Plotting the Route

To set a course, navigators mark launch and destination points on a map and plot waypoints in between, with straight-line segments leading from waypoint to waypoint.

With their scientific approach, the ancient Greeks greatly advanced mapmaking. Mathematician Eratosthenes (276–194 BCE) knew the world was spherical and used geometry to accurately calculate the earth's circumference. He was also the first to apply parallels and meridians (latitudinal and longitudinal lines) to a two-dimensional map to link different locations and estimate their distances.

Introduction

The actuarial process at the Los Angeles County Employees Retirement Association (LACERA) is governed by provisions in the County Employees Retirement Law of 1937 (CERL) and the California Public Employees' Pension Reform Act of 2013 (PEPRA). CERL requires LACERA to obtain an investigation of experience and actuarial valuation of the Pension Plan at least once every three years. It further requires the LACERA Board of Investments to transmit its recommendations related to contribution rates to the County Board of Supervisors, the primary plan sponsor. The County Board of Supervisors adopts contribution rates in accordance with LACERA's recommendations but may make minor adjustments to comply with Memoranda of Understanding (MOUs) established between the County and employee unions.

LACERA engages an independent actuarial consulting firm to perform the Pension Plan valuation annually, exceeding the regulatory frequency requirements. In addition, every three years, in compliance with CERL, the consulting actuary performs an investigation of experience of retirement benefits (experience study). On a triennial basis, a separate consulting actuarial firm reviews both the annual valuation and experience study.

Valuation Policy

The LACERA Board of Investments maintains the Retirement Benefit Funding Policy (Funding Policy). The Funding Policy was most recently amended in February 2013 to conform to the new standards mandated in PEPRA and to include the Supplemental Targeted Adjustment for Retirees (STAR) Reserve balance as part of the valuation assets on an ongoing basis in future valuations. STAR benefits previously awarded by the Board of Retirement are included for future valuations. However, the liability for STAR benefits that may be awarded in the future is not included in the valuation.

The Funding Policy requires an annual adjustment of the employer contribution rates based on the actuary's annual valuation. Milliman, the Pension Plan consulting actuary, reviewed the adequacy of the plan sponsor funding policies in accordance with actuarial standards of practice (ASOP). Milliman performed the most recent actuarial valuation as of June 30, 2021 and recommended changes to the employer and select employee (member) contribution rates. At its December 2021 meeting, the LACERA Board of Investments adopted Milliman's June 30, 2021 valuation report.

In addition to the annual valuations, LACERA requires its actuary to review the reasonableness of the economic and demographic actuarial assumptions every three years. This review, commonly referred to as the experience study, is accomplished by reviewing relevant forecasts and comparing actual experience to what was expected to happen according to the actuarial assumptions. Based on this review, the actuary recommends changes in the assumptions or methodology that will better project benefit liabilities and asset growth. The LACERA Board of Investments adopts, possibly with modification, the recommended actuarial methods and assumptions to be used in future valuations. At its January 2020 meeting, the LACERA Board of Investments adopted Milliman's recommendations based on the 2019 Investigation of Experience for Retirement Benefit Assumptions report with modifications to the recommended economic and demographic assumptions, and adopted a three-year phase-in of the resulting change in employer contribution rates.

Member Contributions

Member contribution rates for contributory legacy plans (General Plans A, B, C, and D, and Safety Plans A and B) vary based on the age a member joins LACERA and the underlying actuarial assumptions and methodologies. Therefore, it is expected that these member contribution rates will change no more frequently than every three years. As part of the experience study, the Pension Plan actuary recommends adjustments to member contribution rates, if necessary, due to changes in the underlying actuarial assumptions and methodologies. Since there were no changes to the underlying actuarial assumptions and methodologies in the June 30, 2021 valuation, the actuary had no recommended changes to member contribution rates for these retirement plans.

General Plan G and Safety Plan C use single-rate member contribution rates that are equal to one-half of the respective plan's normal cost rate. As such, it is expected that member contribution rates for these plans may change annually. Based on the June 30, 2021 valuation, the actuary recommended new member contribution rates effective July 1, 2022. The recommended member contribution rates are slightly lower for all Plan G and Safety Plan C members.

Employer Contributions

The consulting actuary reviews employer contribution rates each year and recommends changes if necessary. The members and employers are responsible for contributing a portion of the present value of pension plan benefits and expenses, which is allocated to a valuation year by the actuarial cost method. These contributions are known as normal cost contributions. The portion not funded by expected member contributions is the responsibility of the employers and is included in the employer normal cost. The employers are also responsible for contributions to eliminate funding shortfalls related to liabilities accrued in the past, including changes in the economic and demographic assumptions impacting past service. This portion of the employer's contribution rate is known as the Unfunded Actuarial Accrued Liability (UAAL) contribution rate.

For the June 30, 2021 valuation, the actuary recommended new employer normal cost contribution rates for all plans and a new UAAL contribution rate, effective July 1, 2022. Based on the 2021 valuation, the employer normal cost rate decreased from 10.89 percent to 10.88 percent, and the employers' required contribution rate to finance the UAAL decreased from 14.85 percent to 13.58 percent. The decrease in the calculated employer contribution rate from 24.64 percent to 24.46 percent of payroll was due to the recognition of the current year investment gains, which was offset by an increase due to the phase-in of the final portion of 2019 assumption changes. Due to the phase-in approach, the employer contribution rates set for the prior two fiscal years were lower than determined by actuarial calculations, resulting in an increase in the UAAL. Without the phase-in, the employer contribution rate in fiscal year beginning 2021 would have been 25.74 percent of pay instead of the 24.64 percent that is currently being paid. Shortfalls between assets required to fund the plan (contributions and investment earnings) and liabilities (benefit payments) required to be paid will result in future employer contribution increases to fund the UAAL. For the fiscal year beginning July 1, 2022, the impact of the June 30, 2019 assumption changes is fully phased-in and the employer contribution rate is approximately 0.23 percent higher to account for the phase-in approach.

Actuarial Cost Method

The entry age actuarial cost method is used for both funding requirements and financial reporting purposes. This method was approved by LACERA in 1999, as recommended by the consulting actuary. The entry age normal method allocates costs to each future year as a level percentage of payroll, which is ideal for employers to budget for future costs.

Amortization Method

LACERA employs a layered amortization method to fund the UAAL. Under this method, the initial UAAL amount as of June 30, 2009 was amortized over a closed 30-year period. Subsequent changes in the UAAL were amortized over new closed 30-year periods. Effective with the June 30, 2019 valuation, the amortization period was decreased so all existing layers with more than 22 years remaining were re-amortized over closed 22-year periods. All new UAAL layers are amortized over a 20-year period, beginning with the date the contribution is first expected to be made.

Actuarial Reviews

The LACERA Board of Investments Actuarial Audit Policy Directive requires actuarial reviews of retirement benefit valuations and experience studies at regular intervals in the same cycle as LACERA's triennial experience study and valuation. Cavanaugh Macdonald, as LACERA's reviewing actuary, performed the most recent review of Milliman's experience study and valuation reports as of June 30, 2019.

In regard to the most recent review of the experience study, Cavanaugh Macdonald concluded, “We find the proposed actuarial assumptions and methods to be reasonable. The Investigation of Experience was performed by qualified actuaries and was performed in accordance with the principles and practices prescribed by the Actuarial Standards Board.” According to Cavanaugh Macdonald, regarding the review of Milliman’s valuation report, “We find the June 30, 2019 actuarial valuation results to be reasonable and accurate, based on the assumption and methods used.”

Other Actuarial Information

Actuarially Determined Contributions: The Schedule of Contributions History — Pension Plan included in the Required Supplementary Information of the Financial Section provides 10 years of actuarially determined contributions in relation to the actual contributions provided to the Pension Plan.

Actuarial Methods and Assumptions: A detailed description of the actuarial methods and assumptions for the Pension Plan valuation used by the consulting actuary to prepare the Pension Plan (Retirement Benefits) funding valuation report is included in this Actuarial Section. The Financial Section also discusses the actuarial methods and significant assumptions used for financial reporting and required Governmental Accounting Standards Board (GASB) Statement Number 67 disclosures. Any differences between these assumptions used for actuarial funding and those applied for financial reporting purposes are noted.

The following additional information is included in this section:

- Actuary’s Certification Letter — Pension Plan
- Summary of Actuarial Methods and Assumptions — Pension Plan
- Schedule of Funding Progress — Pension Plan
- Active Member Valuation Data — Pension Plan
- Retirants and Beneficiaries Added to and Removed from Retiree Payroll — Pension Plan
- Actuary Solvency Test — Pension Plan
- Actuarial Analysis of Financial Experience — Pension Plan
- Retirement Probability of Occurrence

A Summary of Major Pension Plan Provisions is available upon request by contacting LACERA or visiting the LACERA website.

See Note A — Benefit Plan Descriptions in the Financial Section for pension plan information.

