

THE BOARD OF SUPERVISORS OF THE COUNTY OF STANISLAUS
BOARD ACTION SUMMARY

DEPT: Chief Executive Office

BOARD AGENDA #: *B-11

AGENDA DATE: June 7, 2016

SUBJECT:

Approval to Adopt County Retirement Contribution Rates for Budget Year 2016-2017 as contained in the Stanislaus County Employees' Retirement Association Actuarial Valuation as of June 30, 2015.

BOARD ACTION AS FOLLOWS:

No. 2016-283

On motion of Supervisor Chiesa, Seconded by Supervisor Withrow
and approved by the following vote,

Ayes: Supervisors: O'Brien, Chiesa, Withrow, DeMartini, and Chairman Monteith

Noes: Supervisors: None

Excused or Absent: Supervisors: None

Abstaining: Supervisor: None

1) Approved as recommended

2) Denied

3) Approved as amended

4) Other:

MOTION:

ATTEST: Elizabeth A. King
ELIZABETH A. KING, Clerk of the Board of Supervisors

File No.

**THE BOARD OF SUPERVISORS OF THE COUNTY OF STANISLAUS
AGENDA ITEM**

DEPT: Chief Executive Office

Urgent

Routine

BOARD AGENDA #: *B-11

AGENDA DATE: June 7, 2016

CEO CONCURRENCE:



4/5 Vote Required: Yes No

SUBJECT:

Approval to Adopt County Retirement Contribution Rates for Budget Year 2016-2017 as contained in the Stanislaus County Employees' Retirement Association Actuarial Valuation as of June 30, 2015.

STAFF RECOMMENDATIONS:

1. Adopt the retirement contribution rates for Budget Year 2016-2017 as contained in the Stanislaus County Employees' Retirement Association Actuarial Valuation as of June 30, 2015 and as recommended by the Stanislaus County Employees' Retirement Association Board.
2. Direct the Auditor-Controller to change the employer and employee retirement contribution rates for Budget Year 2016-2017 in accordance with the actuarial valuation of June 30, 2015 on the payroll check date of August 3, 2016.

DISCUSSION:

On April 20, 2016 Stanislaus County received a Budget Year 2016-2017 Retirement Contribution Transmittal Letter from the Stanislaus County Employees' Retirement Association (StanCERA). This letter was to notify Stanislaus County of the Employer Contribution Rates that go into effect the first full pay period of the 2016-2017 Budget Year. (Letter Attached)

StanCERA administers retirement benefits for multiple employers, Stanislaus County being the largest contributor to the Plan. Each year an actuarial valuation is conducted of the Stanislaus County Employees' Retirement Association. The report contains information on the Plan's Assets and Liabilities. It also discloses employer and employee contribution levels and exhibits required for the Plan's Comprehensive Annual Financial Report. On April 20, 2016, the StanCERA Retirement Board accepted and approved the most recent Actuarial Valuation with data as of June 30, 2015. The Actuarial Valuation determined the employer and employee contributions required for the budget year beginning July 1, 2016. The funding policy is to collect contributions from the employers and employees. These costs are the sum of:

- The Normal Cost under the Entry Age Normal Cost Method;
- Amortization of the Unfunded Actuarial Liability; and
- Expected administrative expenses.

Approval to Adopt County Retirement Contribution Rates for Budget Year 2016-2017 as contained in the Stanislaus County Employees' Retirement Association Actuarial Valuation as of June 30, 2015.

The Unfunded Actuarial Liability payment is determined as the amount needed to fund the outstanding Unfunded Actuarial Liability as of June 30, 2015, over a period of 21 years as a level percentage of pay.

While the actuarial valuation is conducted annually, an actuarial experience study is performed every three years. The most recent experience study was completed by the actuary in March 2016 with data as of June 30, 2015, which the Retirement Board approved and adopted on March 16, 2016. The Actuarial Valuation was performed based on the economic and demographic assumptions that were determined in the actuarial experience study.

The Fiscal Year 2016-2017 combined contribution rate of all employers contributing to the Plan increased from 23.35% of payroll to 24.99% of payroll, reflecting a three-year phase-in of the changes in the economic and demographic assumptions. Without the phase-in, the combined employer contribution rate would have increased to 30.86% for the current valuation.

The change in the 2016-2017 Budget Year contribution rates are mainly due to the assumption changes adopted by the Board of Retirement based upon evidence in the actuarial experience study completed for the three year period of July 1, 2012 to June 30, 2015. The change in mortality assumptions had the largest impact on contribution rates. The experience study determined that mortality rates had improved faster than previously anticipated. As a result, mortality rates for StanCERA reflect both the improvement in mortality since the last experience study and the application of higher rates of improvement projected in the future. Lowering of the assumed rate of return (discount rate) on Plan assets from 7.75% to 7.25% also had a significant impact to the contribution rates. The assumed rate of return of 7.25% is consistent with the long-term capital market assumptions obtained from the actuary's survey of investment consultants.

Although the plan realized a 3.82% increase in net assets for the year ending June 30, 2015, the Unfunded Actuarial Liability of the Plan increased by \$245.6 million, from \$382.3 million to \$627.9 million due to the change in actuarial assumptions. The Plan's funded ratio, the ratio of Actuarial Assets over Actuarial Liability, decreased from 81.1% as of June 30, 2014 to 73.7% as of June 30, 2015. The funded ratio measured using the market value of assets decreased from 87.5% as of June 30, 2014 to 75.8% as of June 30, 2015. The main drivers of this decrease were the changes in the mortality and discount rate assumptions. The Actuarial Value of Assets differs from the market value of assets due to the impact of deferred investment gains and losses.

Employer Contribution Rates for Stanislaus County Members

Fiscal Year 2015-2016 County Contribution Rates

2015-2016 Employer Rate	General Member Contribution						Safety Member Contribution				All Employers
	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	Tier 6	Tier 2	Tier 4	Tier 5	Tier 6	Combined
Tier											
Normal Cost	14.62%	7.79%	3.13%	14.64%	9.98%	7.28%	13.90%	26.10%	18.10%	11.84%	11.13%
Unfunded Liability	10.40%	10.40%	10.40%	10.40%	10.40%	10.40%	15.55%	15.55%	15.55%	15.55%	11.33%
Administrative Expense	0.99%	0.72%	0.54%	1.00%	0.81%	0.70%	1.17%	1.66%	1.34%	1.09%	0.89%
Net Contribution Rate	26.01%	18.91%	14.07%	26.04%	21.19%	18.38%	30.62%	43.31%	34.99%	28.48%	23.35%

Approval to Adopt County Retirement Contribution Rates for Budget Year 2016-2017 as contained in the Stanislaus County Employees' Retirement Association Actuarial Valuation as of June 30, 2015.

Budget Year 2016-2017 County Contribution Rates

2016-2017 Employer Rate	General Member Contribution						Safety Member Contribution				All Employers
Tier Number	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	Tier 6	Tier 2	Tier 4	Tier 5	Tier 6	Combined
Normal Cost	13.26%	9.27%	3.21%	16.66%	11.14%	8.06%	16.97%	30.20%	19.95%	13.08%	12.24%
Unfunded Liability	16.34%	16.34%	16.34%	16.34%	16.34%	16.34%	22.82%	22.82%	22.82%	22.82%	17.66%
Administrative Expense	0.95%	0.82%	0.63%	1.06%	0.88%	0.78%	1.28%	1.70%	1.38%	1.15%	0.96%
Net Contribution Rate	30.55%	26.43%	20.18%	34.06%	28.36%	25.18%	41.07%	54.72%	44.15%	37.05%	30.86%
Phase-In Impact	-5.44%	-5.44%	-5.44%	-5.44%	-5.44%	-5.44%	-7.59%	-7.59%	-7.59%	-7.59%	-5.87%
Phased-In Contribution Rate	25.11%	20.99%	14.74%	28.62%	22.92%	19.74%	33.48%	47.13%	36.56%	29.46%	24.99%

Change in County Contribution Rates from 2015-2016 to 2016-2017

Fiscal Year	County General Member Contribution						County Safety Member Contribution				All Employers
Tier	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	Tier 6	Tier 2	Tier 4	Tier 5	Tier 6	Combined
Fiscal Year 2015-2016	26.01%	18.91%	14.07%	26.04%	21.19%	18.38%	30.62%	43.31%	34.99%	28.48%	23.35%
Budget Year 2016-2017	25.11%	20.99%	14.74%	28.62%	22.92%	19.74%	33.48%	47.13%	36.56%	29.46%	24.99%
Rate Increase/Decrease	-0.90%	2.08%	0.67%	2.58%	1.73%	1.36%	2.86%	3.82%	1.57%	0.98%	1.64%

Employee Contribution Rates

Employee contribution rates for all contributable tiers will change in Budget Year 2016-2017 in accordance with the Actuarial Valuation of June 30, 2015 on the payroll check date of August 3, 2016. Both employee and employer contribution formulas are established by law and are based in part on actuarial assumptions. It's important to know that these assumptions are based on long term projections and change infrequently. The main driver to the change in employee contribution rates for Budget Year 2016-2017 is also due to improved member mortality as previously discussed. With mortality improving faster than expected, adjusted base tables, with generational improvement for all members were adopted. The adoption of the updated mortality tables requires adjusted rates for all contributable tiers.

On September 12, 2012 the Governor of California signed into law the Public Employee Pension Reform Act (PEPRA). This change was effective for new County members hired on or after January 1, 2013. For the new PEPRA Tier 6, Government Code Section 7522.30 requires new employees to pay 50% of the normal cost of Tier 6. The Employee contributions as a percent of earnings for Tiers 1, 2, 4, and 5 are based on the employee entry age into StanCERA. Tier 6 employees hired on or after January 1, 2013 feature flat-rate contribution percentages that are not affected by entry ages. The Employee contributions are collected through automatic payroll deductions.

The table below displays the net employee contribution rates by tier for Budget Year 2016-2017, with the Fiscal Year 2015-2016 rates for comparison, and the increase in contribution rates from 2015-2016 to 2016-2017. The exact employee contribution rates by age of entry for Tiers 1, 2, 4, and 5 are provided in Appendix E, starting on Page 77 of the Actuarial Valuation. Tier 6 employee contribution rate is provided on Page 84, and is identical to the rate displayed in the table on the following page.

Approval to Adopt County Retirement Contribution Rates for Budget Year 2016-2017 as contained in the Stanislaus County Employees' Retirement Association Actuarial Valuation as of June 30, 2015.

Fiscal Year	General Member Contribution					Safety Member Contribution				Composite
	Tier 1	Tier 2	Tier 4	Tier 5	Tier 6	Tier 2	Tier 4	Tier 5	Tier 6	Total
Fiscal Year 2015-2016 Rates	7.34%	7.48%	0.96%	9.06%	7.28%	12.22%	0.00%	12.97%	11.83%	9.39%
Budget Year 2016-2017 Rates	8.40%	8.04%	1.08%	9.59%	8.06%	12.60%	5.58%	13.44%	13.07%	9.92%
Rate Increase	1.06%	0.56%	0.12%	0.53%	0.78%	0.38%	5.58%	0.47%	1.24%	0.53%

As displayed in the following table, of note is the significant increase in the number of Tier 6 employees in a relatively short time since PEPRA took effect. Currently there are 1,141 employees in Tier 6, and this number will continue to grow as positions turnover and new hires go up. If all actuarial assumptions are met, the growth in Tier 6 employees has long term potential after the three year phase-in period to lower the average normal cost of the Plan, and in turn, lower the Tier 6 employee contribution rate as well.

The following table displays the number of employees by tier in May 2015, with the current (May 2016) number of employees for comparison, along with the increase or decrease in the number of employees in each tier.

Employee Count	Active General Members						Active Safety Members				Total
	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	Tier 6	Tier 2	Tier 4	Tier 5	Tier 6	Members
May 2015	1	247	17	35	2,053	694	49	2	433	158	3,689
May 2016	1	242	15	23	1,907	945	47	1	401	196	3778
Increase/Decrease	0	-5	-2	-12	-146	251	-2	-1	-32	38	89

POLICY ISSUE:

Effective July 1, 1948, the Stanislaus County Board of Supervisors began offering retirement benefits to County employees pursuant to the County Employees Retirement Law of 1937 (Government Code Section 31450 et seq). Retirement benefits are funded on an actuarially sound basis according to the 1937 Act.

Specifically, Pursuant to Government Code Section 31454:

"The Board of Supervisors shall adjust the rate of interest, the rates of contributions of members, and county and district appropriations in accordance with the recommendation of the Board [of Retirement], but shall not fix them in such amounts as to reduce the individual benefits provided in this chapter [CERL]."

Government Code Section 31584 further states that:

"The Board of Supervisors shall make the appropriations and if it fails or neglects to make appropriations, the County Auditor shall transfer from any money available in any fund in the County Treasury the sums specified by this chapter [CERL], and this transfer shall have the same force and effect as it would have had if the required appropriations had been made by the Board of Supervisors."

Approval to Adopt County Retirement Contribution Rates for Budget Year 2016-2017 as contained in the Stanislaus County Employees' Retirement Association Actuarial Valuation as of June 30, 2015.

FISCAL IMPACT:

The 2016-2017 Budget Year combined employer contribution rate is 24.99%, an increase of 1.64% over the Fiscal Year 2015-2016 rate of 23.35%. The fiscal impact of the StanCERA rate increase is the equivalent of a 7.4% increase in actual retirement costs, or approximately \$4.2 million for Stanislaus County, of which \$1.6 million is General Fund. Rates are reflective of a total projected contribution from the County. It is important to note that the Actuarial Valuation and summary analysis focuses on combined employer experience. The actual County specific composite contribution rate for all tiers is estimated to be 23.93% for Budget Year 2016-2017, an increase of 1.87% above the County composite rate of 22.06% in Fiscal Year 2015-2016. The overall cost of the retirement contribution rates for Stanislaus County is estimated to be \$60.1 million. Of this amount, \$24.8 million is reflective of General Fund costs. Actual contribution will vary based on a number of factors (number of employees, salaries, etc.). These amounts are based on the employer contribution rates received in the April 2016 Actuarial Valuation with data as of June 30, 2015.

Retirement cost estimated in the County's Fiscal Year 2016-2017 Recommended Proposed Budget was calculated using preliminary contribution rate data from StanCERA since the actuarial valuation was not complete when the budget was prepared. The preliminary estimates were conservative and as a result the retirement cost estimate in the proposed budget is larger than the \$60.1 million estimated from the Actuarial Valuation approved by StanCERA in April 2016. The 2016-2017 Recommended Proposed Budget included retirement costs estimated at \$61.4 million, of which \$25.4 million was General Fund. As a result, approximately \$600,000 General Fund support has been funded in department budgets in excess of the final retirement cost projections. General Fund department budgets will be evaluated and adjusted if needed at Mid-Year 2016-2017.

BOARD OF SUPERVISORS' PRIORITY:

Approval of this Agenda Item adopting the new Retirement Contribution Rates for Budget Year 2016-2017 will address the Board of Supervisor's priorities of Efficient Delivery of Public Services and Effective Partnerships by authorizing the Auditor-Controller to implement the retirement calculation rates for Stanislaus County employees.

STAFFING IMPACT:

While the production and implementation of annual retirement contribution rates does not require additional staff, the increases or decreases in required contribution rates may have some impact on staffing service levels.

CONTACT PERSON:

Jody Hayes, Assistant Executive Officer, (209) 525-6333

ATTACHMENT(S):

1. Transmittal Letter from the Stanislaus County Employees' Retirement Association
2. Actuarial Valuation Report as of June 30, 2015
3. Actuarial Experience Study Report for July 1, 2012 through June 30, 2015

ATTACHMENT 1

**Transmittal Letter from the Stanislaus
County Employees' Retirement Association**



April 20, 2016

To: Stanislaus County, Board of Supervisors
Dick Monteith, Chairman
1010 10th Street, Suite 6700
Modesto, CA 95354

Stanislaus County Superior Court
Rebecca Fleming, Court Executive Officer
800 11th Street
Modesto, CA 95354

City of Ceres
Chris Vierra, Mayor
2720 Second Street
Ceres, CA 95307

East Side Mosquito Abatement District
Kandy Schmidt, Chairman
2000 Santa Fe Avenue
Modesto, CA 95357

Stanislaus Council of Governments
Vito Chiesa, Chairman
1111 I Street, Suite 308
Modesto, CA 95354

Keyes Community Services District
Jonathon Parker, Board Chair
PO Box 699
Keyes, CA 95328

Salida Sanitary District
Gary Horton, President
PO Box 445
Salida, CA 95368

Hills Ferry Cemetery District
Ken Moeller, District Manager
PO Box 657
Newman, CA 95360

Re: Fiscal Year 2016-2017 Retirement Contribution Rates and Funded Status

On April 20, 2016, the Board of Retirement of the Stanislaus County Employees' Retirement Association (StanCERA) accepted the attached June 30, 2015 Actuarial Valuation.

The June 30, 2015 funded status using the market value of assets for the StanCERA is 75.8 percent. This compares with 87.5 percent for the previous fiscal year. The actuarially determined net employer contribution rate increased from 23.35 percent of payroll to 24.99 percent of payroll with phase in of assumption changes from the previous year. The specific contribution rates per employer, plan, and tier are presented on pages 29 and 30. Employee contribution rates are presented on pages 77-84.

The Board of Retirement is pleased to submit the 2015 valuation report to the employer agencies of StanCERA. Please don't hesitate to contact Kathy Herman or Rick Santos if you have any questions.

Respectfully,

Donna Riley
Chair, Board of Retirement

Attachment

cc: Rick Santos, Executive Director
Kathy Herman, Fiscal Services Manager

ATTACHMENT 2

Actuarial Valuation Report as of June 30, 2015



Stanislaus County Employees' Retirement Association

**Actuarial Valuation as of
June 30, 2015**

Produced by Cheiron

April 2016

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April 11, 2016

Board of Retirement
Stanislaus County Employees' Retirement Association
832 12th Street, Suite 600
Modesto, CA 95353

Dear Members of the Board:

At your request, we have conducted an actuarial valuation of the Stanislaus County Employees' Retirement Association (StanCERA, the Fund, the Plan) as of June 30, 2015. This report contains information on the Plan's assets and liabilities. This report also discloses employer contribution levels and required disclosures for the Plan's CAFR. Your attention is called to the Foreword in which we refer to the general approach employed in the preparation of this report.

The purpose of this report is to present the results of the annual actuarial valuation of StanCERA. This report is for the use of StanCERA and its auditors in preparing financial reports in accordance with applicable law and accounting requirements. Any other user of this report is not an intended user and is considered a third party.

Cheiron's report was prepared solely for StanCERA for the purposes described herein, except that the Plan auditor may rely on this report solely for the purpose of completing an audit related to the matters herein. It is not intended to benefit any third party, and Cheiron assumes no duty or liability to any such party.

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

Sincerely,
Cheiron



Graham A. Schmidt, ASA, EA, FCA, MAAA
Consulting Actuary



Jonathan Chipko, FSA, FCA, EA, MAAA
Associate Actuary

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

FOREWORD

Cheiron has performed the actuarial valuation of the Stanislaus County Employees' Retirement Association as of June 30, 2015. The valuation is organized as follows:

- In Section I, the **Executive Summary**, we describe the purpose of an actuarial valuation, summarize the key results found in this valuation and disclose important trends;
- The **Main Body** of the report presents details on the Plan's
 - Section II - Assets
 - Section III - Liabilities
 - Section IV- Contributions
 - Section V- Required CAFR Exhibits
- In the **Appendices** we conclude our report with detailed information describing Plan membership (Appendix A), actuarial assumptions and methods employed in the valuation (Appendix B), a summary of pertinent Plan provisions (Appendix C), a glossary of key actuarial terms (Appendix D), and tables containing member contribution rates (Appendix E).

The results of this report rely on future Plan experience conforming to the underlying assumptions. To the extent that actual Plan experience deviates from the underlying assumptions, the results would vary accordingly.

In preparing our report, we relied on information (some oral and some written) supplied by the StanCERA staff. This information includes, but is not limited to, Plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

SECTION I -- EXECUTIVE SUMMARY

The primary purpose of the actuarial valuation and this report is to measure, describe, and identify the following as of the valuation date:

- The funded status of the Plan,
- Past and expected trends in the funding progress of the Plan, and
- Employer and employee contribution rates for Plan Year 2016-2017.

In the balance of this Executive Summary, we present (A) the basis upon which this year's valuation was completed, (B) the key findings of this valuation including a summary of all key results, (C) an examination of the historical trends, and (D) the projected outlook for the Plan.

A. Valuation Basis

This valuation determines the employer contributions required for the employers' fiscal years beginning July 1, 2016. The employers include the County of Stanislaus and related employers, the City of Ceres and other participating Special Districts.

The Plan's funding policy is to collect contributions from the employers and employees equal to the sum of:

- The Normal Cost under the Entry Age Normal Cost Method,
- Amortization of the Unfunded Actuarial Liability (UAL), and
- The Fund's expected administrative expenses.

The UAL payment is determined as the amount needed to fund the outstanding UAL as of June 30, 2015 over a period of 21 years as a level percentage of pay.

This valuation was prepared based on the Plan provisions shown in Appendix C.

Actuarial experience studies are performed every three years. This valuation was performed based on the economic and demographic assumptions that were determined in the Actuarial Experience Study performed by Cheiron as of June 30, 2015 and adopted by the Board on March 16, 2016. This valuation is the first to use the assumptions determined in the above experience study. A summary of the assumptions and methods used in the current valuation is shown in Appendix B.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

SECTION I -- EXECUTIVE SUMMARY

B. Key Findings of this Valuation

The key results of the June 30, 2015 actuarial valuation are as follows:

- The actuarially determined employer contribution rate increased from 23.35% of payroll to 24.99% of payroll for the current valuation, reflecting a three-year phase-in of the impact of changes to the economic and demographic assumptions. Without the phase-in, the employer contribution rate would have increased to 30.86% of payroll for the current valuation.
- The Plan's funded ratio, the ratio of Actuarial Assets over Actuarial Liability, increased from 81.1% last year to 83.1% as of June 30, 2015 before any changes to the actuarial assumptions.
- The Plan's funded ratio decreased from 83.1% to 73.7% following the assumption changes. The main drivers of this decrease were the change in the mortality and discount rate assumptions.
- The Unfunded Actuarial Liability (UAL) is the excess of the Plan's Actuarial Liability over the Actuarial Value of Assets. The Plan experienced an increase in the UAL from \$382.3 million to \$627.9 million as of June 30, 2015. This increase in UAL was primarily due to the change in actuarial assumptions.
- During the year ended June 30, 2015, the return on Plan assets was 3.87% on a market value basis net of investment (but not administrative) expenses, as compared to the 7.75% assumption. The Actuarial Value of Assets recognizes 20% of the difference between the expected and actual return on the market value of assets (MVA). This method of smoothing the asset gains and losses returned 9.1% on the smoothed value of assets, an actuarial asset gain of \$20.6 million. The gain in the Actuarial Value of Assets reflected the continued recognition of past investment gains which offset the lower market return this year.
- During the 2014-15 Plan Year, the actuarial liabilities of the Plan increased slightly less than expected, partially due to COLA increases less than expected. These and other unexpected changes resulted in a small liability gain of \$5.6 million.
- The change in assumptions for this valuation led to an increase in the liabilities of \$269.8 million.
- Overall participant membership increased compared to last year. There were 549 new hires and rehires during 2014-2015 and the total active population increased from 3,992 to 4,144. Total projected payroll increased from \$235,092,377 to \$249,704,758.
- The Actuarial Experience Study as of June 30, 2015 recommended changes to many of the actuarial assumptions used in this valuation. The Retirement Board adopted these changes for the June 30, 2015 valuation. The Retirement Board decided to implement a three-year phase-

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

SECTION I -- EXECUTIVE SUMMARY

in of the impact of these changes on the employer contribution rates. The schedule of required employer contributions with and without the phase-in is shown in Table I-1.

Table I-1 Development of Phased Employer Contributions		
Plan Year	Full Contribution	Phased Contribution
2016-17	30.9%	25.0%
2017-18	30.7%	27.8%
2018-19	29.5%	29.9%
2019-20	28.6%	29.3%

The net impact of the phase-in is to reduce the employer contribution rate by about 5.9% and 2.9% from what it would have been without phase-in for 2016-17 and 2017-18, respectively. The employer contribution rate is fully phased-in by the 2018-19 plan year, when the rate is 0.4% higher than it would have been without the phase-in. This is followed by contributions higher than they would have been without phase-in by approximately 0.7% of pay in the years 2019-20 and later. The phase-in of rate increases is consistent with practices described by the California Actuarial Advisory Panel (CAAP), as well as other actuarial organizations.

In Tables I-2 and I-3, we summarize the key results of the valuation with respect to assets and liabilities, contribution and membership. We also include the employer contribution rate after the impact of the first year of the three-year phase-in. The results are presented and compared for both the current and prior Plan year.

Table I-2 Stanislaus County Employees' Retirement Association Summary of Key Valuation Results (in millions)		
Valuation Date Fiscal Year End	June 30, 2014 2016	June 30, 2015 2017
Actuarial Liability	\$ 2,026.4	\$ 2,391.5
Actuarial Value of Assets*	\$ 1,644.1	\$ 1,763.6
Unfunded Actuarial Liability (actuarial value)	\$ 382.3	\$ 627.9
Funding Ratio (actuarial value)	81.1%	73.7%
Net Employer Contribution Rate**	23.35%	30.86%
Employer Contribution Rate after Phase-In	NA	24.99%

* Net of non-valuation reserves.

** Prior to phase in of the assumption change.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

SECTION I -- EXECUTIVE SUMMARY

Table I-3 Membership Total			
Item	June 30, 2014	June 30, 2015	% Change
Actives	3,992	4,144	3.8%
Current Inactives	962	979	1.8%
Retired Members	3,385	3,539	4.5%
Total Members	8,339	8,662	3.9%
Ratio of Retired Members to Active Members	84.8%	85.4%	
Active Member Payroll (FYE 2015/2016)	\$ 235,092,377	\$ 249,704,758	6.2%
Average Pay per Active	\$ 58,891	\$ 60,257	2.3%

We note in Table I-3 that the ratio of retired members to active members continues to increase, indicating the ongoing maturation of the Plan.

Assets and Liabilities

Table I-4 presents a comparison between the June 30, 2014 and June 30, 2015 StanCERA assets, liabilities, Unfunded Actuarial Liability, and funding ratios, both on a market and smoothed basis.

Table I-4 Assets & Liabilities (in millions)			
Item	June 30, 2014	June 30, 2015	% Change
Actuarial Liability			
Actives	\$ 795.4	\$ 939.3	18.1%
Current Inactives	86.2	114.4	32.7%
Retired Members	1,144.7	1,337.8	16.9%
Total Actuarial Liability	\$ 2,026.4	\$ 2,391.5	18.0%
Market Value of Assets (MVA)	\$ 1,773.6	\$ 1,812.6	2.2%
Actuarial Value of Assets (AVA)	\$ 1,644.1	\$ 1,763.6	7.3%
Unfunded Actuarial Liability - MVA	\$ 252.8	\$ 578.9	129.0%
Unfunded Actuarial Liability - AVA	\$ 382.3	\$ 627.9	64.2%
Funding Ratio - MVA	87.5%	75.8%	-11.7%
Funding Ratio - AVA	81.1%	73.7%	-7.4%

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Table I-4 indicates that the Actuarial Liability increased by 18.0% and the Actuarial Value of Assets increased by 7.3%, resulting in a decrease in the funding ratio from 81.1% as of June 30, 2014 to 73.7% as of June 30, 2015. The increase in Actuarial Liability and accompanying decrease in the funded status is primarily due to the change in economic and demographic assumptions. StanCERA employs a commonly used actuarial smoothing method on the market value that dampens market volatility, so the Actuarial Value of Assets increased by more than the market value, because of the impact of deferred investment gains from prior years. The funding ratio measured on a market value of assets basis was 75.8% as of June 30, 2015.

Section II provides additional information explaining the development of the Actuarial Value of Assets.

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Changes in UAL

The Unfunded Actuarial Liability (UAL) for StanCERA increased by \$245.6 million, from \$382.3 million to \$627.9 million. Table I-5 below presents the specific components of the change in the UAL.

As noted above, the return on the actuarial assets used to compute the UAL and the employer contribution rate was 9.1% during the 2014-15 Plan Year. Investment returns higher than the assumed rate of 7.75% decreased the UAL by \$20.6 million. Though the return was lower than expected on a market basis, this gain on an actuarial basis results from the recognition of prior investment gains to smooth market volatility.

Small liability gains decreased the UAL by \$5.6 million, mainly due to COLA increases less than expected, mortality gains and improvements to contingent beneficiary data. These gains were partially offset by losses due to new retirees, new entrants, and salary increases.

Assumption changes increased the UAL by \$269.8 million.

The expected change in the UAL due to the yearly amortization of the UAL balance – an increase of \$2.0 million, as a result of the amortization schedule for the current year – combined with the above UAL changes to produce an overall increase of \$245.6 million.

Table I-5	
Increase in Unfunded Actuarial Liability	
Experience	in millions
1. Unfunded actuarial liability, 6/30/2014	\$ 382.3
2. Expected change in unfunded actuarial liability	\$ 2.0
3. Unfunded decrease due to investment gain	(20.6)
4. Unfunded decrease due to liability gain	(5.6)
5. Unfunded decrease due to change in actuarial cost method	0
6. Unfunded increase due to assumption changes	269.8
7. Total change in unfunded actuarial liability	\$ 245.6
8. Unfunded actuarial liability, 6/30/2015	\$ 627.9

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Changes in Employer Contributions

Thus far, the experience of the 2014-15 Plan year has been presented in terms of the UAL and funded ratio. Table I-6 below summarizes the impact of actuarial experience and changes in assumptions on the employer contribution rate.

Table I-6 Employer Contribution Reconciliation				
Item	Total	Normal Cost	Amortization	Admin Expense
FYE 2016 Net Employer Contribution Rate	23.35%	11.13%	11.33%	0.89%
Change Due to Asset Gain	-0.61%	0.00%	-0.61%	0.00%
Change Due to Contribution Excess	-0.05%	0.00%	-0.05%	0.00%
Change Due to Demographic Gains	-0.30%	-0.19%	-0.11%	0.00%
Change Due to Effect of Payroll on Amortization	-0.34%	0.00%	-0.32%	-0.02%
Change Due to Methods / Assumptions				
Change due to Assumption Change	8.81%	1.30%	7.42%	0.09%
FYE 2017 Net Employer Contribution Rate - Full	30.86%	12.24%	17.66%	0.96%
<i>Impact of Phase-in</i>	<i>5.87%</i>	<i>0.87%</i>	<i>4.95%</i>	<i>0.06%</i>
FYE 2017 Net Employer Contribution Rate - Phased	24.99%	11.37%	12.71%	0.90%

A review of the changes in the employer contribution rate from the prior valuation reveals that Plan experience during the year – including demographic and salary changes, as well as asset experience – resulted in a net decrease in the employer contribution rate of 1.30% of pay before changes in the actuarial assumptions are taken into account:

- Asset experience produced an investment gain on a smoothed basis, as described earlier. The smoothed gain reduced the contribution rate by 0.61% of pay.

The ratio of actuarial to market value of assets is 97.3%. There are now \$49 million in net deferred gains as of June 30, 2015, as well as over \$17 million in a non-valuation Contingency Reserve.

- The Plan received a larger contribution than the actuarially determined amount. The net impact of the shortfall was a decrease in the cost by 0.05% of pay.
- The demographic experience of the Plan – rates of retirement, death, disability, and termination, as well as salary and COLA changes – caused a decrease in cost. Lower than expected Cost of Living Adjustments (COLAs) for current retirees along with mortality

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gains and improvements in contingent beneficiary data contributed to this increase, offset by salary experience, new entrants and losses associated with new retirees.

- The largest impact was an increase of 8.81% of pay, due to updated economic and demographic assumptions. The effects of this increase will be phased-in over three years, as indicated by table I-1. In the first year, the phase-in reduces the contribution rate by 5.87%.

Plan Risk

Table I-7 below shows the ratio of assets to active member payroll for StanCERA.

Table I-7 Asset to Payroll Ratio as of June 30, 2015	
Active Member Payroll	249,704,758
Assets (Market Value)	1,812,596,686
Ratio of Assets to Payroll	7.26
Ratio with 100% Funding	9.58

One of the most important measures of a plan's risk is the ratio of plan assets to payroll. The table above shows StanCERA's assets as a percentage of active member payroll. This ratio indicates the sensitivity of the Plan to the returns earned on Plan assets.

We note in the table that Plan assets currently are 7.3 times covered payroll for the Plan; as a point of reference, the average asset-to-payroll ratio for the '37 Act systems as a whole is also currently around 7.3. As funding improves and the Plan reaches 100% funding, the ratio of asset to payroll will increase past 9 times payroll, perhaps higher depending on the Plan's future demographic makeup.

To appreciate the impact of the ratio of assets to payroll on plan cost, consider the situation for a new plan with almost no assets. Even if the assets suffer a bad year of investment returns, the impact on the plan cost is nil, because the assets are so small.

On the other hand, consider the situation for StanCERA. Suppose StanCERA's assets lose 10% of their value in a year. Since they are assumed to earn 7.25%, there is an actuarial loss of 17.25% of Plan assets. Based on the current ratio of asset to payroll (726%), that means the loss in assets is about 125% of active payroll (726% of the 17.25% loss). There is only one source of funding to make up for this loss: the employers. Consequently, barring future offsetting investment gains, the employer has to make up the asset loss in future contributions. In this example of a one-year loss of 10%, this shortfall will eventually require an additional annual amortization payment in the vicinity of 8.80% of payroll if amortized over 21 years.

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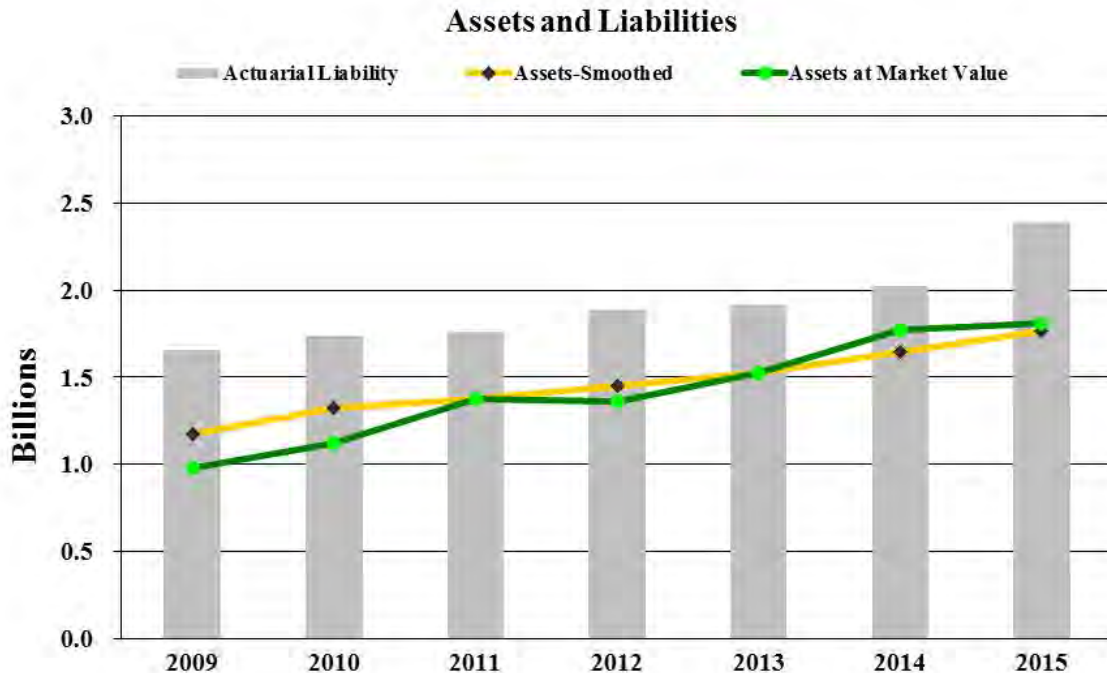
As the Plan matures and becomes better funded, the ratio of asset to payroll will increase. When assets are 958% of pay, the 10% loss discussed above will translate to a loss of over 165% of payroll, which when amortized over 21 years will increase the employer contribution by 11.61% of member pay. Therefore, the Plan is likely to become significantly more sensitive to market variation in the future than it is today.

