbers in the table are compensation-weighted and in \$ thousands of annual compensation.

As shown in the table above, Safety members in Plans A-B experienced significantly lower service retirements than expected by the assumptions. The main reason for this is the relatively high number of Safety disability retirement awards that occurred after their service retirement commencement which we have classified as disability retirements not service retirements.

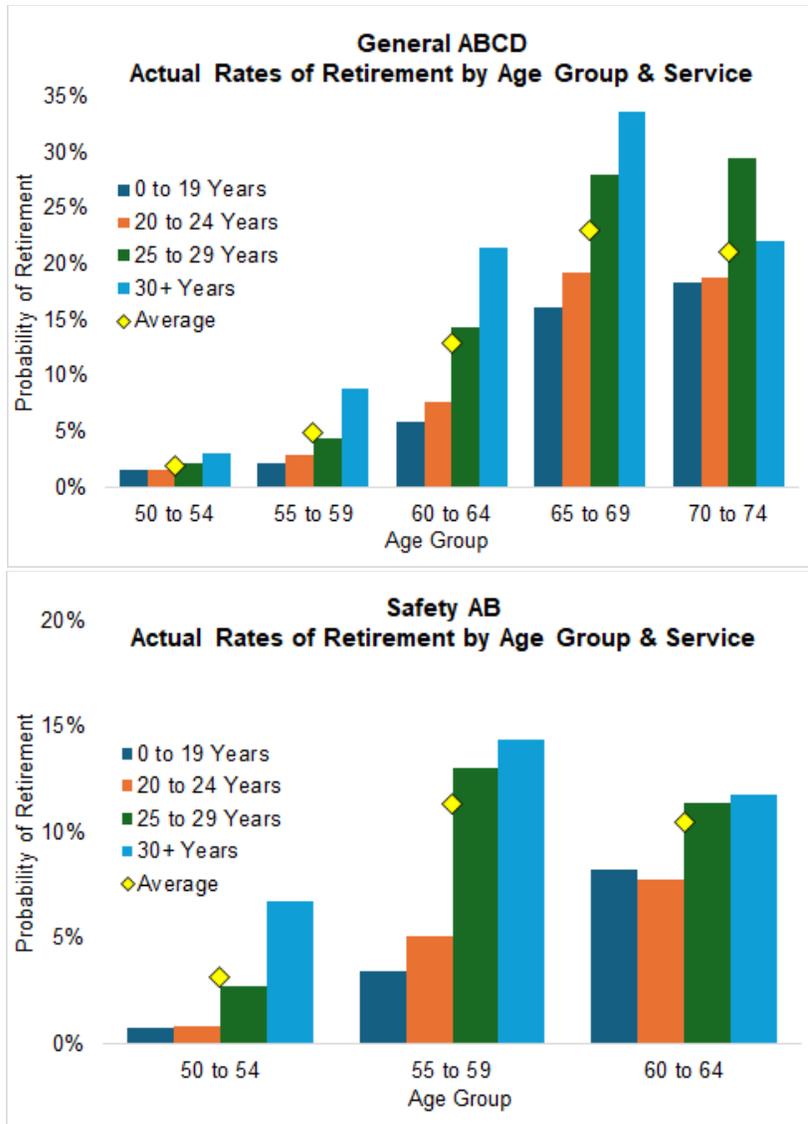
Safety members who initially commence a service retirement benefit are often subsequently awarded a service-connected disability retirement and have their retirement “status” recharacterized accordingly. In our analysis we have considered the ultimate retirement status as the reason the member retired from service. That is, we have treated as disability retirements those members who initially commenced a service retirement who were subsequently awarded a service-connected disability. The result of this is that actual service retirements were significantly lower than expected by the assumptions and actual disability retirements were significantly higher than expected.

Similarly, we recharacterized General members that were initially classified as a service retirement and subsequently had a post-commencement disability retirement award, but this had a much smaller impact than for Safety members, as a much lower percentage of General members were affected compared to Safety members.

Results by age and years of service

Retirement rates are based primarily on three factors – age, length of service and class of membership. Overall, active members retire at higher rates as they get older and those with more years of service have a higher probability of retiring at a given age than those with less years of service. Ages at which retirement benefits are “optimized” based on each Plan’s retirement formula also impacts rates of retirement at given ages and service levels.

The charts below show how service retirement rates vary by class of membership over the period 2016 to 2025 and generally increase with age and years of service. The yellow diamond is the average rate of retirement for each age group.



Recommendation

We are recommending the following changes in the rates of service retirement:

- Overall increases to General A-D service retirement rates, primarily affecting retirement rates for active members with 25 or more years of service. A summary of the relationship between actual amounts, expected amounts by the current assumptions, and expected amounts by the proposed assumptions, broken down by age group and years of service, over the period 2016 to 2025 is shown below:

General Plans A to D Retirement Summary by Age Group (50 to 74)						
0 to 19 Years of Service						
Age Group	Actual	Expected	Actual / Expected	Proposed	Actual / Proposed	Impact
50-54	34,585,512	25,935,066	133%	33,209,177	104%	Increase
55-59	35,225,112	45,441,900	78%	35,328,601	100%	Decrease
60-64	66,602,832	93,454,177	71%	70,134,810	95%	Decrease
65-69	86,839,584	87,228,751	100%	89,228,337	97%	Increase
70-74	31,148,352	28,172,369	111%	31,160,292	100%	Increase
Total	254,401,392	280,232,264	91%	259,061,218	98%	Decrease
20 to 24 Years of Service						
Age Group	Actual	Expected	Actual / Expected	Proposed	Actual / Proposed	Impact
50-54	23,577,864	20,687,875	114%	25,372,853	93%	Increase
55-59	30,836,448	34,796,685	89%	31,234,954	99%	Decrease
60-64	58,269,888	68,962,839	84%	61,187,295	95%	Decrease
65-69	64,380,540	61,009,821	106%	65,300,617	99%	Increase
70-74	20,199,204	20,123,407	100%	20,071,907	101%	Decrease
Total	197,263,944	205,580,627	96%	203,167,626	97%	Decrease
25 to 29 Years of Service						
Age Group	Actual	Expected	Actual / Expected	Proposed	Actual / Proposed	Impact
50-54	29,998,884	22,594,395	133%	29,834,355	101%	Increase
55-59	48,376,320	42,848,731	113%	46,943,932	103%	Increase
60-64	93,491,940	71,164,166	131%	89,857,999	104%	Increase
65-69	66,961,764	53,417,820	125%	66,406,049	101%	Increase
70-74	21,454,596	16,527,043	130%	20,055,337	107%	Increase
Total	260,283,504	206,552,155	126%	253,097,673	103%	Increase
30 or more Years of Service						
Age Group	Actual	Expected	Actual / Expected	Proposed	Actual / Proposed	Impact
50-54	24,776,340	20,588,487	120%	24,401,483	102%	Increase
55-59	153,287,460	101,096,038	152%	149,628,033	102%	Increase
60-64	279,303,468	209,217,718	133%	280,234,455	100%	Increase
65-69	118,072,428	112,270,465	105%	117,917,307	100%	Increase
70-74	25,470,744	35,110,134	73%	26,078,728	98%	Decrease
Total	600,910,440	478,282,841	126%	598,260,007	100%	Increase

2. Overall decreases to the Safety A-B service retirement rates at most age and service levels, primarily affecting retirement rates for active members age 54 and above regardless of years of service. A summary of the relationship between actual amounts, expected amounts by the current assumptions, and expected amounts by the proposed assumptions, broken down by age group and years of service, over the period 2016 to 2025 is shown below:

Safety Plans A to B Retirement Summary by Age Group (40 to 64)						
0 to 19 Years of Service						
Age Group	Actual	Expected	Actual / Expected	Proposed	Actual / Proposed	Impact
40-44	-	-	N/A	-	N/A	N/A
45-49	-	-	N/A	-	N/A	N/A
50-54	3,232,344	5,465,154	59%	5,024,452	64%	Decrease
55-59	4,691,784	9,541,841	49%	6,372,028	74%	Decrease
60-64	2,834,844	2,596,106	109%	2,881,170	98%	Increase
Total	10,758,972	17,603,101	61%	14,277,650	75%	Decrease
20 to 24 Years of Service						
Age Group	Actual	Expected	Actual / Expected	Proposed	Actual / Proposed	Impact
40-44	1,722,972	2,000,703	86%	1,905,431	90%	Decrease
45-49	5,573,340	4,787,861	116%	4,559,867	122%	Decrease
50-54	4,949,148	15,052,565	33%	7,251,775	68%	Decrease
55-59	10,128,000	26,277,589	39%	11,336,837	89%	Decrease
60-64	3,083,940	5,722,791	54%	4,183,547	74%	Decrease
Total	25,457,400	53,841,508	47%	29,237,457	87%	Decrease
25 to 29 Years of Service						
Age Group	Actual	Expected	Actual / Expected	Proposed	Actual / Proposed	Impact
40-44	256,980	205,618	125%	122,338	210%	Decrease
45-49	3,342,768	4,389,572	76%	2,660,347	126%	Decrease
50-54	29,236,440	45,229,785	65%	37,641,384	78%	Decrease
55-59	44,087,148	70,023,091	63%	46,154,098	96%	Decrease
60-64	5,772,132	11,531,937	50%	5,586,608	103%	Decrease
Total	82,695,468	131,380,004	63%	92,164,775	90%	Decrease
30 or more Years of Service						
Age Group	Actual	Expected	Actual / Expected	Proposed	Actual / Proposed	Impact
40-44	-	7,176	0%	2,814	0%	Decrease
45-49	166,632	542,965	31%	212,927	78%	Decrease
50-54	52,927,800	74,900,225	71%	49,353,160	107%	Decrease
55-59	86,421,960	193,537,471	45%	96,865,563	89%	Decrease
60-64	12,473,952	37,142,313	34%	13,231,246	94%	Decrease
Total	151,990,344	306,130,150	50%	159,665,710	95%	Decrease

3. Overall increases to the General E service retirement rates, with increases primarily affecting active members age 65 to 69 with 25 or more years of service and decreases for active members with less than 25 years of service. A summary of the relationship between actual amounts, expected amounts by the current assumptions, and expected amounts by the proposed assumptions, broken down by age group and years of service, over the period 2016 to 2025 is shown below:

General Plan E Retirement Summary by Age Group (55 to 74)						
0 to 19 Years of Service						
Age Group	Actual	Expected	Actual / Expected	Proposed	Actual / Proposed	Impact
55-59	9,234,612	8,571,094	108%	10,131,653	91%	Increase
60-64	17,847,660	28,162,295	63%	18,054,561	99%	Decrease
65-69	31,685,172	37,225,250	85%	33,803,388	94%	Decrease
70-74	12,132,384	12,238,666	99%	12,238,666	99%	No change
Total	70,899,828	86,197,305	82%	74,228,267	96%	Decrease
20 to 24 Years of Service						
Age Group	Actual	Expected	Actual / Expected	Proposed	Actual / Proposed	Impact
55-59	7,127,796	6,039,870	118%	7,744,746	92%	Increase
60-64	12,790,416	19,659,776	65%	14,172,721	90%	Decrease
65-69	26,910,948	29,281,628	92%	28,826,193	93%	Decrease
70-74	11,312,688	10,591,248	107%	10,591,248	107%	No change
Total	58,141,848	65,572,521	89%	61,334,907	95%	Decrease
25 to 29 Years of Service						
Age Group	Actual	Expected	Actual / Expected	Proposed	Actual / Proposed	Impact
55-59	14,648,256	11,932,749	123%	16,012,895	91%	Increase
60-64	28,974,240	31,078,256	93%	31,105,118	93%	Increase
65-69	38,544,900	35,803,170	108%	40,314,311	96%	Increase
70-74	12,463,344	10,528,404	118%	12,634,085	99%	Increase
Total	94,630,740	89,342,579	106%	100,066,408	95%	Increase
30 or more Years of Service						
Age Group	Actual	Expected	Actual / Expected	Proposed	Actual / Proposed	Impact
55-59	31,523,052	32,113,735	98%	32,596,275	97%	Increase
60-64	166,367,568	155,515,664	107%	166,331,330	100%	Increase
65-69	166,936,968	149,157,651	112%	167,645,604	100%	Increase
70-74	35,137,392	40,691,652	86%	35,250,811	100%	Decrease
Total	399,964,980	377,478,702	106%	401,824,020	100%	Increase

4. Revisions to service retirement rates for PEPRA members (General Plan G and Safety Plan C) that reflect the recommendations for the respective Legacy plans and also the specific retirement eligibility and benefit level differences between Legacy and PEPRA plans. Specifically, these PEPRA assumptions expect that members will remain in active employment until later ages than similarly situated Legacy members. Revisions to service retirement rates at less than 20 years of service also considers actual experience of each respective PEPRA plan.
5. Additionally, we recommend continuing the assumption of 100% probability of retirement at certain age and service combinations (shown in Appendix A) where the benefit is approximately 100% (or greater) of final average compensation.

