LACERA Los Angeles County Employees Retirement Association
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June 8, 2016

ADOPTED
BOARD OF SUPERVISORS
COUNTY OF LOS ANGELES

44 June 8, 2016

LORI GLASGOW
EXECUTIVE OFFICER

The Honorable Board of Supervisors
County of Los Angeles
383 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, CA 90012

Dear Supervisors:

ADOPTION OF NEW RETIREMENT CONTRIBUTION RATES
(ALL DISTRICTS) (3 VOTES)

SUBJECT

Recommendation to adopt revised employer and employee contribution rates as approved by the Board of Investments of the Los Angeles County Employees Retirement Association (LACERA) to be effective no later than October 1, 2016.

IT IS RECOMMENDED THAT YOUR BOARD:

1. Adopt the revised employer and employee retirement contribution rates approved by LACERA's Board of Investments effective no later than October 1, 2016.

2. Instruct the Auditor-Controller to make the system changes necessary to implement this recommendation.

PURPOSE/JUSTIFICATION OF RECOMMENDED ACTION

The purpose of these recommendations is to set employer and employee contribution rates at a level sufficient to fund plan liabilities identified in the June 30, 2015 Actuarial Valuation Report. The LACERA Board of Investments approved these revised employer and employee rates as recommended in the 2015 Actuarial Valuation of Retirement Benefits on December 9, 2015.

The County Employees Retirement Law requires LACERA's Board of Investments to obtain an actuarial valuation of the retirement system at intervals not to exceed three (3) years and on the basis of such valuation to recommend to the Board of Supervisors at least forty-five (45) days prior to the beginning of the succeeding fiscal year, such changes in employer and/or employee contribution rates as may be necessary to properly fund the system. The Board of Supervisors is required to adopt the contribution rates approved by the Board of Investments no later than ninety (90) days following the beginning of the immediately succeeding fiscal year.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

The adoption of the revised employer and employee contribution rates provided for in the recommendation are directly responsive to the Strategic Plan Goal of fiscal responsibility.

FISCAL IMPACT/FINANCING

Adoption of these actuarial valuation recommendations will result in an aggregate employer contribution rate of 17.77% and will thereby decrease annual employer retirement contributions by $62 million for Fiscal Year 2016/2017. This will result in an annual County retirement cost estimate of $1.3 billion.

Employee contribution rates for General Plans A, B, C, and D and Safety Plans A and B, which are specific to the plan and the employee's entry age, will remain at their current rates. Employee contribution rates for General Plan G and Safety Plan C, which are not age specific, will decrease by .04% and increase by .02%, respectively, as compared to the current employee contribution rates adopted in 2015.

FACTS AND PROVISIONS/LEGAL REQUIREMENTS

1. LEGAL REQUIREMENT FOR PERIODIC ACTUARIAL VALUATIONS AND ADJUSTMENTS IN CONTRIBUTION RATES

   Provisions contained in Article XVI, Section 17, of the California Constitution and in the County Employees Retirement Law of 1937 (California Government Code, Sections 31450-31899.10) govern the actuarial process at LACERA.

   The California Constitution assigns "the sole and exclusive power to provide for actuarial services" to the governing body of the public retirement system. Such power is granted by the Constitution "in order to assure the competency of the assets of the public pension or retirement system."

   Section 31453 of the County Employees Retirement Law requires LACERA to obtain an actuarial valuation at least once every three (3) years and, on the basis of such valuation to recommend to the Board of Supervisors, at least forty-five (45) days prior to the beginning of the succeeding fiscal year, such changes in employer and/or member contribution rates as may be necessary to properly fund the retirement system.

   Section 31454 requires the Board of Supervisors to adjust contribution rates in accordance with LACERA's recommendations no later than ninety (90) days following the beginning of the immediately succeeding fiscal year.

   Section 31454.1 exempts the independent assumptions and calculations of LACERA's actuary from "meet and confer" requirements while recognizing the

"meet and confer" responsibility of the Board of Supervisors in implementing the recommendations contained in the actuarial valuation.

2. THE ACTUARIAL VALUATION PROCESS

Actuarial valuations are performed in order to determine the cost of a retirement program. The cost of a defined benefit retirement program, such as the one administered by LACERA, consists of two (2) components - normal cost and unfunded liability. Normal cost is the amount needed to fund the service currently being earned by retirement system members through their current employment with the County. The unfunded liability represents liabilities created by past service, which have not been funded by previously collected contributions.

The cost of a retirement program is determined by a number of economic and non-economic factors such as the rate of return on assets, the rate of future salary increases, inflation, mortality, disability, and membership terminations. The actuary must make assumptions concerning the long-range impact of these cost factors in determining the amount of assets required to fund the cost of the retirement program.

There are three (3) sources of revenue for underwriting the cost of a retirement plan: employee contributions, employer contributions, and investment earnings. As part of the valuation process, the actuary estimates the amount of future benefit payments that will be funded through investment earnings. After projecting the extent to which benefit payments will be funded through investment earnings, the actuary then calculates the amount of employer and employee contributions needed to complete the full funding of the retirement program.

3. ACTUARIAL AUDIT

In order to validate the accuracy of the valuations used to calculate contribution rates, the Board of Investments authorized an independent actuarial audit of the services performed by LACERA's consulting actuary, Milliman. The audit of the June 30, 2013 valuation report confirmed that the actuarial calculations are reasonable and based on generally accepted actuarial principles and practices. The auditing actuary found no financially significant actuarial issues to report. Actuarial audits are to be performed in the same cycle as the triennial investigation and experience study, and as such, the next actuarial audit will be performed on the June 30, 2016 triennial valuation and investigation.

4. RESULTS OF THE 2015 VALUATION

According to Milliman's 2015 valuation, the actuarial value of valuation assets amounted to $47.3 billion and the actuarial accrued liability amounted to $56.8 billion. As a result, LACERA's June 30, 2015 funding status was 83.3%.

The key factors in arriving at this result can be summarized as follows:

- $1,068 million increase in liabilities due to normal benefit accruals,
- $1,263 million net actuarial gain due to the assets of the plan performing above the expected actuarial rate of return, and
- $480 million net actuarial gain from non-economic plan experience differing from plan assumptions.

The plan actuary reports that had the actual market value of assets been used rather than the smoothed actuarial value of assets, the funded status would have been 85% with a required employer contribution rate of 16.97%.

At their February 13, 2013 meeting, the Board of Investments amended the Retirement Benefit Funding Policy to include the STAR Program Reserve as a valuation asset in the June 30, 2012 and future valuations. Had the $614 million STAR Reserve been excluded from the actuarial value of assets as of June 30, 2015, the funding ratio would have decreased 1.1% and the County contribution rate would have increased from the 17.77% recommended rate to 18.28%.

Plan demographics reported in the valuation indicate a 1.3% increase in the size of the active member population that totals approximately 93,700 with an overall average age of 47 years. The retired population increased by 2.3% and now totals over 60,000. The average benefit payment increased by 1.3% to approximately $3,900 per month. The average age of the retired population increased by approximately two months to 72.5 years.

5. IMPACT ON EMPLOYER AND EMPLOYEE CONTRIBUTION RATES

As previously stated, LACERA is funded by both employer and employee contributions. Employees participating in the closed plan tiers (General Plans A, B, C, and D and Safety Plans A and B) contribute using age-based rates to fund a defined annuity at a specified age and to fund one-half the cost-of-living benefit. Employee age-based annuity contribution rates are affected by changes made in the salary, investment, and mortality assumptions and will vary according to the employee's age at first membership. As this valuation does not include revised salary and investment actuarial assumptions, the actuary is not recommending new employee contribution rates for these plans. Employees participating in the open plan tiers (General Plan G and Safety Plan C) contribute

using single rates set at one-half the plan's normal cost. As the actuary is recommending changes to the plan tier normal cost, the actuary is recommending the employee contribution rates be decreased by .04% for General Plan G and increased by .02% for Safety Plan C. Employee contribution rates for all plans at every entry age can be found in the valuation report's Appendix D on page D-3.

Liabilities not funded through the member contribution rates are the responsibility of the employer. Changes in any of the economic and non-economic assumptions impact employer contribution rates. The employer is responsible for contributing the cost of benefits expected to be accrued in the future and half of the cost-of-living benefit. These contributions are known as the normal cost contributions. The employer is also responsible for contributing to cover any shortfall in funding for liabilities accrued in the past. This portion of the employer's contribution rate is known as the unfunded liability contribution.

In accordance with the Board of Investments' Retirement Benefit Funding Policy, contributions to retire the unfunded liability are required using a thirty (30) year layered amortization period should LACERA's funding ratio drop below 100%. Because the 2015 valuation determined the funding ratio to be 83.3%, the County is required to make unfunded liability contributions in Fiscal Year 2016/2017 in the amount of 8.49% of active payroll.

Additionally, the actuary has recommended new employer contribution rates for the normal cost. The overall normal cost contribution rate has decreased from 9.29% to 9.28%. Applying the new 9.28% normal cost contribution rate and the 8.49% unfunded liability contribution rate to an actuarially estimated payroll, the actuary estimates the annual contributions owed by the County will decrease by approximately $62 million per year.

IMPACT ON CURRENT SERVICES

None.

CONCLUSION

The County has a statutory obligation to prefund the retirement benefits promised to its employees. LACERA has a statutory obligation to calculate employer and employee contribution rates and communicate the rates to the County by May 15 in order to provide the County sufficient time to implement the contribution rates no later than October 1. The employer cost for retirement plan benefits will decrease in Fiscal Year 2016/2017, by approximately $62 million due primarily to recent investment portfolio gains. Assuming the retirement plan's actual experience equals its actuarial assumptions, including the 7.5% investment return assumption, the actuary forecasts on report page 2 the employer's 17.77% contribution rate will decrease slightly and then

remain constant for the next 30 years as the County contributes additional funds to offset the retirement plan's past investment losses. However, as part of conducting the upcoming 2016 valuation, the Board of Investments will be evaluating the sufficiency of the current actuarial assumptions and methodologies. Revised actuarial assumptions and methodologies may significantly change the employer required contribution. For example, as reported by the plan actuary in their Investment Return Sensitivity analysis on report page 9, changing the expected investment return assumption from the current 7.5% to 7.0% would increase the required employer contribution rate by 3.61%. Applying this to the actuary's estimated $7.3 billion active member payroll, the assumption change equates to an additional $264 million annual employer contribution.

Respectfully submitted,

GREGG RADEMACHER
Chief Executive Officer

GR:nm
Actval15bofs.doc

Attachment: 2015 Actuarial Valuation Report

c: Chief Executive Officer, Los Angeles County
Executive Officer, Board of Supervisors
Board of Investments (without attachment)
Board of Retirement (without attachment)

Los Angeles County Employees Retirement Association

Actuarial Valuation of Retirement Benefits
June 30, 2015

By

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October 29, 2015

Board of Investments
LACERA
300 North Lake Avenue, Suite 820
Pasadena, CA 91101-4199

Dear Members of the Board:

As requested, we have performed an actuarial valuation of retirement benefits for the Los Angeles County Employees Retirement Association (LACERA) as of June 30, 2015 to be used in determining the contribution rates effective July 1, 2016. The major findings of the valuation are contained in this report. This report reflects the benefit provisions and contribution rates in effect as of June 30, 2015, and LACERA's funding policy that was adopted in December of 2009 and amended as of February 2013. It should be noted that under this amended policy, the reserve value for STAR benefits is included in the Valuation Assets for 2014 and future valuations; however, the liability for any potential STAR benefits that may be granted in the future is not included in this valuation.

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. In our examination of these data, we have found them to be reasonably consistent and comparable with data used for other purposes. 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.

All costs, liabilities, rates of interest, and other factors for LACERA have been determined on the basis of actuarial assumptions and methods that are individually reasonable (taking into account the experience of LACERA and reasonable expectations); and that, in combination, offer a reasonable estimate of anticipated experience affecting LACERA. Further, in our opinion, each actuarial assumption used is reasonably related to the experience of the Plan and to reasonable expectations, which, in combination, represent a reasonable estimate of anticipated experience for LACERA.

This valuation report is only an estimate of LACERA's financial condition as of a single date. It can neither predict LACERA's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of benefits, only the timing of 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 (except the +/- 0.5% results shown at the end

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of the Executive Summary) is outside the scope of our engagement. It should be noted that we recommended lowering the investment return assumption as part of our 2013 Investigation of Experience. The recommendation was not adopted; however, we still believe the current investment return assumption satisfies the relevant actuarial standard of practice using the building block method. Key valuation results using a lower assumption (7.00%) are shown on page 9 of this report.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in 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 or additional cost or contribution requirements based on the Plan's funded status); and changes in plan 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. The Board of Investments has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in Appendix A of this report.

Actuarial computations presented in this report are for purposes of determining the recommended funding amounts of LACERA. Actuarial computations under GASB Statements No. 25 and 27 are for purposes of fulfilling financial accounting requirements. The computations prepared for this purpose may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of LACERA’s funding requirements as stated under their Funding Policy. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes. Milliman has provided LACERA financial reporting results relevant to GASB Statement No. 67 in a separate report.

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The consultants who worked on this assignment are pension 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 sponsors. 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. 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 express our appreciation to Mr. Gregg Rademacher, Chief Executive Officer of LACERA, and to members of his staff, who gave substantial assistance in supplying the data on which this report is based.

We are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

We respectfully submit the following report, and we look forward to discussing it with you.

Sincerely,

Mark C. Olleman, FSA, EA, MAAA
Consulting Actuary

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

Craig Glyde, ASA, EA, MAAA
Consulting Actuary

MCO/NJC/CG/nlo

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Section 1: Summary of the Findings

2015 Valuation Results

	June 30, 2015	June 30, 2014
Required Employer Contribution Rate	17.77%	19.33%
Funded Ratio	83.3%	79.5%

Overview

This report presents the results of the June 30, 2015 actuarial valuation. This valuation determines the required contribution rates payable starting July, 2016. Several key points are summarized as follows:

- **Investment Returns:** For the fiscal year ending in 2014, the fund returned 4.3% on a market basis (gross of investment expenses), a rate of return less than the assumed rate. In total, there was a $1.6 billion loss on market assets as compared to the assumed rate of return for the prior year of 7.50%. However, the recognition of net asset gains from prior years resulted in a gain on the actuarial value of assets for the current year.
- **Employer Contribution Rates:** The total required Employer contribution rate decreased from the prior valuation by 1.56% (from 19.33% to 17.77% of payroll). The most significant factor causing this decrease was the recognition of deferred asset gains from prior years, which resulted in a 1.29% decrease. Additionally, Cost of Living Adjustments (COLAs) less than assumed caused a further decrease in the employer rate. See the “Analysis of Change” section below for a listing of the sources of change.
- **Member Contribution Rates:** New member contribution rates for General Plan G and Safety Plan C are being recommended, effective July 1, 2016, based on the new plan normal cost rates calculated in the 2015 valuation. As shown in Section 5, we are recommending a decrease in the General Plan G member rate from 7.62% of payroll to 7.58%, and an increase in the Safety Plan C member rate from 13.42% of payroll to 13.44%.
- **Funding:** The Funded Ratio increased from 79.5% to 83.3%. The recognition of deferred asset gains from prior years caused a 2.7% increase in the Funded Ratio. Additionally, contributions to pay off the Unfunded Actuarial Accrued Liability (UAAL) and COLA increases less than assumed caused further increases to the Funded Ratio. See the “Analysis of Change” below for a listing of the sources of change.

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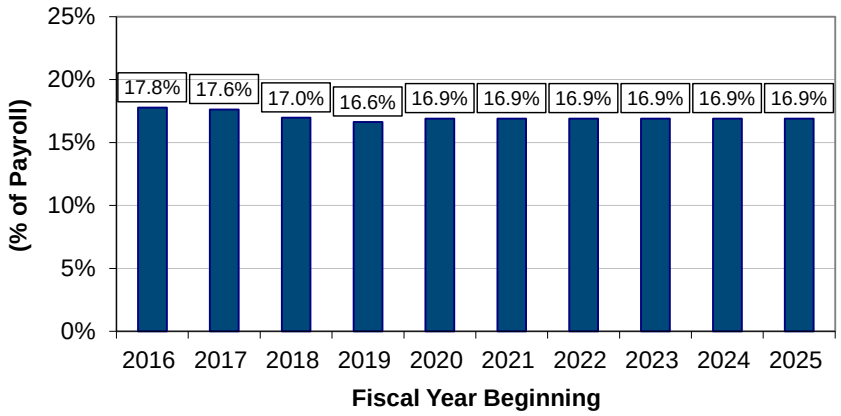
Required Contribution Rate

In accordance with LACERA's Funding Policy, the required Employer contribution rate, beginning July 1, 2016, is 17.77% of payroll. This is equal to the payment of the Employer Normal Cost rate plus a layered 30-year amortization of the UAAL. It should be noted that 17.77% is a weighted average for all LACERA plans. The actual percent of payroll to be contributed by the employers varies by plan as shown in Exhibit 11.

The new required rate is effective for the fiscal year beginning July 1, 2016. Based on asset gains and losses that are currently being deferred, it is expected that the Employer contribution rate will fluctuate over the next few years if all actuarial assumptions are met. To illustrate this impact, we have performed a 10-year projection of the Employer contribution rate that assumes all actuarial assumptions are met and reflects the projected recognition of deferred asset gains and losses existing as of June 30, 2015. This projection is shown in the chart below.

Projected Employer Contribution Rate*



**Projections assume that all actuarial assumptions are met after June 30, 2015, and reflect the scheduled recognition of asset gains and losses currently being deferred. Actual results will vary.*

Analysis of Change

The following chart shows that the recognition of prior asset losses was the most significant factor affecting the Employer contribution rate and the funded status.

Sources of Change	Employer Contribution Rate	Funded Ratio
June 30, 2014 Actuarial Valuation	**19.33%**	**79.5%**
Expected Year-to-Year Change	0.00%	0.8%
Recognized Asset Gain/Loss		
From Current Year	0.25%	-0.5%
From Prior Years	-1.29%	2.7%
Combined Asset Gain/Loss	-1.04%	2.2%
Contributions > Assumed	-0.04%	0.1%
Payroll Increase > Assumed	-0.03%	0.0%
Liability Gain/Loss		
Salary Increase > Assumed	0.07%	-0.1%
Retiree COLAs < Assumed	-0.51%	0.8%
Other	-0.01%	0.0%
Combined Liability Gain/Loss	-0.45%	0.7%
Total Change	**-1.56%**	**3.8%**
June 30, 2015 Actuarial Valuation	**17.77%**	**83.3%**

Funding Progress

Based on the 2014 valuation, the expected UAAL of June 30, 2015 was $11.23 billion. The actual UAAL for the fiscal year ending June 30, 2015 is $9.49 billion. The decrease was primarily due to a net gain on Valuation Assets of $1.26 billion.

One measure of the funding adequacy of the Plan is the Funded Ratio, which compares the value of the Actuarial Value of Assets (net of certain non-valuation reserves) to the Actuarial Accrued Liability (AAL), for all LACERA plans combined. LACERA's Funded Ratio was 94.5% as of June 30, 2008. As shown in the graph below, the Funded Ratio decreased steadily over the five year period following the economic downturn, to a low of 75.0% as of June 30, 2013, due to the recognition of significant deferred asset losses. As of the 2015 valuation, deferred net asset gains are now being recognized in the valuation assets, and consequently the Funded Ratio has increased since the prior year.

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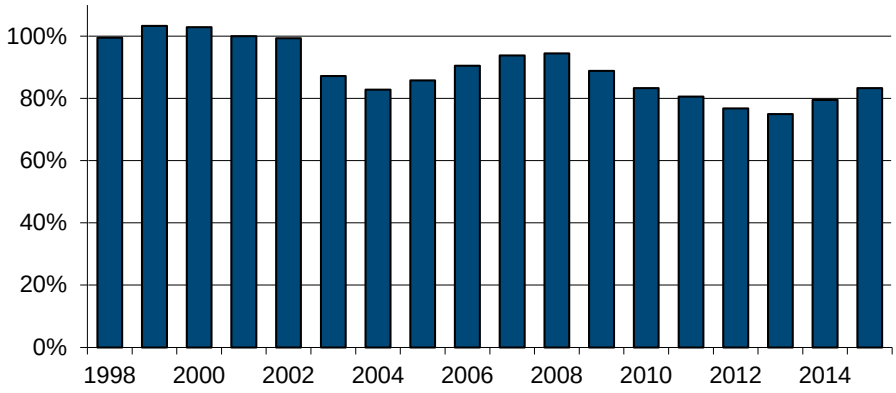
Funding Progress (continued)

On June 30, 2015, the total Market Value of the fund (including non-valuation reserves) was $48.8 billion. The Actuarial Value was $47.8 billion and was split between $0.5 billion of Non-Valuation Assets and $47.3 billion of Valuation Assets. The Valuation Assets are equal to 83.3% of the $56.8 billion AAL. The Actuarial Value of Assets is 98% of the Market Value of Assets.

All dollar amounts in billions

	Market Value of Total Assets	Actuarial Value		Actuarial Accrued Liability	Funded Ratio
		Non-Valuation Reserves	Valuation Assets		
2006	$ 35.2	$ 0.9	$ 32.8	$ 36.3	90.5%
2007	40.9	0.8	37.0	39.5	93.8
2008	38.7	0.9	39.7	42.0	94.5
2009	30.5	0.8	39.5	44.5	88.9
2010	33.4	0.8	38.8	46.6	83.3
2011	39.5	0.9	39.2	48.6	80.6
2012	38.3	0.9	39.0	50.8	76.8
2013	41.8	0.4	39.9	53.2	75.0
2014	47.7	0.5	43.7	54.9	79.5
2015	48.8	0.5	47.3	56.8	83.3

Historical Funded Ratios



Association Assets

- **Market Value:** The market value of assets has increased over the past 10 years. The average rate of return for the fund over that period is 7.2% (gross of investment expenses), as reported by LACERA; however, due to benefit payments being greater than contributions, the total annual increase in the market value has averaged less. This is typical of a mature retirement system. The values shown in the market value column are total assets net of liabilities and include all reserves.
- **Actuarial Assets:** The market value of total assets is used in calculating the actuarial value of assets. Under the actuarial asset method, the market value returns in excess of (or less than) the assumption are smoothed over a five-year period.
- **Valuation Reserves:** The reserves represent the ownership of LACERA's assets. The reserves are established in compliance with the County Employees Retirement Law of 1937 as administered by the Board of Investments. These assets also reflect five-year smoothing. On a smoothed basis, the fund returned 10.5% for the prior year.
- **Non-Valuation Reserves:** The non-valuation reserves are set aside for obligations or contingencies. They are not used to fund the retirement benefits unless explicitly stated. These assets may also reflect smoothing.
- **Valuation Assets:** This is the combination of the valuation reserves and the portion of the non-valuation reserves that are recognized for funding purposes only as specified in LACERA's Funding Policy. It should be noted that under this policy the reserve value for STAR benefits is included in the Valuation Assets; however, the liability for any STAR benefits that may be granted in the future is not included in the valuation.

Future Impact of Recognition of Deferred Losses

The smoothing method is currently deferring $0.98 billion in net asset gains. As the currently deferred gains and losses are recognized over upcoming valuations, it is expected there will be fluctuations in the required Employer contribution rate.

The potential future impact of the recognition of these deferred gains and losses on the projected Employer contribution rate is illustrated in the chart on page 2.

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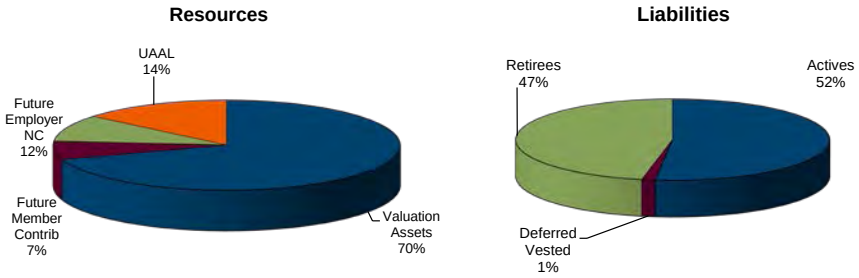
Actuarial Balance Sheet

The first step in the valuation process is to compare the total actuarial assets of LACERA with its total liabilities for all plans. In this analysis, assets equal those currently on hand, at the actuarial value, and also expected future contributions by both the employers and members. Liabilities reflect benefits already earned in the past and those expected to be earned in the future by current members. This relationship is shown in the following chart. The AAL is the total of these liabilities less expected future Normal Cost contributions.

Comparing the current and future assets to the current and future liabilities, we then determine the annual contribution amount for the coming fiscal year.

The 2015 actuarial valuation indicates that LACERA's Valuation Assets are less than its AAL. The difference between these two values is the UAAL. It is discussed, along with the effect of the experience gains and losses, in detail in Section 4, Actuarial Liabilities.



Funding Policy

The Board of Investments adopted a new Funding Policy in 2009, which was amended in 2013. Significant provisions of this policy, first reflected in the June 30, 2009 actuarial valuation, are as follows:

- **Asset Smoothing Period:** Asset gains and losses are smoothed over a five-year period.

Funding Policy (continued)

- **Amortization Period:** The funding policy utilizes a "layered" amortization method. Under the policy, the UAAL amount as of the valuation for which the policy was first effective (June 30, 2009) is amortized over a closed 30-year period. Subsequent gains and losses on the UAAL are amortized over new closed 30-year periods. The Employer contribution rate is not allowed to be less than the rate if LACERA amortized the total UAAL over a 30-year period. Exhibit 12 of this report illustrates in detail the calculation of the total UAAL rate for the fiscal year beginning in 2016.

  If LACERA moves to a negative UAAL position, only the normal cost rate will generally be paid. If the Funded Ratio exceeds 120%, the "surplus" amount will be amortized over an open 30-year period.

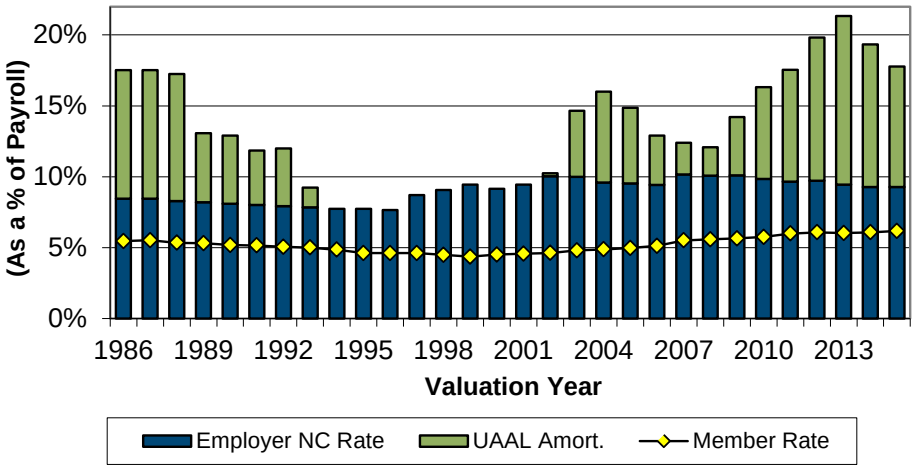
- **STAR Reserve:** The STAR reserve is included in the Valuation Assets. There is no corresponding liability for future STAR benefits included in the valuation. The inclusion of the STAR reserve in the Valuation Assets was formalized for the current and future actuarial valuations in the February 2013 amendment to LACERA's Funding Policy.

  Note that if the STAR reserve of $614 million was excluded from the Valuation Assets, the UAAL would increase by this amount. Under this hypothetical scenario, the required 2016 Employer contribution rate would increase by 0.51% to 18.28% and the Funded Ratio would decrease by 1.1% to 82.2%.

Employer Contribution Rates

Based on the results of the valuation, the required Employer contribution rate will decrease for the fiscal year beginning in 2016 to a rate of 17.77% of pay. A historical perspective of the Employer contribution rates is shown in the following graph.

Required Employer Contribution Rate

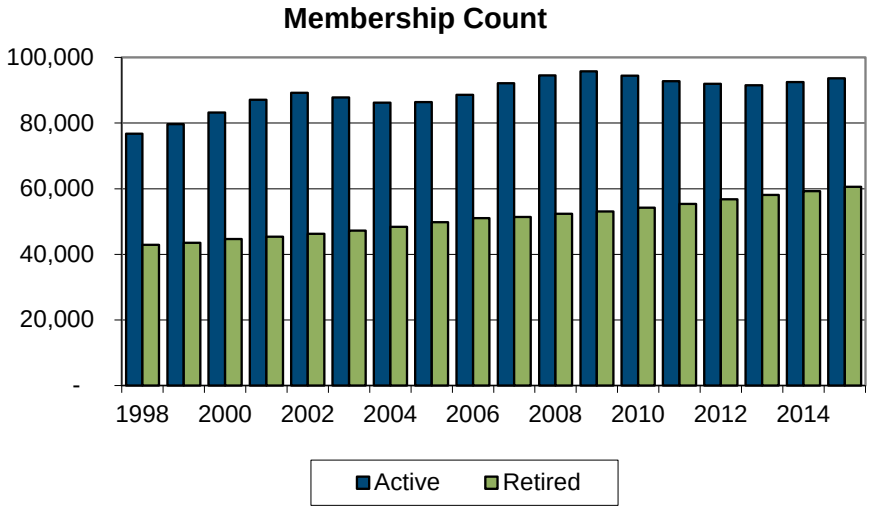


Member Rates

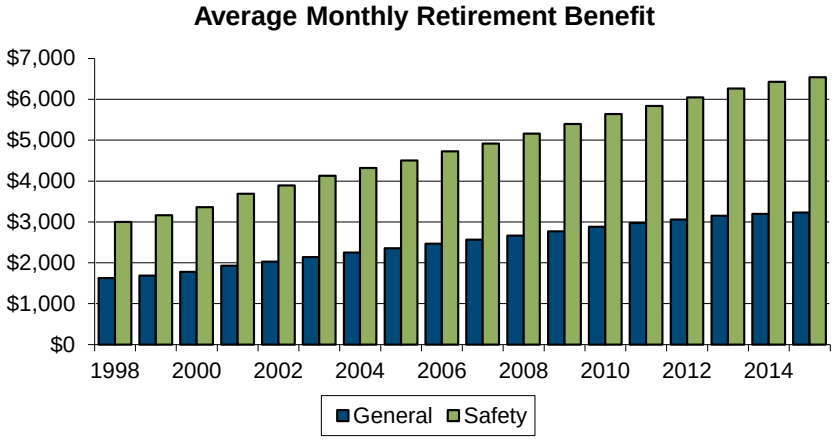
New member rates for members of General Plan G and Safety Plan C are being recommended that are equal to one-half of the plan's normal cost rate calculated as of the June 30, 2015 valuation. Note that LACERA has elected not to round member rates for General Plan G and Safety Plan C. Member rates for all plans are discussed in Section 5 and are shown in detail in Appendix D.