Milliman

1301 Fifth Avenue
Suite 3800
Seattle, WA 98101-2605
USA

Tel +1 206 624 7940

milliman.com

September 15, 2022

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

Dear Trustees of the Board:

The basic financial goal of LACERA is to establish contributions which fully fund the System's liabilities and which, as a percentage of payroll, remain level for each generation of active members.[1] Annual actuarial valuations measure the progress toward this goal, as well as test the adequacy of the contribution rates.

LACERA measures its funding status as the Funded Ratio, which is equal to the actuarial value of valuation assets over the actuarial accrued liabilities. The funding status based on the past three actuarial valuations is shown below:

Valuation Date	Funded Ratio
June 30, 2019	77.2%
June 30, 2020	76.3%
June 30, 2021	79.3%

It is our opinion that LACERA continues in sound financial condition as of June 30, 2021. The increase in the Funded Ratio since the prior year is primarily due to the recognition of actuarial asset gains from the current year, with an offset for larger than expected salary increases. Using the market value of assets as of June 30, 2021, the Funded Ratio would be 88.3%. As of June 30, 2021 a net asset gain is being deferred.

LACERA's funding policy provides that the County's contributions are equal to the normal cost rate, net of member contributions, plus the amortization payment of any Unfunded Actuarial Accrued Liability (UAAL) or minus the amortization of any Surplus Funding. A UAAL occurs when the Funded Ratio is less than 100%. Effective with the June 30, 2019 valuation, the amortization of the UAAL uses a layered 20-year approach, under which increases or decreases in the UAAL each year are amortized over closed 20-year periods. All layers created prior to June 30, 2019 with a period greater than 22 years were re-amortized over new closed 22-year periods at that time. Surplus Funding occurs when the Funded Ratio is greater than 120%. If the Funded Ratio exceeds 120% and all conditions in California Government Code Section 7522.52(b) are satisfied, then the Surplus Funding is amortized over an open 30-year period.

[1]A further goal is to minimize employer contributions, consistent with the requirements of Article XVI, Section 17 of the California Constitution and Section 31595 of the California Government Code so long as it does not impair the paramount fiduciary duty to provide benefits to members and their beneficiaries.

Milliman

1301 Fifth Avenue
Suite 3800
Seattle, WA 98101-2605
USA

Tel +1 206 624 7940

milliman.com

The current funding policy requires LACERA to consider all of the funds in the Contingency Reserve in excess of 1% of the market value of assets as part of the valuation assets. The STAR Reserve is also considered part of the valuation assets. The Board's policy does not include any corresponding liability for future STAR benefits in the valuation. Note that if all of the STAR Reserve funds were excluded from the valuation assets for funding purposes, the Funded Ratio on June 30, 2021 would decrease to 78.5%.

In preparing the June 30, 2021 valuation report, we relied, without audit, on information (some oral and some in writing) supplied by LACERA. This information includes, but is not limited to, statutory provisions, employee data, and financial information. In our examination of these data, we have found them to be reasonably consistent and comparable with data used for other purposes, although we have not audited the data at the source. Since the valuation results are dependent on the integrity of the data supplied, the results can be expected to differ if the underlying data is incomplete or missing. It should be noted that if any data or other information is inaccurate or incomplete, our calculations may need to be revised.

The valuation is also based on our understanding of LACERA's current benefit provisions and the actuarial assumptions which were reviewed and adopted by the Board of Investments. The funding assumptions were based on the triennial investigation of experience study report as of June 30, 2019 and adopted at the January 8, 2020 Board of Investments meeting. The assumptions and methods used for financial reporting under GASB 67 are the same as the funding assumptions and methods with the following exceptions:

1. The discount rate is gross of administrative expenses.
2. The STAR COLA is treated as substantively automatic and is valued to the extent it is projected to be paid in the future.
3. The individual entry age normal cost method is used without modification.
4. The Fiduciary Net Position is equal to the market value of assets minus liabilities.

The actuarial computations presented in the valuation report are for purposes of determining the recommended funding amounts for LACERA consistent with our understanding of their funding requirements and goals. The liabilities are determined by using the entry age funding method. The actuarial assets are determined by using a five-year smoothed recognition method of asset gains and losses, determined as the difference of the actual market value to the expected market value. In our opinion, the actuarial assumptions and methods are internally consistent, individually reasonable and, in combination, represent a reasonable estimate of the anticipated experience of LACERA. In our assessment of the investment return assumption, we have considered LACERA's investment policy and Meketa's capital market assumptions, in addition to Milliman's capital market assumptions and forecasts of other external investment consultants. The valuation results were developed using models intended for valuations that use standard actuarial techniques.

Future actuarial measurements may differ significantly from the current measurements as presented in the valuation report and GASB 67 report due to such factors as the following: experience differing from that anticipated by the economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in the program provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

Milliman

1301 Fifth Avenue
Suite 3800
Seattle, WA 98101-2605
USA

Tel +1 206 624 7940

milliman.com

Milliman's work is prepared exclusively for LACERA for a specific and limited purpose. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. It is a complex, technical analysis that assumes a high level of knowledge concerning LACERA's operations.

No third party recipient of Milliman's work product who desires professional guidance should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their specific needs.

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

Milliman prepared the following information for the actuarial section:

1. Retirees and Beneficiaries Added to and Removed from Benefits – Pension
2. Actuarial Analysis of Financial Experience – Pension
3. Actuary Solvency Test – Pension
4. Schedule of Funding Progress – Pension

In addition, for Note E – Pension Plan Liabilities of the financial section, Milliman prepared the Schedule of Net Pension Liability, and Sensitivity Analysis.

Except as noted above, LACERA staff prepared the information in Note E and the Required Supplementary Information, based on information supplied in prior actuarial reports, our June 30, 2021 actuarial valuation, and our June 30, 2022 GASB 67 report. Milliman has reviewed the information in Note E for accuracy.

We certify that the assumptions and methods used for funding and financial reporting purposes in the June 30, 2021 funding valuation meet the parameters set by Actuarial Standards of Practice promulgated by the Actuarial Standards Board (ASB). We are members of the American Academy of Actuaries and have experience in performing valuations for public retirement systems.

Sincerely,

Nick J. Collier, ASA, EA, MAAA
Principal and Consulting Actuary

Craig Glyde, ASA, EA, MAAA
Principal and Consulting Actuary

NC/CG/va

The table below includes a summary of actuarial methods and both demographic and economic assumptions used by LACERA's consulting actuary in performing the actuarial valuation of the Pension Plan.

Method/Assumption	Application
Actuarial Methods and Assumptions	*2019 Pension Plan Experience Study* The actuarial methods and assumptions used to determine Pension Plan liabilities are based on the results of the 2019 experience study as recommended by Milliman, the consulting actuary, and adopted by the LACERA Board of Investments. *2021 Pension Plan Actuarial Valuation* Milliman used the 2019 experience study results to prepare the annual actuarial valuation report as of June 30, 2021. LACERA used the 2021 Actuarial Valuation report to update the valuation disclosures in this Actuarial Section. *Retirement Benefit Funding Policy* In 2009, the Board of Investments approved the Retirement Benefits Funding Policy (Funding Policy). Under the Funding Policy, modifications to the asset valuation and amortization methods were adopted beginning with the June 30, 2009 actuarial valuation. The Funding Policy was amended in February 2013 to conform with the standards mandated in PEPRA and to specify that the Supplemental Targeted Adjustment for Retirees (STAR) Reserve should be included as a valuation asset on an ongoing basis.
Actuarial Cost Method	*Entry Age Normal* 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). For members who transferred between plans, entry age is based on original entry into the retirement system. This method was reaffirmed in the 2019 experience study.
Actuarial Asset Valuation Method	*Five-Year Asset Smoothing* The assets are valued using a five-year smoothing method based on the difference between the expected and actual market value of assets as of the valuation date. The gains and losses on market value are recognized over a five-year period to spread out the impact of investment market performance, rather than recognizing the entire effect of market changes each year. The expected market value is the prior year's market value increased with the net cash flow of funds, all increased with interest during the past fiscal year at the expected investment return rate assumption. The five-year smoothing valuation basis for all assets was adopted beginning with the June 30, 2009 valuation. *STAR Reserve Assets* The inclusion of the STAR Reserve in the valuation of assets was formalized for current and future actuarial valuations in the February 2013 amendment to LACERA's Funding Policy. Since the June 30, 2013 valuation, Milliman has included the STAR Reserve as part of the valuation assets.
Amortization of Unfunded Actuarial Accrued Liability (UAAL)	*20-Year Amortization* As of the June 30, 2019 valuation, all existing amortization layers were set to be amortized over a maximum 22-year period and now have a period of 20 years or less. Future actuarial gains and losses 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 the June 30, 2021 valuation, 13 amortization layers were used to calculate the total amortization payment beginning July 1, 2022.