Exhibit 7-1
 Service Retirement – General A, B, C & D Members

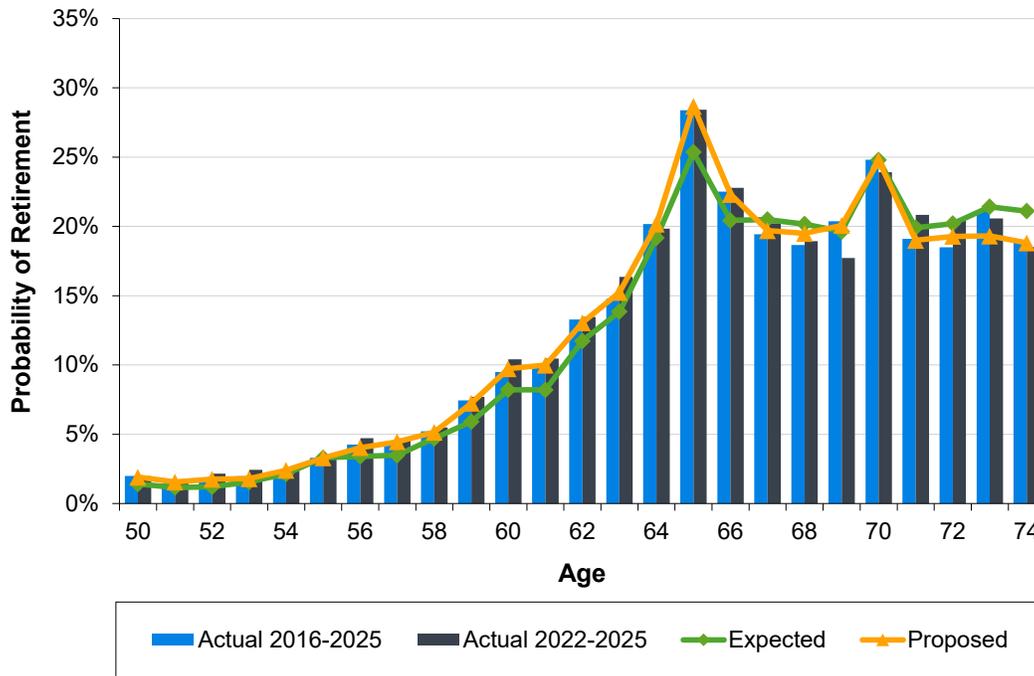


Exhibit 7-2
 Service Retirement – General E Members

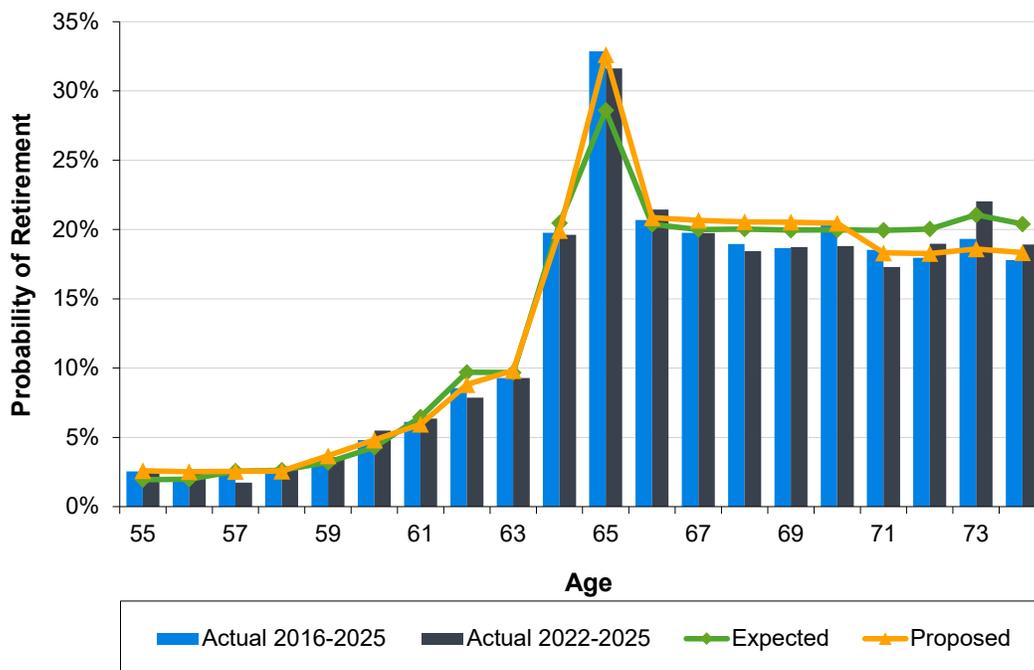
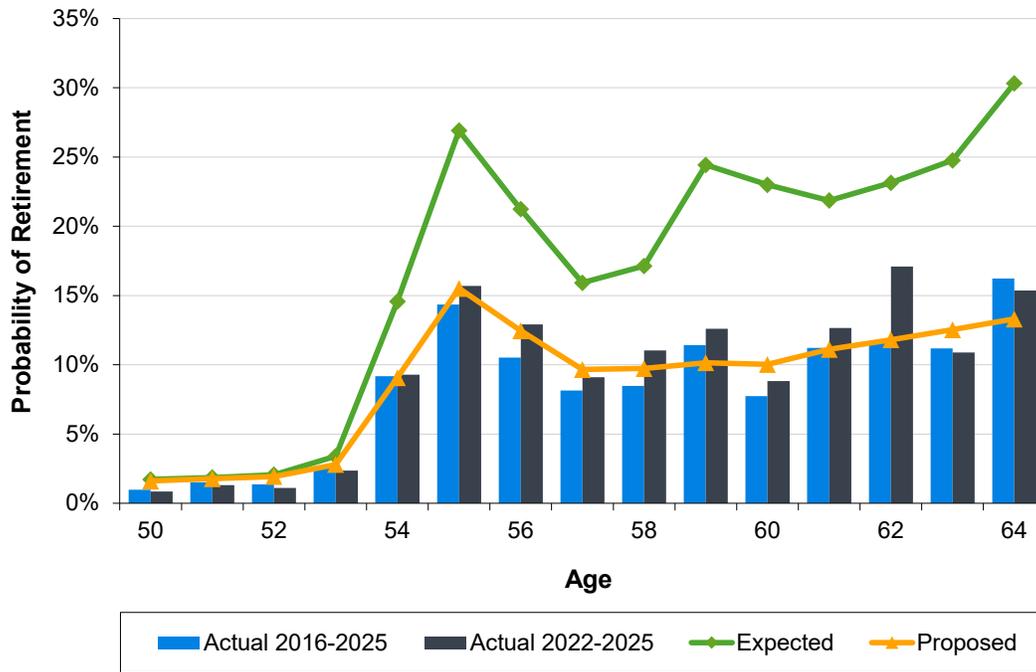


Exhibit 7-3
 Service Retirement – Safety A & B Members



8. Disability Retirements

LACERA allows a member to start receiving benefits prior to eligibility for service retirement if the member becomes disabled. Additionally, a member who has met the service retirement eligibility conditions may be eligible for a disability retirement in lieu of a service retirement. There are two types of disability:

- **Service-Connected Disability:** This is available only to members who are disabled for the performance of duty. There is no service requirement for this benefit, and the service-connected disability benefit generally pays a larger benefit than nonservice-connected disability.
- **Nonservice-Connected Disability:** This is available to a disabled member upon satisfying the vesting requirement.

As discussed in Section 7, members who initially commence a service retirement benefit and are subsequently awarded a service-connected disability retirement have their retirement “status” recharacterized accordingly. In our analysis, we have considered the ultimate retirement status as the reason the member retired from service. That is, we have treated as disability retirements those members who initially commenced a service retirement who were subsequently awarded a disability retirement. The result of this is that actual service retirements, specifically of Safety members, were significantly lower than expected by the assumptions and actual disability retirements were significantly higher than expected.

This recharacterization of retirements is relatively common in public retirement systems. We have found that in many systems, including LACERA, there is generally at least a six-month lag between the actual occurrence of a disability retirement and the subsequent approval and reporting of that same retirement.

Results: Service-Connected Disability

Overall, the actual number of service-connected disabilities, weighted by annual compensation, was higher than expected by the current assumptions, with the largest differences for Safety members. The following is a comparison of the actual to expected service-connected disabilities for active members by gender and member class.

Service-Connected Disability Retirements (weighted by compensation)							
Plan	Gender	2016 to 2025			2022 to 2025		
		Actual	Expected	Actual / Expected	Actual	Expected	Actual / Expected
General A-D, G	Male	32,380,932	28,280,128	115%	11,472,804	10,976,920	105%
General A-D, G	Female	57,652,404	35,773,414	161%	19,767,048	13,848,357	143%
Safety	Male	424,733,004	173,953,176	244%	143,074,344	63,540,092	225%
Safety	Female	57,213,516	31,200,168	183%	24,618,480	12,083,935	204%
Total		571,979,856	269,206,886	212%	198,932,676	100,449,304	198%

Results: Nonservice-Connected Disability

Actual experience for nonservice-connected disabilities, weighted by annual compensation, was lower than the assumptions for General members predicted, which is consistent with prior studies and longer study periods. The following is a comparison of the actual-to-expected nonservice-connected disabilities for active General members for this study period, weighted by annual compensation.

Nonservice-Connected Disability Retirements (weighted by compensation)							
Plan	Gender	2016 to 2025			2022 to 2025		
		Actual	Expected	Actual / Expected	Actual	Expected	Actual / Expected
General A-D, G	Male	3,981,600	8,896,564	45%	313,884	3,443,651	9%
General A-D, G	Female	9,373,368	13,242,194	71%	2,085,828	5,125,743	41%
Total		13,354,968	22,138,758	60%	2,399,712	8,569,394	28%

Recommendation: Service-Connected Disability

After accounting for service retired members whose retirement type was reclassified to service-connected disability over the study period there were significantly more service-connected disability retirements than expected by the assumptions, particularly for Safety members. As a result, we are recommending updating the service-connected disability retirement assumptions.

Service-Connected Disability Retirements (weighted by compensation)							
Plan	Gender	2016 to 2025			2022 to 2025		
		Actual	Proposed	Actual / Proposed	Actual	Proposed	Actual / Proposed
General A-D, G	Male	32,380,932	29,742,901	109%	11,472,804	11,538,679	99%
General A-D, G	Female	57,652,404	49,943,829	115%	19,767,048	19,337,429	102%
Safety	Male	424,733,004	376,042,947	113%	143,074,344	138,476,073	103%
Safety	Female	57,213,516	55,908,508	102%	24,618,480	22,064,350	112%
Total		571,979,856	511,638,185	112%	198,932,676	191,416,531	104%

Note that for many members who retire due to service-connected disability, their benefit calculated under the service retirement provisions will be larger than that calculated under the disability retirement provisions. As a result, their monthly retirement allowance will be the same regardless of whether they retire for disability or service retirement. Consequently, the impact on plan liabilities is somewhat muted, except for differences between mortality assumptions and the unmodified continuance allowance provisions.

Exhibits 8-1 to 8-4, at the end of this section, show the results of the analysis graphically.

Recommendation: Nonservice-Connected Disability

Actual experience for nonservice-connected disabilities was lower than the assumptions for General members predicted, even after accounting for retired members whose retirement type was reclassified to nonservice-connected disability over the study period. We are recommending lowering the nonservice-connected disability retirement assumptions.

Nonservice-Connected Disability Retirements (weighted by compensation)							
Plan	Gender	2016 to 2025			2022 to 2025		
		Actual	Proposed	Actual / Proposed	Actual	Proposed	Actual / Proposed
General A-D, G	Male	3,981,600	4,862,020	82%	313,884	1,865,120	17%
General A-D, G	Female	9,373,368	8,412,626	111%	2,085,828	3,257,874	64%
Total		13,354,968	13,274,646	101%	2,399,712	5,122,994	47%

Exhibits 8-5 to 8-6, at the end of this section, show the results of the analysis graphically.

Exhibit 8-1
 Service-Connected Disability Retirement – General A-D & G Male Members

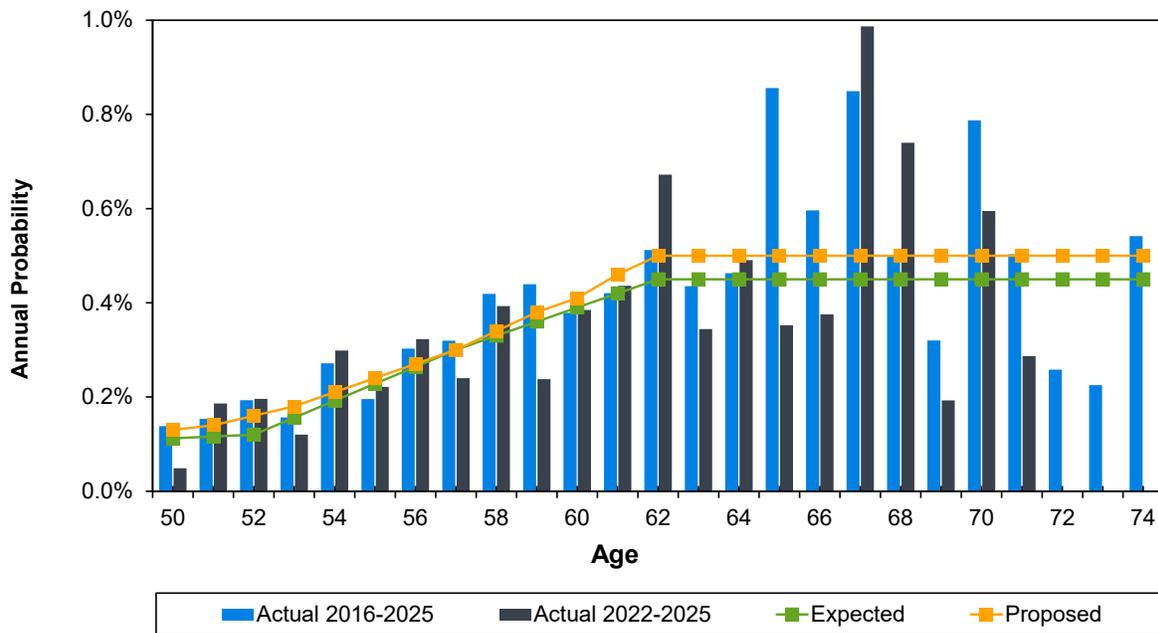


Exhibit 8-2
 Service-Connected Disability Retirement – General A-D & G Female Members