Member Information

Payroll and active membership have each increased slightly since 2014. As of June 30, 2015, the annualized payroll is $7.08 billion for 93,674 active members. This is a result of a 2.5% increase in average pay and a 1.3% increase in the number of active members.



Retired member counts and average retirement benefit amounts continue to increase steadily. For 2015, there were 60,606 retired members and beneficiaries with an average benefit of $3,867 per month. This represents a 2.3% increase in count and a 1.3% increase in the average monthly benefit.



Analysis of Change in Member Population

The following table summarizes the year-to-year change in member population. In addition to the movement shown below, 283 members transferred from Plan E to Plan D during the past year, and 87 members transferred from Plan D to Plan E.

	Active Contributing Members	Vested Former Members*	Retirees, Disabilities, & Beneficiaries
June 30, 2014 Valuation	**92,466**	**12,671**	**59,229**
Termination without Refund	(1,272)	1,272	-
Termination with Refund	(389)	(199)	-
Active/Former Death with Annuity	(60)	(63)	123
Service Retirement	(2,230)	(395)	2,625
Disability Retirement	(180)	(12)	192
Retiree Death without Beneficiary	-	-	(1,560)
New Entrants	5,191	-	-
Rehires	148	(145)	(3)
Total Change	**1,208**	**458**	**1,377**
June 30, 2015 Valuation	**93,674**	**13,129**	**60,606**

** Includes non-vested former members who have not taken a refund of their contributions.*

Sensitivity to Investment Return

The valuation results are projections based on the actuarial assumptions. Actual experience will differ from these assumptions, either increasing or decreasing the ultimate cost. Of the assumptions, the investment return generally has the biggest impact. The following chart provides a simple analysis on how the short-term costs are affected by the investment return assumption. Note that the long-term cost of the Plan will be largely driven by actual investment returns and other experience; the assumptions impact the timing of the contributions.

	Investment Return Assumption		
	Current 7.50%	+0.5% 8.00%	-0.5% 7.00%
Employer Contribution Rate	17.77%	14.25%	21.38%
Change		-3.52%	3.61%
Funded Ratio	83.3%	88.3%	78.4%
Change		5.0%	-4.9%

Summary Valuation Results

The following Exhibit 1 presents a summary of key data elements on June 30, 2015 and June 30, 2014, and how they changed over the past year. More detail on each of these elements can be found in the following Sections and Exhibits of this report.

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Exhibit 1: Summary of Significant Valuation Results

		June 30, 2015	June 30, 2014	Change
I.	Total Membership			
	A. Active Members	93,674	92,466	1.3%
	B. Retired Members & Beneficiaries	60,606	59,229	2.3%
	C. Vested Former Members	13,129	12,671	3.6%
	D. Total	167,409	164,366	1.9%
II.	Pay Rate as of June 30, 2015			
	A. Annual Total ($millions)	$ 7,078	$ 6,815	3.9%
	B. Monthly Average per Active Member	$ 6,297	$ 6,142	2.5%
III.	Average Monthly Benefit Paid to Current Retirees and Beneficiaries			
	A. Service Retirement	$ 3,881	$ 3,847	0.9%
	B. Disability Retirement	$ 4,943	$ 4,828	2.4%
	C. Surviving Spouse and Dependents	$ 2,643	$ 2,567	3.0%
	D. Total	$ 3,867	$ 3,816	1.3%
IV.	Actuarial Accrued Liability ($millions)			
	A. Active Members	$ 24,086	$ 23,059	4.5%
	B. Retired Members	$ 31,790	$ 30,972	2.6%
	C. Vested Former Members	$ 943	$ 911	3.5%
	D. Total	$ 56,819	$ 54,942	3.4%
V.	Assets			
	A. Market Value of Fund ($millions)	$ 48,818	$ 47,722	2.3%
	B. Actuarial Value ($millions)			
	1. Valuation Reserves	$ 47,328	$ 43,654	8.4%
	2. Non-valuation Reserves	$ 510	$ 499	2.2%
	C. Annual Investment Return			
	1. Market Basis (Gross Return)	4.3%	16.8%	na
	2. Valuation (Actuarial) Basis	10.5%	11.8%	na
VI.	Unfunded Actuarial Accrued Liability or (Surplus Funding) in $millions	$ 9,491	$ 11,288	(15.9)%
VII.	Required Employer contribution rate for all plans combined as a percent of total payroll			
	A. Gross Normal Cost	15.46%	15.37%	0.6%
	B. Member Contributions*	(6.18)%	(6.08)%	1.6%
	C. Employer Normal Cost	9.28%	9.29%	(0.1)%
	D. UAAL Amortization	8.49%	10.04%	(15.4)%
	E. Total Required Contribution Rate	17.77%	19.33%	(8.1)%
VIII.	Funded Ratio	83.3%	79.5%	4.8%
IX.	Results Based on Market Value (Informational Purposes Only)			
	Total Required Contribution Rate	16.97%	16.23%	4.6%
	Funded Ratio (excluding non-valuation reserves)	85.0%	86.0%	(1.2)%

**Includes non-contributory members. The average rate for contributory plans decreased from 7.85% to 7.84%.*

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Section 2: Scope of the Report

This report presents the actuarial valuation of the Los Angeles County Employees Retirement Association as of June 30, 2015. This valuation was requested by the Board of Investments. Section 31453 of the County Employees Retirement Law of 1937 (the '37 Act) requires an actuarial valuation to be performed at least every three years for the purpose of setting contribution rates. The 2015 valuation meets this requirement. Under LACERA's Funding Policy, annual valuations determine the Employer contribution rates each year. Member contribution rates are set each triennial valuation, or in years in which relevant actuarial assumptions are altered. For members of General Plan G and Safety Plan C, member contribution rates are recalculated each year, based on one-half of the Plan's normal cost rate.

In reading our cover letter, please pay particular attention to the guidelines employed in the preparation of this report. We also comment on the sources and reliability of both the data and the actuarial assumptions upon which our findings depend. Those comments are the basis for our certification that this report is complete and accurate to the best of our knowledge and belief.

A summary of the findings resulting from this valuation is presented in the previous section. Section 3 describes the assets and investment experience of the system. The assets and investment income are presented in Exhibits 2-4. Exhibit 5 develops the Actuarial Value of Assets as of June 30, 2015. Exhibit 6 develops the Valuation Assets used for funding benefits.

Section 4 describes the benefit obligations of LACERA. Exhibit 7 is the Actuarial Balance Sheet and Exhibit 8a analyzes the change in UAAL (Surplus Funding). Exhibit 8b shows a history of these changes.

Section 5 discusses the member contribution rates.

Section 6 discusses the Employer contributions needed to fund the benefits under the actuarial cost method in use.

Section 7 discloses supplemental information for use in the CAFR. Milliman provides LACERA financial reporting information relevant to GASB Statements No. 67 and 68 in separate reports.

Section 8 shows the estimated cash flow of the system, including a projection of both contributions and benefit payments.

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Scope of the Report (continued)

This report includes several appendices:

Appendix A	A summary of the actuarial procedures and assumptions used to estimate liabilities and contributions.
Appendix B	A summary of the current benefit structure, as determined by the provisions of governing law on June 30, 2015.
Appendix C	Schedules of valuation data classified by various categories of plan members.
Appendix D	Member contribution rates by plan.
Appendix E	Historical information.
Appendix F	A glossary of actuarial terms used in this report.

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Section 3: Assets

In many respects, an actuarial valuation can be thought of as an inventory process. The inventory is taken as of the actuarial valuation date, which for this valuation is June 30, 2015. On that date, the assets available for the payment of retirement benefits are appraised. These assets are compared with the actuarial liabilities (both accrued and future) for current members, which are generally in excess of the actuarial assets. The purpose of the valuation is to determine what future contributions by the members and employers are needed to pay all expected future benefits.

This section of the report looks at the determination of assets used for funding purposes. In the next section, the actuarial liabilities will be discussed. Sections 5 and 6 review the process for determining required contributions based on the relationship between the actuarial assets and the actuarial liabilities.

A historical summary of the system's assets is presented below:

All dollar amounts in billions

		Actuarial Value		
	Market Value of Total Assets	Non-Valuation Reserves	Valuation Assets	Total Fund Return*
2006	$ 35.2	$ 0.9	$ 32.8	13.0
2007	40.9	0.8	37.0	19.1
2008	38.7	0.9	39.7	-1.5
2009	30.5	0.8	39.5	-18.3
2010	33.4	0.8	38.8	11.8
2011	39.5	0.9	39.2	20.4
2012	38.3	0.9	39.0	0.3
2013	41.8	0.4	39.9	12.1
2014	47.7	0.5	43.7	16.8
2015	48.8	0.5	47.3	4.3

**As reported in the Investment Section of the CAFR, gross of investment expenses.*

On June 30, 2015, the total market value of the fund, less current liabilities, was $48.8 billion. The actuarial value of the fund was determined to be $47.8 billion, including the non-valuation reserves. The average total fund return for the last 10 years is 7.2% gross of fees, as reported by LACERA.

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Financial Exhibits

Exhibit 2 presents a Statement of Plan Net Assets and Exhibit 3 presents a Statement of Changes in Plan Net Assets. Exhibit 4 describes the allocation of LACERA's assets by the various reserve values determined for accounting purposes as disclosed in the Comprehensive Annual Financial Report (CAFR).

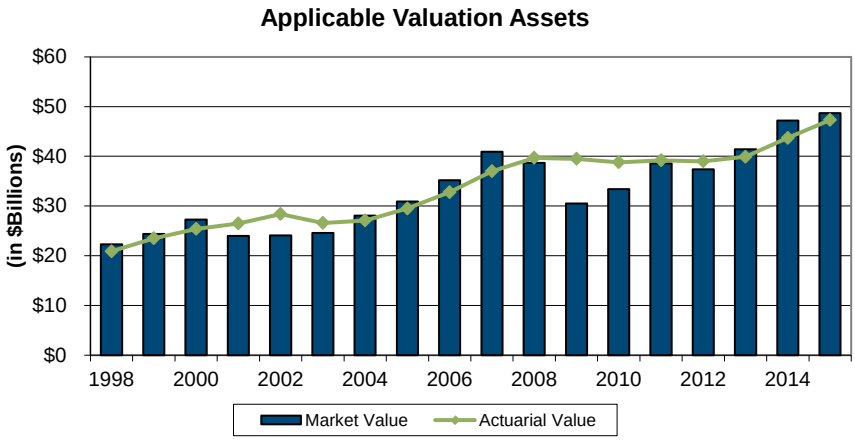
Exhibits 2-4 are taken directly from data furnished to us by LACERA in their annual financial report. We have accepted these tables for use in this report without audit, but we have reviewed them both for the prior year and the current year for reasonableness and consistency with previous reports.

Actuarial Asset Method

The actuarial asset method computes the expected market value of assets based on the prior year's market value of assets, the actual cash flow of contributions and benefit payments, and the assumed investment rate of return. For the previous year, the assumed rate of return was 7.50%, net of all expenses. The difference between the actual market value and the computed expected market value is smoothed, or recognized over a five-year period.

Actuarial Value of Assets

The development of the June 30, 2015 actuarial value of assets is shown in Exhibit 5. Note the smoothing process is deferring past investment gains and losses, and is currently in a net actuarial gain position. The result is an actuarial value of assets that is smaller than the June 30, 2015 market value by $1.0 billion. The following graph shows a historical comparison of the actuarial and market assets used for valuation purposes.



Funding Policy

Under the Board of Investments' long-term Funding Policy, the following is the allocation of actuarial assets. A Funded Ratio equal to 100% is the Funding Goal.

For funding purposes and for setting contributions rates, recognized earnings for a plan year is the recognized investment income as determined by the Actuarial Asset Method and includes both unrealized income and net realized income, together with the prior balance in the Contingency Reserve. The allocation of recognized earnings is performed once a year as of the Valuation Date in the following order of priority:

Priority 1: Allocate to the Member Reserve so the Actuarial Asset allocation to that Reserve equals the accounting value for that Reserve on the Valuation Date.

Priority 2: Allocate to the Advanced Employer Contributions Reserve so the Actuarial Asset allocation to that Reserve equals the accounting value for that Reserve on the Valuation Date.

Priority 3: Allocate to the Employer Reserve so the Actuarial Asset allocation to that reserve equals the accounting value for that Reserve on the Valuation Date.

Priority 4: Allocate to the County Contribution Credit Reserve so the Actuarial Asset allocation to that reserve equals the accounting value for that Reserve on the Valuation Date. Note: This Reserve is not a Valuation Reserve.

Priority 5: Allocate to the Employer Reserve so the total amounts allocated equal one year's interest at the assumed interest rate used in the actuarial valuation as of the preceding Valuation Date to the extent there are positive recognized earnings to allocate.

Priority 6: Allocate to the Contingency Reserve an amount equal to 1% of the Market Value of Assets as of the Valuation Date to the extent there are positive recognized earnings to allocate.

Priority 7: Allocate to the Employer Reserve an amount, if necessary, when combined with other Valuation Reserves, to provide 100% funding of the AAL as of the Valuation Date to reach the Funding Goal. In the event there are negative recognized earnings, allocate the entire amount.

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Funding Policy (continued)

Priority 8: The Board may consider additional actions as permitted under the County Employee Retirement Law (CERL) using funds in excess of the amount needed to meet the Funding Goal for funding discretionary benefits. “Excess Earnings” as defined in the County Employees Retirement Law (CERL) may be appropriated upon reaching the Funding Goal; however, the Board may consider adjustment to the employer's contributions only upon satisfying California Government Code Section 7522.52(b).

For the 2014 valuation, there were sufficient recognized earnings to allocate assets under Priorities 1-6, but they were not sufficient to reach the Funding Goal of 100% under Priority 7.

Valuation Assets

Valuation Assets are the actuarial value of the fund, less the value of any reserves which have been set aside for current liabilities and special benefits that are to be funded outside of the actuarially determined contribution rates. The ’37 Act requires the Contingency Reserve be set at a minimum of 1.0% of assets.

The Funding Policy allows the STAR Reserve to be allocated to the Valuation Assets (subject to periodic review), if needed. The June 30, 2015 STAR Reserve accounting value of $614 million was included in Valuation Assets and used to determine the contribution rates for the fiscal year commencing July 1, 2016. Although the reserve value for STAR benefits is included in the 2015 Valuation Assets, there is no liability for STAR benefits that may be granted in the future included in this valuation.

The non-valuation reserve allocations for funding purposes shown in Exhibit 6 are not the same as those shown in the annual report and in Exhibit 4.

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Exhibit 2: Statement of Plan Net Assets
For Years Ended June 30, 2015 and 2014
(Dollars in Thousands)

	2015	2014
Assets		
Cash	$ 1,309,414	$ 230,254
Collateral on Loaned Securities	1,033,471	998,216
Receivables		
Contributions Receivable	81,249	74,412
Accounts Receivable: Sale of Investments	778,038	583,816
Accrued Interest and Dividends	99,637	120,236
Accounts Receivable: Other	102,145	27,000
Total Receivables	1,061,069	805,464
Investments at Fair Value		
Stocks	24,689,701	25,412,713
Bonds	12,718,110	10,217,381
Short Term Investments	-	1,593,869
Commodities: Futures/Swaps	-	2,169,289
Real Estate	5,480,795	4,995,446
Mortgages	63,450	82,601
Private Equity	4,346,854	4,015,799
Hedge Funds	691,537	546,267
Total Investments	47,990,447	49,033,365
Capital Assets Net of Depreciation	-	-
Total Assets	**51,394,401**	**51,067,299**
Liabilities		
Accounts Payable: Purchase of Investments	1,471,192	2,283,900
Retiree Payroll and Other	623	645
Accrued Expenses	30,432	28,392
Tax Withholding Payable	30,693	29,624
Obligations under Securities Lending Program	1,033,471	998,216
Accounts Payable: Other	9,640	4,245
Total Liabilities	**2,576,051**	**3,345,022**
Net Assets Held in Trust for Pension Benefits	**48,818,350**	**47,722,277**

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Exhibit 3: Statement of Changes in Plan Net Assets
For the Years Ended June 30, 2015 and 2014
(Dollars in Thousands)

	2015	2014
Additions		
Contributions		
Employer Contributions	$ 1,494,975	$ 1,320,442
Member Contributions	441,258	439,001
Total Contributions	1,936,233	1,759,443
Investment Income		
From Investing Activities		
Net Appreciation/(Depreciation) in Fair Value of Investment	(330,804)	4,699,445
Investment Income	2,421,690	2,305,690
Total Investing Activity Income/(Loss)	2,090,886	7,005,135
Less Expenses From Investing Activities	(108,080)	(101,170)
Net Investing Activity Income/(Loss)	1,982,806	6,903,965
From Securities Lending Activities		
Securities Lending Income	5,457	2,896
Less Expenses From Securities Lending Activities		
Rebates	2,534	2,289
Bank Fees	(1,439)	(738)
Total Expenses from Securities Lending Activities	1,095	1,551
Net Securities Lending Income	6,552	4,447
Total Net Investment Income/(Loss)	1,989,358	6,908,412
Miscellaneous	1,695	2,256
Total Additions/(Declines)	**3,927,286**	**8,670,111**
Deductions		
Retiree Payroll	2,740,970	2,637,182
Administrative Expenses	62,591	58,723
Refunds	25,411	23,528
Lump Sum Death Benefits	2,029	1,691
Miscellaneous	212	229
Total Deductions	**2,831,213**	**2,721,353**
Net Increase/(Decrease)	1,096,073	5,948,758
Net Assets Held in Trust for Pension Benefits Beginning of Year	47,722,277	41,773,519
End of Year	**48,818,350**	**47,722,277**

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Exhibit 4: Allocation of Assets by Accounting Reserve Amounts (Dollars in Thousands)

	June 30, 2015	June 30, 2014
1. Member Reserves		
a. Active Members	$ 18,784,899	$ 17,816,467
b. Unclaimed Deposits	-	-
c. Total Member Reserves	$ 18,784,899	$ 17,816,467
2. Employer Reserves		
a. Actual Employer Contributions	$ 21,369,846	$ 20,862,024
b. Advanced Employer Contributions	-	-
c. Total Employer Contributions	$ 21,369,846	$ 20,862,024
3. County Contribution Credit Reserve	$ 21,891	$ 21,891
4. STAR Reserve	614,011	614,011
5. Contingency Reserve	-	49,376
6. Total Reserves at Book Value	$ 40,790,647	$ 39,363,769
7. Unrealized Investment Portfolio Appreciation	8,027,703	8,358,508
8. **Total Reserves at Fair Value**	**$ 48,818,350**	**$ 47,722,277**

Note: These amounts were determined by LACERA for accounting purposes and are reported in the June 30, 2015 CAFR.

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Exhibit 5: Five-Year Smoothing of Gains and Losses on Market Value
(Dollars in Thousands)

June 30, 2015 Valuation										
Plan Year Ending	Contributions	Benefit Payments	Expected Market Value	Actual Market Value	Phase-Out of Gain / (Loss)					
6/30/2015	$ 1,936,233	$ 2,768,410	$ 50,438,628	$ 48,818,350	80.00%	x	$ (1,620,278)	=	$	(1,296,222)
6/30/2014	1,759,443	2,662,401	43,970,326	47,722,277	60.00%	x	3,751,951	=		2,251,171
6/30/2013	1,402,767	2,541,351	40,037,011	41,773,519	40.00%	x	1,736,508	=		694,603
6/30/2012	1,585,687	2,390,598	41,654,490	38,306,756	20.00%	x	(3,347,734)	=		(669,547)
6/30/2011								=		0
					Total Phase-Out of Gain / (Loss)			=	$	980,005
					Total Market Value of Assets			=		48,818,350
					Total Actuarial Value of Assets			=	**$**	**47,838,345**

Total Actuarial Value of Assets = Total Market Value of Assets less the Total Phase-Out amount
Phase-Out amounts will be recognized in future years.

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Exhibit 6: Allocation of Valuation and Non-Valuation Assets
(Dollars in Thousands)

	June 30, 2015	June 30, 2014
1. Total Market Value of Assets	$ 51,394,401	$ 51,067,299
2. Current Liabilities	2,576,051	3,345,022
3. Net Assets Held in Trust for Pension Benefits	$ 48,818,350	$ 47,722,277
4. Market Stabilization Reserve(1)	980,005	3,568,701
5. Actuarial Value of Fund Assets	$ 47,838,345	$ 44,153,576
6. Non-Valuation Reserves(2)		
a. Unclaimed Deposits	$ -	$ -
b. Contingency Reserve	488,184	477,223
c. Advanced Employer Contributions	-	-
d. County Contribution Credit Reserve	21,891	21,891
e. Reserve for STAR Program	-	-
f. Total	$ 510,075	$ 499,114
7. Valuation Assets(2)		
a. Member Reserves	$ 18,784,899	$ 17,816,467
b. Employer Reserves for Funding Purposes	$ 28,543,371	$ 25,837,995
c. Total	$ 47,328,270	$ 43,654,462

(1) The Market Stabilization Reserve represents the difference between the Market Value of the fund less Current Liabilities, and the Actuarial Value of the fund as determined in Exhibit 5.

(2) The values used for funding purposes for all reserves are based on the Board's Funding Policy. Amounts used for funding purposes may differ from those reported in the financial report as shown in Exhibit 4.

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Section 4: Actuarial Liabilities

In the previous section, an actuarial valuation was compared with an inventory process, and an analysis was given of the inventory of LACERA's assets as of the valuation date, June 30, 2015. In this section, the discussion will focus on the commitments of LACERA for retirement benefits, which are referred to as its actuarial liabilities.

In an active system, the actuarial liabilities will almost always exceed the actuarial assets. This is usually expected in all but a fully closed down fund, where no further contributions of any sort are anticipated. This deficiency has to be provided by future contributions. An actuarial valuation method sets out a schedule of future contributions that will deal with this deficiency in an orderly fashion. The determination of the level of future contributions needed is discussed in the next section.

Actuarial Balance Sheet – Liabilities

First, we need to determine the amount of the deficiency. We compare the Valuation Assets to the actuarial liabilities. The difference is the amount that needs to be funded by the member and employer contributions in the future. Both the current and future assets (contributions) are compared to the actuarial liabilities in the Actuarial Balance Sheet.

Exhibit 7 contains an analysis of the actuarial present value of all future benefits for inactive members (both retired and vested former members) and active members. The analysis is given by class of membership, by plan and by type of benefit. Note that for purposes of this exhibit the Valuation Assets are shown allocated by plan in proportion to each plan's reserves (employer and member).

The actuarial liabilities include the actuarial present value of all future benefits expected to be paid with respect to each member. For an active member, this value includes measures of both benefits already earned and future benefits to be earned. For all members, active and inactive, the value extends over the rest of their lives and for the lives of any surviving beneficiaries.

The actuarial assumptions used to determine the liabilities are based on the results of the 2013 Investigation of Experience Report. New assumptions were adopted by the Board effective with the June 30, 2013 actuarial valuation. See Appendix A of this report for details.

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Exhibit 7: Actuarial Balance Sheet – June 30, 2015
(Dollars in Millions)

	General						Safety			
LIABILITIES	**Plan A**	**Plan B**	**Plan C**	**Plan D**	**Plan E**	**Plan G**	**Plan A**	**Plan B**	**Plan C**	**All Plans**
Present Value of Benefits - Inactives										
- Retirees and Beneficiaries	$ 12,343	$ 379	$ 194	$ 4,508	$ 2,539	$ -	$ 7,425	$ 4,399	$ 3	$ 31,790
- Vested Former	16	6	4	445	378	2	1	91	0	943
- Inactive Total	12,359	385	198	4,953	2,917	2	7,426	4,490	3	32,733
Present Value of Benefits - Actives										
- Service Retirement	$ 299	$ 98	$ 90	$ 15,281	$ 5,594	$ 1,057	$ 34	$ 7,231	$ 150	$ 29,834
- Transfer Service (prior LACERA plan)	*	*	*	179	350	0	*	9	0	538
- Disability Retirement	4	1	1	829	N/A	91	2	2,777	89	3,794
- Death	2	1	1	375	N/A	35	*	63	3	480
- Termination (No Refund)	*	0	0	182	95	45	0	39	5	366
- Refund of Member Contributions	*	0	0	54	N/A	31	0	9	3	94
- Active Total	305	100	92	16,900	6,039	1,259	36	10,128	250	35,106
Total Actuarial Liabilities	**$ 12,664**	**$ 485**	**$ 290**	**$ 21,853**	**$ 8,956**	**$ 1,261**	**$ 7,462**	**$ 14,615**	**$ 253**	**$ 67,839**
ASSETS										
Valuation Assets	$ 3,057	$ 477	$ 312	$ 18,465	$ 10,642	$ 61	$ 1,692	$ 12,617	$ 5	$ 47,328
PV Future Member Contributions	3	2	2	2,677	N/A	620	*	1,074	125	4,503
PV Future Employer Normal Cost Contribs.	9	2	1	2,901	1,179	621	0	1,679	125	6,517
UAAL or (Surplus Funding)	9,595	4	(25)	(2,190)	(2,865)	(41)	5,770	(755)	(2)	9,491
Total Current and Future Assets	**$ 12,664**	**$ 485**	**$ 290**	**$ 21,853**	**$ 8,956**	**$ 1,261**	**$ 7,462**	**$ 14,615**	**$ 253**	**$ 67,839**

** Less than $0.5 million*

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Actuarial Balance Sheet – Liabilities (continued)

All liabilities reflect the benefits effective through June 30, 2015. This includes permanent STAR COLAs that have been adopted through the valuation date, but does not include the value of any future STAR benefits that may be granted in the future.

Actuarial Balance Sheet – Assets

For the purpose of the Actuarial Balance Sheet, LACERA's assets are equal to the sum of:

(a) Assets currently available to pay benefits and considered for funding purposes (the Valuation Assets);

(b) The present value of future contributions expected to be made by current active members; and

(c) The present value of future contributions expected to be made by the Employer.

Actuarial Cost Method

The Actuarial Balance sheet determines the amount of future contributions that are needed, but the method used to determine when those future contributions will be made in future years is called the "actuarial cost method." For this valuation, the entry age actuarial cost method has been used. Under this method, the contributions required to meet the difference between current assets and current actuarial liabilities are allocated each year between two elements:

- A normal cost amount; and
- Whatever amount is left over, which is used to amortize what is called the UAAL (Unfunded Actuarial Accrued Liability).

The two items described above – the Normal Cost and UAAL – are the keys to understanding the actuarial cost method.

Normal Cost

The Normal Cost is the theoretical contribution rate that will meet the ongoing costs of a group of average new employees. Suppose that a group of new employees was covered under a separate fund from which all benefits and to which all contributions and associated investment returns were paid. Under the entry age actuarial cost method, the Normal Cost contribution rate maintains the funding of benefits as a level percentage of pay. If experience follows the actuarial assumptions precisely, the fund would be completely liquidated when the last payment to the last survivor of the group is made.

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Normal Cost (continued)

By applying the Normal Cost contribution rate to the present value of salaries expected to be paid in the future, we determine the present value of future Normal Cost contributions. Future contributions are expected to be made by both the members and the Employer. The member contribution rates are determined based upon requirements established in the '37 Act and the actuarial assumptions. Based on these member contribution rates, we determine the present value of future member contributions. We subtract that value from the total future Normal Cost contributions expected, based on the entry age cost method. The remaining difference is the Employer's portion of the future Normal Cost contributions.

Actuarial Accrued Liability

The difference between the present value of all future obligations and the present value of the future Normal Cost contributions is referred to as the Actuarial Accrued Liability (AAL). The AAL is then compared to the value of assets available to fund benefits, and the difference is referred to as the UAAL. The results for LACERA for all plans are summarized below:

(Dollars in millions)	2015	2014	Percent Change
A. Actuarial present value of all future benefits for contributing members, former contributing members, and their survivors	$ 67,839	$ 65,444	3.7%
B. Actuarial present value of total future normal costs for current members	$ 11,020	$ 10,502	4.9%
C. Actuarial accrued liability [A-B]	$ 56,819	$ 54,942	3.4%
D. Valuation Assets	$ 47,328	$ 43,654	8.4%
E. UAAL or (Surplus Funding) [C-D]	$ 9,491	$ 11,288	-15.9%
F. Funded Ratio [D/C]	83.3%	79.5%	4.8%

Unfunded Actuarial Accrued Liability/ Surplus Funding

The portion allocated to service already rendered or accrued is called the AAL. The difference between the AAL and the Valuation Assets is called the UAAL. If a UAAL amount exists, it usually results from prior years' benefit or assumption changes and the net effect of accumulated gains and losses. If the employer had always contributed the current Normal Cost, and if there were no prior benefit or assumption changes, and if actual experience exactly matched the actuarial assumptions, then the present value of all future Normal Cost contributions would be sufficient to fund all benefits and there would be no UAAL.

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Unfunded Actuarial Accrued Liability/ Surplus Funding (continued)

The term "fully funded" is often applied to a system in which contributions for everyone at the Normal Cost rate are expected to be sufficient to pay for the benefits of existing employees. More often than not, systems are not fully funded, either because of past benefit improvements that have not been completely paid for or because of actuarial deficiencies that have occurred because experience has not been as favorable as anticipated. Under these circumstances, a UAAL exists, implying that past experience has varied from what was assumed to have occurred, based on the current benefit levels and actuarial assumptions.

However, even if a system does not have a positive UAAL, a portion or all of the Normal Cost contribution payments will need to be continued in order to have sufficient funds to pay future benefits. The use of the term "fully funded" may seem to imply no further contributions are required. Therefore, a better term is a "well-funded" plan. This occurs when the value of the assets equals or exceeds the AAL and the difference can be referred to as the Surplus Funding.

Exhibit 7 shows how the UAAL, or Surplus Funding, was derived for each level of plan benefits. In the Actuarial Balance sheet, the total actuarial liability for all future benefits must be equal to the current and future assets.

The Actuarial Balance Sheet for each plan, as well as its UAAL, or Surplus Funding amount, is based on an estimated allocation of the total LACERA Valuation Assets, as disclosed in Exhibit 7. The allocation is based on the relative value of each plan's employer and member reserves as reported to us by LACERA. These allocations are shown for illustrative purposes only, as the UAAL contribution rates are assumed paid by the Employer based on the valuation results in aggregate.

Funding Adequacy

A key consideration in determining the adequacy of the funding of LACERA is how the UAAL is being funded. If the UAAL amount is positive, that is, the AAL to be funded is greater than the Valuation Assets, then the UAAL is amortized. Under LACERA's Funding Policy, any positive amount must be amortized over layered 30-year periods.