Method/Assumption	Application
General Wage Growth and Projected Salary Increases	*3.25 Percent Wage Growth and Various Rates* Projected salary increases: 3.51 percent to 12.54 percent. The total expected increase in salary includes both merit and the general wage increase assumption of 3.25 percent per annum. The total result is compounded rather than additive. Increases are assumed to occur in the middle of the fiscal year (i.e., January 1) and apply only to base salary. The mid-year timing reflects that salary increases occur throughout the year, or on average mid-year. The General Wage Growth rate was adopted beginning with the June 30, 2016 valuation. The rate was reaffirmed in the 2019 triennial experience study. The Projected Salary Increases were adopted beginning with the June 30, 2019 valuation.
Investment Rate of Return	*Annual Rate of 7.0 Percent* Future investment earnings are assumed to accrue at an annual rate of 7 percent, compounded annually, net of both investment and administrative expenses. The same rate of return is used to discount the actuarial accrued liability. This rate was adopted beginning with the June 30, 2019 valuation.
Post-Retirement Benefit Increases	*Annual COLAs of 2.75 Percent or 2.0 Percent* Post-retirement benefit increases of either 2.75 percent or 2 percent per year are assumed for the valuation in accordance with statutory limits. These adjustments, which are based on the Consumer Price Index (CPI), are assumed payable each year in the future, as they are not greater than the expected increase in the CPI of 2.75 percent per year. Plan E members receive a prorated post-retirement benefit increase of 2 percent for service credit earned on and after June 4, 2002. The portion payable is based on a ratio of the member's years of service earned on and after June 4, 2002 to the member's total years of service. The portion of the full 2 percent increase not provided for may be purchased by the member. COLA adjustments for members with service credit earned prior to June 4, 2002 are based on a ratio of months of service earned on and after June 4, 2002 divided by the total months of service.
Consumer Price Index (CPI)	*Annual Rate of 2.75 Percent* This rate was adopted beginning with the June 30, 2016 valuation and reaffirmed in the 2019 triennial experience study.
Rates of Separation From Employment	*Various Rates and Probabilities* Various rates are dependent upon member's age, gender, years of service, and retirement plan. Each rate represents the probability that a member will separate from service at each age (or service duration) due to the particular cause. These rates of separation from active service were adopted beginning with the June 30, 2019 valuation. The Probability of Occurrence schedule included in this Actuarial Section includes a summary of probability of retirement and withdrawal for sample ages.

Method/Assumption	Application
Expectation of Life After Retirement[1,2]	*2019 SOA Mortality Tables for Public Employees* The same post-retirement mortality probabilities are used in the valuation for both members retired from service and their beneficiaries. Current beneficiary mortality is assumed to be the same as for healthy general members of the same sex. Future beneficiaries are assumed to be of the opposite sex and have the same mortality as general members. **Males:** **General Members:** PubG-2010 Healthy Retiree Mortality Table for Males, with MP-2014 Ultimate Projection Scale. **Safety Members:** PubS-2010 Healthy Retiree Mortality Table for Males multiplied by 85 percent, with MP-2014 Ultimate Projection Scale. **Females**: **General Members:** PubG-2010 Healthy Retiree Mortality Table for Females multiplied by 110 percent, with MP-2014 Ultimate Projection Scale. **Safety Members:** PubS-2010 Healthy Retiree Mortality Table for Females, with MP-2014 Ultimate Projection Scale. These probabilities were adopted June 30, 2019.
Expectation of Life After Disability[1,2]	*2019 SOA Mortality Tables for Public Employees* **Males:** **General Members:** Average of PubG-2010 Healthy Retiree Mortality Table for Males and PubG-2010 Disabled Retiree Mortality Table for Males, both projected with MP-2014 Ultimate Projection Scale. **Safety Members:** PubS-2010 Healthy Retiree Mortality Table for Males, with MP-2014 Ultimate Projection Scale. **Females:** **General Members:** Average of PubG-2010 Healthy Retiree Mortality Table for Females and PubG-2010 Disabled Retiree Mortality Table for Females, both projected with MP-2014 Ultimate Projection Scale. **Safety Members:** PubS-2010 Healthy Retiree Mortality Table for Females, with MP-2014 Ultimate Projection Scale. These probabilities were adopted June 30, 2019.

[1]The PUB-2010 mortality tables were published by the Society of Actuaries (SOA's) Retirement Plans Experience Committee (RPEC) in January 2019. The data studied includes approximately 46 million life-years of exposure and 580,000 deaths from public pension plans over the period 2008 to 2013. The PUB-2010 mortality tables include separate tables for general and safety members, and for each of those classes of members includes separate mortality tables for healthy annuitants, disabled retirees, and employees.

[2]The SOA's Mortality Improvement Scale MP-2014 (published in October 2014) is used to adjust the PUB-2010 mortality tables to account for anticipated changes in mortality rates in future years. In general, it is assumed that mortality rates will improve (implying longer lifetimes) in the future due partially to improvements in healthcare.

Method/Assumption	Application
Recent Changes and Their Financial Impact	*2019 Pension Plan Experience Study* An experience study was performed by the consulting actuary for the three-year period ended June 30, 2019. The LACERA Board of Investments adopted the demographic assumptions recommended in that report with a three-year phase-in of the impact of the change on employer contribution rates. In addition, the Board of Investments adopted a lower investment return assumption. Changes to those assumptions and other financial impacts are discussed below. *STAR Reserve* The STAR Reserve is included in the 2019 valuation assets. There is no corresponding liability for future potential STAR benefits included in the valuation. The inclusion of the STAR Reserve in the valuation assets was formalized for the current and future actuarial valuations in the February 2013 amendment to LACERA's Funding Policy. *2019 Assumption Changes* At the January 2020 LACERA Board of Investments meeting, the Board adopted new assumptions with the 2019 Investigation of Experience report. The adopted assumptions included lowering the investment return assumption from 7.25 percent to 7 percent, increasing the rates of assumed merit salary increases (primarily for Safety members), and updating mortality tables to the public plan specific tables published in 2019 by the Society of Actuaries Retirement Plans Experience Committee (RPEC). Of these changes, the reduction in the investment return assumption had the greatest impact on the results of this valuation. All assumption changes have been reflected in the June 30, 2019 actuarial valuation. *Funded Ratio* As of June 30, 2021, the Funded Ratio increased from 76.3 percent to 79.3 percent, primarily due to the recognition of current and prior year investment gains and losses that caused an increase of 2.5 percent in the Funded Ratio. Contributions to amortize the Unfunded Actuarial Accrued Liability (UAAL) caused a 0.7 percent increase, while salary increases greater than assumed partially offset these increases and caused the Funded Ratio to decrease by 0.4 percent. *Employer Contributions* The total calculated employer contribution rate decreased from the prior valuation by 0.18 percent (from 24.64 percent to 24.46 percent) of payroll. The decrease in the employer contribution rate is primarily due to the recognition of current and prior year investment gains and losses, offset by the impact of the phase-in of the final portion of the 2019 assumption changes. The cost impact of the assumption changes was phased in over a three-year period. Without the phase-in of the increase, the employer contribution rate would have been 25.74 percent effective July 1, 2021. The effect of the phase-in is an increase in the UAAL that will require higher employer contribution rates in future years. *Member Contributions* New member contribution rates are recommended for General Plan G and Safety Plan C effective July 1, 2022. General Plan G and Safety Plan C member rates are required to be equal to 50 percent of the gross normal cost of the respective plan. The recommended member contribution rates are slightly lower for General Plan G and Safety Plan C. Member contribution rates for all contributory legacy plans (General Plans A, B, C, and D, and Safety Plans A and B) vary based on a member's entry age when joining LACERA and the underlying assumptions. The actuary had no recommended changes to member contribution rates for all other plans.

Schedule of Funding Progress — Pension Plan

(Dollars in Thousands)

Actuarial Valuation Date	Actuarial Value of Valuation Assets (a)	Actuarial Accrued Liability (AAL)[1] (b)	Unfunded Actuarial Accrued Liability (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll[2] (c)	UAAL as a Percentage of Covered Payroll [(b-a)/c]
June 30, 2012	$39,039,364	$50,809,425	$11,770,061	76.8%	$6,619,816	177.8%
June 30, 2013	39,932,416	53,247,776	13,315,360	75.0%	6,595,902	201.9%
June 30, 2014	43,654,462	54,942,453	11,287,991	79.5%	6,672,886	169.2%
June 30, 2015	47,328,270	56,819,215	9,490,945	83.3%	6,949,420	136.6%
June 30, 2016	49,357,847	62,199,214	12,841,367	79.4%	7,279,777	176.4%
June 30, 2017	52,166,307	65,310,803	13,144,496	79.9%	7,637,032	172.1%
June 30, 2018	55,233,108	68,527,354	13,294,246	80.6%	7,957,981	167.1%
June 30, 2019	57,617,288	74,635,840	17,018,552	77.2%	8,370,050	203.3%
June 30, 2020	59,762,991	78,275,175	18,512,184	76.3%	8,724,151	212.2%
June 30, 2021	**$64,909,377**	**$81,898,044**	**$16,988,667**	**79.3%**	**$9,062,051**	**187.5%**

[1]Calculated using the entry age normal actuarial cost method.
[2]Covered Payroll includes compensation paid to all active employees on which contributions are calculated.