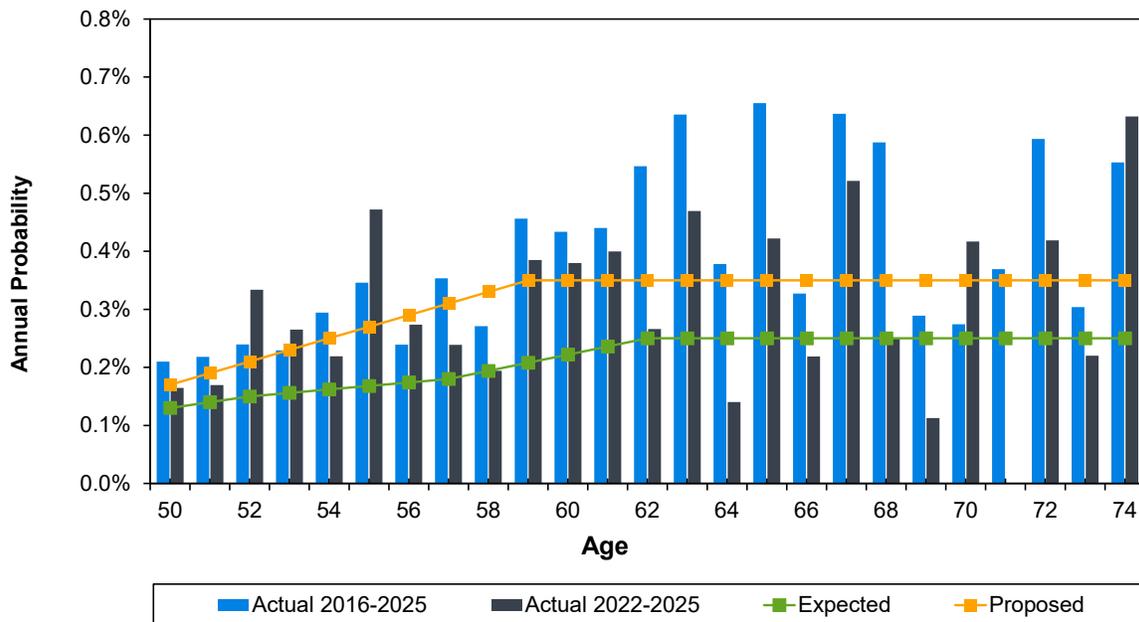


Exhibit 8-3
 Service-Connected Disability Retirement – Safety Male Members

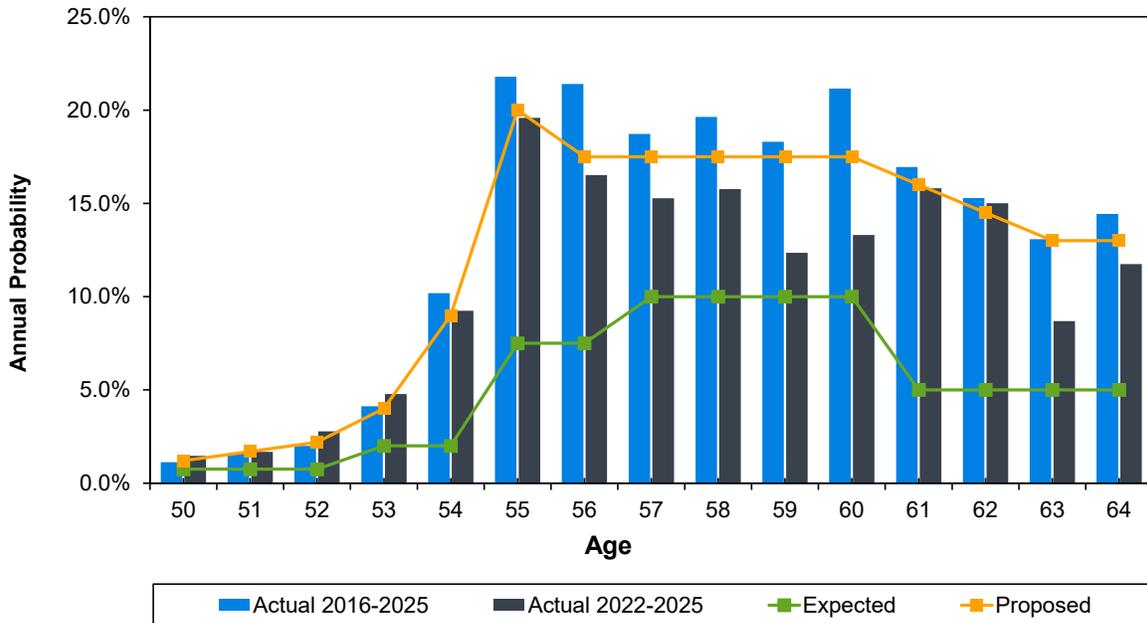


Exhibit 8-4
 Service-Connected Disability Retirement – Safety Female Members

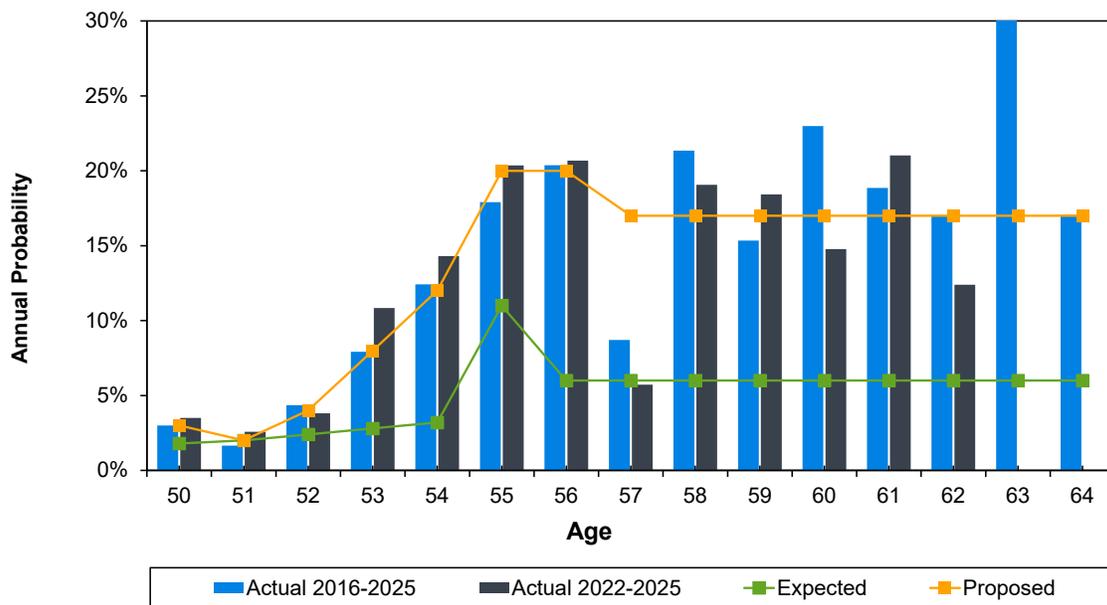


Exhibit 8-5
 Nonservice-Connected Disability Retirement – General A-D & G Male Members

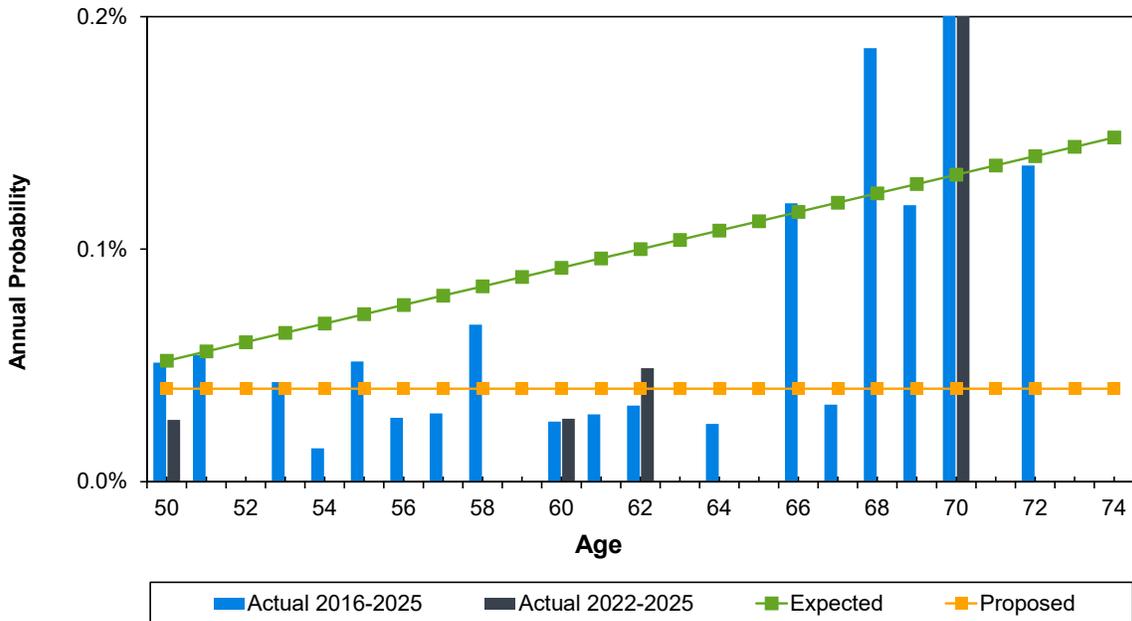
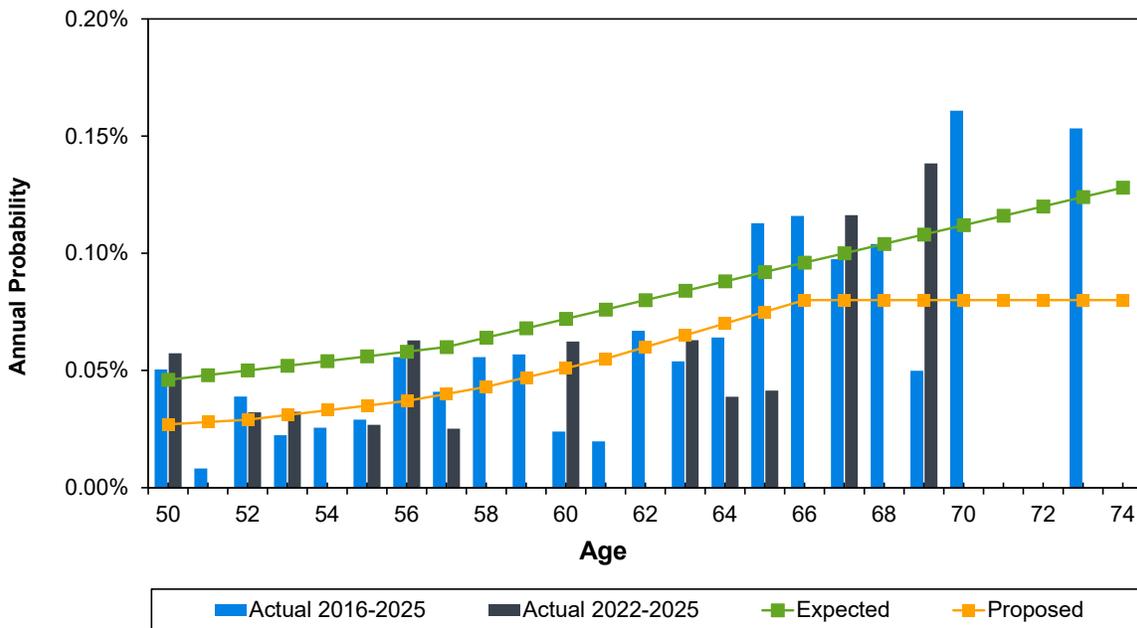


Exhibit 8-6
 Nonservice-Connected Disability Retirement – General A-D & G Female Members



9. Terminations (Includes both Refunds and Vested Terminations)

This section of the report summarizes the results of our study of terminations of employment for reasons other than death, service retirement, or disability. As used in the actuarial valuation, termination rates refer to both voluntary and involuntary terminations of employment. A member who terminates, but does not retire, is assumed to either take a refund (a withdrawal) or to terminate employment but leave their member contributions on deposit at LACERA (a vested termination). We will refer to the combination of the two rates as the aggregate termination rate. This approach sets a probability that the member will terminate and then assumes a certain portion of the members terminating will elect a refund. The probability of refund is discussed in more detail in Section 10.

We have found in our analysis of LACERA experience that termination rates vary by member class and the stage of a member’s career. That is, members in the early stages of their career generally have a higher probability of terminating. This is consistent with our findings from other studies. As such, we analyze termination rates separately for General and Safety members and based on a member’s length of service with LACERA.

We studied General Plans (except Plan E) together, and all Safety Plans together. General Plans A through C and Safety Plan A no longer have many members impacted by the termination assumption so do not materially impact this analysis. (The total membership of those plans is aging and has at least 30 years of service in most cases. Under the current approach to applying termination rates, once a member is eligible for retirement, no termination is assumed.) General Plan D and Safety Plan B provide experience for members with longer service while General Plan G and Safety Plan C provide experience for members with shorter service. General Plan E has a different benefit structure than other General Plans so we study it separately from other General Plans.

Results: Aggregate Terminations (Refunds and Vested Terminations)

As shown in the table below, the overall number of terminations, weighted by annual compensation, was higher than expected for all plans over both periods 2016 to 2025 and 2022 to 2025.

Termination of Employment (weighted by compensation)						
Plan	2016 to 2025			2022 to 2025		
	Actual	Expected	Actual / Expected	Actual	Expected	Actual / Expected
General A-D & G	1,129,385,304	937,007,628	121%	451,225,428	352,144,147	128%
General E	82,544,544	72,443,830	114%	19,565,556	15,788,007	124%
Safety	124,417,080	85,272,974	146%	55,420,272	30,171,699	184%
Total	1,336,346,928	1,094,724,432	122%	526,211,256	398,103,853	132%

The Actual / Expected (A/E) ratio greater than 100% indicates there was more compensation weighted terminations of employment than expected by the current assumptions and indicates that the assumption may need to be adjusted so that the expected amount is closer to the actual amount. The higher Actual / Expected ratio for the period 2022 to 2025 indicates that compensation weighted termination of employment was higher over that period than over the entire nine-year period.

Exhibits 9-1 to 9-3 at the end of this section show the results of the study graphically.

Recommendation

For all Plans we recommend increasing termination rates across most service durations.

The table below summarizes the compensation-weighted actual termination from experience for both periods 2016 to 2025 and 2022 to 2025. The proposed assumption results in a larger amount of compensation-weighted terminations than the current assumption, as reflected in the Actual / Proposed (A/P) ratios which are lower than the corresponding A/E ratios based on the current assumption.

Termination of Employment (weighted by compensation)						
Plan	2016 to 2025			2022 to 2025		
	Actual	Proposed	Actual / Proposed	Actual	Proposed	Actual / Proposed
General A-D & G	1,129,385,304	1,048,550,571	108%	451,225,428	392,572,834	115%
General E	82,544,544	81,451,796	101%	19,565,556	16,256,585	120%
Safety	124,417,080	112,098,124	111%	55,420,272	40,754,124	136%
Total	1,336,346,928	1,242,100,492	108%	526,211,256	449,583,543	117%

Exhibit 9-1
 Termination Rates – General Plan D & G Members

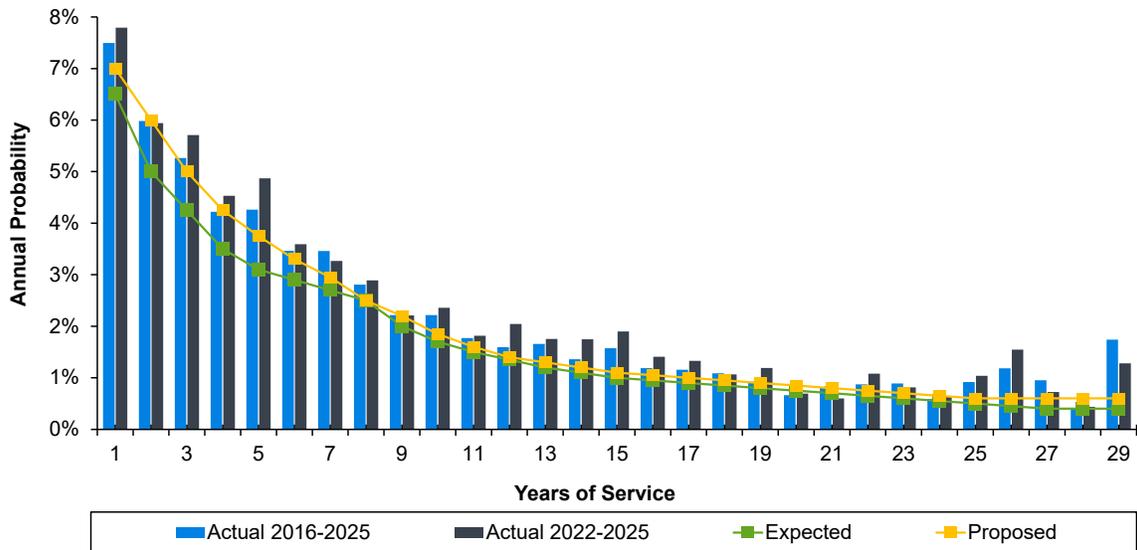


Exhibit 9-2
 Termination Rates – General Plan E Members

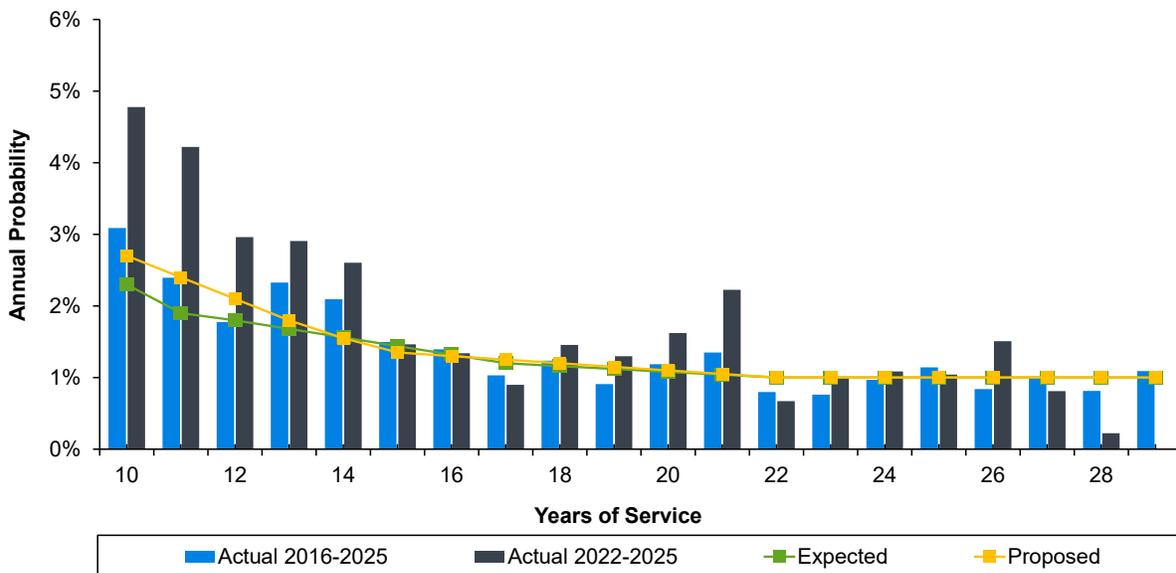
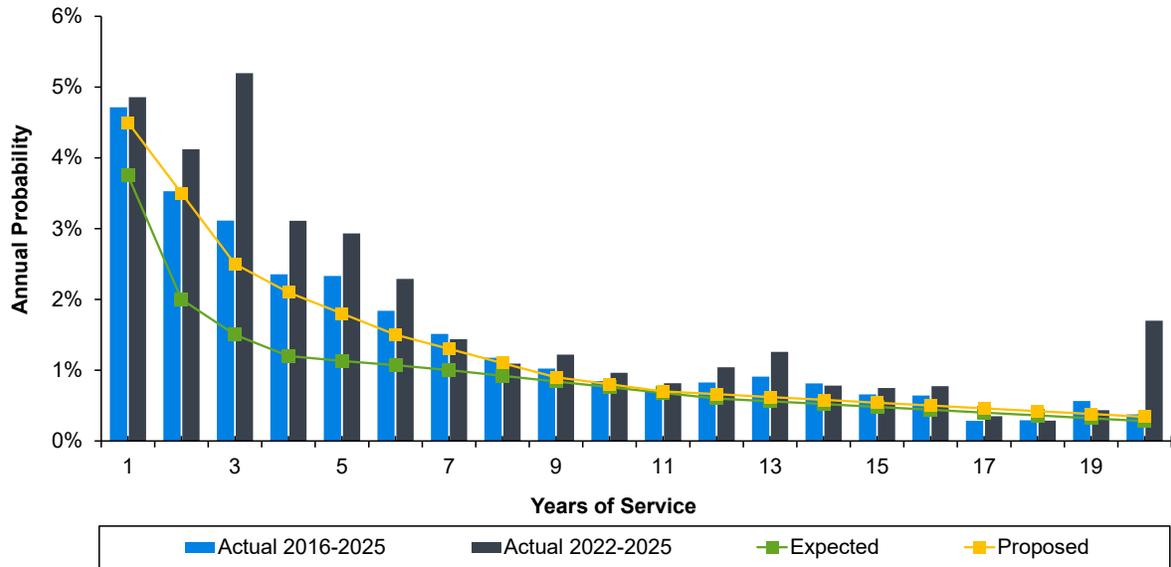


Exhibit 9-3
 Termination Rates – Safety Members



10. Probability of Refund

As discussed in Section 9, the aggregate termination rates include both members who terminate and take a refund of their contributions and those who elect to keep their contributions with LACERA and receive a deferred vested benefit. The percentage of members who are expected take a refund of their contributions is the probability of refund assumption and is discussed in this section.