C. Historical Trends

Despite the fact that for most retirement plans the greatest attention is given to the current valuation results and in particular the size of the current Unfunded Actuarial Liability and the employer contribution, it is important to remember that each valuation is merely a snapshot in the long-term progress of a pension fund. It is more important to judge a current year's valuation result relative to historical trends, as well as trends expected into the future.

Assets and Liabilities

The chart below compares the Market Value of Assets (MVA) and Actuarial Value of Assets (AVA) to the Actuarial Liabilities. The percentage shown in the table below the graph is the ratio of the Actuarial Value of Assets to the Actuarial Liability (the funded ratio). The funded ratio has increased from 70.9% in 2009 to 73.7% as of June 30, 2015, as a result of the recovery in the asset markets over the last few years, offset by changes in assumptions. The funded ratio has decreased from the 81.1% of last year because of the economic and demographic assumption changes, which increased liabilities.



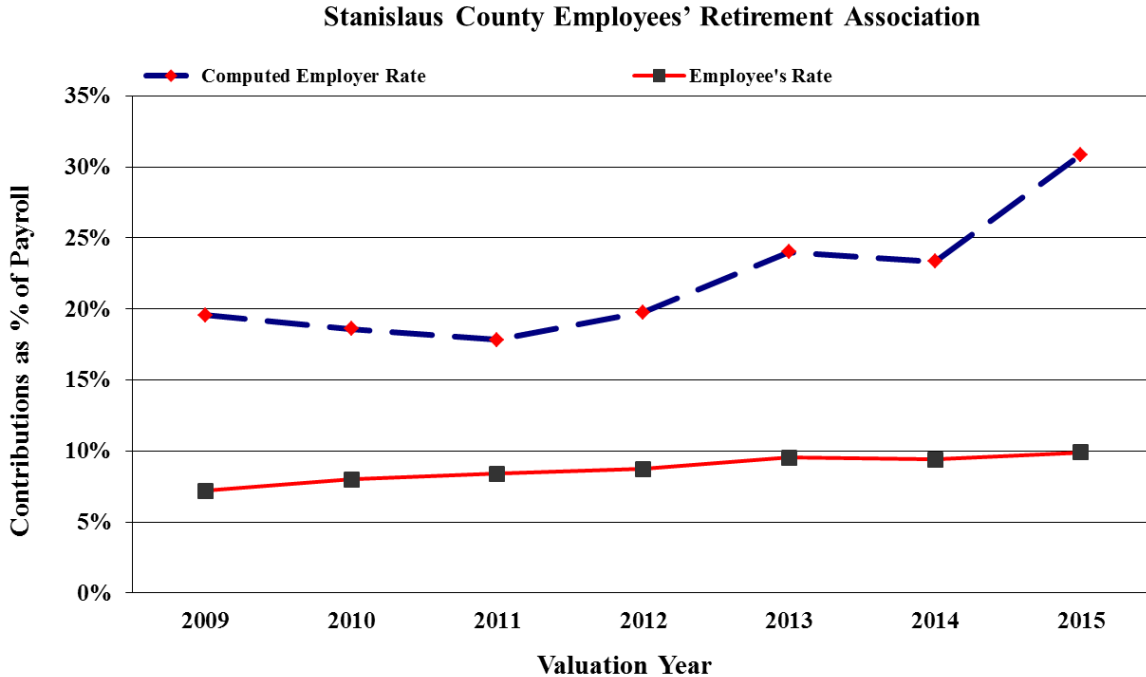
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Valuation Year	2009	2010	2011	2012	2013	2014	2015
Funded Ratio	70.9%	76.3%	78.1%	76.9%	79.4%	81.1%	73.7%
UAL (Billions)	\$ 0.48	\$ 0.41	\$ 0.39	\$ 0.44	\$ 0.40	\$ 0.38	\$ 0.63

Contribution Trends

In the chart below, we present the historical trends for the StanCERA contribution rates. This chart shows contribution rates prior to any phase-ins. The employer contribution rates have risen since 2009 as result of the investment losses from 2008-2009, compounded by demographic losses and changes to the actuarial assumptions and methods. The impact of these changes was offset to some extent by an extension to the amortization period. The average employee contribution rates have also increased as the Plan's economic and demographic assumptions have changed.



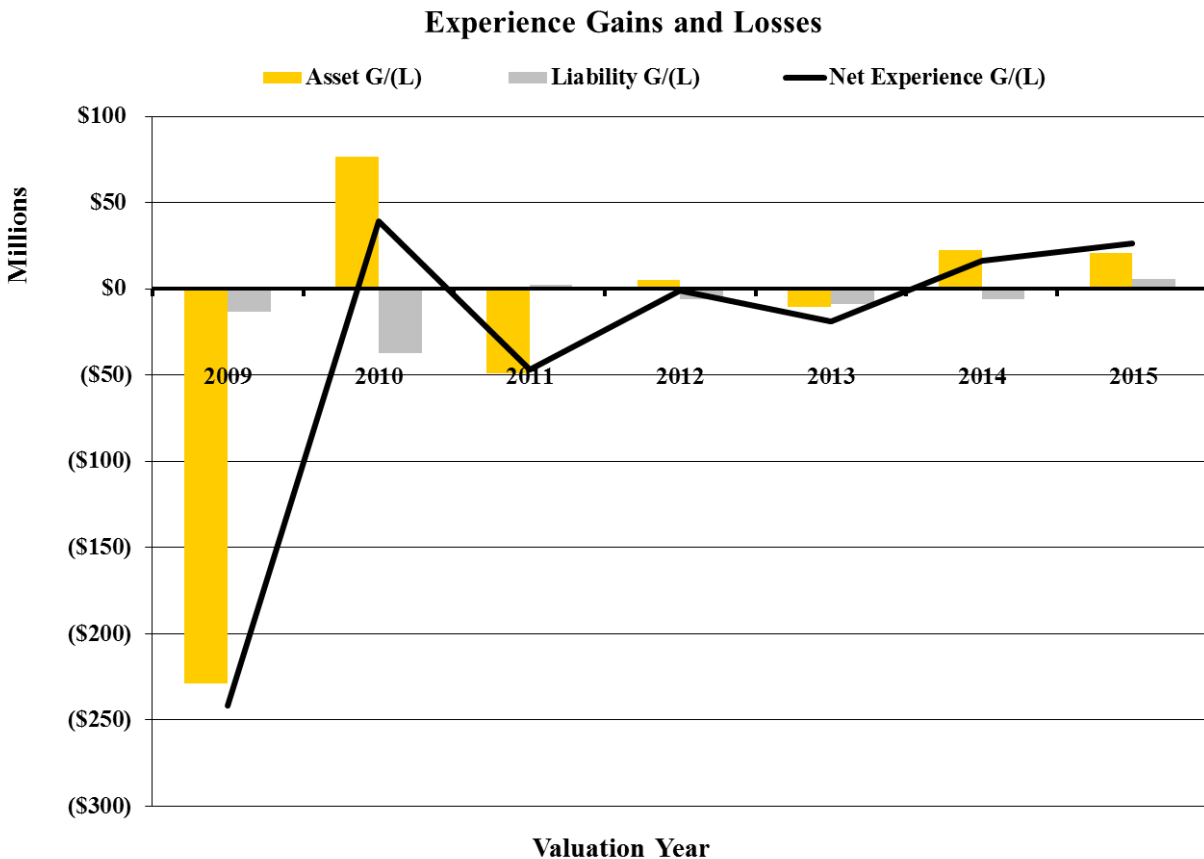
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Gains and Losses

The following chart for StanCERA presents the pattern of annual gains and losses, broken into the investment and liability components. The investment gains and losses represent the changes on a smoothed basis (i.e. based on the Actuarial Value of Assets). The chart does not include any changes in StanCERA's assets and liabilities attributable to changes to actuarial methods, procedures or assumptions or Plan benefit changes.

The investment loss in 2008-2009 was by far the most significant gain or loss during the last seven years. Even though the Plan was using actuarial smoothing of the assets, there was a significant loss reflected in the June 30, 2009 valuation, because the amount of smoothing was limited by the 80/120% corridor around the market value of assets (the return on the smoothed value of assets for 2008-2009 was -9.6%). The Plan also experienced substantial liability losses in 2008 and 2010. The Plan did experience an asset gain for this year on a smoothed basis, the second such substantial gain since the 2010 plan year.



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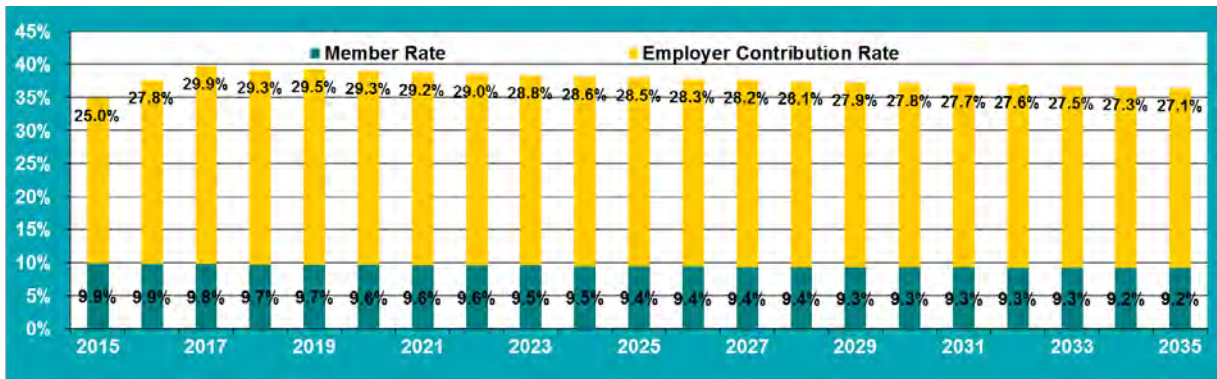
D. Future Expected Financial Trends

The analysis of projected financial trends is an important component of this valuation. In this Section, we present our assessment of the implications of the June 30, 2015 valuation results in terms of benefit security (assets over liabilities). All the projections in this section are based on the current investment return assumption of 7.25%. We have assumed future total payroll increases of 3.25% per year.

The following graph shows the expected employer contribution rate based on achieving the 7.25% assumption **each year** for the next 20 years. This scenario is highly unlikely: even if the Plan does achieve an **average** return of 7.25% over this time period, the returns in each given year will certainly vary. The graph also includes the phase-in of the impact of the assumption change.

The contribution rate graph shows that employer contribution rates are expected to increase for the next two years, as the impact of assumption changes are phased-in, and then stay relatively stable over the rest of the period, as the current unfunded liability amortization period extends past the end of the projection period (21 years).

Projection of Contributions, 7.25% Return Each Year



The total contribution rate (employer plus employee) is approximately 35% of member payroll for the June 30, 2015 valuation; it is expected to increase over the next two years to approximately 40% and then decrease to about 36% if all actuarial assumptions are met over the next 21 years. The gradual decline is due to the expected hiring of new PEPRAs to replace the legacy employees as they retire, thus lowering the average normal cost of the Plan.

After 21 years, the employer contribution rate is expected to drop due to the end of the current unfunded liability amortization period, to a level around 10% of pay, representing the expected employer Normal Cost plus administrative expenses.

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Asset and Liability Projections:

The following graph shows the projection of assets and liabilities assuming that assets will earn the 7.25% assumption each year during the projection period.

Projection of Assets And Liabilities, 7.25% Return Each Year
(\$ millions)



The graph above shows that the projected funded status increases over the next 20 years to gradually approach 100%, as can be expected based on the amortization policy, assuming the actuarial assumptions are achieved.

However, as above, it is the **actual** return on Plan assets that will determine the future funding status and contribution rate to the Fund. The Actuarial Value of Assets and market value of assets are very close to each other as of June 30, 2015, and the two are assumed to be equal past 2018.

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SECTION II — ASSETS

Pension Plan assets play a key role in the financial operation of the Plan and in the decisions the Board may make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact benefit levels, employer contributions, and the ultimate security of participants' benefits.

In this section, we present detailed information on Plan assets including:

- **Disclosure** of Plan assets as of June 30, 2014 and June 30, 2015;
- Statement of the **changes** in market values during the year;
- Development of the **Actuarial Value of Assets**;
- An assessment of historical **investment performance versus inflation**; and
- An allocation of the unfunded liability between the **valuation subgroups**.

Disclosure

There are two types of asset values disclosed in the valuation, the market value of assets, and the Actuarial Value of Assets. The market value represents “snap-shot” or “cash-out” values, which provide the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the marketplace. As a result, market values are usually not as suitable for long-range planning as are the Actuarial Value of Assets which reflect smoothing of annual investment returns.

Table II-1 on the next page discloses and compares each asset class as of June 30, 2014 and June 30, 2015.

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SECTION II — ASSETS

Table II-1		
Statement of Assets at Market Value		
	Fiscal Year ending	Fiscal Year ending
	June 30, 2014	June 30, 2015
Assets		
Cash and Cash Equivalents	\$ 44,078,286	\$ 71,553,166
Total Cash and Cash Equivalents	\$ 44,078,286	\$ 71,553,166
Receivables:		
Interest and Dividends	\$ 5,829,241	6,057,937
Contributions	3,051,590	3,703,589
Securities Transactions	18,263,280	34,794,799
Total Receivables	\$ 27,144,111	44,556,325
Fixed Assets		
Capitalized Software	\$ 348,278	\$ 222,653
Real Estate Occupied	1,726,876	1,707,899
Real Estate Leased	1,151,479	1,138,825
Other	442,380	438,357
Total Fixed Assets	\$ 3,669,013	\$ 3,507,734
Investments at Market Value:		
Fixed Income	\$ 493,747,037	\$ 453,889,853
Equities	1,189,389,840	1,194,717,298
Collateral on Loaned Securities	190,943,489	194,948,321
Other	74,084,729	127,745,699
Total Investments	\$ 1,948,165,095	\$ 1,971,301,171
Liabilities		
Accounts Payable	\$ (10,031,091)	\$ (9,951,045)
Security Transactions Payable	(30,566,509)	(52,845,683)
Collateral Held for Loaned Securities	(190,507,537)	(194,948,321)
Other	(642,089)	(569,143)
Total Liabilities	\$ (231,747,226)	\$ (258,314,192)
Market Value of Assets	\$ 1,791,309,279	\$ 1,832,604,204

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SECTION II — ASSETS

Changes in Market Value

The components of asset change are:

- Contributions (employers and employee)
- Benefit payments
- Expenses (investment and administrative)
- Investment income (realized and unrealized)

Table II-2 on the next page shows the components of change in the market value of assets during the fiscal years ending June 30, 2014 and June 30, 2015.

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Table II-2 Changes in Market Values		
<u>Additions</u>	Fiscal Year ending <u>June 30, 2014</u>	Fiscal Year ending <u>June 30, 2015</u>
Contributions		
Employer's Contribution	\$ 46,763,996	\$ 53,849,031
Members' Contributions	21,867,911	22,960,235
Total Contributions	<u>\$ 68,631,907</u>	<u>\$ 76,809,266</u>
Net Investment Income		
Net Appreciation/(Depreciation) in		
Fair Value of Investments	\$ 238,280,563	\$ 32,674,635
Interest and Dividends	44,870,019	43,216,684
Commission Recapture	31,360	45,354
Other Investment Income	123,840	141,801
Total Investment Income	<u>\$ 283,305,782</u>	<u>\$ 76,078,474</u>
Investment Expense	(8,757,302)	(7,856,505)
Net Investment Income	<u>\$ 274,548,480</u>	<u>\$ 68,221,969</u>
Securities Lending Activities		
Securities Lending Income	\$ 479,545	\$ 714,891
Expenses from Securities Lending Activities	(131,917)	(214,079)
Net Securities Lending Income	<u>347,628</u>	<u>500,812</u>
Total Net Investment Income	<u>\$ 274,896,108</u>	<u>\$ 68,722,781</u>
Total Additions	\$ 343,528,015	\$ 145,532,047
<u>Deductions</u>		
Benefits	\$ 93,266,904	\$ 100,099,055
Refunds	1,515,567	1,759,101
Administrative Costs	2,249,260	2,378,966
Total Deductions	<u>\$ 97,031,731</u>	<u>\$ 104,237,122</u>
Net Increase/(Decrease)	\$ 246,496,284	\$ 41,294,925
Net Assets Beginning of Year	\$ 1,544,812,995	\$ 1,791,309,279
Net Assets End of Year	\$ 1,791,309,279	\$ 1,832,604,204
Approximate Return	17.96%	3.87%

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SECTION II — ASSETS

Actuarial Value of Assets (AVA)

The Actuarial Value of Assets represents a “smoothed” value developed by the actuary to reduce the volatile results which could develop due to short-term fluctuations in the market value of assets. For this Plan, the Actuarial Value of Assets is calculated on a modified market-related value. The market value of assets is adjusted to recognize, over a five year period, investment earnings which are greater than (or less than) the assumed investment return. However, in no event will the Actuarial Value of Assets be less than 80% or more than 120% of market value on the valuation date.

The Valuation Assets are the portion of the Actuarial Assets dedicated to funding the basic pension benefits. The Valuation Assets exclude the value of any non-valuation reserves, such as reserves established for legal contingencies. The Valuation Assets also exclude the value of any non-valuation contingency reserves, which have been established according to the Board's funding policy. In valuations prior to the June 30, 2014 valuation, reserve associated with the Burial Allowance was excluded from the valuation assets; both the assets and liabilities associated with this benefit are included in this valuation.

The following table shows the development of the Actuarial Asset and Valuation Assets values.

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SECTION II — ASSETS

Table II-3	
Development of Actuarial Value of Assets for 6/30/2015	
Item	Total
1. Market Value as of 6/30/2014	\$ 1,791,309,279
2. Non-Investment Cash Flow for 2014-2015	(27,427,856)
3. Expected Return in 2014-2015	137,783,471
4. Expected Market Value as of 6/30/2015: (1 + 2 + 3)	\$ 1,901,664,894
5. Actual Return in 2014-2015	68,722,781
6. Actual Return Above Expected in 2014-2015: (5 - 3)	(69,060,690)
7. Market Value as of 6/30/2015	\$ 1,832,604,204
8. Deferred Recognition of Returns Above Expected	
a. 2014-2015 (80% of -\$69,060,690)	(55,248,552)
b. 2013-2014 (60% of \$156,253,060)	93,751,836
c. 2012-2013 (40% of \$81,607,988)	32,643,195
d. 2011-2012 (20% of -\$110,579,921)	(22,115,984)
e. Total	\$ 49,030,495
9. Preliminary Actuarial Value of Assets: (7 - 8e)	\$ 1,783,573,709
10. Corridor Limit	
a. 80% of Net Market Value	1,466,083,363
b. 120% of Net Market Value	2,199,125,045
11. Actuarial Value after Corridor as of 6/30/2015	\$ 1,783,573,709
12. Rate of Return on Actuarial Value of Assets	9.07%
13. Ratio of Actuarial Value to Market Value: (11 ÷ 7)	97.3%
14. Special (Non Valuation) Reserves:	
a. Health Insurance Reserves	0
b. Special COL Reserve	0
c. Legal Contingency Reserve	2,345,086
d. Tier 3 Disability Reserve	2,567
e. Contingency Reserve	17,659,865
f. Total Special Reserves (Market Value)	\$ 20,007,518
15. Adjusted Total Special Reserves (97.3% of Market, Except Contingency)	\$ 19,944,708
16. Pension Reserves at Actuarial Value (Valuation Assets): (11 - 15)	\$ 1,763,629,001

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SECTION II — ASSETS

Historical Investment Performance

The following table shows the historical annual asset returns on a market value, Actuarial Value, and valuation asset basis, as well in the increase in the Consumer Price Index (CPI) since 1996. Note that the returns prior to 2013 are expressed net of investment and administrative expenses; the returns for 2013 (and future years) are expressed net of investment expenses only.

Table II-4 Net Return on Assets vs. Increase in Consumer Price Index				
Year Ended June 30	Net Return at Market Value	Net Return at Actuarial Value	Net Return at Valuation Assets	Increase in Consumer Price Index*
1996				2.8%
1997	20.4%			2.3%
1998	13.4%			1.7%
1999	10.6%			2.0%
2000	6.3%			3.7%
2001	7.0%			3.2%
2002	-4.5%			1.1%
2003	5.2%		4.9%	2.1%
2004	6.1%		6.3%	3.3%
2005	8.2%		5.5%	2.5%
2006	9.9%		10.8%	4.3%
2007	16.0%	10.8%	0.6%	2.7%
2008	-8.5%	8.0%	16.7%	5.0%
2009	-17.2%	-9.6%	-9.4%	-1.4%
2010	15.6%	13.0%	14.7%	1.1%
2011	22.1%	3.5%	4.2%	3.6%
2012	0.1%	6.4%	6.5%	1.7%
2013	13.9%	7.0%	7.2%	1.8%
2014	18.0%	9.4%	9.5%	2.1%
2015	3.9%	9.1%	9.0%	0.1%
15-Year Compound Average	5.9%	N/A	N/A	2.2%
10-Year Compound Average	6.6%	N/A	6.7%	2.1%
5-Year Compound Average	11.3%	7.1%	7.3%	1.8%

* Based on All Urban Consumers - U.S. City Average, June indices.

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SECTION II — ASSETS

Allocation of Unfunded Actuarial Liability by Valuation Subgroup

The following table shows the allocation of the Unfunded Actuarial Liability between the two valuation subgroups (County / Former County Members and City of Ceres / Special District Members). The Valuation Assets are reduced by the liability associated with the inactive members and the refundable contribution balances for active members, and the remaining assets are allocated to each subgroup based on their share of the active liability. These UAL balances are used to calculate each subgroup's amortization payment.

Table II-5				
Allocation of 6/30/2015 Unfunded Liability				
(in thousands)				
	County and Former County	Ceres and Other Districts		Total
1.	Actuarial Value of Assets			\$ 1,763,629
2.	Accumulated Employee Contributions	183,725	12,349	196,074
3.	Inactive Actuarial Liability			\$ 1,452,214
4.	Net Assets for Distribution [1 - 2 - 3]			\$ 115,341
5.	Active Actuarial Liability	879,305	60,003	939,308
6.	Allocation of Remaining Assets	93.61%	6.39%	100.00%
7.	Remaining Assets	107,973	7,368	115,341
8.	Total Assets [2 + 7]	291,698	19,717	311,415
9.	Active Funded Ratio [8 ÷ 5]	33.17%	32.86%	33.15%
10.	Unfunded Actuarial Liability [5 - 8]	\$ 587,608	\$ 40,285	\$ 627,893

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SECTION III -- LIABILITIES

In this section, we present detailed information on Plan liabilities including:

- **Disclosure** of Plan liabilities at June 30, 2014 and June 30, 2015;
- Statement of **changes** in these liabilities during the year.

Disclosure

Several types of liabilities are calculated and presented in this report. Each type is distinguished by the people ultimately using the figures and the purpose for which they are using them. Note that these liabilities are not applicable for settlement purposes, including the purchase of annuities and the payment of lump sums.

- **Present Value of Future Benefits:** Used for measuring all future Plan obligations, represents the amount of money needed today to fully fund all benefits of the Plan both earned as of the valuation date and those to be earned in the future by current Plan participants, under the current Plan provisions.
- **Actuarial Liability:** Used for funding calculations, this liability is calculated taking the Present Value of Future Benefits and subtracting the present value of future Member Contributions and future Employer Normal Costs under an acceptable actuarial funding method. The method used for this Plan is called the **Entry Age Normal** (EAN) funding method.
- **Unfunded Actuarial Liability:** The excess of the Actuarial Liability over the Valuation Assets.

Table III-1 on the following page discloses each of these liabilities for the current and prior valuations. With respect to each disclosure, a subtraction of the appropriate value of Plan assets yields, for each respective type, a **net surplus** or an **Unfunded Actuarial Liability**.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

SECTION III -- LIABILITIES

Table III-1				
Present Value of Future Benefits and Actuarial Liability				
(in thousands)				
Item	General	Safety	June 30, 2015 Total	June 30, 2014 Total
Present Value of Future Benefits				
Actives	\$ 979,480	\$ 354,297	\$ 1,333,777	\$ 1,153,857
Terminated Vested	78,769	35,664	114,433	86,231
Retirees	878,482	250,453	1,128,934	967,865
Disabled	50,599	73,427	124,026	103,945
Beneficiaries	55,499	29,322	84,821	72,925
Total StanCERA	\$ 2,042,828	\$ 743,163	\$ 2,785,991	\$ 2,384,822
Actuarial Liability				
Total Present Value of Benefits	\$ 2,042,828	\$ 743,163	\$ 2,785,991	\$ 2,384,822
Present Value of Future Normal Costs				
Employer Portion	176,152	81,789	257,941	216,329
Employee Portion	99,112	37,416	136,529	142,123
Actuarial Liability	\$ 1,767,564	\$ 623,958	\$ 2,391,522	\$ 2,026,371
Actuarial Value of Assets	\$ 1,306,445	\$ 457,184	\$ 1,763,629	\$ 1,644,077
Funded Ratio	73.9%	73.3%	73.7%	81.1%
Unfunded Actuarial Liability/(Surplus)	\$ 461,119	\$ 166,773	\$ 627,893	\$ 382,294

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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SECTION III -- LIABILITIES

The following table shows the Actuarial Liabilities for each of the valuation subgroups (General and Safety), split by members' status.

Table III-2			
Liabilities by Group as of June 30, 2015			
(in thousands)			
Actuarial Liability	General	Safety	Total
Actuarial Liability			
Actives	\$ 704,216	\$ 235,092	\$ 939,308
Terminated Vested	78,769	35,664	114,433
Retirees	878,482	250,453	1,128,934
Disabled	50,599	73,427	124,026
Beneficiaries	55,499	29,322	84,821
Total	\$ 1,767,564	\$ 623,958	\$ 2,391,522

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

SECTION III -- LIABILITIES

Changes in Liabilities

Each of the Liabilities disclosed in the prior tables are expected to change at each valuation. The components of that change, depending upon which liability is analyzed, can include:

- New hires since the last valuation
- Benefits accrued since the last valuation
- Plan amendments increasing benefits
- Passage of time which adds interest to the prior liability
- Benefits paid to retirees since the last valuation
- Participants retiring, terminating, or dying at rates different than expected
- A change in actuarial or investment assumptions
- A change in the actuarial funding method

Unfunded liabilities will change because of all of the above, and also due to changes in Plan assets resulting from:

- Employer contributions different than expected
- Investment earnings different than expected
- A change in the method used to measure Plan assets

Table III-3	
Development of 2015 Experience Gain/(Loss)	
(in millions)	
Item	Cost
1. Unfunded Actuarial Liability at June 30, 2014	\$ 382.3
2. Middle of year actuarial liability payment	(26.6)
3. Interest to end of year on 1 and 2	<u>28.6</u>
4. Expected Unfunded Actuarial Liability at June 30, 2015 (1+2+3)	\$ 384.3
5. Actual Unfunded Liability at June 30, 2015	<u>627.9</u>
6. Difference: (4 - 5)	\$ (243.6)
7. Portion of difference due to:	
a. Investment experience	\$ 20.6
b. Contribution (shortfall)/excess	1.8
d. Assumption changes	(269.8)
e. Change in Actuarial Cost Method	0
f. New entrant loss	(1.8)
g. Other experience	<u>5.6</u>
h. Total	(243.6)

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

SECTION IV -- CONTRIBUTIONS

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what level of contributions is needed to properly maintain the funding status of the Plan. Typically, the actuarial process will use a funding technique that will result in a pattern of contributions that are both stable and predictable.

For this Plan, the actuarial funding method used to determine the Normal Cost and the Unfunded Actuarial Liability is the **Entry Age Normal (EAN)** cost method. There are three components to the total contribution: the **Normal Cost rate** (employee and employer), the **Unfunded Actuarial Liability rate** (UAL rate), and the **administrative expense** contribution.

The Normal Cost rate is determined in the following steps. First, an individual Normal Cost rate is determined by taking the value, as of entry age into the Plan, of each member's projected future benefits. This value is then divided by the value, also at entry age, of the member's expected future salary producing a Normal Cost rate that should remain relatively constant over a member's career.

The total Normal Cost is computed by adding the expected dollar amount of each active member's Normal Cost for the current year – known as the Individual Entry Age Method. The total Normal Cost is adjusted with interest to the middle of the year, to reflect the fact that the Normal Cost contributions are paid throughout the year as member payroll payments are made. Finally, the total Normal Cost rate is reduced by the member contribution rate to produce the employer Normal Cost rate. The member contribution rate for each subgroup is determined by adding the expected contributions for each member and dividing by the projected pay for each subgroup.

The Unfunded Actuarial Liability (UAL) is the difference between the EAN Actuarial Liability and the Actuarial Value of Assets. The UAL payment is determined as the amount needed to fund the UAL over a closed 21-year period as a level percentage of payroll.

Beginning with the June 30, 2012 actuarial valuation, the Board adopted a policy of adding an amount equal to the expected annual administrative expense to the employer's required contribution. Prior to the June 30, 2012 actuarial valuation, the administrative expenses were included as an offset to the assumed earnings rate, and were shared between the employees and employers. For the June 30, 2015 valuation, this amount is estimated to be \$2.4 million.

For this valuation, the Board adopted a three-year phase-in of the impact of the assumption changes on the employer contribution rate.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

SECTION IV -- CONTRIBUTIONS

The table below presents the calculation of the contribution rates for the Plan for this valuation and compares the total contribution rate with the prior year rate. The tables on the following pages contain more details on the calculation of the UAL amortization payments, as well as details on the calculation of the contribution rates for each group and tier. This includes the first year of phase-in of the assumption change.

**Table IV-1
Development of the Net Employer Contribution Rate as of June 30, 2015 for FYE 2017**

	General		June 30, 2015 Safety		COMPOSITE	June 30, 2014 COMPOSITE
	County and Former County	Ceres and Other Districts	County and Former County	Ceres and Other Districts		
1. Total Normal Cost Rate	19.56%	20.78%	31.71%	33.16%	22.17%	20.52%
2. Member Contribution Rate	<u>9.06%</u>	<u>8.93%</u>	<u>13.29%</u>	<u>12.88%</u>	9.92%	9.39%
3. Employer Normal Cost Rate (1-2)	10.50%	11.85%	18.42%	20.28%	12.24%	11.13%
4. UAL Amortization	16.34%	17.02%	22.82%	21.16%	17.66%	11.33%
5. Administrative Expense Rate	<u>0.86%</u>	<u>0.93%</u>	<u>1.33%</u>	<u>1.33%</u>	0.96%	0.89%
6. Net Employer Contribution Rate (3+4+5)	27.70%	29.80%	42.57%	42.77%	30.86%	23.35%
7. Phase-In of Assumption Changes	<u>-5.44%</u>	<u>-5.44%</u>	<u>-7.59%</u>	<u>-7.59%</u>	-5.87%	
8. Final Employer Contribution Rate (6+7)	22.26%	24.36%	34.98%	35.18%	24.99%	23.35%

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

SECTION IV -- CONTRIBUTIONS

Table IV-2 contains the details of the calculations of the UAL rates for the Plan.

Table IV-2 Development of UAL Amortization Rates					
	General		Safety		TOTAL
	County and Former County	Ceres and Other Districts	County and Former County	Ceres and Other Districts	
Salary Scale:					
2016+	3.25%	3.25%	3.25%	3.25%	N/A
Amortization Factor	14.2361	14.2361	14.2361	14.2361	N/A
Payroll	\$ 189,777,600	\$ 8,099,797	\$ 44,968,297	\$ 6,859,064	\$ 249,704,758
Unfunded Actuarial Liability (actuarial value)	\$ 441,492,227	\$ 19,627,268	\$ 146,115,362	\$ 20,658,067	\$ 627,892,923
UAL Amortization	\$ 31,012,198	\$ 1,378,699	\$ 10,263,734	\$ 1,451,106	\$ 44,105,737
UAL Amortization Rate	16.34%	17.02%	22.82%	21.16%	17.66%

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

SECTION IV -- CONTRIBUTIONS

Tables IV-3 and IV-4 contain the calculations of the employer contribution rates for each group and tier, and reflects the three-year phase-in of the assumption change.