Active Member Valuation Data — Pension Plan

Valuation Date	Plan Type	Member Count	Annual Salary[1]	Average Annual Salary	Percentage Increase/ (Decrease) in Average Salary
June 30, 2012	General	79,467	$5,271,580,728	$66,337	0.40%
	Safety	12,485	1,229,922,420	98,512	0.46%
	Total	91,952	$6,501,503,148	$70,705	0.39%
June 30, 2013	General	79,006	$5,253,152,532	$66,491	0.23%
	Safety	12,539	1,234,902,228	98,485	-0.03%
	Total	91,545	$6,488,054,760	$70,873	0.24%
June 30, 2014	General	79,943	$5,487,670,164	$68,645	3.24%
	Safety	12,523	1,252,867,272	100,045	1.58%
	Total	92,466	$6,740,537,436	$72,897	2.86%
June 30, 2015	General	81,228	$5,706,302,532	$70,250	2.34%
	Safety	12,446	1,299,621,108	104,421	4.37%
	Total	93,674	$7,005,923,640	$74,790	2.60%
June 30, 2016	General	82,916	$5,949,587,940	$71,754	2.14%
	Safety	12,528	1,342,684,620	107,175	2.64%
	Total	95,444	$7,292,272,560	$76,404	2.16%
June 30, 2017	General	84,513	$6,290,061,336	$74,427	3.73%
	Safety	12,698	1,388,190,600	109,324	2.01%
	Total	97,211	$7,678,251,936	$78,985	3.38%
June 30, 2018	General	85,703	$6,610,313,328	$77,130	3.63%
	Safety	12,771	1,451,457,324	113,653	3.96%
	Total	98,474	$8,061,770,652	$81,867	3.65%
June 30, 2019	General	86,392	$6,815,591,124	$78,891	2.28%
	Safety	12,794	1,540,187,040	120,384	5.92%
	Total	99,186	$8,355,778,164	$84,244	2.90%
June 30, 2020	General	86,930	$7,186,102,392	$82,665	4.78%
	Safety	13,178	1,590,549,948	120,697	0.26%
	Total	100,108	$8,776,652,340	$87,672	4.07%
June 30, 2021	**General**	**85,963**	**$7,437,522,936**	**$86,520**	**4.66%**
	Safety	**13,138**	**1,650,856,932**	**125,655**	**4.11%**
	Total	**99,101**	**$9,088,379,868**	**$91,708**	**4.60%**

[1]Active Member Valuation Annual Salary is an annualized compensation of only those members who were active on the actuarial valuation date. Covered Payroll includes compensation paid to all active employees on which contributions are calculated.

Retirees and Beneficiaries Added to and Removed from Retiree Payroll — Pension Plan

(Dollars in Thousands)

	Added to Rolls		Removed from Rolls		Rolls at End of Year			
Valuation Date	Member Count	Annual Allowance[1,2]	Member Count	Annual Allowance[1]	Member Count[3]	Annual Allowance[1]	Percentage Increase in Retiree Allowance	Average Annual Allowance
June 30, 2012	3,194	$193,865	(1,795)	($61,588)	56,770	$2,474,902	5.65%	$43.6
June 30, 2013	3,373	205,659	(2,057)	(69,494)	58,086	2,611,067	5.50%	45.0
June 30, 2014	3,128	172,743	(1,985)	(71,730)	59,229	2,712,080	3.87%	45.8
June 30, 2015	3,501	180,549	(2,124)	(80,028)	60,606	2,812,601	3.71%	46.4
June 30, 2016	3,479	220,632	(2,171)	(80,881)	61,914	2,952,352	4.97%	47.7
June 30, 2017	3,721	245,915	(2,311)	(89,624)	63,324	3,108,643	5.29%	49.1
June 30, 2018	3,826	276,118	(2,270)	(89,033)	64,880	3,295,728	6.02%	50.8
June 30, 2019	3,978	302,022	(2,351)	(97,840)	66,507	3,499,910	6.20%	52.6
June 30, 2020	3,930	311,206	(2,425)	(104,914)	68,012	3,706,202	5.89%	54.5
June 30, 2021	**4,350**	**$327,745**	**(2,865)**	**($132,185)**	**69,497**	**$3,901,762**	**5.28%**	**$56.1**

[1]Annual Allowance is the monthly benefit allowance annualized for those members counted as of June 30.

[2]Includes COLAs that occurred during the fiscal year and therefore were not included in the previous years' Annual Allowance totals.

[3]For the actuarial valuation year, Member Count includes retirees who, due to timing at year-end, are not yet included in the total retired members count disclosed in the Financial Section; see Note A — Plan Description.

Actuary Solvency Test — Pension Plan

(Dollars in Millions)

	Actuarial Accrued Liability (AAL) for				Portion of AAL Covered by Assets		
Actuarial Valuation Date	(A) Active Member Contributions	(B) Retirees and Beneficiaries[1]	(C) Active Members (Employer Financed Portion)	Actuarial Value of Valuation Assets	(A) Active	(B) Retired	(C) Employer
June 30, 2012	$6,961	$29,118	$14,730	$39,039	100%	100%	20%
June 30, 2013	7,837	30,980	14,430	39,932	100%	100%	8%
June 30, 2014	8,354	31,882	14,706	43,654	100%	100%	23%
June 30, 2015	8,805	32,734	15,280	47,328	100%	100%	38%
June 30, 2016	8,767	35,316	18,116	49,358	100%	100%	29%
June 30, 2017	9,482	37,077	18,752	52,166	100%	100%	30%
June 30, 2018	9,882	39,192	19,453	55,233	100%	100%	32%
June 30, 2019	10,210	42,235	22,190	57,617	100%	100%	23%
June 30, 2020	10,650	44,500	23,125	59,763	100%	100%	20%
June 30, 2021	**$11,115**	**$46,774**	**$24,009**	**$64,909**	**100%**	**100%**	**29%**

[1]Includes vested and non-vested former members.

Actuarial Analysis of Financial Experience — Pension Plan

(Dollars in Millions)

	Valuation as of June 30				
	2021	**2020**	**2019**	**2018**	**2017**
Unfunded Actuarial Accrued Liability	**$18,512**	$17,018	$13,294	$13,145	$12,841
Expected Increase/(Decrease) From Prior Valuation	**171**	306	25	146	320
Salary Increases Greater/(Less) Than Expected	**484**	388	486	223	277
CPI Greater/(Less) Than Expected	**-73**	43	44	45	(139)
Change in Assumptions	**—**	—	2,528	—	—
Asset Return Less/(Greater) Than Expected	**(2,039)**	701	477	(411)	(421)
All Other Experience	**(66)**	56	164	146	267
Ending Unfunded Actuarial Accrued Liability	**$16,989**	**$18,512**	**$17,018**	**$13,294**	**$13,145**

	Valuation as of June 30				
	2016	**2015**	**2014**	**2013**	**2012**
Unfunded Actuarial Accrued Liability	$9,491	$11,288	$13,315	$11,770	$9,405
Expected Increase/(Decrease) From Prior Valuation	(102)	(54)	338	869	772
Salary Increases Greater/(Less) Than Expected	162	79	(291)	(563)	(629)
CPI Less Than Expected	(191)	(570)	(427)	(190)	(181)
Change in Assumptions	2,922	—	—	511	—
Asset Return Less/(Greater) Than Expected	496	(1,263)	(1,664)	893	2,337
All Other Experience	63	11	17	25	66
Ending Unfunded Actuarial Accrued Liability	**$12,841**	**$9,491**	**$11,288**	**$13,315**	**$11,770**

Plans A, B, and C General Members

Age	Service Retirement	Service Disability	Ordinary Disability	Service Death	Ordinary Death	Other Terminations
Male						
20	0.0000	0.0001	0.0001	N/A	0.0004	0.0050
30	0.0000	0.0001	0.0002	N/A	0.0004	0.0050
40	0.0300	0.0006	0.0002	N/A	0.0008	0.0050
50	0.0300	0.0011	0.0005	N/A	0.0018	0.0050
60	0.3200	0.0039	0.0009	N/A	0.0038	0.0050
70	0.2400	0.0045	0.0013	N/A	0.0084	0.0050
75	1.0000	0.0000	0.0000	N/A	0.0132	0.0000
Female						
20	0.0000	0.0002	0.0001	N/A	0.0002	0.0050
30	0.0000	0.0002	0.0001	N/A	0.0002	0.0050
40	0.0300	0.0005	0.0002	N/A	0.0005	0.0050
50	0.0300	0.0013	0.0005	N/A	0.0011	0.0050
60	0.3200	0.0022	0.0007	N/A	0.0024	0.0050
70	0.2400	0.0025	0.0011	N/A	0.0064	0.0050
75	1.0000	0.0000	0.0000	N/A	0.0105	0.0000