Results

The current assumptions project that a portion of vested members will take a refund of their contributions based on their years of service and classification.

For vested members, there were somewhat fewer refunds than the assumptions projected for General members and about the same number as projected for Safety members over the period 2016 to 2025, as shown in the following table.

Probability of Refund (at least 5 years of service, headcount weighted)					
Class	Actual	Expected	Actual / Expected	Proposed	Actual / Proposed
General	1,583	1,707	93%	1,562	101%
Safety	149	147	101%	145	103%
Total	1,732	1,854	93%	1,707	101%

Exhibits 10-1 to 10-2 on the following page show the results of the study graphically. Note that the probability of refund for Safety members with 20 or more years of service only applies to Safety Plan C members, since members of Safety Plans A and B are eligible for service retirement after 20 years of service.

Overall, we observed that members with shorter service are taking refunds at a lower rate than expected by the assumptions, and members with longer service are taking refunds at a higher rate than expected.

Recommendation

We recommend lowering the probability of refund for General members who have between 5 and 15 years of service and increasing it for members with 25 or more years of service.

For Safety members we recommend lowering the probability of refund for members who have between 5 and 7 years of service and increasing it slightly for members who have 13 or more years of service to better reflect the actual experience of members at different service durations.

Exhibit 10-1
 Probability of Refund – General Members

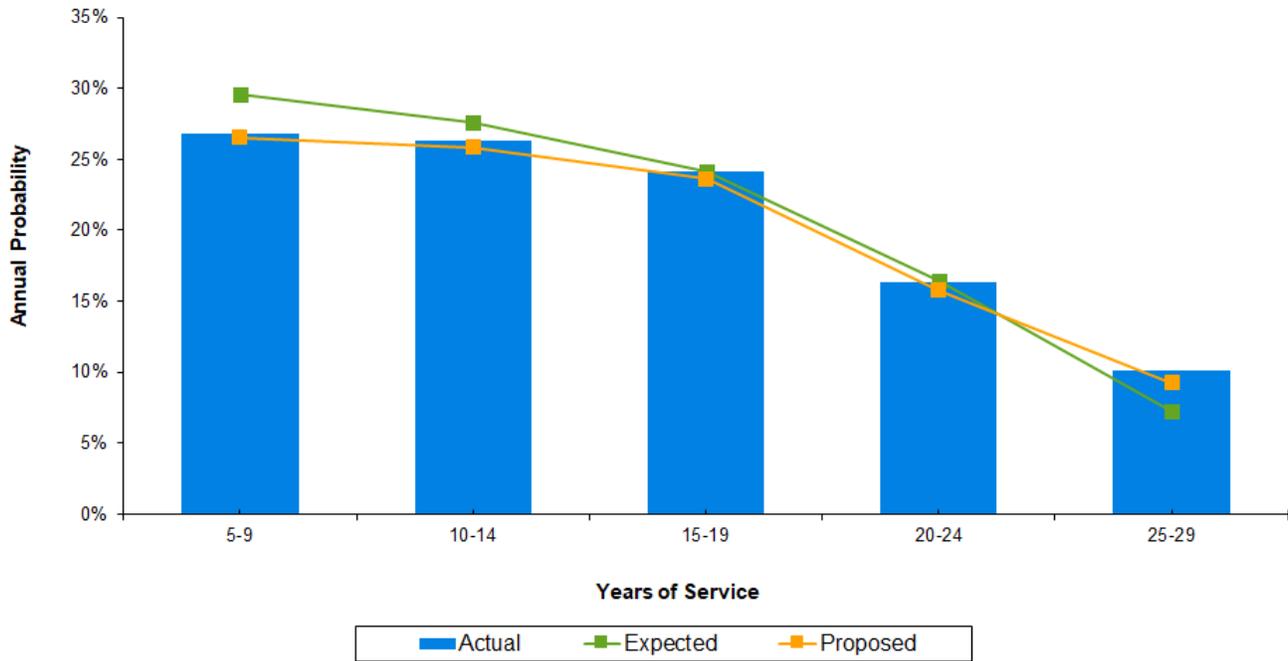
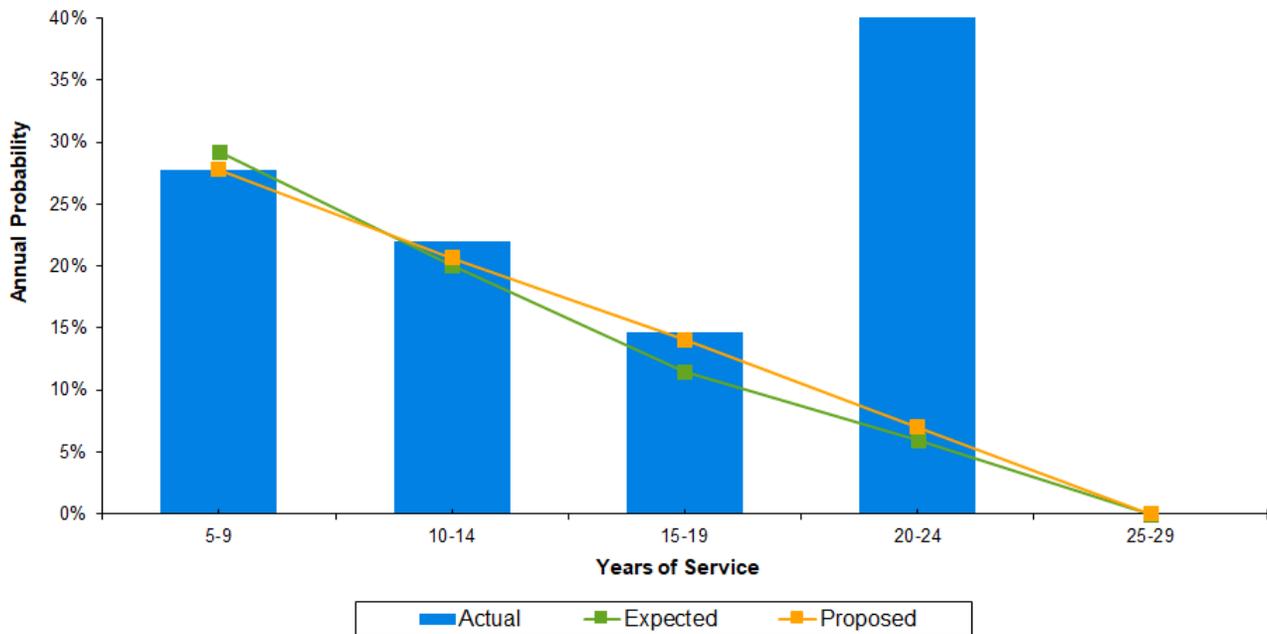


Exhibit 10-2
 Probability of Refund – Safety Members



11. Retiree Mortality

In this section we look at the results of the study of actual and expected death rates of retired members. We studied rates of mortality among healthy and disabled retired members.

Although there has been a recent deviation due to the pandemic, mortality has been improving in this country and is expected to continue to improve. We recommend continuing use of generational mortality tables (see later discussion) to account for projected future improvements in mortality. Generational mortality is reflected by including a mortality improvement scale that projects annual decreases in mortality rates. Therefore, generational mortality explicitly assumes that members born more recently will live longer than the members born before them.

Results

Overall, we found that the benefit-weighted amount of service retirement deaths was close to that expected by the assumptions in both periods, with slightly higher benefit-weighted deaths in the 2016 to 2025 period than in the 2022 to 2025 period, relative to those expected.

The following table shows a comparison of the actual-to-expected deaths of retired members by gender, class, and type of retirement for the current study period, weighted by monthly benefit amounts.

Service Retirement Retiree Mortality (weighted by benefit amounts)						
Group	2016 to 2025			2022 to 2025		
	Actual	Expected	Actual / Expected	Actual	Expected	Actual / Expected
General Male	26,817,778	26,204,240	102%	9,761,227	9,829,637	99%
General Female	22,455,836	22,445,669	100%	8,904,947	9,036,539	99%
Safety Male	7,195,069	6,815,598	106%	2,904,495	2,621,537	111%
Safety Female	324,593	423,976	77%	85,500	184,805	46%
Total	56,793,276	55,889,483	102%	21,656,169	21,672,518	100%

Disability Retirement Retiree Mortality (weighted by benefit amounts)						
Group	2016 to 2025			2022 to 2025		
	Actual	Expected	Actual / Expected	Actual	Expected	Actual / Expected
General Male	2,129,525	2,005,403	106%	770,305	706,577	109%
General Female	2,065,175	1,870,488	110%	804,098	687,869	117%
Safety Male	9,056,042	8,995,298	101%	3,455,939	3,650,082	95%
Safety Female	430,195	487,822	88%	160,736	213,983	75%
Total	13,680,937	13,359,011	102%	5,191,078	5,258,511	99%

Mortality for Beneficiaries/Survivors

The previous analysis was focused on members who are currently receiving either service retirement or disability retirement benefits. An additional assumption must be made for beneficiaries of members who are currently receiving survivor benefits or may receive survivor benefits in the future. Analysis of this assumption is more difficult as the information on deaths of beneficiaries who are not in payment is generally not as well reported in most systems as members who are in payment. The information on beneficiaries currently receiving survivor benefits is more reliable; however, we do not believe it is appropriate to apply this experience to beneficiaries who are not in payment.

Studies have shown that: 1) beneficiaries have materially higher mortality rates after their spouse has died (“grieving widow effect”); and 2) married people live longer than single people. Since most beneficiaries who are not in payment are spouses of the members, we would expect on average they would live longer than the general retired population as they are married, and retirees are a mix of married and single. After the member has died, the expectation is the survivor will have higher mortality (and a shorter life expectancy), which is consistent with LACERA experience. To approximate this lower-than-average beneficiary mortality prior to the retiree’s death and higher-than-average beneficiary mortality following the retiree’s death, we recommend continuing the assumption of the beneficiary mortality being equal to the assumption for a healthy General retiree of the same gender.

Generational Mortality Tables

Most actuarial valuations for public sector retirement systems use generational mortality tables, which explicitly reflect expected improvements in mortality. Generational mortality tables include a base table and a projection table. The projection table reflects the expected annual reduction in mortality rates at each age. Therefore, each year in the future, the mortality at a specific age is expected to decline slightly (and people born in succeeding years are expected to live slightly longer).

For example, if the mortality rate at age 75 is 2.00% for a member currently aged 75 and the projected improvement is 1.00%, the mortality rate at age 75 for a member currently aged 74 will be 1.98% [$2.00\% \times (100.00\% - 1.00\%)$]. Therefore, the life expectancy for a 75-year old in the next year will be greater than a 75-year old in the current year. This can result in significant differences in life expectancies when projecting improvements 30-plus years into the future.

Beginning in 2014, the Society of Actuaries (SOA) began publishing a mortality improvement scale (MP-2014) that varies by age and birth year. This results in a complex matrix of rates that is projected forwards and backwards. Ultimately, in any mortality improvement table, the mortality improvement scale stops at a future year, and that year’s rate is used for all later years. It is referred to as the “ultimate rate.” Our general recommendation is to use a mortality projection scale based on the ultimate portion of the mortality improvement scale. We believe this approach reasonably reflects the long-term expectation of mortality improvement with less complexity than using a complete matrix of improvement rates.

One of the main benefits of generational mortality tables is that the valuation assumptions should effectively update each year to reflect improved mortality, and future changes to the mortality assumptions should be smaller and less significant.

LACERA has used a generational mortality assumption since 2016, and the current mortality rates are based on the PubG-2010 and PubS-2010 Healthy Retiree and Disabled Retiree mortality tables (with scaling adjustments) and all assume generational mortality improvement based on 100% of the MP-2021 Ultimate projection scale. Note that the MP-2021 table is the most recent mortality improvement table published by the SOA.

Recommendation

For retirees, we recommend updating the base mortality tables to the Pub-2016 suite of mortality tables (with scaling adjustments where appropriate) and continued use of the ultimate projection scale of the MP-2021 mortality improvement table. A summary of the retiree mortality assumption (current and proposed) is shown below:

Class	Type	Gender	Current Table	Proposed Table
General	Healthy	Male	PubG-2010 (100%) Healthy Retiree Male	PubG-2016 (100%) Healthy Retiree Male
General	Healthy	Female	PubG-2010 (110%) Healthy Retiree Female	PubG-2016 (100%) Healthy Retiree Female
Safety	Healthy	Male	PubS-2010 (85%) Healthy Retiree Male	PubS-2016 (90%) Healthy Retiree Male
Safety	Healthy	Female	PubS-2010 (100%) Healthy Retiree Female	PubS-2016 (90%) Healthy Retiree Female
General	Disabled	Male	Avg of: PubG-2010 (100%) Healthy Retiree Male PubG-2010 (100%) Disabled Retiree Male	PubG-2016 (95%) Disabled Retiree Male
General	Disabled	Female	Avg of: PubG-2010 (100%) Healthy Retiree Female PubG-2010 (100%) Disabled Retiree Female	PubG-2016 (140%) Healthy Retiree Female
Safety	Disabled	Male	PubS-2010 (100%) Disabled Retiree Male	PubS-2016 (100%) Healthy Retiree Male
Safety	Disalbed	Female	PubS-2010 (100%) Disabled Retiree Female	PubS-2016 (100%) Healthy Retiree Female

Both the current and proposed assumptions include the ultimate mortality improvement rates from the MP-2021 scale.

The tables below summarize the benefit-weighted actual retiree member mortality experience for both periods 2016 to 2025 and 2022 to 2025 under the proposed assumptions.

Service Retirement Retiree Mortality (weighted by benefit amounts)						
Group	2016 to 2025			2022 to 2025		
	Actual	Proposed	Actual / Proposed	Actual	Proposed	Actual / Proposed
General Male	26,817,778	27,041,340	99%	9,761,227	10,434,829	94%
General Female	22,455,836	21,269,857	106%	8,904,947	8,783,823	101%
Safety Male	7,195,069	6,944,556	104%	2,904,495	2,742,922	106%
Safety Female	324,593	378,917	86%	85,500	169,978	50%
Total	56,793,276	55,634,670	102%	21,656,169	22,131,552	98%

Disability Retirement Retiree Mortality (weighted by benefit amounts)						
Group	2016 to 2025			2022 to 2025		
	Actual	Proposed	Actual / Proposed	Actual	Proposed	Actual / Proposed
General Male	2,129,525	2,021,974	105%	770,305	733,039	105%
General Female	2,065,175	1,967,893	105%	804,098	744,869	108%
Safety Male	9,056,042	8,600,318	105%	3,455,939	3,588,028	96%
Safety Female	430,195	489,881	88%	160,736	221,513	73%
Total	13,680,937	13,080,066	105%	5,191,078	5,287,449	98%

For beneficiaries and survivors of LACERA retirees, we recommend continuing the assumption of the beneficiary mortality being equal to the assumption for a healthy General retiree of the same gender.