Table IV-3							
Development of the General Member Contribution Rate as of June 30, 2015 for FYE 2017							
	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	PEPRA	TOTAL
<u>County and Former County</u>							
A. Total Normal Cost Rate	21.66%	17.31%	3.21%	17.74%	20.73%	16.12%	19.56%
B. Member Contribution Rate	<u>8.40%</u>	<u>8.04%</u>	<u>0.00%</u>	<u>1.08%</u>	<u>9.59%</u>	<u>8.06%</u>	9.06%
C. Employer Normal Cost Rate (A-B)	13.26%	9.27%	3.21%	16.66%	11.14%	8.06%	10.50%
D. UAL Amortization Rate	16.34%	16.34%	16.34%	16.34%	16.34%	16.34%	16.34%
E. Administrative Expense Rate	<u>0.95%</u>	<u>0.82%</u>	<u>0.63%</u>	<u>1.06%</u>	<u>0.88%</u>	<u>0.78%</u>	0.86%
F. Net June 30, 2015 Contribution Rate (C+D+E)	30.55%	26.43%	20.18%	34.06%	28.36%	25.18%	27.70%
G. Impact of Phase-In of Assumption Changes	-5.44%	-5.44%	-5.44%	-5.44%	-5.44%	-5.44%	-5.44%
H. Phase-In June 30, 2015 Contribution Rate (F+G)	25.11%	20.99%	14.74%	28.62%	22.92%	19.74%	22.26%
<u>Ceres and Other Districts</u>							
A. Total Normal Cost Rate		16.25%		13.65%	21.78%	17.10%	20.78%
B. Member Contribution Rate		<u>7.76%</u>		<u>0.00%</u>	<u>9.22%</u>	<u>8.55%</u>	8.93%
C. Employer Normal Cost Rate (A-B)		8.49%		13.65%	12.56%	8.55%	11.85%
D. UAL Amortization Rate		17.02%		17.02%	17.02%	17.02%	17.02%
E. Administrative Expense Rate		<u>0.82%</u>		<u>0.99%</u>	<u>0.95%</u>	<u>0.82%</u>	0.93%
F. Net June 30, 2015 Contribution Rate (C+D+E)		26.33%		31.66%	30.53%	26.39%	29.80%
G. Impact of Phase-In of Assumption Changes		-5.44%		-5.44%	-5.44%	-5.44%	-5.44%
H. Phase-In June 30, 2015 Contribution Rate (F+G)		20.89%		26.22%	25.09%	20.95%	24.36%

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

SECTION IV -- CONTRIBUTIONS

Table IV-4					
Development of the Safety Member Contribution Rate as of June 30, 2015 for FYE 2017					
	Tier 2	Tier 4	Tier 5	PEPRA	TOTAL
<u>County and Former County</u>					
A. Total Normal Cost Rate	29.57%	36.05%	33.39%	26.15%	31.71%
B. Member Contribution Rate	<u>12.60%</u>	<u>5.85%</u>	<u>13.44%</u>	<u>13.07%</u>	13.29%
C. Employer Normal Cost Rate (A-B)	16.97%	30.20%	19.95%	13.08%	18.42%
D. UAL Amortization Rate	22.82%	22.82%	22.82%	22.82%	22.82%
E. Administrative Expense Rate	<u>1.28%</u>	<u>1.70%</u>	<u>1.38%</u>	<u>1.15%</u>	1.33%
F. Net June 30, 2015 Contribution Rate (C+D+E)	41.07%	54.72%	44.15%	37.05%	42.57%
G. Impact of Phase-In of Assumption Changes	-7.59%	-7.59%	-7.59%	-7.59%	-7.59%
H. Phase-In June 30, 2015 Contribution Rate (F+G)	33.48%	47.13%	36.56%	29.46%	34.98%
<u>Ceres and Other Districts</u>					
A. Total Normal Cost Rate			33.52%	28.59%	33.16%
B. Member Contribution Rate			<u>12.76%</u>	<u>14.29%</u>	12.88%
C. Employer Normal Cost Rate (A-B)			20.76%	14.30%	20.28%
D. UAL Amortization Rate			21.16%	21.16%	21.16%
E. Administrative Expense Rate			<u>1.35%</u>	<u>1.14%</u>	1.33%
F. Net June 30, 2015 Contribution Rate (C+D+E)			43.27%	36.60%	42.77%
G. Impact of Phase-In of Assumption Changes			-7.59%	-7.59%	-7.59%
H. Phase-In June 30, 2015 Contribution Rate (F+G)			35.68%	29.01%	35.18%

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

SECTION V -- REQUIRED CAFR EXHIBITS

The GASB adopted Statement Nos. 67 and 68 which replaced GASB Statement Nos. 25 and 27. GASB 67 is effective for periods beginning after June 15, 2013 (first effective June 30, 2014 for the Plan) and GASB 68 is effective for fiscal years beginning after June 15, 2014 (first effective for the fiscal year July 1, 2014 to June 30, 2015 for the Employers). The disclosures needed to satisfy the new GASB requirements can be found in the StanCERA GASB 67/68 Report as of June 30, 2015.

In accordance with Government Finance Officers Association (GFOA) and their recommended checklist for Comprehensive Annual Financial Reports (CAFRs), we continue to prepare the Solvency Test disclosure and Actuarial Gain/Loss exhibit.

Solvency Test

The solvency test shows the portion of actuarial liabilities for active member contributions, inactive members, and the employer financed portion of the active members that are covered by the Actuarial Value of Assets.

The Actuarial Accrued Liability under GASB 25 is determined assuming that the Plan is ongoing and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions. Beginning June 30, 2015, liabilities are discounted at the assumed valuation interest rate of 7.25%.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

SECTION V -- REQUIRED CAFR EXHIBITS

Table V-1 GASB SOLVENCY TEST									
(dollars in thousands)									
Valuation Date June 30,	(1)	(2)	(3)	Actuarial Accrued Liabilities	Valuation Assets	Portion of Actuarial Liabilities Covered by Reported Assets			
	Active Member Contributions	Retirees And Beneficiaries	Active And Terminated Members			(1)	(2)	(3)	
2003	\$ 176,622	\$ 455,784	\$ 325,689	\$ 958,095	\$ 928,022	100%	100%	91%	
2004	166,806	518,922	349,617	1,035,345	993,180	100%	100%	88%	
2005	205,556	551,810	358,994	1,116,310	1,049,691	100%	100%	81%	
2006 *	219,907	619,109	355,888	1,194,904	1,154,048	100%	100%	89%	
2008 **	272,657	739,838	536,329	1,548,824	1,317,167	100%	100%	57%	
2009	298,342	781,082	574,292	1,653,716	1,171,767	100%	100%	16%	
2010	323,940	829,323	584,561	1,737,824	1,325,801	100%	100%	30%	
2011	337,201	897,384	523,133	1,757,718	1,372,046	100%	100%	26%	
2012	351,569	987,546	549,598	1,888,713	1,451,764	100%	100%	20%	
2013 ***	191,968	1,065,792	661,466	1,919,227	1,524,076	100%	100%	40%	
2014	193,301	1,144,734	688,335	2,026,371	1,644,077	100%	100%	44%	
2015	196,074	1,328,846	850,510	2,375,430	1,763,629	100%	100%	28%	

* Results recalculated, reflecting Level 1 assumption changes (new retirement, termination and withdrawal decrements) & new EFI EAN methodology.

** Reflects transfer as of June 30, 2008 of \$50 million from Non-Valuation to Valuation Reserves.

*** Reflects change to include only refundable contribution balance.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

SECTION V -- REQUIRED CAFR EXHIBITS

Table V-2 displays the historical experience of gains and losses for the Plan. Each year there will be a gain or loss due to both assets and liabilities. In addition, there can be gains or losses due to changes in plan provisions or due to the adoption of new assumptions and methods. For example, this year, there is also a large loss due to the adoption of the assumptions determined in the Actuarial Experience Study for July 1, 2012 through June 30, 2015.

Table V-2					
Actuarial (Gains)/Losses					
(Change in UAAL beyond expected)					
Plan Year Ending	Asset Sources	Liability Sources	Total	Changes in Plan Provisions	Changes in Assumptions/Methods
6/30/2004	\$ 8,536,049	\$ 12,492,070	\$ 21,028,119	\$ 0	\$ (2,088,246)
6/30/2005	26,573,640	11,238,430	37,812,070	0	0
6/30/2006	(27,756,878)	21,366,204	(6,390,674)	0	(14,845,293)
*6/30/2007	86,178,774	0	86,178,774	0	134,470,779
6/30/2008	(50,709,169)	67,324,195	16,615,026	0	0
6/30/2009	228,905,354	12,996,828	241,902,182	0	0
6/30/2010	(76,507,113)	37,492,978	(39,014,135)	0	(51,743,766)
6/30/2011	49,205,018	(2,387,353)	46,817,665	0	(72,085,966)
6/30/2012	(5,283,786)	6,191,029	907,243	0	52,606,350
6/30/2013	10,200,000	8,500,000	18,700,000	0	(63,400,000)
6/30/2014	(22,600,000)	6,100,000	(16,500,000)	0	400,000
6/30/2015	(20,600,000)	(5,600,000)	(26,200,000)	0	269,800,000

*Actuarial valuation was not performed for fiscal year ending June 30, 2007.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

APPENDIX A -- MEMBERSHIP INFORMATION

The data for this valuation was provided by the StanCERA as of June 30, 2015. Cheiron did not audit any of the data; however, it was reviewed to ensure that it complies with generally accepted actuarial standards.

	<u>General Members</u>		<u>Safety Members</u>		<u>Total</u>	
	<u>7/1/2014</u>	<u>7/1/2015</u>	<u>7/1/2014</u>	<u>7/1/2015</u>	<u>7/1/2014</u>	<u>7/1/2015</u>
Active Participants						
Number	3,303	3,421	689	723	3,992	4,144
Average Age	45.99	45.45	38.76	38.08	44.74	44.17
Average Service	11.47	10.94	10.87	10.25	11.37	10.82
Average Pay (does not reflect impact of furloughs)	\$ 54,377	\$ 55,116	\$ 63,022	\$ 68,004	\$ 55,869	\$ 57,364
Service Retired						
Number	2,351	2,472	328	349	2,679	2,821
Average Age	69.33	69.46	64.57	64.57	68.74	68.85
Average Annual Total Benefit	\$ 27,500	\$ 28,315	\$ 50,096	\$ 51,627	\$ 30,266	\$ 31,199
Beneficiaries						
Number	314	323	85	87	399	410
Average Age	73.25	72.70	66.95	66.66	71.91	71.42
Average Annual Total Benefit	\$ 16,164	\$ 16,700	\$ 26,590	\$ 27,721	\$ 18,385	\$ 19,039
Duty Disabled						
Number	107	108	117	118	224	226
Average Age	66.22	67.01	57.55	57.88	61.69	62.24
Average Annual Total Benefit	\$ 23,358	\$ 23,941	\$ 35,924	\$ 36,607	\$ 29,921	\$ 30,554
Ordinary Disabled						
Number	77	75	6	7	83	82
Average Age	64.10	64.36	58.17	57.00	63.67	63.73
Average Annual Total Benefit	\$ 15,125	\$ 15,637	\$ 19,909	\$ 22,342	\$ 15,471	\$ 16,210
Total In Pay						
Number	2,849	2,978	536	561	3,385	3,539
Average Age	69.50	69.59	63.34	63.39	68.53	68.61
Average Annual Total Benefit	\$ 25,760	\$ 26,577	\$ 42,937	\$ 44,395	\$ 28,480	\$ 29,402
Terminated Vested						
Number	533	393	106	80	639	473
Average Age	49.82	50.07	44.11	43.33	48.88	48.93
Average Service	8.01	10.00	7.55	10.01	7.93	10.00
Transfers						
Number	226	367	97	139	323	506
Average Age	44.89	46.41	38.05	40.61	42.83	44.82
Average Service	7.51	6.30	8.00	6.81	7.66	6.44
Total Inactives						
Number	759	760	203	219	962	979
Average Age	48.35	48.31	41.22	41.60	46.85	46.81
Average Service	7.86	8.21	7.76	7.98	7.84	8.16

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

APPENDIX A -- MEMBERSHIP INFORMATION

Data pertaining to active and inactive Members and their beneficiaries as of the valuation date was supplied by the Plan Administrator on electronic media. As is usual in studies of this type, Member data was neither verified nor audited.

Plan Year Ending	Added During Year	Allowance Added	Removed During Year	Allowance Removed	At End of Year	Annual Allowance	% Increase in Retiree Allowance	Average Annual Allowance
2008	369	\$ 9,084,777	(148)	\$ (1,731,738)	2,666	\$ 63,296,000	19.18%	\$ 23,742
2009	156	\$ 2,168,425	(71)	\$ (647,870)	2,751	\$ 66,720,003	5.41%	\$ 24,253
2010	159	\$ 3,349,900	(80)	\$ (751,427)	2,830	\$ 71,464,735	7.11%	\$ 25,334
2011	263	\$ 4,724,416	(78)	\$ (1,194,042)	3,015	\$ 74,826,404	4.70%	\$ 25,732
2012	226	\$ 3,565,634	(99)	\$ (978,729)	3,142	\$ 80,157,222	7.12%	\$ 26,737
2013	198	\$ 6,036,138	(91)	\$ (1,144,584)	3,249	\$ 89,975,736	12.25%	\$ 27,694
2014	222	\$ 6,703,273	(86)	\$ (1,725,066)	3,385	\$ 96,405,454	7.15%	\$ 28,480
2015	237	\$ 7,778,716	(83)	\$ (2,043,313)	3,539	\$ 104,052,097	7.93%	\$ 29,402

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

APPENDIX A -- MEMBERSHIP INFORMATION

	County and Former County						Ceres and Other Districts						Total County and Former County, Ceres and Other Districts	
	General Members		Safety Members		Total		General Members		Safety Members		Total		7/1/2014	7/1/2015
	7/1/2014	7/1/2015	7/1/2014	7/1/2015	7/1/2014	7/1/2015	7/1/2014	7/1/2015	7/1/2014	7/1/2015	7/1/2014	7/1/2015		
Active Participants														
Number	3,184	3,297	602	643	3,786	3,940	119	124	87	80	206	204	3,992	4,144
Average Age	46.00	45.43	38.94	38.09	44.88	44.24	45.56	45.96	37.56	38.03	42.18	42.85	44.74	44.17
Average Service	11.45	10.91	10.91	10.18	11.37	10.79	11.81	11.87	10.61	10.83	11.30	11.46	11.37	10.82
Average Pay*	\$ 54,186	\$ 54,846	\$ 61,146	\$ 66,311	\$ 55,293	\$ 56,717	\$ 59,466	\$ 62,276	\$ 76,005	\$ 81,614	\$ 66,451	\$ 69,859	\$ 55,869	\$ 57,364
Terminated Vested														
Number	519	380	93	68	612	448	14	13	13	12	27	25	639	473
Average Age	49.76	49.99	44.17	43.25	48.91	48.97	52.07	52.38	43.69	43.75	48.04	48.24	48.88	48.93
Average Service	7.97	10.00	7.67	9.96	7.93	10.00	9.33	9.98	6.66	10.28	8.04	10.12	7.93	10.00
Transfers														
Number	206	342	88	121	294	463	20	25	9	18	29	43	323	506
Average Age	45.12	46.66	37.72	40.21	42.90	44.97	42.50	43.08	41.33	43.28	42.14	43.16	42.83	44.82
Average Service	7.36	6.16	7.90	6.67	7.52	6.29	9.12	8.18	8.96	7.70	9.07	7.98	7.66	6.44
Total Inactives														
Number	725	722	181	189	906	911	34	38	22	30	56	68	962	979
Average Age	48.44	48.41	41.03	41.31	46.96	46.94	46.44	46.26	42.73	43.47	44.98	45.03	46.85	46.81
Average Service	7.80	8.18	7.78	7.86	7.80	8.11	9.20	8.80	7.60	8.73	8.57	8.77	7.84	8.16

* All payroll figures shown are annual.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

APPENDIX A -- MEMBERSHIP INFORMATION

County and Former County Members

	General Members												Safety Members					
	Tier 1		Tier 2		Tier 3		Tier 4		Tier 5		PEPRA		Tiers 1 & 4		Tiers 2 & 5		PEPRA	
	7/1/2014	7/1/2015	7/1/2014	7/1/2015	7/1/2014	7/1/2015	7/1/2014	7/1/2015	7/1/2014	7/1/2015	7/1/2014	7/1/2015	7/1/2014	7/1/2015	7/1/2014	7/1/2015	7/1/2014	7/1/2015
Active Participants																		
Number	1	1	267	247	17	17	48	36	2,410	2,227	441	769	2	2	517	480	83	161
Average Age	55.00	56.00	37.34	38.73	52.24	53.24	60.15	61.00	48.41	48.95	36.27	36.49	58.50	59.50	40.71	41.27	27.40	28.32
Average Service	13.20	16.76	2.93	4.09	16.82	17.75	33.94	34.73	13.88	14.61	0.72	1.12	25.57	26.57	12.49	13.16	0.75	1.08
Average Pay*	\$ 35,788	\$ 37,398	\$ 46,257	\$ 50,552	\$ 47,749	\$ 49,340	\$ 71,398	\$ 74,329	\$ 57,522	\$ 59,919	\$ 39,175	\$ 40,768	\$ 76,307	\$ 83,543	\$ 63,520	\$ 71,433	\$ 45,992	\$ 50,826
Terminated Vested																		
Number	22	17	167	66	28	22	1	1	301	274	0	0	1	0	92	68	0	0
Average Age	61.64	62.24	53.14	55.95	53.64	54.77	65.00	66.00	46.61	47.35	0.00	0.00	66.00	0.00	43.93	43.25	0.00	0.00
Average Service	10.51	10.47	5.14	8.85	10.65	12.15	5.55	5.55	9.12	10.09	0.00	0.00	6.08	0.00	7.69	9.96	0.00	0.00
Transfers																		
Number	6	4	30	118	10	13	2	2	154	193	4	12	0	1	85	114	3	6
Average Age	61.67	61.75	42.00	48.61	50.00	50.54	57.00	58.00	44.64	45.49	43.75	35.08	0.00	67.00	37.69	40.27	38.33	34.67
Average Service	8.04	10.81	3.06	2.49	19.42	15.86	14.33	14.33	7.47	7.89	0.45	1.04	0.00	6.08	8.15	6.97	0.82	1.17
Total Inactives																		
Number	28	21	197	184	38	35	3	3	455	467	4	12	1	1	177	182	3	6
Average Age	61.64	62.14	51.44	51.24	52.68	53.20	59.67	60.67	45.95	46.58	43.75	35.08	66.00	67.00	40.94	41.38	38.33	34.67
Average Service	9.98	10.53	4.82	4.77	12.96	13.53	11.41	11.41	8.56	9.18	0.45	1.04	6.08	6.08	7.91	8.09	0.82	1.17

* All payroll figures shown are annual.

CERES and Other District Members

	General Members												Safety Members					
	Tier 1		Tier 2		Tier 3		Tier 4		Tier 5		PEPRA		Tiers 1 & 4		Tiers 2 & 5		PEPRA	
	7/1/2014	7/1/2015	7/1/2014	7/1/2015	7/1/2014	7/1/2015	7/1/2014	7/1/2015	7/1/2014	7/1/2015	7/1/2014	7/1/2015	7/1/2014	7/1/2015	7/1/2014	7/1/2015	7/1/2014	7/1/2015
Active Participants																		
Number	0	0	5	4	0	0	2	2	95	90	17	28	0	0	83	72	4	8
Average Age	0.00	0.00	47.20	44.00	0.00	0.00	60.00	61.00	46.78	48.40	36.59	37.32	0.00	0.00	38.02	38.89	28.00	30.25
Average Service	0.00	0.00	9.77	9.56	0.00	0.00	40.09	41.13	13.29	14.66	0.76	1.14	0.00	0.00	11.09	11.96	0.66	0.68
Average Pay*	\$ 0	\$ 0	\$ 45,197	\$ 48,436	\$ 0	\$ 0	\$ 62,973	\$ 62,454	\$ 63,961	\$ 68,978	\$ 38,135	\$ 42,695	\$ 0	\$ 0	\$ 77,336	\$ 84,047	\$ 48,382	\$ 59,711
Terminated Vested																		
Number	1	1	7	4	0	0	0	0	6	8	0	0	0	0	13	12	0	0
Average Age	60.00	61.00	52.43	55.25	0.00	0.00	0.00	0.00	50.33	49.88	0.00	0.00	0.00	0.00	43.69	43.75	0.00	0.00
Average Service	5.32	5.32	5.93	7.59	0.00	0.00	0.00	0.00	13.96	11.75	0.00	0.00	0.00	0.00	6.66	10.28	0.00	0.00
Transfers																		
Number	0	0	3	5	0	0	0	0	17	19	0	1	0	0	9	18	0	0
Average Age	0.00	0.00	50.00	50.00	0.00	0.00	0.00	0.00	41.18	41.79	0.00	33.00	0.00	0.00	41.33	43.28	0.00	0.00
Average Service	0.00	0.00	2.85	2.19	0.00	0.00	0.00	0.00	10.22	10.16	0.00	0.55	0.00	0.00	8.96	7.70	0.00	0.00
Inactives																		
Number	1	1	10	9	0	0	0	0	23	27	0	1	0	0	22	30	0	0
Average Age	60.00	61.00	51.70	52.33	0.00	0.00	0.00	0.00	43.57	44.19	0.00	33.00	0.00	0.00	42.73	43.47	0.00	0.00
Average Service	5.32	5.32	5.00	4.59	0.00	0.00	0.00	0.00	11.20	10.63	0.00	0.55	0.00	0.00	7.60	8.73	0.00	0.00

* All payroll figures shown are annual.



**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

APPENDIX A -- MEMBERSHIP INFORMATION

Valuation Date	Plan Type	Number	Annual Payroll	Average Annual Salary	Increase in Average Pay
June 30, 2003	General	3,626	\$163,505,000	\$45,092	6.76%
	Safety	637	\$34,159,000	\$53,625	3.98%
	Total	4,263	\$197,664,000	\$46,367	5.23%
June 30, 2004	General	3,618	\$164,462,000	\$45,457	0.81%
	Safety	630	\$35,501,000	\$56,351	5.08%
	Total	4,248	\$199,963,000	\$47,072	1.52%
June 30, 2005	General	3,651	\$173,399,000	\$47,494	4.48%
	Safety	687	\$38,282,000	\$55,723	-1.11%
	Total	4,338	\$211,681,000	\$48,797	3.66%
June 30, 2006	General	3,702	\$179,767,000	\$48,559	2.24%
	Safety	689	\$40,001,000	\$58,057	4.19%
	Total	4,391	\$219,768,000	\$50,050	2.57%
June 30, 2008	General	3,719	\$230,942,000	\$62,098	27.88%
	Safety	731	\$44,638,000	\$61,064	5.18%
	Total	4,450	\$275,580,000	\$61,928	23.73%
June 30, 2009	General	3,627	\$201,144,000	\$55,457	-10.69%
	Safety	739	\$47,172,000	\$63,832	4.53%
	Total	4,366	\$248,316,000	\$56,875	-8.16%
June 30, 2010	General	3,464	\$202,200,198	\$58,372	5.26%
	Safety	685	\$46,630,275	\$68,073	6.64%
	Total	4,149	\$248,830,473	\$59,974	5.45%
June 30, 2011	General	3,232	\$184,906,498	\$57,211	-1.99%
	Safety	637	\$41,800,298	\$65,621	-3.60%
	Total	3,869	\$226,706,796	\$58,596	-2.30%
June 30, 2012	General	3,233	\$179,260,736	\$55,447	-3.08%
	Safety	661	\$41,657,273	\$63,022	-3.96%
	Total	3,894	\$220,918,009	\$56,733	-3.18%
June 30, 2013	General	3,230	\$176,437,755	\$54,625	-1.48%
	Safety	694	\$42,590,563	\$61,370	-2.62%
	Total	3,924	\$219,028,318	\$55,818	-1.61%
June 30, 2014	General	3,303	\$179,606,090	\$54,377	-0.45%
	Safety	689	\$43,422,198	\$63,022	2.69%
	Total	3,992	\$223,028,288	\$55,869	0.09%
June 30, 2015	General	3,421	\$188,550,804	\$55,116	1.36%
	Safety	723	\$49,166,923	\$68,004	7.91%
	Total	4,144	\$237,717,727	\$57,364	2.68%

*Actuarial valuation was not performed for fiscal year ending June 30, 2007.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

APPENDIX A -- MEMBERSHIP INFORMATION

StanCERA Membership – Retired Members as of June 30, 2015

Age	County and Former County				Ceres and Other Districts				Total	
	General Members		Safety Members		General Members		Safety Members		Number	Annual Average Benefit
	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit		
35-39	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0
40-44	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0
45-49	0	\$ 0	5	\$ 48,975	0	\$ 0	0	\$ 0	5	\$ 48,975
50-54	54	\$ 19,494	42	\$ 58,371	0	\$ 0	5	\$ 42,744	101	\$ 36,812
55-59	219	\$ 27,313	55	\$ 44,010	5	\$ 36,063	3	\$ 121,478	282	\$ 31,726
60-64	475	\$ 32,137	71	\$ 51,520	13	\$ 24,160	3	\$ 94,127	562	\$ 34,732
65-69	646	\$ 31,626	71	\$ 54,615	17	\$ 30,179	1	\$ 70,765	735	\$ 33,866
70-74	426	\$ 29,372	47	\$ 50,681	8	\$ 26,196	0	\$ 0	481	\$ 31,401
75-79	249	\$ 22,280	25	\$ 54,624	6	\$ 33,671	0	\$ 0	280	\$ 25,412
80-84	161	\$ 22,462	11	\$ 38,542	3	\$ 49,640	0	\$ 0	175	\$ 23,939
85-89	115	\$ 21,822	5	\$ 25,754	0	\$ 0	0	\$ 0	120	\$ 21,986
90-94	49	\$ 22,007	5	\$ 26,736	0	\$ 0	0	\$ 0	54	\$ 22,445
95+	26	\$ 16,621	0	\$ 0	0	\$ 0	0	\$ 0	26	\$ 16,621
All Ages	2,420	\$ 28,275	337	\$ 50,702	52	\$ 30,153	12	\$ 77,608	2,821	\$ 31,199

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

APPENDIX A -- MEMBERSHIP INFORMATION

StanCERA Membership – Service-Connected Disabled Members as of June 30, 2015

Age	County and Former County				Ceres and Other Districts				Total	
	General Members		Safety Members		General Members		Safety Members		Number	Annual Average Benefit
	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit		
25-29	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0
30-34	0	\$ 0	2	\$ 33,346	0	\$ 0	0	\$ 0	2	\$ 33,346
35-39	0	\$ 0	2	\$ 36,387	0	\$ 0	0	\$ 0	2	\$ 36,387
40-44	1	\$ 14,570	11	\$ 33,276	0	\$ 0	0	\$ 0	12	\$ 31,717
45-49	3	\$ 18,990	11	\$ 39,409	0	\$ 0	1	\$ 28,852	15	\$ 34,622
50-54	2	\$ 26,585	16	\$ 30,193	1	\$ 28,532	0	\$ 0	19	\$ 29,726
55-59	12	\$ 23,338	19	\$ 32,096	0	\$ 0	0	\$ 0	31	\$ 28,706
60-64	23	\$ 22,222	20	\$ 41,600	1	\$ 22,351	3	\$ 38,261	47	\$ 31,494
65-69	28	\$ 24,815	18	\$ 41,442	3	\$ 22,389	0	\$ 0	49	\$ 30,774
70-74	8	\$ 24,150	8	\$ 35,927	1	\$ 21,112	1	\$ 77,256	18	\$ 32,166
75-79	14	\$ 27,642	3	\$ 34,548	0	\$ 0	0	\$ 0	17	\$ 28,860
80-84	7	\$ 20,380	3	\$ 32,590	0	\$ 0	0	\$ 0	10	\$ 24,043
85-89	4	\$ 28,251	0	\$ 0	0	\$ 0	0	\$ 0	4	\$ 28,251
90-94	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0
95+	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0
All Ages	102	\$ 23,985	113	\$ 36,272	6	\$ 23,194	5	\$ 44,178	226	\$ 30,554

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

APPENDIX A -- MEMBERSHIP INFORMATION

StanCERA Membership – Nonservice-Connected Disabled Members as of June 30, 2015

Age	County and Former County				Ceres and Other Districts				Total	
	<u>General Members</u>		<u>Safety Members</u>		<u>General Members</u>		<u>Safety Members</u>		Number	Annual Average Benefit
	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit		
35-39	2	\$ 14,479	0	\$ 0	0	\$ 0	0	\$ 0	2	\$ 14,479
40-44	1	\$ 15,335	1	\$ 21,608	0	\$ 0	1	\$ 33,955	3	\$ 23,633
45-49	4	\$ 16,536	0	\$ 0	0	\$ 0	0	\$ 0	4	\$ 16,536
50-54	6	\$ 16,675	0	\$ 0	0	\$ 0	0	\$ 0	6	\$ 16,675
55-59	10	\$ 15,976	2	\$ 22,364	0	\$ 0	0	\$ 0	12	\$ 17,040
60-64	9	\$ 17,588	2	\$ 18,296	0	\$ 0	0	\$ 0	11	\$ 17,717
65-69	19	\$ 15,525	0	\$ 0	0	\$ 0	0	\$ 0	19	\$ 15,525
70-74	11	\$ 17,527	1	\$ 19,514	0	\$ 0	0	\$ 0	12	\$ 17,692
75-79	8	\$ 12,584	0	\$ 0	0	\$ 0	0	\$ 0	8	\$ 12,584
80-84	1	\$ 11,495	0	\$ 0	0	\$ 0	0	\$ 0	1	\$ 11,495
85-89	3	\$ 12,520	0	\$ 0	0	\$ 0	0	\$ 0	3	\$ 12,520
90-94	1	\$ 6,775	0	\$ 0	0	\$ 0	0	\$ 0	1	\$ 6,775
95+	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0
All Ages	75	\$ 15,637	6	\$ 20,407	0	\$ 0	1	\$ 33,955	82	\$ 16,210

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

APPENDIX A -- MEMBERSHIP INFORMATION

StanCERA Membership – Beneficiaries as of June 30, 2015

Age	County and Former County				Ceres and Other Districts				Total	
	General Members		Safety Members		General Members		Safety Members		Number	Annual Average Benefit
	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit		
0-24	1	\$ 29,362	2	\$ 17,266	0	\$ 0	0	\$ 0	3	\$ 21,298
25-29	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0
30-34	1	\$ 35,494	0	\$ 0	0	\$ 0	0	\$ 0	1	\$ 35,494
35-39	3	\$ 8,881	0	\$ 0	0	\$ 0	0	\$ 0	3	\$ 8,881
40-44	4	\$ 8,887	1	\$ 37,615	0	\$ 0	0	\$ 0	5	\$ 14,633
45-49	10	\$ 12,280	3	\$ 24,190	0	\$ 0	0	\$ 0	13	\$ 15,028
50-54	12	\$ 10,173	6	\$ 25,921	0	\$ 0	0	\$ 0	18	\$ 15,423
55-59	14	\$ 12,234	9	\$ 21,669	0	\$ 0	1	\$ 34,022	24	\$ 16,680
60-64	33	\$ 16,693	15	\$ 22,970	0	\$ 0	0	\$ 0	48	\$ 18,654
65-69	56	\$ 16,023	13	\$ 33,795	1	\$ 10,854	0	\$ 0	70	\$ 19,250
70-74	39	\$ 19,440	6	\$ 27,678	0	\$ 0	0	\$ 0	45	\$ 20,539
75-79	39	\$ 20,463	18	\$ 32,895	0	\$ 0	0	\$ 0	57	\$ 24,389
80-84	42	\$ 19,478	9	\$ 29,794	0	\$ 0	0	\$ 0	51	\$ 21,298
85-89	34	\$ 16,348	3	\$ 23,760	0	\$ 0	0	\$ 0	37	\$ 16,949
90-94	23	\$ 15,223	1	\$ 936	0	\$ 0	0	\$ 0	24	\$ 14,627
95+	11	\$ 10,163	0	\$ 0	0	\$ 0	0	\$ 0	11	\$ 10,163
All Ages	322	\$ 16,719	86	\$ 27,647	1	\$ 10,854	1	\$ 34,022	410	\$ 19,039

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

APPENDIX A -- MEMBERSHIP INFORMATION

StanCERA Membership – Benefit Form Elections as of June 30, 2015

	County and Former County		Ceres and Other Districts		Total
	General	Safety	General	Safety	
Service Retired					
Option #0 (Unmodified 60% to Spouse)	1,996	297	40	10	2,343
Option #1 (Cash Refund)	196	8	5	0	209
Option #2 (100% Continuance)	198	31	7	2	238
Option #3 (50% Continuance)	30	1	0	0	31
Total Service Retired	2,420	337	52	12	2,821
Ordinary Disability					
Option #0 (Unmodified 60% to Spouse)	65	4	0	1	70
Option #1 (Cash Refund)	4	2	0	0	6
Option #2 (100% Continuance)	6	0	0	0	6
Option #3 (50% Continuance)	0	0	0	0	0
Total Ordinary Disability	75	6	0	1	82
Duty Disability					
Option #0 (Unmodified 60% to Spouse)	91	101	5	4	201
Option #1 (Cash Refund)	2	1	1	0	4
Option #2 (100% Continuance)	6	10	0	1	17
Option #3 (50% Continuance)	3	1	0	0	4
Total Duty Disability	102	113	6	5	226
Total	2,597	456	58	18	3,129

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

APPENDIX A -- MEMBERSHIP INFORMATION

**Age & Service Distribution of Active Members by Count and Average Compensation as of June 30, 2015
General Members (County and Former County)**

Count

Age	Years of Service												Total Count	
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over		
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	26	9	0	0	0	0	0	0	0	0	0	0	0	35
25-29	96	64	26	23	3	13	1	0	0	0	0	0	0	226
30-34	80	77	48	43	6	93	20	0	0	0	0	0	0	367
35-39	75	48	31	32	0	136	115	28	0	0	0	0	0	465
40-44	42	40	19	21	10	111	122	78	11	0	0	0	0	454
45-49	28	21	14	17	6	95	106	119	49	11	0	0	0	466
50-54	32	22	14	6	3	72	97	122	68	54	7	0	0	497
55-59	10	9	10	10	2	63	103	94	55	44	16	8	0	424
60-64	3	6	1	7	3	48	59	57	38	28	7	16	0	273
65-69	1	0	2	0	0	13	26	14	13	8	2	3	0	82
70 & Over	0	0	0	0	0	1	3	3	1	0	0	0	0	8
Total Count	393	296	165	159	33	645	652	515	235	145	32	27	0	3,297

Compensation

Age	Years of Service												Avg. Comp.	
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over		
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	31,258	31,933	0	0	0	0	0	0	0	0	0	0	0	31,431
25-29	37,243	39,055	44,407	43,034	44,238	49,991	60,072	0	0	0	0	0	0	40,097
30-34	43,591	40,953	45,538	46,082	50,741	51,757	48,143	0	0	0	0	0	0	46,018
35-39	40,992	39,860	44,342	47,197	0	53,764	55,770	56,821	0	0	0	0	0	49,869
40-44	39,188	46,091	48,121	54,759	55,038	55,351	54,966	68,724	60,827	0	0	0	0	55,030
45-49	41,028	36,110	47,616	48,879	50,065	56,892	62,036	64,855	64,572	76,234	0	0	0	58,811
50-54	47,839	49,671	52,303	63,546	44,975	58,280	57,476	59,308	65,672	68,167	55,203	0	0	59,179
55-59	36,916	47,792	46,189	51,932	63,051	53,517	60,525	63,047	71,092	76,133	71,755	61,230	0	62,114
60-64	36,770	85,360	33,793	49,676	38,755	52,730	63,238	62,380	63,071	60,902	52,850	72,692	0	60,707
65-69	33,977	0	59,257	0	0	70,532	67,120	52,936	71,246	53,455	94,367	49,767	0	63,994
70 & Over	0	0	0	0	0	264,224	43,103	58,631	60,964	0	0	0	0	78,799
Average	40,175	42,198	46,318	48,496	50,461	55,200	58,486	62,726	66,352	68,982	65,412	66,748	0	54,846

Age & Service Distribution of Active Members by Count and Average Compensation as of June 30, 2015



**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

APPENDIX A -- MEMBERSHIP INFORMATION

General Members (Ceres and Other Districts)