If future experience is more favorable than expected based on the actuarial assumptions, then LACERA may move to a Surplus Funding position. Conversely, if experience is less favorable, a larger UAAL will develop.

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Analysis of Change in Unfunded Actuarial Accrued Liability

The UAAL, at any date after establishment of a system, is affected by any actuarial gains or losses arising when the actual experience of the system varies from the experience anticipated by the actuarial assumptions used in the valuations. To the extent actual experience, as it develops, differs from that expected according to the assumptions used, so also will the emerging costs differ from the estimated costs.

This year the funding level has decreased, primarily due to the recognition of prior actuarial asset losses.

The 2015 actuarial valuation reflects an actuarial experience gain of $1.7 billion for the fiscal year just ended. The gain was mainly due to a $1.3 billion gain on actuarial assets, as well as other factors. The effect of the experience gains and losses on the UAAL or Surplus Funding is shown in Exhibit 8a. In addition to the gain on actuarial assets, some other factors which impacted the liabilities are:

- **Salary Increases:** Individual salaries for continuing active members increased at a rate slightly greater than the valuation assumption. This resulted in a small loss.
- **Actual CPI versus Assumption:** The actual CPI increase was less than assumed for the members of all plans, although some members had positive COLA banks to make up for this. The members who received COLA increases less than the assumption generated a gain of $570 million.
- **Mortality Experience:** An actuarial loss due to mortality generally indicates that retired members are living longer than the current assumption would predict. This year, there was a small gain due to mortality, indicating retirees are currently living slightly shorter lives than assumed.
- **Other:** Examples of this are gains and losses from termination, service retirement, disability retirement, death, service purchases, reciprocity, and transfers between plans.

Change in Unfunded Actuarial Accrued Liability – History

Exhibit 8b shows the sources of change in the UAAL over the past five valuations. As is generally the case, the biggest source of change is a return on investments that is either greater than or less than the assumption, causing asset gains and losses.

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Exhibit 8a: Analysis of Change in Unfunded Actuarial Accrued Liability (Dollars in Millions)

			Amount	As a Percent of June 30, 2015 Actuarial Accrued Liability
Unfunded Actuarial Accrued Liability - June 30, 2014			**$ 11,288**	19.9%
Increase in UAAL due to New Assumptions			-	0.0%
Interest Accrued			814	1.4%
Benefits Accrued (Normal Cost)			1,068	1.9%
Contributions				
Employer - Cash	$	(1,495)		-2.6%
Employer - Contribution Credit		-		0.0%
Member		(441)		-0.8%
Total			(1,936)	-3.4%
Expected Unfunded Actuarial Acc. Liability - June 30, 2015			**$ 11,234**	19.8%
Source of Change				
Asset (Gains) and Losses				
(Gain)/Loss due to Investment Income			(1,263)	-2.2%
Actuarial (Gains) and Losses				
Salary Increases Greater than Expected	$	79		0.1%
CPI Less than Expected		(570)		-1.0%
Mortality Experience		(59)		-0.1%
All Other Experience		70		0.1%
Total			(480)	-0.8%
Total Changes			**(1,743)**	-3.1%
Unfunded Actuarial Accrued Liability - June 30, 2015			**$ 9,491**	16.7%

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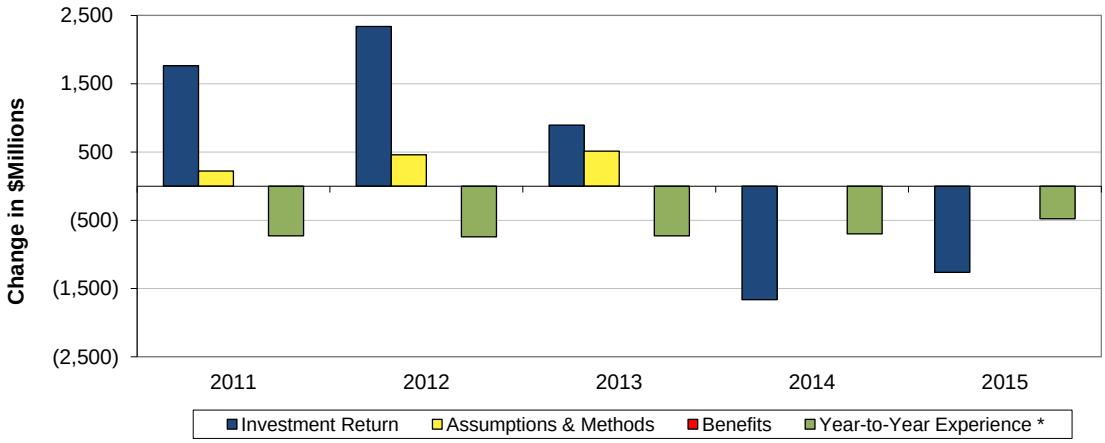
Exhibit 8b: History of Changes in Unfunded Actuarial Accrued Liability (Dollars in Millions)



	2011	2012	2013	2014	2015	2011-15
Prior Valuation UAAL / (Surplus)	**$ 7,807**	**$ 9,405**	**$ 11,770**	**$ 13,315**	**$ 11,288**	**$ 7,807**
Increase in UAAL due to:						
Expected Increase / (Decrease)	344	315	870	338	(54)	1,813
Asset (Gains) and Losses	1,761	2,337	893	(1,664)	(1,263)	2,064
Changes in Benefits	-	-	-	-	-	-
Changes in Assumptions	221	457	511	-	-	1,189
Changes in Methods	-	-	-	-	-	-
Salary Increases	(579)	(629)	(563)	(291)	79	(1,983)
CPI Less than Expected	(215)	(181)	(190)	(427)	(570)	(1,583)
Mortality Experience	(16)	(22)	(42)	(26)	(59)	(165)
All Other Experience	82	88	66	43	70	349
Total Increase / (Decrease)	**1,598**	**2,365**	**1,545**	**(2,027)**	**(1,797)**	**1,684**
Valuation UAAL / (Surplus)	**$ 9,405**	**$ 11,770**	**$ 13,315**	**$ 11,288**	**$ 9,491**	**$ 9,491**
Funded Ratio	**80.6%**	**76.8%**	**75.0%**	**79.5%**	**83.3%**	**83.3%**

** Year-to-Year Experience includes changes due to Salary, CPI, Mortality and Other Experience.*

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Section 5: Member Contributions

Normal Contributions for non-PEPRA Plans

Member contributions are of two types: Normal contributions and cost-of-living contributions.

Normal contributions for each plan (except for General Plan G and Safety Plan C, as discussed below) are defined in the following sections of the County Employees' Retirement Law:

Plan	'37 Act Reference	Formula
General A	31621.3	1/240th of FAC at age 55
General B	31621.1	1/120th of FAC at age 55
General C	31621	1/120th of FAC at age 60
General D	31621	1/120th of FAC at age 60
General E	N/A	Plan E is non-contributory
Safety A	31639.5	1/200th of FAC at age 50
Safety B	31639.25	1/100th of FAC at age 50

Note: FAC = Final Average Compensation

Normal member contributions are determined using the Entry Age Normal Funding Method and the following actuarial assumptions:

1. Expected rate of return on assets.
2. Individual salary increase rate (wage growth + merit).
3. Mortality for members on service retirement.

As no assumption changes were implemented for the current valuation, no changes are recommended to the current member contribution rates, except for General Plan G and Safety Plan C, as discussed below.

Cost-of-Living Contributions for non-PEPRA Plans

The determination of the member cost-of-living contributions is based on Section 31873 of the County Employees' Retirement Law. This section requires that the cost of this benefit be shared equally between members and the Employer. Unlike the member normal contributions, these rates are based on the actuarial cost of the benefits and reflect all assumptions used in the valuation of liabilities.

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Cost-of-Living Contributions for non-PEPRA Plans (continued)

As no assumption changes were adopted for the current valuation, we are recommending no change in the member cost-of-living contribution rates. The cost-of-living contributions, expressed as a percentage of the normal contribution rates, are based on the June 30, 2013 actuarial valuation (the most recent valuation with which member rates were changed) and are as follows:

Plan	COLA %
General A	84.18%
General B	22.89%
General C	24.57%
General D	21.86%
General E	0.00%
Safety A	93.72%
Safety B	29.67%

The relative magnitude of these amounts reflects the differences in the normal contribution rates for each plan and the different cost-of-living benefits offered by the different plans. The rate for Plan E is 0.00%, since it is non-contributory.

A sample of the current member contribution rates (normal plus cost-of-living) can be found in Exhibit 9.

Full disclosure of the member rates, showing both the normal and the total (normal plus cost-of-living) contribution rates, can be found in Appendix D.

Member Contribution Rates for General Plan G and Safety Plan C (PEPRA Plans)

Members of the two plans developed in compliance with the Public Employees' Pension Reform Act of 2013 (PEPRA) contribute a flat rate (i.e., does 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. We are recommending slight changes to the member contribution rates for these plans, as shown below, to reflect the Plan's Normal Cost rates for the 2015 valuation.

	General Plan G	Safety Plan C
All Ages: Recommended	**7.58%**	**13.44%**
All Ages: Current	7.62%	13.42%
Ratio (Rec'd / Current)	99.5%	100.1%

Note that the member contribution rates for these plans are further split for purposes of this report into a "Normal" and "Cost of Living" component. The cost-of-living component for these members, as shown in Exhibit 9 below, represents one-half of the cost of COLA for these plans.

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Member Rate For Contributory Plan Members Only

The average member contribution rate for only those members in contributory plans at June 30, 2015 is 7.84% of payroll.

This number compares to 6.18% of payroll, which is the average member contribution rate among all members. The 6.18% offsets the gross normal cost to yield the Employer normal cost rate.

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Exhibit 9: Sample Member Contribution Rates

	Entry Age	Recommended Rates (Based on 2015 Valuation) Normal	Cost of Living	Total as a % of Pay	Current Rate (Total)	Ratio (New / Current)
General Members						
Plan A	25	2.88%	2.42%	5.30%	5.30%	100.0%
	35	3.60%	3.03%	6.63%	6.63%	100.0%
	45	4.42%	3.72%	8.14%	8.14%	100.0%
	55	4.78%	4.02%	8.80%	8.80%	100.0%
Plan B	25	5.76%	1.32%	7.08%	7.08%	100.0%
	35	7.19%	1.65%	8.84%	8.84%	100.0%
	45	8.85%	2.03%	10.88%	10.88%	100.0%
	55	9.56%	2.19%	11.75%	11.75%	100.0%
Plan C	25	4.84%	1.19%	6.03%	6.03%	100.0%
	35	6.04%	1.48%	7.52%	7.52%	100.0%
	45	7.54%	1.85%	9.39%	9.39%	100.0%
	55	8.92%	2.19%	11.11%	11.11%	100.0%
Plan D	25	4.84%	1.06%	5.90%	5.90%	100.0%
	35	6.04%	1.32%	7.36%	7.36%	100.0%
	45	7.54%	1.65%	9.19%	9.19%	100.0%
	55	8.92%	1.95%	10.87%	10.87%	100.0%
Plan G	All Ages	6.38%	1.20%	7.58%	7.62%	99.5%
Safety Members						
Plan A	25	4.13%	3.87%	8.00%	8.00%	100.0%
	35	5.09%	4.77%	9.86%	9.86%	100.0%
	45	6.07%	5.69%	11.76%	11.76%	100.0%
	55	6.12%	5.74%	11.86%	11.86%	100.0%
Plan B	25	8.26%	2.45%	10.71%	10.71%	100.0%
	35	10.17%	3.02%	13.19%	13.19%	100.0%
	45	12.14%	3.60%	15.74%	15.74%	100.0%
	55	12.24%	3.63%	15.87%	15.87%	100.0%
Plan C	All Ages	10.78%	2.66%	13.44%	13.42%	100.1%

Note: A portion of some of the member contribution rates is paid for ("picked up") by the Employer and is not considered part of the member's contribution account for refund purposes. Such contributions are referred to as the surcharge amount and are subject to change each year. The rates shown in the table are prior to any surcharge payments.

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Section 6: Employer Contributions

Contributions to LACERA are determined using the Entry Age Normal Cost Method. The portion of the actuarial present value of retirement benefits allocated to a valuation year by the Actuarial Cost Method is called the Normal Cost. These amounts are usually expressed as a percentage of payroll and called the Normal Cost Contribution Rate. Exhibit 10 illustrates the Normal Cost Rates by type of benefit and for each plan based on this valuation. A comparison with last year is also shown.

Under the Funding Policy, the total contribution rate is set equal to the Normal Cost contribution and a payment by the employer towards the UAAL. A portion of the Normal Cost contribution is funded by member contributions. The remainder is paid for by the employer.

Employer Contribution Rate

The total calculated Employer contribution rates for each plan, along with a comparison to the prior year's computed rates, can be found in Exhibit 11. These results are expressed as a percentage of payroll and annual contribution dollars. Note that LACERA's UAAL contribution rate is not determined separately for each plan, but is funded evenly as a percentage of pay over salaries for all members. The total Employer contribution rate was 19.33% for the fiscal year beginning in 2015.

For the fiscal year beginning in 2016, the required rate will decrease to 17.77%. This is equal to the net aggregate calculated Normal Cost contribution rate of 9.28% based on the 2015 Valuation, plus a 30-year layered amortization payment of the UAAL.

(All values as a % of Payroll)

Employer Normal Cost	9.28%
30-year Layered Amortization of UAAL	8.49%
Total Employer Contribution	17.77%

The 1.56% decrease from last year in the total Employer contribution rate was primarily due to the recognition of deferred investment gains, which caused a 1.29% decrease in the UAAL rate. Additionally, COLA increases and salary increases that were smaller than assumed decreased the UAAL rate. The UAAL rate reflects a layered 30-year amortization from the valuation date with a July 1, 2016 implementation date for the new Employer contribution rate.

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Employer Contribution Rate (continued)

The change in the calculated Normal Cost contribution rates from year to year is generally due to a few factors. These factors include:

1. **Experience:** Normal experience from year to year reflects differences in both the weighting between membership groups and their characteristics, as well as what was assumed to occur during the past fiscal year and what actually occurred, particularly with respect to salary increases.

2. **Change in Plan Proportion:** As new LACERA members are hired into General Plan G and Safety Plan C, the normal cost rates for these plans will represent a larger share of the overall normal cost rate for LACERA. These plans do not have substantially lower gross normal cost rates than prior LACERA plans; however, due to the higher member contributions for General Plan G and Safety Plan C, the plans have a lower employer normal cost. Therefore, as these plans grow to represent a larger share of the overall employer normal cost, the employer normal cost will be expected to decrease gradually over time.

Hypothetical Population Used for Normal Cost Rate for New Plans

For plans that have been in existence for less than five years, the normal cost rate is calculated based on a hypothetical population which includes all current active members with less than five years of service, as if each of these members had entered the respective new plan (split by General and Safety).

The following table shows a comparison between what the normal cost rate would have been if it had been based on the current population only, and the normal cost rate based on the hypothetical smoothed population used in the valuation.

	Current Population	Smoothed Population
General Plan G		
Normal Cost Rate	15.00%	15.16%
Member Rate	7.50%	7.58%
Safety Plan C		
Normal Cost Rate	27.19%	26.88%
Member Rate	13.60%	13.44%

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Exhibit 10: Calculated Normal Cost Contribution Rates – June 30, 2015

	General							Safety				Grand
A. Normal Cost Contribution Rate	Plan A	Plan B	Plan C	Plan D	Plan E	Plan G	Total	Plan A	Plan B	Plan C	Total	**Total**
Service Retirement	18.62%	13.51%	11.76%	12.38%	8.48%	12.77%	11.41%	16.04%	15.03%	15.66%	15.06%	12.12%
Disability Retirement	0.96%	0.67%	0.62%	1.07%	0.00%	1.15%	0.80%	9.00%	8.62%	10.18%	8.68%	2.29%
Death	0.28%	0.23%	0.22%	0.39%	0.00%	0.40%	0.29%	0.33%	0.30%	0.30%	0.30%	0.29%
Termination (No Refund)	0.33%	0.31%	0.27%	0.52%	0.52%	0.46%	0.51%	0.40%	0.44%	0.45%	0.44%	0.50%
Refund of Member Contributions	0.09%	0.12%	0.10%	0.36%	0.00%	0.38%	0.27%	0.18%	0.23%	0.29%	0.23%	0.26%
Total	**20.28%**	**14.84%**	**12.97%**	**14.72%**	**9.00%**	**15.16%**	**13.28%**	**25.95%**	**24.62%**	**26.88%**	**24.71%**	**15.46%**
B. Member Contributions	(5.14)%	(7.39)%	(6.14)%	(7.02)%	0.00%	(7.58)%	(5.22)%	(2.19)%	(10.14)%	(13.44)%	(10.26)%	(6.18)%
C. Net Employer Normal Cost as of June 30, 2015 (A) - (B)	15.14%	7.45%	6.83%	7.70%	9.00%	7.58%	8.06%	23.76%	14.48%	13.44%	14.45%	9.28%
D. Net Employer Normal Cost as of June 30, 2014	14.61%	7.41%	6.86%	7.66%	8.93%	7.62%	8.05%	24.60%	14.49%	13.42%	14.48%	9.29%
E. Increase (Decrease) as a Percentage of Payroll (C) - (D)	0.53%	0.04%	(0.03)%	0.04%	0.07%	(0.04)%	0.01%	(0.84)%	(0.01)%	0.02%	(0.03)%	(0.01)%
F. Estimated Payroll for fiscal year beginning July 1, 2016*	$ 31	$ 10	$ 10	$ 3,779	$ 1,553	$ 537	$ 5,920	$ 3	$ 1,348	$ 54	$ 1,405	$ 7,325
G. Estimated Total Normal Cost Contribution in Dollars (A x F)**	$ 6	$ 1	$ 1	$ 556	$ 140	$ 81	$ 786	$ 1	$ 332	$ 15	$ 347	$ 1,133

** Estimated Payroll based upon annualized salary rate as of June 30, 2015 increased by 3.50% wage inflation. Dollar figures in millions.*
*** The timing of the Normal Cost shown in this exhibit is spread over the entire year and corresponds to payroll timing.*

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Exhibit 11: Total Employer Contributions

	General							Safety				All
	Plan A	Plan B	Plan C	Plan D	Plan E	Plan G	Total	Plan A	Plan B	Plan C	Total	Plans
A. Net Employer Normal Cost												
1. Basic Benefits	12.07%	6.02%	5.57%	6.43%	7.54%	6.38%	6.74%	18.56%	11.81%	10.78%	11.88%	7.70%
2. Cost-of-Living Benefits	3.07%	1.43%	1.26%	1.27%	1.46%	1.20%	1.32%	5.20%	2.67%	2.66%	2.57%	1.58%
3. Total June 30, 2015	15.14%	7.45%	6.83%	7.70%	9.00%	7.58%	8.06%	23.76%	14.48%	13.44%	14.45%	9.28%
B. UAAL Contribution Rate	8.49%	8.49%	8.49%	8.49%	8.49%	8.49%	8.49%	8.49%	8.49%	8.49%	8.49%	8.49%
C. Total June 30, 2015 Contribution Rate (A) + (B)	**23.63%**	**15.94%**	**15.32%**	**16.19%**	**17.49%**	**16.07%**	**16.55%**	**32.25%**	**22.97%**	**21.93%**	**22.94%**	**17.77%**
D. Total June 30, 2014 Contribution Rate	24.65%	17.45%	16.90%	17.70%	18.97%	17.66%	18.09%	34.64%	24.53%	23.46%	24.52%	19.33%
E. Estimated Payroll for fiscal year beginning July 1, 2016*	$ 31	$ 10	$ 10	$ 3,779	$ 1,553	$ 537	$ 5,920	$ 3	$ 1,348	$ 54	$ 1,405	$ 7,325
F. Estimated Annual Contribution (C x E)	**$ 7**	**$ 2**	**$ 2**	**$ 612**	**$ 272**	**$ 86**	**$ 980**	**$ 1**	**$ 310**	**$ 12**	**$ 322**	**$ 1,302**
G. Last Year's Estimated Annual Contribution	$ 10	$ 2	$ 2	$ 662	$ 302	$ 51	$ 1,029	$ 1	$ 328	$ 6	$ 335	$ 1,364
H. Increase / (Decrease) in Annual Contribution	$ (3)	$ -	$ -	$ (50)	$ (30)	$ 35	$ (49)	$ -	$ (18)	$ 6	$ (13)	$ (62)

** Estimated Payroll based upon annualized salary rate as of June 30, 2015 increased by 3.50% wage inflation. Dollar figures in millions.*

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Exhibit 12: Unfunded Actuarial Accrued Liability Detail

Unfunded Actuarial Accrued Liability - 30 Year Layered Amortization Detail

Date Established	Description	Balance as of June 30, 2015	Interest on Balance	Amort. Payment on June 30, 2016 [1]	Balance as of June 30, 2016 [2]	Remaining Period as of June 30, 2016	July 1, 2016 Amortization Payment
June 30, 2009	Initial UAAL	$ 5,554.6	$ 416.6	$ 371.9	$ 5,599.4	23 Years	$ 365.5
June 30, 2010	(Gain) / Loss	3,003.2	225.2	196.1	3,032.3	24 Years	192.8
June 30, 2011	(Gain) / Loss	1,475.5	110.7	94.1	1,492.1	25 Years	92.5
June 30, 2012	(Gain) / Loss	2,393.4	179.5	149.4	2,423.5	26 Years	146.8
June 30, 2013	(Gain) / Loss	1,343.1	100.7	82.1	1,361.7	27 Years	80.7
June 30, 2014	(Gain) / Loss	(2,469.8)	(185.2)	(148.1)	(2,506.9)	28 Years	(145.6)
June 30, 2015	(Gain) / Loss	(1,809.1)	(135.7)	3.5 [3]	(1,948.3)	29 Years	(110.9)
						Total Amortization Payment July 1, 2016:	$ 621.8
						Projected Payroll July 1, 2016:	$ 7,325.5
UAAL as of June 30, 2014:		**$ 9,491.0**				**UAAL Contribution Rate (as a % of Payroll) FYB July 1, 2016:**	**8.49%**

Explanatory Notes:

[1] *Amortization Payments are based on a fixed schedule that increases by the payroll assumption each year.*

[2] *The assets and liabilities used in the calculation of the UAAL are as of June 30, 2015; whereas, the contribution rates are not effective until July 1, 2016. Therefore, the UAAL is adjusted to June 30, 2016 based on the actual contribution rate for the period.*

[3] *The 30-year amortization of UAAL does not begin until July 1, 2016; however, the UAAL amount is adjusted based on the July 1, 2015 contribution rate.*

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Section 7: Supplemental Information

Governmental Accounting Standards Board (GASB) Statement No. 67 sets out requirements for defined benefit pension plan reporting and disclosures. GASB Statement No. 68 sets out requirements for accounting by state and local government employers.

Milliman provides LACERA with results relevant to Statements No. 67 and 68 in separate stand-alone financial reporting valuation reports.

For informational purposes, we have provided the following exhibits in this report that LACERA may use in the Comprehensive Annual Financial Report (CAFR):

1. A Schedule of Funding Progress
2. A Schedule of Employer Contributions
3. A Solvency Test

The Schedule of Funding Progress, Exhibit 13, compares actuarial assets and liabilities of the system, based on the actuarial funding method used. The required Schedule of Employer Contributions, Exhibit 14, compares the employer contributions required based on the actuarial valuation with the employer contributions actually made. Information shown in this exhibit comes from LACERA's audited financial statements.

Exhibit 15 compares the Actuarial Value of Valuation Assets to the types of Actuarial Accrued Liabilities, applying them first to Active Member contributions, then to retirees and beneficiaries, and then the remaining amount to the Active Members benefits. This is referred to as the Solvency Test.

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Exhibit 13: Schedule of Funding Progress
(All Dollars in Thousands)

Actuarial Valuation Date	(a) Actuarial Value of Valuation Assets	(b) Actuarial Accrued Liabilities	(b-a) Unfunded Actuarial Accrued Liabilities (UAAL)	(a/b) Funded Ratio	(c) Covered Payroll[1]	[(b-a)/c] UAAL as a Percentage of Covered Payroll
June 30, 2006	32,819,725	36,258,929	3,439,204	90.5%	5,205,804	66.1%
June 30, 2007[2]	37,041,832	39,502,456	2,460,624	93.8%	5,615,736	43.8%
June 30, 2008	39,662,361	41,975,631	2,313,270	94.5%	6,123,888	37.8%
June 30, 2009	39,541,865	44,468,636	4,926,771	88.9%	6,547,616	75.2%
June 30, 2010[2]	38,839,392	46,646,838	7,807,446	83.3%	6,695,439	116.6%
June 30, 2011[2]	39,193,627	48,598,166	9,404,539	80.6%	6,650,674	141.4%
June 30, 2012[2]	39,039,364	51,320,699	12,281,335	76.1%	6,619,816	185.5%
June 30, 2013[2]	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%	6,672,228	169.2%
June 30, 2015	47,328,270	56,819,215	9,490,945	83.3%	7,592,760	125.0%

(1) Covered Payroll includes compensation paid to all active employees on which contributions are calculated prior to 2015, as reported by LACERA. Covered Payroll differs from the Active Member Valuation Payroll shown in Table C-1, which is an annualized compensation of only those members who were active on the actuarial valuation date. Effective with the 2015 valuation, Covered Payroll includes compensation paid to all employees of the employers whether or not they participate in LACERA.

(2) Assumption changes.

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Exhibit 14: Schedule of Contributions from the Employer
(All Dollars in Thousands)

Fiscal Year Ending	Actuarially Determined Employer Contribution	Actual Employer Contributions			Percentage of Actuarially Determined Contribution Contributed
		Cash Payment	Transfer from Reserve Accounts	Total	
6/30/2005	$ 750,352	$ 527,810	$ 222,542	$ 750,352	100%
6/30/2006	855,531	676,667	179,368	856,035*	100%
6/30/2007	863,626	751,851	111,775	863,626	100%
6/30/2008	827,911	788,029	40,601	828,630	100%
6/30/2009	847,172	831,672	15,500	847,172	100%
6/30/2010	843,704	843,703	0	843,703	100%
6/30/2011	944,174	944,174	0	944,174	100%
6/30/2012	1,078,929	1,078,929	0	1,078,929	100%
6/30/2013	1,172,014	723,195	448,819	1,172,014	100%
6/30/2014	1,320,442	1,320,442	0	1,320,442	100%
6/30/2015	1,494,975	1,494,975	0	1,494,975	100%

* *Total actual employer contributions differ from the Actuarially Determined Employer Contribution due to transfers from CalPERS and certain adjustments for court cases.*

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Exhibit 15: Solvency Test
(Dollars in Millions)

Actuarial Valuation Date	Actuarial Value of Valuation Assets	Actuarial Accrued Liabilities for: Active Member Contributions (A)	Retirees and Beneficiaries[1] (B)	Active Members (Employer Financed Portion) (C)	Portion of Actuarial Accrued Liabilities Covered by Assets: (A)	(B)	(C)
June 30, 2006	32,820	4,628	21,377	10,254	100%	100%	66%
June 30, 2007	37,042	4,852	22,398	12,253	100%	100%	80%
June 30, 2008	39,662	5,279	23,730	12,966	100%	100%	82%
June 30, 2009	39,542	5,795	24,692	13,982	100%	100%	65%
June 30, 2010	38,839	6,278	26,220	14,148	100%	100%	45%
June 30, 2011	39,194	6,529	27,559	14,511	100%	100%	35%
June 30, 2012	39,039	6,961	29,629	14,730	100%	100%	17%
June 30, 2013	39,932	7,837	30,980	14,430	100%	100%	8%
June 30, 2014	43,654	8,354	31,882	14,706	100%	100%	23%
June 30, 2015	47,328	8,805	32,734	15,280	100%	100%	38%

(1) Includes vested former members.

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Section 8: Cash Flow History and Projections

Cash Flow Projection

Exhibits 16a and 16b are a chart and graph that illustrate both the cash flow history for the past 10 years and a projection on the valuation basis for the next 10 years.

Contributions include both employer and member contributions. The table shows that net cash flow has been fairly level over the last five years. In future years, the cash flow is expected to become increasingly negative. This is a typical pattern for a mature retirement system where it is expected that contributions will be less than benefits and that the system will begin drawing on the fund that has been built up over prior years.

Note that the actual cash contributions do not reflect the transfers made between reserve funds, but only cash coming into the system. We are assuming no further transfers, only full cash contributions.

The projected cash flows include contributions, statutory benefits, and administrative expenses only. They are based on the actuarial assumptions as stated in Appendix A of this valuation report. The total Employer contribution rate is assumed to be 19.33% for the first year and 17.77% for the second year; total Employer contributions for the remainder of the period reflect the expected recognition of asset losses currently being deferred. The aggregate member rate is assumed to stay at the calculated rate for June 30, 2015 of 6.18% of payroll. Expenses are based on the expenses for the year ended June 30, 2015, increased annually with the actuarial inflation assumption of 3.00%.

Any increases or reductions in future contribution rates will increase or decrease the net cash flow. The projected cash flows do not include:

- Projected STAR benefits that have not yet been granted. STAR benefits that were vested as of January 2015 are included.
- Projected benefits payable under certain insurance contracts for a group of retired members. These payments are netted against the total expected retiree benefits.