Exhibits 11-1 to 11-8 on the following pages show the results of the study graphically.

Exhibit 11-1
 Healthy Mortality – Male General Members

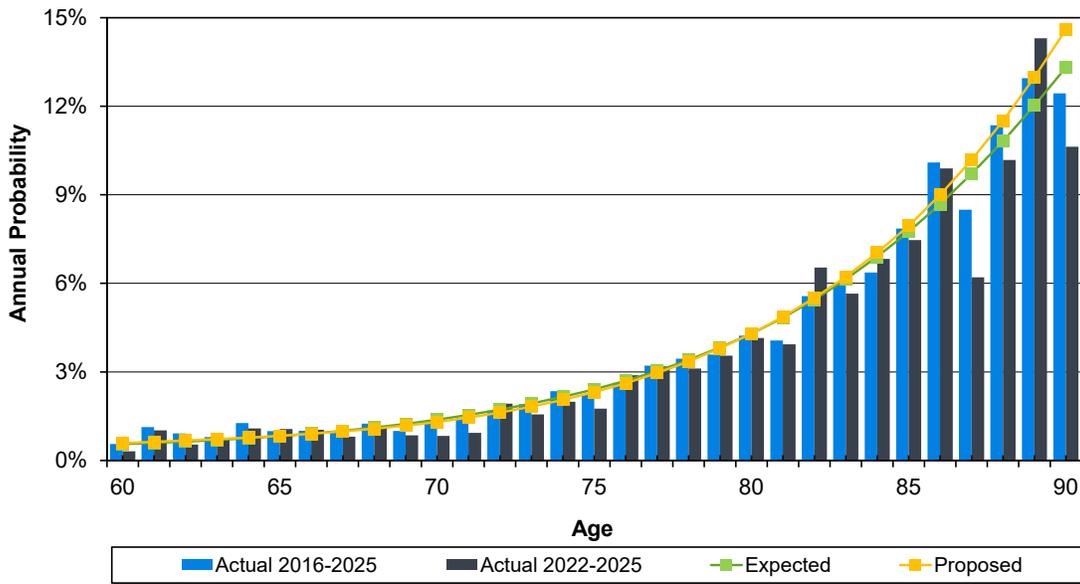


Exhibit 11-2
 Healthy Mortality – Female General Members

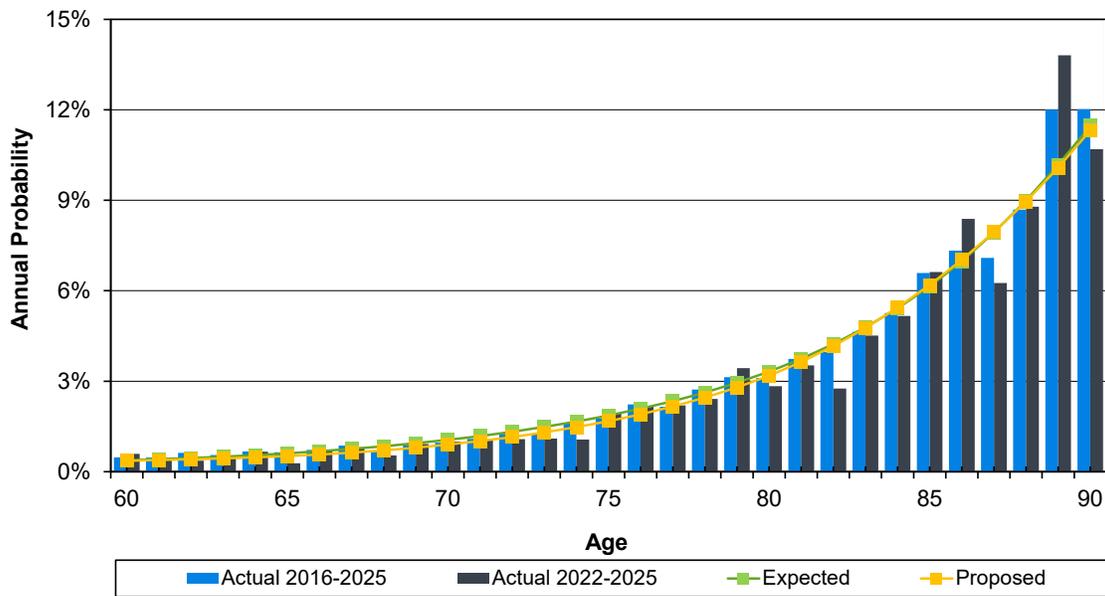


Exhibit 11-3
 Healthy Mortality – Male Safety Members

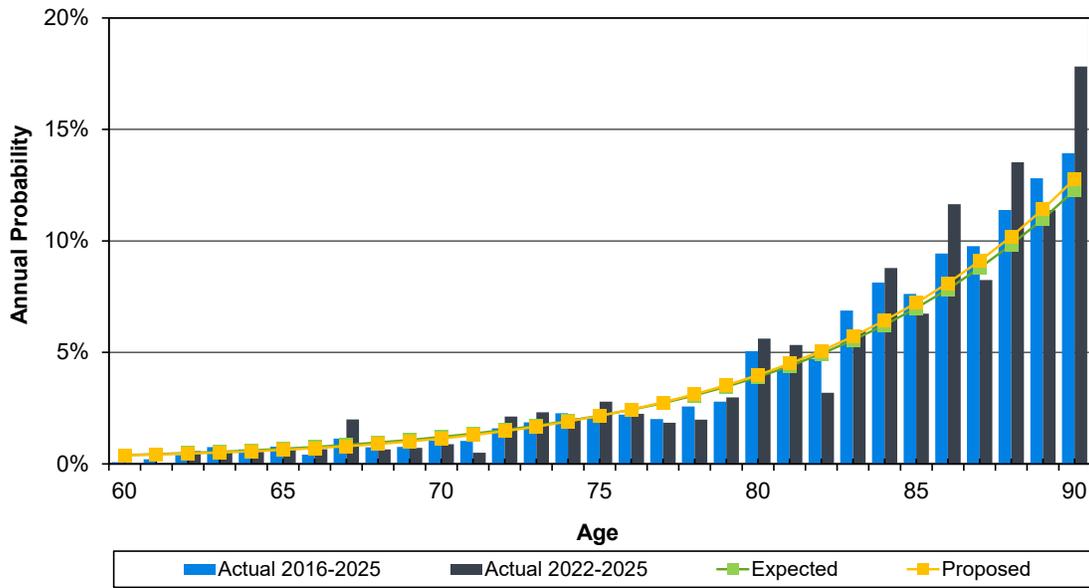


Exhibit 11-4
 Healthy Mortality – Female Safety Members

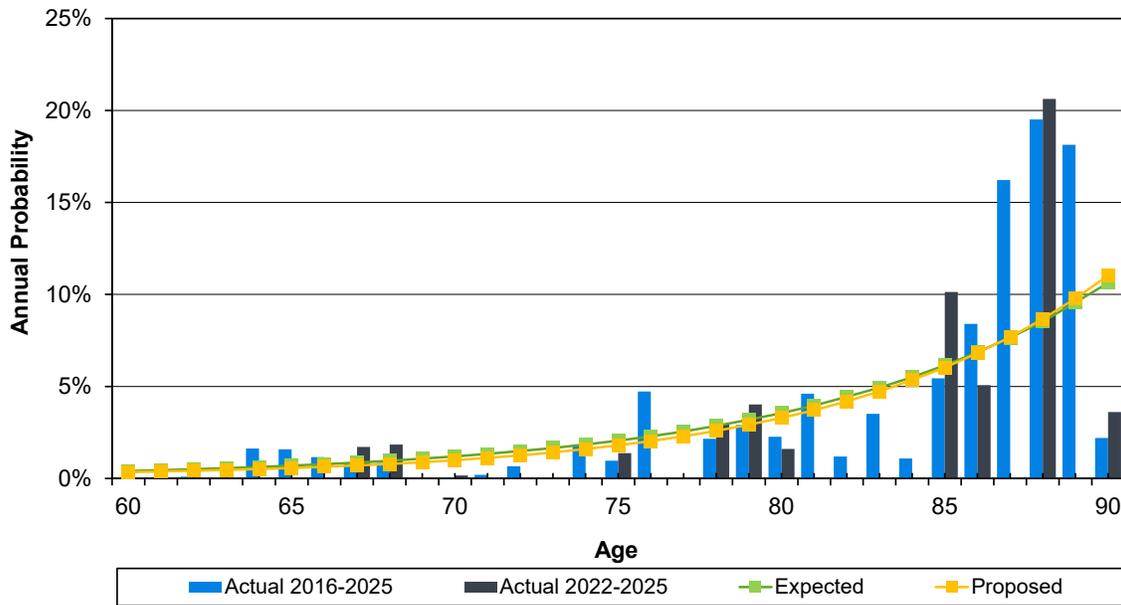


Exhibit 11-5
 Disabled Mortality – Male General Members

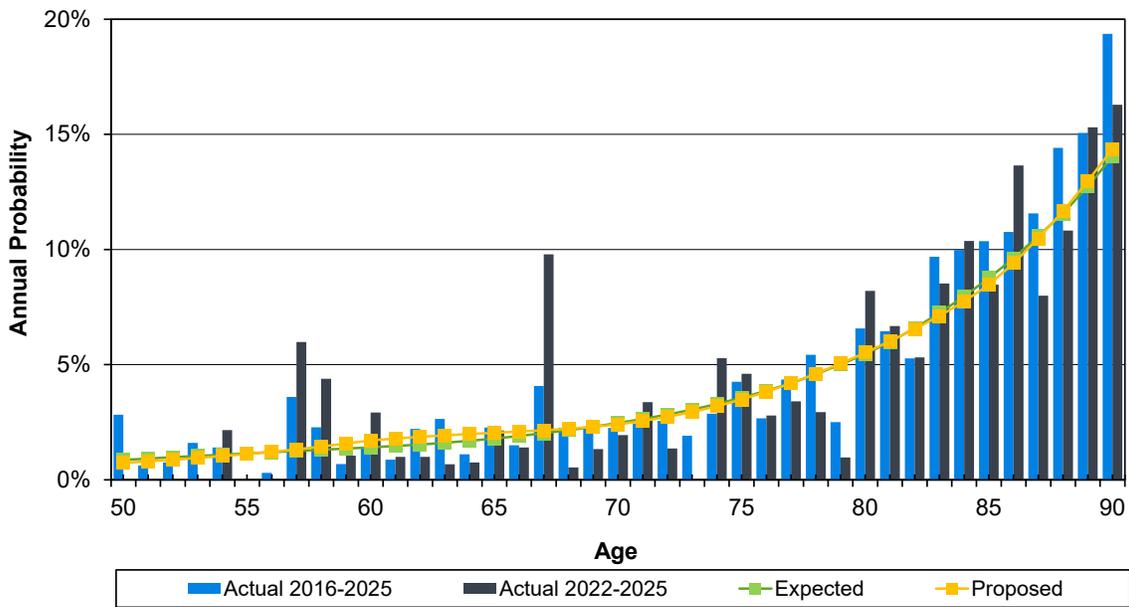


Exhibit 11-6
 Disabled Mortality – Female General Members

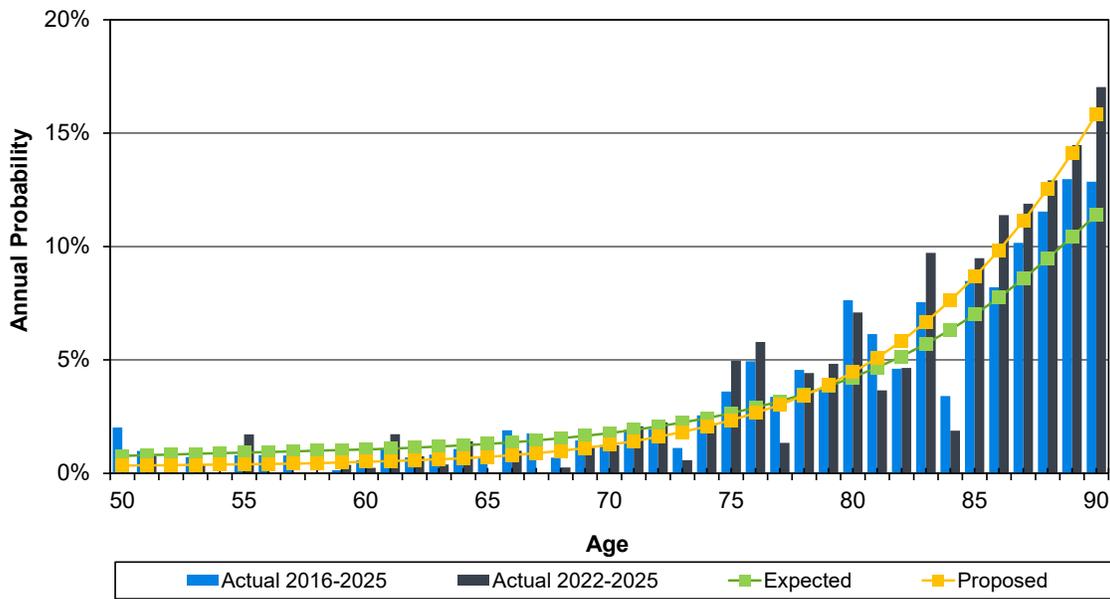


Exhibit 11-7
 Disabled Mortality – Male Safety Members

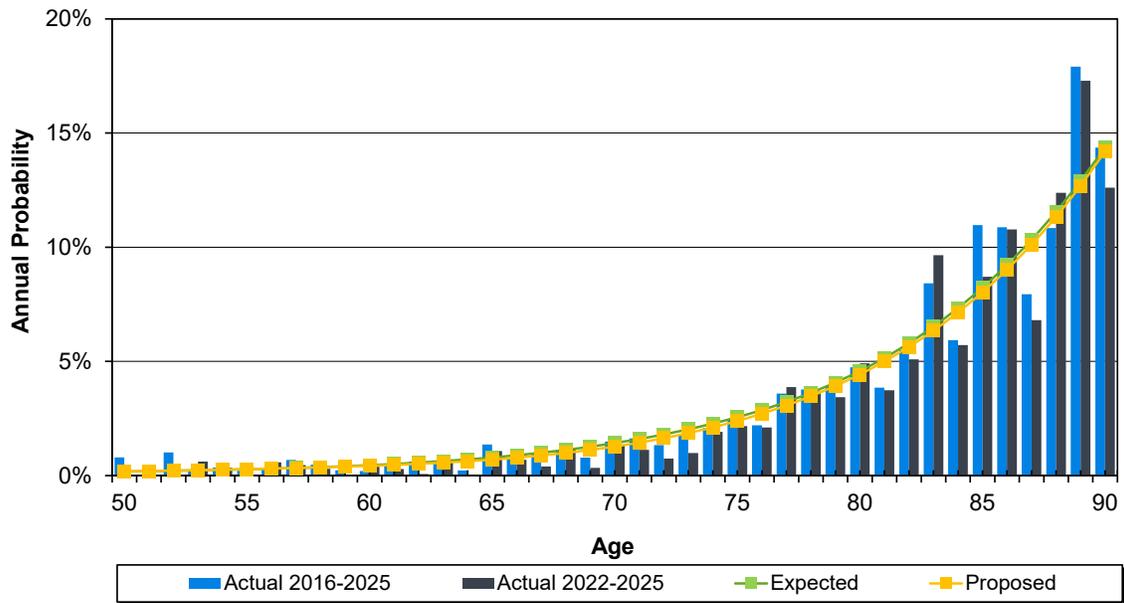
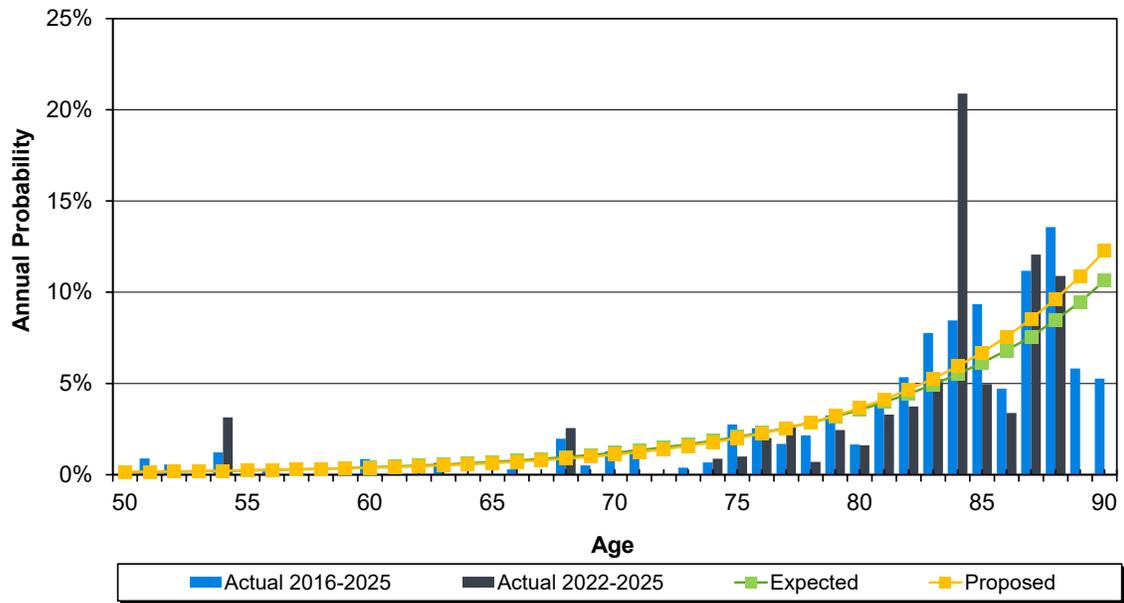