Count

Age	Years of Service												Total Count	
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over		
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	2	2	0	0	0	0	0	0	0	0	0	0	0	4
25-29	5	1	1	0	0	0	0	0	0	0	0	0	0	7
30-34	2	1	3	4	0	4	0	0	0	0	0	0	0	14
35-39	1	2	1	0	0	2	7	1	0	0	0	0	0	14
40-44	1	0	0	2	0	5	5	1	1	0	0	0	0	15
45-49	2	0	1	0	0	5	4	2	1	2	0	0	0	17
50-54	1	0	0	0	2	4	3	4	3	2	0	1	0	20
55-59	1	1	0	0	0	4	3	4	2	2	0	0	0	17
60-64	0	2	1	0	0	1	1	0	2	1	2	0	0	10
65-69	0	0	0	0	0	3	1	0	0	0	0	1	0	5
70 & Over	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Total Count	15	9	7	6	2	29	24	12	9	7	2	2	0	124

Compensation

Age	Years of Service												Avg. Comp.	
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over		
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	34,614	37,655	0	0	0	0	0	0	0	0	0	0	0	36,135
25-29	34,299	37,679	50,398	0	0	0	0	0	0	0	0	0	0	37,082
30-34	47,712	36,096	47,332	58,558	0	68,753	0	0	0	0	0	0	0	55,911
35-39	48,378	34,809	38,995	0	0	54,920	61,843	59,418	0	0	0	0	0	54,225
40-44	30,312	0	0	108,827	0	54,815	71,404	55,029	63,123	0	0	0	0	66,481
45-49	89,637	0	37,241	0	0	73,367	72,239	76,665	81,425	74,052	0	0	0	73,833
50-54	34,997	0	0	0	63,013	68,884	61,037	59,578	71,039	60,774	0	68,802	0	63,072
55-59	45,552	34,949	0	0	0	54,467	80,376	62,551	89,029	59,795	0	0	0	63,962
60-64	0	67,088	36,307	0	0	58,752	50,641	0	78,163	76,557	53,006	0	0	61,877
65-69	0	0	0	0	0	95,921	87,068	0	0	0	0	56,106	0	86,188
70 & Over	0	0	0	0	0	125,258	0	0	0	0	0	0	0	125,258
Average	44,977	43,092	43,563	75,314	63,013	68,653	68,368	63,024	76,894	66,543	53,006	62,454	0	62,276



**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

APPENDIX A -- MEMBERSHIP INFORMATION

**Age & Service Distribution of Active Members by Count and Average Compensation as of June 30, 2015
Safety Members (County and Former County)**

Count

Age	Years of Service												Total Count	
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over		
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	24	8	5	0	0	0	0	0	0	0	0	0	0	37
25-29	39	25	20	10	0	6	0	0	0	0	0	0	0	100
30-34	18	6	8	12	2	60	16	0	0	0	0	0	0	122
35-39	7	6	7	1	1	21	57	11	0	0	0	0	0	111
40-44	2	1	0	1	0	21	29	43	8	0	0	0	0	105
45-49	1	0	1	0	1	5	18	30	26	4	0	0	0	86
50-54	2	1	2	0	0	6	9	7	15	8	0	0	0	50
55-59	0	0	2	0	0	3	7	1	3	3	1	1	1	21
60-64	0	0	0	0	0	2	1	5	1	0	0	0	0	9
65-69	0	0	1	0	0	1	0	0	0	0	0	0	0	2
70 & Over	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Count	93	47	46	24	4	125	137	97	53	15	1	1	1	643

Compensation

Age	Years of Service												Avg. Comp.	
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over		
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	49,402	47,964	58,820	0	0	0	0	0	0	0	0	0	0	50,364
25-29	48,691	50,024	55,309	55,049	0	59,120	0	0	0	0	0	0	0	51,609
30-34	50,664	49,421	53,520	59,426	60,844	66,028	69,385	0	0	0	0	0	0	61,830
35-39	57,453	52,489	54,819	64,926	65,353	66,862	70,246	83,254	0	0	0	0	0	68,063
40-44	56,895	68,908	0	64,327	0	69,067	68,267	75,109	79,863	0	0	0	0	71,865
45-49	82,938	0	40,883	0	61,273	61,438	73,938	78,943	77,679	70,061	0	0	0	75,481
50-54	61,981	149,551	73,041	0	0	66,514	72,338	94,448	73,839	95,692	0	0	0	80,079
55-59	0	0	68,820	0	0	72,092	73,365	94,272	74,843	78,536	86,230	88,524	0	76,030
60-64	0	0	0	0	0	60,965	61,763	79,369	70,388	0	0	0	0	72,325
65-69	0	0	77,323	0	0	149,100	0	0	0	0	0	0	0	113,212
70 & Over	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	50,747	52,430	56,828	58,035	62,078	66,916	70,446	79,031	76,624	85,426	86,230	88,524	1	66,311



**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

APPENDIX A -- MEMBERSHIP INFORMATION

**Age & Service Distribution of Active Members by Count and Average Compensation as of June 30, 2015
General Members (Ceres and Other Districts)**

Count

Age	Years of Service												Total Count	
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over		
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	2	0	1	0	0	0	0	0	0	0	0	0	0	3
25-29	2	2	3	1	0	2	0	0	0	0	0	0	0	10
30-34	1	1	2	0	2	9	3	0	0	0	0	0	0	18
35-39	0	0	0	0	1	5	2	4	0	0	0	0	0	12
40-44	1	0	0	1	0	4	6	5	1	0	0	0	0	18
45-49	1	0	0	0	0	2	2	3	3	1	0	0	0	12
50-54	1	0	0	0	0	0	0	2	1	0	0	0	0	4
55-59	0	0	0	0	0	0	0	0	0	1	1	0	0	2
60-64	0	0	0	0	0	1	0	0	0	0	0	0	0	1
65-69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70 & Over	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Count	8	3	6	2	3	23	13	14	5	2	1	0	0	80

Compensation

Age	Years of Service												Avg. Comp.	
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over		
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	53,559	0	67,399	0	0	0	0	0	0	0	0	0	0	58,172
25-29	55,545	54,551	63,850	75,882	0	68,473	0	0	0	0	0	0	0	62,457
30-34	78,325	77,558	73,821	0	67,445	76,186	77,650	0	0	0	0	0	0	75,391
35-39	0	0	0	0	69,773	79,395	92,460	89,915	0	0	0	0	0	84,277
40-44	91,294	0	0	67,168	0	83,441	85,790	95,277	103,969	0	0	0	0	88,184
45-49	77,701	0	0	0	0	86,176	79,348	93,576	105,137	91,503	0	0	0	91,366
50-54	59,086	0	0	0	0	0	0	101,039	94,111	0	0	0	0	88,819
55-59	0	0	0	0	0	0	0	0	0	127,870	95,499	0	0	111,684
60-64	0	0	0	0	0	99,297	0	0	0	0	0	0	0	99,297
65-69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70 & Over	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	65,577	62,220	67,765	71,525	68,221	79,348	83,947	94,203	102,698	109,686	95,499	0	0	81,614

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

APPENDIX A -- MEMBERSHIP INFORMATION

**Reconciliation of Plan Membership Since Prior Valuation
All Members**

	Actives	Transfers	Non Vested Terminations due Refunds	Vested Terminations	Ordinary Disabled	Duty Disabled	Retired	Beneficiaries	Total
July 1, 2014	3,992	323	243	639	83	224	2,679	399	8,582
New Entrants	523	0	0	0	0	0	0	0	523
Rehires	26	(2)	(4)	(8)	0	0	0	0	12
Duty Disabilities	(2)	(1)	0	0	0	3	0	0	0
Ordinary Disabilities	(1)	0	0	(2)	3	0	0	0	0
Retirements	(148)	(8)	0	(44)	0	0	200	0	0
Retirements from General with Safety Service	0	0	0	0	0	0	0	0	0
Vested Terminations	(57)	(3)	0	60	0	0	0	0	0
Died, With Beneficiaries' Benefit Payable	(2)	0	0	0	(1)	(3)	(19)	25	0
Died, Without Beneficiary, and Other Terminations	(78)	(2)	74	(1)	(3)	(1)	(36)	0	(47)
Transfers	(26)	201	(10)	(155)	0	0	0	0	10
Beneficiary Deaths	0	0	0	0	0	0	0	(20)	(20)
Domestic Relations Orders	0	0	0	0	0	0	0	5	5
Withdrawals Paid	(83)	(4)	(25)	(11)	0	0	0	0	(123)
Member Reclassifications	0	2	5	(5)	0	3	(3)	1	3
July 1, 2015	4,144	506	283	473	82	226	2,821	410	8,945

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

APPENDIX A -- MEMBERSHIP INFORMATION

**Reconciliation of Plan Membership Since Prior Valuation
General Members (County and Former County)**

	Actives	Transfers	Non Vested Terminations due Refunds	Vested Terminations	Ordinary Disabled	Duty Disabled	Retired	Beneficiaries	Total
July 1, 2014	3,184	206	202	519	77	101	2,302	313	6,904
New Entrants	409	0	0	0	0	0	0	0	409
Rehires	20	(1)	(3)	(6)	0	0	0	0	10
Duty Disabilities	(1)	0	0	0	0	1	0	0	0
Ordinary Disabilities	0	0	0	(2)	2	0	0	0	0
Retirements	(124)	(7)	0	(38)	0	0	169	0	0
Retirements from General with Safety Service	0	0	0	0	0	0	0	0	0
Vested Terminations	(36)	(2)	0	38	0	0	0	0	0
Died, With Beneficiaries' Benefit Payable	(2)	0	0	0	(1)	(1)	(15)	19	0
Died, Without Beneficiary, and Other Terminations	(61)	(1)	56	(1)	(3)	0	(35)	0	(45)
Transfers	(24)	150	(4)	(116)	0	0	0	0	6
Beneficiary Deaths	0	0	0	0	0	0	0	(15)	(15)
Domestic Relations Orders	0	0	0	0	0	0	0	4	4
Withdrawals Paid	(68)	(4)	(23)	(8)	0	0	0	0	(103)
Member Reclassifications	0	1	6	(6)	0	1	(1)	1	2
July 1, 2015	3,297	342	234	380	75	102	2,420	322	7,172

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

APPENDIX A -- MEMBERSHIP INFORMATION

**Reconciliation of Plan Membership Since Prior Valuation
Safety Members (County and Former County)**

	Actives	Transfers	Non Vested Terminations due Refunds	Vested Terminations	Ordinary Disabled	Duty Disabled	Retired	Beneficiaries	Total
July 1, 2014	602	88	30	93	6	112	318	84	1,333
New Entrants	93	0	0	0	0	0	0	0	93
Rehires	3	(1)	(1)	(1)	0	0	0	0	0
Duty Disabilities	(1)	(1)	0	0	0	2	0	0	0
Ordinary Disabilities	0	0	0	0	0	0	0	0	0
Retirements	(22)	0	0	(4)	0	0	26	0	0
Retirements from General with Safety Service	0	0	0	0	0	0	0	0	0
Vested Terminations	(14)	(1)	0	15	0	0	0	0	0
Died, With Beneficiaries' Benefit Payable	0	0	0	0	0	(2)	(4)	6	0
Died, Without Beneficiary, and Other Terminations	(8)	(1)	9	0	0	(1)	(1)	0	(2)
Transfers	1	38	(3)	(32)	0	0	0	0	4
Beneficiary Deaths	0	0	0	0	0	0	0	(5)	(5)
Domestic Relations Orders	0	0	0	0	0	0	0	1	1
Withdrawals Paid	(11)	0	(2)	(3)	0	0	0	0	(16)
Member Reclassifications	0	(1)	0	0	0	2	(2)	0	(1)
July 1, 2015	643	121	33	68	6	113	337	86	1,407

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

APPENDIX A -- MEMBERSHIP INFORMATION

**Reconciliation of Plan Membership Since Prior Valuation
General Members (Ceres and Other Districts)**

	Actives	Transfers	Non Vested Terminations due Refunds	Vested Terminations	Ordinary Disabled	Duty Disabled	Retired	Beneficiaries	Total
July 1, 2014	119	20	8	14	0	6	49	1	217
New Entrants	14	0	0	0	0	0	0	0	14
Rehires	1	0	0	0	0	0	0	0	1
Duty Disabilities	0	0	0	0	0	0	0	0	0
Ordinary Disabilities	0	0	0	0	0	0	0	0	0
Retirements	(1)	0	0	(2)	0	0	3	0	0
Retirements from General with Safety Service	0	0	0	0	0	0	0	0	0
Vested Terminations	(2)	0	0	2	0	0	0	0	0
Died, With Beneficiaries' Benefit Payable	0	0	0	0	0	0	0	0	0
Died, Without Beneficiary, and Other Terminations	(4)	0	4	0	0	0	0	0	0
Transfers	0	4	(2)	(2)	0	0	0	0	0
Beneficiary Deaths	0	0	0	0	0	0	0	0	0
Domestic Relations Orders	0	0	0	0	0	0	0	0	0
Withdrawals Paid	(3)	0	0	0	0	0	0	0	(3)
Member Reclassifications	0	1	(1)	1	0	0	0	0	1
July 1, 2015	124	25	9	13	0	6	52	1	230

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

APPENDIX A -- MEMBERSHIP INFORMATION

**Reconciliation of Plan Membership Since Prior Valuation
Safety Members (Ceres and Other Districts)**

	Actives	Transfers	Non Vested Terminations due Refunds	Vested Terminations	Ordinary Disabled	Duty Disabled	Retired	Beneficiaries	Total
July 1, 2014	87	9	3	13	0	5	10	1	128
New Entrants	7	0	0	0	0	0	0	0	7
Rehires	2	0	0	(1)	0	0	0	0	1
Duty Disabilities	0	0	0	0	0	0	0	0	0
Ordinary Disabilities	(1)	0	0	0	1	0	0	0	0
Retirements	(1)	(1)	0	0	0	0	2	0	0
Retirements from General with Safety Service	0	0	0	0	0	0	0	0	0
Vested Terminations	(5)	0	0	5	0	0	0	0	0
Died, With Beneficiaries' Benefit Payable	0	0	0	0	0	0	0	0	0
Died, Without Beneficiary, and Other Terminations	(5)	0	5	0	0	0	0	0	0
Transfers	(3)	9	(1)	(5)	0	0	0	0	0
Beneficiary Deaths	0	0	0	0	0	0	0	0	0
Domestic Relations Orders	0	0	0	0	0	0	0	0	0
Withdrawals Paid	(1)	0	0	0	0	0	0	0	(1)
Member Reclassifications	0	1	0	0	0	0	0	0	1
July 1, 2015	80	18	7	12	1	5	12	1	136

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015

APPENDIX B -- STATEMENT OF CURRENT ACTUARIAL
ASSUMPTIONS AND METHODS

The assumptions and methods used in the actuarial valuation as of July 1, 2015 are:

Actuarial Methods

1. Actuarial Cost Method

Annual contributions to the Stanislaus County Employees' Retirement Association (the Plan) are computed under the Entry Age Normal Actuarial Cost Method, computed to the final decrement.

Under this Cost Method, the Normal Cost is calculated as the amount necessary to fund Members' benefits as a level percentage of total payroll over their projected working lives. At each valuation date, the Actuarial Liability is equal to the difference between the liability for the Members' total projected benefit and the present value of future Normal Cost contributions.

The excess of the Actuarial Liability over Plan assets is the Unfunded Actuarial Liability, and the liability for each valuation group is amortized as a level percentage of payroll over a closed period (21 years as of the current valuation).

Amounts may be added to or subtracted from the Unfunded Actuarial Liability due to Plan amendments or changes in actuarial assumptions.

The total Plan cost is the sum of the Normal Cost (computed on an Individual basis), the amortization of the Unfunded Actuarial Liability, and the expected Administrative Expenses.

The increase in Plan cost due to the change in assumptions as a result of the Actuarial Experience Study Report for the period covering July 1, 2012 through June 30, 2015 is phased-in over three years, beginning with the cost calculated in the June 30, 2015 actuarial valuation.

2. Actuarial Value of Plan Assets

The Actuarial Value of Plan assets is a modified market-related value. The market value of assets is adjusted to recognize, over a five-year period, differences between actual investment earnings and the assumed investment return. The Actuarial Value of Assets is limited to no less than 80% and no more than 120% of the market value.

The detailed calculations of the Actuarial Value of Plan assets are shown in Section II.

3. Changes in Actuarial Methods

The Retirement Board adopted a three-year phase-in of the increase in Plan cost due to the change in assumptions as a result of Actuarial Experience Study Report for the period covering July 1, 2012 through June 30, 2015.

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015

APPENDIX B -- STATEMENT OF CURRENT ACTUARIAL
ASSUMPTIONS AND METHODS

Actuarial Assumptions

All actuarial assumptions are based on the Actuarial Experience Study Report for the period covering July 1, 2012 through June 30, 2015 report. The assumptions were adopted at the March 16, 2016 Board meeting.

4. Rate of Return

The annual rate of return on all Plan assets is assumed to be 7.25%, net of investment expenses.

5. Cost of Living

The cost of living as measured by the Consumer Price Index (CPI) will increase at the rate of 3.00% per year.

6. Administrative Expenses

An allowance of \$2,400,000 for Plan administrative expenses has been included in the annual cost calculated.

7. Interest Credited to Employee Accounts

The employee accounts are credited with 0.25% interest annually.

8. Increases in Pay

Base salary increase: 3.25%

Assumed pay increases for active Members consist of increases due to base salary adjustments (as noted above), plus service-based increases due to longevity and promotion, as shown below.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

**APPENDIX B -- STATEMENT OF CURRENT ACTUARIAL
ASSUMPTIONS AND METHODS**

Longevity & Promotion Increases		
Service	General	Safety
0	6.00%	7.00%
1	5.00%	6.00%
2	4.00%	5.00%
3	3.00%	4.00%
4	2.00%	3.00%
5	1.50%	2.00%
6	1.00%	1.75%
7	0.75%	1.50%
8	0.50%	1.25%
9	0.50%	1.00%
10	0.50%	0.75%
11+	0.50%	0.50%

9. PEPPRA Compensation Limit

The assumption used for increasing the compensation limit that applies to PEPPRA members is 3.0%

10. Post Retirement COLA

100% of CPI up to 3% annually with banking, 2.7% annual increases assumed. Increases are assumed to occur on April 1.

11. Social Security Wage Base

General Plan 3 members have their benefits offset by an assumed Social Security Benefit. For projecting the Social Security Benefit, the annual Social Security Wage Base increase is assumed to be 3.25% per year.

12. 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.

13. 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.

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14. Family Composition

Percentage married for all active members who retire, become disabled, or die during active service is shown in the following table.

Percentage Married	
Gender	Percentage
Males	80%
Females	50%

Spouses of male members are assumed to be three years younger than the member and spouses of female members are assumed to be two years older than the member.

15. Accumulated Vacation Time Load

Active members' service retirement and related benefits are loaded by 3.0% for Safety Members and 3.5% for General Members for conversion of vacation time.

16. Rates of Separation

Rates of termination apply to all active Members who terminate their employment.

Separate rates of termination are assumed among Safety and General Members.

Termination Rates		
Years of Service	General All	Safety All
0	18.0%	18.0%
1	14.0%	12.0%
2	11.7%	9.0%
3	9.4%	7.0%
4	7.1%	6.0%
5	5.0%	5.0%
10	3.5%	5.0%
15	2.9%	3.4%
20	1.5%	0.0%
25	1.3%	0.0%
30+	0.0%	0.0%

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

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17. Withdrawal

Rates of withdrawal apply to active Members who terminate their employment and withdraw their member contributions, forfeiting entitlement to future Plan benefits. Separate rates of withdrawal are assumed among Safety and General Members, and are based on service. The rates do not overlap with the service retirement rates.

50% of all General Member terminations with less than 10 years of service are assumed to take a refund of contributions, as well as 20% of those with 10 or more years of service.

35% of all Safety Member terminations with less than 10 years of service are assumed to take a refund of contributions, and 10% of those with 10 or more years are assumed to take a refund.

18. Vested Termination and Reciprocal Transfers

Rates of vested termination apply to active Members who terminate their employment after five years of service and leave their member contributions on deposit with the Plan. Alternatively, those who terminate their employment with less than five years of service can leave their member contributions with the Plan and transfer to a reciprocal employer, therefore retaining entitlement to future Plan benefits.

Vested terminated Tier 3 General Members are assumed to begin receiving benefits at age 65 while all other General Members are assumed to begin at age 58; terminated Safety Members are assumed to begin receiving benefits at age 53. 25% of vested terminated General Members are assumed to be reciprocal; 50% of vested terminated Safety Members are assumed to be reciprocal.

Reciprocal members are assumed to receive 4% annual pay increases from the date of transfer to the assumed retirement date.

19. Rates of Service-Connected Disability

Separate rates of duty disability are assumed among Safety and General Members; rates for both sexes for Safety Members are combined. On the next page are sample rates:

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Rates of Service-Connected Disability			
	General		Safety
Age	Male	Female	All
20	0.0043%	0.0002%	0.0759%
25	0.0102%	0.0004%	0.1932%
30	0.0211%	0.0008%	0.3457%
35	0.0284%	0.0024%	0.5309%
40	0.0401%	0.0056%	0.7426%
45	0.0613%	0.0101%	1.1297%
50	0.0897%	0.0162%	1.5092%
55	0.1227%	0.0249%	1.7230%
60	0.1637%	0.0349%	0.0000%
65	0.0000%	0.0000%	0.0000%

20. Rates of Nonservice-Connected Disability

Separate rates of ordinary disability are assumed among Safety and General Members. Rates of ordinary disability for Safety Members are assumed to follow the CalPERS Public Agency Police Non-Industrial Disability table; rates of ordinary disability for General Members are assumed to follow the CalPERS Public Agency Miscellaneous Non-Industrial Disability table. The rates shown are applied after five Years of Service. On the next page are sample rates:

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Rates of Non Service-Connected Disability			
Age	General		Safety
	Male	Female	All
20	0.0170%	0.0100%	0.0100%
25	0.0170%	0.0100%	0.0100%
30	0.0190%	0.0240%	0.0200%
35	0.0490%	0.0810%	0.0300%
40	0.1220%	0.1550%	0.0400%
45	0.1910%	0.2180%	0.0500%
50	0.2130%	0.2290%	0.0800%
55	0.2210%	0.1790%	0.1300%
60	0.2220%	0.1350%	0.2000%
65	0.2100%	0.1180%	0.2000%
70	0.1800%	0.1140%	0.2000%
75	0.1420%	0.1180%	0.2000%
80	0.1420%	0.1180%	0.2000%
81+	0.0000%	0.0000%	0.0000%

21. Rates of Mortality for Non-Annuitants

Rates of ordinary death for active Members are specified by the CalPERS Pre-Retirement Non-Industrial Mortality table, adjusted by 100.3% for males and 98.8% for females, with generational mortality improvements projected from 2009 using Scale MP-2015. Duty related mortality rates are only applicable for Safety Active Members, and are based on the CalPERS Pre-Retirement Individual Death table without adjustment or projection.

The following table provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

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Mortality Rates			
Age	Ordinary Death - General and Safety		Duty Death
	Male	Female	Safety All
20	0.0330%	0.0209%	0.0030%
25	0.0426%	0.0241%	0.0070%
30	0.0522%	0.0262%	0.0100%
35	0.0607%	0.0368%	0.0120%
40	0.0798%	0.0525%	0.0130%
45	0.1129%	0.0745%	0.0140%
50	0.1651%	0.1049%	0.0150%
55	0.2428%	0.1508%	0.0160%
60	0.3556%	0.2198%	0.0170%
65	0.5107%	0.3233%	0.0180%
70	0.7110%	0.4616%	0.0190%

22. Rates of Mortality for Nonservice-Connected Disabled Retirees

Rates of mortality for current nonservice-connected disabled Members are specified by the CalPERS Non-Industrially Disabled Annuitant Mortality table, adjusted by 96.4% for males and 110.4% for females, with generational mortality improvements projected from 2009 using Scale MP-2015.

The following table provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

Nonservice-Connected Disabled Mortality Rates		
Age	Male	Female
45	1.250%	0.943%
50	1.720%	1.358%
55	2.020%	1.402%
60	2.539%	1.667%
65	3.008%	2.259%
70	3.750%	3.107%
75	5.204%	4.269%
80	7.934%	6.642%
85	12.692%	10.910%
90	17.804%	17.755%

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23. Rates of Mortality for Service-Connected Disabled Retirees

Rates of mortality for current service-connected disabled Members are specified by the CalPERS Industrially Disabled Annuitant Mortality table, adjusted by 100.2% for males and 100.1% for females, with generational mortality improvements projected from 2009 using Scale MP-2015.

The following table provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

Service-Connected Disabled Mortality Rates		
Age	Male	Female
45	0.339%	0.298%
50	0.533%	0.496%
55	0.637%	0.460%
60	0.869%	0.634%
65	1.431%	1.068%
70	2.216%	1.777%
75	3.842%	2.955%
80	6.642%	4.983%
85	10.410%	7.967%
90	16.218%	12.347%

24. Rates of Mortality for Emerging Disabled Retirees

Rates of mortality for future disabled retirees, both nonservice- and service-connected, are specified by mortality tables consisting of blends of the mortality assumptions for current nonservice- and service-connected disabled retirees. The blend for future disabled Safety retirees is 5% and 95%, respectively. The blend for future disabled General retirees is 75% and 25%, respectively. The proportions reflect the expected splits in future disabled retirees between nonservice- and service-connected disablement.

25. Rates of Mortality for Healthy Annuitants

Rates of mortality for retired Members and their beneficiaries are specified by the CalPERS Healthy Annuitant table, adjusted by 93.4% for males and 107.9% for females, with generational mortality improvements projected from 2009 using Scale MP-2015.

The following table provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

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Healthy Annuitant Mortality Rates		
Age	Male	Female
45	0.225%	0.229%
50	0.497%	0.534%
55	0.594%	0.496%
60	0.763%	0.576%
65	0.986%	0.807%
70	1.649%	1.365%
75	2.786%	2.366%
80	4.928%	3.987%
85	8.807%	7.202%
90	15.118%	13.310%

26. Mortality Improvement

As mentioned above, the mortality assumptions employ a fully generational mortality improvement projection from base year 2009 using Scale MP-2015.

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27. Rates of Retirement

Retirement is assumed to occur among eligible members in accordance with the table below:

Rates of Retirement General				Rates of Retirement Safety			
Age	Years of Service			Age	Years of Service		
	0-9	10-29	30+		0-9	10-19	20+
40-44	0.00%	0.00%	0.00%	40-44	0.00%	0.00%	5.00%
45-49	0.00%	0.00%	10.00%	45-48	0.00%	0.00%	10.00%
50-54	0.00%	5.00%	10.00%	49	0.00%	0.00%	20.00%
55	0.00%	10.00%	25.00%	50	0.00%	10.00%	30.00%
56	0.00%	10.00%	25.00%	51	0.00%	10.00%	20.00%
57	0.00%	10.00%	25.00%	52	0.00%	10.00%	20.00%
58	0.00%	15.00%	25.00%	53	0.00%	10.00%	20.00%
59	0.00%	15.00%	25.00%	54	0.00%	10.00%	20.00%
60	0.00%	15.00%	25.00%	55	0.00%	10.00%	30.00%
61	0.00%	20.00%	25.00%	56	0.00%	10.00%	30.00%
62	0.00%	25.00%	40.00%	57	0.00%	10.00%	30.00%
63	0.00%	20.00%	25.00%	58	0.00%	10.00%	30.00%
64	0.00%	25.00%	25.00%	59	0.00%	10.00%	30.00%
65	0.00%	35.00%	35.00%	60	0.00%	25.00%	100.00%
66	0.00%	45.00%	45.00%	61	0.00%	25.00%	100.00%
67	0.00%	20.00%	25.00%	62	0.00%	25.00%	100.00%
68	0.00%	20.00%	25.00%	63	0.00%	25.00%	100.00%
69	0.00%	20.00%	25.00%	64	0.00%	25.00%	100.00%
70	50.00%	50.00%	100.00%	65	0.00%	100.00%	100.00%
71	50.00%	50.00%	100.00%	66	0.00%	100.00%	100.00%
72	50.00%	50.00%	100.00%	67	0.00%	100.00%	100.00%
73	50.00%	50.00%	100.00%	68	0.00%	100.00%	100.00%
74	50.00%	50.00%	100.00%	69	0.00%	100.00%	100.00%
75+	100.00%	100.00%	100.00%	70+	100.00%	100.00%	100.00%

28. Changes in Actuarial Assumptions

Details of all assumption changes can be found in the Actuarial Experience Study Report for the period covering July 1, 2012 through June 30, 2015. The assumptions were adopted at the March 16, 2016 Board meeting.

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All actuarial calculations are based on our understanding of the statutes governing the StanCERA as contained in the County Employees Retirement Law (CERL) of 1937, with provisions adopted by the County Board of Supervisors, a district Board of Directors, or the StanCERA Board, effective through June 30, 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.

A. Definitions

Compensation: Compensation means the cash remuneration for services paid by the employer. It includes base pay and certain differential, incentive, and special pay allowances defined by the Board of Retirement. Overtime is excluded, with the exception of overtime paid under the Fair Labor Standards Act that is regular and recurring.

For Tier 6 (PEPRA) members, only pensionable compensation up to the Social Security Taxable Wage Base (\$117,020 for 2015) will count for computing Plan benefits and employee contributions and employer contributions for those participating in Social Security. For those not participating in Social Security, the compensation cap is 120% of the Taxable Wage Base (\$140,424 for 2015). In addition, it is possible that some sources of compensation, such as any payments deemed to be terminal or special pays, may be excluded from the benefit and contribution computations for PEPRA members.

Credited Service: In general, Credited Service is earned for the period during which Member Contributions are paid. Since Tier 3 Members participate in a non-contributory Plan, their Credited Service is calculated based on their date of Membership only.

Temporary service for which the Member was not credited, or service for which the Member withdrew his or her Member Contributions, may be purchased by paying or repaying the Member Contributions with interest. The categories of services that credit may be purchased for are listed below:

- **Prior Part-time Service:** If a Member worked for an employer within the Association on a part-time or 'extra help' basis before his membership in the Retirement Association, the Member may buyback this service.
- **Intermittent Part-time Service**

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- **Prior full time Service:** Member may buyback full time service that may have been cashed out upon termination.
- **Leave of Absence (Including absence with State Disability or Worker's Compensation):** No unpaid leave of absence can be bought back except for absence due to medical reasons of up to one year.
- **Public Service:** Only Tier 1 and 4 Members may buy back this service.
- **Military Time:** Only Tier 1 and 4 Members may buy back this service.
- **Enhance Prior Tier Service:** Applies to certain active and deferred Members with Tier 1, 2 or 3 service.
- **Military "call up"**
- **AB 2766:** Only Safety Employees can buy back this service.

A percentage of credited sick leave may be credited according to the Member's applicable bargaining unit.

Final

Compensation: For Members belonging to Tier 2, Tier 3, and Tier 6, Final Compensation means the highest Compensation earned during any thirty-six consecutive months of the Member's employment. For all others, it is the highest Compensation earned during any twelve months of employment.

General Member: Any Member who is not a Safety Member is a General Member.

Safety Member: Any sworn Member engaged in law enforcement, probation, or fire suppression is a Safety Member.

B. Membership

Eligibility: All full-time, permanent employees of Stanislaus County, City of Ceres, Stanislaus County Superior Court, Salida Sanitary District, East Side Mosquito Abatement, Keyes Community Services, Hills Ferry Cemetery, and StanCOG hired on or after October 1, 1988 become Members on their date of appointment. All others hired before October 1, 1988 became Members on the first day of the calendar month following their date of appointment.

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Detailed membership eligibility according to Tier and membership date is shown in Table 1 on the following page.

C. Service Retirement

Eligibility: Tier 3 General Members are eligible to retire at age 55 if they have earned 10 years of Credited Service. Tier 6 (PEPRA) General Members are eligible to retire at age 52 if they have earned five years of Credited Service. All other General Members are eligible to retire at age 50 if they have earned five years of Credited Service and have been an Association member for at least 10 years. Alternatively, General non-PEPRA Members are eligible to retire at any age after having earned 30 years of Credited Service, or upon reaching age 70 with no service requirement.

Safety Members are eligible to retire at age 50 if they have earned five years of Credited Service and have been an Association member for at least 10 years. Alternatively, Safety Members are eligible to retire at any age after having earned 20 years of Credited Service, or upon reaching age 70 with no service requirement. The 20-year Credited Service retirement eligibility is not applicable to Tier 6 (PEPRA) Safety Members.

Benefit Amount: The Service Retirement Benefit payable to the Member is equal to the Member's Final Compensation multiplied by credited service, the benefit factor from Table 1 and the age factor from Table 2 corresponding to the Member's code section. The appropriate code sections for each group are listed in Table 1.

For Tier 3 Members with Credited Service up to 35 years, the percentage of Final Compensation may not exceed 70% and for those with more than 35 years, it may not exceed 80%. For all other non-PEPRA Members, the percentage of Final Compensation may not exceed 100%. For those members integrated with Social Security (other than Tiers 3 and 6), Retirement Benefits based on the first \$350 of monthly Final Average Compensation are reduced by one-third.