Plans D and G General Members

Age	Service Retirement Plan D	Service Retirement Plan G	Service Disability	Ordinary Disability	Service Death	Ordinary Death	Years of Service	Other Terminations
Male								
20	0.0000	0.0000	0.0001	0.0001	N/A	0.0004	5	0.0233
30	0.0000	0.0000	0.0001	0.0002	N/A	0.0004	10	0.0170
40	0.0150	0.0000	0.0006	0.0002	N/A	0.0008	15	0.0120
50	0.0150	0.0120	0.0011	0.0005	N/A	0.0018	20	0.0076
60	0.0700	0.0560	0.0039	0.0009	N/A	0.0038	25	0.0048
70	0.2300	0.2300	0.0045	0.0013	N/A	0.0084	30 & up	0.0000
75	1.0000	1.0000	0.0000	0.0000	N/A	0.0132		
Female								
20	0.0000	0.0000	0.0002	0.0001	N/A	0.0002	5	0.0233
30	0.0000	0.0000	0.0002	0.0001	N/A	0.0002	10	0.0170
40	0.0150	0.0000	0.0005	0.0002	N/A	0.0005	15	0.0120
50	0.0150	0.0120	0.0013	0.0005	N/A	0.0011	20	0.0076
60	0.0700	0.0560	0.0022	0.0007	N/A	0.0024	25	0.0048
70	0.2300	0.2300	0.0025	0.0011	N/A	0.0064	30 & up	0.0000
75	1.0000	1.0000	0.0000	0.0000	N/A	0.0105		

Plan E General Members

Age	Service Retirement	Service Disability	Ordinary Disability	Service Death	Ordinary Death	Years of Service	Other Terminations
Male							
20	0.0000	N/A	N/A	N/A	0.0004	5	0.0310
30	0.0000	N/A	N/A	N/A	0.0004	10	0.0200
40	0.0000	N/A	N/A	N/A	0.0008	15	0.0144
50	0.0000	N/A	N/A	N/A	0.0018	20	0.0108
60	0.0400	N/A	N/A	N/A	0.0038	25	0.0100
70	0.1900	N/A	N/A	N/A	0.0084	30 & up	0.0100
75	1.0000	N/A	N/A	N/A	0.0132		
Female							
20	0.0000	N/A	N/A	N/A	0.0002	5	0.0310
30	0.0000	N/A	N/A	N/A	0.0002	10	0.0200
40	0.0000	N/A	N/A	N/A	0.0005	15	0.0144
50	0.0000	N/A	N/A	N/A	0.0011	20	0.0108
60	0.0400	N/A	N/A	N/A	0.0024	25	0.0100
70	0.1900	N/A	N/A	N/A	0.0064	30 & up	0.0100
75	1.0000	N/A	N/A	N/A	0.0105		

Plans A, B, and C Safety Members

Age	Service Retirement Plans A-B	Service Retirement Plan C	Service Disability	Ordinary Disability	Service Death	Ordinary Death	Years of Service	Other Terminations
Male								
20	0.0000	0.0000	0.0020	0.0000	0.0001	0.0004	5	0.0113
30	0.0000	0.0000	0.0020	0.0000	0.0001	0.0004	10	0.0076
40	0.0075	0.0000	0.0028	0.0000	0.0001	0.0006	15	0.0048
50	0.0200	0.0200	0.0075	0.0000	0.0001	0.0012	20	0.0028
60	0.2700	0.2700	0.1000	0.0000	0.0001	0.0026	25	0.0020
65	1.0000	1.0000	0.0000	0.0000	0.0000	0.0041	30 & up	0.0000
Female								
20	0.0000	0.0000	0.0030	0.0000	0.0001	0.0002	5	0.0113
30	0.0000	0.0000	0.0042	0.0000	0.0001	0.0003	10	0.0076
40	0.0075	0.0000	0.0092	0.0000	0.0001	0.0005	15	0.0048
50	0.0200	0.0200	0.0180	0.0000	0.0001	0.0009	20	0.0028
60	0.2700	0.2700	0.0600	0.0000	0.0001	0.0017	25	0.0020
65	1.0000	1.0000	0.0000	0.0000	0.0000	0.0023	30 & up	0.0000

Introduction

The actuarial valuation of the retiree medical, dental/vision, and death benefits promised to retired Los Angeles County (County) workers who also participate in the LACERA retirement benefits plan is governed by provisions in the LACERA Other Post-Employment Benefits (OPEB) Actuarial Valuation and Audit Policy (OPEB Policy), which the LACERA Board of Retirement establishes and adopts. The OPEB Policy is subject to periodic assessments to identify and incorporate necessary updates and revisions. In October 2017, the OPEB Policy was revised and now parallels the policy applicable to the retirement benefits actuarial valuation and related actuarial review process.

LACERA engages an independent actuarial consulting firm to perform the OPEB Program valuation annually, consistent with the OPEB Policy. In addition, every three years to comply with the OPEB Policy, the consulting actuary, Milliman, performs an investigation of experience (experience study). On a triennial basis, a separate consulting actuarial firm reviews both the annual valuation and experience study.

The OPEB actuarial valuations are performed to review program funding metrics and to satisfy financial statement reporting guidelines that apply to sponsoring employers, such as the County, and those organizations who administer OPEB benefit programs, such as LACERA.

Contributions and Funding Policy

The County historically satisfied its healthcare premium subsidy obligations on a pay-as-you-go basis. LACERA bills the premiums to the County, outside districts, and members on a monthly basis. Plan members are required to pay the difference between the applicable employer-paid subsidy and the actual premium cost. An administrative fee to cover the costs of administering the OPEB Program is included in the monthly healthcare premium.

In June 2015, the County Board of Supervisors approved the countywide budget with a dedicated funding promise for the OPEB liability, using the multiyear approach to enhance the County's OPEB Trust balances in a consistent manner. This funding commitment provides prefunding goals and indicates that the County has placed a priority on making OPEB contributions. The County, LACERA, and Superior Court regularly prefund these obligations, depositing monies into an irrevocable OPEB trust. The plan sponsors provide updated funding projections each year, including a five-year forecast. Milliman reviewed the adequacy of the plan sponsor funding policies and found them to be in compliance with Actuarial Standards of Practice (ASOP) Number 6.

Actuarial Cost Method

Effective with the July 1, 2018 OPEB valuation, the actuarial cost method was changed to entry age normal. 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). For members who transferred between plans, entry age is based on original entry into the retirement system. The entry age normal actuarial cost method is also used for financial reporting purposes as required by GASB.

OPEB Agent Plan

The July 1, 2018 OPEB valuation marked the first valuation prepared under an agent plan structure, changing OPEB funding reporting from the cost-sharing plan structure used in OPEB valuations since July 1, 2006. At the direction of the County to precisely allocate its own liabilities, the agent plan structure allows for projecting the actuarial accrued liability based on each individual agent's assets and investment rate of return assumptions. The investment earnings assumption for agents that are prefunding through the OPEB Trust is the expected return for the OPEB Trust. The investment earnings assumption for the agents that are not prefunding through the OPEB Trust is the County's general funds' expected return. However, OPEB specific demographic assumptions such as initial enrollment, medical plan and tier selection, spouse age difference, and re-enrollment assumptions are combined for all of the agents.

The following agents and agent groupings were developed to determine the liability for the individual agents, the total OPEB Trust, and the total OPEB Program:

- OPEB Trust — Los Angeles County, Superior Court, and LACERA
- OPEB Program — Los Angeles County, Superior Court, LACERA, and outside districts

The total OPEB Program agent grouping is used to disclose the aggregate amounts throughout the Actuarial Section.

Financial Reporting Standards

In June 2015, the GASB issued Statement Numbers 74 and 75, which govern new accounting and financial reporting standards for public sector post-retirement benefit programs and the employers that sponsor them. GASB 74 is for OPEB plans (LACERA) and was effective beginning for the plan fiscal year July 1, 2016.[1] GASB 75 is for employers that sponsor OPEB plans and is effective beginning for the employer fiscal year July 1, 2017.[2]

The data, assumptions, program provisions, and funding goals described in the OPEB valuation report serve as a basis for preparing separate GASB 74 and 75 disclosure reports. GASB sets forth specific financial reporting requirements for LACERA and the County, which result in different computations and data—including discount rates—than the information provided in the OPEB valuation report.

Due to the July 1, 2018 transition from a cost-sharing to an agent plan, LACERA is no longer required to disclose the OPEB Program's Net OPEB Liability (NOL). Under the agent structure reporting model, the plan administrator (LACERA) does not report information in aggregate, but instead, provides agent-specific information, as each individual agent is now required to report their portion of the NOL. LACERA has determined a GASB 74 disclosure report is no longer necessary due to the agent structure reporting changes. The last GASB 74 report prepared under a cost-sharing plan was as of a June 30, 2018 reporting date and reflected in LACERA's June 30, 2019 financial statements. LACERA's June 30, 2022 and 2021 financial statements contain some limited information within the RSI Section to support compliance with GASB 74 requirements under an agent plan.

OPEB Actuarial Projects

Milliman performed the most recent OPEB valuation as of July 1, 2021, using the 2020 OPEB experience study of actuarial assumptions. The OPEB Policy not only requires annual OPEB valuations but also requires the actuary to review the reasonableness of the economic and demographic assumptions every three years. As a result of the current OPEB Policy's increased valuation and review frequency, and for consistency with the retirement benefits valuation and review requirements, the timing of these actuarial projects was adjusted to promote operational efficiency.