Exhibit 11-8
 Disabled Mortality – Female Safety Members



12. Miscellaneous Assumptions

Probability of Eligible Survivor

All members are assumed to elect the unmodified retirement allowance. Surviving beneficiaries (spouses or qualified domestic partners of members) generally receive a 65% continuance of the member's benefit (100% continuance for service-connected disabilities and 55% for Plan E members). Thus, the probability a member has an eligible survivor impacts the value of the benefit.

Based on our analysis of retirements during the 2022 to 2025 period, we found that 77% of males and 46% of females received an unmodified (or unmodified plus) benefit with an eligible survivor. We recommend no changes to the assumption for probability of retiring with an Eligible Survivor.

Retiree Gender	Probability of Retiring with an Eligible Survivor		
	Current Assumption	Actual Experience	Recommended Assumption
Male	77%	77%	No change
Female	48%	46%	No change

Beneficiary Age

To determine the value of a member's retirement or death benefit, we must estimate the value of the portion payable to the surviving eligible beneficiary. Since the value of the survivor's benefit is dependent on their age, we must estimate the age. We studied the beneficiary age difference compared to the member based on retirements during the 2022 to 2025 period. Based on this analysis, we recommend no changes to the assumption for beneficiary age of male or female retirees.

Retiree Gender	Beneficiary's Age Relative to Member		
	Current Assumption	Actual Experience	Recommended Assumption
Male	3 years younger	3.0 years younger	No change
Female	2 years older	2.0 years older	No change

Since the majority of eligible survivors are the opposite gender, even with the inclusion of qualified domestic partners, we will continue to assume that the survivor's gender is the opposite of the member.

Retirement for Deferred Vested Members

The age when members who terminate (or have terminated) employment with a vested benefit are assumed to retire varies by plan. We have studied the actual retirement ages of deferred vested members during the study period, and we recommend changes as outlined below.

Assumption for Deferred Commencement			
Plan	Age at Commencement		
	Current Assumption	Actual Results (2022-2025)	Proposed Assumption
GA	62	N/A ⁽¹⁾	No Change
GB	62	N/A ⁽¹⁾	No Change
GC	62	N/A ⁽¹⁾	No Change
GD	59	57.8	No Change
GE	62	63.4	63
GG	57	61.2	59
SA	55	N/A ⁽¹⁾	No Change
SB	50	51.2	51
SC	50	N/A ⁽¹⁾	51

1. Insufficient data for analysis.

Deferred vested members in General Plan D had a lower retirement age in the period 2022 to 2025 than in prior periods. We recommend retaining the current assumption and monitoring if this experience continues.

General Plan G has little experience, but it did increase significantly during the 2022 to 2025 period compared to prior periods, with an average retirement age above age 61. We recommend setting this assumption equal to the General Plan D assumption.

General Plan E and Safety Plan B experience was consistent with prior periods, and we recommend small adjustments to those assumptions.

Safety Plan C has very little experience and we recommend setting this assumption equal to Safety Plan B.

General Plans A, B and C and Safety Plan A have very few deferred vested members. For these plans, we consider this assumption to not be material.

Reciprocity

Members who terminate in the future (or have already terminated) with a deferred vested benefit may go to work for a reciprocal employer. This can result in an increase in the member’s final compensation used in the calculation of their LACERA benefit. Currently, 17% reciprocity is assumed for General members, and 36% is assumed for Safety members. Based on recent experience over multiple periods, we recommend increasing the reciprocity percentage by 1% for each group.

Retirements from Deferred Status (2022-2025)					
Plan	Total	Reciprocal Status	% with Reciprocity	Current Assump.	Proposed Assump.
General	1,245	227	18%	17%	18%
Safety	97	38	39%	36%	37%
Total	1,342	265	20%		

Appendix A: Proposed Actuarial Procedures and Assumptions

This section of the experience study report reflects how the Appendix A of the June 30, 2025 actuarial valuation would appear if the Board of Investments adopts all the recommended assumptions.

Appendix A Actuarial Procedures and Assumptions

The actuarial assumptions used in the valuations are intended to estimate the future experience of the members of LACERA and of LACERA itself in areas that affect the projected benefit flow and anticipated investment earnings. Any variations in future experience from that expected from these assumptions will result in corresponding changes in the estimated costs of LACERA's benefits.

Table A-1 summarizes the assumptions. The mortality probabilities are taken from the sources listed.

Tables A-2 and A-3 show how members are expected to leave retired status due to death.

Table A-4 presents the probability of refund of contributions upon termination of employment while vested.

Table A-5 presents the expected annual percentage increase in salaries.

Tables A-6 to A-14 were developed from the experience as measured by the 2025 Investigation of Experience Study. These are the probability that a member will leave the System for various reasons.

Actuarial Cost Method

The actuarial valuation is prepared using the entry age actuarial cost method (CERL 31453.5). Under the principles of this method, the actuarial present value of the projected benefits of each individual included in the valuation is allocated as a level percentage of the individual's projected compensation between entry age and assumed exit (until maximum retirement age).

The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided for at a valuation date by the sum of (a) the actuarial value of the assets, and (b) the actuarial present value of future normal costs is called the Unfunded Actuarial Accrued Liability (UAAL).

For members who transferred between plans, entry age is based on original entry into the System.

For General Plan G and Safety Plan C, the normal cost rate is rounded up to the nearest 0.02%.

Amortization Method

The original UAAL as of June 30, 2009 is amortized as a level percentage of the projected salaries of present and future members of LACERA over a closed 30-year period. As of the June 30, 2019 valuation, all amortization layers with periods greater than 22 years as of July 1, 2020 were amortized over a 22-year period. Future changes in the UAAL due to actuarial gains and losses and assumption changes are amortized over new closed 20-year periods, beginning with the date the contribution is first expected to be made. This is referred to as "layered" amortization. For increases in the UAAL due to changes in benefit provisions, the increase is amortized over a 10-year period.

Records and Data

The data used in this valuation consists of financial information and the age, service, and income records for active and inactive members and their survivors. All of the data were supplied by LACERA and are accepted for valuation purposes without audit.

- Blank birth date (retirees and beneficiaries) – assumed to be age 61 at the valuation date.
- Undefined and non-binary gender – Members of General plans are assumed to be female, and members of Safety plans are assumed to be males. Beneficiaries of General plan members are assumed to be male, and beneficiaries of Safety plan members are assumed to be female.

Replacement of Active Employees

The ages and relative salaries at entry of future members are assumed to follow a new entrant distribution based on the pattern of current members. The normal cost rates for active members within an individual plan will remain fairly stable in future years unless there are changes in the governing law, the actuarial assumptions, or the pattern of the new entrants.

Growth in Membership

For benefit determination purposes, no growth in the membership of LACERA is assumed. For funding purposes, if amortization is required, the total payroll of covered members is assumed to grow due to the combined effects of future wage increases of current active members and the replacement of the current active members by new employees. No growth or decline in the total number of active members is assumed.

Payroll Growth

Total payroll is expected to grow at 3.25% per year.

Internal Revenue Code Section 415 Limit

The Internal Revenue Code (IRC) Section 415 maximum benefit limitation is not explicitly reflected in the valuation for funding purposes.

Internal Revenue Code Section 401(a)(17)

The Internal Revenue Code Section 401(a)(17) maximum compensation limitation is not reflected in the valuation for funding purposes.

Government Code Section 7522.10

The maximum compensation limit under Government Code Section 7522.10 is reflected in the valuation for funding purposes.

Employer Contributions

The employer contribution rate is set by the Board of Investments based on actuarial valuations.

Member Contributions

The member contribution rates of contributory legacy plans (all plans except General Plans E and G and Safety Plan C) vary by entry age and are described in the law. Code references are shown in Appendix B of the valuation report. The methods and assumptions used are detailed later in this section. The individual member rates by entry age, plan, and class are illustrated in Appendix D of the valuation report.

The member contribution rates of the two PEPRA plans are flat rates (i.e., they do not vary by entry age) based on whether they are in the General or Safety plan. This rate is set equal to one-half of the total Normal Cost rate for the respective plan. These rates are illustrated in Appendix D of the valuation report.

Valuation of Assets

The assets are valued using a five-year smoothed method based on the difference between the expected fair value and the actual fair value of the assets as of the valuation date. The expected fair value is the prior year's fair value increased with the net increase in the cash flow of funds, all increased with interest during the past fiscal year at the expected investment return rate assumption. To the extent that there is a loss for the year and there are unrecognized gains from previous years, or to the extent that there is a gain for the year and there are unrecognized losses from previous years, the gain or loss for the year shall be used to offset unrecognized gains or losses from previous years in the order of oldest to most recent. Any remaining gain or loss for the year is recognized over a five-year period. Valuation Assets exclude the statutory Contingency Reserve and the STAR

Reserve. The five-year smoothing valuation basis for all assets was adopted effective June 30, 2009, and the offsetting methodology and STAR Reserve treatment were adopted effective June 30, 2022.

National Price Inflation

The national price inflation assumption is used as the PEPRA compensation limit increase assumption. It is also used as a component in the determination of the investment return. The national price inflation assumption is 2.50% per year (effective June 30, 2025).

Local Price Inflation

The local price inflation assumption is used in the determination of assumptions for individual salary increases, overall wage growth, and postretirement benefit increases. The local price inflation assumption is 2.75% per year, adopted effective June 30, 2016.

Investment Earnings and Expenses

The future investment earnings of the assets of LACERA are assumed to accrue at an annual rate of 7.00% compounded annually, net of both investment and administrative expenses. This rate was adopted June 30, 2019.

Postretirement Benefit Increases

Postretirement increases are assumed for the valuation in accordance with the benefits provided as described in Appendix B. These adjustments vary by plan and are assumed payable each year in the future but are limited to not exceed the expected local inflation assumption, with the exception that any COLA accumulation banks for Plan A members are reflected in the valuation.

Interest on Member Contributions

The annual credited interest rate on member contributions is assumed to be 7.00% compounded semi-annually for an annualized rate of 7.12%. This rate was adopted effective June 30, 2019.

Future Salaries

The rates of annual salary increase assumed for the purpose of the valuation are illustrated in Table A-5. In addition to increases in salary due to promotions and longevity, this scale includes an assumed 3.25% per annum rate of increase in the general wage level of the membership. These rates were adopted June 30, 2025.

Increases are assumed to occur mid-year (i.e., January 1st) and only apply to scheduled base salary. The mid-year timing reflects that salary increases occur throughout the year, or on average mid-year.

Social Security Wage Base

Plan E members have their benefits offset by an assumed Social Security Benefit. For valuation funding purposes, we need to project the Social Security Benefit. We assume the current Social Security provisions will continue and the annual Wage Base will increase at the rate of 3.25% per year. Note that statutory provisions describe exactly how to compute the offset for purposes of determining a member's offset amount at time of termination or retirement. This rate was adopted June 30, 2016.

Note also, that it is assumed all Plan E members born after 1950 have less than 10 years of Social Security-covered service and, therefore, do not have their benefit offset.

General Plan G and Safety Plan C members have their compensation limited based on Government Code Section 7522.10 for members whose service is not included in the federal service. The limit for 2025 is \$186,096 (after applying the 120% factor) and is projected to increase at the national inflation rate.

Retirement

Members in General Plans A-D may retire at age 50 with 10 years of service, or any age with 30 years of service, or age 70 regardless of the number of years of service. General Plan G members are eligible to retire at age 52 with 5 years of service, or age 70 regardless of the number of years of service. Non-contributory Plan E members may retire at age 55 with 10 years of service. Members of Safety Plans A and B may retire at age 50 with 10 years of service, or any age with 20 years of service. Safety Plan C members are eligible to retire at age 50 with 5 years of County service. Retirement probabilities vary by age and are shown by plan in Tables A-6 through A-14.

All General members who attain or have attained age 75 in active service and all Safety members who attain or have attained age 65 in active service are assumed to retire immediately (except for Safety Plan C members who have not yet attained 5 years of service).

Vested former members are assumed to retire at the later of their current age and the assumed retirement age specified as follows:

Assumption for Deferred Commencement	
Plan	Age at Commencement
GA	62
GB	62
GC	62
GD	59
GE	63
GG	59
SA	55
SB	51
SC	51

The assumptions regarding termination of employment, early retirement, and unreduced service retirement are treated as a single set of decrements in regard to a particular member. For example, a General Plan D member hired at age 30 has a probability of withdrawing from LACERA due to death, disability or other termination of employment until age 50. After age 50, the member can withdraw due to death, disability, or retirement. Thus, in no year during the member's projected employment would the member be eligible for both a probability of other termination of employment and a probability of retirement.

The retirement probabilities were adopted June 30, 2025.

Disability

The probabilities of disability used in the valuation are also illustrated in Tables A-6 through A-14. These probabilities were adopted June 30, 2025.

Postretirement Mortality – Other Than Disabled Members

The same postretirement mortality probabilities are used in the valuation for members retired for service and beneficiaries. These probabilities are illustrated in Table A-2. Current beneficiary mortality is assumed to be the same as for healthy members of the same sex. Future beneficiaries are assumed to be of the opposite sex and have the same mortality as General members. The amount-weighted Pub-2016 mortality tables are used. These probabilities were adopted June 30, 2025.

Note that these assumptions include a projection for expected future mortality improvement. The projection scale was adopted June 30, 2022.

Males: General members: PubG-2016 Healthy Retiree Mortality Table for Males, with MP-2021 Ultimate Projection Scale.

Safety members: PubS-2016 Healthy Retiree Mortality Table for Males multiplied by 90%, with MP-2021 Ultimate Projection Scale.

Females: General members: PubG-2016 Healthy Retiree Mortality Table for Females, with MP-2021 Ultimate Projection Scale.