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Table 1: Member Group Descriptions

Group	Open or Closed	FAP	Max Cola	Code Section	Description	Top Retirement Factor Age	Benefit Factor
General Tier I	Closed	1	3	31676.12	2% at 57	62	2.00%
General Tier II	Open	3	3	31676.1	2% at 62	65	1.67%
General Tier III	Closed	3	0	31499.14	Non-Contributory	65	First 35 Years: 2.0% of FAS less 1/35 th of Social Security benefit at age 65. Next 10 Years: 1% of FAS
General Tier IV	Closed	1	3	31676.14	2% at 55	65	1.67%
General Tier V	Closed	1	3	31676.14	2% at 55	65	1.67%
General Tier VI	Open	3	3	7522.2	PEPRA	67	1.00%
Safety Tier II	Open	3	3	31664	2% at 50	50	2.00%
Safety Tier IV	Closed	1	3	31664.1	3% at 50	50	3.00%
Safety Tier V	Closed	1	3	31664.1	3% at 50	50	3.00%
Safety Tier VI	Open	3	3	7522.25 (2)	PEPRA	57	1.00%

Table 2: Age Factors

Age	Safety 2% at Age 50 CERL §: 31664	Safety 3% at Age 50 CERL §: 31664.1	Safety PEPRA ERL §: 7522.25 Op	General 2% at Age 62 CERL §: 31676.1	General 2% at Age 57 CERL §: 31676.12	General 2% at Age 55 CERL §: 31676.14	General 2% at Age 65 CERL §: 31499.14	General PEPRA CERL §: 7522.20
41	0.6258	0.6258	N/A	N/A	N/A	N/A	N/A	N/A
42	0.6625	0.6625	N/A	N/A	N/A	N/A	N/A	N/A
43	0.7004	0.7004	N/A	N/A	N/A	N/A	N/A	N/A
44	0.7397	0.7397	N/A	N/A	N/A	N/A	N/A	N/A
45	0.7805	0.7805	N/A	N/A	N/A	N/A	N/A	N/A
46	0.8226	0.8226	N/A	N/A	N/A	N/A	N/A	N/A
47	0.8678	0.8678	N/A	N/A	N/A	N/A	N/A	N/A
48	0.9085	0.9085	N/A	N/A	N/A	N/A	N/A	N/A
49	0.9522	0.9522	N/A	N/A	N/A	N/A	N/A	N/A
50	1.0516	1.0000	2.0000	0.7091	0.6681	0.8850	N/A	N/A
51	1.1078	1.0000	2.1000	0.7457	0.7056	0.9399	N/A	N/A
52	1.1692	1.0000	2.2000	0.7816	0.7454	1.0000	N/A	1.0000
53	1.2366	1.0000	2.3000	0.8181	0.7882	1.0447	N/A	1.1000
54	1.3099	1.0000	2.4000	0.8556	0.8346	1.1048	N/A	1.2000
55	1.3099	1.0000	2.5000	0.8954	0.8850	1.1686	0.3900	1.3000
56	1.3099	1.0000	2.6000	0.9382	0.9399	1.2365	0.4300	1.4000
57	1.3099	1.0000	2.7000	0.9846	1.0000	1.3093	0.4700	1.5000
58	1.3099	1.0000	2.7000	1.0350	1.0447	1.3608	0.5100	1.6000
59	1.3099	1.0000	2.7000	1.0899	1.1048	1.4123	0.5600	1.7000
60	1.3099	1.0000	2.7000	1.1500	1.1686	1.4638	0.6100	1.8000
61	1.3099	1.0000	2.7000	1.1947	1.2365	1.5153	0.6700	1.9000
62	1.3099	1.0000	2.7000	1.2548	1.3093	1.5668	0.7400	2.0000
63	1.3099	1.0000	2.7000	1.3186	1.3093	1.5668	0.8200	2.1000
64	1.3099	1.0000	2.7000	1.3865	1.3093	1.5668	0.9000	2.2000
65	1.3099	1.0000	2.7000	1.4593	1.3093	1.5668	1.0000	2.3000
66	1.3099	1.0000	2.7000	1.4593	1.3093	1.5668	1.0000	2.4000
67	1.3099	1.0000	2.7000	1.4593	1.3093	1.5668	1.0000	2.5000

Form of Benefit: The Service Retirement Benefit will be paid monthly beginning at retirement and for the life of the Member. If the member selects the unmodified benefit form, in the event of the Member's death 60% of the benefit will continue for the life of the Member's spouse or to the age of majority of dependent minor children if there is no spouse. For Tier 3 Members, the benefit payable to beneficiary is limited to 50%. In the event there is no surviving spouse or minor children, any unpaid remainder of

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the Member's accumulated contributions will be paid to the Member's designated beneficiary.

Actuarially equivalent optional benefit forms are also available.

Annually on April 1, benefits for all retired members other than those in Tier 3 are adjusted to reflect changes in the CPI for the San Francisco Bay Area since the prior year. Benefits may be increased or decreased, but the cumulative changes shall never reduce the benefit below the original monthly allowance. Annual increases may not exceed the COLA figures shown in Table 1, but CPI increases above this figure are "banked" and used for future increases when the CPI increases by less than the figures shown.

In addition, ad hoc cost of living adjustments have been granted in the past and may be granted in the future.

A lump sum benefit of \$5,000 will be payable upon the death of a retired member. No death benefit is payable for Tier 3 retired members.

D. Service-Connected Disability:

Eligibility: All non-Tier 3 Members are eligible for Service-Connected Disability Retirement benefits at any age if they are permanently disabled as a result of injuries or illness sustained in the line of duty. Tier 3 Members are not eligible to receive disability benefits.

Benefit Amount: The Service-Connected Disability Retirement Benefit payable to Members is equal to the greater of 50% of their Final Compensation or – if the Member is eligible at disability for a Service Retirement Benefit – the Service Retirement Benefit accrued on the date of disability.

Form of Benefit: The Service-Connected Disability Retirement Benefit will be paid monthly beginning at the effective date of disability retirement and for the life of the Member; in the event of the Member's death, 100% of the benefit will continue for the life of the Member's spouse or to the age of majority of dependent minor children if there is no spouse. In the event there is no surviving spouse or minor children, any unpaid remainder of the Member's accumulated contributions will be paid to the Member's designated beneficiary.

Actuarially equivalent optional benefit forms and COLA adjustments (as described for the Service Retirement benefit) are also available. A lump sum benefit of \$5,000 will be payable upon the death of the member.

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E. Nonservice-Connected Disability

Eligibility: Tier 3 Members are not eligible to receive disability benefits. All other Members are eligible for Nonservice-Connected Disability Retirement benefits if they are permanently disabled at any age after earning five years of Credited Service.

Benefit Amount: The Nonservice-Connected Disability Retirement Benefit payable to Tier 1 General Members is equal to the greatest of:

- 1.8% of Final Compensation at disability multiplied by years of Credited Service at disability;
- 1.8% of Final Compensation at disability multiplied by years of Credited Service projected to age 62, but not to exceed one-third of Final Compensation; or
- If the Member is eligible at disability for a Service Retirement Benefit, the Service Retirement Benefit accrued on the date of disability.

The Nonservice-Connected Disability Retirement Benefit payable to Tiers 2, 4, 5, and 6 General Members is equal to the greatest of:

- 1.5% of Final Compensation at disability multiplied by years of Credited Service at disability;
- 1.5% of Final Compensation at disability multiplied by years of Credited Service projected to age 65, but not to exceed one-third of Final Compensation; or
- If the Member is eligible at disability for a Service Retirement Benefit, the Service Retirement Benefit accrued on the date of disability.

The Nonservice-Connected Disability Retirement Benefit payable to Safety Members is equal to the greatest of:

- 1.8% of Final Compensation at disability multiplied by years of Credited Service at disability;
- 1.8% of Final Compensation at disability multiplied by years of Credited Service projected to age 55, but not to exceed one-third of Final Compensation; or
- If the Member is eligible at disability for a Service Retirement Benefit, the Service Retirement Benefit accrued on the date of disability.

Form of Benefit: The Nonservice-Connected Disability Retirement Benefit will be paid monthly beginning at the effective date of disability retirement, and for the life of the Member; in the event of the Member's death, 60% of the benefit will continue for the life of the Member's spouse or to the age of majority of dependent minor children if there is no spouse. In the event there is no

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surviving spouse or minor children, any unpaid remainder of the Member's accumulated contributions will be paid to the Member's designated beneficiary.

Actuarially equivalent optional benefit forms and COLA adjustments (as described for the Service Retirement benefit) are also available. A lump sum benefit of \$5,000 will be payable upon the death of the member.

F. Death Benefit

Eligibility: A Tier 3 Member's survivors are not eligible to receive death benefits. All other Members' survivors are eligible to receive different Death benefits dependent on the Member's cause of death and retirement eligibility.

Benefit Amount: In the event the Member's death resulted from injury or illness sustained in connection with the Member's duties, the Death Benefit payable to a surviving spouse, domestic partner, or eligible dependent children will be the greater of 50% of the Member's Final Compensation at the time of death or the Service Retirement Benefit.

In the event the Member's death did not result from injury or illness sustained in connection with the Member's duties and at the time of death, the Member was eligible for Service Retirement or Non-Service Connected Disability (i.e. the employee was employed at least five years), the Death Benefit payable to the spouse, partner or children will be 60% of the survivor benefit based on benefit due on Member's date of death.

In all other cases, the designated beneficiary (not necessarily a spouse/partner/child) will receive a refund of the Member's contributions with interest plus one month of Final Compensation for each year of service to a maximum of six years.

Form of Benefit: Annuity death benefits will be paid monthly beginning at the Member's death and for the life of the surviving spouse/partner or to the age of majority of dependent minor children if there is no spouse/partner. Lump sum benefits will be paid as described above.

COLA adjustments (as described for the annuity benefits) are also available.

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G. Withdrawal Benefits

Eligibility: Tier 3 Members are not eligible to receive withdrawal benefits. All other Members are eligible for a Withdrawal Benefit upon termination of employment, if not eligible to receive or electing to waive a monthly benefit.

Benefit Amount: The Withdrawal Benefit is a refund of the Member's accumulated Contributions with interest. Upon receipt of the Withdrawal Benefit the Member forfeits all Credited Service.

Form of Benefit: The Withdrawal Benefit is paid in a lump sum upon election by the Member.

H. Deferred Vested Benefit

Eligibility: A Member is eligible for a Deferred Vested Benefit upon termination of employment after earning five years of Credited Service, including reciprocity service from another system. For Tier 3 Members, the vesting requirement is 10 years of Credited Service.

The Member must leave his or her Member Contributions with interest on deposit with the Plan. This requirement does not apply to Tier 3 Members since they participate in a non-contributory Plan.

Benefit Amount: The Deferred Vested Benefit is computed in the same manner as the Service Retirement Benefit, but it is based on Credited Service and Final Compensation on the date of termination.

Form of Benefit: The Deferred Vested Benefit will be paid monthly beginning at retirement and for the life of the Member; in the event of the Member's death, 60% of the benefit will continue for the life of the Member's spouse or to the age of majority of dependent minor children if there is no spouse. For Tier 3 Members, the benefit payable to beneficiary is limited to 50%. In the event there is no surviving spouse or minor children, any unpaid remainder of the Member's accumulated contributions will be paid to the Member's designated beneficiary.

Actuarially equivalent optional benefit forms and COLA adjustments (as described for the Service Retirement benefit) are also available. A lump sum benefit of \$5,000 will be payable upon the death of the member. No death benefit is payable for Tier 3 retired members.

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APPENDIX C -- SUMMARY OF PLAN PROVISIONS

I. Reciprocal Benefit

Eligibility: A Member is eligible for a Reciprocal Benefit upon termination of employment after earning five years of Credited Service and entry, within a specified period of time, into another retirement system recognized as a reciprocal system by the Plan. For Tier 3 Members, the vesting requirement is 10 years of Credited Service.

The Member must leave his or her Member Contributions with interest on deposit with the Plan. This requirement does not apply to Tier 3 Members since they participate in a non-contributory Plan.

Benefit Amount: The Reciprocal Benefit is computed in the same manner as the Service Retirement Benefit, but it is based on Credited Service on the date of termination and Final Compensation on the date of retirement; Final Compensation is based on the highest of the Compensation earned under this Plan or the reciprocal plan.

Form of Benefit: The Reciprocal Benefit will be paid monthly beginning at retirement and for the life of the Member; in the event of the Member's death, 60% of the benefit will continue for the life of the Member's spouse or to the age of majority of dependent minor children if there is no spouse. For Tier 3 Members, the benefit payable to beneficiary is limited to 50%. In the event there is no surviving spouse or minor children, any unpaid remainder of the Member's accumulated contributions will be paid to the Member's designated beneficiary.

Actuarially equivalent optional benefit forms and COLA adjustments (as described for the Service Retirement benefit) are also available.

A lump sum benefit of \$5,000 will be payable upon the death of the member. No death benefit is payable for Tier 3 retired members.

J. Optional Benefit Forms

Prior to retirement, a member may elect to convert his retirement allowance into a benefit of equivalent actuarial value in accordance with one of the optional forms described below.

1. A reduced retirement allowance payable during his life with the provision that on his death the excess, if any, of his accumulated deductions at the time of retirement over the annuity payments made to him will be paid to his designated beneficiary or estate; or
2. A reduced retirement allowance payable during his life with the provision that after his death the reduced allowance will be continued

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for life to the beneficiary designated by him at the time of his retirement; or

3. A reduced retirement allowance payable during his life with the provision that after his death an allowance of one-half of his reduced allowance will be continued for life to the beneficiary designated by him at the time of his retirement.

In addition, a member participating in Social Security may elect to receive an increased monthly allowance before age 62 (earliest possible receipt of Social Security benefits) and then take a reduced monthly allowance at age 62 and after. This option will not affect any monthly payments payable to a beneficiary. This option is not available to those receiving a disability benefit.

K. Member Contributions

Other than Tiers 3 and 6, all Members contribute a percentage of Compensation to the Plan through payroll deduction. The percentage contributed depends on the Member's nearest age upon joining the Plan. Members do not contribute after earning 30 years of Credited Service.

Tier 6 (PEPRA) Members must contribute half of the Normal Cost of the Plan. Contributions for these members will be based on the Normal Cost associated with their benefits; General and Safety members will pay different rates. Members will continue to contribute after earnings 30 years of service.

City of Ceres members in Tiers 1 and 4 pay the Tier 2 and 5 rates ("Full" rates), rather than the rates for their respective Tiers ("Half" rates).

Interest is credited semiannually to each Member's accumulated contributions. The crediting rate is set by the Board; the current annual rate is 0.25%.

The employee contribution rates are shown in the Appendix E.

L. Changes in Plan Provisions

No change

APPENDIX D -- GLOSSARY

1. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs such as mortality, withdrawal, disability, retirement, changes in compensation and rates of investment return.

2. Actuarial Cost Method

A procedure for determining the Actuarial Present Value of pension plan benefits and expenses and for developing an allocation of such value to each year of service, usually in the form of a Normal Cost and an Actuarial Liability.

3. Actuarial Gain (Loss)

The difference between actual experience and that expected based upon a set of Actuarial Assumptions during the period between two Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.

4. Actuarial Liability

The portion of the Actuarial Present Value of Projected Benefits that will not be paid by future Normal Costs. It represents the value of the past Normal Costs with interest to the valuation date.

5. Actuarial Present Value (Present Value)

The value as of a given date of a future amount or series of payments. The Actuarial Present Value discounts the payments to the given date at the assumed investment return and includes the probability of the payment being made.

6. Actuarial Valuation

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

7. 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. The purpose of an Actuarial Value of Assets is to smooth out fluctuations in market values.

APPENDIX D -- GLOSSARY

8. Actuarially Equivalent

Of equal Actuarial Present Value, determined as of a given date, with each value based on the same set of actuarial assumptions.

9. Amortization Payment

The portion of the pension plan contribution, which is designed to pay interest and principal on the Unfunded Actuarial Liability in order to pay for that liability in a given number of years.

10. Entry Age Normal 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 of the individual between entry age and assumed exit ages.

11. Funded Ratio

The ratio of the Actuarial Value of Assets to the Actuarial Liability.

12. 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.

13. Projected Benefits

Those pension plan benefit amounts which are expected to be paid in the future under a particular set of Actuarial Assumptions, taking into account such items as increases in future compensation and service credits.

14. Unfunded Actuarial Liability

The excess of the Actuarial Liability over the Actuarial Value of Assets. The Unfunded Actuarial Liability is not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling StanCERA's benefit obligation in the event of a plan termination or other similar action. However, it is an appropriate measure for assessing the need for or the amount of future contributions.

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APPENDIX E -- MEMBER CONTRIBUTION RATES

Employee contribution rates vary by member Group and Tier. City of Ceres members in Tiers 1 and 4 pay the Tier 2 and 5 rates ("Full" rates), rather than the rates for their respective Tiers ("Half" rates).

The rates were changed following the experience study covering the period June 30, 2012 through June 30, 2015. The current employee contribution rates are shown in the following tables.

Current rates were determined based on an interest rate of 7.25% per annum, an average salary increase of 3.25% per year, and the CalPERS mortality tables with adjustment as specified in the Appendix B and projected using Scale MP-2015 from 2009 to 2037 for General members and to 2039 for Safety members. The projection periods are based upon the duration of liabilities for the respective groups as of June 30, 2015. The rates are blended using a male/female weighting of 25% male / 75% female for General members, and 80% male / 20% female for Safety members. Basic and COLA rates were determined based on an assumption that members would cease making contributions after 30 years of service.

Employee contribution rates for Tier 6 (PEPRA) members are determined based on half the Normal Cost for the PEPRA members (computed separately for General and Safety members, and for County and Ceres / Other District members). Due to the passage of SB13, contribution rates for PEPRA members are not rounded, and are recomputed each year.

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Entry Age	General Tier 1			
	Basic First \$350	Basic Over \$350	COL First \$350	COL Over \$350
16	2.26%	3.40%	1.12%	1.68%
17	2.26%	3.40%	1.12%	1.68%
18	2.26%	3.40%	1.12%	1.68%
19	2.26%	3.40%	1.12%	1.68%
20	2.26%	3.40%	1.12%	1.68%
21	2.28%	3.42%	1.15%	1.73%
22	2.30%	3.45%	1.18%	1.77%
23	2.31%	3.47%	1.21%	1.81%
24	2.33%	3.49%	1.23%	1.85%
25	2.34%	3.51%	1.27%	1.90%
26	2.35%	3.52%	1.29%	1.94%
27	2.35%	3.53%	1.33%	1.99%
28	2.36%	3.54%	1.36%	2.04%
29	2.36%	3.54%	1.39%	2.08%
30	2.36%	3.54%	1.42%	2.13%
31	2.41%	3.61%	1.45%	2.18%
32	2.46%	3.69%	1.49%	2.23%
33	2.51%	3.76%	1.52%	2.28%
34	2.56%	3.83%	1.56%	2.34%
35	2.61%	3.91%	1.60%	2.40%
36	2.66%	3.99%	1.65%	2.47%
37	2.71%	4.06%	1.69%	2.54%
38	2.76%	4.14%	1.74%	2.61%
39	2.82%	4.22%	1.79%	2.68%
40	2.87%	4.31%	1.83%	2.75%
41	2.93%	4.39%	1.87%	2.80%
42	2.99%	4.48%	1.90%	2.85%
43	3.05%	4.57%	1.93%	2.90%
44	3.11%	4.66%	1.97%	2.95%
45	3.17%	4.75%	1.99%	2.99%
46	3.23%	4.85%	2.03%	3.04%
47	3.30%	4.95%	2.05%	3.08%
48	3.37%	5.05%	2.08%	3.12%
49	3.44%	5.16%	2.09%	3.14%
50	3.52%	5.28%	2.11%	3.16%
51	3.60%	5.40%	2.11%	3.17%
52	3.68%	5.52%	2.09%	3.13%
53	3.75%	5.63%	2.05%	3.07%
54	3.82%	5.73%	2.01%	3.02%
55	3.88%	5.82%	1.97%	2.96%
56	3.92%	5.88%	1.91%	2.86%
57	3.93%	5.89%	1.78%	2.67%
58	3.78%	5.67%	1.75%	2.62%
59+	3.74%	5.61%	1.71%	2.57%

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APPENDIX E -- MEMBER CONTRIBUTION RATES

Entry Age	General Tier 2			
	Basic First \$350	Basic Over \$350	COL First \$350	COL Over \$350
16	3.56%	5.33%	0.91%	1.36%
17	3.56%	5.33%	0.91%	1.36%
18	3.56%	5.33%	0.91%	1.36%
19	3.56%	5.33%	0.91%	1.36%
20	3.56%	5.33%	0.91%	1.36%
21	3.58%	5.38%	0.93%	1.39%
22	3.61%	5.41%	0.95%	1.42%
23	3.63%	5.45%	0.97%	1.45%
24	3.65%	5.48%	0.99%	1.48%
25	3.67%	5.51%	1.01%	1.51%
26	3.69%	5.53%	1.03%	1.55%
27	3.70%	5.55%	1.06%	1.59%
28	3.71%	5.56%	1.09%	1.63%
29	3.71%	5.56%	1.11%	1.66%
30	3.71%	5.57%	1.13%	1.70%
31	3.78%	5.68%	1.16%	1.74%
32	3.86%	5.79%	1.19%	1.79%
33	3.94%	5.90%	1.23%	1.84%
34	4.01%	6.02%	1.25%	1.88%
35	4.09%	6.14%	1.29%	1.93%
36	4.17%	6.26%	1.33%	1.99%
37	4.25%	6.38%	1.36%	2.04%
38	4.34%	6.51%	1.40%	2.10%
39	4.42%	6.64%	1.43%	2.15%
40	4.51%	6.77%	1.47%	2.21%
41	4.60%	6.90%	1.50%	2.25%
42	4.69%	7.04%	1.53%	2.29%
43	4.78%	7.17%	1.55%	2.33%
44	4.88%	7.32%	1.57%	2.36%
45	4.98%	7.46%	1.60%	2.40%
46	5.08%	7.62%	1.62%	2.43%
47	5.18%	7.77%	1.65%	2.47%
48	5.29%	7.94%	1.67%	2.51%
49	5.40%	8.11%	1.69%	2.54%
50	5.52%	8.28%	1.71%	2.57%
51	5.63%	8.45%	1.73%	2.59%
52	5.74%	8.61%	1.73%	2.60%
53	5.83%	8.75%	1.73%	2.60%
54	5.90%	8.85%	1.73%	2.59%
55	5.94%	8.91%	1.70%	2.55%
56	5.94%	8.90%	1.64%	2.46%
57	5.90%	8.85%	1.54%	2.31%
58	6.03%	9.04%	1.51%	2.26%
59+	6.24%	9.36%	1.48%	2.22%

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APPENDIX E -- MEMBER CONTRIBUTION RATES

Entry Age	General Tier 4			
	Basic First \$350	Basic Over \$350	COL First \$350	COL Over \$350
16	2.05%	3.07%	1.21%	1.81%
17	2.05%	3.07%	1.21%	1.81%
18	2.05%	3.07%	1.21%	1.81%
19	2.05%	3.07%	1.21%	1.81%
20	2.05%	3.07%	1.21%	1.81%
21	2.05%	3.08%	1.24%	1.86%
22	2.06%	3.09%	1.27%	1.90%
23	2.06%	3.10%	1.30%	1.95%
24	2.07%	3.10%	1.33%	1.99%
25	2.07%	3.10%	1.35%	2.03%
26	2.11%	3.16%	1.39%	2.08%
27	2.15%	3.23%	1.41%	2.12%
28	2.19%	3.29%	1.44%	2.16%
29	2.24%	3.35%	1.47%	2.20%
30	2.28%	3.42%	1.50%	2.25%
31	2.33%	3.49%	1.53%	2.30%
32	2.37%	3.56%	1.57%	2.35%
33	2.42%	3.63%	1.61%	2.41%
34	2.47%	3.70%	1.65%	2.47%
35	2.51%	3.77%	1.69%	2.53%
36	2.56%	3.84%	1.73%	2.60%
37	2.61%	3.92%	1.78%	2.67%
38	2.67%	4.00%	1.83%	2.74%
39	2.72%	4.08%	1.87%	2.81%
40	2.77%	4.16%	1.93%	2.89%
41	2.83%	4.24%	1.96%	2.94%
42	2.89%	4.33%	1.99%	2.98%
43	2.95%	4.42%	2.02%	3.03%
44	3.01%	4.52%	2.05%	3.07%
45	3.08%	4.62%	2.07%	3.11%
46	3.15%	4.72%	2.10%	3.15%
47	3.22%	4.83%	2.11%	3.17%
48	3.29%	4.93%	2.13%	3.20%
49	3.35%	5.02%	2.14%	3.21%
50	3.40%	5.10%	2.14%	3.21%
51	3.43%	5.14%	2.13%	3.20%
52	3.44%	5.16%	2.11%	3.16%
53	3.31%	4.96%	2.06%	3.09%
54+	3.28%	4.91%	2.03%	3.05%

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APPENDIX E -- MEMBER CONTRIBUTION RATES

Entry Age	General Tier 5			
	Basic First \$350	Basic Over \$350	COL First \$350	COL Over \$350
16	4.09%	6.14%	1.21%	1.81%
17	4.09%	6.14%	1.21%	1.81%
18	4.09%	6.14%	1.21%	1.81%
19	4.09%	6.14%	1.21%	1.81%
20	4.09%	6.14%	1.21%	1.81%
21	4.11%	6.16%	1.24%	1.86%
22	4.12%	6.18%	1.27%	1.90%
23	4.13%	6.19%	1.30%	1.95%
24	4.13%	6.20%	1.33%	1.99%
25	4.14%	6.20%	1.35%	2.03%
26	4.22%	6.33%	1.39%	2.08%
27	4.30%	6.45%	1.41%	2.12%
28	4.39%	6.58%	1.44%	2.16%
29	4.47%	6.71%	1.47%	2.20%
30	4.56%	6.84%	1.50%	2.25%
31	4.65%	6.98%	1.53%	2.30%
32	4.74%	7.11%	1.57%	2.35%
33	4.84%	7.25%	1.61%	2.41%
34	4.93%	7.40%	1.65%	2.47%
35	5.03%	7.54%	1.69%	2.53%
36	5.13%	7.69%	1.73%	2.60%
37	5.23%	7.84%	1.78%	2.67%
38	5.33%	8.00%	1.83%	2.74%
39	5.44%	8.16%	1.87%	2.81%
40	5.55%	8.32%	1.93%	2.89%
41	5.66%	8.49%	1.96%	2.94%
42	5.78%	8.66%	1.99%	2.98%
43	5.90%	8.84%	2.02%	3.03%
44	6.02%	9.03%	2.05%	3.07%
45	6.16%	9.23%	2.07%	3.11%
46	6.30%	9.45%	2.10%	3.15%
47	6.44%	9.65%	2.11%	3.17%
48	6.57%	9.86%	2.13%	3.20%
49	6.69%	10.04%	2.14%	3.21%
50	6.80%	10.19%	2.14%	3.21%
51	6.86%	10.29%	2.13%	3.20%
52	6.88%	10.31%	2.11%	3.16%
53	6.62%	9.93%	2.06%	3.09%
54+	6.55%	9.83%	2.03%	3.05%

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APPENDIX E -- MEMBER CONTRIBUTION RATES

Entry Age	Safety Tier 2			
	Basic First \$350	Basic Over \$350	COL First \$350	COL Over \$350
20	4.90%	7.35%	1.83%	2.75%
21	5.00%	7.50%	1.91%	2.87%
22	5.10%	7.65%	1.97%	2.96%
23	5.21%	7.81%	2.04%	3.06%
24	5.31%	7.97%	2.10%	3.15%
25	5.42%	8.13%	2.17%	3.25%
26	5.53%	8.29%	2.23%	3.35%
27	5.64%	8.46%	2.30%	3.45%
28	5.75%	8.63%	2.37%	3.55%
29	5.87%	8.81%	2.44%	3.66%
30	5.99%	8.99%	2.52%	3.78%
31	6.12%	9.18%	2.60%	3.90%
32	6.24%	9.37%	2.68%	4.02%
33	6.38%	9.56%	2.77%	4.15%
34	6.51%	9.77%	2.84%	4.26%
35	6.65%	9.98%	2.92%	4.38%
36	6.80%	10.20%	2.99%	4.48%
37	6.95%	10.42%	3.05%	4.58%
38	7.10%	10.64%	3.13%	4.69%
39	7.23%	10.85%	3.21%	4.81%
40	7.36%	11.05%	3.30%	4.95%
41	7.49%	11.23%	3.34%	5.01%
42	7.61%	11.41%	3.37%	5.06%
43	7.70%	11.55%	3.41%	5.11%
44	7.76%	11.64%	3.43%	5.14%
45	7.77%	11.66%	3.43%	5.15%
46	7.74%	11.60%	3.46%	5.19%
47	7.65%	11.48%	3.48%	5.22%
48	7.83%	11.75%	3.50%	5.25%
49+	8.10%	12.15%	3.52%	5.28%

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

APPENDIX E -- MEMBER CONTRIBUTION RATES

Entry Age	Safety Tier 4			
	Basic First \$350	Basic Over \$350	COL First \$350	COL Over \$350
20	2.59%	3.89%	2.49%	3.74%
21	2.64%	3.97%	2.60%	3.90%
22	2.70%	4.05%	2.68%	4.02%
23	2.75%	4.13%	2.75%	4.13%
24	2.81%	4.21%	2.83%	4.24%
25	2.87%	4.30%	2.90%	4.35%
26	2.92%	4.39%	2.97%	4.46%
27	2.98%	4.47%	3.05%	4.57%
28	3.04%	4.57%	3.12%	4.68%
29	3.11%	4.66%	3.19%	4.79%
30	3.17%	4.75%	3.23%	4.85%
31	3.24%	4.85%	3.28%	4.92%
32	3.30%	4.95%	3.35%	5.03%
33	3.37%	5.06%	3.43%	5.14%
34	3.44%	5.17%	3.51%	5.26%
35	3.52%	5.28%	3.59%	5.39%
36	3.60%	5.39%	3.66%	5.49%
37	3.68%	5.52%	3.74%	5.61%
38	3.76%	5.65%	3.83%	5.74%
39	3.85%	5.77%	3.92%	5.88%
40	3.93%	5.89%	4.03%	6.04%
41	4.00%	6.00%	4.02%	6.03%
42	4.07%	6.11%	4.01%	6.02%
43	4.15%	6.22%	4.02%	6.03%
44	4.22%	6.33%	4.02%	6.03%
45	4.26%	6.39%	4.02%	6.03%
46	4.28%	6.42%	4.05%	6.07%
47	4.27%	6.41%	4.07%	6.10%
48	4.11%	6.17%	4.09%	6.13%
49+	4.05%	6.08%	4.11%	6.16%

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

APPENDIX E -- MEMBER CONTRIBUTION RATES

Entry Age	Safety Tier 5			
	Basic First \$350	Basic Over \$350	COL First \$350	COL Over \$350
20	5.18%	7.78%	2.49%	3.74%
21	5.29%	7.93%	2.60%	3.90%
22	5.40%	8.10%	2.68%	4.02%
23	5.51%	8.26%	2.75%	4.13%
24	5.62%	8.43%	2.83%	4.24%
25	5.73%	8.60%	2.90%	4.35%
26	5.85%	8.77%	2.97%	4.46%
27	5.97%	8.95%	3.05%	4.57%
28	6.09%	9.13%	3.12%	4.68%
29	6.21%	9.32%	3.19%	4.79%
30	6.34%	9.51%	3.23%	4.85%
31	6.47%	9.71%	3.28%	4.92%
32	6.60%	9.91%	3.35%	5.03%
33	6.74%	10.12%	3.43%	5.14%
34	6.89%	10.33%	3.51%	5.26%
35	7.04%	10.56%	3.59%	5.39%
36	7.19%	10.79%	3.66%	5.49%
37	7.36%	11.03%	3.74%	5.61%
38	7.53%	11.29%	3.83%	5.74%
39	7.69%	11.54%	3.92%	5.88%
40	7.85%	11.78%	4.03%	6.04%
41	8.00%	12.00%	4.02%	6.03%
42	8.15%	12.22%	4.01%	6.02%
43	8.29%	12.44%	4.02%	6.03%
44	8.43%	12.65%	4.02%	6.03%
45	8.52%	12.78%	4.02%	6.03%
46	8.56%	12.84%	4.05%	6.07%
47	8.54%	12.81%	4.07%	6.10%
48	8.22%	12.33%	4.09%	6.13%
49+	8.10%	12.15%	4.11%	6.16%

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2015**

APPENDIX E -- MEMBER CONTRIBUTION RATES

PEPRA Rates				
	General		Safety	
	County and Former County	Ceres and Other Districts	County and Former County	Ceres and Other Districts
	8.06%	8.55%	13.07%	14.29%
Assumptions:				
Interest:	7.25%			
Salary:	2015 Valuation Scale (Service based, includes wage inflation at 3.25%)			
Mortality:	Because the PEPRA contributions rates are based on 50% of the actual Normal Cost, the mortality rates are the same as those used in the Actuarial Valuation (CalPERS mortality tables with adjustments based on StanCERA experience projected generationally from 2009 using Scale MP-2015)			



Classic Values, Innovative Advice

ATTACHMENT 3

**Actuarial Experience Study Report for
July 1, 2012 through June 30, 2015**



Stanislaus County Employees' Retirement Association

**Actuarial Experience Study for
July 1, 2012 through June 30,
2015**

Produced by Cheiron

April 2016

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April 12, 2016

Board of Retirement
Stanislaus County Employees' Retirement Association
832 12th Street, Suite 600
Modesto, CA 95353

Dear Members of the Board:

The purpose of this report is to present an Actuarial Experience Study of the Stanislaus County Employees' Retirement Association (StanCERA, the Fund, the Plan) covering actuarial experience from July 1, 2012 through June 30, 2015. The report includes analyses and recommendations of economic and demographic assumptions to be used beginning with the July 1, 2015 actuarial valuation.

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

Sincerely,
Cheiron



Graham A. Schmidt, ASA, FCA, EA, MAAA
Consulting Actuary



Timothy S. Doyle, ASA, MAAA
Associate Actuary



Jonathan Chipko, FSA, FCA, EA, MAAA
Associate Actuary

SECTION I — EXECUTIVE SUMMARY

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

SUMMARY OF ECONOMIC ASSUMPTION ANALYSIS

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

The economic assumptions recently adopted by the Retirement Board include a 7.25% long-term rate of return on Plan assets, an annual increase in prices measured by the Consumer Price Index (CPI) of 3%, annual wage increase equal to 25 basis points greater than price increases (3.25% in total), and a post-retirement COLA average growth rate of 2.70%.

The discount rate assumption is consistent with the long-term (20-year) capital market assumptions from a survey of investment consultants. Other data presented in this report indicate that the discount rate and other economic assumptions adopted by the Retirement Board are reasonable.

However, the Plan's investment consultant (Verus) projects lower returns for the next 10 years, averaging 6.1%, for StanCERA's current target portfolio. If the current target asset allocation is maintained and Verus's projections are realized, the Board can expect a pattern of actuarial losses from the assets in the near term, though they may be partially offset by liability gains if wage and COLA inflation rates are below the assumed rates (3.25% and 2.70%, respectively) over the same time period.

SUMMARY OF DEMOGRAPHIC ASSUMPTION ANALYSIS

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

- **Merit salary increases** – Reduction to rates at lower service levels for all members.
- **Retirement rates** – Higher rates for longer service members and lower rates for some shorter service members.
- **Termination rates** – Unisex rates for General members and changes in rates for members with less than 10 years of service.
- **Disability rates** – Adopt CalPERS non-service connected rates.
- **Mortality rates** – Adjusted CalPERS base tables, with generational improvement for all members.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015**

SECTION I — EXECUTIVE SUMMARY

Among the demographic assumptions, the recommendation to change mortality assumptions has the largest impact on contribution rates. The recommended change to retirement rates also would increase contribution rates while the changes to termination rates and merit salary increases would reduce contribution rates. Further information about these changes to contribution rates can be found in Cheiron's presentation to the Board on November 24, 2015.

The recently completed mortality study by the Society of Actuaries found that mortality rates had improved faster than previously anticipated and recommended future projections of mortality improvement commensurate with recent experience in the short-term tapering to a long-term expected rate of improvement by 2027. The recommended change to mortality rates for StanCERA reflects both the improvement in mortality since the last experience study and the application of the recommended higher rates of improvement projected in the future.

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

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015

SECTION II — CERTIFICATION

The purpose of this report is to provide the results of an Actuarial Experience Study of the Stanislaus County Employees' Retirement Association (StanCERA) covering actuarial experience from July 1, 2012 through June 30, 2015. This report is for the use of the StanCERA Retirement Board in selecting assumptions to be used in actuarial valuations beginning June 30, 2015.

In preparing our report, we relied on information (some oral and some written) supplied by StanCERA. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

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

This report was prepared for the StanCERA Retirement Board for the purposes described herein. This report is not intended to benefit any other party, and Cheiron assumes no duty or liability to any such party.



Graham A. Schmidt, ASA, FCA, EA, MAAA
Consulting Actuary



Timothy S. Doyle, ASA, MAAA
Associate Actuary



Jonathan Chipko, FSA, FCA, EA, MAAA
Associate Actuary

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015

SECTION III — ECONOMIC ASSUMPTIONS
PRICE INFLATION

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

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

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

PRICE INFLATION

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

Historical Data

Chart III-1 below shows inflation for the U.S. by individual year since 1950.