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Exhibit 16a: Cash Flow History and Projections – Dollars

Cash Flow History

Plan Year Ending	Total Contributions	Benefits & Administrative Expenses[1]	Net Cash Flow
2006	$ 973	$ 1,842 [2]	$ (869)
2007	1,100	1,835	(735)
2008	1,203	1,960	(757)
2009	1,247	2,065	(818)
2010	1,273	2,177	(904)
2011	1,408	2,318	(910)
2012	1,586	2,439	(853)
2013	1,403	2,593	(1,190)
2014	1,759	2,719	(960)
2015	1,936	2,829	(893)

Cash Flow Projections[3]

Plan Year Ending	Total Contributions	Benefits & Administrative Expenses[1]	Net Cash Flow
2016	$ 1,798	$ 3,044	$ (1,246)
2017	1,754	3,146	(1,392)
2018	1,805	3,305	(1,500)
2019	1,817	3,470	(1,654)
2020	1,853	3,645	(1,792)
2021	1,940	3,827	(1,887)
2022	2,008	4,018	(2,010)
2023	2,077	4,215	(2,138)
2024	2,150	4,419	(2,269)
2025	2,225	4,627	(2,402)

(1) *Investment expenses are assumed to be covered by investment return.*

(2) *Benefit payments for the Plan Year ending 2006 include approximately $94 million in retroactive benefit payments pursuant to the Ventura settlement.*

(3) *Future contributions reflect the expected impact of asset gains and losses currently being deferred.*

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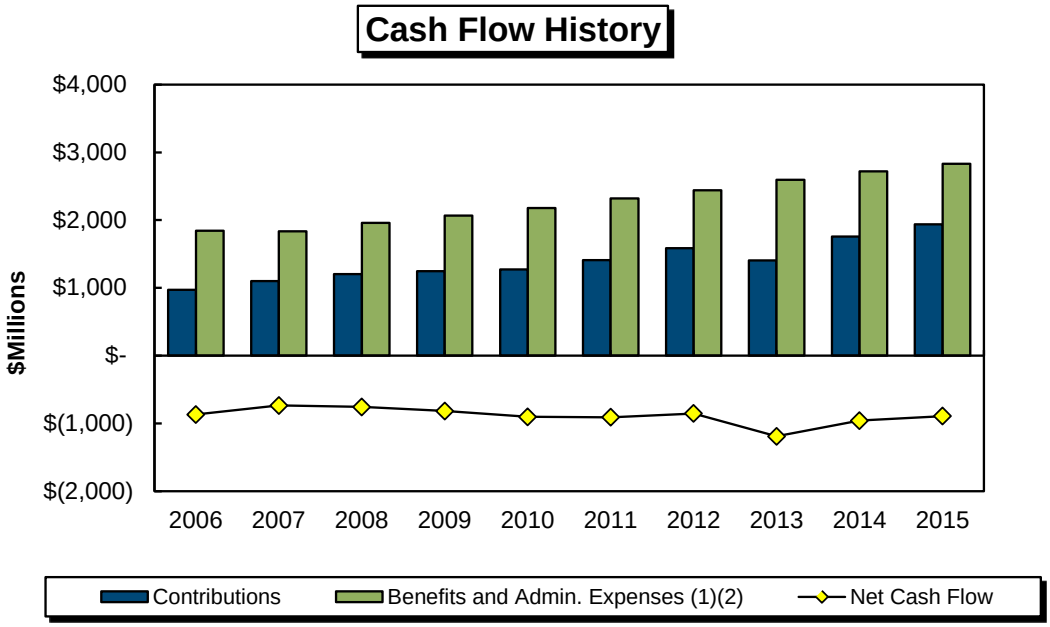
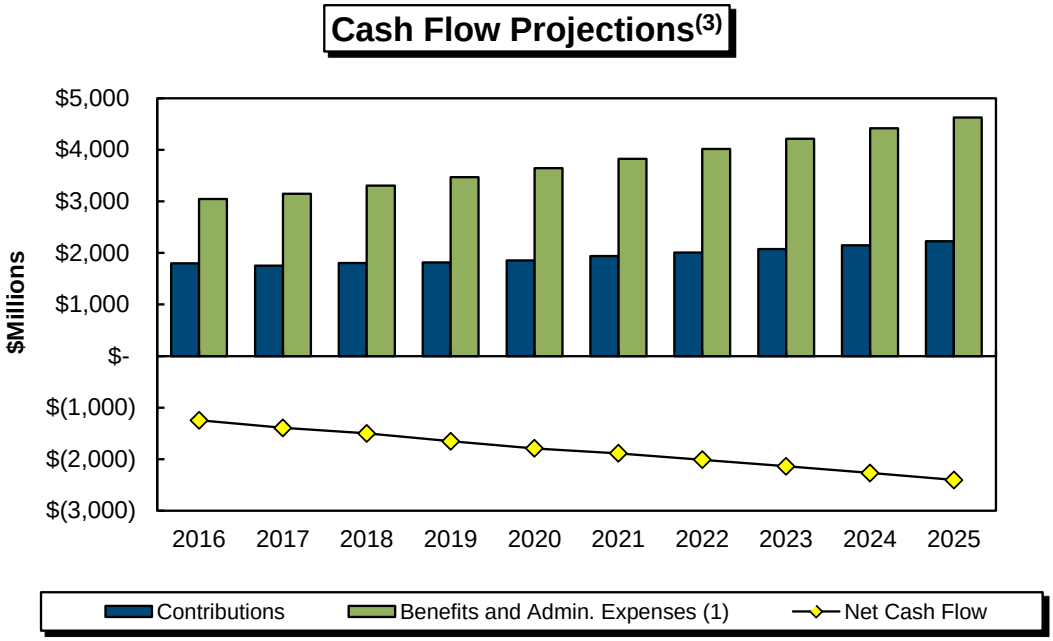
Exhibit 16b: Cash Flow History and Projections – Charts





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Appendix A: Actuarial Procedures and Assumptions

The actuarial procedures and assumptions used in this valuation are described in this section. The assumptions were reviewed and changed for the June 30, 2013 actuarial valuation as a result of the 2013 triennial Investigation of Experience Study. Please refer to that Investigation of Experience report for the data and rationale used in the selection and recommendation of each assumption.

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 rates 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-13 were developed from the experience as measured by the 2013 Investigation of Experience Study. The rates are the probabilities a member will leave the system for various reasons.

Actuarial Cost Method

The actuarial valuation is prepared using the entry age actuarial cost method. 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 system.

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Actuarial Cost Method (continued)

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). 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. Future gains and losses are amortized over new closed 30-year periods. This is referred to as “layered” amortization.

For plans that have been in existence for less than five years, the normal cost rate is calculated based on a hypothetical population which includes all current active members with less than five years of service, as if each of these members had entered their respective new plan (split by General and Safety). This normal cost rate is then multiplied by the present value of future compensation of current active members in the respective plans to calculate the present value of future normal costs in aggregate. For all plans, the present value of future benefits minus the present value of future normal costs will be equal to the Actuarial Accrued Liability (AAL).

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

Records and Data

The data used in this valuation consist of financial information and the age, service, and salary 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.

Replacement of Former Members

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. Under this assumption, the normal cost rates for active members 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 in the total number of active members is assumed.

Internal Revenue Code Section 415 Limit

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

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Internal Revenue Code Section 401(a)(17)	The Internal Revenue Code Section 401(a)(17) maximum compensation limitation is not reflected in the valuation for funding purposes. Any limitation is reflected in a member's benefit after retirement.
Employer Contributions	The employer contribution rate is set by the Board of Investments based on actuarial valuations.
Member Contributions	The member contribution rates 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.
Valuation of Assets	The assets are valued using a five-year smoothed method based on the difference between the expected market value and the actual market value of the assets as of the valuation date. The expected market value is the prior year's market 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. The five-year smoothing valuation basis for all assets was adopted effective June 30, 2009.
Investment Earnings and Expenses	The future investment earnings of the assets of LACERA are assumed to accrue at an annual rate of 7.50% compounded annually, net of both investment and administrative expenses. This rate was adopted effective June 30, 2013.
Postretirement Benefit Increases	Postretirement increases are assumed for the valuation in accordance with the benefits provided as described in Appendix B. These adjustments are assumed payable each year in the future as they are less than the expected increase in the Consumer Price Index (CPI) of 3.00% per year. This CPI rate was adopted effective June 30, 2013.
Interest on Member Contributions	The annual credited interest rate on member contributions is assumed to be 7.50% compounded semi-annually for an annualized rate of 7.64%. This rate was adopted effective June 30, 2013.
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 3.50% per annum rate of increase in the general wage level of the membership. These rates were adopted effective June 30, 2013.

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Future Salaries (continued)

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

For plans with a one-year final average compensation period, actual average annual compensation is used. For other plans, the monthly rate as of June of the valuation year was annualized. Due to irregular compensation payments included as pensionable earnings, actual annual pay is preferred over annualizing a single monthly payment amount.

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 3.50% per year. Note, 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 effective June 30, 2013.

Note 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 to approximately 120% of the Social Security Wage Base. The limit for 2015 is $140,424 (after applying the 120% factor) and is projected to increase at the CPI rate of 3.00%. This rate of future increase was adopted effective June 30, 2013.

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. The retirement rates vary by age and are shown by plan in Tables A-6 through A-13.

All general members who attain or who have attained age 75 in active service and all safety members who have attained age 60 in active service are assumed to retire immediately (except for Safety Plan C members who have not yet attained 5 years of service).

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Retirement (continued)

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	60
GB	60
GC	60
GD	57
GE	60
GG	57
SA	55
SB	50
SC	50

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

The retirement probabilities were adopted effective June 30, 2013.

Disability

The rates of disability used in the valuation are also illustrated in Tables A-6 through A-13. These rates were adopted effective June 30, 2013.

Postretirement Mortality – Other Than Disabled Members

The same postretirement mortality rates are used in the valuation for active members, members retired for service, and beneficiaries. These rates are illustrated in Table A-2. Current beneficiary mortality is assumed to be the same assumption as healthy members of the same sex. Future beneficiaries are assumed to be of the opposite sex, and have the same mortality as General members. Note that these assumptions include a margin for expected future mortality improvement. These rates were adopted effective June 30, 2013.

Males General members: RP-2000 Combined Mortality Table for Males, projected to 2025 using Projection Scale AA, with ages set back one year.

Safety members: RP-2000 Combined Mortality Table for Males, projected to 2025 using Projection Scale AA, with ages set back two years.

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Postretirement Mortality – Other Than Disabled Members (continued)

Females General members: RP-2000 Combined Mortality Table for Females, projected to 2025 using Projection Scale AA, with ages set back one year.

Safety members: RP-2000 Combined Mortality Table for Females, projected to 2025 using Projection Scale AA, with ages set back one year.

Postretirement Mortality – Disabled Members

For disabled members, the mortality rates used in the valuation rates are illustrated in Table A-3. Note that these assumptions include a margin for expected future mortality improvement. These rates were adopted effective June 30, 2013.

Males General members: Average of RP-2000 Combined and Disabled Mortality Tables for Males, projected to 2025 using Projection Scale AA, with ages set back one year.

Safety members: RP-2000 Combined Mortality Table for Males, projected to 2025 using Projection Scale AA, with no age adjustment.

Females General members: Average of RP-2000 Combined and Disabled Mortality Tables for Females, projected to 2025 using Projection Scale AA, with ages set back one year.

Safety members: RP-2000 Combined Mortality Table for Females, projected to 2025 using Projection Scale AA, with no age adjustment.

Mortality while in Active Status

For active members, the mortality rates used in the valuation rates are illustrated in Tables A-6 through A-13. These rates were adopted effective June 30, 2013.

Class	Gender	Proposed Table	
General	Male	RP 2000 Employee Male, Proj. 2025*	+1
General	Female	RP 2000 Employee Female, Proj. 2025*	-2
Safety	Male	RP 2000 Employee Male, Proj. 2025*	-5
Safety	Female	RP 2000 Employee Female, Proj. 2025*	-2

** Projection using Scale AA.*

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

Other Employment Terminations

Tables A-6 to A-13 show, for all ages, the rates assumed in this valuation for future termination from active service other than for death, disability or retirement. These rates do not apply to members eligible for service retirement. These rates were adopted effective June 30, 2013.

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Other Employment Terminations (continued)

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.

All terminating members are assumed not to be rehired. Table A-4 gives the assumed probabilities that vested members will withdraw their contributions and elect a refund immediately upon termination and the probability the remaining members will elect a deferred retirement allowance. All non-vested members are assumed to elect a refund and withdraw their contributions. These rates were adopted effective June 30, 2013.

Probability of Eligible Survivors

For members not currently in pay status, 80% of all males and 55% of all females are assumed to have eligible survivors (spouses or qualified domestic partners). Survivors are assumed to be four years younger than male members and two years older than female members. Survivors are assumed to be of the opposite sex 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.

Valuation of Vested Former Members

The deferred retirement allowance 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.

Reciprocal Employment

18% of General and 35% of Safety current and future vested former members are assumed to work for a reciprocal employer.
Current vested reciprocal members are assumed to receive annual salary increases of 4.5%. 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.

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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 assumptions 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 40% / 60% blend of the male and female annuity factors using current valuation assumptions. For Safety members it is based on a 90% / 10% blend of the male and female annuity factors using current valuation assumptions.

B. The annuity factor used in determining the PVFB at entry age is equal to the life only annuity factor at 7.50%.

C. The Final Compensation is the average of the member's highest monthly pensionable earnings during any 12-consecutive-month period.

   Example: For a Plan C Member who enters at age 59 or earlier, the Final Compensation (age 60) will be the monthly average of the annual salaries during age 59. (Since salaries are assumed to increased, age 59 will be the highest one year.)

D. The 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 (for example, age 53 for General A). In these cases the member contribution rate is adjusted so that it is no less than the value for the previous entry age.

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Implementation Schedule for Changes in Assumptions

LACERA implements changes in member and employer contribution rates, interest crediting rates and operating tables in the fiscal year following adoption of the valuation or investigation of experience that the rates and tables are based upon. For example, a change in the investment return assumption adopted for use in the June 30, 2013 actuarial valuation is used for crediting interest to reserves in the fiscal year beginning July 1, 2014.

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Table A-1: Summary of Valuation Assumptions as of June 30, 2015

I.	Economic assumptions	
	A. General wage increases	3.50%
	B. Investment earnings	7.50%
	C. Growth in membership	0.00%
	D. Postretirement benefit increases (varies by plan)	Plan COLA not greater than CPI assumption.
	E. CPI inflation assumption	3.00%
II.	Demographic assumptions	
	A. Salary increases due to service	Table A-5
	B. Retirement	Tables A-6 to A-13
	C. Disability	Tables A-6 to A-13
	D. Mortality during active employment	Tables A-6 to A-13
	E. Mortality for active members after termination and service retired members	Table A-2

Basis – RP-2000 Combined Mortality Table for respective genders projected to 2025 using Projection Scale AA:

Class of Members	Age Adjustment
General – males	-1 year
General – females	-1 year
Safety – males	-2 years
Safety – females	-1 year

	F. Mortality among disabled members	Table A-3

Basis – Average of RP-2000 Combined and Disabled Mortality Tables, projected to 2025 using Projection Scale AA:

General – males	-1 year
General – females	-1 year

Basis –RP-2000 Combined Mortality Table, for respective genders projected to 2025 using Projection Scale AA

Safety – males	0 years
Safety – females	0 years

	G. Mortality for beneficiaries	Table A-2

Basis – Beneficiaries are assumed to have the same mortality as a general member of the opposite sex who has taken a service retirement.

	H. Other terminations of employment	Tables A-6 to A-13
	I. Refund of contributions on vested termination	Table A-4

Table A-2: Mortality for Members Retired for Service*

Age	Safety Male	Safety Female	General Male	General Female
20	0.020%	0.013%	0.020%	0.013%
25	0.026%	0.014%	0.027%	0.014%
30	0.035%	0.018%	0.036%	0.018%
35	0.056%	0.034%	0.062%	0.034%
40	0.083%	0.044%	0.086%	0.044%
45	0.099%	0.071%	0.103%	0.071%
50	0.124%	0.098%	0.130%	0.098%
55	0.176%	0.189%	0.193%	0.189%
60	0.352%	0.392%	0.397%	0.392%
65	0.704%	0.760%	0.793%	0.760%
70	1.256%	1.311%	1.392%	1.311%
75	2.083%	2.136%	2.323%	2.136%
80	3.854%	3.482%	4.393%	3.482%
85	7.340%	5.832%	8.371%	5.832%
90	13.285%	11.053%	14.682%	11.053%

**Note that the mortality assumptions adopted by LACERA per the 2013 Investigation of Experience report contain a margin for expected future mortality improvement. See the Investigation of Experience report for details.*

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Table A-3: Mortality for Members Retired for Disability*

Age	Safety Male	Safety Female	General Male	General Female
20	0.021%	0.013%	0.709%	0.262%
25	0.029%	0.015%	0.827%	0.262%
30	0.039%	0.021%	1.014%	0.285%
35	0.068%	0.036%	1.027%	0.307%
40	0.088%	0.048%	0.990%	0.277%
45	0.109%	0.075%	0.886%	0.291%
50	0.136%	0.109%	0.967%	0.387%
55	0.224%	0.222%	1.127%	0.697%
60	0.451%	0.446%	1.557%	1.112%
65	0.895%	0.856%	2.094%	1.554%
70	1.522%	1.477%	2.791%	2.214%
75	2.660%	2.299%	3.818%	3.119%
80	5.007%	3.849%	6.117%	4.585%
85	9.292%	6.663%	9.845%	6.850%
90	16.592%	12.215%	14.806%	11.601%

**Note that the mortality assumptions adopted by LACERA per the 2013 Investigation of Experience report contain a margin for expected future mortality improvement. See the Investigation of Experience report for details.*

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

Years of Service	Safety	General
0	100%	100%
1	100%	100%
2	100%	100%
3	100%	100%
4	100%	100%
5	35%	35%
6	35%	35%
7	35%	35%
8	33%	34%
9	31%	34%
10	29%	33%
11	27%	33%
12	25%	32%
13	22%	31%
14	19%	30%
15	16%	30%
16	13%	29%
17	10%	28%
18	6%	25%
19	2%	23%
20	0%	20%
21	0%	18%
22	0%	15%
23	0%	12%
24	0%	9%
25	0%	6%
26	0%	3%
27	0%	0%
28	0%	0%
29	0%	0%
30 & Up	0%	0%

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Table A-5: Annual Increase in Salary*

Years of Service	Due to Promotion and Longevity		Total Annual Increase*	
	General	Safety	General	Safety
<1	6.00%	8.00%	9.71%	11.78%
1	5.25%	7.00%	8.93%	10.75%
2	4.50%	6.00%	8.16%	9.71%
3	3.75%	4.00%	7.38%	7.64%
4	3.00%	3.00%	6.61%	6.60%
5	2.50%	2.50%	6.09%	6.09%
6	2.00%	2.00%	5.57%	5.57%
7	1.75%	1.75%	5.31%	5.31%
8	1.50%	1.50%	5.05%	5.05%
9	1.30%	1.30%	4.85%	4.85%
10	1.15%	1.15%	4.69%	4.69%
11	1.00%	1.00%	4.53%	4.54%
12	0.85%	0.85%	4.38%	4.38%
13	0.70%	0.70%	4.22%	4.22%
14	0.60%	0.60%	4.12%	4.12%
15	0.50%	0.50%	4.02%	4.02%
16	0.40%	0.50%	3.91%	4.02%
17	0.35%	0.50%	3.86%	4.02%
18	0.30%	0.50%	3.81%	4.02%
19	0.25%	0.50%	3.76%	4.02%
20 or More	0.25%	0.50%	3.76%	4.02%

** The total expected increase in salary includes both merit (shown above) and the general wage increase assumption of 3.50% per annum. The total result is compounded rather than additive. For example, the total increase to service less than one year is 9.71% for General members.*

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Appendix A: Rates of Separation From Active Service Tables A-6 to A-13

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.
Other terminations:	Member terminates and elects a refund of member contributions, or a deferred retirement allowance.
Service-Connected Disability:	Member receives disability retirement; disability is service-connected.
Nonservice-Connected Disability:	Member receives disability retirement; disability is not service-connected.
Service-Connected Pre-Retirement Death:	Member dies before retirement; death is service-connected.
Nonservice-Connected Pre-Retirement Death:	Member dies before retirement; death is not service-connected.

Each rate represents the probability that a member will separate from service at each age due to the particular cause. For example, a rate 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 rates needed for each LACERA plan by sex:

Table A-6: General Plan A, B & C Males
A-7: General Plan A, B & C Females
A-8: General Plan D & G Males
A-9: General Plan D & G Females
A-10: General Plan E Males
A-11: General Plan E Females
A-12: Safety Plan A, B & C Males
A-13: Safety Plan A, B & C Females

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Table A-6: Rate of Separation From Active Service For General Members Plans A, B & C - Male

Age	Service Retirement	Other Terminations	Service-Connected Disability	Nonservice-Connected Disability	Service-Connected Pre-Retirement Death	Nonservice-Connected Pre-Retirement Death
18	0.0000	0.0050	0.0002	0.0001	N/A	0.0002
19	0.0000	0.0050	0.0002	0.0001	N/A	0.0002
20	0.0000	0.0050	0.0002	0.0001	N/A	0.0002
21	0.0000	0.0050	0.0002	0.0001	N/A	0.0002
22	0.0000	0.0050	0.0002	0.0001	N/A	0.0003
23	0.0000	0.0050	0.0002	0.0001	N/A	0.0003
24	0.0000	0.0050	0.0002	0.0001	N/A	0.0003
25	0.0000	0.0050	0.0002	0.0001	N/A	0.0003
26	0.0000	0.0050	0.0002	0.0001	N/A	0.0003
27	0.0000	0.0050	0.0002	0.0001	N/A	0.0003
28	0.0000	0.0050	0.0002	0.0001	N/A	0.0004
29	0.0000	0.0050	0.0002	0.0001	N/A	0.0004
30	0.0000	0.0050	0.0002	0.0001	N/A	0.0004
31	0.0000	0.0050	0.0002	0.0001	N/A	0.0005
32	0.0000	0.0050	0.0002	0.0001	N/A	0.0006
33	0.0000	0.0050	0.0002	0.0001	N/A	0.0006
34	0.0000	0.0050	0.0003	0.0001	N/A	0.0007
35	0.0000	0.0050	0.0003	0.0001	N/A	0.0007
36	0.0000	0.0050	0.0004	0.0001	N/A	0.0008
37	0.0000	0.0050	0.0004	0.0001	N/A	0.0008
38	0.0000	0.0050	0.0005	0.0001	N/A	0.0009
39	0.0000	0.0050	0.0005	0.0001	N/A	0.0009
40	0.0300	0.0050	0.0006	0.0002	N/A	0.0009
41	0.0300	0.0050	0.0006	0.0002	N/A	0.0009
42	0.0300	0.0050	0.0007	0.0002	N/A	0.0010
43	0.0300	0.0050	0.0007	0.0003	N/A	0.0010
44	0.0300	0.0050	0.0008	0.0003	N/A	0.0011
45	0.0300	0.0050	0.0009	0.0003	N/A	0.0011
46	0.0300	0.0050	0.0010	0.0004	N/A	0.0012
47	0.0300	0.0050	0.0011	0.0004	N/A	0.0012
48	0.0300	0.0050	0.0012	0.0004	N/A	0.0013
49	0.0300	0.0050	0.0013	0.0004	N/A	0.0014
50	0.0300	0.0050	0.0014	0.0004	N/A	0.0014
51	0.0300	0.0050	0.0015	0.0004	N/A	0.0015
52	0.0300	0.0050	0.0016	0.0004	N/A	0.0016
53	0.0300	0.0050	0.0018	0.0005	N/A	0.0017
54	0.0600	0.0050	0.0020	0.0006	N/A	0.0019
55	0.1000	0.0050	0.0022	0.0006	N/A	0.0021
56	0.1200	0.0050	0.0024	0.0007	N/A	0.0024
57	0.1700	0.0050	0.0026	0.0008	N/A	0.0027
58	0.2200	0.0050	0.0029	0.0009	N/A	0.0029
59	0.2400	0.0050	0.0032	0.0010	N/A	0.0033
60	0.2600	0.0050	0.0036	0.0010	N/A	0.0037
61	0.3100	0.0050	0.0039	0.0011	N/A	0.0041
62	0.3500	0.0050	0.0042	0.0012	N/A	0.0045
63	0.2800	0.0050	0.0042	0.0014	N/A	0.0049
64	0.2800	0.0050	0.0042	0.0015	N/A	0.0053
65	0.2800	0.0050	0.0042	0.0017	N/A	0.0058
66	0.2800	0.0050	0.0042	0.0018	N/A	0.0062
67	0.2800	0.0050	0.0042	0.0020	N/A	0.0064
68	0.2800	0.0050	0.0042	0.0022	N/A	0.0067
69	0.2800	0.0050	0.0042	0.0023	N/A	0.0068
70	0.2800	0.0050	0.0042	0.0025	N/A	0.0071
71	0.2800	0.0050	0.0042	0.0026	N/A	0.0077
72	0.2800	0.0050	0.0042	0.0028	N/A	0.0085
73	0.2800	0.0050	0.0042	0.0030	N/A	0.0094
74	0.2800	0.0050	0.0042	0.0031	N/A	0.0106
75	1.0000	0.0000	0.0000	0.0000	N/A	0.0000

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Table A-7: Rate of Separation From Active Service For General Members Plans A, B & C - Female

Age	Service Retirement	Other Terminations	Service-Connected Disability	Nonservice-Connected Disability	Service-Connected Pre-Retirement Death	Nonservice-Connected Pre-Retirement Death
18	0.0000	0.0050	0.0001	0.0001	N/A	0.0001
19	0.0000	0.0050	0.0001	0.0001	N/A	0.0001
20	0.0000	0.0050	0.0001	0.0001	N/A	0.0001
21	0.0000	0.0050	0.0001	0.0001	N/A	0.0001
22	0.0000	0.0050	0.0001	0.0001	N/A	0.0001
23	0.0000	0.0050	0.0001	0.0001	N/A	0.0001
24	0.0000	0.0050	0.0001	0.0001	N/A	0.0001
25	0.0000	0.0050	0.0001	0.0001	N/A	0.0001
26	0.0000	0.0050	0.0001	0.0001	N/A	0.0001
27	0.0000	0.0050	0.0001	0.0001	N/A	0.0001
28	0.0000	0.0050	0.0001	0.0001	N/A	0.0002
29	0.0000	0.0050	0.0001	0.0001	N/A	0.0002
30	0.0000	0.0050	0.0001	0.0001	N/A	0.0002
31	0.0000	0.0050	0.0001	0.0001	N/A	0.0002
32	0.0000	0.0050	0.0001	0.0001	N/A	0.0002
33	0.0000	0.0050	0.0002	0.0001	N/A	0.0003
34	0.0000	0.0050	0.0002	0.0001	N/A	0.0003
35	0.0000	0.0050	0.0003	0.0001	N/A	0.0003
36	0.0000	0.0050	0.0003	0.0001	N/A	0.0003
37	0.0000	0.0050	0.0004	0.0001	N/A	0.0004
38	0.0000	0.0050	0.0004	0.0001	N/A	0.0004
39	0.0000	0.0050	0.0005	0.0001	N/A	0.0004
40	0.0300	0.0050	0.0005	0.0002	N/A	0.0004
41	0.0300	0.0050	0.0005	0.0002	N/A	0.0004
42	0.0300	0.0050	0.0006	0.0002	N/A	0.0005
43	0.0300	0.0050	0.0007	0.0003	N/A	0.0005
44	0.0300	0.0050	0.0007	0.0003	N/A	0.0006
45	0.0300	0.0050	0.0008	0.0003	N/A	0.0006
46	0.0300	0.0050	0.0009	0.0004	N/A	0.0007
47	0.0300	0.0050	0.0009	0.0004	N/A	0.0008
48	0.0300	0.0050	0.0010	0.0004	N/A	0.0008
49	0.0300	0.0050	0.0011	0.0004	N/A	0.0008
50	0.0300	0.0050	0.0012	0.0004	N/A	0.0009
51	0.0300	0.0050	0.0012	0.0004	N/A	0.0010
52	0.0300	0.0050	0.0013	0.0004	N/A	0.0011
53	0.0300	0.0050	0.0014	0.0005	N/A	0.0012
54	0.0600	0.0050	0.0015	0.0006	N/A	0.0014
55	0.1000	0.0050	0.0016	0.0006	N/A	0.0016
56	0.1200	0.0050	0.0016	0.0007	N/A	0.0018
57	0.1700	0.0050	0.0017	0.0008	N/A	0.0021
58	0.2200	0.0050	0.0020	0.0009	N/A	0.0024
59	0.2400	0.0050	0.0022	0.0010	N/A	0.0027
60	0.2600	0.0050	0.0024	0.0010	N/A	0.0029
61	0.3100	0.0050	0.0027	0.0011	N/A	0.0032
62	0.3500	0.0050	0.0029	0.0012	N/A	0.0035
63	0.2800	0.0050	0.0031	0.0014	N/A	0.0038
64	0.2800	0.0050	0.0034	0.0015	N/A	0.0041
65	0.2800	0.0050	0.0037	0.0017	N/A	0.0044
66	0.2800	0.0050	0.0040	0.0018	N/A	0.0048
67	0.2800	0.0050	0.0044	0.0020	N/A	0.0051
68	0.2800	0.0050	0.0048	0.0022	N/A	0.0055
69	0.2800	0.0050	0.0052	0.0023	N/A	0.0058
70	0.2800	0.0050	0.0052	0.0025	N/A	0.0061
71	0.2800	0.0050	0.0052	0.0026	N/A	0.0064
72	0.2800	0.0050	0.0052	0.0028	N/A	0.0067
73	0.2800	0.0050	0.0052	0.0030	N/A	0.0068
74	0.2800	0.0050	0.0052	0.0031	N/A	0.0073
75	1.0000	0.0000	0.0000	0.0000	N/A	0.0078

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Table A-8: Rate of Separation From Active Service For General Members Plan D and G - Male

Age	Service Retirement	Service-Connected Disability	Nonservice-Connected Disability	Service-Connected Pre-Retirement Death	Nonservice-Connected Pre-Retirement Death
18	0.0000	0.0002	0.0001	N/A	0.0002
19	0.0000	0.0002	0.0001	N/A	0.0002
20	0.0000	0.0002	0.0001	N/A	0.0002
21	0.0000	0.0002	0.0001	N/A	0.0002
22	0.0000	0.0002	0.0001	N/A	0.0003
23	0.0000	0.0002	0.0001	N/A	0.0003
24	0.0000	0.0002	0.0001	N/A	0.0003
25	0.0000	0.0002	0.0001	N/A	0.0003
26	0.0000	0.0002	0.0001	N/A	0.0003
27	0.0000	0.0002	0.0001	N/A	0.0003
28	0.0000	0.0002	0.0001	N/A	0.0004
29	0.0000	0.0002	0.0001	N/A	0.0004
30	0.0000	0.0002	0.0001	N/A	0.0004
31	0.0000	0.0002	0.0001	N/A	0.0005
32	0.0000	0.0002	0.0001	N/A	0.0006
33	0.0000	0.0002	0.0001	N/A	0.0006
34	0.0000	0.0003	0.0001	N/A	0.0007
35	0.0000	0.0003	0.0001	N/A	0.0007
36	0.0000	0.0004	0.0001	N/A	0.0008
37	0.0000	0.0004	0.0001	N/A	0.0008
38	0.0000	0.0005	0.0001	N/A	0.0009
39	0.0000	0.0005	0.0001	N/A	0.0009
40	0.0200	0.0006	0.0002	N/A	0.0009
41	0.0200	0.0006	0.0002	N/A	0.0009
42	0.0200	0.0007	0.0002	N/A	0.0010
43	0.0200	0.0007	0.0003	N/A	0.0010
44	0.0200	0.0008	0.0003	N/A	0.0011
45	0.0200	0.0009	0.0003	N/A	0.0011
46	0.0200	0.0010	0.0004	N/A	0.0012
47	0.0200	0.0011	0.0004	N/A	0.0012
48	0.0200	0.0012	0.0004	N/A	0.0013
49	0.0200	0.0013	0.0004	N/A	0.0014
50	0.0200	0.0014	0.0004	N/A	0.0014
51	0.0200	0.0015	0.0004	N/A	0.0015
52	0.0200	0.0016	0.0004	N/A	0.0016
53	0.0200	0.0018	0.0005	N/A	0.0017
54	0.0200	0.0020	0.0006	N/A	0.0019
55	0.0250	0.0022	0.0006	N/A	0.0021
56	0.0250	0.0024	0.0007	N/A	0.0024
57	0.0300	0.0026	0.0008	N/A	0.0027
58	0.0350	0.0029	0.0009	N/A	0.0029
59	0.0500	0.0032	0.0010	N/A	0.0033
60	0.0600	0.0036	0.0010	N/A	0.0037
61	0.0700	0.0039	0.0011	N/A	0.0041
62	0.1000	0.0042	0.0012	N/A	0.0045
63	0.0900	0.0042	0.0014	N/A	0.0049
64	0.1200	0.0042	0.0015	N/A	0.0053
65	0.2000	0.0042	0.0017	N/A	0.0058
66	0.2000	0.0042	0.0018	N/A	0.0062
67	0.1800	0.0042	0.0020	N/A	0.0064
68	0.1600	0.0042	0.0022	N/A	0.0067
69	0.1600	0.0042	0.0023	N/A	0.0068
70	0.2000	0.0042	0.0025	N/A	0.0071
71	0.2000	0.0042	0.0026	N/A	0.0077
72	0.2000	0.0042	0.0028	N/A	0.0085
73	0.2000	0.0042	0.0030	N/A	0.0094
74	0.2000	0.0042	0.0031	N/A	0.0106
75	1.0000	0.0042	0.0000	N/A	0.0119