Safety members: PubS-2016 Healthy Retiree Mortality Table for Females multiplied by 90%, with MP-2021 Ultimate Projection Scale.

Postretirement Mortality – Disabled Members

For members retired for disability, the mortality probabilities used in the valuation are illustrated in Table A-3. The amount-weighted Pub-2016 mortality tables are used. These probabilities were adopted June 30, 2025.

Note that these assumptions include a projection for expected future mortality improvement. The new projection scale was adopted June 30, 2022.

Males: General members: PubG-2016 Disabled Retiree Mortality Table for Males multiplied by 90%, projected with MP-2021 Ultimate Projection Scale.

Safety members: PubS-2016 Healthy Retiree Mortality Table for Males, with MP-2021 Ultimate Projection Scale.

Females: General members: PubG-2016 Healthy Retiree Mortality Table for Females multiplied by 140%, projected with MP-2021 Ultimate Projection Scale.

Safety members: PubS-2016 Healthy Retiree Mortality Table for Females, with MP-2021 Ultimate Projection Scale.

Mortality while in Active Status

For active members, the mortality probabilities used in the valuation are illustrated in Tables A-6 through A-14. The amount-weighted Pub-2016 mortality tables are used. These probabilities were adopted June 30, 2025.

Class	Gender	Proposed Table
General	Male	PubG-2016 (110%) Employee Male
General	Female	PubG-2016 (120%) Employee Female
Safety	Male	PubS-2016 (120%) Employee Male
Safety	Female	PubS-2016 (120%) Employee Female

Projected using the MP-2021 Ultimate projection scale.

These assumptions include a projection for expected future mortality improvement, which was adopted June 30, 2022.

Note that Safety members have an additional service-connected mortality probability of 0.01% per year.

Other Employment Terminations

Tables A-6 to A-14 show, for all ages, the probabilities assumed in this valuation for future termination from active service other than for death, disability, or retirement. These probabilities do not apply to members eligible for service retirement. These probabilities were adopted June 30, 2025.

Terminating employees may withdraw their contributions immediately upon termination of employment and forfeit the right to further benefits, or they may leave their contributions with LACERA. Former contributing members whose contributions are on deposit may later elect to receive a refund, may return to work, or may remain inactive until becoming eligible to receive a retirement benefit under either LACERA or a reciprocal retirement system. All terminating members who are not eligible for vested benefits are assumed to withdraw their contributions immediately. It is assumed that all terminating members will not be rehired in the future.

Table A-4 gives the assumed probabilities that vested members will withdraw their contributions and elect a refund immediately upon termination and the probability that remaining members will elect a deferred vested benefit. All non-vested members are assumed to elect a refund and withdraw their contributions. These probabilities were adopted June 30, 2025.

Probability of Eligible Survivors

For members not currently in pay status, 77% of all males and 48% of all females are assumed to have eligible survivors (spouses or qualified domestic partners). Survivors are assumed to be three years younger than male members and two years older than female members. Survivors are assumed to be of the opposite gender as the member. There is no explicit assumption for children's benefits. We believe the survivor benefits based on this assumption are sufficient to cover children's benefits as they occur. These probabilities were adopted June 30, 2022.

Valuation of Vested Former Members

The deferred retirement benefit is calculated based on the member's final compensation and service at termination. The compensation amount is projected until the assumed retirement age for members who are assumed to be employed by a reciprocal agency. For members who are missing compensation data, Final Compensation is estimated as the average amount for all members who terminated during the same year and had a valid compensation amount. The greater of the present value of the calculated benefit and the employee's current contribution balance is valued for future deferred vested members.

Reciprocal Employment

18% of General and 37% of Safety current and future vested former members are assumed to work for a reciprocal employer. These probabilities were adopted June 30, 2025.

Current vested reciprocal members are assumed to receive annual salary increases of 4.25%. Future reciprocal vested members are assumed to receive the same salary increases they would have received if they had stayed in active employment with LACERA and retired at the assumed retirement age.

Other Technical Assumptions

Decrements are assumed to occur mid-year, except that if the retirement rate is 100% at a given age then the member is assumed to retire at the beginning of the year at that age.

Decrement rates shown are probabilities and are non-competing.

Termination rates are assumed to be 0% if the member is eligible for service retirement.

Valuation of Annuity Purchases

Over 30 years ago, LACERA purchased single life annuities from two insurance companies for some retired members (currently less than 1% of the retired population). The total liability for these members is calculated and then offset by the expected value of the benefit to be paid by the insurance companies.

For affected members, the insurance companies are responsible for:

1. Straight life annuity payments
2. Statutory COLAs

LACERA is responsible for:

1. Benefit payments payable to any beneficiary
2. STAR COLAs

Member Contribution Rate Assumptions

The following summarize the procedures used to compute member contribution rates based on entry age:

In general, the member rate is determined by the Present Value of the Future Benefit (PVFB) payable at retirement age, divided by the present value of all future salaries payable between age at entry and retirement age. For these purposes, per the CERL:

- A. The Annuity factor used for General members is based on a 35% / 65% blend of the male and female valuation mortality tables and projection scale, with a static projection to 2045. For Safety members, it is based on an 85% / 15% blend of the male and female annuity factors determined using the same mortality tables as used for service-retired members.
- B. The annuity factor used in determining the present value of future benefits (PVFB) at entry age is equal to the life only annuity factor at 7.00%.
- C. The Final Compensation is based on the salary paid in the year prior to attaining retirement age.
- D. Example: For a General Plan C Member who enters at age 59 or earlier, the Final Compensation at retirement (age 60) will be the monthly average of the annual salaries during age 59.
- E. Member Rates are assumed to increase with entry age. There are a few exceptions at the higher entry ages where the calculated rate is less than the previous entry age. In these cases the member contribution rate is adjusted so that it is no less than the value for the previous entry age.

Table A-1
Summary of Valuation Assumptions as of June 30, 2025

- I. Economic assumptions
 - A. Payroll / General wage increases 3.25%
 - B. Investment earnings 7.00%
 - C. Growth in membership 0.00%
 - D. Postretirement benefit increases (varies by plan) Maximum Plan COLA not greater than local price inflation assumption⁽¹⁾
 - E. National price inflation assumption 2.50%
 - F. Local price inflation assumption 2.75%

- II. Demographic assumptions
 - A. Salary increases due to service Table A-5
 - B. Retirement Tables A-6 to A-14
 - C. Disability Tables A-6 to A-14
 - D. Mortality during active employment Tables A-6 to A-14
 - E. Mortality for active members after termination and service retired members⁽²⁾ Table A-2

Class	Gender	
General	Male	PubG-2016 (100%) Healthy Retiree Male
General	Female	PubG-2016 (100%) Healthy Retiree Female
Safety	Male	PubS-2016 (90%) Healthy Retiree Male
Safety	Female	PubS-2016 (90%) Healthy Retiree Female

- F. Mortality among disabled members⁽²⁾ Table A-3

Class	Gender	
General	Male	Avg of: PubG-2016 (90%) Disabled Retiree Male
General	Female	Avg of: PubG-2016 (140%) Healthy Retiree Female
Safety	Male	PubS-2016 (100%) Healthy Retiree Male
Safety	Female	PubS-2016 (100%) Healthy Retiree Female

- G. Mortality for beneficiaries⁽¹⁾ Table A-2
 Basis – Beneficiaries are assumed to have the same mortality as a General member of the opposite gender who has taken a service retirement.
- H. Other terminations of employment Tables A-6 to A-14
- I. Refund of contributions on vested termination Table A-4

1. To account for existing Plan A COLA accumulation balances, retirees and beneficiaries with a retirement date prior to April 1, 2025 are assumed to receive 3.00% annual COLAs.

2. All mortality probabilities are projected using the MP-2021 Ultimate projection scale.

Table A-2
Mortality for Members Retired for Service⁽¹⁾

<u>Age</u>	<u>Safety Male</u>	<u>Safety Female</u>	<u>General Male</u>	<u>General Female</u>
20	0.0390%	0.0150%	0.0540%	0.0280%
25	0.0500%	0.0220%	0.0810%	0.0360%
30	0.0590%	0.0300%	0.0920%	0.0530%
35	0.0700%	0.0420%	0.1000%	0.0780%
40	0.0880%	0.0620%	0.1330%	0.1140%
45	0.1180%	0.0920%	0.1910%	0.1700%
50	0.1780%	0.1450%	0.2830%	0.2560%
55	0.2660%	0.2280%	0.4220%	0.3030%
60	0.4070%	0.3640%	0.6250%	0.3840%
65	0.6670%	0.6020%	0.8860%	0.5490%
70	1.2060%	1.0490%	1.3800%	0.9490%
75	2.2690%	1.8950%	2.4410%	1.7650%
80	4.1830%	3.4540%	4.5160%	3.3440%
85	7.5100%	6.2700%	8.2710%	6.4410%
90	13.1440%	11.3480%	15.0270%	11.6480%

<u>Age</u>	<u>All Groups</u>
60 & Less	1.350%
61	1.350%
62	1.350%
63	1.340%
64	1.320%
65	1.310%
70	1.240%
75	1.170%
80	1.100%
85	0.870%
90	0.630%
95	0.400%
100	0.300%
105	0.200%
110	0.100%
115	0.000%

1. Mortality probabilities are those applicable for the fiscal year beginning in 2016. Annual projected improvements are assumed in the following years under the schedule shown. For example, the annual mortality probability for an 85-year old Safety male in fiscal year beginning in 2025 is 6.9420% calculated as follows:

$$\begin{aligned} \text{Age 85 probability in 2025} &= \text{Age 85 probability in 2016 with 9 years improvement} \\ &= 7.5100\% \times (100.0\% - 0.87\%)^9 = 6.9420\% \end{aligned}$$

Table A-3
Mortality for Members Retired for Disability⁽¹⁾

Age	Safety Male	Safety Female	General Male	General Female
20	0.0430%	0.0170%	0.1950%	0.0390%
25	0.0560%	0.0240%	0.3020%	0.0500%
30	0.0660%	0.0330%	0.2640%	0.0740%
35	0.0780%	0.0470%	0.2670%	0.1090%
40	0.0980%	0.0690%	0.3450%	0.1600%
45	0.1310%	0.1020%	0.5140%	0.2380%
50	0.1980%	0.1610%	0.7790%	0.3580%
55	0.2960%	0.2530%	1.1890%	0.4240%
60	0.4520%	0.4040%	1.8140%	0.5380%
65	0.7410%	0.6690%	2.1650%	0.7690%
70	1.3400%	1.1660%	2.5480%	1.3290%
75	2.5210%	2.1060%	3.6760%	2.4710%
80	4.6480%	3.8380%	5.8010%	4.6820%
85	8.3440%	6.9670%	8.8100%	9.0170%
90	14.6040%	12.6090%	14.7860%	16.3070%

1. Mortality probabilities are those applicable for the fiscal year beginning in 2016. Annual projected improvements are assumed in the following years under the schedule shown on the preceding page.

Table A-4
Immediate Refund of Contributions upon Termination of Employment
(Excludes Plan E)

Years of Service	General	Safety
0	100%	100%
1	100%	100%
2	100%	100%
3	100%	100%
4	100%	100%
5	27%	28%
6	27%	28%
7	26%	28%
8	26%	28%
9	26%	26%
10	26%	24%
11	26%	22%
12	26%	20%
13	26%	19%
14	25%	18%
15	25%	17%
16	25%	15%
17	23%	13%
18	22%	11%
19	21%	9%
20	19%	8%
21	17%	7%
22	15%	6%
23	13%	5%
24	12%	4%
25	11%	3%
26	10%	2%
27	9%	2%
28	7%	2%
29	5%	2%
30 & Up	0%	0%

Table A-5
Annual Increase in Salary⁽¹⁾

Years of Service	General	Safety
<1	7.00%	10.00%
1	6.25%	8.50%
2	5.50%	7.00%
3	4.75%	5.50%
4	4.10%	4.00%
5	3.55%	2.75%
6	3.10%	2.25%
7	2.70%	1.85%
8	2.30%	1.60%
9	2.00%	1.50%
10	1.70%	1.40%
11	1.50%	1.40%
12	1.35%	1.40%
13	1.25%	1.40%
14	1.17%	1.40%
15	1.09%	1.40%
16	1.01%	1.40%
17	0.95%	1.40%
18	0.89%	1.40%
19	0.83%	1.40%
20	0.77%	1.40%
21	0.71%	1.40%
22	0.65%	1.40%
23	0.60%	1.40%
24	0.55%	1.40%
25	0.55%	1.40%
26	0.55%	1.40%
27	0.55%	1.40%
28	0.55%	1.40%
29	0.55%	1.40%
30 or More	0.55%	1.40%

1. The total expected increase in salary includes both merit (shown above) and the general wage increase assumption of 3.25% per annum increase. The total result is compounded rather than additive. For example, the total assumed increase for General members for service less than one year is 10.48%.

Appendix A Probabilities of Separation from Active Service Tables A-6 to A-14

A schedule of the probabilities of termination of employment due to the following causes can be found on the following pages:

Service Retirement:	Member retires after meeting age and service requirements for reasons other than disability.
Withdrawal:	Member terminates and elects a refund of member contributions, or a deferred vested retirement benefit.
Service Disability:	Member receives disability retirement; disability is service related.
Ordinary Disability:	Member receives disability retirement; disability is not service related.
Service Death:	Member dies before retirement; death is service related.
Ordinary Death:	Member dies before retirement; death is not service related.

Each of these represents the probability that a member will separate from service at each age due to the particular cause. For example, a probability of 0.0300 for a member's service retirement at age 50 means we assume that 30 out of 1,000 members who are age 50 will retire at that age.