Chart III-1



STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015

SECTION III — ECONOMIC ASSUMPTIONS
PRICE INFLATION

Over the 50 years ending June 2015, the geometric average inflation rate for the U.S. has been about 4.1%, but this average is heavily influenced by the high inflation rates in the 1970s and early 1980s. Over the last 30 years, the geometric average inflation rate has been 2.7%.

Future Expectations

A measure of the market consensus of expected future inflation rates is the difference in yields between conventional treasury bonds and Treasury Inflation-Protected Securities (TIPS) at the same maturity. Table III-1 shows the yields on both types of bonds and the break-even inflation rate as of December 2015. Break-even inflation is the level of inflation needed for an investment in TIPS to “break even” with an investment in conventional treasury bonds of the same maturity.

Table III-1

Break-Even Inflation Based on Treasury Bond Yields			
Time to Maturity	Conventional Yield	TIPS Yield	Break Even Inflation
5 Years	1.70%	0.46%	1.24%
10 Years	2.24%	0.73%	1.51%
20 Years	2.61%	1.06%	1.55%

Data Source Federal Reserve, Constant Maturity Yields, Monthly Series

The Federal Reserve Bank of Philadelphia publishes a quarterly survey of professional economic forecasters that includes their forecasts of inflation over the next 10 years. The survey for the third quarter of 2015 shows a median inflation forecast of 2.15%; a minimum forecast of about 1.8% and a maximum forecast of 3.0%.

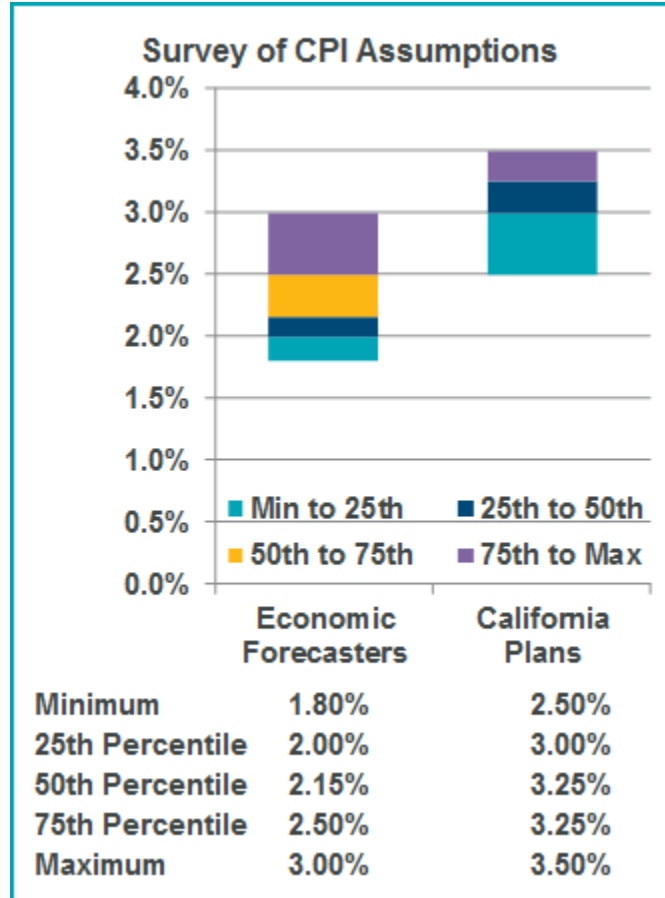
Boston College’s Center for Retirement Research maintains a database on over 150 large public plans. For 2013, the inflation assumptions used by the plans in the database ranged from 2.50% to 5.00%. These assumptions tend to be based on time horizons that are longer than 10 years.

The Federal Reserve publishes a quarterly survey of professional economic forecasters. Chart III-2 on the next page shows the distribution of the professionals forecasts for average inflation over the next 10 years compared to assumptions used by California public pension plans.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015**

**SECTION III — ECONOMIC ASSUMPTIONS
PRICE INFLATION**

Chart III-2



Finally, Verus, the Board’s investment consultant, uses an inflation assumption of 2.1% for the next 10 years. A broader survey of 10 investment consultants, as published by Horizon Actuarial Services in 2015, reflects a 2.29% average assumption over the next 20 years.

Based on all of these considerations, we believe a reasonable range for long-term price inflation for use in the Plan’s actuarial valuations is between 2.0% and 3.5%. Therefore, we agree with the Board’s recent action to reduce the assumption from 3.25% to 3.00%. If, at the time of the next review of economic assumptions, the markets and forecasters continue to indicate lower expectations of future inflation, further reductions in the assumption could be considered.

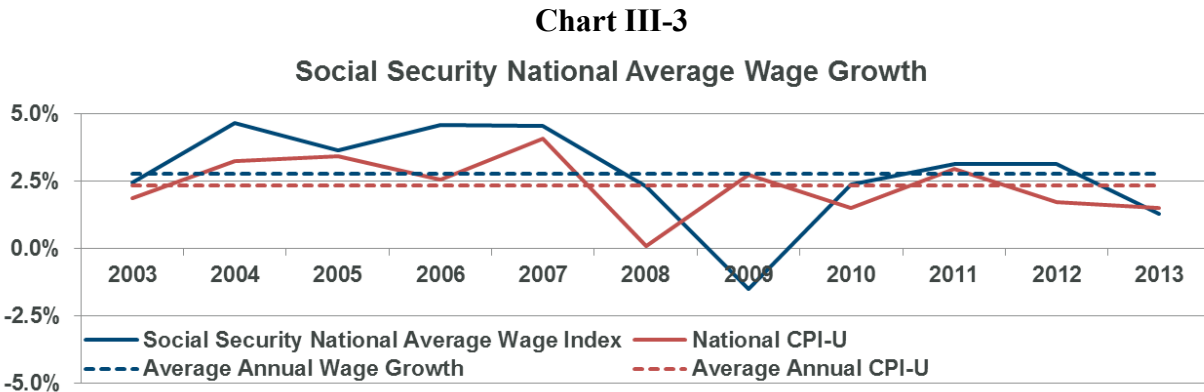
SECTION III — ECONOMIC ASSUMPTIONS
WAGE INFLATION

WAGE INFLATION

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

Wage inflation is used in the actuarial valuation as the minimum expected salary increase for an individual and, for purposes of amortizing the unfunded actuarial liability, the rate at which payroll is expected to grow over the long term, assuming a stable active member population.

Chart III-3 shows the increase in national average wages (as reported by the Social Security Administration) compared to inflation from 2003 through 2013.



Over this period, national wage inflation averaged approximately 2.77% compared to annual price inflation of 2.33%, making wage increases less than 0.5% above inflation. Note the significant drop in 2008 and 2009 as well as the recent decline in national average wage growth in 2013, the latest year for which data is available.

Usually we recommend that long range gains due to productivity, the collective bargaining process or other pressures should be assumed to be zero or minimal. While productivity tends to increase in many sectors of the economy, any long-term assumption of salary growth beyond inflation carries with it an assumed improvement in relative standard of living.

It is acceptable to assume some additional level of base payroll increase beyond general inflation. Potential reasons contributing to the increase may include the presence of strong union representation in the collective bargaining process, competition in hiring among other similar employers, and regional factors – such as the local inflation index exceeding the national average, as has sometimes proven the case in parts of California. Also, historically the US as a whole witnessed 0.9% annual real growth in wages from 1970-2010, and the Social Security

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015**

**SECTION III — ECONOMIC ASSUMPTIONS
WAGE INFLATION AND COLA GROWTH**

Administration projects real wage growth of 0.5% - 1.1% going forward in their Social Security solvency projections.

However, governmental entities remain under financial stress, and other areas of employee compensation – most notably health care costs and pension contributions – have continued to increase faster than the CPI. The Social Security Administration noted in their most recent report that the real wage differential has actually been negative (-0.2%) over the most recent economic cycle (2007-2013).

Cheiron recommends agrees with the Board's recent action to maintain a small non-inflationary base payroll growth assumption of 0.25% annually. As a result, the annual expected increase in base payroll would be 3.25%, reduced from 3.50% in the June 30, 2014 valuation. This increase will be applied to all continuing active members, and to starting pay for new entrants when projections of future populations are required. This increase will also be used in the calculation of the unfunded liability amortization payment as a level percentage of payroll.

COLA GROWTH

Members of StanCERA – other than those in Tier 3 - are eligible to receive automatic Cost of Living Adjustments (COLAs), based on the growth in the Bay Area Consumer Price Index (CPI-U) and a 3% cap on the annual COLA increase. Any increase in the CPI above the maximum increase can be banked for future years in which the change in the CPI is below the maximum increase.

We have produced statistical simulations of inflation and then modeled how the COLA maximum and the banking process interact with the changes in CPI. For a given long-term estimate of inflation, we used two sets of inputs and then blended the results: a 50% autocorrelation factor with 1.5% annual inflation volatility, and a 25% autocorrelation factor with 1.0% annual inflation volatility. A starting inflation level of 2.25% was used in all simulations, to reflect the low level of current inflation.

It is necessary to determine an assumed rate of COLA growth, reflecting both inflation (i.e. the growth in the CPI), and the interaction of the CPI with the COLA cap and banking mechanism. Our simulations tell us that the average growth in the COLA is expected to be below the cap, even if the expected increase in the CPI is equal to or higher than the cap itself. This is because if there is not a significant bank already in existence (such as in the early years of retirement) and there are years in which inflation is below the cap, this shortfall will not be made up in future years.

Based on a blending of the results under the two sets of inputs, and using the 3.00% inflation assumption adopted by the Board and found to be reasonable by Cheiron, we recommend maintaining the 2.7% COLA growth assumption used in the prior actuarial valuation.

**SECTION III — ECONOMIC ASSUMPTIONS
DISCOUNT RATE**

DISCOUNT RATE

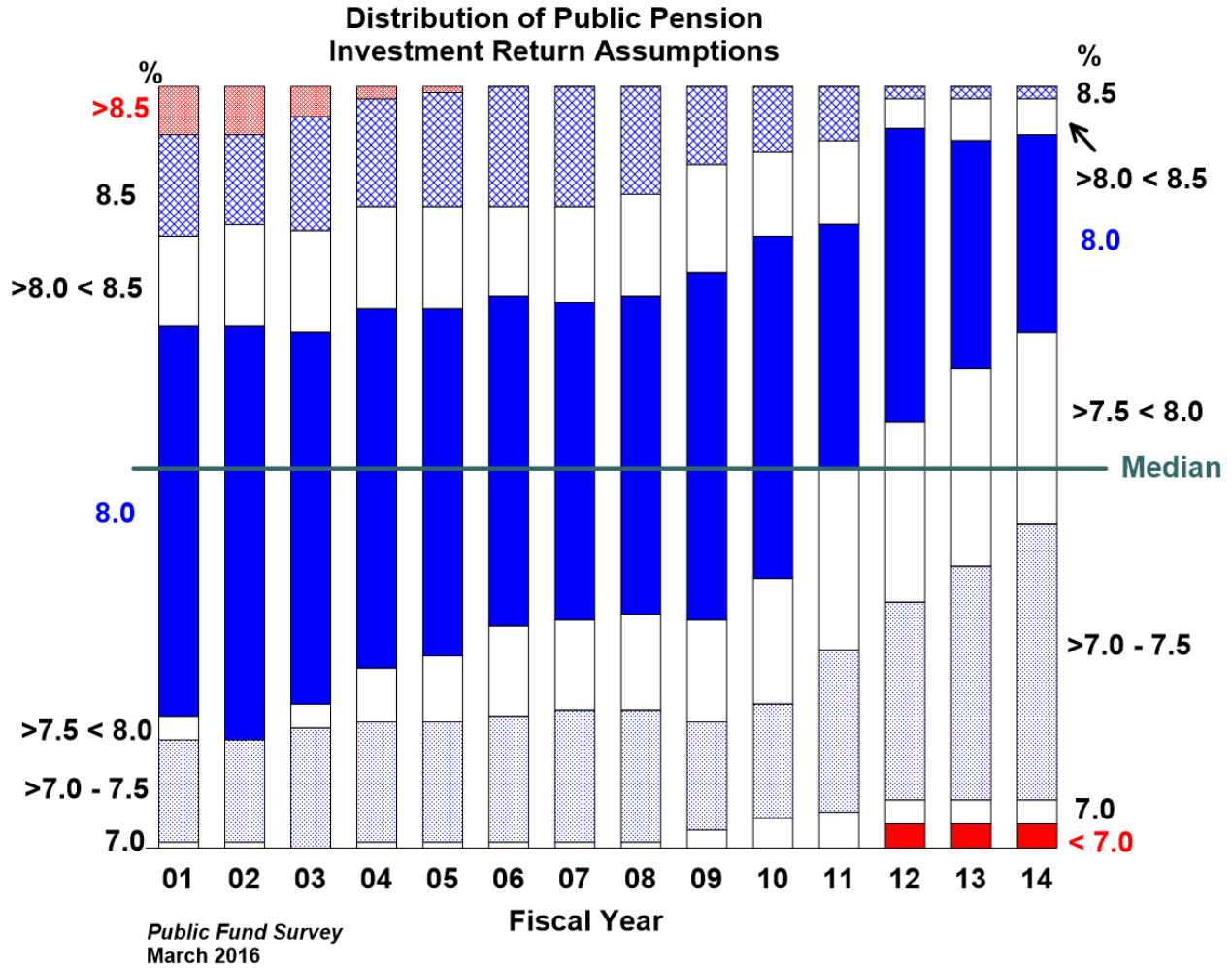
The discount rate assumption is generally the most significant of all the assumptions employed in actuarial valuations. The discount rate is based on the long-term expected return on plan investments. In the short-term, a higher discount rate results in lower expected contributions. However, over the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

Other Large Public Retirement Plans

Based on the Public Fund Survey, developed by the National Association of State Retirement Administrators (NASRA) covering most of the largest public retirement systems in the country, there has been a general movement over at least the last decade to reduce the discount rate used in actuarial valuations. Chart III-4 on the next page shows the change in the distribution of assumptions since 2001. The median assumption is now 7.75% and the number of plans using a discount rate of 7.5% or lower has increased significantly.

SECTION III — ECONOMIC ASSUMPTIONS
 DISCOUNT RATE

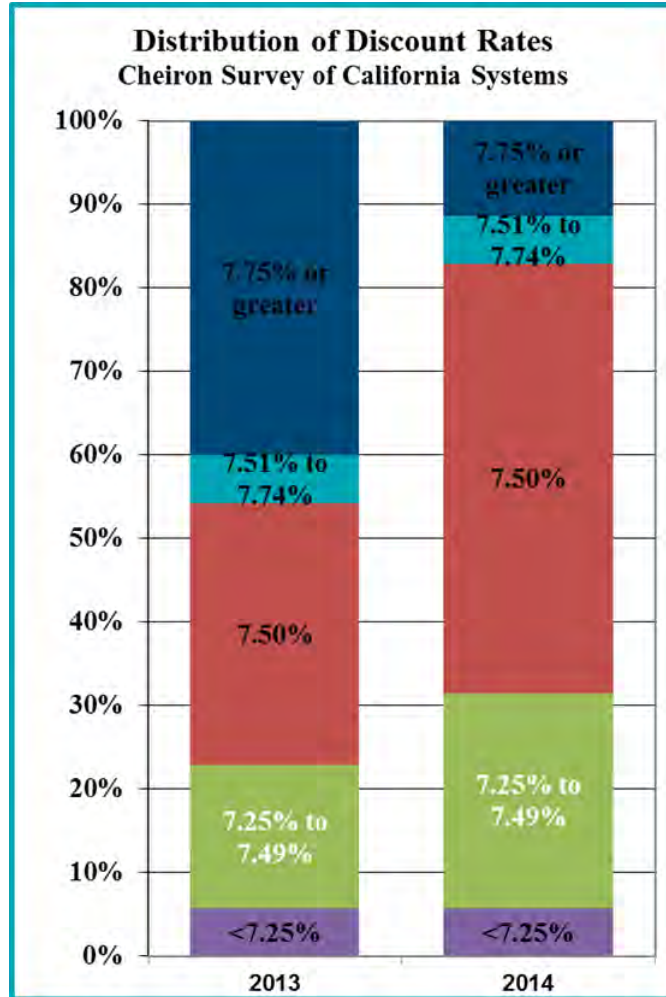
Chart III-4



In our survey of California retirement systems, the median assumption is even lower at 7.50% with 18 of the 35 systems using the median rate. Only four systems use a rate as high as 7.75%. Chart III-5 below shows the change in discount rate assumptions for California systems from 2013 to 2014.

SECTION III — ECONOMIC ASSUMPTIONS
DISCOUNT RATE

Chart III-5



Target Asset Allocation and Future Expectations

The discount rate assumption depends on the anticipated average level of inflation and the anticipated average *real rate of return*. The real rate of return is the investment return in excess of underlying inflation. The expected average real rate of return is heavily dependent on asset mix: The portion of assets in stocks, bonds, and other asset classes.

Tables III-2 and III-3 on the next page show the target allocation based on the Board's current policy along with the capital market assumptions provided by the Plan's investment consultant (Verus), and those from a survey of 10 investment consultants published by Horizon Actuarial Services. The Verus assumptions are intended to project returns over a 10-year period, while the Horizon survey results cover a 20-year time horizon.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015**

**SECTION III — ECONOMIC ASSUMPTIONS
DISCOUNT RATE**

Based on these assumptions, we calculated an expected geometric return of 7.32% under the Horizon survey assumptions, but only a 6.13% return under the Verus assumptions.

Table III-2

Verus (10-year) Assumptions				
Asset Category	Target Allocation	Arithmetic Return	Geometric Return	Standard Deviation
US Large	30.5%	6.7%	5.7%	14.7%
US Small	7.7%	6.5%	4.7%	19.8%
International Developed	14.4%	11.0%	9.5%	18.2%
Emerging Markets	3.6%	13.9%	11.5%	23.7%
Core Fixed Income	29.8%	3.2%	3.2%	3.2%
Private Credit	7.5%	8.4%	7.9%	10.5%
Core Real Estate	6.5%	5.9%	5.1%	13.2%
Total	100.0%	6.60%	6.13%	10.03%

Table III-3

Horizon Survey (20-year) Assumptions				
Asset Category	Target Allocation	Arithmetic Return	Geometric Return	Standard Deviation
US Large	30.5%	9.2%	7.9%	17.1%
US Small	7.7%	10.2%	8.2%	21.0%
International Developed	14.4%	9.8%	8.1%	19.6%
Emerging Markets	3.6%	12.3%	9.2%	26.6%
Core Fixed Income	29.8%	4.6%	4.4%	5.6%
Private Credit*	7.5%	8.4%	7.9%	10.5%
Core Real Estate	6.5%	7.4%	6.6%	13.6%
Total	100.0%	7.91%	7.32%	11.34%

* The Horizon survey did not include a Private Credit asset class, therefore the Verus assumptions were used for this class.

Based on these capital market assumptions, we also calculated the potential distribution of returns over 10 and 20-year periods as shown in Table III-4. The 50th percentile return under the Horizon survey assumptions was 7.32%, which is very close to the 7.25% nominal return recently adopted by the Board. Using the survey's average inflation assumption (2.29%), this results in a 5.03% real return assumption.

SECTION III — ECONOMIC ASSUMPTIONS
DISCOUNT RATE

Table III-4

Expected Distribution of Average Annual Passive Investment Returns				
Percentile	Verus (10 years)		Horizon Survey (20 years)	
	Nominal	Real	Nominal	Real
95th	11.44%	9.34%	11.54%	9.25%
75th	8.27%	6.17%	9.03%	6.74%
50th	6.13%	4.03%	7.32%	5.03%
25th	4.02%	1.92%	5.64%	3.35%
5th	1.07%	-1.03%	3.26%	0.97%

As stated earlier in this report, the Verus geometric assumption for the current target portfolio is considerably lower over the next 10 years (6.13%). However, the median real return under the Verus assumptions (4.03%) is relatively close to that recently adopted by the Board: 4.25%, based on a 7.25% nominal return and 3.00% price inflation.

As of the 2013 valuation, the expected rate of return is expressed net of investment, but not administrative, expenses. The returns above were modeled based on the expected returns of the portfolio benchmark indices, which are expected to have minimal expenses. The actuarial standards on selecting a return assumption (ASOP 27) state that in general superior or inferior returns (net of fees) should not be assumed for active versus passive management, therefore we do not recommend a significant adjustment to the modeled returns for the fees of the asset managers. However, a slight margin is appropriate to reflect the investment-related expenses other than those of the investment managers, which would include the investment advisor and custodian.

The recently adopted discount rate of 7.25% is consistent with the Horizon survey of long-term capital market assumptions, including a small adjustment for investment-related expenses as described above. We therefore find the current discount rate to be a reasonable assumption. However, there are a number of factors that suggest that the near-term expected rate of return should be discussed.

- Many investment consultants expect poor rates of return in the immediate and near-term future. They reason that there is little in the way of yields on fixed income, and that the equity markets are fully valued.
- If Verus and much of the investment community are correct in their projections, we can expect returns below the 7.25% assumed rate for a number of years. This will result in actuarial losses and increases in employer contribution rates. However, these losses may be partially offset by gains on the liabilities from price and wage inflation below the assumed level (3.00% and 3.25%, respectively)

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015**

**SECTION III — ECONOMIC ASSUMPTIONS
DISCOUNT RATE**

- We believe that near- and mid-term return projections should be considered along with long-term projections. Fund performance is usually measured over five to 10 years; longer measurement periods are often considered less relevant because of the potential for changes in the economy and in the investment markets.

As a result, the prospect of several years of actuarial losses, in line with the Verus assumptions, and the resulting increases in County and other employer contribution rates should be communicated to their staff for use in planning. In addition, we recommend that the Board and staff continue to conduct at least a brief discussion of this assumption annually, in consultation with the Plan's actuary and investment consultant, to determine if further changes are appropriate.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015**

**SECTION IV — DEMOGRAPHIC ASSUMPTIONS
MERIT SALARY INCREASES**

Demographic assumptions are used to predict membership behavior, including rates of retirement, termination, disability, and mortality. These assumptions are based primarily on the historical experience of StanCERA, with some adjustments where future experience is expected to differ from historical experience and with deference to standard tables where StanCERA experience is not fully credible and a standard table is available. For purposes of this study, merit salary increases are also considered a demographic assumption because the assumption is based primarily on StanCERA's historical experience.

MERIT SALARY INCREASES

Salary increases consist of three components: Increases due to cost of living maintenance (inflation), increases related to non-inflationary pressures on base pay (such as productivity increases), and increases in individual pay due to merit, promotion, and longevity. Increases due to cost of living and non-inflationary base pay factors were addressed in an earlier section of this report. To analyze the merit component, we subtracted the Plan's real wage growth as measured by the increase in the Plan's aggregate average wages for members with 20 or more years of service during the experience study period. This calculation was performed separately for Safety and General members.

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

Charts IV-1 and IV-2 on the next page analyze the pay patterns for Safety and General members, respectively. The charts show the current assumption (red line) compared to the actual experience (blue line) and the proposed assumption (green line).

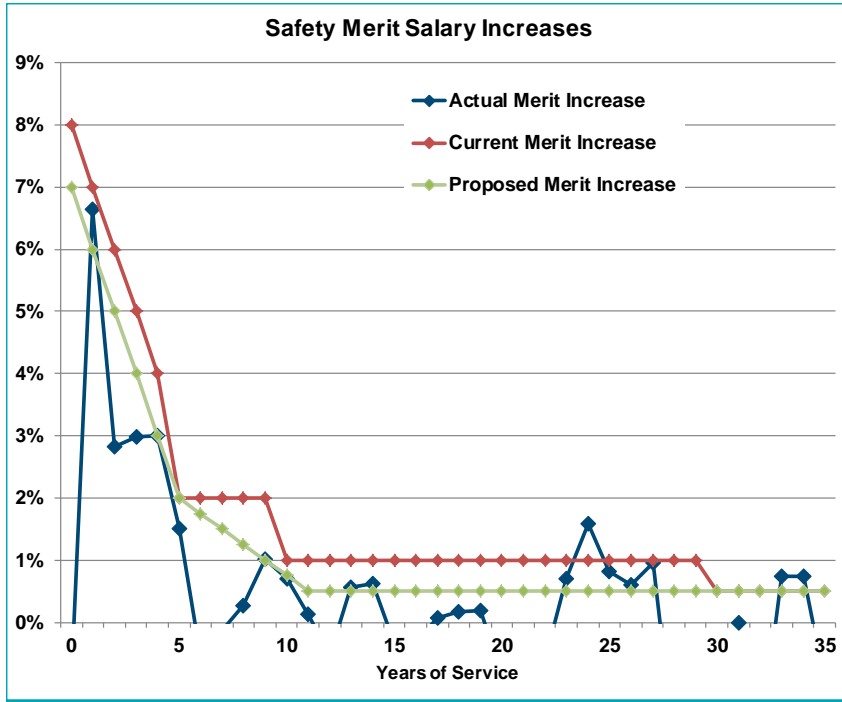
For Safety members, we have recommended slightly lower rates for the first 30 years of service than previously assumed. The ultimate rate of 0.50% remains unchanged but begins at 11 years of service rather than 30 years of service.

For General members, we have proposed new assumptions with slightly higher increases in the first two years of service, and slightly lower rates thereafter, when compared to the previous assumption. Again, the proposal maintains an ultimate rate of 0.50% but at an earlier stage of a member's career than previously assumed, in this case, at eight years of service instead of at 20 years of service.

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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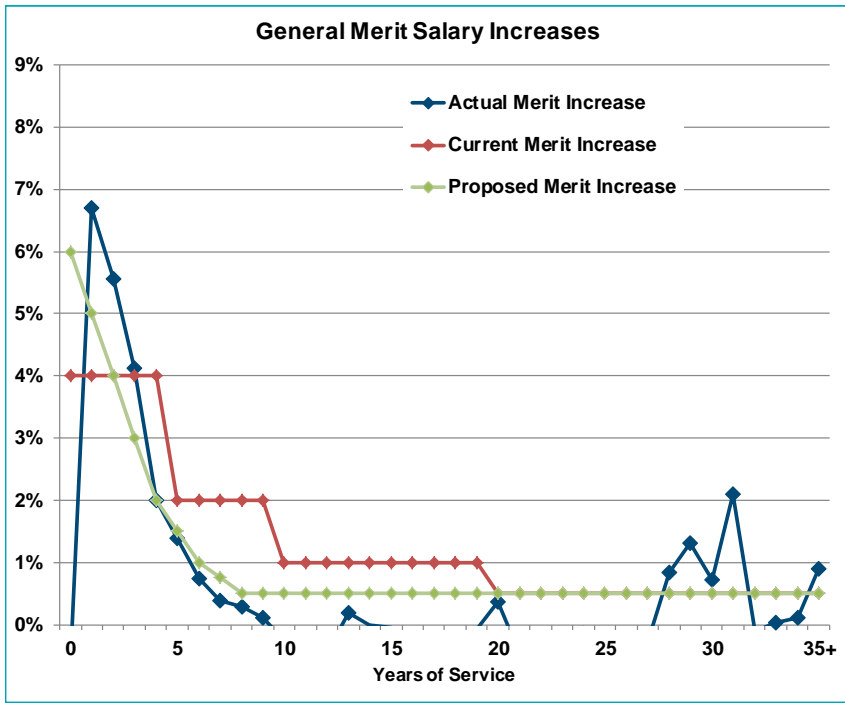
SECTION IV — DEMOGRAPHIC ASSUMPTIONS
MERIT SALARY INCREASES

Chart IV-1



Merit Salary Increases Safety		
Service	Current	Recommended
0	8.00%	7.00%
1	7.00%	6.00%
2	6.00%	5.00%
3	5.00%	4.00%
4	4.00%	3.00%
5	2.00%	2.00%
6	2.00%	1.75%
7	2.00%	1.50%
8	2.00%	1.25%
9	2.00%	1.00%
10	1.00%	0.75%
11	1.00%	0.50%
12	1.00%	0.50%
13	1.00%	0.50%
14	1.00%	0.50%
15	1.00%	0.50%
16	1.00%	0.50%
17	1.00%	0.50%
18	1.00%	0.50%
19	1.00%	0.50%
20	1.00%	0.50%
21	1.00%	0.50%
22	1.00%	0.50%
23	1.00%	0.50%
24	1.00%	0.50%
25	1.00%	0.50%
26	1.00%	0.50%
27	1.00%	0.50%
28	1.00%	0.50%
29	1.00%	0.50%
30+	0.50%	0.50%

Chart IV-2



Merit Salary Increases General		
Service	Current	Recommended
0	4.00%	6.00%
1	4.00%	5.00%
2	4.00%	4.00%
3	4.00%	3.00%
4	4.00%	2.00%
5	2.00%	1.50%
6	2.00%	1.00%
7	2.00%	0.75%
8	2.00%	0.50%
9	2.00%	0.50%
10	1.00%	0.50%
11	1.00%	0.50%
12	1.00%	0.50%
13	1.00%	0.50%
14	1.00%	0.50%
15	1.00%	0.50%
16	1.00%	0.50%
17	1.00%	0.50%
18	1.00%	0.50%
19	1.00%	0.50%
20	0.50%	0.50%
21	0.50%	0.50%
22	0.50%	0.50%
23	0.50%	0.50%
24	0.50%	0.50%
25+	0.50%	0.50%

**SECTION IV — DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES**

ANALYSIS OF OTHER DEMOGRAPHIC ASSUMPTIONS

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

We also calculate an r-squared statistic for each assumption. R-squared measures how well the assumption fits the actual data and can be thought of as the percentage of the variation in actual data explained by the assumption. Ideally, r-squared would equal 100% although this is never the case. Any recommended assumption change should increase the r-squared compared to the current assumption making it closer to 100% unless the pattern of future decrements is expected to be different from the pattern experienced during the period of study.

In addition, we calculated the 90% confidence interval, which represents the range within which the true decrement rate during the experience study period fell with 90% confidence. (If there is insufficient data to calculate a confidence interval, the confidence interval is shown as the entire range of the graph.) We generally propose assumption changes when the current assumption is outside the 90% confidence interval of the observed experience. However, adjustments are made to account for differences between future expectations and historical experience, to account for the past experience represented by the current assumption, and to maintain a neutral to slight conservative bias in the selection of the assumption. For disability and mortality rates, we compare StanCERA's experience to that of a standard table, and only adjust the standard table to the extent StanCERA's experience is large enough to be credible in the case of disabilities. For mortality, we adjust the standard table to bring the proposed assumption closer to an A/E ratio of 100.

RETIREMENT RATES

The current retirement rates vary by age and are applied to all members who are eligible to retire. As a result, a member who is age 60 with 10 years of service, for example, is assumed just as likely to retire as a member who is age 60 with 30 years of service. In reviewing the data for StanCERA, we found that at any given age, members with more service are generally more likely to retire than members with fewer years of service. StanCERA is not large enough to justify assumptions for each age and service combination, so we recommend separate assumptions by age for each of the following two service groups for Safety members:

- Members with less than 20 years of service,
- Members with 20 or more years of service.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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**SECTION IV — DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES**

We recommend separate assumptions by age for each of the following two service groups for General members:

- Members with less than 30 years of service,
- Members with 30 or more years of service.

Table IV-R1 shows the calculation of actual-to-expected ratios and the r-squared statistic for Safety members with less than 20 years of service. Charts IV-R1 shows the information graphically along with the 90% confidence interval.

The data shows much lower actual retirement rates than expected under the current assumption. The proposed assumption decreases the aggregate assumed rate of retirement and increases the aggregate A/E ratio from 43% to 87%. The r-squared also increases from 0.12 to 0.20.

See Appendices A and B for a full listing of the proposed and prior rates. Notably, the ultimate retirement age increases from 60 to 65.

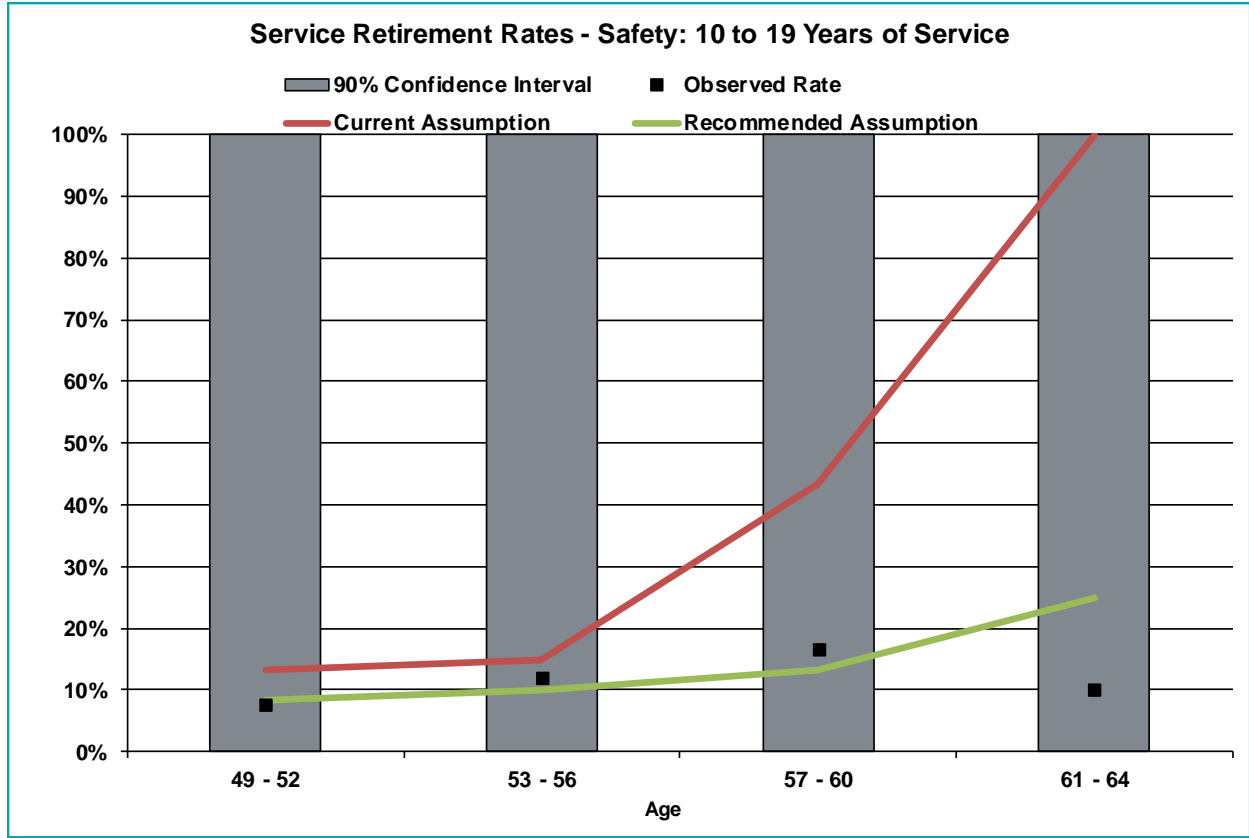
Table IV-R1

Service Retirement Rates - Safety: 10 to 19 Years of Service						
Age	Exposures	Retirements			Actual to Expected Ratios	
		Actual	Current	Recommended	Current	Recommended
49 - 52	52	4	7.0	4.4	58%	92%
53 - 56	33	4	5.0	3.3	81%	121%
57 - 60	24	4	10.4	3.2	38%	127%
61 - 64	10	1	10.0	2.5	10%	40%
Subtotal	119	13	32.3	13.3	40%	98%
65+	5	3	5.0	5.0	60%	60%
Total	124	16	37.3	18.3	43%	87%
R-squared			0.1231	0.1970		

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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SECTION IV — DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

Chart IV-R1



Average Retirement Age			
Actual:	56.8	Current Expected:	58.6
		Recommended Expected:	58.4

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015**

**SECTION IV — DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES**

Table IV-R2 shows the calculation of actual-to-expected ratios and the r-squared statistic for Safety members with 20 or more years of service, and Chart IV-R2 shows the information graphically along with the 90% confidence interval.