Specifically, the OPEB experience study, OPEB experience study review, and OPEB valuation reviews as of July 1, 2018 and July 1, 2020 were scheduled in two-year cycles to eliminate a four-year gap between the current and prior OPEB Policy implementation.

The project schedule will revert back to a three-year cycle beginning with the July 1, 2023 OPEB experience study. Beginning in 2006, Milliman completed OPEB valuations every two years. The OPEB Policy changed the frequency to annual with the July 1, 2017 OPEB valuation.

Actuarial Review Results

The most recent actuarial reviews of the OPEB experience study and OPEB valuation were conducted based on the current OPEB Policy. The OPEB Program reviewing actuary, Cavanaugh Macdonald Consulting (CMC), last performed reviews of Milliman's OPEB experience study and OPEB valuation as of July 1, 2020.

As required by the current OPEB Policy, the actuarial reviews for the OPEB experience study and OPEB valuation performed as of July 1, 2020 complete the two-year staggered cycle. The next triennial cycle for the actuarial reviews will be conducted as of July 1, 2023 for both the OPEB experience study and OPEB valuation.

Other Actuarial Information

Actuarial Methods and Assumptions: A description of the actuarial methods and assumptions for the OPEB valuation used by the OPEB consulting actuary are included in this Actuarial Section.

The following additional information is included in this section:

- Actuary's Certification Letter — OPEB Program
- Summary of Actuarial Methods and Assumptions — OPEB Program
- Schedule of Funding Progress — OPEB Program
- Active Member Valuation Data — OPEB Program
- Retirants and Beneficiaries Added to and Removed from Rolls — OPEB Program
- Actuary Solvency Test — OPEB Program
- Actuarial Analysis of Financial Experience — OPEB Program

A Summary of Major OPEB Program Provisions is available upon request by contacting LACERA or visiting the LACERA website.

See Note N — OPEB Program for details regarding the plan description and benefits.

[1]LACERA implemented GASB 74 as of June 30, 2017.
[2]The LACERA OPEB Program participating employers implemented GASB 75 as of June 30, 2018.

Milliman

1301 Fifth Avenue
Suite 3800
Seattle, WA 98101-2605
USA

Tel +1 206 624 7940

milliman.com

September 15, 2022

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

Dear Trustees of the Board:

Los Angeles County provides Other Postemployment Benefits (OPEB): retiree medical, dental/vision, and death/burial insurance benefits to the retired Los Angeles County (County) workers who also participate in the Los Angeles County Employees Retirement Association (LACERA) retirement benefits program. These healthcare related benefits are called the Los Angeles County OPEB Program, or the "Program". The Program currently provides these benefits on a pay-as-you-go basis while also prefunding into the OPEB Trust. OPEB actuarial funding valuations are performed annually.

A summary of the results of the past three actuarial valuations is shown below. All dollar amounts are in billions.

Valuation Date	Actuarial Accrued Liability	Assets	Unfunded Actuarial Accrued Liability	ADC* as a Percentage of Payroll
July 1, 2019	$20.75	$1.24	$19.51	18.87%
July 1, 2020	$21.30	$1.49	$19.81	18.18%
July 1, 2021	$21.16	$2.31	$18.85	16.76%

*Actuarially Determined Contribution (ADC) based on GASB 74/75 terminology.

The County's Board of Supervisors affirmed their support for prefunding its OPEB liabilities by providing specific initial appropriations to the OPEB Trust. Since the July 1, 2012 Valuation, details of a long-term funding policy have been finalized. The funding policy provides for steady increases in contributions each year with the ultimate goal of making contributions equal to the ADC. The July 1, 2014, July 1, 2016 and annual OPEB Valuations thereafter include assets invested in the OPEB Trust.

Milliman has developed certain models to estimate the values included in these valuations. The intent of the models was to estimate the assumed investment earnings, analysis of OPEB demographic assumptions, retiree health claim costs, and annual trends for retiree health benefits. 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 (ASOP).

The models rely on data and information as input to the models. We have relied upon certain data and information listed below for this purpose and accepted it without audit. To the extent that the data and information provided is not accurate, or is not complete, the values provided in these valuations may likewise be inaccurate or incomplete.

Milliman

1301 Fifth Avenue
Suite 3800
Seattle, WA 98101-2605
USA

Tel +1 206 624 7940

milliman.com

In preparing the July 1, 2021 OPEB funding valuation report, we relied, without audit, on information (some oral and some in writing) supplied by Los Angeles County, LACERA, and Segal (LACERA's healthcare consultant). This information includes, but is not limited to, benefit descriptions, membership data, and financial information. In our examination of these data we have found them to be reasonably consistent and comparable with data used for other purposes, although we have not audited the data at the source. Since the valuation results are dependent on the integrity of the data supplied, the results can be expected to differ if the underlying data is incomplete or missing. In some cases, where the data was incomplete, we made assumptions as noted in Table C-10 of our July 1, 2021 OPEB funding valuation report. It should be noted that if any of this information is inaccurate or incomplete, our results may be different and our calculations may need to be revised. The valuation results were developed using models intended for valuations that use standard actuarial techniques.

The valuation is also based on our understanding of the Program's current benefit provisions and the actuarial assumptions, which were reviewed and adopted by the Board of Retirement. The retirement benefit related demographic and economic assumptions were based on those developed for the June 30, 2021 valuation of the LACERA retirement benefit program, approved by LACERA's Board of Investments. Economic and relevant demographic assumptions from the retirement benefit investigation of experience, conducted by Milliman, are included in the July 1, 2021 OPEB valuation. Assumptions unique to OPEB were identified and evaluated in Milliman's 2020 OPEB investigation of experience study report as of July 1, 2020, approved by LACERA's Board of Retirement.

The OPEB Program changed from cost sharing to agent effective with the July 1, 2018 OPEB funding valuation. The OPEB demographic and trend assumptions are combined for all of LACERA's agents. The investment rate of return assumption differs by the agents that are prefunding into the OPEB Trust and the agents that are not prefunding into the OPEB Trust.

With the change from cost sharing to agent, a GASB 74 disclosure report for LACERA's financial statements is no longer required to report the OPEB Program liability in LACERA's financial statements. The employer specific information will be provided in the GASB 75 disclosure reports for employer financial reporting. The assumptions and methods used for financial reporting under GASB 75 are the same as the funding assumptions and methods used in the July 1, 2021 OPEB funding valuation report, with the following exceptions:

1. The GASB 75 discount rate is determined using depletion date methodology, and it changes on each measurement date.

2. The GASB 75 liabilities have LACERA operational administrative expenses removed.

The actuarial computations presented in the July 1, 2021 OPEB funding valuation and the forthcoming June 30, 2023 GASB 75 disclosure reports are for purposes of fulfilling financial accounting requirements for LACERA's employers. The liabilities in the July 1, 2021 OPEB funding valuation and the GASB 75 disclosure reports are determined by using the entry age normal actuarial cost method. The assets are recognized at market value. We consider the actuarial assumptions and methods to be internally consistent, to represent a long-term perspective, and to be reasonable. We believe they also meet the parameters of Governmental Accounting Standards Board Statement No. 75 for fulfilling financial accounting requirements. Nevertheless, the emerging costs will vary from those presented in our report to the extent that actual experience differs from that projected by the actuarial assumptions.

Milliman

1301 Fifth Avenue
Suite 3800
Seattle, WA 98101-2605
USA
Tel +1 206 624 7940
milliman.com

Future actuarial measurements may differ significantly from the current measurements presented in the OPEB funding valuation report and the GASB 75 disclosure report due to such factors as the following: OPEB program experience differing from that anticipated by the economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in OPEB program provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

Milliman's work is prepared exclusively for LACERA for a specific and limited purpose. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. It is a complex, technical analysis that assumes a high level of knowledge concerning LACERA's operations.

No third party recipient of Milliman's work product who desires professional guidance should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their specific needs.

The consultants who worked on this assignment are employee benefit actuaries. Milliman's advice is not intended to be a substitute for qualified legal 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.

Milliman prepared the following information for the actuarial section:

1. Retirees and Beneficiaries Added to and Removed from Benefits – OPEB Program
2. Actuarial Analysis of Financial Experience – OPEB Program
3. Actuary Solvency Test – OPEB Program
4. Schedule of Funding Progress – OPEB Program

LACERA staff prepared the information in Note N – OPEB Program, of the financial section and the Required Supplementary Information, based on information supplied in prior actuarial reports, our July 1, 2021 OPEB actuarial funding valuation, and our forthcoming June 30, 2023 GASB 75 report. Milliman has reviewed the information in Note N for accuracy.

We certify that the assumptions and methods used for funding and financial reporting purposes in the July 1, 2021 OPEB funding valuation meet the parameters set by Actuarial Standards of Practice promulgated by the Actuarial Standards Board (ASB). We are members of the American Academy of Actuaries and have experience in performing valuations for public OPEB programs.

Sincerely,

Robert L. Schmidt, FSA, EA, MAAA
Principal and Consulting Actuary

Janet O. Jennings, ASA, MAAA
Consulting Actuary

RLS/bh

The table below includes a summary of actuarial methods and both demographic and economic assumptions used by LACERA's consulting actuary in performing the actuarial valuation of the OPEB Program.