Years of Service	Other Terminations
0	0.0800
1	0.0550
2	0.0375
3	0.0300
4	0.0250
5	0.0233
6	0.0217
7	0.0200
8	0.0190
9	0.0180
10	0.0170
11	0.0160
12	0.0150
13	0.0140
14	0.0130
15	0.0120
16	0.0110
17	0.0100
18	0.0092
19	0.0084
20	0.0076
21	0.0068
22	0.0060
23	0.0056
24	0.0052
25	0.0048
26	0.0044
27	0.0040
28	0.0040
29	0.0040
30 & Above	0.0000

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Table A-9: Rate of Separation From Active Service For General Members Plan D and G - Female

Age	Service Retirement	Service-Connected Disability	Nonservice-Connected Disability	Service-Connected Pre-Retirement Death	Nonservice-Connected Pre-Retirement Death
18	0.0000	0.0001	0.0001	N/A	0.0001
19	0.0000	0.0001	0.0001	N/A	0.0001
20	0.0000	0.0001	0.0001	N/A	0.0001
21	0.0000	0.0001	0.0001	N/A	0.0001
22	0.0000	0.0001	0.0001	N/A	0.0001
23	0.0000	0.0001	0.0001	N/A	0.0001
24	0.0000	0.0001	0.0001	N/A	0.0001
25	0.0000	0.0001	0.0001	N/A	0.0001
26	0.0000	0.0001	0.0001	N/A	0.0001
27	0.0000	0.0001	0.0001	N/A	0.0001
28	0.0000	0.0001	0.0001	N/A	0.0002
29	0.0000	0.0001	0.0001	N/A	0.0002
30	0.0000	0.0001	0.0001	N/A	0.0002
31	0.0000	0.0001	0.0001	N/A	0.0002
32	0.0000	0.0001	0.0001	N/A	0.0002
33	0.0000	0.0002	0.0001	N/A	0.0003
34	0.0000	0.0002	0.0001	N/A	0.0003
35	0.0000	0.0003	0.0001	N/A	0.0003
36	0.0000	0.0003	0.0001	N/A	0.0003
37	0.0000	0.0004	0.0001	N/A	0.0004
38	0.0000	0.0004	0.0001	N/A	0.0004
39	0.0000	0.0005	0.0001	N/A	0.0004
40	0.0200	0.0005	0.0002	N/A	0.0004
41	0.0200	0.0005	0.0002	N/A	0.0004
42	0.0200	0.0006	0.0002	N/A	0.0005
43	0.0200	0.0007	0.0003	N/A	0.0005
44	0.0200	0.0007	0.0003	N/A	0.0006
45	0.0200	0.0008	0.0003	N/A	0.0006
46	0.0200	0.0009	0.0004	N/A	0.0007
47	0.0200	0.0009	0.0004	N/A	0.0008
48	0.0200	0.0010	0.0004	N/A	0.0008
49	0.0200	0.0011	0.0004	N/A	0.0008
50	0.0200	0.0012	0.0004	N/A	0.0009
51	0.0200	0.0012	0.0004	N/A	0.0010
52	0.0200	0.0013	0.0004	N/A	0.0011
53	0.0200	0.0014	0.0005	N/A	0.0012
54	0.0200	0.0015	0.0006	N/A	0.0014
55	0.0250	0.0016	0.0006	N/A	0.0016
56	0.0250	0.0016	0.0007	N/A	0.0018
57	0.0300	0.0017	0.0008	N/A	0.0021
58	0.0350	0.0020	0.0009	N/A	0.0024
59	0.0500	0.0022	0.0010	N/A	0.0027
60	0.0600	0.0024	0.0010	N/A	0.0029
61	0.0700	0.0027	0.0011	N/A	0.0032
62	0.1000	0.0029	0.0012	N/A	0.0035
63	0.0900	0.0031	0.0014	N/A	0.0038
64	0.1200	0.0034	0.0015	N/A	0.0041
65	0.2000	0.0037	0.0017	N/A	0.0044
66	0.2000	0.0040	0.0018	N/A	0.0048
67	0.1800	0.0044	0.0020	N/A	0.0051
68	0.1600	0.0048	0.0022	N/A	0.0055
69	0.1600	0.0052	0.0023	N/A	0.0058
70	0.2000	0.0052	0.0025	N/A	0.0061
71	0.2000	0.0052	0.0026	N/A	0.0064
72	0.2000	0.0052	0.0028	N/A	0.0067
73	0.2000	0.0052	0.0030	N/A	0.0068
74	0.2000	0.0052	0.0031	N/A	0.0073
75	1.0000	0.0000	0.0000	N/A	0.0078

Years of Service	Other Terminations
0	0.0800
1	0.0550
2	0.0375
3	0.0300
4	0.0250
5	0.0233
6	0.0217
7	0.0200
8	0.0190
9	0.0180
10	0.0170
11	0.0160
12	0.0150
13	0.0140
14	0.0130
15	0.0120
16	0.0110
17	0.0100
18	0.0092
19	0.0084
20	0.0076
21	0.0068
22	0.0060
23	0.0056
24	0.0052
25	0.0048
26	0.0044
27	0.0040
28	0.0040
29	0.0040
30 & Above	0.0000

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Table A-10: Rate of Separation From Active Service For General Members Plan E - Male

Age	Service Retirement	Service-Connected Disability	Nonservice-Connected Disability	Service-Connected Pre-Retirement Death	Nonservice-Connected Pre-Retirement Death
18	0.0000	N/A	N/A	N/A	0.0002
19	0.0000	N/A	N/A	N/A	0.0002
20	0.0000	N/A	N/A	N/A	0.0002
21	0.0000	N/A	N/A	N/A	0.0002
22	0.0000	N/A	N/A	N/A	0.0003
23	0.0000	N/A	N/A	N/A	0.0003
24	0.0000	N/A	N/A	N/A	0.0003
25	0.0000	N/A	N/A	N/A	0.0003
26	0.0000	N/A	N/A	N/A	0.0003
27	0.0000	N/A	N/A	N/A	0.0003
28	0.0000	N/A	N/A	N/A	0.0004
29	0.0000	N/A	N/A	N/A	0.0004
30	0.0000	N/A	N/A	N/A	0.0004
31	0.0000	N/A	N/A	N/A	0.0005
32	0.0000	N/A	N/A	N/A	0.0006
33	0.0000	N/A	N/A	N/A	0.0006
34	0.0000	N/A	N/A	N/A	0.0007
35	0.0000	N/A	N/A	N/A	0.0007
36	0.0000	N/A	N/A	N/A	0.0008
37	0.0000	N/A	N/A	N/A	0.0008
38	0.0000	N/A	N/A	N/A	0.0009
39	0.0000	N/A	N/A	N/A	0.0009
40	0.0000	N/A	N/A	N/A	0.0009
41	0.0000	N/A	N/A	N/A	0.0009
42	0.0000	N/A	N/A	N/A	0.0010
43	0.0000	N/A	N/A	N/A	0.0010
44	0.0000	N/A	N/A	N/A	0.0011
45	0.0000	N/A	N/A	N/A	0.0011
46	0.0000	N/A	N/A	N/A	0.0012
47	0.0000	N/A	N/A	N/A	0.0012
48	0.0000	N/A	N/A	N/A	0.0013
49	0.0000	N/A	N/A	N/A	0.0014
50	0.0000	N/A	N/A	N/A	0.0014
51	0.0000	N/A	N/A	N/A	0.0015
52	0.0000	N/A	N/A	N/A	0.0016
53	0.0000	N/A	N/A	N/A	0.0017
54	0.0000	N/A	N/A	N/A	0.0019
55	0.0300	N/A	N/A	N/A	0.0021
56	0.0250	N/A	N/A	N/A	0.0024
57	0.0250	N/A	N/A	N/A	0.0027
58	0.0250	N/A	N/A	N/A	0.0029
59	0.0300	N/A	N/A	N/A	0.0033
60	0.0450	N/A	N/A	N/A	0.0037
61	0.0600	N/A	N/A	N/A	0.0041
62	0.0900	N/A	N/A	N/A	0.0045
63	0.0900	N/A	N/A	N/A	0.0049
64	0.1600	N/A	N/A	N/A	0.0053
65	0.2500	N/A	N/A	N/A	0.0058
66	0.1800	N/A	N/A	N/A	0.0062
67	0.1700	N/A	N/A	N/A	0.0064
68	0.1600	N/A	N/A	N/A	0.0067
69	0.1600	N/A	N/A	N/A	0.0068
70	0.2000	N/A	N/A	N/A	0.0071
71	0.2000	N/A	N/A	N/A	0.0077
72	0.2000	N/A	N/A	N/A	0.0085
73	0.2000	N/A	N/A	N/A	0.0094
74	0.2000	N/A	N/A	N/A	0.0106
75	1.0000	N/A	N/A	N/A	0.0119

Years of Service	Other Terminations
0	0.1400
1	0.0750
2	0.0550
3	0.0400
4	0.0300
5	0.0277
6	0.0253
7	0.0230
8	0.0220
9	0.0210
10	0.0200
11	0.0190
12	0.0180
13	0.0174
14	0.0168
15	0.0162
16	0.0156
17	0.0150
18	0.0144
19	0.0138
20	0.0132
21	0.0126
22	0.0120
23	0.0116
24	0.0112
25	0.0108
26	0.0104
27	0.0100
28	0.0100
29	0.0100
30 & Above	0.0100

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Table A-11: Rate of Separation From Active Service For General Members Plan E - Female

Age	Service Retirement	Service-Connected Disability	Nonservice-Connected Disability	Service-Connected Pre-Retirement Death	Nonservice-Connected Pre-Retirement Death	Years of Service	Other Terminations
18	0.0000	N/A	N/A	N/A	0.0001	0	0.1400
19	0.0000	N/A	N/A	N/A	0.0001	1	0.0750
20	0.0000	N/A	N/A	N/A	0.0001	2	0.0550
21	0.0000	N/A	N/A	N/A	0.0001	3	0.0400
22	0.0000	N/A	N/A	N/A	0.0001	4	0.0300
23	0.0000	N/A	N/A	N/A	0.0001	5	0.0277
24	0.0000	N/A	N/A	N/A	0.0001	6	0.0253
25	0.0000	N/A	N/A	N/A	0.0001	7	0.0230
26	0.0000	N/A	N/A	N/A	0.0001	8	0.0220
27	0.0000	N/A	N/A	N/A	0.0001	9	0.0210
28	0.0000	N/A	N/A	N/A	0.0002	10	0.0200
29	0.0000	N/A	N/A	N/A	0.0002	11	0.0190
30	0.0000	N/A	N/A	N/A	0.0002	12	0.0180
31	0.0000	N/A	N/A	N/A	0.0002	13	0.0174
32	0.0000	N/A	N/A	N/A	0.0002	14	0.0168
33	0.0000	N/A	N/A	N/A	0.0003	15	0.0162
34	0.0000	N/A	N/A	N/A	0.0003	16	0.0156
35	0.0000	N/A	N/A	N/A	0.0003	17	0.0150
36	0.0000	N/A	N/A	N/A	0.0003	18	0.0144
37	0.0000	N/A	N/A	N/A	0.0004	19	0.0138
38	0.0000	N/A	N/A	N/A	0.0004	20	0.0132
39	0.0000	N/A	N/A	N/A	0.0004	21	0.0126
40	0.0000	N/A	N/A	N/A	0.0004	22	0.0120
41	0.0000	N/A	N/A	N/A	0.0004	23	0.0116
42	0.0000	N/A	N/A	N/A	0.0005	24	0.0112
43	0.0000	N/A	N/A	N/A	0.0005	25	0.0108
44	0.0000	N/A	N/A	N/A	0.0006	26	0.0104
45	0.0000	N/A	N/A	N/A	0.0006	27	0.0100
46	0.0000	N/A	N/A	N/A	0.0007	28	0.0100
47	0.0000	N/A	N/A	N/A	0.0008	29	0.0100
48	0.0000	N/A	N/A	N/A	0.0008	30 & Above	0.0100
49	0.0000	N/A	N/A	N/A	0.0008		
50	0.0000	N/A	N/A	N/A	0.0009		
51	0.0000	N/A	N/A	N/A	0.0010		
52	0.0000	N/A	N/A	N/A	0.0011		
53	0.0000	N/A	N/A	N/A	0.0012		
54	0.0000	N/A	N/A	N/A	0.0014		
55	0.0300	N/A	N/A	N/A	0.0016		
56	0.0250	N/A	N/A	N/A	0.0018		
57	0.0250	N/A	N/A	N/A	0.0021		
58	0.0250	N/A	N/A	N/A	0.0024		
59	0.0300	N/A	N/A	N/A	0.0027		
60	0.0450	N/A	N/A	N/A	0.0029		
61	0.0600	N/A	N/A	N/A	0.0032		
62	0.0900	N/A	N/A	N/A	0.0035		
63	0.0900	N/A	N/A	N/A	0.0038		
64	0.1600	N/A	N/A	N/A	0.0041		
65	0.2500	N/A	N/A	N/A	0.0044		
66	0.1800	N/A	N/A	N/A	0.0048		
67	0.1700	N/A	N/A	N/A	0.0051		
68	0.1600	N/A	N/A	N/A	0.0055		
69	0.1600	N/A	N/A	N/A	0.0058		
70	0.2000	N/A	N/A	N/A	0.0061		
71	0.2000	N/A	N/A	N/A	0.0064		
72	0.2000	N/A	N/A	N/A	0.0067		
73	0.2000	N/A	N/A	N/A	0.0068		
74	0.2000	N/A	N/A	N/A	0.0073		
75	1.0000	N/A	N/A	N/A	0.0078		

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Table A-12: Rate of Separation From Active Service For Safety Members Plan A, B, & C - Male

Age	Service Retirement	Service-Connected Disability	Nonservice-Connected Disability	Service-Connected Pre-Retirement Death	Nonservice-Connected Pre-Retirement Death	Years of Service	Other Terminations
18	0.0000	0.0027	0.0000	0.0001	0.0000	0	0.0300
19	0.0000	0.0027	0.0000	0.0001	0.0000	1	0.0250
20	0.0000	0.0027	0.0000	0.0001	0.0002	2	0.0200
21	0.0000	0.0027	0.0000	0.0001	0.0002	3	0.0150
22	0.0000	0.0027	0.0000	0.0001	0.0002	4	0.0120
23	0.0000	0.0027	0.0000	0.0001	0.0002	5	0.0113
24	0.0000	0.0027	0.0000	0.0001	0.0002	6	0.0107
25	0.0000	0.0027	0.0000	0.0001	0.0002	7	0.0100
26	0.0000	0.0027	0.0000	0.0001	0.0002	8	0.0092
27	0.0000	0.0027	0.0000	0.0001	0.0002	9	0.0084
28	0.0000	0.0027	0.0000	0.0001	0.0003	10	0.0076
29	0.0000	0.0027	0.0000	0.0001	0.0003	11	0.0068
30	0.0000	0.0027	0.0000	0.0001	0.0003	12	0.0060
31	0.0000	0.0027	0.0000	0.0001	0.0003	13	0.0054
32	0.0000	0.0027	0.0000	0.0001	0.0003	14	0.0048
33	0.0000	0.0029	0.0000	0.0001	0.0003	15	0.0042
34	0.0000	0.0031	0.0000	0.0001	0.0004	16	0.0036
35	0.0000	0.0032	0.0000	0.0001	0.0004	17	0.0030
36	0.0000	0.0034	0.0000	0.0001	0.0004	18	0.0024
37	0.0000	0.0036	0.0000	0.0001	0.0005	19	0.0018
38	0.0000	0.0038	0.0000	0.0001	0.0006	20 & Above	0.0000
39	0.0000	0.0040	0.0000	0.0001	0.0006		
40	0.0100	0.0041	0.0000	0.0001	0.0007		
41	0.0100	0.0043	0.0000	0.0001	0.0007		
42	0.0100	0.0045	0.0000	0.0001	0.0008		
43	0.0100	0.0049	0.0000	0.0001	0.0008		
44	0.0100	0.0052	0.0000	0.0001	0.0009		
45	0.0100	0.0056	0.0000	0.0001	0.0009		
46	0.0100	0.0059	0.0000	0.0001	0.0009		
47	0.0100	0.0063	0.0000	0.0001	0.0009		
48	0.0100	0.0072	0.0000	0.0001	0.0010		
49	0.0100	0.0081	0.0000	0.0001	0.0010		
50	0.0100	0.0090	0.0000	0.0001	0.0011		
51	0.0200	0.0108	0.0000	0.0001	0.0011		
52	0.0250	0.0126	0.0000	0.0001	0.0012		
53	0.0300	0.0180	0.0000	0.0001	0.0012		
54	0.1000	0.0270	0.0000	0.0001	0.0013		
55	0.2400	0.0900	0.0000	0.0001	0.0014		
56	0.1800	0.0720	0.0000	0.0001	0.0014		
57	0.2000	0.1080	0.0000	0.0001	0.0015		
58	0.2400	0.1260	0.0000	0.0001	0.0016		
59	0.4000	0.1800	0.0000	0.0001	0.0017		
60	1.0000	0.0000	0.0000	0.0000	0.0019		

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Table A-13: Rate of Separation From Active Service For Safety Members Plan A, B, & C – Female

Age	Service Retirement	Service-Connected Disability	Nonservice-Connected Disability	Service-Connected Pre-Retirement Death	Nonservice-Connected Pre-Retirement Death	Years of Service	Other Terminations
18	0.0000	0.0033	0.0000	0.0001	0.0001	0	0.0300
19	0.0000	0.0033	0.0000	0.0001	0.0001	1	0.0250
20	0.0000	0.0033	0.0000	0.0001	0.0001	2	0.0200
21	0.0000	0.0033	0.0000	0.0001	0.0001	3	0.0150
22	0.0000	0.0033	0.0000	0.0001	0.0001	4	0.0120
23	0.0000	0.0033	0.0000	0.0001	0.0001	5	0.0113
24	0.0000	0.0033	0.0000	0.0001	0.0001	6	0.0107
25	0.0000	0.0033	0.0000	0.0001	0.0001	7	0.0100
26	0.0000	0.0033	0.0000	0.0001	0.0001	8	0.0092
27	0.0000	0.0033	0.0000	0.0001	0.0001	9	0.0084
28	0.0000	0.0038	0.0000	0.0001	0.0002	10	0.0076
29	0.0000	0.0041	0.0000	0.0001	0.0002	11	0.0068
30	0.0000	0.0046	0.0000	0.0001	0.0002	12	0.0060
31	0.0000	0.0050	0.0000	0.0001	0.0002	13	0.0054
32	0.0000	0.0054	0.0000	0.0001	0.0002	14	0.0048
33	0.0000	0.0060	0.0000	0.0001	0.0003	15	0.0042
34	0.0000	0.0067	0.0000	0.0001	0.0003	16	0.0036
35	0.0000	0.0072	0.0000	0.0001	0.0003	17	0.0030
36	0.0000	0.0078	0.0000	0.0001	0.0003	18	0.0024
37	0.0000	0.0085	0.0000	0.0001	0.0004	19	0.0018
38	0.0000	0.0088	0.0000	0.0001	0.0004	20 & Above	0.0000
39	0.0000	0.0091	0.0000	0.0001	0.0004		
40	0.0100	0.0095	0.0000	0.0001	0.0004		
41	0.0100	0.0097	0.0000	0.0001	0.0004		
42	0.0100	0.0101	0.0000	0.0001	0.0005		
43	0.0100	0.0104	0.0000	0.0001	0.0005		
44	0.0100	0.0108	0.0000	0.0001	0.0006		
45	0.0100	0.0111	0.0000	0.0001	0.0006		
46	0.0100	0.0114	0.0000	0.0001	0.0007		
47	0.0100	0.0118	0.0000	0.0001	0.0008		
48	0.0100	0.0122	0.0000	0.0001	0.0008		
49	0.0100	0.0135	0.0000	0.0001	0.0008		
50	0.0100	0.0203	0.0000	0.0001	0.0009		
51	0.0200	0.0237	0.0000	0.0001	0.0010		
52	0.0250	0.0270	0.0000	0.0001	0.0011		
53	0.0300	0.0338	0.0000	0.0001	0.0012		
54	0.1000	0.0405	0.0000	0.0001	0.0014		
55	0.2400	0.0473	0.0000	0.0001	0.0016		
56	0.1800	0.0810	0.0000	0.0001	0.0018		
57	0.2000	0.0810	0.0000	0.0001	0.0021		
58	0.2400	0.0810	0.0000	0.0001	0.0024		
59	0.4000	0.0810	0.0000	0.0001	0.0027		
60	1.0000	0.0000	0.0000	0.0000	0.0029		

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Appendix B: Summary of Plan Provisions

All actuarial calculations are based on our understanding of the statutes governing LACERA as contained in the County Employees Retirement Plan (CERL) of 1937 and the California Public Employees' Pension Relief Act (PEPRA) with provisions adopted by the LACERA Board, effective through July 1, 2015. The benefit and contribution provisions of this law are summarized briefly below, along with corresponding references to the State Code. This summary does not attempt to cover all the detailed provisions of the law.

MEMBERSHIP	Government Code Section
Permanent employees of Los Angeles County (County) and participating districts who work ¾ time or more are eligible for membership in LACERA.	(31551, 31552, Bylaws)
Employees eligible for safety membership (law enforcement, firefighting and specific lifeguards) become safety members on the first day of the month after date of hire. Employees who become members on or after January 1, 2013, will enter into Safety Plan C.	(31558)
All other employees become general members on the first day of the month after date of hire or the first day of the month after they make an election of either Plan D or Plan E, depending on the law in effect at that time. Employees who become members on or after January 1, 2013 will enter into General Plan G.	(31493, Bylaws)
Elective officers become members on the first day of the month after filing a declaration with the Board of Retirement (Board).	(31553, 31562)
General members in Plan E may transfer all their Plan E service credit to Plan D during an approved transfer period by making the required contributions. Transferred members relinquish, waive, and forfeit any and all vested or accrued benefits available under any other retirement plan and are entitled only to the benefits of Plan D.	

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RETIREMENT PLANS

The County has established nine defined benefit plans. The following outlines the dates these plans were available, based on a member's date of entry into LACERA: (31494.1, 31494.3)

Safety Member Plans:

Plan A: Inception to August 1977
Plan B: September 1977 through December 2012
Plan C: January 2013 to present (7522.02)

General Member Plans:

Plan A: Inception through August 1977
Plan B: September 1977 through September 1978
Plan C: October 1978 through May 1979
Plan D: June 1979 through December 2012
Plan E: January 1982 through December 2012 (31487, 31496)
Plan G: January 2013 to present (7522.02)

NOTE: After review of a new member's account, a member with prior membership may be enrolled into one of the pre-PEPRA plans.

MEMBER CONTRIBUTIONS

Plans A, B, D and General Plan C members

Contributions are based on the entry age and class of each member and are required of all members in Plans A, B, C, and D. Current member rates are shown in Appendix D. Section 5 provides additional detail on how these rates are calculated. (31620)

Contributions cease when general members are credited with 30 years of service in a contributory plan, provided they were members of LACERA or a reciprocal system on March 7, 1973, and continuously thereafter. All safety members are eligible for the 30-year cessation of contributions. (31625.2, 31836.1)

Interest is credited to contributions semiannually on June 30 and December 31 at an interest rate set by the Board of Investments on amounts that have been on deposit for at least six months. (31591, 31700)

In addition to the normal contributions, members pay one-half of the cost of their plan's COLA. This is discussed further in Section 5 of this report. (31873)

(7522.30)

General Plan G and Safety Plan C members

Members contribute 50% of the aggregate Normal Cost rate for their Plan.

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EMPLOYER CONTRIBUTIONS

The employer (County or district) contributes to the retirement fund a percent of the total compensation provided for all members based on an actuarial valuation and recommendation of the actuary and the Board of Investments. (31453, 31454 31581)

SERVICE RETIREMENT ALLOWANCE

Eligibility

Plans A-B:	**Safety members** Age 50 with 10 years of County service; Any age with 20 years of service; or	(31662.4, 31662.6, 31663.25)
Plans A-D:	**General members** Age 50 with 10 years of County service; Any age with 30 years of service; or Age 70, regardless of service.	(31672)
Plan C:	**Safety members** Age 50 with 5 years of service.	(7522.25(d))
Plan E:	**General members** Age 65 with 10 years of service. A reduced benefit is also payable at age 55 with 10 years of service.	(31491.3)
Plan G:	**General members** Age 52 with 5 years of service.	(7522.20(a))

Final Compensation

Plans A, B, D and General Plan C	Average of the member's highest monthly pensionable earnings during any 12-consecutive-month period.	(31462.3, 31461.45)
Plan E:	Average of the member's highest monthly pensionable earnings during any three 12-consecutive month periods.	(31488)
General Plan G and Safety Plan C	Average of the member's highest monthly pensionable earnings during any 36-consecutive month period.	(7522.32)

The amount of compensation that is taken into account in computing benefits payable to any person who first becomes a member on or after July 1, 1996, shall not exceed the dollar limitations in Section 401(a)(17) of Title 26 of the US Code. (31671)

The amount of compensation taken into account for General Plan G and Safety Plan C members is limited to $140,424 for 2015. The amount of compensation taken into account shall be adjusted based on changes in the Consumer Price Index for All Urban Consumers. Adjustments shall be effective annually on January 1. (7522.10)

SERVICE RETIREMENT ALLOWANCE (continued)

Monthly Allowance

Plans A-B:	**Safety members** 1/50 x Final Compensation x Safety age factor x Years of service. (The Safety Plan A and Safety Plan B age factors are the same.)	(31664)
Plans A-D:	**General members** 1/60 x Final Compensation x a Plan specific age factor x years of service.	(31676.1) (31676.11) (31676.14)
Plan C:	**Safety members** Final Compensation x Safety Plan percentage x Years of service.	(7522.25(d))
Plan E:	**General members [(a)+(b)-(c)] x d where:** (a) 2% x Final Compensation x (Years of Service (up to 35 years), plus (b) 1 % x Final Compensation x Years of Service in excess of 35 (up to 10) (c) Estimated Primary Insurance Amount (PIA) x Years of Covered Service (up to 35) divided by 35. (d) Age Factor The PIA is calculated based on certain assumptions specified by statute, and an assumed Social Security retirement age of 62. If retirement occurs prior to age 65, benefit amount is adjusted by an actuarial equivalent factor (see Sample Plan Age Factors).	(31491, 31491.3 (b)&(c))
Plan G:	**General members** Final Compensation x General Plan percentage x Years of service.	(7522.20(a))

Social Security Integration

Plans A-C:	**General Members** For County service covered by Social Security prior to January 1, 1983, the 1/60 factor is replaced by 1/90 for the first $350 of compensation.	(31808)
Plan D:	The 1/90 factor is applied to the first $1,050 of compensation.	

SERVICE RETIREMENT ALLOWANCE (continued)

Sample Plan Age Factors

Plan	Age 50	Age 55	Age 60	Age 65 & Up	
General A	0.885	1.169	1.464	1.567	(31676.14)
General B	0.745	1.000	1.309	1.567	(31676.11)
General C&D	0.709	0.895	1.150	1.459	(31676.1)
General E	N/A	0.375	0.601	1.000	(31491.3(a))
Safety A&B	1.000	1.310	1.310	1.310	(31664)

Sample Plan Age Percentages

Plan	Age 50	Age 55	Age 60	Age 65 & Up	
General G	N/A	1.30%	1.80%	2.30%*	(7522.20(a))
Safety C	2.00%	2.50%	2.70%	2.70%	(7522.25(d))

**Maximum percentage for General Plan G is 2.50% at age 67.*

Maximum Allowance

Plans A-B and General Plans C-D:

Allowance may not exceed 100% of final compensation.

General Plans G and Safety Plan C:

Maximum allowance does not apply.

Plan E: The sum of the normal retirement allowance and the estimated PIA cannot exceed 70% of Final Compensation for a member with 35 or less years of service, and cannot exceed 80% of Final Compensation if service exceeds 35 years. (31491.3)

Unmodified Retirement Allowance (Normal Form)

Plans A-D, G: Life Annuity payable to retired member with 65% continuance to an eligible survivor (or eligible children). (31760.12, 31785.4)

Plan E: Life Annuity payable to retired member with 55% continuance to an eligible survivor (or eligible children). (31491, 31492.1)

Eligible survivor includes certain domestic partners. (31780.2)

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SERVICE RETIREMENT ALLOWANCE (continued)

Optional Retirement Allowance

A member may elect to have the actuarial equivalent of the service or disability retirement allowance applied to a lesser retirement allowance during the retired member's life in order to provide an optional survivor allowance. (31760)

Unmodified Plus:	Members with eligible survivors may elect a higher percent than the standard unmodified continuance, up to 100%. The benefit is actuarially reduced from the unmodified amount. The elected percent of the member's reduced allowance is payable to the eligible survivor.	(31760.5)
Option 1:	Member's allowance is reduced to pay a cash refund of any unpaid annuity payments (up to the amount of the member's contributions at retirement) to the member's estate or to a beneficiary having an insurable interest in the life of the member.	(31761)
Option 2:	100% of member's reduced allowance is payable to a surviving spouse or beneficiary having an insurable interest in the life of the member.	(31762)
Option 3:	50% of member's reduced allowance is payable to a surviving spouse or beneficiary having an insurable interest in the life of the member.	(31763)
Option 4:	Other % of member's reduced allowance is payable to a surviving spouse or beneficiary(ies) having an insurable interest in the life of the member.	(31764)

A member may not revoke and name another beneficiary if the member elects Option 2, 3, or 4. (31782)

Pension Advance Option:	The Pension Advance Option is available to members who are fully insured under Social Security for the purpose of coordinating a member's retirement allowance with benefits receivable from Social Security. It is not available to disability retirees or members who elect Option 2, 3, or 4. The allowance is increased prior to age 62 and then reduced after 62 by amounts which have equivalent actuarial values. The automatic 65% continuance for eligible spouses of members who elect the Pension Advance Option is based on the unmodified allowance the member would have received if the member had not elected the option.	(31810, 31811)

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SERVICE RETIREMENT ALLOWANCE (continued)

All Allowances (31600)

All allowances are made on a pro-rata basis (based on the number of days in that month) if not in effect for the entire month of retirement. For deaths that occur mid-month, the full month's payment is made.