The data shows higher actual retirement rates than expected under the current assumption. The proposed assumption increases the overall assumed rate of retirement and decreases the aggregate A/E ratio from 148% to 102%. The r-squared also increases from 0.46 to 0.83.

See Appendices A and B for a full listing of the proposed and prior rates. The ultimate retirement age remains at 60.

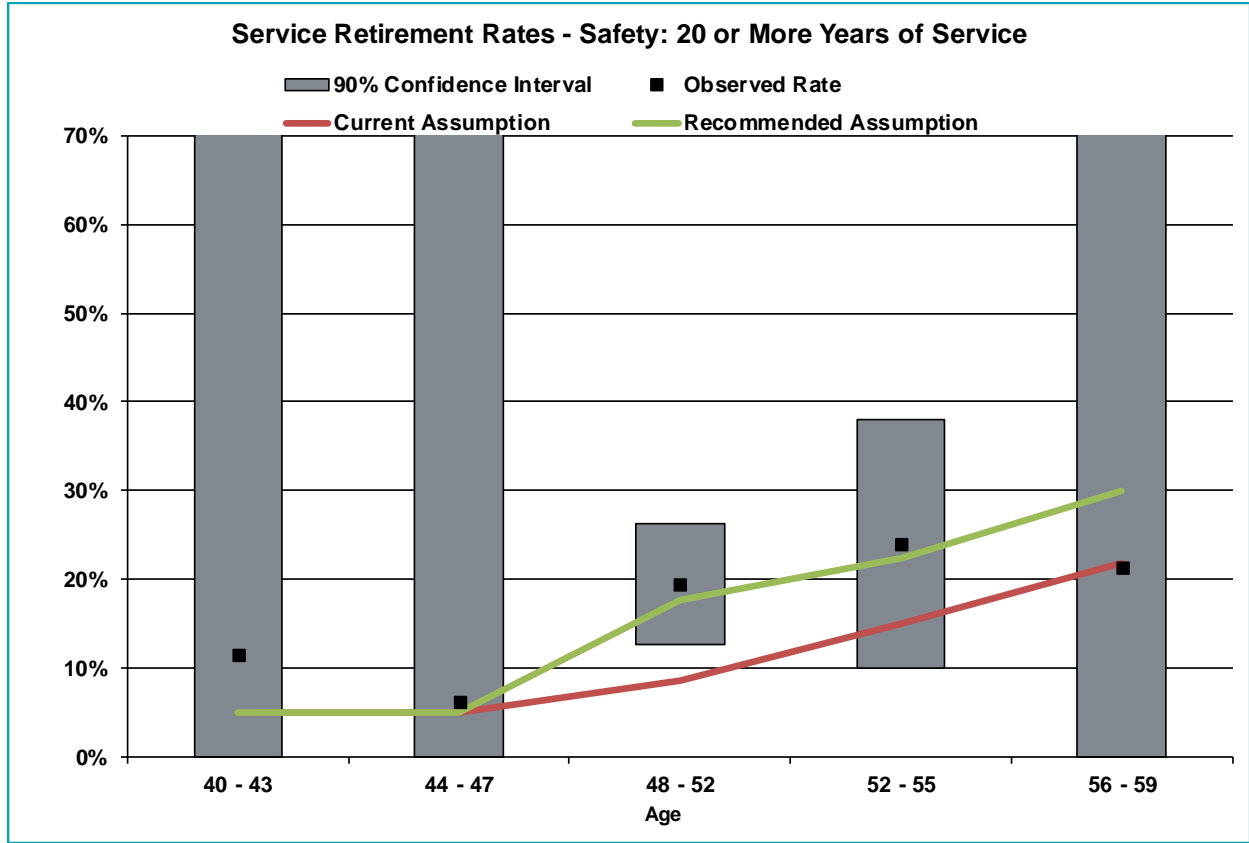
Table IV-R2

Service Retirement Rates - Safety: 20 or More Years of Service						
Age	Exposures	Retirements			Actual to Expected Ratios	
		Actual	Current	Recommended	Current	Recommended
40 - 43	17	2	0.9	0.9	232%	232%
44 - 47	79	5	4.0	4.0	126%	126%
48 - 52	92	18	7.9	16.2	229%	111%
52 - 55	25	6	3.8	5.6	160%	107%
56 - 59	24	5	5.2	7.1	97%	71%
Subtotal	237	36	21.6	33.7	167%	107%
60+	6	4	5.5	5.5	73%	73%
Total	243	40	27.1	39.2	148%	102%
R-squared			0.4600	0.8319		

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015

SECTION IV — DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

Chart IV-R2



Average Retirement Age			
Actual:	52.0	Current Expected:	54.1
		Recommended Expected:	53.3

Table IV-R3 shows the calculation of actual-to-expected ratios and the r-squared statistic for General members with less than 30 years of service. Charts IV-R3 shows the information graphically along with the 90% confidence interval.

The data shows lower actual retirement rates than expected under the current assumption. The proposed assumption decreases the aggregate assumed rate of retirement and increases the aggregate A/E ratio from 86% to 90%. The r-squared also increases from 0.84 to 0.93.

See Appendices A and B for a full listing of the proposed and prior rates. Notably, the ultimate retirement age increases from 70 to 75.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015**

**SECTION IV — DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES**

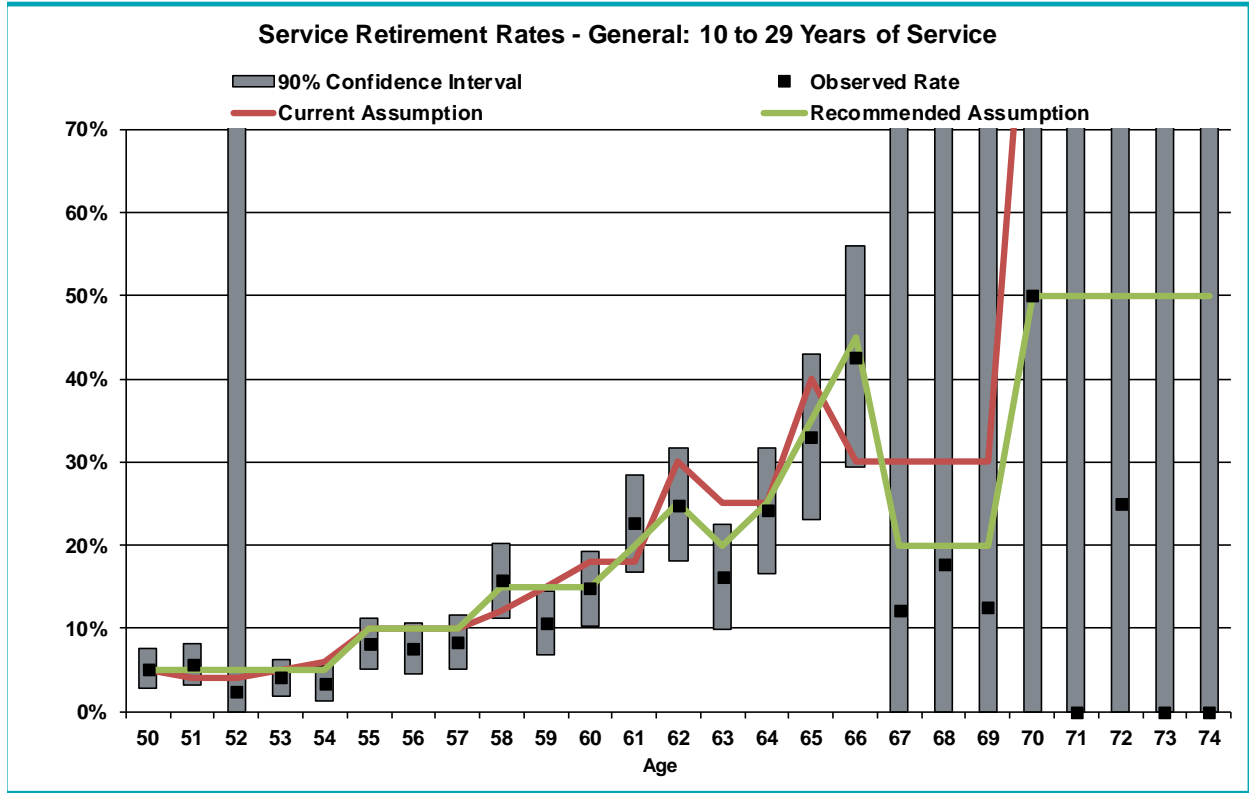
Table IV-R3

Service Retirement Rates - General: 10 to 29 Years of Service						
Age	Exposures	Retirements			Actual to Expected Ratios	
		Actual	Current	Recommended	Current	Recommended
49	106	3	0.0	-	0%	0%
50	232	12	11.6	11.6	103%	103%
51	233	13	9.3	11.6	140%	112%
52	216	5	8.6	10.8	58%	46%
53	220	9	11.0	11.0	82%	82%
54	207	7	12.4	10.4	56%	68%
55	210	17	21.0	21.0	81%	81%
56	200	15	20.0	20.0	75%	75%
57	192	16	19.2	19.2	83%	83%
58	178	28	21.3	26.6	131%	105%
59	170	18	25.4	25.4	71%	71%
60	169	25	30.3	25.3	82%	99%
61	137	31	24.7	27.4	126%	113%
62	113	28	33.8	28.1	83%	100%
63	93	15	23.1	18.5	65%	81%
64	87	21	21.8	21.8	97%	97%
65	61	20	24.2	21.2	83%	94%
66	38	16	11.3	16.9	142%	95%
67	17	2	5.0	3.3	40%	61%
68	17	3	5.1	3.4	59%	88%
69	8	1	2.4	1.6	42%	63%
70	10	5	10.0	5.0	50%	100%
71	5	0	5.0	2.5	0%	0%
72	4	1	4.0	2.0	25%	50%
73	1	0	1.0	0.5	0%	0%
74	1	0	1.0	0.5	0%	0%
Subtotal	2,919	311	362.3	345.5	86%	90%
75+	1	1	1.0	1.0	100%	100%
Total	2,920	312	363.3	346.5	86%	90%
R-squared			0.8385	0.9338		

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015

SECTION IV — DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

Chart IV-R3



Average Retirement Age			
Actual:	59.5	Current Expected:	60.1
		Recommended Expected:	59.6

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015**

**SECTION IV — DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES**

Table IV-R4 shows the calculation of actual-to-expected ratios and the r-squared statistic for General members with 30 or more years of service, and Chart IV-R4 shows the information graphically along with the 90% confidence interval.

The data shows higher actual retirement rates than expected under the current assumption. The proposed assumption increases the overall assumed rate of retirement and decreases the aggregate A/E ratio from 149% to 96%. The r-squared also increases from 0.73 to 0.85.

See Appendices A and B for a full listing of the proposed and prior rates. The ultimate retirement age remains at 70.

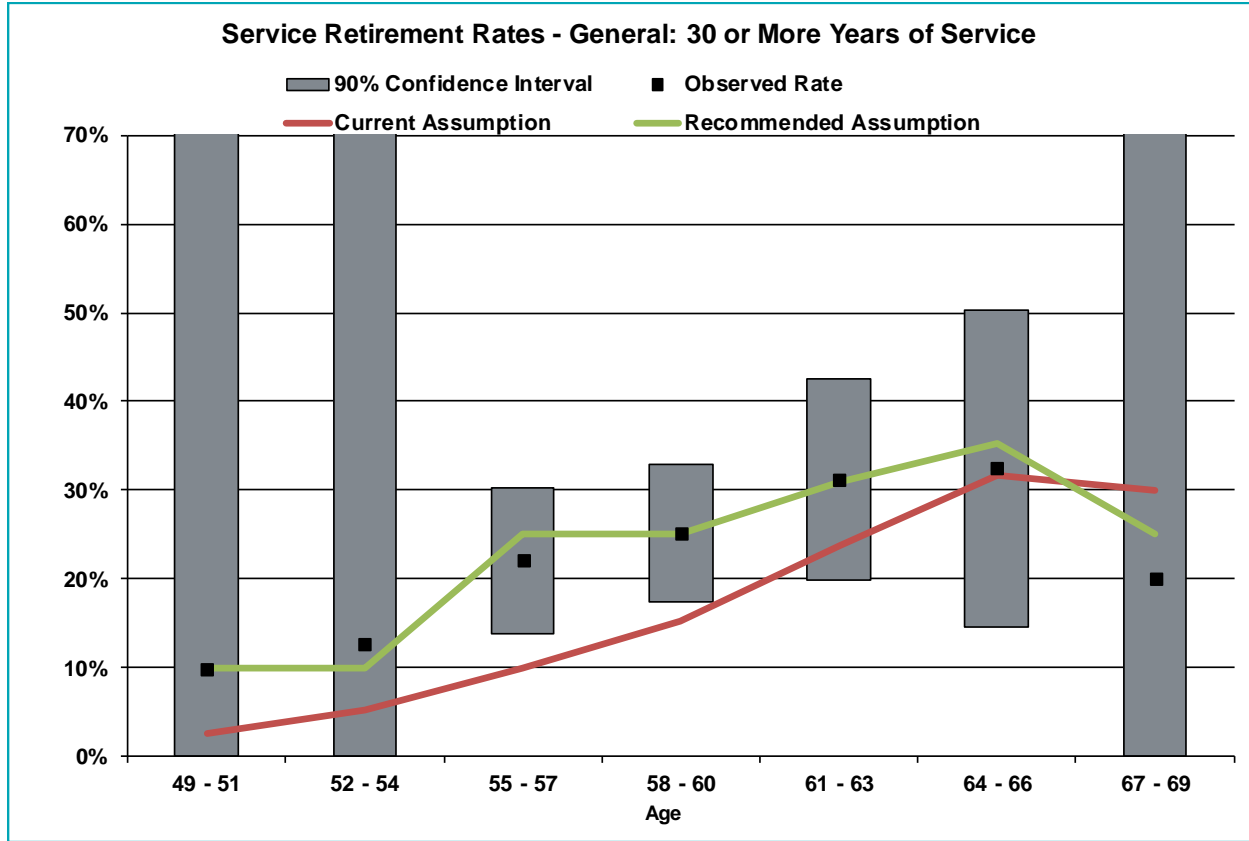
Table IV-R4

Service Retirement Rates - General: 30 or More Years of Service						
Age Band	Exposures	Retirements			Actual to Expected Ratios	
		Actual	Current	Recommended	Current	Recommended
49 - 51	10	1	0.3	1.0	385%	98%
52 - 54	40	5	2.0	4.0	248%	127%
55 - 57	68	15	6.8	17.0	221%	88%
58 - 60	84	21	12.7	20.9	166%	101%
61 - 63	45	14	10.7	14.0	131%	100%
64 - 66	19	6	5.9	6.5	103%	92%
67 - 69	5	1	1.5	1.3	67%	80%
Subtotal	270	63	39.8	64.6	158%	98%
70+	5	3	4.5	4.5	67%	67%
Total	274	66	44.3	69.1	149%	96%
R-squared			0.7257	0.8489		

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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SECTION IV — DEMOGRAPHIC ASSUMPTIONS
RETIREMENT RATES

Chart IV-R4



Average Retirement Band			
Actual:	59.7	Current Expected:	61.3
		Recommended Expected:	59.9

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015**

**SECTION IV — DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES**

Termination rates reflect the frequency at which active members leave employment for reasons other than retirement, death, or disability. Currently, there is one set of service-based termination rates for Safety members, a set for male General members, and another set for female General members.

Table IV-T1 shows the calculation of actual-to-expected ratios and the r-squared statistic for Safety members, and Chart IV-T1 shows the information graphically along with the 90% confidence interval.

The data shows higher actual termination rates than expected under the current assumption. The proposed assumption increases the assumed rates of termination and decreases the aggregate A/E ratio from 118% to 102%. The r-squared also increases from 0.74 to 0.90.

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

Table IV-T1

Termination Rates - Safety: All Years of Service							
Service	Exposures	Retirements			Actual to Expected Ratios		
		Actual	Current	Recommended	Current	Recommended	
0	115	23	17.3	20.7	133%	111%	
1	125	12	18.8	15.0	64%	80%	
2	67	5	7.0	6.0	71%	83%	
3	29	3	2.9	2.0	103%	148%	
4	51	2	3.1	3.1	65%	65%	
5	95	6	3.6	4.8	169%	126%	
6	137	5	5.1	6.9	98%	73%	
7	139	11	5.2	7.0	212%	158%	
8	127	7	4.7	6.4	149%	110%	
9	82	4	3.0	4.1	133%	98%	
10	87	3	3.0	4.4	100%	69%	
11	99	6	3.4	4.9	178%	122%	
12	91	2	3.1	3.1	65%	65%	
13	82	3	1.6	2.8	193%	108%	
14	79	1	1.5	2.7	67%	37%	
15	70	3	1.4	2.4	222%	126%	
16	62	3	1.2	2.1	258%	143%	
17	56	2	1.0	1.9	195%	106%	
18	53	3	0.9	1.8	319%	168%	
19	19	0	0.3	0.6	0%	0%	
Total	1,662	104	87.9	102.4	118%	102%	
R-squared			0.7368	0.9034			

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015

SECTION IV — DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES

Chart IV-T1

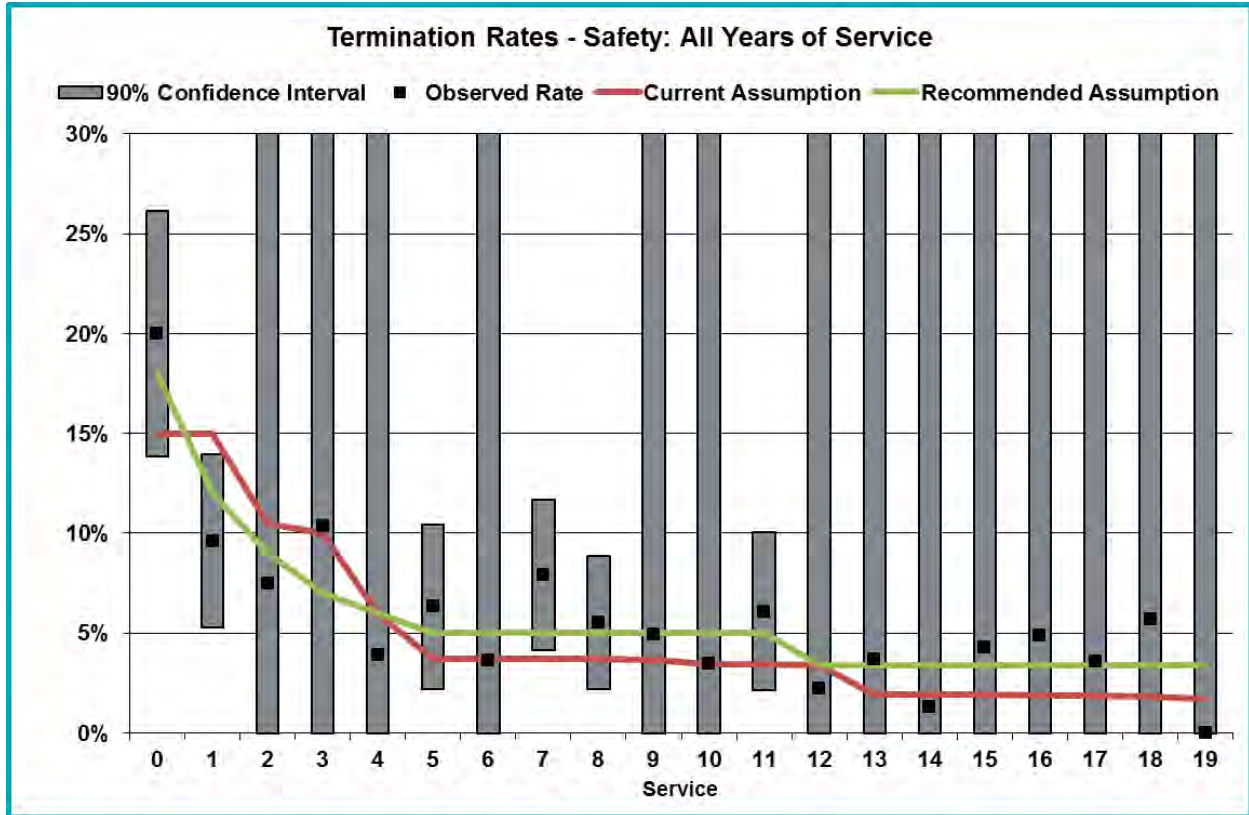


Table IV-T2 shows the calculation of actual-to-expected ratios and the r-squared statistic for male General members, and Chart IV-T2 shows the information graphically along with the 90% confidence interval.

The data shows slightly lower actual termination rates than expected under the current assumption. The proposed assumptions decrease the assumed rates of termination only at 0 years of service and increase the aggregate A/E ratio from 94% to 100%. The r-squared also increases from 0.71 to 0.82.

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

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015**

**SECTION IV — DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES**

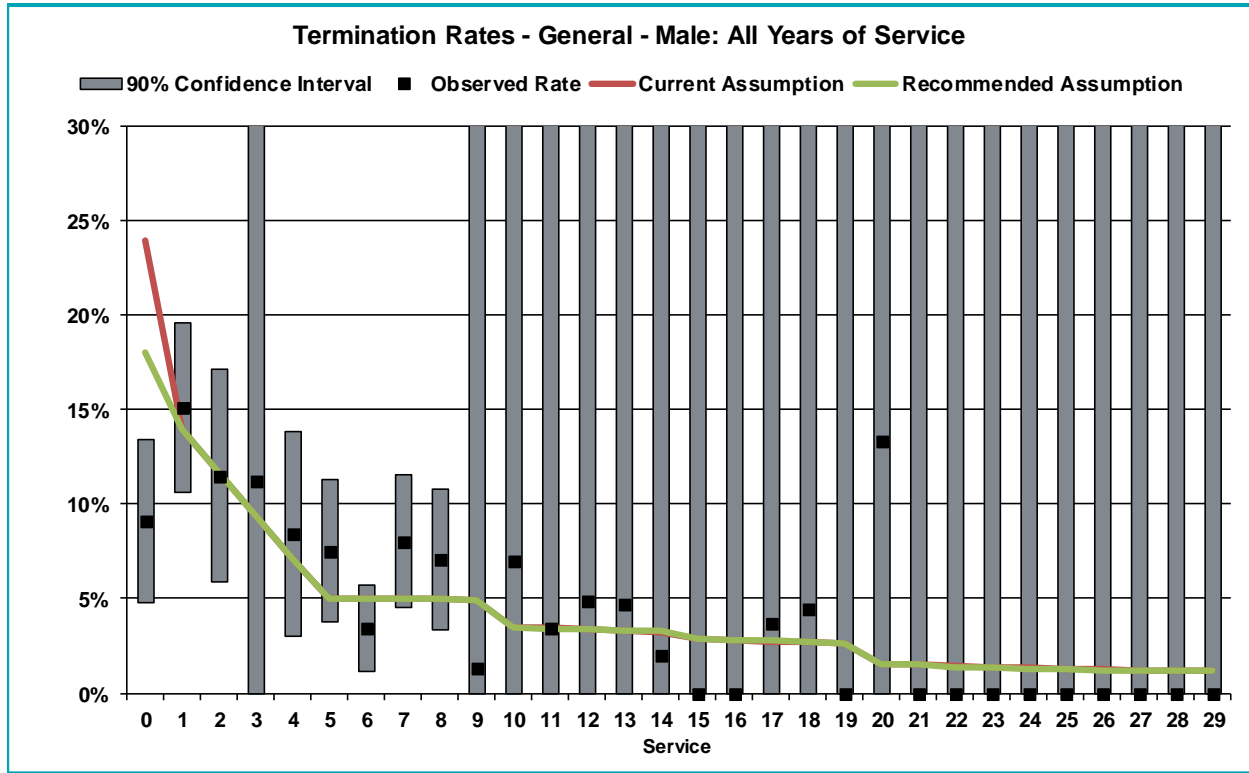
Table IV-T2

Termination Rates - General - Male: All Years of Service						
Service	Exposures	Retirements			Actual to Expected Ratios	
		Actual	Current	Recommended	Current	Recommended
0	121	11	29.0	21.8	38%	51%
1	172	26	24.1	24.1	108%	108%
2	87	10	10.2	10.2	98%	98%
3	45	5	4.2	4.2	120%	120%
4	71	6	5.1	5.0	119%	119%
5	133	10	6.7	6.7	150%	150%
6	173	6	8.7	8.7	69%	69%
7	162	13	8.1	8.1	160%	160%
8	128	9	6.3	6.4	142%	141%
9	77	1	3.8	3.7	26%	27%
10	58	4	2.0	2.0	200%	199%
11	58	2	2.0	2.0	100%	101%
12	62	3	2.1	2.1	142%	142%
13	64	3	2.1	2.1	141%	142%
14	51	1	1.6	1.7	61%	60%
15	41	0	1.2	1.2	0%	0%
16	35	0	1.0	1.0	0%	0%
17	27	1	0.7	0.8	135%	132%
18	23	1	0.6	0.6	166%	165%
19	20	0	0.5	0.5	0%	0%
20	8	1	0.1	0.1	868%	889%
21	10	0	0.1	0.1	0%	0%
22	2	0	0.0	0.0	0%	0%
23	5	0	0.1	0.1	0%	0%
24	4	0	0.1	0.1	0%	0%
25	4	0	0.0	0.0	0%	0%
26	4	0	0.0	0.0	0%	0%
27	3	0	0.0	0.0	0%	0%
28	2	0	0.0	0.0	0%	0%
29	0	0	0	0	0%	0%
Total	1,644	113	120.6	113.2	94%	100%
R-squared			0.7073	0.8219		

Chart IV-T2

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015**

**SECTION IV — DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES**



Average Termination Service			
Actual:	4.9	Current Expected:	4.2
		Recommended Expected:	4.4

Table IV-T3 shows the calculation of actual-to-expected ratios and the r-squared statistic for female General members, and Chart IV-T3 shows the information graphically along with the 90% confidence interval.

The data shows that actual termination rates are higher in aggregate than the current assumption. The proposed assumptions increase the assumed rates of termination and are the same as the proposed termination assumptions for male General members. The proposal decreases the aggregate A/E ratio from 118% to 102%. The r-squared increases from 0.95 to 0.97.

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

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**SECTION IV — DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES**

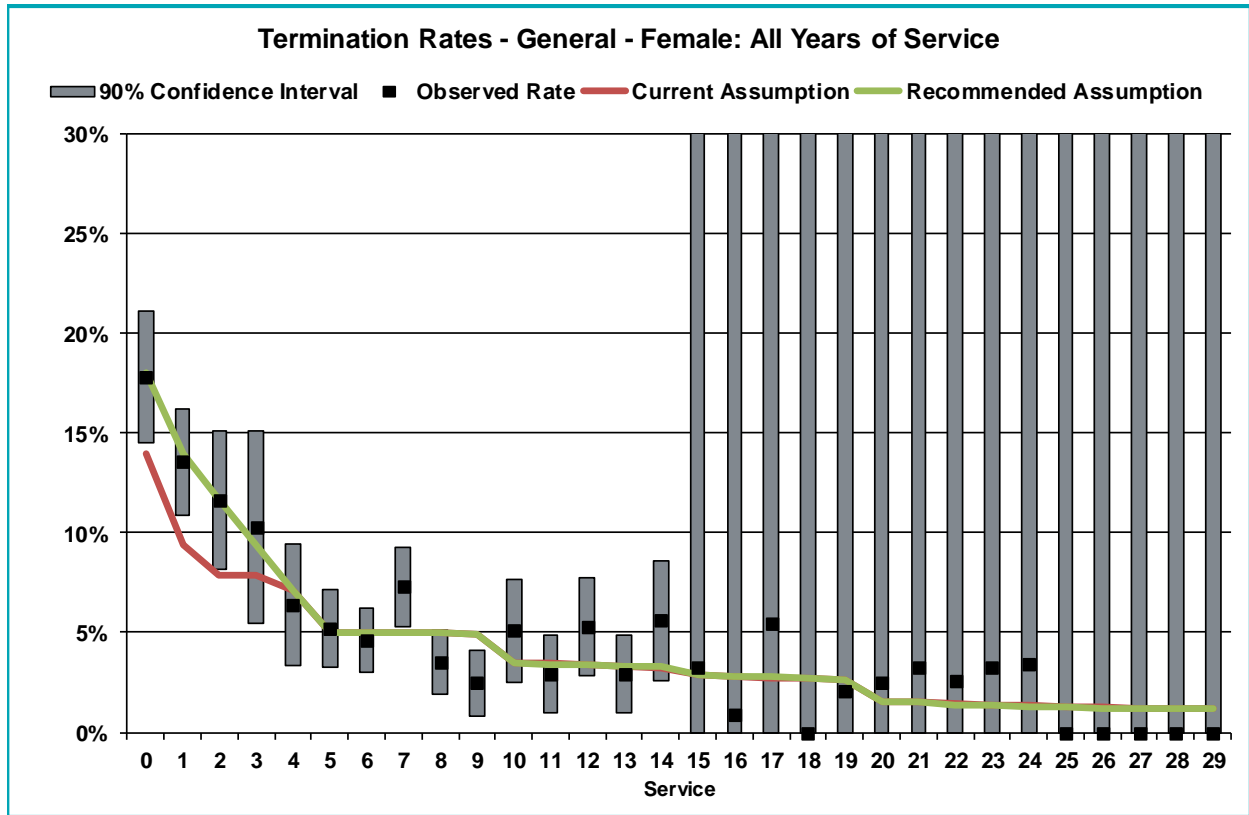
Table IV-T3

Termination Rates - General - Female: All Years of Service						
Service	Exposures	Retirements			Actual to Expected Ratios	
		Actual	Current	Recommended	Current	Recommended
0	364	65	51.0	65.5	128%	99%
1	449	61	42.2	62.9	145%	97%
2	232	27	18.3	27.1	147%	99%
3	107	11	8.5	10.1	130%	109%
4	172	11	12.3	12.2	90%	90%
5	345	18	17.3	17.3	104%	104%
6	475	22	23.8	23.7	92%	93%
7	452	33	22.7	22.6	145%	146%
8	368	13	18.3	18.4	71%	71%
9	242	6	11.9	11.9	50%	51%
10	196	10	6.8	6.9	147%	146%
11	204	6	7.0	6.9	86%	87%
12	226	12	7.7	7.7	157%	157%
13	204	6	6.8	6.7	89%	89%
14	161	9	5.2	5.3	172%	170%
15	124	4	3.5	3.6	114%	112%
16	114	1	3.2	3.2	31%	31%
17	91	5	2.5	2.5	200%	196%
18	76	0	2.0	2.0	0%	0%
19	49	1	1.3	1.3	79%	79%
20	40	1	0.6	0.6	165%	169%
21	31	1	0.5	0.5	217%	215%
22	39	1	0.6	0.5	180%	186%
23	31	1	0.4	0.4	232%	230%
24	29	1	0.4	0.4	257%	265%
25	16	0	0.2	0.2	0%	0%
26	6	0	0.1	0.1	0%	0%
27	4	0	0.0	0.0	0%	0%
28	2	0	0.0	0.0	0%	0%
29	2	0	0.0	0.0	0%	0%
Total	4,845	326	275.1	320.5	118%	102%
R-squared			0.9483	0.9699		

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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TERMINATION RATES

Chart IV-T3



Average Termination Service			
Actual:	4.9	Current Expected:	5.3
		Recommended Expected:	4.7

Refund rates and Reciprocity

When a vested member terminates employment, they have the option of receiving a refund of contributions with interest or a deferred annuity. If an employee terminates employment and works for a reciprocal employer, the employee's retirement benefit is ultimately based on the employee's service with StanCERA and Final Compensation based on employment with any reciprocal employer.

Table IV-T4 shows the results of our analysis of withdrawals for General and Safety, for the period from July 1, 2012 through June 30, 2015. We are not recommending any changes to the withdrawal or transfer assumptions at this time.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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**SECTION IV — DEMOGRAPHIC ASSUMPTIONS
TERMINATION RATES**

Table IV-T4

	Withdrawals as % of Terminations		Transfers as a % of Non-Withdrawals	
	< 10 Years of Service	10+ Years of Service	< 10 Years of Service	10+ Years of Service
Observed				
General	49.86%	18.67%	25.97%	39.34%
Safety	37.18%	7.69%	36.73%	33.33%
Current/Proposed Assumption				
General	50.00%	20.00%	25.00%	25.00%
Safety	35.00%	10.00%	50.00%	50.00%

Table IV-T5 shows the results of our analysis of the age at which vested terminated and transferred members decide to retire. We are not recommending any changes to the assumptions at this time, as the only relatively large group, General vested terminated members, have experience close to the assumed deferral age.

Table IV-T5

	Retirements from Vested Status			Retirements from Transferred Status		
	Number of Retirees	Average Age	Current Assumption	Number of Retirees	Average Age	Current Assumption
General	105	58.68	58	25	60.71	58
Safety	12	54.26	53	3	56.28	53

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**SECTION IV — DEMOGRAPHIC ASSUMPTIONS
DISABILITY RATES**

This section analyzes the incidence of disability by the age of the employee. There are separate sets of assumptions for nonservice-connected disabilities and service-connected disabilities. Both sets of assumptions for Safety members are unisex, while General rates vary by gender. The disability decrement is only applied after members are eligible for disability benefits.

The amount of disability experience is fairly limited; only seventeen disabilities have occurred during the last three years for Safety and General members combined. To improve the credibility of the data, we have aggregated the experience of the past three years with that of the prior experience study (2009-2012).

Table IV-D1 shows the calculation of actual-to-expected ratios and the r-squared statistic for service-connected disabilities for Safety members, and Chart IV-D1 shows the information graphically. The 90% confidence interval is not shown because of a lack of credible data.

The data shows disability rates that are close to the current assumption until age 45. We are not proposing any change to the disability assumption for Safety members. The current assumption has an A/E ratio of 49%. The r-squared is 0.17.

See Appendix A or B for a full listing of the rates.