Method/Assumption	Application
Actuarial Methods and Assumptions	*2019 Pension Plan Experience Study and 2020 OPEB Experience Study* The OPEB actuarial methods and assumptions are recommended by the consulting actuary and adopted by the Board of Retirement. The actuarial assumptions used to determine the liabilities are based on the results of the 2019 Pension Plan Investigation of Experience Study and a separate 2020 OPEB Program Investigation of Experience Study approved by the Board of Retirement in March 2021. Where applicable, the same assumptions are used for the OPEB Program as for the Pension Plan; however, some assumptions developed and applied are unique to the OPEB Program. The assumptions that overlap with the Pension Plan assumptions were reviewed and changed as of June 30, 2019, as a result of the 2019 Pension Plan triennial Investigation of Experience Study approved by the Board of Investments in January 2020. The general wage increase and inflation assumptions were evaluated for the Pension Plan and applied to the OPEB Program. *OPEB Assumptions* The consulting actuary recommended an OPEB-specific investment earnings assumption since investment earnings for the OPEB valuation are based on the expected return from the County's general assets or the expected return from the OPEB Trust. These assets are invested based on the OPEB Trust Investment Policy Statement adopted by the Board of Investments, which applies different asset allocations than the one used for the Pension Plan. The OPEB-specific assumptions, including healthcare plan elections, benefit tier enrollment, and retirement of vested terminated members, were reviewed and updated as a result of the 2020 OPEB Investigation of Experience Study. The updated experience study assumptions were adopted in March 2021 by the Board of Retirement and were applied to the OPEB valuations conducted as of July 1, 2020 and July 1, 2021. See the schedule titled Active Member Valuation Data — OPEB Program for active member valuation information.
Actuarial Cost Method	*Entry Age Normal* Effective with the July 1, 2018 OPEB Funding Valuation, the entry age normal (EAN) actuarial cost method was applied. Under the principles of this method, the actuarial present value of the projected benefits of each member included in the valuation is allocated as a level percentage of the member's projected compensation between entry age and assumed exit (until maximum retirement age). For members who transferred between retirement benefit plans, entry age is based on original entry into the system. *Unfunded Actuarial Accrued Liability (UAAL)* The portion of this actuarial present value allocated to a valuation year is called the normal cost (NC). 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). The UAAL is amortized as a level percentage of the projected salaries of the active members, both present and future, covered by the LACERA retirement benefits plan over a 30-year period from the valuation date.

Method/Assumption	Application
Actuarial Asset Valuation Method	*Market Value*
Investment Return	*Annual Rate of 6.0 Percent for Prefunding Agents and 2.3 Percent for Other Agents* The investment earnings assumption for agents that are prefunding through the OPEB Trust is the OPEB Trust's expected return of 6.0 percent. The investment earnings assumption for agents that are not prefunding through the OPEB Trust is the County general fund's expected return of 2.3 percent. Besides projecting the OPEB Trust's investment return, this assumption is also used to calculate the Actuarial Accrued Liability (AAL). *GASB 75 Discount Rate Calculation* The reporting methodology change from cost-sharing to agent plan structure began with the July 1, 2018 OPEB Funding Valuation. The investment earnings assumption approach for this funding valuation is intended to reflect the earnings associated with each agent. The separate GASB 75 disclosure report, which provides information for employers and is different from this funding valuation, follows a prescribed discount rate.
Inflation Rate	*Annual Rate of 2.75 Percent* This rate was adopted beginning with the July 1, 2016 OPEB Valuation.
Amortization Method	*30-Year Amortization* Level percentage of projected salaries of the active members, both present and future, over a 30-year period. This is commonly referred to as a rolling 30-year amortization method and does not cover interest on the UAAL. This assumption was adopted beginning with the July 1, 2006 OPEB Valuation.
Healthcare Cost Trend Rates	

	FY 2022 to FY 2023	FY 2023 to FY 2024	Ultimate (Grading from June 30, 2022 to June 30, 2105)
LACERA Medical Under 65	(0.40)%	5.40%	4.20%
LACERA Medical Over 65	0.30%	5.20%	4.20%
Part B Premiums	10.50%	1.50%	4.00%
Dental/Vision	(1.20)%	3.10%	3.60%
Weighted Average Trend	1.26%	4.62%	4.13%

Method/Assumption	Application
Claim Costs	*Varies By Program Tier* Claim cost data is reviewed for the membership in aggregate, including members of all employers, regardless of their participation in the OPEB Trust. The claim cost assumptions were updated as part of the July 1, 2021 Valuation and differ by Tier 1 and Tier 2. Retiree Healthcare Benefits Program — Tier 1 is for members who were hired before July 1, 2014. Members who were hired after June 30, 2014 are in Retiree Healthcare Benefits Program — Tier 2. The tiers have different maximum employer contributions, which impacts medical plan election patterns, resulting in different claim costs. Refer to Table A-21 of the July 1, 2021 OPEB Valuation Report for more details.
Retirement	*Minimum Retirement Ages* Members in General Plans A through 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 five 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 five years of County service.
Expectation of Life After Retirement[1,2]	*2019 SOA Mortality Tables for Public Employees* The same post-retirement mortality rates are used in the valuation for active members after termination, members retired for service, and beneficiaries. Future beneficiaries are assumed to have the same mortality as a general member of the opposite gender. The mortality tables used are listed below. Age-based rates are illustrated in the July 1, 2021 OPEB Valuation Report. These rates were adopted June 30, 2019. **Males:** **General Members:** PubG-2010 Healthy Retiree Mortality Table for Males, with MP-2014 Ultimate Projection Scale. **Safety Members:** PubS-2010 Healthy Retiree Mortality Table for Males multiplied by 85 percent, with MP-2014 Ultimate Projection Scale. **Females:** **General Members:** PubG-2010 Healthy Retiree Mortality Table for Females multiplied by 110 percent, with MP-2014 Ultimate Projection Scale. **Safety Members:** PubS-2010 Healthy Retiree Mortality Table for Females, with MP-2014 Ultimate Projection Scale.

Method/Assumption	Application
Expectation of Life After Disability[1,2]	*2019 SOA Mortality Tables for Public Employees* For disabled members, the mortality tables used are listed below while age-based rates are illustrated in the July 1, 2021 OPEB Valuation Report. These rates were adopted June 30, 2019. **Males:** **General Members:** Average of PubG-2010 Healthy Retiree Mortality Table for Males and PubG-2010 Disabled Retiree Mortality Table for Males, both projected with MP-2014 Ultimate Projection Scale. **Safety Members:** PubS-2010 Healthy Retiree Mortality Table for Males, with MP-2014 Ultimate Projection Scale. **Females:** **General Members:** Average of PubG-2010 Healthy Retiree Mortality Table for Females and PubG-2010 Disabled Retiree Mortality Table for Females, both projected with MP-2014 Ultimate Projection Scale. **Safety Members:** PubS-2010 Healthy Retiree Mortality Table for Females, with MP-2014 Ultimate Projection Scale.
Retiree Medical and Dental/Vision Eligibility and Enrollment Assumptions	*Various Rates* Any retired or vested terminated members who have not elected a refund of their member pension contributions and who will receive a retirement benefit other than a refund are eligible for retiree medical and dental/ vision enrollment. Refer to Tables A-14 through A-19 of the July 1, 2021 OPEB Valuation Report for more details regarding the enrollment assumptions.
Other Employment Termination	*Withdrawal of Contributions and Probability of Occurrence* Terminating employees may withdraw their contributions immediately upon termination of employment and forfeit the right to further retirement, medical, dental/vision, and death benefits, or they may leave their contributions on deposit with LACERA. Former contributing members whose contributions are on deposit may later elect to receive a refund, return to work, or remain inactive until becoming eligible to receive a retirement benefit under either LACERA or a reciprocal retirement plan. All terminating members who are not eligible for vested benefits are assumed to withdraw their contributions immediately. All terminating members are assumed not to be rehired. The Probability of Occurrence schedule included in this Actuarial Section provides a summary of probability of retirement and withdrawal for sample ages. Although these assumptions were developed for the Retirement Benefits Plan, they apply to the OPEB Program participant population.

[1] The PUB-2010 mortality tables were published by the Society of Actuaries (SOA's) Retirement Plans Experience Committee (RPEC) in January 2019. The data studied includes approximately 46 million life years of exposure and 580,000 deaths from public pension plans over the period 2008 to 2013. The PUB-2010 mortality tables include separate tables for general and safety members, and for each of those classes of members includes separate mortality tables for healthy annuitants, disabled retirees, and employees.

[2] The SOA's Mortality Improvement Scale MP-2014 (published in October 2014) is used to adjust the PUB-2010 mortality tables to account for anticipated changes in mortality rates in future years. In general, it is assumed that mortality rates will improve (implying longer lifetimes) in the future due partially to improvements in healthcare.