SERVICE-CONNECTED DISABILITY RETIREMENT ALLOWANCE

Eligibility

Plans A-D, G:	Any age or years of service; disability must result from occupational injury or disease, and member must be permanently incapacitated for the performance of duty.	(31720, 31720.5)
Plan E:	Not available under Plan E.	(31487)

Monthly Allowance

Greater of (1) 50% of final compensation, and (2) the service retirement allowance, if eligible to retire. (31727.4)

Normal Form Of Payment

Life Annuity with 100% continuance to a surviving spouse (or eligible children). (31760, 31786)

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NONSERVICE-CONNECTED DISABILITY RETIREMENT ALLOWANCE

Eligibility

Plans A-D, G:	Any age with five years of service, and permanently incapacitated for the performance of duty.	(31720, 31836)
Plan E:	Not available under Plan E.	(31487)

Monthly Allowance

The monthly allowance is equal to a service retirement allowance if the member is eligible to retire; otherwise allowance equals (a) or (b) where: (31726, 31726.5)

General Members:	(a) 90% of 1/60 of Final Compensation x years of service, if member must rely on service in another retirement system in order to be eligible to retire, or allowance exceeds 1/3 of final compensation.	(31727(a))
	(b) 90% of 1/60 of Final Compensation x years of service projected to age 65, not to exceed 1/3 of Final Compensation.	(31727(b))
Safety Members:	1/60 is replaced by 1/50 and age 65 is replaced by age 55 in (a) and (b) above.	(31727.2)

Normal Form Of Payment

Life Annuity with 65% continuance to a surviving spouse (or eligible children). (31760, 31760.1, 31760.12, 31785, 31785.4)

SERVICE-CONNECTED PRE-RETIREMENT DEATH BENEFITS

Eligibility

Plans A-D, G:	Active members who die in service as a result of injury or disease arising out of and in the course of employment.	(31787)
Plan E:	Not available under Plan E.	(31487)

Monthly Allowance

An annual death allowance is payable monthly to an eligible survivor (or eligible children) equal to 50% of the member's Final Compensation. (31787)

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SERVICE-CONNECTED PRE-RETIREMENT DEATH BENEFITS (continued)

Optional Combined Benefit (31781.3)

In lieu of the monthly allowance above, a surviving spouse may elect:

(a) A lump sum equal to 1/12 of the compensation earned in the preceding 12 months x years of service (benefit not to exceed 50% of the 12 months' compensation), plus

(b) A monthly payment equal to 50% of the member's Final Compensation, reduced by a monthly amount, which is the actuarial equivalent of (a) above based on the age of surviving spouse.

Death Benefit (Lump Sum) (31781)

The member's accumulated contributions with interest, plus 1/12 of the compensation earned in the preceding 12 months x years of service (benefit not to exceed 50% of the 12 months' compensation).

Additional Allowance for Children (31787.5)

25% of death allowance (whether or not the monthly allowance or combined benefit is chosen) for one child, 40% for two children, and 50% for three or more children.

Additional Amount for Spouse of Safety Member (31787.6)

A surviving spouse of a safety member is also entitled to receive a lump-sum death benefit equal to 12 x monthly rate of compensation at the time of member's death in addition to all other benefits.

Note: *For valuation purposes, an unmarried member is assumed to take the lump sum benefit. A married member is assumed to take the monthly allowance or the lump sum, whichever is more valuable.*

NONSERVICE-CONNECTED PRE-RETIREMENT DEATH BENEFITS

Eligibility (31780)

Plans A-D, G:	Active members who die while in service or while physically or mentally incapacitated for the performance of duty.	
Plan E:	Not available under Plan E.	(31487)

NONSERVICE-CONNECTED PRE-RETIREMENT DEATH BENEFITS (continued)

Death Benefit (Lump Sum) (31781)

The member's accumulated contributions with interest, plus 1/12 of the compensation earned in preceding 12 months x the number of completed years of service (benefit not to exceed 50% of the 12 months' compensation).

Optional Death Benefit

In lieu of the lump-sum death benefit, the following several optional death benefits are available to provide flexibility to survivors.

First Optional Death Benefit (31781.1, 31781.12)

If a member who would have been entitled to a non-service-connected disability retirement allowance dies prior to retirement as a result of such disability, the surviving spouse (or eligible children) may elect to receive an optional death allowance equal to 65% of the monthly retirement allowance to which the member would have been entitled as of the date of death.

Second Optional Death Benefit (31781.2, 31765.2)

If a member dies prior to reaching the minimum retirement age but has 10 or more years of County service, a surviving spouse (or eligible children) may elect to leave the amount of the death benefit on deposit until the earliest date the member could have retired and at that time receive the allowance provided for in Section 31765 (an Option 3 benefit) or 31765.2 (a 65% continuance).

Third Optional Death Benefit

A surviving spouse of a member who dies after five years of County service may elect a combined benefit equal to:

(a) A lump sum equal to 1/12 of the compensation earnable in the preceding 12 months x the number of completed years of service (benefit not to exceed 50% of the 12 months' compensation), plus (31781.3)

(b) A monthly payment equal to 65% of the monthly retirement allowance to which the member would have been entitled if the member retired or could have retired for a non-service-connected disability as of the date of death, reduced by a monthly amount which is the actuarial equivalent of (a) above based on the age of surviving spouse. (31781.1, 31781.12)

Fourth Optional Death Benefit

If a member dies while eligible or a service retirement and the surviving spouse is designated as beneficiary, the spouse (or eligible children) may elect to receive 65% of the monthly retirement allowance to which the member would have been entitled as of the date of death. (31765.1, 31765.2)

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NONSERVICE-CONNECTED PRE-RETIREMENT DEATH BENEFITS (continued)

Fifth Optional Death Benefit

If a member dies while eligible for a service retirement and the surviving spouse is designated as beneficiary and survives the member by not less than 30 days, the spouse (or eligible children) may elect to receive the same retirement allowance as the spouse would have received had the member retired on the date of death and selected Option 3. (31765)

Note: *For valuation purposes, an unmarried member is assumed to take the lump sum benefit. A married member is assumed to take the first optional death benefit or the lump sum, whichever is more valuable.*

POSTRETIREMENT DEATH/BURIAL BENEFIT

Plans A-E:	A one-time lump-sum benefit of $5,000 is payable to the estate or to the beneficiary designated by the member upon the death of any member while receiving a retirement allowance. This is in addition to any other death or survivor benefits. The amount may be paid from surplus earnings of the retirement system, if any, but is currently paid by the County based on agreement with LACERA. It is not included for valuation purposes.	(31789.3)

DEFERRED RETIREMENT ALLOWANCE

Eligibility

Plans A, B, D and General Plan C:

	Five years of county or reciprocal service. Member contributions must be left on deposit.	(31700)
Safety Plan C:	Age 50 with 5 years of service.	(7522.20(a))
Plan E:	Age 55 with 10 years of service.	(31491)
Plan G:	Age 52 with 5 years of service.	(7522.25(d))

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DEFERRED RETIREMENT ALLOWANCE (continued)

Monthly Allowance

Plans A-D, G:	Same as service retirement allowance; payable any time after the member would have been eligible for service retirement.	(31703, 31704, 31705)
	If a former member dies before the effective date of the deferred retirement allowance, the member's accumulated contributions are paid to the estate or to the named beneficiary.	(31702)
Plan E:	Same as service retirement allowance at normal retirement age 65 or in an actuarially equivalent reduced amount at early retirement, after age 55.	(31491)

TRANSFERS BETWEEN PLAN D AND PLAN E

Members in Plan D may transfer to Plan E on a prospective basis. Members in Plan E may transfer to Plan D on a prospective basis.	(31494.2, 31494.5)

RECIPROCITY

All Plans:	Reciprocal benefits are may be granted to members who are entitled to retirement benefits from two or more retirement systems established under the CERL or from a County retirement system and the California Public Employees' Retirement System (CalPERS). Reciprocity also applies to the members of the State Teachers' Retirement System Defined Benefit Plan.	(31830, 31840.4, 31840.8)
	Final Compensation may be based on service with CalPERS or another County retirement system, if greater.	
	Vested former members are eligible for disability and death benefits from LACERA, if disabled while a member of CalPERS or another County retirement system, but combined benefits are limited.	(31835)

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TRANSFER FROM CALPERS

Whenever firefighting or law enforcement functions performed by a city of the state subject to the California Public Employees Retirement Law are transferred to the County, fire authority, or district, employees performing those functions become members of LACERA. LACERA and CalPERS may enter into an agreement whereby the members' service credit plus the members' and the cities' or states' retirement contributions are transferred from CalPERS to LACERA. (31657)

COST-OF-LIVING INCREASES

Cost-of-living increases (or decreases) are applied to all retirement allowances (service and disability), optional death allowances, and annual death allowances effective April 1, based on changes in the Consumer Price Index (CPI) from the previous January 1 to the current January 1, to the nearest ½ of 1%. (31870, 31870.1)

Plan A: Members (and their beneficiaries) are limited to a maximum 3% cost-of-living increase.

Plans B-D, G: Members (and their beneficiaries) are limited to a maximum 2% cost-of-living increase. (31870, 31870.1)

When the CPI exceeds 2% or 3%, the difference between the actual CPI and the maximum cost-of-living increase given in any year is credited to the COLA Accumulation. It may be used in future years to provide cost-of-living increases when the CPI falls below 2% or 3%, depending on the retirement plan.

Plan E: Members (and their beneficiaries) are limited to a maximum 2% cost-of-living increase. The 2% is pro-rated based on service earned after June 4, 2002. "Elective COLA" increases for service earned prior to June 4, 2002 may be purchased by the member. (31495.5)

STAR PROGRAM

Contributory plan members who have a COLA Accumulation of more than 20% resulting from CPI increases that exceeded the maximum cost-of-living increases that could be granted are eligible for a supplemental cost-of-living increase effective January 1 known as the Supplemental Targeted Adjustment for Retirees Cost-of-Living Adjustment (STAR COLA). These benefits are not evaluated in this report, or as part of the actuarially required funding amount, unless they have been vested by the Board of Retirement. (31874.3(b))

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Appendix C: Valuation Data and Schedules

On the following table, Exhibit C-1, we present a summary of LACERA membership at June 30, 2015 for active members. Similar information is shown in Exhibit C-2 Retired for retired members and C-2 Former for vested former members.

The number of total active members increased by 1.3% and the total salary increased by 3.9% since the last valuation. The total number of retired members and their beneficiaries increased by 2.3%, while the average retirement benefit amount increased by 1.3%.

Note that salary amounts shown are the prior year annual pensionable earnings for those members of plans with a one-year final compensation period. For plans with a three-year final compensation period (Plan E only), the monthly rate of pay at June 2015 is shown.

Additional statistical data on both active and retired members is shown in the following tables. Additional detailed summaries are supplied to the system staff in a supplementary report.

Exhibit C-3: Age Distribution of Active Members

Exhibit C-4: Age, Service, Compensation Distribution of Active Members

Exhibit C-5: Age, Retirement Year, Benefit Amount and Plan Distribution of Retired Members

Exhibits C-4 and C-5 are shown for all plans combined as well as for each plan separately.

Data on LACERA membership as of June 30, 2015 was supplied to us by the system staff. Based on our review of this data and discussions with LACERA staff, all retiree and beneficiary records were included in our valuation.

All records for active and former members supplied by LACERA were included in the valuation.

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Exhibit C-1: LACERA Membership – Active Members as of June 30, 2015

	Sex	Vested	NonVested	Total Number	Annual Salary	Average Age	Average Monthly Salary	Average Credited Service
General Members								
Plan A	M	107	-	107	$ 11,424,792	67.4	$ 8,898	35.8
	F	213	-	213	17,678,184	65.0	6,916	35.8
Plan B	M	29	-	29	2,646,876	64.4	7,606	36.0
	F	84	-	84	7,263,924	61.0	7,206	35.2
Plan C	M	32	-	32	2,983,608	62.7	7,770	36.9
	F	79	-	79	6,754,200	61.0	7,125	35.4
Plan D	M	14,707	1,278	15,985	1,278,695,172	48.1	6,666	15.0
	F	30,014	2,463	32,477	2,361,849,000	47.6	6,060	15.2
Plan E	M	5,468	1,693	7,161	548,946,276	52.5	6,388	19.1
	F	11,738	3,108	14,846	951,179,808	52.2	5,339	20.2
Plan G	M	11	3,441	3,452	185,523,036	36.2	4,479	1.2
	F	19	6,744	6,763	331,357,656	35.3	4,083	1.1
Total		62,501	18,727	81,228	$ 5,706,302,532	47.6	$ 5,854	14.8
Safety Members								
Plan A	M	15	-	15	$ 2,388,780	61.5	$ 13,271	37.1
	F	-	-	-	-	N/A	N/A	N/A
Plan B	M	9,481	563	10,044	1,077,553,752	43.9	8,940	17.3
	F	1,518	145	1,663	169,065,972	41.1	8,472	14.5
Plan C	M	3	599	602	41,813,316	30.4	5,788	1.1
	F	-	122	122	8,799,288	29.2	6,010	1.1
Total		11,017	1,429	12,446	$ 1,299,621,108	42.8	$ 8,702	16.0
Grand Total		73,518	20,156	93,674	$ 7,005,923,640	46.9	$ 6,233	15.0

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Exhibit C-2 Retired: LACERA Membership – Retired Members as of June 30, 2015

	Sex	Number		Annual Allowance	Average Age		Average Monthly Benefit
General Members							
Plan A	M	9,473	$	567,465,363	77.5	$	4,992
	F	15,498		647,459,968	77.6		3,481
Plan B	M	229		12,608,246	72.3		4,588
	F	508		21,267,469	72.6		3,489
Plan C	M	139		5,825,144	71.2		3,492
	F	329		11,305,148	72.9		2,864
Plan D	M	4,195		150,415,531	67.7		2,988
	F	7,441		226,916,310	67.6		2,541
Plan E	M	3,736		97,508,666	71.0		2,175
	F	7,410		157,531,090	70.6		1,772
Total		48,958	$	1,898,302,935	73.5	$	3,231
Safety Members							
Plan A	M	5,505	$	494,787,345	73.2	$	7,490
	F	2,065		123,127,509	75.8		4,969
Plan B	M	3,253		251,533,731	58.0		6,444
	F	824		44,655,141	53.6		4,516
Plan C	M	1		194,103	68.0		16,175
	F	-		-	N/A		N/A
Total		11,648	$	914,297,829	68.0	$	6,541
Grand Total		60,606	$	2,812,600,764	72.5	$	3,867

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Exhibit C-2 Former: LACERA Membership – Vested Former Members as of June 30, 2015 Subtotaled by Plan and Retirement Type

	Sex	Number	Average Age
General Members			
Plan A	M	36	69.1
	F	81	67.5
Plan B	M	6	65.5
	F	18	63.6
Plan C	M	7	62.6
	F	17	61.1
Plan D	M	2,537	46.8
	F	5,257	45.6
Plan E	M	1,146	55.2
	F	2,632	55.4
Plan G	M	153	36.3
	F	403	36.1
Total		12,293	48.7
Safety Members			
Plan A	M	6	65.3
	F	-	-
Plan B	M	612	41.6
	F	197	42.2
Plan C	M	19	31.1
	F	2	30.0
Total		836	41.7
Grand Total		13,129	48.2

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Exhibit C-2a: LACERA Membership – Retired Members as of June 30, 2015 Subtotaled by Plan and Retirement Type

Plan	Retirement Type	Number	Annual Benefits in Thousands	Average Monthly Benefit
General Plans:				
Plan A				
	Healthy	18,242	$ 1,003,223	$ 4,583
	Disabled	1,870	67,066	2,989
	Beneficiaries	4,859	144,637	2,481
	Total	24,971	$ 1,214,926	$ 4,054
Plan B				
	Healthy	614	$ 30,387	$ 4,124
	Disabled	65	1,889	2,422
	Beneficiaries	58	1,600	2,299
	Total	737	$ 33,876	$ 3,830
Plan C				
	Healthy	360	$ 14,699	$ 3,403
	Disabled	55	1,516	2,297
	Beneficiaries	53	915	1,439
	Total	468	$ 17,130	$ 3,050
Plan D				
	Healthy	8,950	$ 309,000	$ 2,877
	Disabled	1,652	49,430	2,493
	Beneficiaries	1,034	18,903	1,523
	Total	11,636	$ 377,333	$ 2,702
Plan E				
	Healthy	10,337	$ 245,855	$ 1,982
	Disabled	0	0	N/A
	Beneficiaries	809	9,185	946
	Total	11,146	$ 255,040	$ 1,907
Safety Plans:				
Plan A				
	Healthy	2,568	$ 241,069	$ 7,823
	Disabled	3,438	289,331	7,013
	Beneficiaries	1,564	87,515	4,663
	Total	7,570	$ 617,915	$ 6,802
Plan B				
	Healthy	1,708	$ 147,985	$ 7,220
	Disabled	2,154	138,473	5,357
	Beneficiaries	215	9,731	3,772
	Total	4,077	$ 296,189	$ 6,054
Plan C				
	Healthy	1	$ 194	$ 16,167
	Disabled	0	0	N/A
	Beneficiaries	0	0	N/A
	Total	1	$ 194	$ 16,167
Grand Totals		60,606	2,812,603	3,867

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Exhibit C-2b: LACERA Membership – Retired Members as of June 30, 2015 Subtotaled by Retirement Type and Plan

Type	Plan	Number		Annual Benefits in Thousands		Average Monthly Benefit
Healthy Retirees						
	General A	18,242	$	1,003,223	$	4,583
	General B	614		30,387		4,124
	General C	360		14,699		3,403
	General D	8,950		309,000		2,877
	General E	10,337		245,855		1,982
	Safety A	2,568		241,069		7,823
	Safety B	1,708		147,985		7,220
	Safety C	1		194		16,167
	Total	42,780	$	1,992,412	$	3,881
Disabled Retirees						
	General A	1,870	$	67,066	$	2,989
	General B	65		1,889		2,422
	General C	55		1,516		2,297
	General D	1,652		49,430		2,493
	Safety A	3,438		289,331		7,013
	Safety B	2,154		138,473		5,357
	Total	9,234	$	547,705	$	4,943
Beneficiaries						
	General A	4,859	$	144,637	$	2,481
	General B	58		1,600		2,299
	General C	53		915		1,439
	General D	1,034		18,903		1,523
	General E	809		9,185		946
	Safety A	1,564		87,515		4,663
	Safety B	215		9,731		3,772
	Total	8,592	$	272,486	$	2,643
Grand Totals		60,606	$	2,812,603	$	3,867

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Exhibit C-3: Age Distribution of Active Members as of June 30, 2015

	Age Groups						
	0-29	30-39	40-49	50-59	60-69	70+	Total
General Plans:							
Plan A							
Male	-	-	-	11	63	33	107
Female	-	-	-	22	152	39	213
Plan B							
Male	-	-	-	3	22	4	29
Female	-	-	-	37	44	3	84
Plan C							
Male	-	-	-	8	22	2	32
Female	-	-	-	34	42	3	79
Plan D							
Male	431	3,318	4,997	4,803	2,196	240	15,985
Female	656	7,458	10,324	9,639	4,050	350	32,477
Plan E							
Male	115	895	1,652	2,423	1,806	270	7,161
Female	167	1,731	3,579	5,525	3,505	339	14,846
Plan G							
Male	1,064	1,334	591	367	88	8	3,452
Female	2,362	2,531	1,145	588	131	6	6,763
Safety Plans:							
Plan A							
Male	-	-	-	5	10	-	15
Female	-	-	-	-	-	-	-
Plan B							
Male	483	2,685	3,893	2,831	150	2	10,044
Female	120	628	615	289	11	-	1,663
Plan C							
Male	342	205	32	21	2	-	602
Female	79	38	3	2	-	-	122
Grand Totals:	5,819	20,823	26,831	26,608	12,294	1,299	93,674

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Exhibit C-4: Age and Service Distribution of Active Members by Count and Average Compensation as of June 30, 2015 All Plans

Count

Age	Years of Service 0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	Total Count
Under 25	385	169	69	31	6	9	0	0	0	0	0	0	669
25-29	1,637	1,188	761	387	212	955	10	0	0	0	0	0	5,150
30-34	1,161	1,011	829	625	362	4,635	776	33	0	0	0	0	9,432
35-39	693	615	462	399	294	4,669	3,029	1,164	66	0	0	0	11,391
40-44	461	408	309	281	217	3,201	3,082	3,486	935	96	0	0	12,476
45-49	352	310	217	191	127	2,358	2,506	3,150	3,128	1,845	171	0	14,355
50-54	252	254	199	164	111	1,829	1,851	2,159	2,584	3,551	1,299	156	14,409
55-59	143	158	128	131	86	1,434	1,522	1,746	1,738	2,372	1,676	1,065	12,199
60-64	66	77	65	68	66	937	1,019	1,212	1,249	1,448	969	1,577	8,753
65 & Over	19	20	27	19	24	544	678	813	884	767	335	710	4,840
Total Count	5,169	4,210	3,066	2,296	1,505	20,571	14,473	13,763	10,584	10,079	4,450	3,508	93,674

Average Compensation

Age	Years of Service 0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	Average Comp.
Under 25	41,004	45,467	55,068	45,405	64,636	58,808	-	-	-	-	-	-	44,237
25-29	45,140	49,188	54,563	57,482	54,966	60,540	67,489	-	-	-	-	-	51,697
30-34	51,121	55,009	60,233	64,049	67,926	68,017	68,086	80,821	-	-	-	-	63,643
35-39	55,178	60,943	64,450	69,278	70,522	70,911	73,809	76,559	92,328	-	-	-	70,558
40-44	52,505	56,210	64,911	71,310	76,428	71,594	76,672	81,333	87,309	88,570	-	-	75,582
45-49	55,040	53,539	62,231	64,356	76,403	69,024	77,163	82,289	90,167	92,016	96,331	-	80,466
50-54	50,628	58,704	69,599	65,575	69,736	63,924	71,748	75,864	86,288	95,139	101,685	96,192	81,992
55-59	57,779	53,343	63,478	61,558	78,117	63,451	69,663	74,435	81,939	90,622	99,599	84,443	80,400
60-64	55,127	52,069	69,080	64,387	74,256	64,830	71,624	71,830	77,291	84,256	95,732	81,571	77,933
65 & Over	109,941	53,632	84,386	77,475	63,460	69,270	71,332	69,108	71,320	76,819	93,803	83,936	75,134
Avg. Annual Compensation	49,835	53,959	61,101	64,601	69,458	68,201	73,719	77,855	84,536	90,484	98,804	83,572	74,790

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Exhibit C-4a: Age and Service Distribution of Active Members by Count and Average Compensation as of June 30, 2015 General Plan A

Count

Age	Years of Service 0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	Total Count
Under 25	0	0	0	0	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0	0	0	0	0
35-39	0	0	0	0	0	0	0	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0	0	0	0	0	0	0
45-49	0	0	0	0	0	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0	1	1	3	28	33
60-64	0	0	0	0	0	0	6	9	11	6	7	83	122
65 & Over	0	0	0	0	0	5	3	14	11	15	7	110	165
Total Count	0	0	0	0	0	5	9	23	23	22	17	221	320

Compensation

Age	Years of Service 0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	Average Comp.
Under 25	-	-	-	-	-	-	-	-	-	-	-	-	-
25-29	-	-	-	-	-	-	-	-	-	-	-	-	-
30-34	-	-	-	-	-	-	-	-	-	-	-	-	-
35-39	-	-	-	-	-	-	-	-	-	-	-	-	-
40-44	-	-	-	-	-	-	-	-	-	-	-	-	-
45-49	-	-	-	-	-	-	-	-	-	-	-	-	-
50-54	-	-	-	-	-	-	-	-	-	-	-	-	-
55-59	-	-	-	-	-	-	-	-	43,692	88,380	63,736	81,084	78,595
60-64	-	-	-	-	-	-	79,834	96,447	76,186	94,758	99,722	82,181	84,202
65 & Over	-	-	-	-	-	75,168	146,168	98,969	83,833	102,292	108,674	98,359	98,404
Avg. Annual Compensation	-	-	-	-	-	75,168	101,945	97,982	78,430	99,605	97,057	90,094	90,947

Milliman
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Exhibit C-4b: Age and Service Distribution of Active Members by Count and Average Compensation as of June 30, 2015 General Plan B

Count

Age	Years of Service 0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	Total Count
Under 25	0	0	0	0	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0	0	0	0	0
35-39	0	0	0	0	0	0	0	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0	0	0	0	0	0	0
45-49	0	0	0	0	0	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	1	0	0	2	37	40
60-64	0	0	0	0	0	0	1	0	3	3	3	36	46
65 & Over	0	0	0	0	0	0	1	2	2	2	1	19	27
Total Count	0	0	0	0	0	0	2	3	5	5	6	92	113

Compensation

Age	Years of Service 0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	Average Comp.
Under 25	-	-	-	-	-	-	-	-	-	-	-	-	-
25-29	-	-	-	-	-	-	-	-	-	-	-	-	-
30-34	-	-	-	-	-	-	-	-	-	-	-	-	-
35-39	-	-	-	-	-	-	-	-	-	-	-	-	-
40-44	-	-	-	-	-	-	-	-	-	-	-	-	-
45-49	-	-	-	-	-	-	-	-	-	-	-	-	-
50-54	-	-	-	-	-	-	-	-	-	-	-	-	-
55-59	-	-	-	-	-	-	-	50,820	-	-	77,658	83,786	82,655
60-64	-	-	-	-	-	-	78,408	-	149,944	113,668	62,200	85,003	89,477
65 & Over	-	-	-	-	-	-	164,868	80,658	100,956	110,196	134,604	84,501	92,171
Avg. Annual Compensation	-	-	-	-	-	-	121,638	70,712	130,349	112,279	79,420	84,410	87,706

Milliman
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Exhibit C-4c: Age and Service Distribution of Active Members by Count and Average Compensation as of June 30, 2015 General Plan C

Count

Age	Years of Service 0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	Total Count
Under 25	0	0	0	0	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0	0	0	0	0
35-39	0	0	0	0	0	0	0	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0	0	0	0	0	0	0
45-49	0	0	0	0	0	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0	0	0	1	1	2
55-59	0	0	0	0	0	0	0	0	2	1	5	32	40
60-64	0	0	0	0	0	0	0	1	1	0	2	42	46
65 & Over	0	0	0	0	0	0	0	1	0	0	2	20	23
Total Count	0	0	0	0	0	0	0	2	3	1	10	95	111

Compensation

Age	Years of Service 0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	Average Comp.
Under 25	-	-	-	-	-	-	-	-	-	-	-	-	-
25-29	-	-	-	-	-	-	-	-	-	-	-	-	-
30-34	-	-	-	-	-	-	-	-	-	-	-	-	-
35-39	-	-	-	-	-	-	-	-	-	-	-	-	-
40-44	-	-	-	-	-	-	-	-	-	-	-	-	-
45-49	-	-	-	-	-	-	-	-	-	-	-	-	-
50-54	-	-	-	-	-	-	-	-	-	-	165,180	90,444	127,812
55-59	-	-	-	-	-	-	-	-	80,262	54,432	72,338	70,879	71,120
60-64	-	-	-	-	-	-	-	114,624	143,304	-	181,824	98,025	103,014
65 & Over	-	-	-	-	-	-	-	47,484	-	-	115,788	80,985	82,555
Avg. Annual Compensation	-	-	-	-	-	-	-	81,054	101,276	54,432	112,210	85,214	87,728

Milliman
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Exhibit C-4d: Age and Service Distribution of Active Members by Count and Average Compensation as of June 30, 2015 General Plan D

Count

Age	Years of Service 0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	Total Count
Under 25	0	0	8	23	2	5	0	0	0	0	0	0	38
25-29	1	9	171	244	133	488	3	0	0	0	0	0	1,049
30-34	7	21	247	449	256	2,804	459	24	0	0	0	0	4,267
35-39	8	24	146	316	225	3,122	1,961	662	45	0	0	0	6,509
40-44	7	16	118	204	171	2,215	1,977	1,982	550	67	0	0	7,307
45-49	5	6	88	138	94	1,695	1,625	1,883	1,580	782	118	0	8,014
50-54	6	9	67	105	85	1,311	1,261	1,385	1,406	1,472	562	97	7,766
55-59	2	7	39	74	67	1,021	1,030	1,114	1,061	1,135	700	426	6,676
60-64	2	1	24	45	43	651	681	787	723	729	403	372	4,461
65 & Over	0	1	5	7	15	329	453	471	518	359	133	84	2,375
Total Count	38	94	913	1,605	1,091	13,641	9,450	8,308	5,883	4,544	1,916	979	48,462

Compensation

Age	Years of Service 0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	Average Comp.
Under 25	-	-	41,959	38,390	45,216	43,994	-	-	-	-	-	-	40,238
25-29	37,680	52,939	51,920	53,498	51,219	51,105	43,408	-	-	-	-	-	51,790
30-34	85,915	59,539	64,120	63,401	65,408	62,296	63,306	77,451	-	-	-	-	62,924
35-39	77,994	67,913	70,678	70,134	68,488	67,798	71,769	71,443	89,839	-	-	-	69,732
40-44	59,386	82,156	72,423	72,985	75,666	70,293	75,054	77,448	82,314	88,401	-	-	74,843
45-49	73,656	58,274	63,763	65,149	75,203	68,748	77,022	80,298	84,832	82,416	95,592	-	77,994
50-54	60,376	120,119	78,737	70,326	65,935	65,108	73,441	76,383	83,950	87,776	94,482	90,702	78,882
55-59	101,634	94,267	73,637	59,973	78,305	65,028	72,579	79,224	83,632	89,724	95,835	92,389	80,862
60-64	187,230	38,604	90,704	57,262	76,698	64,836	74,727	74,649	79,700	87,446	101,787	95,260	80,282
65 & Over	-	92,664	91,733	41,030	59,214	69,714	73,231	70,889	73,460	79,386	107,445	92,105	75,707
Avg. Annual Compensation	78,605	73,330	66,058	64,257	67,921	66,023	73,534	77,039	82,576	86,633	97,481	93,288	75,122