Each table represents the detailed probabilities needed for each LACERA plan:

Table A-6: General Plan Death and Disability
A-7: General Plan A, B, C & D Retirement
A-8: General Plan E Retirement
A-9: General Plan G Retirement
A-10: General Plan Termination
A-11: Safety Plan Death and Disability
A-12: Safety Plan A & B Retirement
A-13: Safety Plan C Retirement
A-14: Safety Plan Termination

Table A-6
Probability of Death and Disability for Active General Members

Age	Disability rates (other than Plan E ¹)					
	Service Disability (Males)	Service Disability (Females)	Ordinary Disability (Males)	Ordinary Disability (Females)	Ordinary Death (Males)	Ordinary Death (Females)
18	0.00010	0.00015	0.00010	0.00002	0.00023	0.00010
19	0.00010	0.00015	0.00010	0.00002	0.00028	0.00011
20	0.00010	0.00015	0.00010	0.00002	0.00031	0.00012
21	0.00010	0.00015	0.00010	0.00002	0.00034	0.00012
22	0.00010	0.00015	0.00010	0.00002	0.00037	0.00013
23	0.00010	0.00015	0.00010	0.00002	0.00041	0.00013
24	0.00010	0.00015	0.00010	0.00002	0.00044	0.00014
25	0.00010	0.00015	0.00010	0.00002	0.00046	0.00016
26	0.00010	0.00015	0.00010	0.00002	0.00048	0.00017
27	0.00010	0.00015	0.00010	0.00002	0.00050	0.00018
28	0.00010	0.00015	0.00010	0.00002	0.00051	0.00019
29	0.00010	0.00015	0.00010	0.00002	0.00052	0.00020
30	0.00010	0.00015	0.00010	0.00002	0.00053	0.00023
31	0.00010	0.00015	0.00010	0.00002	0.00054	0.00024
32	0.00010	0.00015	0.00010	0.00002	0.00054	0.00026
33	0.00015	0.00020	0.00010	0.00002	0.00054	0.00029
34	0.00020	0.00025	0.00010	0.00002	0.00055	0.00031
35	0.00025	0.00030	0.00010	0.00003	0.00057	0.00034
36	0.00030	0.00035	0.00010	0.00005	0.00059	0.00036
37	0.00035	0.00040	0.00010	0.00007	0.00063	0.00040
38	0.00040	0.00045	0.00010	0.00009	0.00066	0.00042
39	0.00045	0.00050	0.00010	0.00011	0.00070	0.00046
40	0.00050	0.00055	0.00010	0.00013	0.00076	0.00049
41	0.00055	0.00060	0.00013	0.00015	0.00081	0.00054
42	0.00060	0.00065	0.00016	0.00017	0.00087	0.00058
43	0.00065	0.00070	0.00019	0.00019	0.00094	0.00062
44	0.00070	0.00075	0.00022	0.00021	0.00101	0.00068
45	0.00080	0.00085	0.00025	0.00022	0.00109	0.00073
46	0.00090	0.00095	0.00028	0.00023	0.00118	0.00079
47	0.00100	0.00110	0.00031	0.00024	0.00127	0.00086
48	0.00110	0.00130	0.00034	0.00025	0.00138	0.00094
49	0.00120	0.00150	0.00037	0.00026	0.00149	0.00101
50	0.00130	0.00170	0.00040	0.00027	0.00162	0.00110
51	0.00140	0.00190	0.00040	0.00028	0.00176	0.00119
52	0.00160	0.00210	0.00040	0.00029	0.00191	0.00130
53	0.00180	0.00230	0.00040	0.00031	0.00209	0.00140
54	0.00210	0.00250	0.00040	0.00033	0.00228	0.00152
55	0.00240	0.00270	0.00040	0.00035	0.00249	0.00164
56	0.00270	0.00290	0.00040	0.00037	0.00271	0.00179
57	0.00300	0.00310	0.00040	0.00040	0.00295	0.00194
58	0.00340	0.00330	0.00040	0.00043	0.00320	0.00210
59	0.00380	0.00350	0.00040	0.00047	0.00348	0.00228
60	0.00420	0.00350	0.00040	0.00051	0.00375	0.00248
61	0.00460	0.00350	0.00040	0.00055	0.00406	0.00270
62	0.00500	0.00350	0.00040	0.00060	0.00437	0.00293
63	0.00500	0.00350	0.00040	0.00065	0.00470	0.00318
64	0.00500	0.00350	0.00040	0.00070	0.00505	0.00346
65	0.00500	0.00350	0.00040	0.00075	0.00542	0.00376
66	0.00500	0.00350	0.00040	0.00080	0.00583	0.00409
67	0.00500	0.00350	0.00040	0.00080	0.00628	0.00444
68	0.00500	0.00350	0.00040	0.00080	0.00679	0.00484
69	0.00500	0.00350	0.00040	0.00080	0.00737	0.00526
70	0.00500	0.00350	0.00040	0.00080	0.00802	0.00571
71	0.00500	0.00350	0.00040	0.00080	0.00876	0.00622
72	0.00500	0.00350	0.00040	0.00080	0.00958	0.00676
73	0.00500	0.00350	0.00040	0.00080	0.01049	0.00734
74	0.00500	0.00350	0.00040	0.00080	0.01153	0.00798
75	0.00000	0.00000	0.00000	0.00000	0.01266	0.00869

1. General Plan E does not have a disability benefit. All deaths of in-service General members are assumed to be non-service connected.

Table A-7
Probability of Retirement from Active Service for General Members
Plans A, B,C & D

Age	Less than 20 Years of Service	20 to 24 Years of Service	25 to 29 Years of Service	30+ Years of Service
45	0.00000	0.00000	0.00000	0.01750
46	0.00000	0.00000	0.00000	0.01750
47	0.00000	0.00000	0.00000	0.01750
48	0.00000	0.00000	0.00000	0.01750
49	0.00000	0.00000	0.00000	0.01750
50	0.01500	0.02000	0.02250	0.03000
51	0.01500	0.01500	0.01500	0.02000
52	0.01500	0.01500	0.02000	0.02500
53	0.01500	0.01500	0.02000	0.02500
54	0.01500	0.01500	0.03000	0.04000
55	0.02100	0.02000	0.03000	0.06000
56	0.02100	0.03000	0.03500	0.07000
57	0.02100	0.03000	0.03500	0.08000
58	0.02100	0.03000	0.05000	0.09000
59	0.02700	0.03500	0.07000	0.13000
60	0.04000	0.05000	0.10000	0.17000
61	0.04000	0.06500	0.10000	0.17000
62	0.06500	0.08000	0.13000	0.21500
63	0.06500	0.10000	0.16000	0.26000
64	0.11000	0.13000	0.25000	0.32000
65	0.18000	0.21000	0.34000	0.45000
66	0.16000	0.21000	0.27000	0.31000
67	0.16000	0.18500	0.22500	0.25000
68	0.16000	0.17500	0.22500	0.25000
69	0.16000	0.17500	0.27000	0.25000
70	0.23000	0.21000	0.28500	0.29000
71	0.16000	0.17500	0.27000	0.20000
72	0.16000	0.17500	0.27000	0.20000
73	0.16000	0.17500	0.27000	0.20000
74	0.16000	0.17500	0.27000	0.20000
75	1.00000	1.00000	1.00000	1.00000

Table A-8
Probability of Retirement from Active Service for General Members
Plan E

Age	Less than 20 Years of Service	20 to 24 Years of Service	25 to 29 Years of Service	30+ Years of Service
55	0.02000	0.02000	0.03000	0.03000
56	0.01750	0.01750	0.03000	0.03000
57	0.01750	0.01750	0.03000	0.03000
58	0.01750	0.01750	0.03000	0.03000
59	0.02700	0.03500	0.04000	0.04000
60	0.02700	0.03500	0.04500	0.06000
61	0.03500	0.03500	0.05500	0.07500
62	0.04000	0.04000	0.09000	0.11500
63	0.04500	0.04500	0.09000	0.13000
64	0.06000	0.08000	0.19000	0.27500
65	0.14000	0.18000	0.27000	0.45000
66	0.14000	0.14000	0.24000	0.26000
67	0.14000	0.14000	0.24000	0.26000
68	0.14000	0.14000	0.24000	0.26000
69	0.14000	0.14000	0.24000	0.26000
70	0.14000	0.14000	0.24000	0.26000
71	0.14000	0.14000	0.24000	0.21000
72	0.14000	0.14000	0.24000	0.21000
73	0.14000	0.14000	0.24000	0.21000
74	0.14000	0.14000	0.24000	0.21000
75	1.00000	1.00000	1.00000	1.00000

Table A-9
Probability of Retirement from Active Service for General Members
Plan G

Age	Less than 20	20 to 24 Years of Service	25 to 29 Years of Service	30+
	Years of Service			Years of Service
52	0.01200	0.01300	0.01600	0.02000
53	0.01200	0.01300	0.01600	0.02000
54	0.01500	0.01500	0.01800	0.02300
55	0.02000	0.02000	0.02400	0.03000
56	0.02000	0.02200	0.02600	0.03300
57	0.02100	0.02300	0.02800	0.03500
58	0.02400	0.02400	0.02900	0.03600
59	0.02700	0.02800	0.03400	0.04300
60	0.03000	0.03600	0.04300	0.05400
61	0.03000	0.03600	0.04300	0.05400
62	0.04000	0.04800	0.05800	0.07300
63	0.05000	0.06000	0.07200	0.09000
64	0.06000	0.07200	0.08600	0.10800
65	0.08000	0.08800	0.10600	0.13300
66	0.10000	0.11000	0.12100	0.15100
67	0.18000	0.21600	0.28100	0.36500
68	0.16000	0.16000	0.22000	0.25000
69	0.16000	0.16000	0.22000	0.25000
70	0.16000	0.16000	0.22000	0.25000
71	0.16000	0.16000	0.22000	0.25000
72	0.16000	0.16000	0.22000	0.25000
73	0.16000	0.16000	0.22000	0.25000
74	0.16000	0.16000	0.22000	0.25000
75	1.00000	1.00000	1.00000	1.00000

Table A-10
Probability of Termination from Active Service for General Members

Years of Service	All Plans except Plan E	Plan E
0	0.08000	0.08500
1	0.07000	0.07500
2	0.06000	0.06500
3	0.05000	0.05800
4	0.04250	0.05100
5	0.03750	0.04500
6	0.03300	0.04000
7	0.02950	0.03600
8	0.02500	0.03300
9	0.02200	0.03000
10	0.01850	0.02700
11	0.01600	0.02400
12	0.01400	0.02100
13	0.01300	0.01800
14	0.01200	0.01550
15	0.01100	0.01350
16	0.01050	0.01300
17	0.01000	0.01250
18	0.00950	0.01200
19	0.00900	0.01150
20	0.00850	0.01100
21	0.00800	0.01050
22	0.00750	0.01000
23	0.00700	0.01000
24	0.00650	0.01000
25	0.00600	0.01000
26	0.00600	0.01000
27	0.00600	0.01000
28	0.00600	0.01000
29	0.00600	0.01000
30 & Above	0.00000	0.01000

Table A-11
Probability of Death and Disability for Active Safety Members

Age	Service Disability (Males)	Service Disability (Females)	Ordinary Disability	Service Death	Ordinary Death (Males)	Ordinary Death (Females)
18	0.00200	0.00300	0.00000	0.00010	0.00024	0.00010
19	0.00200	0.00300	0.00000	0.00010	0.00028	0.00011
20	0.00200	0.00300	0.00000	0.00010	0.00031	0.00013
21	0.00200	0.00300	0.00000	0.00010	0.00034	0.00014
22	0.00200	0.00300	0.00000	0.00010	0.00036	0.00016
23	0.00200	0.00300	0.00000	0.00010	0.00038	0.00017
24	0.00200	0.00300	0.00000	0.00010	0.00040	0.00018
25	0.00200	0.00300	0.00000	0.00010	0.00041	0.00019
26	0.00200	0.00300	0.00000	0.00010	0.00042	0.00020
27	0.00200	0.00300	0.00000	0.00010	0.00043	0.00022
28	0.00200	0.00300	0.00000	0.00010	0.00044	0.00023
29	0.00200	0.00300	0.00000	0.00010	0.00046	0.00024
30	0.00200	0.00400	0.00000	0.00010	0.00048	0.00026
31	0.00200	0.00400	0.00000	0.00010	0.00049	0.00028
32	0.00200	0.00400	0.00000	0.00010	0.00050	0.00030
33	0.00210	0.00400	0.00000	0.00010	0.00053	0.00032
34	0.00220	0.00400	0.00000	0.00010	0.00054	0.00035
35	0.00230	0.00600	0.00000	0.00010	0.00056	0.00037
36	0.00240	0.00600	0.00000	0.00010	0.00059	0.00040
37	0.00250	0.00600	0.00000	0.00010	0.00061	0.00043
38	0.00260	0.00600	0.00000	0.00010	0.00064	0.00047
39	0.00270	0.00600	0.00000	0.00010	0.00067	0.00050
40	0.00500	0.01000	0.00000	0.00010	0.00071	0.00054
41	0.00520	0.01000	0.00000	0.00010	0.00074	0.00059
42	0.00540	0.01000	0.00000	0.00010	0.00079	0.00064
43	0.00560	0.01000	0.00000	0.00010	0.00084	0.00068
44	0.00580	0.01000	0.00000	0.00010	0.00089	0.00074
45	0.00600	0.01400	0.00000	0.00010	0.00095	0.00080
46	0.00620	0.01400	0.00000	0.00010	0.00102	0.00088
47	0.00640	0.01400	0.00000	0.00010	0.00109	0.00095
48	0.00660	0.01400	0.00000	0.00010	0.00119	0.00102
49	0.00680	0.01400	0.00000	0.00010	0.00128	0.00112
50	0.01200	0.03000	0.00000	0.00010	0.00139	0.00120
51	0.01700	0.02000	0.00000	0.00010	0.00151	0.00131
52	0.02200	0.04000	0.00000	0.00010	0.00164	0.00142
53	0.04000	0.08000	0.00000	0.00010	0.00180	0.00154
54	0.09000	0.12000	0.00000	0.00010	0.00197	0.00167
55	0.17500	0.20000	0.00000	0.00010	0.00216	0.00180
56	0.17500	0.20000	0.00000	0.00010	0.00238	0.00196
57	0.17500	0.17000	0.00000	0.00010	0.00262	0.00212
58	0.17500	0.17000	0.00000	0.00010	0.00287	0.00230
59	0.17500	0.17000	0.00000	0.00010	0.00317	0.00251
60	0.17500	0.17000	0.00000	0.00010	0.00349	0.00271
61	0.16000	0.17000	0.00000	0.00010	0.00384	0.00295
62	0.14500	0.17000	0.00000	0.00010	0.00424	0.00320
63	0.13000	0.17000	0.00000	0.00010	0.00467	0.00348
64	0.13000	0.17000	0.00000	0.00010	0.00515	0.00379
65	0.00000	0.00000	0.00000	0.00000	0.00566	0.00412

Table A-12
Probability of Retirement from Active Service for Safety Members
Plans A & B

Age	Less than 20 Years of Service	20 to 24 Years of Service	25 to 29 Years of Service	30+ Years of Service
40	0.00000	0.00500	0.00500	0.00500
41	0.00000	0.00500	0.00500	0.00500
42	0.00000	0.00500	0.00500	0.00500
43	0.00000	0.00500	0.00500	0.00500
44	0.00000	0.00500	0.00500	0.00500
45	0.00000	0.00500	0.00500	0.00500
46	0.00000	0.00500	0.00500	0.00500
47	0.00000	0.00500	0.00500	0.00500
48	0.00000	0.00500	0.00500	0.00500
49	0.00000	0.00500	0.00500	0.00500
50	0.01000	0.01000	0.02000	0.03000
51	0.01000	0.01000	0.02000	0.03000
52	0.01000	0.01000	0.02000	0.03000
53	0.01000	0.01000	0.03000	0.04000
54	0.02500	0.02500	0.10000	0.12000
55	0.05000	0.06000	0.16000	0.20000
56	0.04500	0.05000	0.14000	0.16000
57	0.04500	0.05000	0.11000	0.12000
58	0.04500	0.05000	0.11000	0.12000
59	0.04500	0.08000	0.11000	0.12000
60	0.04500	0.08000	0.11000	0.12000
61	0.07500	0.12000	0.11000	0.12000
62	0.12000	0.12000	0.11000	0.12000
63	0.12000	0.12000	0.11000	0.13500
64	0.12000	0.12000	0.11000	0.15000
65	1.00000	1.00000	1.00000	1.00000

Table A-13
Probability of Retirement from Active Service for Safety Members
Plan C

Age	Less than 20 Years of Service	20 to 24 Years of Service	25 to 29 Years of Service	30+ Years of Service
50	0.01000	0.01000	0.01600	0.02000
51	0.01000	0.01000	0.01600	0.02000
52	0.01000	0.01000	0.01600	0.02300
53	0.01000	0.01000	0.02400	0.03000
54	0.02000	0.02000	0.03000	0.04000
55	0.03000	0.03000	0.05000	0.06000
56	0.04500	0.06000	0.08000	0.10000
57	0.10000	0.12000	0.16000	0.20000
58	0.08000	0.10000	0.10000	0.10000
59	0.08000	0.08000	0.10000	0.10000
60	0.08000	0.08000	0.12000	0.12000
61	0.08000	0.12000	0.12000	0.12000
62	0.12000	0.12000	0.12000	0.12000
63	0.12000	0.12000	0.12000	0.12000
64	0.12000	0.12000	0.12000	0.12000
65	1.00000	1.00000	1.00000	1.00000

Table A-14
Probability of Termination from Active Service for Safety Members

Years of Service	All Plans
0	0.05000
1	0.04500
2	0.03500
3	0.02500
4	0.02100
5	0.01800
6	0.01500
7	0.01300
8	0.01100
9	0.00900
10	0.00800
11	0.00700
12	0.00660
13	0.00620
14	0.00580
15	0.00540
16	0.00500
17	0.00460
18	0.00420
19	0.00380
20	0.00340
21	0.00300
22	0.00260
23	0.00220
24	0.00200
25	0.00200
26	0.00200
27	0.00200
28	0.00200
29	0.00200
30 & Above	0.00000