Schedule of Funding Progress — OPEB Program

(Dollars in Thousands)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded Actuarial Accrued Liability (UAAL) (b-a)	Funded Ratio (a/b)	Covered Employee Payroll (c)	UAAL as a Percentage of Covered Employee Payroll [(b-a)/c]
July 1, 2012	$—	$26,952,700	$26,952,700	0.0%	N/A	N/A
July 1, 2014	483,800	28,546,600	28,062,800	1.7%	N/A	N/A
July 1, 2016	560,800	25,912,600	25,351,800	2.2%	N/A	N/A
July 1, 2017 [1]	742,900	26,300,800	25,557,900	2.8%	$8,544,140	299.1%
July 1, 2018 [2]	941,010	21,066,800	20,125,790	4.5%	8,954,417	224.8%
July 1, 2019	1,238,480	20,752,600	19,514,120	6.0%	9,471,632	206.0%
July 1, 2020	1,492,600	21,302,700	19,810,100	7.0%	9,813,912	201.9%
July 1, 2021	**$2,306,800**	**$21,157,400**	**$18,850,600**	**10.9%**	**$10,065,113**	**187.3%**

[1]The resulting July 1, 2017 OPEB Valuation Report was the first annual (versus biennial) valuation prepared in accordance with the revised OPEB Actuarial Valuation and Audit Policy Statement, which the LACERA Board of Retirement approved in October 2017, to meet the plan sponsors' GASB Statement Number 75 financial statement reporting requirements.

[2]Effective with the July 1, 2018 OPEB Valuation, the actuarial cost method used to project the AAL changed from projected unit credit to entry age normal.

Active Member Valuation Data — OPEB Program

Valuation Date	Plan Type	Member Count[1]	Annual Salary	Average Annual Salary	Percentage Increase/ (Decrease) in Average Salary
July 1, 2012	General	79,416	$5,267,863,044	$66,333	1.56%
	Safety	12,482	1,229,551,596	98,506	1.83%
	Total	**91,898**	**$6,497,414,640**	**$70,702**	**1.52%**
July 1, 2014	General	79,878	$5,482,792,752	$68,640	3.48%
	Safety	12,515	1,251,582,744	100,007	1.52%
	Total	**92,393**	**$6,734,375,496**	**$72,888**	**3.09%**
July 1, 2016	General	82,780	$5,938,289,628	$71,736	4.51%
	Safety	12,515	1,340,879,628	107,142	7.13%
	Total	**95,295**	**$7,279,169,256**	**$76,386**	**4.80%**
July 1, 2017[2]	General	84,454	$6,284,503,344	$74,413	3.73%
	Safety	12,695	1,387,680,972	109,309	2.02%
	Total	**97,149**	**$7,672,184,316**	**$78,973**	**3.39%**
July 1, 2018	General	85,645	$6,604,776,960	$77,118	3.64%
	Safety	12,770	1,451,326,572	113,651	3.97%
	Total	**98,415**	**$8,056,103,532**	**$81,858**	**3.65%**
July 1, 2019	General	86,337	$6,809,906,844	$78,876	2.28%
	Safety	12,791	1,539,796,908	120,381	5.92%
	Total	**99,128**	**$8,349,703,752**	**$84,232**	**2.90%**
July 1, 2020	General	86,875	$7,180,721,760	$82,656	4.79%
	Safety	13,176	1,590,271,044	120,695	0.26%
	Total	**100,051**	**$8,770,992,804**	**$87,665**	**4.08%**
July 1, 2021	**General**	**85,911**	**$7,432,707,960**	**$86,516**	**4.67%**
	Safety	**13,133**	**1,650,137,676**	**125,648**	**4.10%**
	Total	**99,044**	**$9,082,845,636**	**$91,705**	**4.61%**

[1]The OPEB Program Active Member Count differs from the Pension Plan Active Member Count. The OPEB Program includes both Medicare and non-Medicare eligible individuals and excludes Pension Plan members who are receiving retiree healthcare benefits due to a retired spouse.

[2]The resulting OPEB valuation report was the first annual (versus biennial) valuation prepared in accordance with the revised OPEB Actuarial Valuation and Audit Policy Statement, which the LACERA Board of Investments approved in October 2017, to meet the plan sponsors' GASB Statement Number 75 financial statement reporting requirements.

Retirees and Beneficiaries Added to and Removed From Benefits — OPEB Program

(Dollars in Thousands)

	Added to Rolls		Removed From Rolls		Rolls at End of Year			
Valuation Date	Member Count	Annual Allowance[1]	Member Count	Annual Allowance	Member Count	Annual Allowance	Percentage Increase in Retiree Allowance	Average Annual Allowance
July 1, 2012	5,336	$56,982	(3,070)	($25,497)	46,202	$423,464	8.03%	$9,165
July 1, 2014	5,335	89,205	(3,369)	(29,925)	48,168	482,744	14.00%	10,022
July 1, 2016	5,710	103,373	(3,514)	(30,745)	50,364	555,372	15.04%	11,027
July 1, 2017 [2]	3,229	41,266	(1,839)	(18,052)	51,754	578,586	4.18%	11,180
July 1, 2018	3,028	61,697	(1,977)	(20,530)	52,805	619,753	7.12%	11,737
July 1, 2019	3,259	71,970	(1,996)	(22,487)	54,068	669,236	7.98%	12,378
July 1, 2020	3,216	53,933	(2,077)	(23,865)	55,207	699,305	4.49%	12,667
July 1, 2021	**3,431**	**$53,821**	**(2,353)**	**($28,386)**	**56,285**	**$724,740**	**3.64%**	**$12,876**

[1]Includes changes for continuing retirees and beneficiaries.
[2]The resulting OPEB valuation report was the first annual valuation prepared in accordance with the revised OPEB Actuarial Valuation and Audit Policy Statement, which the LACERA Board of Retirement approved in October 2017, to meet the plan sponsors' GASB Statement Number 75 financial statement reporting requirements.

Actuary Solvency Test — OPEB Program[1]

(Dollars in Millions)

	Actuarial Accrued Liability (AAL) for				Portion of AAL Covered by Assets		
Actuarial Valuation Date	(A) Active Member Contributions	(B) Retirees and Beneficiaries[2]	(C) Active Members (Employer-Financed Portion)	Actuarial Value of Valuation Assets	(A) Active	(B) Retired	(C) Employer
July 1, 2012	$—	$10,681	$16,272	$—	N/A	—%	—%
July 1, 2014	—	11,791	16,756	484	N/A	4%	—%
July 1, 2016	—	11,365	14,548	561	N/A	5%	—%
July 1, 2017[3]	—	11,640	14,661	743	N/A	6%	—%
July 1, 2018	—	10,108	10,959	941	N/A	9%	—%
July 1, 2019	—	10,260	10,493	1,239	N/A	12%	—%
July 1, 2020	—	10,597	10,706	1,493	N/A	14%	—%
July 1, 2021	**$—**	**$10,751**	**$10,406**	**$2,307**	**N/A**	**21%**	**—%**

[1]Trend information: Schedule will ultimately show data for 10 years. Additional years will be displayed as they become available prospectively.
[2]Includes vested former members.
[3]The resulting OPEB valuation report was the first annual valuation prepared in accordance with the revised OPEB Actuarial Valuation and Audit Policy Statement, which the LACERA Board of Retirement approved in October 2017, to meet the plan sponsors' GASB Statement Number 75 financial statement reporting requirements.

Actuarial Analysis of Financial Experience — OPEB Program

(Dollars in Millions)

	Valuation as of July 1							
	2021	2020	2019[1]	2018	2017[2]	2016	2014	2012
Prior Unfunded Actuarial Accrued Liability	$19,810	$19,514	$20,126	$25,558	$25,352	$28,063	$26,953	$24,031
Expected Increase/(Decrease) from Prior Valuation	747	911	1,005	1,170	1,462	3,240	3,873	3,771
Claim Costs Greater/(Less) than Expected[3]	(1,202)	(1,000)	(1,589)	(1,067)	(1,213)	(2,322)	(5,471)	(3,864)
Change in Assumptions[4]	0	314	(35)	(6,936)	—	(3,385)	3,238	3,423
Asset Return Less/(Greater) than Expected	(352)	76	1	(28)	(54)	78	(484)	N/A
All Other Experience[5]	(152)	(5)	6	1,429	11	(322)	(46)	(408)
Ending Unfunded Actuarial Accrued Liability	**$18,851**	**$19,810**	**$19,514**	**$20,126**	**$25,558**	**$25,352**	**$28,063**	**$26,953**

[1]Beginning with the 2019 report, subsequent OPEB valuation reports will exclude the excise tax.
[2]The resulting OPEB valuation report was the first annual valuation prepared in accordance with the revised OPEB Actuarial Valuation and Audit Policy Statement, which the LACERA Board of Retirement approved in October 2017, to meet the plan sponsors' GASB Statement Number 75 financial statement reporting requirements.
[3]Includes the medical care claim cost trend assumption change.
[4]In 2016, this amount includes the impact from implementing the Tier 2 Retiree Healthcare Benefits Plan.
[5]In 2018, this amount is primarily due to the impact of the excise tax.