Milliman

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Exhibit C-4e: Age and Service Distribution of Active Members by Count and Average Compensation as of June 30, 2015 General Plan E

Count

Age	Years of Service 0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	Total Count
Under 25	0	0	2	2	0	0	0	0	0	0	0	0	4
25-29	0	1	20	67	30	157	3	0	0	0	0	0	278
30-34	0	0	29	99	45	677	148	2	0	0	0	0	1,000
35-39	0	1	34	51	44	717	566	210	3	0	0	0	1,626
40-44	0	1	22	59	40	570	633	680	155	12	0	0	2,172
45-49	0	0	15	45	29	461	557	686	762	478	26	0	3,059
50-54	0	0	21	52	23	453	478	572	768	1,086	332	28	3,813
55-59	0	0	14	52	19	398	451	569	564	949	641	478	4,135
60-64	0	0	4	23	22	273	318	400	492	675	523	1,021	3,751
65 & Over	0	0	5	12	8	204	216	320	347	391	191	475	2,169
Total Count	0	3	166	462	260	3,910	3,370	3,439	3,091	3,591	1,713	2,002	22,007

Compensation

Age	Years of Service 0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	Average Comp.
Under 25	-	-	36,840	41,046	-	-	-	-	-	-	-	-	38,943
25-29	-	39,756	52,835	49,390	46,915	45,626	53,892	-	-	-	-	-	47,259
30-34	-	-	53,308	52,657	61,079	53,985	53,584	49,662	-	-	-	-	54,085
35-39	-	38,520	73,784	56,232	74,222	59,732	59,538	58,640	52,596	-	-	-	60,073
40-44	-	41,940	59,833	62,039	79,528	61,848	63,337	64,901	66,190	62,335	-	-	63,852
45-49	-	-	53,931	61,386	79,544	59,824	61,440	67,382	72,109	68,113	70,946	-	66,444
50-54	-	-	60,988	53,452	81,833	55,504	59,074	63,724	74,803	77,475	74,098	69,636	69,213
55-59	-	-	67,592	61,304	77,454	58,404	59,796	61,747	72,260	81,433	84,498	70,355	71,773
60-64	-	-	47,022	78,326	68,453	62,216	63,620	64,410	71,639	78,708	88,882	73,978	73,812
65 & Over	-	-	108,430	98,735	75,132	66,986	64,260	64,367	66,913	73,314	83,237	78,566	71,725
Avg. Annual Compensation	-	40,072	61,853	58,113	70,656	58,417	60,956	64,180	71,832	77,003	83,475	74,141	68,166

Milliman

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Exhibit C-4f: Age and Service Distribution of Active Members by Count and Average Compensation as of June 30, 2015 General Plan G

Count

Age	Years of Service 0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	Total Count
Under 25	326	129	34	0	0	0	0	0	0	0	0	0	489
25-29	1,496	1,016	414	5	3	3	0	0	0	0	0	0	2,937
30-34	1,074	903	423	3	5	2	1	0	0	0	0	0	2,411
35-39	654	567	231	0	0	2	0	0	0	0	0	0	1,454
40-44	447	384	149	1	2	1	0	0	0	0	0	0	984
45-49	339	300	106	1	0	5	1	0	0	0	0	0	752
50-54	239	236	101	2	1	4	1	0	0	0	0	0	584
55-59	140	150	74	1	0	4	1	1	0	0	0	0	371
60-64	64	74	35	0	0	2	1	0	0	0	0	0	176
65 & Over	19	19	17	0	1	1	0	0	0	0	0	0	57
Total Count	4,798	3,778	1,584	13	12	24	5	1	0	0	0	0	10,215

Compensation

Age	Years of Service 0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	Average Comp.
Under 25	36,845	37,592	44,316	-	-	-	-	-	-	-	-	-	37,562
25-29	43,111	45,788	46,087	46,099	41,524	56,100	-	-	-	-	-	-	44,473
30-34	49,722	53,377	52,805	98,660	99,686	35,388	49,512	-	-	-	-	-	51,785
35-39	54,456	60,150	55,756	-	-	60,480	-	-	-	-	-	-	56,891
40-44	52,131	54,851	58,162	46,920	48,654	79,224	-	-	-	-	-	-	54,121
45-49	54,246	53,155	60,896	41,940	-	64,289	256,548	-	-	-	-	-	55,068
50-54	49,350	55,172	61,976	66,606	32,820	156,201	165,000	-	-	-	-	-	54,847
55-59	55,400	51,196	56,925	55,596	-	56,406	97,560	37,680	-	-	-	-	54,082
60-64	50,998	48,694	55,152	-	-	137,562	31,944	-	-	-	-	-	51,731
65 & Over	109,941	51,578	75,154	-	33,780	75,480	-	-	-	-	-	-	78,171
Avg. Annual Compensation	48,378	51,871	53,412	61,857	65,576	81,739	120,113	37,680	-	-	-	-	50,600

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Exhibit C-4g: Age and Service Distribution of Active Members by Count and Average Compensation as of June 30, 2015 Safety Plan A

Count

Age	Years of Service 0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	Total Count
Under 25	0	0	0	0	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0	0	0	0	0
35-39	0	0	0	0	0	0	0	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0	0	0	0	0	0	0
45-49	0	0	0	0	0	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0	1	0	1	3	5
60-64	0	0	0	0	0	0	0	0	0	0	0	8	8
65 & Over	0	0	0	0	0	0	0	0	0	0	0	2	2
Total Count	0	0	0	0	0	0	0	0	1	0	1	13	15

Compensation

Age	Years of Service 0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	Average Comp.
Under 25	-	-	-	-	-	-	-	-	-	-	-	-	-
25-29	-	-	-	-	-	-	-	-	-	-	-	-	-
30-34	-	-	-	-	-	-	-	-	-	-	-	-	-
35-39	-	-	-	-	-	-	-	-	-	-	-	-	-
40-44	-	-	-	-	-	-	-	-	-	-	-	-	-
45-49	-	-	-	-	-	-	-	-	-	-	-	-	-
50-54	-	-	-	-	-	-	-	-	-	-	-	-	-
55-59	-	-	-	-	-	-	-	-	134,040	-	104,040	129,820	125,508
60-64	-	-	-	-	-	-	-	-	-	-	-	158,403	158,403
65 & Over	-	-	-	-	-	-	-	-	-	-	-	247,008	247,008
Avg. Annual Compensation	-	-	-	-	-	-	-	-	134,040	-	104,040	165,438	159,252

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Exhibit C-4h: Age and Service Distribution of Active Members by Count and Average Compensation as of June 30, 2015 Safety Plan B

Count

Age	Years of Service 0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	Total Count
Under 25	0	1	22	6	4	4	0	0	0	0	0	0	37
25-29	1	5	136	70	44	306	4	0	0	0	0	0	566
30-34	3	5	108	71	56	1,151	168	7	0	0	0	0	1,569
35-39	3	2	42	32	25	828	502	292	18	0	0	0	1,744
40-44	0	0	15	17	4	415	471	824	230	17	0	0	1,993
45-49	0	0	7	6	3	197	323	581	786	585	27	0	2,515
50-54	0	0	5	5	2	61	111	202	410	993	404	30	2,223
55-59	1	0	0	4	0	11	40	61	109	286	324	61	897
60-64	0	0	2	0	1	11	12	15	19	35	31	15	141
65 & Over	0	0	0	0	0	5	5	5	6	0	1	0	22
Total Count	8	13	337	211	139	2,989	1,636	1,987	1,578	1,916	787	106	11,707

Compensation

Age	Years of Service 0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	Average Comp.
Under 25	-	67,212	76,905	73,748	74,346	77,325	-	-	-	-	-	-	75,900
25-29	67,452	70,318	81,556	79,778	71,939	83,260	95,748	-	-	-	-	-	81,486
30-34	67,272	74,081	79,899	82,003	82,102	90,257	94,033	101,277	-	-	-	-	89,237
35-39	52,448	84,954	81,631	81,623	82,318	92,353	97,871	101,046	105,172	-	-	-	94,853
40-44	-	-	78,814	84,826	91,914	91,906	101,378	104,237	113,488	107,759	-	-	101,710
45-49	-	-	80,426	71,570	81,520	93,055	104,433	106,343	118,395	124,378	124,008	-	113,024
50-54	-	-	113,278	91,457	110,634	94,951	106,252	106,678	115,819	125,374	134,219	138,920	121,797
55-59	303,096	-	-	95,676	-	102,165	105,124	106,318	115,438	124,812	138,480	146,171	127,718
60-64	-	-	97,446	-	96,912	116,132	106,247	104,177	117,643	120,511	129,372	160,276	122,515
65 & Over	-	-	-	-	-	126,096	141,115	120,850	108,688	-	108,624	-	122,775
Avg. Annual Compensation	91,213	73,778	81,150	81,387	79,487	90,812	100,717	104,727	116,610	124,741	135,400	146,115	106,485

Milliman

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Exhibit C-4i: Age and Service Distribution of Active Members by Count and Average Compensation as of June 30, 2015 Safety Plan C

Count

Age	Years of Service 0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	Total Count
Under 25	59	39	3	0	0	0	0	0	0	0	0	0	101
25-29	139	157	20	1	2	1	0	0	0	0	0	0	320
30-34	77	82	22	3	0	1	0	0	0	0	0	0	185
35-39	28	21	9	0	0	0	0	0	0	0	0	0	58
40-44	7	7	5	0	0	0	1	0	0	0	0	0	20
45-49	8	4	1	1	1	0	0	0	0	0	0	0	15
50-54	7	9	5	0	0	0	0	0	0	0	0	0	21
55-59	0	1	1	0	0	0	0	0	0	0	0	0	2
60-64	0	2	0	0	0	0	0	0	0	0	0	0	2
65 & Over	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Count	325	322	66	5	3	2	1	0	0	0	0	0	724

Compensation

Age	Years of Service 0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	Average Comp.
Under 25	63,983	70,959	63,888	-	-	-	-	-	-	-	-	-	66,674
25-29	66,870	70,360	70,795	67,704	71,604	67,008	-	-	-	-	-	-	68,860
30-34	66,834	70,659	71,994	77,468	-	76,548	-	-	-	-	-	-	69,368
35-39	65,817	73,165	71,125	-	-	-	-	-	-	-	-	-	69,301
40-44	69,530	73,512	69,365	-	-	-	79,368	-	-	-	-	-	71,374
45-49	77,049	75,282	65,868	67,704	82,812	-	-	-	-	-	-	-	75,594
50-54	85,884	89,915	93,619	-	-	-	-	-	-	-	-	-	89,453
55-59	-	88,956	94,620	-	-	-	-	-	-	-	-	-	91,788
60-64	-	183,654	-	-	-	-	-	-	-	-	-	-	183,654
65 & Over	-	-	-	-	-	-	-	-	-	-	-	-	-
Avg. Annual Compensation	66,964	72,129	72,833	73,562	75,340	71,778	79,368	-	-	-	-	-	69,907

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Exhibit C-5: Distribution of Retired Members by Age and Retirement Year as of June 30, 2015 All Plans

Age	Retirement Year										Total Count	Average Monthly Benefit
	Pre-1974	1975-79	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19		
Under 35	0	0	0	0	0	1	8	28	50	17	104	$ 1,532
35-39	0	0	0	0	0	2	2	19	58	6	87	2,413
40-44	0	0	1	0	0	3	43	61	82	12	202	2,789
45-49	0	0	0	1	17	74	123	112	163	21	511	3,030
50-54	0	0	0	5	73	144	164	164	539	100	1,189	3,000
55-59	0	0	12	45	112	149	182	470	1,915	378	3,263	4,427
60-64	0	13	59	91	122	177	483	1,921	3,403	472	6,741	4,172
65-69	10	108	199	160	228	706	2,331	3,625	4,652	563	12,582	4,265
70-74	28	158	215	244	718	1,924	3,191	2,936	2,208	218	11,840	4,206
75-79	69	150	206	556	1,491	1,967	2,133	1,402	939	115	9,028	3,742
80-84	115	161	521	958	1,753	1,333	845	584	550	83	6,903	3,500
85-89	120	344	750	870	1,039	521	354	350	427	50	4,825	3,154
90-94	122	383	523	502	289	173	167	174	200	26	2,559	2,810
95-99	72	170	160	59	49	41	49	42	36	2	680	2,497
100 & Over	24	28	12	3	4	4	6	7	3	1	92	2,517
Total Count	560	1,515	2,658	3,494	5,895	7,219	10,081	11,895	15,225	2,064	**60,606**	
Avg Monthly Benefit	$ 2,071	$ 2,689	$ 2,784	$ 3,230	$ 3,944	$ 3,789	$ 4,389	$ 3,874	$ 564	$ 29,519		**$ 3,867**

Milliman

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Exhibit C-5a: Distribution of Retired Members by Age and Retirement Year as of June 30, 2015
General Plan A

Age	Retirement Year										Total Count	Average Monthly Benefit
	Pre-1974	1975-79	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19		
Under 35	0	0	0	0	0	0	0	7	8	0	15	$ 1,306
35-39	0	0	0	0	0	0	1	5	6	1	13	1,940
40-44	0	0	0	0	0	1	1	5	4	0	11	2,205
45-49	0	0	0	1	1	2	3	5	3	0	15	1,617
50-54	0	0	0	0	0	4	2	7	6	1	20	2,248
55-59	0	0	1	5	2	9	12	34	58	12	133	3,387
60-64	0	6	22	17	19	29	159	354	716	54	1,376	4,665
65-69	3	55	67	47	72	371	836	1,499	776	42	3,768	5,020
70-74	16	74	85	88	467	921	1,747	937	343	48	4,726	4,837
75-79	40	84	98	408	972	1,184	1,037	361	281	30	4,495	4,182
80-84	62	103	389	673	1,332	819	317	237	263	43	4,238	3,658
85-89	63	245	562	716	836	285	185	190	275	30	3,387	3,151
90-94	91	323	473	454	204	114	117	133	148	22	2,079	2,756
95-99	63	166	155	53	37	31	40	35	30	2	612	2,539
100 & Over	22	28	12	3	2	3	5	6	2	0	83	2,463
Total Count	360	1,084	1,864	2,465	3,944	3,773	4,462	3,815	2,919	285	**24,971**	
Avg Monthly Benefit	$ 1,602	$ 2,259	$ 2,311	$ 2,870	$ 3,869	$ 3,857	$ 5,099	$ 5,019	$ 408	$ 48,882		**$ 4,054**

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Exhibit C-5b: Distribution of Retired Members by Age and Retirement Year as of June 30, 2015
General Plan B

Age	Retirement Year										Total Count	Average Monthly Benefit
	Pre-1974	1975-79	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19		
Under 35	0	0	0	0	0	0	0	0	0	0	0	$ -
35-39	0	0	0	0	0	0	0	0	0	0	0	-
40-44	0	0	0	0	0	0	0	0	0	0	0	-
45-49	0	0	0	0	0	0	0	0	0	0	0	-
50-54	0	0	0	0	0	0	0	0	0	0	0	-
55-59	0	0	0	0	1	1	0	11	7	3	23	2,798
60-64	0	0	0	1	2	1	7	19	77	12	119	5,140
65-69	0	0	2	5	3	8	23	63	76	3	183	4,607
70-74	0	0	2	3	5	14	42	35	26	1	128	3,969
75-79	0	0	1	3	6	22	45	22	11	1	111	3,605
80-84	0	0	2	7	17	33	10	10	8	0	87	2,826
85-89	0	0	3	7	23	12	8	5	0	0	58	1,872
90-94	0	0	1	9	6	2	2	2	1	0	23	1,554
95-99	0	0	2	0	1	1	0	0	1	0	5	1,103
100 & Over	0	0	0	0	0	0	0	0	0	0	0	-
Total Count	0	0	13	35	64	94	137	167	207	20	**737**	
Avg Monthly Benefit	$ -	$ -	$ 1,228	$ 1,205	$ 1,770	$ 2,294	$ 3,231	$ 4,213	$ 617	$ 58,101		**$ 3,830**

Exhibit C-5c: Distribution of Retired Members by Age and Retirement Year as of June 30, 2015
General Plan C

Age	Retirement Year										Total Count	Average Monthly Benefit
	Pre-1974	1975-79	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19		
Under 35	0	0	0	0	0	0	0	0	0	0	0	$ -
35-39	0	0	0	0	0	0	0	0	1	0	1	1,470
40-44	0	0	0	0	0	0	0	0	2	0	2	1,336
45-49	0	0	0	0	0	0	0	0	0	1	1	1,163
50-54	0	0	0	0	0	0	1	0	0	0	1	4,118
55-59	0	0	0	1	0	1	0	3	7	1	13	2,644
60-64	0	1	2	4	2	3	7	16	42	6	83	4,089
65-69	0	0	3	2	1	2	17	24	49	3	101	4,201
70-74	0	0	1	3	8	10	13	31	16	0	82	2,985
75-79	0	0	0	7	12	14	27	8	7	1	76	2,304
80-84	0	0	1	4	9	16	11	10	3	0	54	2,195
85-89	0	0	2	7	14	3	5	4	2	0	37	1,676
90-94	0	0	2	3	8	1	0	0	0	0	14	1,036
95-99	0	0	0	0	1	0	1	1	0	0	3	1,717
100 & Over	0	0	0	0	0	0	0	0	0	0	0	-
Total Count	0	1	11	31	55	50	82	97	129	12	**468**	
Avg Monthly Benefit	$ -	$ 1,671	$ 1,095	$ 901	$ 1,306	$ 1,825	$ 2,502	$ 3,014	$ 409	$56,041		**$ 3,050**

Milliman
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Exhibit C-5d: Distribution of Retired Members by Age and Retirement Year as of June 30, 2015
General Plan D

Age	Retirement Year										Total Count	Average Monthly Benefit
	Pre-1974	1975-79	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19		
Under 35	0	0	0	0	0	0	3	7	17	5	32	$ 1,013
35-39	0	0	0	0	0	1	0	5	22	1	29	1,758
40-44	0	0	0	0	0	2	12	15	26	3	58	1,732
45-49	0	0	0	0	3	5	22	31	58	4	123	1,999
50-54	0	0	0	0	10	30	49	63	337	50	539	1,837
55-59	0	0	2	5	17	38	64	260	605	112	1,103	2,167
60-64	0	1	4	14	25	49	177	494	1,133	202	2,099	2,854
65-69	0	0	0	15	39	136	311	645	1,608	246	3,000	3,261
70-74	0	0	6	14	48	165	333	761	798	77	2,202	2,904
75-79	0	0	4	17	51	152	385	449	287	33	1,378	2,436
80-84	0	0	1	13	49	178	215	127	91	7	681	2,127
85-89	0	0	6	9	52	94	48	48	34	5	296	1,766
90-94	0	1	2	11	23	17	11	9	9	0	83	1,467
95-99	0	0	0	2	2	1	3	2	1	0	11	1,160
100 & Over	0	0	0	0	1	0	0	1	0	0	2	1,772
Total Count	0	2	25	100	320	868	1,633	2,917	5,026	745	**11,636**	
Avg Monthly Benefit	$ -	$ 5,247	$ 1,349	$ 1,374	$ 1,551	$ 1,795	$ 2,116	$ 2,516	$ 496	$ 21,373		**$ 2,702**

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Exhibit C-5e: Distribution of Retired Members by Age and Retirement Year as of June 30, 2015
General Plan E

Age	Retirement Year										Total Count	Average Monthly Benefit
	Pre-1974	1975-79	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19		
Under 35	0	0	0	0	0	1	1	5	6	3	16	$ 807
35-39	0	0	0	0	0	1	0	2	4	0	7	1,176
40-44	0	0	0	0	0	0	0	1	12	4	17	1,472
45-49	0	0	0	0	0	0	2	5	18	1	26	1,088
50-54	0	0	0	0	0	0	2	5	12	2	21	1,159
55-59	0	0	0	0	0	0	2	8	378	53	441	804
60-64	0	0	0	0	0	4	8	466	784	142	1,404	1,350
65-69	0	0	0	0	0	5	358	781	1,974	257	3,375	2,382
70-74	0	0	0	0	3	205	426	1,082	946	77	2,739	2,202
75-79	0	0	0	1	72	250	567	511	266	35	1,702	1,774
80-84	0	0	1	27	98	238	243	140	113	18	878	1,430
85-89	0	0	2	22	86	103	66	53	45	4	381	1,155
90-94	0	0	3	17	38	27	15	4	16	0	120	881
95-99	0	0	2	4	7	4	0	1	1	0	19	689
100 & Over	0	0	0	0	0	0	0	0	0	0	0	-
Total Count	0	0	8	71	304	838	1,690	3,064	4,575	596	**11,146**	
Avg Monthly Benefit	$ -	$ -	$ 319	$ 363	$ 691	$ 849	$ 1,306	$ 1,670	$ 356	$ 19,040		**$ 1,907**

Milliman
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Exhibit C-5f: Distribution of Retired Members by Age and Retirement Year as of June 30, 2015
Safety Plan A

Age	Retirement Year										Total Count	Average Monthly Benefit
	Pre-1974	1975-79	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19		
Under 35	0	0	0	0	0	0	0	0	6	0	6	$ 2,926
35-39	0	0	0	0	0	0	0	0	1	0	1	4,150
40-44	0	0	1	0	0	0	0	0	0	0	1	674
45-49	0	0	0	0	1	1	3	0	1	0	6	5,160
50-54	0	0	0	0	2	0	2	0	5	3	12	4,955
55-59	0	0	1	1	2	2	4	7	53	3	73	9,121
60-64	0	5	21	25	24	47	48	300	168	13	651	8,493
65-69	7	53	120	75	95	157	726	446	90	10	1,779	7,555
70-74	12	84	118	136	178	599	599	82	69	13	1,890	7,125
75-79	29	66	103	119	377	343	69	49	85	14	1,254	6,364
80-84	53	58	126	233	245	48	48	60	70	15	956	5,831
85-89	57	99	175	109	27	24	42	49	71	11	664	5,136
90-94	31	59	42	8	10	12	22	26	26	4	240	4,922
95-99	9	4	1	0	1	4	5	3	3	0	30	3,585
100 & Over	2	0	0	0	1	1	1	0	1	1	7	3,372
Total Count	200	428	708	706	963	1,238	1,569	1,022	649	87	**7,570**	
Avg Monthly Benefit	$ 2,916	$ 3,768	$ 4,190	$ 5,347	$ 6,568	$ 7,256	$ 8,434	$ 8,614	$ 841	$ 53,633		**$ 6,802**

Milliman
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Exhibit C-5g: Distribution of Retired Members by Age and Retirement Year as of June 30, 2015
Safety Plan B

Age	Retirement Year										Total Count	Average Monthly Benefit
	Pre-1974	1975-79	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19		
Under 35	0	0	0	0	0	0	4	9	13	9	35	$ 2,194
35-39	0	0	0	0	0	0	1	7	24	4	36	3,329
40-44	0	0	0	0	0	0	30	40	38	5	113	3,631
45-49	0	0	0	0	12	66	93	71	83	15	340	3,582
50-54	0	0	0	5	61	110	108	89	179	44	596	4,101
55-59	0	0	8	33	90	98	100	147	807	194	1,477	7,098
60-64	0	0	10	30	50	44	77	272	483	43	1,009	7,272
65-69	0	0	7	16	18	27	60	167	78	2	375	5,929
70-74	0	0	3	0	9	10	31	8	10	2	73	4,102
75-79	0	0	0	1	1	2	3	2	2	1	12	4,104
80-84	0	0	1	1	3	1	1	0	2	0	9	1,920
85-89	0	0	0	0	1	0	0	1	0	0	2	968
90-94	0	0	0	0	0	0	0	0	0	0	0	-
95-99	0	0	0	0	0	0	0	0	0	0	0	-
100 & Over	0	0	0	0	0	0	0	0	0	0	0	-
Total Count	0	0	29	86	245	358	508	813	1,719	319	**4,077**	
Avg Monthly Benefit	$ -	$ -	$ 2,192	$ 2,371	$ 3,158	$ 3,464	$ 3,838	$ 5,748	$ 1,485	$ 41,460		**$ 6,054**

Exhibit C-5h: Distribution of Retired Members and Beneficiaries by Age and Retirement Year as of June 30, 2015
Safety Plan C

Age	Retirement Year										Total Count	Average Monthly Benefit
	Pre-1974	1975-79	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19		
Under 35	0	0	0	0	0	0	0	0	0	0	0	$ -
35-39	0	0	0	0	0	0	0	0	0	0	0	-
40-44	0	0	0	0	0	0	0	0	0	0	0	-
45-49	0	0	0	0	0	0	0	0	0	0	0	-
50-54	0	0	0	0	0	0	0	0	0	0	0	-
55-59	0	0	0	0	0	0	0	0	0	0	0	-
60-64	0	0	0	0	0	0	0	0	0	0	0	-
65-69	0	0	0	0	0	0	0	0	1	0	1	16,175
70-74	0	0	0	0	0	0	0	0	0	0	0	-
75-79	0	0	0	0	0	0	0	0	0	0	0	-
80-84	0	0	0	0	0	0	0	0	0	0	0	-
85-89	0	0	0	0	0	0	0	0	0	0	0	-
90-94	0	0	0	0	0	0	0	0	0	0	0	-
95-99	0	0	0	0	0	0	0	0	0	0	0	-
100 & Over	0	0	0	0	0	0	0	0	0	0	0	-
Total Count	0	0	0	0	0	0	0	0	1	0	**1**	
Avg Monthly Benefit	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 107,834,933,334		**$ 16,175**

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Appendix D: Member Contribution Rates

This section illustrates the member normal contribution rates and the normal plus cost-of-living contribution rates by entry age.

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Exhibit D-1: Normal Member Contribution Rates

	General					Safety		
Entry Age	Plan A	Plan B	Plan C	Plan D	Plan G	Plan A	Plan B	Plan C
16	2.36%	4.71%	3.96%	3.96%	6.38%	3.58%	7.17%	10.78%
17	2.41%	4.82%	4.05%	4.05%	6.38%	3.58%	7.17%	10.78%
18	2.46%	4.93%	4.14%	4.14%	6.38%	3.58%	7.17%	10.78%
19	2.52%	5.04%	4.23%	4.23%	6.38%	3.66%	7.31%	10.78%
20	2.58%	5.15%	4.33%	4.33%	6.38%	3.73%	7.46%	10.78%
21	2.63%	5.27%	4.43%	4.43%	6.38%	3.81%	7.61%	10.78%
22	2.69%	5.39%	4.53%	4.53%	6.38%	3.89%	7.77%	10.78%
23	2.75%	5.51%	4.63%	4.63%	6.38%	3.96%	7.93%	10.78%
24	2.82%	5.63%	4.74%	4.74%	6.38%	4.05%	8.09%	10.78%
25	2.88%	5.76%	4.84%	4.84%	6.38%	4.13%	8.26%	10.78%
26	2.94%	5.88%	4.95%	4.95%	6.38%	4.21%	8.42%	10.78%
27	3.01%	6.02%	5.06%	5.06%	6.38%	4.30%	8.60%	10.78%
28	3.07%	6.15%	5.17%	5.17%	6.38%	4.39%	8.77%	10.78%
29	3.14%	6.29%	5.29%	5.29%	6.38%	4.48%	8.96%	10.78%
30	3.21%	6.43%	5.41%	5.41%	6.38%	4.57%	9.14%	10.78%
31	3.29%	6.57%	5.53%	5.53%	6.38%	4.67%	9.34%	10.78%
32	3.36%	6.72%	5.65%	5.65%	6.38%	4.77%	9.53%	10.78%
33	3.44%	6.87%	5.78%	5.78%	6.38%	4.87%	9.74%	10.78%
34	3.51%	7.03%	5.91%	5.91%	6.38%	4.98%	9.95%	10.78%
35	3.60%	7.19%	6.04%	6.04%	6.38%	5.09%	10.17%	10.78%
36	3.68%	7.36%	6.17%	6.17%	6.38%	5.19%	10.39%	10.78%
37	3.76%	7.52%	6.31%	6.31%	6.38%	5.30%	10.60%	10.78%
38	3.85%	7.69%	6.46%	6.46%	6.38%	5.41%	10.81%	10.78%
39	3.93%	7.86%	6.60%	6.60%	6.38%	5.51%	11.02%	10.78%
40	4.02%	8.03%	6.75%	6.75%	6.38%	5.61%	11.23%	10.78%
41	4.10%	8.20%	6.91%	6.91%	6.38%	5.71%	11.43%	10.78%
42	4.18%	8.37%	7.07%	7.07%	6.38%	5.81%	11.62%	10.78%
43	4.27%	8.53%	7.23%	7.23%	6.38%	5.91%	11.81%	10.78%
44	4.34%	8.69%	7.39%	7.39%	6.38%	5.99%	11.99%	10.78%
45	4.42%	8.85%	7.54%	7.54%	6.38%	6.07%	12.14%	10.78%
46	4.50%	9.00%	7.70%	7.70%	6.38%	6.12%	12.24%	10.78%
47	4.57%	9.14%	7.86%	7.86%	6.38%	6.12%	12.24%	10.78%
48	4.64%	9.28%	8.01%	8.01%	6.38%	6.12%	12.24%	10.78%
49	4.70%	9.40%	8.16%	8.16%	6.38%	6.12%	12.24%	10.78%
50	4.75%	9.49%	8.31%	8.31%	6.38%	6.12%	12.24%	10.78%
51	4.77%	9.55%	8.45%	8.45%	6.38%	6.12%	12.24%	10.78%
52	4.78%	9.56%	8.59%	8.59%	6.38%	6.12%	12.24%	10.78%
53	4.78%	9.56%	8.72%	8.72%	6.38%	6.12%	12.24%	10.78%
54	4.78%	9.56%	8.83%	8.83%	6.38%	6.12%	12.24%	10.78%
55	4.78%	9.56%	8.92%	8.92%	6.38%	6.12%	12.24%	10.78%
56	4.78%	9.56%	8.97%	8.97%	6.38%	6.12%	12.24%	10.78%
57	4.78%	9.56%	8.98%	8.98%	6.38%	6.12%	12.24%	10.78%
58	4.78%	9.56%	8.98%	8.98%	6.38%	6.12%	12.24%	10.78%
59	4.78%	9.56%	8.98%	8.98%	6.38%	6.12%	12.24%	10.78%
60	4.78%	9.56%	8.98%	8.98%	6.38%	6.12%	12.24%	10.78%

Note: For general members entering after age 60, the rate equals the rate at age 60. Likewise, for safety members entering after age 50, the rate equals the rate at age 50.

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Exhibit D-2: Normal Plus Cost-of-Living Member Contribution Rates

	General					Safety		
Entry Age	Plan A	Plan B	Plan C	Plan D	Plan G	Plan A	Plan B	Plan C
16	4.35%	5.79%	4.93%	4.83%	7.58%	6.94%	9.30%	13.44%
17	4.44%	5.92%	5.05%	4.94%	7.58%	6.94%	9.30%	13.44%
18	4.53%	6.06%	5.16%	5.05%	7.58%	6.94%	9.30%	13.44%
19	4.64%	6.19%	5.27%	5.15%	7.58%	7.09%	9.48%	13.44%
20	4.75%	6.33%	5.39%	5.28%	7.58%	7.23%	9.67%	13.44%
21	4.84%	6.48%	5.52%	5.40%	7.58%	7.38%	9.87%	13.44%
22	4.95%	6.62%	5.64%	5.52%	7.58%	7.54%	10.08%	13.44%
23	5.06%	6.77%	5.77%	5.64%	7.58%	7.67%	10.28%	13.44%
24	5.19%	6.92%	5.90%	5.78%	7.58%	7.85%	10.49%	13.44%
25	5.30%	7.08%	6.03%	5.90%	7.58%	8.00%	10.71%	13.44%
26	5.41%	7.23%	6.17%	6.03%	7.58%	8.16%	10.92%	13.44%
27	5.54%	7.40%	6.30%	6.17%	7.58%	8.33%	11.15%	13.44%
28	5.65%	7.56%	6.44%	6.30%	7.58%	8.50%	11.37%	13.44%
29	5.78%	7.73%	6.59%	6.45%	7.58%	8.68%	11.62%	13.44%
30	5.91%	7.90%	6.74%	6.59%	7.58%	8.85%	11.85%	13.44%
31	6.06%	8.07%	6.89%	6.74%	7.58%	9.05%	12.11%	13.44%
32	6.19%	8.26%	7.04%	6.89%	7.58%	9.24%	12.36%	13.44%
33	6.34%	8.44%	7.20%	7.04%	7.58%	9.43%	12.63%	13.44%
34	6.46%	8.64%	7.36%	7.20%	7.58%	9.65%	12.90%	13.44%
35	6.63%	8.84%	7.52%	7.36%	7.58%	9.86%	13.19%	13.44%
36	6.78%	9.04%	7.69%	7.52%	7.58%	10.05%	13.47%	13.44%
37	6.93%	9.24%	7.86%	7.69%	7.58%	10.27%	13.75%	13.44%
38	7.09%	9.45%	8.05%	7.87%	7.58%	10.48%	14.02%	13.44%
39	7.24%	9.66%	8.22%	8.04%	7.58%	10.67%	14.29%	13.44%
40	7.40%	9.87%	8.41%	8.23%	7.58%	10.87%	14.56%	13.44%
41	7.55%	10.08%	8.61%	8.42%	7.58%	11.06%	14.82%	13.44%
42	7.70%	10.29%	8.81%	8.62%	7.58%	11.26%	15.07%	13.44%
43	7.86%	10.48%	9.01%	8.81%	7.58%	11.45%	15.31%	13.44%
44	7.99%	10.68%	9.21%	9.01%	7.58%	11.60%	15.55%	13.44%
45	8.14%	10.88%	9.39%	9.19%	7.58%	11.76%	15.74%	13.44%
46	8.29%	11.06%	9.59%	9.38%	7.58%	11.86%	15.87%	13.44%
47	8.42%	11.23%	9.79%	9.58%	7.58%	11.86%	15.87%	13.44%
48	8.55%	11.40%	9.98%	9.76%	7.58%	11.86%	15.87%	13.44%
49	8.66%	11.55%	10.16%	9.94%	7.58%	11.86%	15.87%	13.44%
50	8.75%	11.66%	10.35%	10.13%	7.58%	11.86%	15.87%	13.44%
51	8.79%	11.74%	10.53%	10.30%	7.58%	11.86%	15.87%	13.44%
52	8.80%	11.75%	10.70%	10.47%	7.58%	11.86%	15.87%	13.44%
53	8.80%	11.75%	10.86%	10.63%	7.58%	11.86%	15.87%	13.44%
54	8.80%	11.75%	11.00%	10.76%	7.58%	11.86%	15.87%	13.44%
55	8.80%	11.75%	11.11%	10.87%	7.58%	11.86%	15.87%	13.44%
56	8.80%	11.75%	11.17%	10.93%	7.58%	11.86%	15.87%	13.44%
57	8.80%	11.75%	11.19%	10.94%	7.58%	11.86%	15.87%	13.44%
58	8.80%	11.75%	11.19%	10.94%	7.58%	11.86%	15.87%	13.44%
59	8.80%	11.75%	11.19%	10.94%	7.58%	11.86%	15.87%	13.44%
60	8.80%	11.75%	11.19%	10.94%	7.58%	11.86%	15.87%	13.44%

Note: For general members entering after age 60, the rate equals the rate at age 60. Likewise, for safety members entering after age 50, the rate equals the rate at age 50.

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Appendix E: Historical Information

This section presents historical statistical information on LACERA's membership and the calculated contribution rates.

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Exhibit E-1: Active Membership Data

	General Members					Safety Members					Total Members				
Valuation Date (June 30)	Number	Annual Salary (in millions)	Average Age	Average Credited Service	Average Monthly Salary	Number	Annual Salary (in millions)	Average Age	Average Credited Service	Average Monthly Salary	Number	Annual Salary (in millions)	Average Age	Average Credited Service	Average Monthly Salary
1998	65,782	$ 2,837	44.7	12.9	$ 3,594	10,947	$ 725	39.9	13.8	$ 5,519	76,729	$ 3,562	44.0	13.0	$ 3,870
1999	68,652	$ 3,105	44.6	12.7	$ 3,769	11,024	$ 753	40.0	13.7	$ 5,696	79,676	$ 3,858	43.9	12.8	$ 4,035
2000	71,940	$ 3,353	44.4	12.5	$ 3,884	11,264	$ 790	39.8	13.8	$ 5,849	83,204	$ 4,143	43.8	12.6	$ 4,150
2001	75,048	$ 3,608	44.5	12.3	$ 4,006	12,021	$ 860	39.6	13.0	$ 5,967	87,069	$ 4,468	43.9	12.4	$ 4,277
2002	77,062	$ 3,833	44.7	12.3	$ 4,145	12,190	$ 894	39.6	13.8	$ 6,115	89,252	$ 4,727	44.0	12.5	$ 4,414
2003	75,995	$ 3,954	45.2	12.7	$ 4,336	11,765	$ 899	40.1	13.7	$ 6,370	87,760	$ 4,853	44.5	12.9	$ 4,609
2004	74,826	$ 3,967	45.6	13.1	$ 4,418	11,409	$ 885	40.6	14.7	$ 6,467	86,235	$ 4,852	44.9	13.3	$ 4,689
2005	75,167	$ 4,046	45.8	13.2	$ 4,486	11,217	$ 905	41.0	14.9	$ 6,722	86,384	$ 4,951	45.2	13.4	$ 4,777
2006	77,167	$ 4,267	45.7	13.0	$ 4,608	11,464	$ 969	41.2	15.0	$ 7,047	88,631	$ 5,236	45.1	13.3	$ 4,924
2007	79,829	$ 4,673	45.7	12.8	$ 4,878	12,267	$ 1,104	40.8	14.4	$ 7,499	92,096	$ 5,777	45.1	13.0	$ 5,227
2008	81,664	$ 5,017	45.8	12.8	$ 5,119	12,828	$ 1,187	40.5	13.7	$ 7,714	94,492	$ 6,204	45.1	12.9	$ 5,471
2009	82,878	$ 5,348	46.1	13.1	$ 5,377	12,910	$ 1,240	40.8	14.0	$ 8,002	95,788	$ 6,588	45.4	13.2	$ 5,731
2010	81,413	$ 5,318	46.6	13.6	$ 5,444	12,997	$ 1,257	41.3	14.5	$ 8,062	94,410	$ 6,575	45.9	13.7	$ 5,804
2011	80,145	$ 5,295	47.0	14.0	$ 5,506	12,641	$ 1,240	41.9	15.1	$ 8,172	92,786	$ 6,535	46.3	14.2	$ 5,869
2012	79,467	$ 5,272	47.3	14.4	$ 5,528	12,485	$ 1,230	42.3	15.5	$ 8,209	91,952	$ 6,502	46.7	14.6	$ 5,892
2013	79,006	$ 5,253	47.6	14.8	$ 5,541	12,539	$ 1,235	42.3	15.7	$ 8,207	91,545	$ 6,488	46.9	14.9	$ 5,906
2014	79,943	$ 5,488	47.6	14.9	$ 5,720	12,523	$ 1,253	42.6	15.8	$ 8,337	92,466	$ 6,741	47.0	15.0	$ 6,075
2015	81,228	$ 5,706	47.6	14.8	$ 5,854	12,446	$ 1,300	42.8	16.0	$ 8,702	93,674	$ 7,006	46.9	15.0	$ 6,233

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Exhibit E-2: Retired Membership Data

	General Members				Safety Members				Total Members			
Valuation Date (June 30)	Number	Annual Allowance (in millions)	Average Age	Average Monthly Benefit	Number	Annual Allowance (in millions)	Average Age	Average Monthly Benefit	Number	Annual Allowance (in millions)	Average Age	Average Monthly Benefit
1998	35,462	$ 692	71.1	$ 1,626	7,425	$ 267	62.5	$ 3,001	42,887	$ 959	69.6	$ 1,864
1999	35,837	$ 725	71.4	$ 1,686	7,674	$ 291	63.1	$ 3,166	43,511	$ 1,016	70.0	$ 1,947
2000	36,596	$ 780	71.4	$ 1,778	8,032	$ 324	63.1	$ 3,358	44,628	$ 1,104	69.9	$ 2,062
2001	37,077	$ 890	71.6	$ 2,001	8,319	$ 382	63.4	$ 3,828	45,396	$ 1,272	70.1	$ 2,336
2002	37,618	$ 914	71.8	$ 2,025	8,624	$ 403	63.7	$ 3,892	46,242	$ 1,317	70.3	$ 2,374
2003	38,283	$ 984	71.9	$ 2,142	8,949	$ 443	63.9	$ 4,128	47,232	$ 1,427	70.4	$ 2,518
2004	39,097	$ 1,056	72.0	$ 2,250	9,235	$ 478	64.2	$ 4,318	48,332	$ 1,534	70.5	$ 2,645
2005	40,251	$ 1,138	72.1	$ 2,355	9,518	$ 514	64.6	$ 4,504	49,769	$ 1,652	70.7	$ 2,766
2006	41,309	$ 1,224	72.2	$ 2,469	9,683	$ 549	65.0	$ 4,728	50,992	$ 1,773	70.8	$ 2,898
2007	41,584	$ 1,280	72.2	$ 2,565	9,808	$ 578	65.4	$ 4,914	51,392	$ 1,858	70.9	$ 3,013
2008	42,298	$ 1,356	72.4	$ 2,671	10,052	$ 623	65.8	$ 5,167	52,350	$ 1,979	71.1	$ 3,150
2009	42,825	$ 1,423	72.6	$ 2,768	10,244	$ 663	66.3	$ 5,394	53,069	$ 2,086	71.4	$ 3,275
2010	43,752	$ 1,514	72.7	$ 2,883	10,444	$ 706	66.7	$ 5,638	54,196	$ 2,220	71.6	$ 3,414
2011	44,726	$ 1,597	72.9	$ 2,976	10,645	$ 746	67.0	$ 5,836	55,371	$ 2,343	71.7	$ 3,526
2012	45,899	$ 1,686	73.0	$ 3,061	10,871	$ 789	67.3	$ 6,049	56,770	$ 2,475	71.9	$ 3,633
2013	46,939	$ 1,774	73.2	$ 3,149	11,147	$ 837	67.5	$ 6,261	58,086	$ 2,611	72.1	$ 3,746
2014	47,867	$ 1,836	73.4	$ 3,196	11,362	$ 876	67.8	$ 6,427	59,229	$ 2,712	72.3	$ 3,816
2015	48,958	$ 1,898	73.5	$ 3,231	11,648	$ 914	68.0	$ 6,541	60,606	$ 2,813	72.5	$ 3,867

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Exhibit E-3: Contribution Rates

	General Plans					Safety Plans					Total All Plans				
Valuation Date (June 30)	Calculated Normal Cost	Member Contributions	Net Employer Normal Cost	UAAL Rate	Total Employer Contribution	Calculated Normal Cost	Member Contributions	Net Employer Normal Cost	UAAL Rate	Total Employer Contribution	Calculated Normal Cost	Member Contributions	Net Employer Normal Cost	UAAL Rate	Total Employer Contribution
1998	10.27%	3.06%	7.21%	0.00%	7.21%	25.00%	8.70%	16.30%	0.00%	16.30%	13.27%	4.21%	9.06%	0.00%	9.06%
1999	10.98%	3.20%	7.78%	0.00%	7.78%	25.41%	9.12%	16.29%	0.00%	16.29%	13.81%	4.36%	9.45%	0.00%	9.45%
2000	10.91%	3.33%	7.58%	0.00%	7.58%	25.22%	9.44%	15.78%	0.00%	15.78%	13.66%	4.51%	9.15%	0.00%	9.15%
2001	11.27%	3.45%	7.82%	0.00%	7.82%	25.47%	9.27%	16.20%	0.00%	16.20%	14.01%	4.57%	9.44%	0.00%	9.44%
2002	12.04%	3.53%	8.51%	0.21%	8.72%	25.92%	9.37%	16.55%	0.21%	16.76%	14.66%	4.63%	10.03%	0.21%	10.24%
2003	12.25%	3.72%	8.53%	4.66%	13.19%	25.89%	9.55%	16.34%	4.66%	21.00%	14.80%	4.81%	9.99%	4.66%	14.65%
2004	12.20%	3.82%	8.38%	6.41%	14.79%	24.61%	9.61%	15.00%	6.41%	21.41%	14.48%	4.88%	9.60%	6.41%	16.01%
2005	12.22%	3.91%	8.31%	5.33%	13.64%	24.69%	9.68%	15.01%	5.33%	20.34%	14.50%	4.97%	9.53%	5.33%	14.86%
2006	12.22%	4.07%	8.15%	3.49%	11.64%	24.70%	9.70%	15.00%	3.49%	18.49%	14.54%	5.12%	9.42%	3.49%	12.91%
2007	13.15%	4.38%	8.77%	2.24%	11.01%	26.04%	10.18%	15.86%	2.24%	18.10%	15.67%	5.51%	10.16%	2.24%	12.40%
2008	13.18%	4.47%	8.71%	1.99%	10.70%	26.01%	10.22%	15.79%	1.99%	17.78%	15.68%	5.59%	10.09%	1.99%	12.08%
2009	13.29%	4.57%	8.72%	4.12%	12.84%	26.08%	10.21%	15.87%	4.12%	19.99%	15.75%	5.65%	10.10%	4.12%	14.22%
2010	13.32%	4.68%	8.64%	6.47%	15.11%	25.00%	10.19%	14.81%	6.47%	21.28%	15.59%	5.75%	9.84%	6.47%	16.31%
2011	13.36%	4.91%	8.45%	7.89%	16.34%	25.09%	10.50%	14.59%	7.89%	22.48%	15.65%	6.00%	9.65%	7.89%	17.54%
2012	13.50%	5.01%	8.49%	10.09%	18.58%	25.42%	10.52%	14.90%	10.09%	24.99%	15.81%	6.08%	9.73%	10.09%	19.82%
2013	13.25%	5.01%	8.24%	11.90%	20.14%	24.67%	10.26%	14.41%	11.90%	26.31%	15.47%	6.03%	9.44%	11.90%	21.34%
2014	13.14%	5.09%	8.05%	10.04%	18.09%	24.71%	10.23%	14.48%	10.04%	24.52%	15.37%	6.08%	9.29%	10.04%	19.33%
2015	13.28%	5.22%	8.06%	8.49%	16.55%	24.71%	10.26%	14.45%	8.49%	22.94%	15.46%	6.18%	9.28%	8.49%	17.77%

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Exhibit E-4: Funded Status History

(Dollars in Millions)

		Market Value Basis			Actuarial Value Basis						
Valuation Year	Actuarial Accrued Liability (AAL)	Market Value of Assets (MVA)[1]	Unfunded AAL (UAAL)/Surplus MVA Basis	Funded Ratio MVA Basis	Actuarial Value of Assets (AVA)[1]	Unfunded AAL (UAAL)/Surplus AVA Basis	Funded Ratio AVA Basis	Covered Payroll	Asset Smoothing Ratio (AVA / MVA)	Asset Volatility Ratio (MVA / Payroll)	Liability Volatility Ratio (AAL / Payroll)
1996 [2]	17,300	18,600	1,300	107.5%	17,700	400	102.3%	3,356	95.2%	5.5	5.2
1997 [2]	19,300	21,100	1,800	109.3%	19,600	300	101.6%	3,373	92.9%	6.3	5.7
1998	20,960	22,332	1,372	106.5%	20,851	(109)	99.5%	3,562	93.4%	6.3	5.9
1999	22,785	24,382	1,597	107.0%	23,536	751	103.3%	3,858	96.5%	6.3	5.9
2000	24,721	27,257	2,536	110.3%	25,427	706	102.9%	4,143	93.3%	6.6	6.0
2001	26,490	23,916	(2,574)	90.3%	26,490	-	100.0%	4,469	110.8%	5.4	5.9
2002	28,437	24,085	(4,352)	84.7%	28,262	(175)	99.4%	4,730	117.3%	5.1	6.0
2003	30,474	24,616	(5,858)	80.8%	26,564	(3,910)	87.2%	4,934	107.9%	5.0	6.2
2004	32,700	28,094	(4,606)	85.9%	27,089	(5,611)	82.8%	4,942	96.4%	5.7	6.6
2005	34,375	30,904	(3,471)	89.9%	29,497	(4,878)	85.8%	5,051	95.4%	6.1	6.8
2006	36,259	34,256	(2,003)	94.5%	32,820	(3,439)	90.5%	5,333	95.8%	6.4	6.8
2007	39,503	40,073	570	101.4%	37,042	(2,461)	93.8%	5,886	92.4%	6.8	6.7
2008	41,975	37,834	(4,141)	90.1%	39,662	(2,313)	94.5%	6,257	104.8%	6.0	6.7
2009	44,469	29,723	(14,746)	66.8%	39,542	(4,927)	88.9%	6,673	133.0%	4.5	6.7
2010	46,646	32,629	(14,017)	69.9%	38,839	(7,807)	83.3%	6,739	119.0%	4.8	6.9
2011	48,599	38,587	(10,012)	79.4%	39,194	(9,405)	80.6%	6,705	101.6%	5.8	7.2
2012	50,809	37,453	(13,356)	73.7%	39,039	(11,770)	76.8%	6,675	104.2%	5.6	7.6
2013	53,247	41,334	(11,913)	77.6%	39,932	(13,315)	75.0%	6,656	96.6%	6.2	8.0
2014	54,942	47,223	(7,719)	86.0%	43,654	(11,288)	79.5%	6,815	92.4%	6.9	8.1
2015	56,819	48,308	(8,511)	85.0%	47,328	(9,491)	83.3%	7,078	98.0%	6.8	8.0

[1] *Asset values exclude non-valuation reserves*
[2] *Only rounded values are available.*

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Exhibit E-5: Reconciliation of Changes in Unfunded Actuarial Accrued Liability or Surplus

(Dollars in Millions)

Valuation Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Prior Year UAAL	3,910	5,611	4,878	3,439	2,461	2,313	4,927	7,807	9,405	11,770	13,315	11,288
Normal Cost	770	769	787	882	990	1,053	1,219	1,200	1,237	1,430	1,163	1,068
Contributions	(815)	(1,076)	(1,196)	(1,258)	(1,249)	(1,310)	(1,322)	(1,461)	(1,646)	(1,455)	(1,824)	1,936
Interest	357	435	378	267	191	179	382	605	724	895	999	814
Changes in Assumptions/Methodology	697	-	-	515	-	-	54	221	457	511	-	-
Changes in Benefit Provisions	-	-	-	-	-	-	-	-	-	-	-	-
Expected Current Year UAAL	4,919	5,739	4,847	3,845	2,393	2,235	5,260	8,372	10,177	13,151	13,653	15,106
Actual Current Year UAAL	5,611	4,878	3,439	2,461	2,313	4,927	7,807	9,405	11,770	13,315	11,288	9,491
Total (Gain)/Loss on UAAL	692	(861)	(1,408)	(1,384)	(80)	2,692	2,547	1,033	1,593	164	(2,365)	(5,615)
Asset (Gains)/Losses	871	(790)	(1,642)	(2,187)	(429)	2,465	2,879	1,761	2,337	893	(1,664)	(1,263)
Ventura Settlement/Court Cases	-	-	50	-	15	-	-	-	-	-	-	-
Salary Increases	(270)	(115)	156	673	298	380	(353)	(579)	(629)	(563)	(291)	79
All Other Actuarial (Gains)/Losses	91	44	28	130	36	(153)	21	(149)	(115)	(166)	(410)	(4,431)

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Exhibit E-6: Reconciliation of Changes in Employer Contribution Rate

Valuation Year	Prior Year Contribution Rate	Changes in Existing Amortization Bases	Assumption/ Method Changes	Salary/Payroll Variations	Plan Amendments	Asset (Gains)/Losses	Demographic/Other (Gains)/Losses	Current Year Contribution Rate
2004	14.65%	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	16.01%
2005	16.01%	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]	14.86%
2006	14.86%	-0.29%	0.00%	0.02%	0.00%	-1.82%	0.14%	12.91%
2007	12.91%	-0.28%	1.34%	0.61%	0.00%	-2.14%	-0.04%	12.40%
2008	12.40%	-0.17%	0.00%	0.21%	0.00%	-0.24%	-0.12%	12.08%
2009	12.08%	-0.04%	-1.76%	0.21%	0.00%	3.91%	-0.18%	14.22%
2010	14.22%	0.00%	-0.27%	-0.10%	0.00%	2.29%	0.17%	16.31%
2011	16.31%	0.00%	0.25%	-0.14%	0.00%	1.39%	-0.27%	17.54%
2012	17.54%	0.00%	0.54%	-0.11%	0.00%	1.92%	-0.07%	19.82%
2013	19.82%	0.00%	0.82%	-0.01%	0.00%	0.74%	-0.03%	21.34%
2014	21.34%	0.00%	0.00%	-0.15%	0.00%	-1.43%	-0.43%	19.33%
2015	19.33%	0.00%	0.00%	0.04%	0.00%	-1.04%	-0.56%	17.77%

[1] *Data not available.*

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Exhibit E-7: Funding Policy History

	Description of changes, if any	Effective Date	Impact on Contribution Rate	Impact on Funding Ratio	Rationale
2009	Changed from 3-year to 5-year asset smoothing. Included STAR reserve as a valuation asset. Adopted 30-year layered amortization period.	June 30, 2009	-1.68% *	4.40%	See June 30, 2009 valuation report.
2010	Included STAR reserve as a valuation asset.	June 30, 2010	-0.52% *	1.40%	See June 30, 2010 valuation report.
2011	Included STAR reserve as a valuation asset.	June 30, 2011	-0.52% *	1.20%	See June 30, 2011 valuation report.
2012	Included STAR reserve as a valuation asset for 2012 and future valuations (adopted February 2013).	June 30, 2012	-0.53% *	1.20%	See June 30, 2012 valuation report.

**Note that savings due to inclusion of STAR reserve as valuation asset are not cumulative from year to year.*

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Exhibit E-8: History of Changes in Economic Assumptions

(Years with no changes excluded)

	Price Inflation	Wage Inflation	Real Wage Inflation[1]	Investment Return Assumption	Real Investment Return[2]	Effective Date	Change in Contribution Rate	Change in Funding Ratio	Rationale
2004	3.50%	3.75%	0.25%	7.75%	4.25%	July 1, 2004	1.65%	N/A[3]	See 2004 Investigation of Experience Report.
2007	3.50%	4.00%	0.50%	7.75%	4.25%	July 1, 2007	0.66%	-1.3%	See 2007 Investigation of Experience Report.
2011	3.45%	3.95%	0.50%	7.70%	4.25%	July 1, 2011	0.25%	-0.3%	See 2010 Investigation of Experience Report.
2012	3.35%	3.85%	0.50%	7.60%	4.25%	July 1, 2012	0.54%	-0.7%	See 2010 Investigation of Experience Report.
2013	3.00%	3.50%	0.50%	7.50%	4.50%	July 1, 2013	0.37%	-0.1%	See 2013 Investigation of Experience Report.

[1] *Excess of assumed wage inflation over price inflation.*
[2] *Excess of assumed investment return over price inflation.*
[3] *Information not available.*

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Exhibit E-9: History of Changes in Demographic and Other Non-Economic Assumptions

(Years with no changes excluded)

	Demographic Assumption Revisions	Effective Date	Change in Contribution Rate	Change in Funding Ratio	Rationale
2004	Mortality, merit salary scale, retirement, termination, probability of refund, probability of eligible survivor revised.	July 1, 2004	-0.63%	N/A[1]	Refer to the 2004 Investigation of Experience Report.
2007	Mortality, retirement, termination, probability of refund, merit salary scale for Safety members revised.	July 1, 2007	0.68%	N/A[1]	Refer to the 2007 Investigation of Experience Report.
2010	Mortality, retirement, termination, probability of refund, assumed benefit commencement age revised.	July 1, 2010	-0.27%	-0.1%	Refer to the 2010 Investigation of Experience Report.
2013	Mortality, retirement, termination, probability of refund, merit salary scale for Safety members, probability of eligible survivor, assumption for beneficiary age, reciprocity assumption revised.	July 1, 2013	0.45%	-0.6%	Refer to the 2013 Investigation of Experience Report.

[1] *Information not available.*

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Appendix F: Glossary

The following definitions include excerpts from a list adopted by the major actuarial organizations in the United States. In some cases, the definitions have been modified for specific applicability to LACERA and include terms used exclusively by LACERA. Defined terms are capitalized throughout this Appendix.

Accrued Benefit — The amount of an individual's benefit (whether or not vested) as of a specific date, determined in accordance with the terms of a pension plan and based on compensation and service to that date.

Actuarial Accrued Liability — That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of pension plan benefits and expenses which is not provided for by future Normal Costs.

Actuarial Assumptions — Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disability, and retirement; changes in compensation; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; and other relevant items.

Actuarial Gain (Loss) — A measure of the difference between actual experience and that expected based on a set of Actuarial Assumptions during the period between two Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.

Actuarial Present Value — The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions.

Actuarial Valuation — The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a pension plan.

Actuarial Value of Assets — The value of cash, investments and other property belonging to a pension plan, as used by the actuary for the purpose of an Actuarial Valuation.

Actuarially Equivalent — Of equal Actuarial Present Value, determined as of a given date with each value based on the same set of Actuarial Assumptions.

Amortization Payment — That portion of the pension plan contribution which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

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Contingency Reserve	Reserves accumulated for future earning deficiencies, investment losses, and other contingencies. Additions include investment income and other revenues; deductions include investment expense, administrative expense, interest allocated to other reserves, funding the STAR Reserve, and distributions to the Contribution Credit Reserve. The Contingency Reserve is used to satisfy the California Government Code requirement for (31592 and 31592.2) LACERA to reserve 1% of the assets against earning deficiencies, investment losses, and other contingencies.
County Contribution Credit Reserve	The accumulated balance of the County's proportionate share of excess earnings as stipulated in the Retirement System Funding Agreement between LACERA and the County. Additions include distributions from excess earning during the fiscal years ending 1994 through 1998 and related earnings. Deductions include payments, as the County authorizes, for future employer contributions due LACERA and for funding a portion of the Retiree Healthcare Program under the provisions of Internal Revenue Code 401(h).
Employer Reserve	The accumulation of employer contributions for future retirement benefit payments. Additions include contributions from employers and related earnings. Deductions include annuity payments to retired members and survivors, lump sum death benefit payments to member survivors, and supplemental disability payments.
Entry Age Actuarial Cost Method	A method under which the Actuarial Present Value of the Projected Benefits of each individual included in an Actuarial Valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit ages. 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 Actuarial Present Value of future Normal Costs is called the Actuarial Accrued Liability.
Funded Ratio	A measurement of the funded status of the system. The Funded Ratio is calculated by dividing the Valuation Assets by the Actuarial Accrued Liability. For example, a Funded Ratio of 90% indicates assets are 10% less than liabilities.
Funding Goal	The Funding Goal is the funded status the Board of Investments would like LACERA to achieve. The main goal is to provide benefit security for its members as well as to achieve and maintain stable employer contributions that are as low as possible. A Funded Ratio equal to 100% is the Funding Goal.
Layered Amortization Period	Payment of each year's change in the Unfunded Actuarial Accrued Liability (UAAL) is amortized over separate closed periods. For LACERA, the original UAAL as of June 30, 2009 is being amortized over a closed 30-year period, while each year's subsequent gain or loss on the UAAL is amortized over a new closed 30-year period starting with that date. The amortization payments are based on a level percent of pay.

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Member Reserve	The accumulation of member contributions. Additions include member contributions and related earnings. Deductions include annuity payments to retirees and refunds to members.
Non-Valuation Reserves	Reserves excluded from the calculation of contribution rates, including the Contingency Reserve, the STAR reserve, the County Contribution Credit Reserve, and any other reserves specifically excluded by the Board of Investments.
Normal Cost	That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.
Plan Year	A twelve-month period beginning July 1 and ending June 30.
Projected Benefits	Those pension plan benefit amounts which are expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and past and anticipated future compensation and service credits.
STAR Reserve	Reserves accumulated for the payment of cost-of-living benefits as defined in California Government Code Section 31874.3.
Supplemental Targeted Adjustment for Retirees (STAR) Benefits	Supplemental cost-of-living payments to retired members to restore purchasing power at a specified percentage level, as described in California Government Code Section 31874.3.
Surplus Funding	The excess, if any, of the Actuarial Value of Assets over the Actuarial Accrued Liability. Standard actuarial terminology defines this as the “Funding Excess.” LACERA uses the term “Surplus Funding.”
Unfunded Actuarial Accrued Liability	The excess, if any, of the Actuarial Accrued Liability over the Actuarial Value of Assets.
Valuation Date	The date upon which the Normal Cost, Actuarial Accrued Liability, and Actuarial Value of Assets are determined. Generally, the Valuation Date will coincide with the ending of a Plan Year.
Valuation Reserves	All reserves excluding the Non-Valuation Reserves.

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