Table IV-D1

Service Disability Rates - Safety - All						
Age Band	Exposures	Disabilities			Actual to Expected Ratios	
		Actual	Current	Recommended	Current	Recommended
20 - 24	103	0	0.2	0.2	0%	0%
25 - 29	575	0	1.5	1.5	0%	0%
30 - 34	814	2	3.4	3.4	59%	59%
35 - 39	845	4	5.1	5.1	79%	79%
40 - 44	708	5	6.3	6.3	79%	79%
45 - 49	536	3	6.7	6.7	45%	45%
50 - 54	289	0	4.7	4.7	0%	0%
55 - 59	157	1	3.0	3.0	34%	34%
Total	4,027	15	30.8	30.8	49%	49%
R-squared			0.1713	0.1713		

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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SECTION IV — DEMOGRAPHIC ASSUMPTIONS
DISABILITY RATES

Chart IV-D1

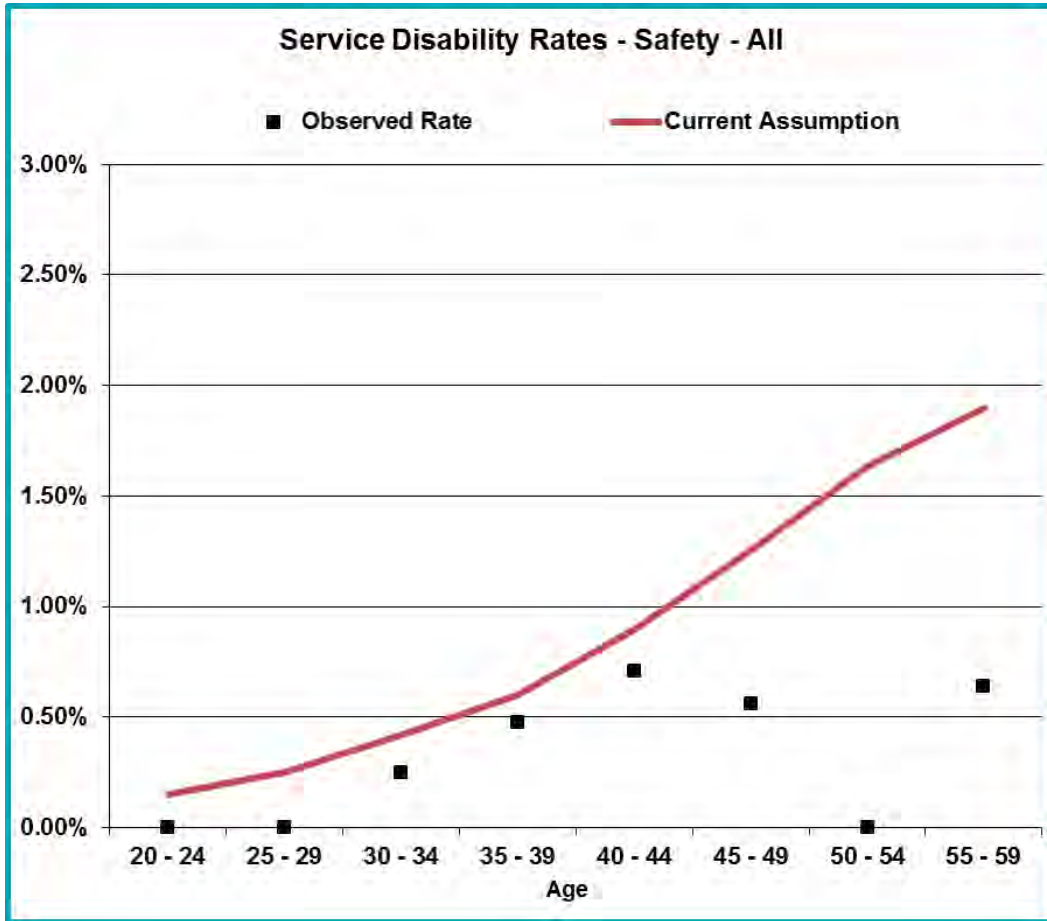


Table IV-D2 on the next page shows the calculation of actual-to-expected ratios and the r-squared statistic for male General members, and Chart IV-D2 shows the information graphically. The 90% confidence interval is not shown because of a lack of credible data.

The data shows that the number of disabilities has been lower than expected under the current assumption. In this context, however, the 25% A/E ratio does not mean much; there were only two service-connected disabilities among all male General members in the last six years, while we predicted eight disabilities. We are not proposing any change to the service-connected disability assumption for male General members.

See Appendix A or B for a full listing of the rates.

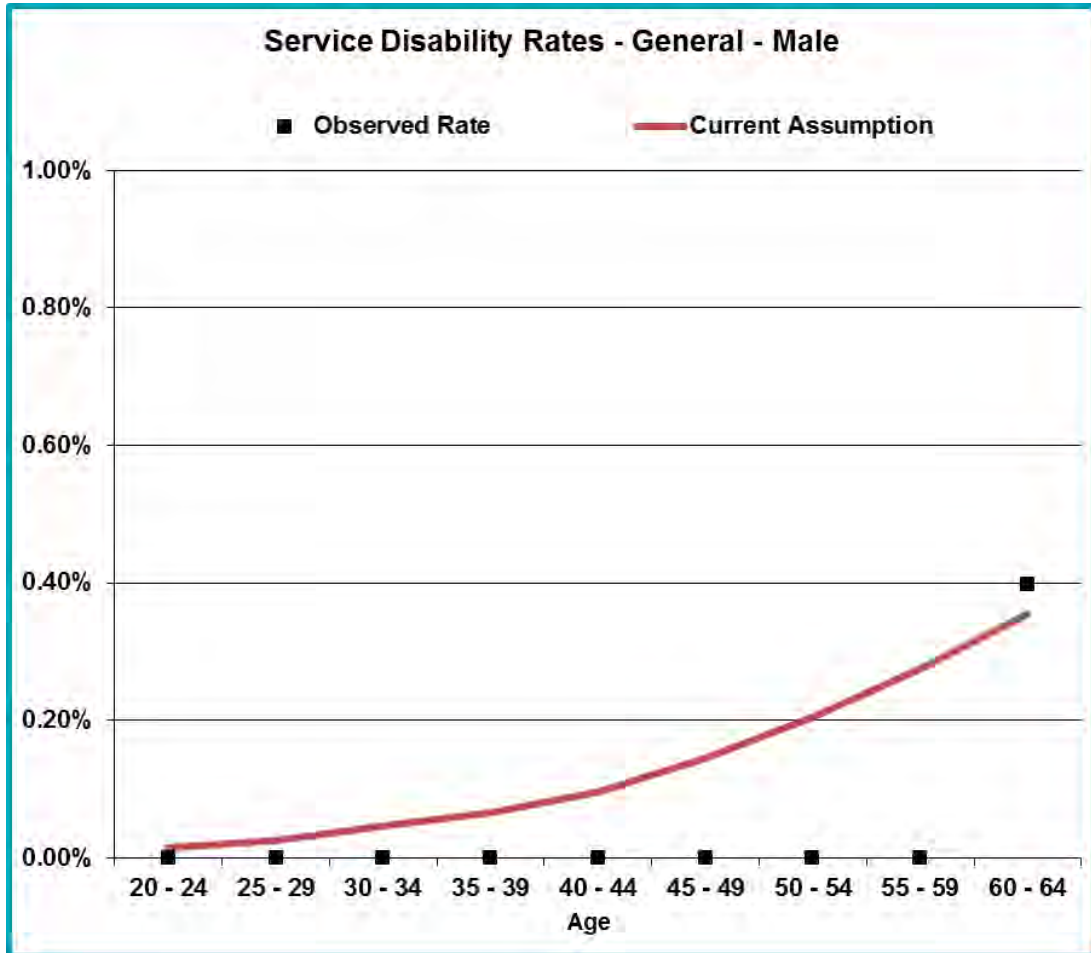
**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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**SECTION IV — DEMOGRAPHIC ASSUMPTIONS
DISABILITY RATES**

Table IV-D2

Service Disability Rates - General - Male						
Age Band	Exposures	Disabilities			Actual to Expected Ratios	
		Actual	Current	Recommended	Current	Recommended
20 - 24	37	0	0.0	0.0	0%	0%
25 - 29	289	0	0.1	0.1	0%	0%
30 - 34	566	0	0.3	0.3	0%	0%
35 - 39	590	0	0.4	0.4	0%	0%
40 - 44	677	0	0.7	0.7	0%	0%
45 - 49	771	0	1.1	1.1	0%	0%
50 - 54	855	0	1.8	1.8	0%	0%
55 - 59	730	0	2.0	2.0	0%	0%
60 - 64	502	2	1.8	1.8	112%	112%
Total	5,017	2	8.1	8.1	25%	25%
R-squared			0.0676	0.0676		

Chart IV-D2



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Table IV-D3 shows the calculation of actual-to-expected ratios and the r-squared statistic for service-connected disabilities for female General members, and Chart IV-D3 shows the information graphically. The 90% confidence interval is not shown because of a lack of credible data.

The data shows that the number of disabilities has been lower than expected under the current assumption. However, there were only three service-connected disabilities among all female General members in the last six years, while we predicted four disabilities. We are not proposing any change to the service-connected disability assumption for female General members.

See Appendix A or B for a full listing of the rates.

Table IV-D3

Service Disability Rates - General - Female						
Age Band	Exposures	Disabilities			Actual to Expected Ratios	
		Actual	Current	Recommended	Current	Recommended
20 - 25	111	0	0.0	0.0	0%	0%
25 - 29	866	0	0.0	0.0	0%	0%
30 - 34	1,587	0	0.0	0.0	0%	0%
35 - 39	1,919	0	0.1	0.1	0%	0%
40 - 44	2,081	0	0.3	0.3	0%	0%
45 - 49	2,206	1	0.5	0.5	182%	182%
50 - 54	2,387	1	0.9	0.9	108%	108%
55 - 59	2,230	0	1.3	1.3	0%	0%
60 - 64	1,195	1	0.9	0.9	111%	111%
Total	14,582	3	4.1	4.1	73%	73%
R-squared			0.0425	0.0425		

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Chart IV-D3

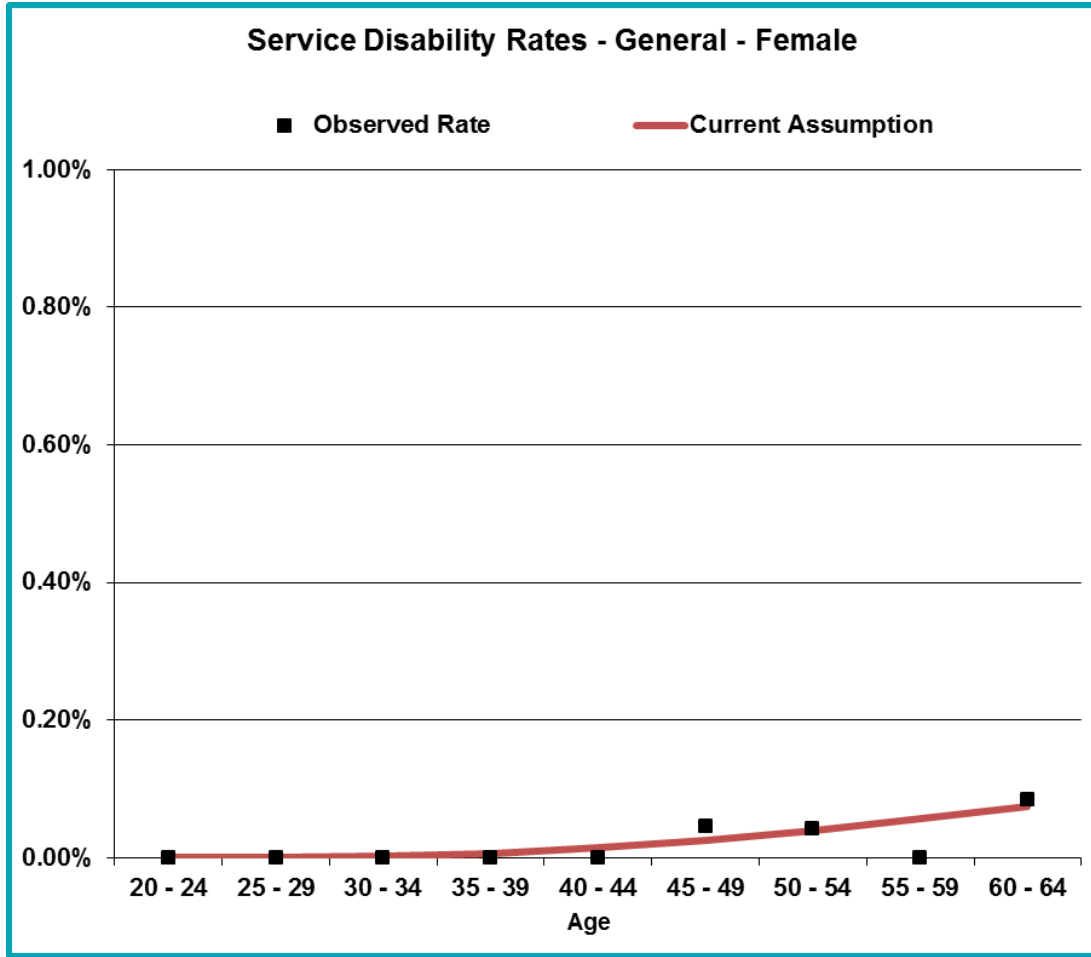


Table IV-D4 on the next page shows the calculation of actual-to-expected ratios and the r-squared statistic for nonservice-connected disabilities for Safety members, and Chart IV-D4 shows the information graphically. The 90% confidence interval is not shown due to a lack of data.

The data shows that the number of disabilities has been lower than expected under the current assumption. In this context, however, the 30% A/E ratio does not mean much; there was only one nonservice-connected disability among all safety members in the last six years, while we predicted three disabilities. We are proposing a change to tables from a study with a similar workforce and which was developed using a much larger set of exposures: the CalPERS Public Agency Police Non-Industrial Disability table. Changing to this table brings the A/E ratio to 61%, and increases the r-squared statistic slightly.

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

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DISABILITY RATES**

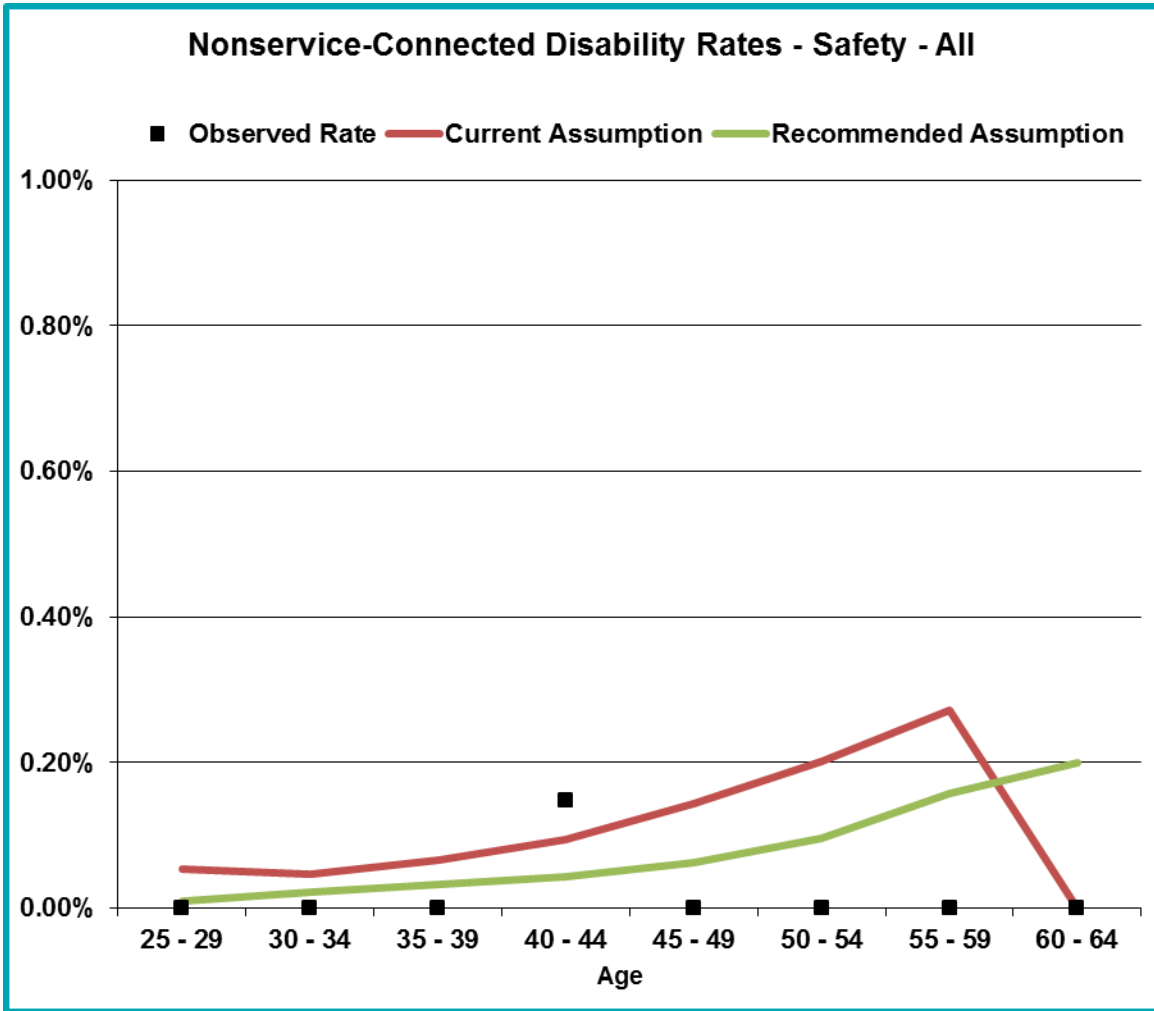
Table IV-D4

Nonservice-Connected Disability Rates - Safety - All						
Age Band	Exposures	Disabilities			Actual to Expected Ratios	
		Actual	Current	Recommended	Current	Recommended
25 - 29	238	0	0.1	0.0	0%	0%
30 - 34	654	0	0.3	0.1	0%	0%
35 - 39	761	0	0.5	0.2	0%	0%
40 - 44	675	1	0.6	0.3	157%	341%
45 - 49	529	0	0.8	0.3	0%	0%
50 - 54	268	0	0.5	0.3	0%	0%
55 - 59	152	0	0.4	0.2	0%	0%
60 - 64	50	0	-	0.1	0%	0%
Total	3,324	1	3.3	1.6	30%	61%
R-squared			0.0201	0.0247		

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DISABILITY RATES

Chart IV-D4



The Table IV-D5 shows the calculation of actual-to-expected ratios and the r-squared statistic for nonservice-connected disabilities for male General members, and Chart IV-D5 shows the information graphically. The 90% confidence interval is not shown because of a lack of credible data.

We are again proposing a change to tables from a study, which was developed using a much larger set of exposures: the CalPERS Public Agency Miscellaneous Non-Industrial Disability table for Males. Changing to this table increases the A/E ratio from 19% to 29%, and increases the r-squared statistic slightly.

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

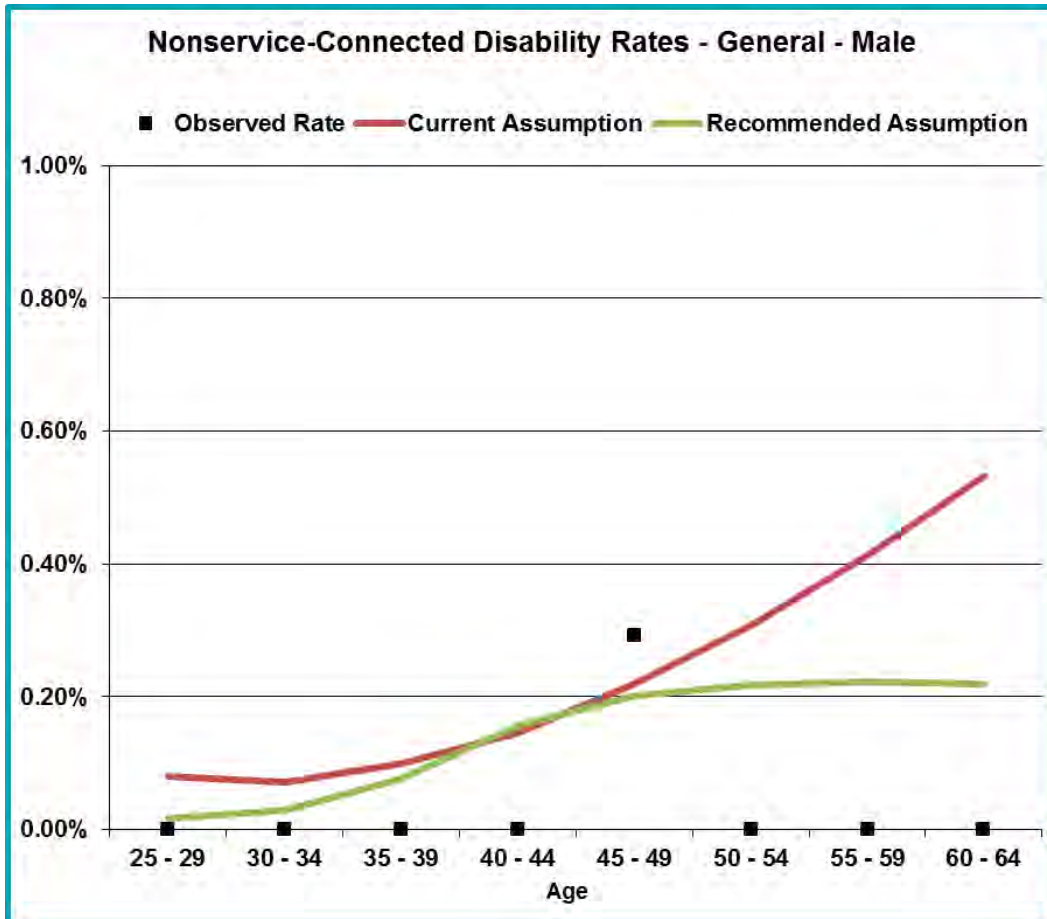
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DISABILITY RATES**

Table IV-D5

Nonservice-Connected Disability Rates - General - Male						
Age Band	Exposures	Disabilities			Actual to Expected Ratios	
		Actual	Current	Recommended	Current	Recommended
25 - 29	72	0	0.1	0.0	0%	0%
30 - 34	330	0	0.2	0.1	0%	0%
35 - 39	428	0	0.4	0.3	0%	0%
40 - 44	538	0	0.8	0.8	0%	0%
45 - 49	685	2	1.5	1.4	133%	144%
50 - 54	777	0	2.4	1.7	0%	0%
55 - 59	668	0	2.8	1.5	0%	0%
60 - 64	472	0	2.5	1.0	0%	0%
Total	3,970	2	10.7	6.9	19%	29%
R-squared			0.0037	0.0417		

Chart IV-D5



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**SECTION IV — DEMOGRAPHIC ASSUMPTIONS
DISABILITY RATES**

Table IV-D6 shows the calculation of actual-to-expected ratios and the r-squared statistic for nonservice-connected disabilities for female General members, and Chart IV-D6 shows the information graphically. The 90% confidence interval is not shown because of a lack of credible data.

We are again proposing a change to tables from a study, which was developed using a much larger set of exposures: the CalPERS Public Agency Miscellaneous Non-Industrial Disability table for Females. Changing to this table increases the A/E ratio from 36% to 57%, and increases the r-squared statistic from 0.04 to 0.16.

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

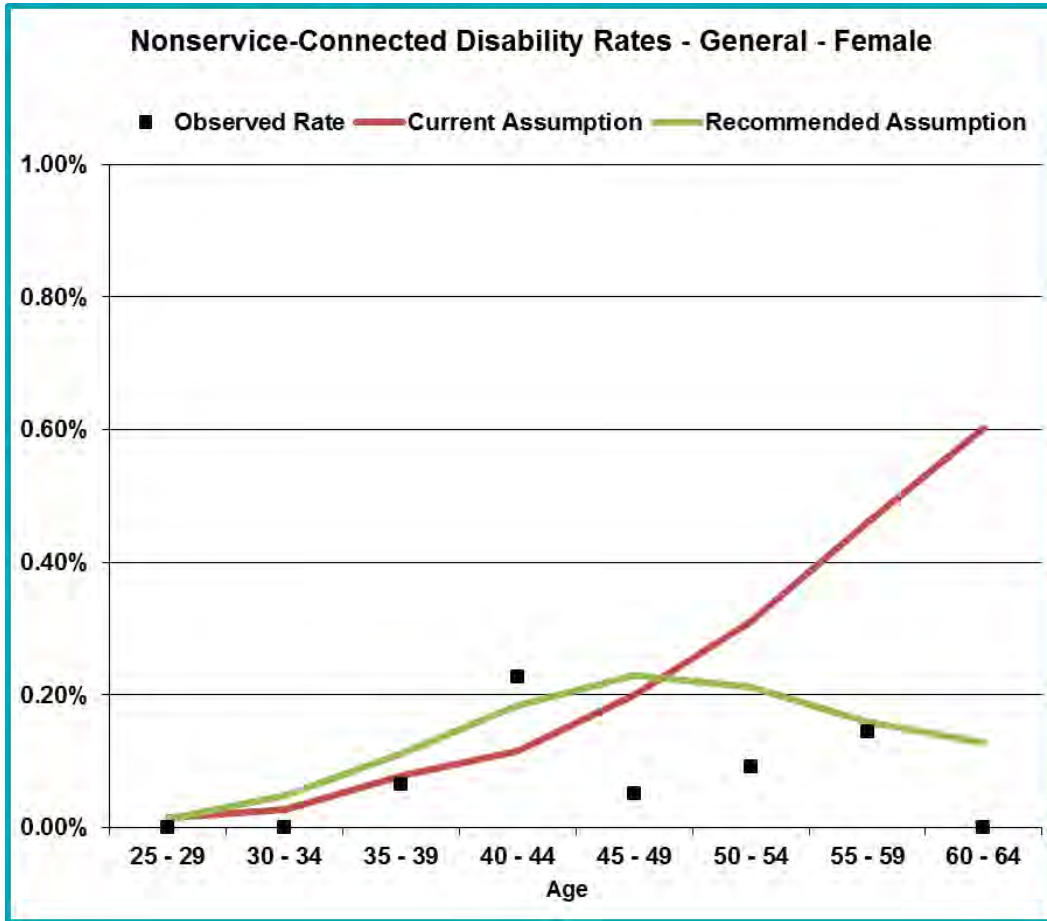
Table IV-D6

Nonservice-Connected Disability Rates - General - Female						
Age Band	Exposures	Disabilities			Actual to Expected Ratios	
		Actual	Current	Recommended	Current	Recommended
25 - 29	282	0	0.0	0.0	0%	0%
30 - 34	993	0	0.3	0.5	0%	0%
35 - 39	1,522	1	1.2	1.7	84%	59%
40 - 44	1,760	4	2.0	3.2	197%	124%
45 - 49	1,971	1	3.9	4.5	25%	22%
50 - 54	2,170	2	6.7	4.6	30%	44%
55 - 59	2,085	3	9.6	3.3	31%	90%
60 - 64	1,125	0	6.8	1.4	0%	0%
Total	11,905	11	30.6	19.3	36%	57%
R-squared			0.0394	0.1642		

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SECTION IV — DEMOGRAPHIC ASSUMPTIONS
DISABILITY RATES

Chart IV-D6



**SECTION IV — DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES**

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

The Society of Actuaries recently completed an extensive mortality study and issued a set of mortality tables named the RP-2014 mortality tables and a mortality improvement projection scale named the MP-2015 scale. We used these tables as the basis for our analysis.

The steps in our analysis are as follows:

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

As we have done in prior experience studies, we have combined the experience of the past three years with that of the prior three-year period in order to have a more robust dataset to review.

Historically we have proposed assumption changes when the Actual-to-Expected (A/E) ratio for the current assumption is less than 100%. However, for this Study we are recommending a change in this approach going forward, where the proposed assumptions are intended to track closely to actual experience (i.e. an A/E ratio close to 100%, but with a ratio slightly less than 100% still being reasonable). However, as described below, this new approach also includes an expectation that the assumed mortality rates will automatically become more conservative each year, since the actual mortality rates are also expected to decrease over time.

We also historically recommended the same or a related table for active employees and healthy annuitants, which has been the current practice for StanCERA. However, recent mortality studies by the Society of Actuaries and others have shown significantly lower rates of mortality for active employees versus those of the same age who are no longer working, therefore this year we have suggested using separate tables for active versus retired members.

**SECTION IV — DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES**

In the prior study, StanCERA elected to continue using the following assumptions:

Healthy active members, retirees, and beneficiaries

- The Combined Healthy Retired Pensioners (RP) 2000 tables published by the Society of Actuaries, projected from 2000 to 2020 using Scale AA.

Disabled members

- The Combined Healthy Retired Pensioners (RP) 2000 tables published by the Society of Actuaries, projected from 2000 to 2020 using Scale AA, set forward seven years.

Since the prior study, the Society of Actuaries' Retirement Plans Experience Committee (RPEC) has released a new mortality improvement scale, Scale MP-2015. The mortality improvements included in the most commonly used current projection scale - Scale AA - were found to produce some unsatisfactory results in projecting mortality. Scale MP-2015 reflects more up-to-date data, approximately 20 years more current than that used in the development of Scale AA, and it was reviewed against a significant amount of data drawn from California public plan experience.

MP-2015 represents the Society of Actuaries' most advanced actuarial methodology in incorporating mortality improvement trends with actual recent mortality rates, by using rates that vary not only by age but also by calendar year – known as a two-dimensional approach to projecting mortality improvements. Scale MP-2015 was designed with the intent of being applied to mortality on a generational basis. The effect of this is to build in an automatic expectation of future improvements in mortality.

This is a different approach from building in a margin for conservatism in the current rates to account for the expectation that the same rates will be applied in future years, when mortality experience has improved. Recent reports issued by RPEC suggest that using generational mortality is a preferable approach, as it allows for an explicit declaration of the amount of future mortality improvement included in the assumptions.

RPEC has also recently released a new set of base mortality rate tables – the RP-2014 tables, which are intended to replace the RP-2000 tables and are based on a recent study of US defined benefit plan mortality experience. However, RPEC excluded all public pension plan data in the construction of these tables - including a large amount of California public sector data - because there were significant differences between the private and public sector retirement experience, and the new tables are expected to be used by private sector plans to meet accounting and federal funding requirements specific to private plans.

Fortunately, there are alternative sets of assumptions that have been developed that may serve as a logical basis for developing mortality assumptions for StanCERA. As part of an Experience Study completed in 2014, CalPERS adopted a new set of mortality tables for active, retired, and disabled members. StanCERA's experience over the past six years matches well with the new CalPERS rates, after removing the improvement projections included by CalPERS and replacing

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SECTION IV — DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES

them with the new MP-2015 mortality improvement projections through the mid-point of the six-year period (2009-2015).

Even with the use of six years of data, the StanCERA is only partially credible, based on standard statistical theory. We therefore recommend partially adjusting the CalPERS base tables to fit StanCERA's experience to develop a new base table. The rates for each age in the standard table are adjusted by a factor, where the factor is determined by multiplying the actual-to-expected ratio for the group (such as male retirees) by a credibility factor for the group. The credibility factor is equal to the square root of the number of deaths divided by 1,082, which is the number of deaths needed for full credibility (defined by a 90% probability that the observed rate is within 5% of the true rate).

Based on these adjustments, we are recommending the following base mortality table assumptions:

Active members

- CalPERS Preretirement Non-Industrial Mortality, adjusted by 100.3% for males and 98.8% for females.
- CalPERS Preretirement Industrial Mortality (Line-of-Duty Mortality for Safety only).

Healthy retirees and beneficiaries

- CalPERS Healthy Annuitant Mortality, adjusted by 93.4% for males and 107.9% for females.

Service-Connected Disabled members

- CalPERS Industrially Disabled Annuitant Mortality, adjusted by 100.2% for males and 100.1% for females.

Nonservice-Connected Disabled members

- CalPERS Non-Industrially Disabled Annuitant Mortality, adjusted by 96.4% for males and 110.4% for females.

We also recommend projecting these base tables generationally using the MP-2015 mortality improvement scale described above for all types of mortality except Line-of-Duty Mortality for Safety members. We recommend no mortality projection for Line-of-Duty Mortality for Safety members.

As shown in Table IV-M1 below, our proposed mortality rates for healthy annuitants are close to recent experience. To perform our comparisons, the CalPERS base rates (without projection) were projected from their base year (2009) to the midpoint of the combined six-year study period (2012).

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**SECTION IV — DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES**

Table IV-M1

Mortality Experience (2009-2015)									
	Exposures	Actual Deaths	Weighted Exposures	Actual Weighted Deaths	Actual Weighted Rates	Current Expected Weighted Deaths	Proposed Expected Weighted Deaths	Current Weighted A/E Ratio	Recommended Weighted A/E Ratio
<u>Active Members</u>									
Male	8,421	13	555,778,391	880,828	0.16%	1,125,009	859,078	78%	103%
Female	15,658	18	824,775,609	785,675	0.10%	1,431,983	857,323	55%	92%
Total Actives	24,079	31	1,380,554,000	1,666,502	0.12%	2,556,992	1,716,402	65%	97%
<u>Retired and Surviving Spouse</u>									
Male	6,078	156	211,475,039	3,863,662	1.83%	4,618,185	4,366,032	84%	88%
Female	10,031	277	226,864,246	4,768,367	2.10%	4,463,674	4,445,606	107%	107%
Total Ret/Surv	16,109	433	438,339,285	8,632,029	1.97%	9,081,859	8,811,638	95%	98%
<u>Disabled</u>									
Nonservice-Connected Male	149	2	2,112,491	10,588	0.50%	61,609	65,643	17%	16%
Nonservice-Connected Female	349	17	5,051,127	196,170	3.88%	107,877	118,349	182%	166%
Service-Connected Male	866	15	26,475,001	390,604	1.48%	625,221	384,062	62%	102%
Service-Connected Female	462	6	10,546,991	111,847	1.06%	187,191	110,888	60%	101%
Total Disabled	1,826	40	44,185,610	709,209	1.61%	981,898	678,942	72%	104%
TOTAL (Excluding Actives)	17,935	473	482,524,895	9,341,238	1.94%	10,063,756	9,490,580	93%	98%

**SECTION IV — DEMOGRAPHIC ASSUMPTIONS
MORTALITY RATES**

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

The match between the actual and expected experience across all statuses (active, retired, and disabled) is close under the proposed assumptions: 98%. We are comfortable that the ratio of actual to expected deaths is less than 100% within some subgroups, since as described above, the use of generational mortality assumptions will automatically result in assumed mortality rates that decrease over time. In particular, the number of deaths among the disabled members are lower than expected, but this group has the smallest amount of overall experience.

Mortality Assumptions for Employee Contribution Rates

For purposes of determining employee contribution rates, the use of generational mortality improvements is impractical from an administrative perspective. Therefore, we recommend using the base mortality tables described above (various CalPERS tables with StanCERA-specific adjustments) projected using Scale MP-2015 from 2009 to 2037 for General Members and to 2038 for Safety Members. These static projections are intended to approximate generational mortality improvements.

The projection periods are based upon the duration of active liabilities for the respective impacted groups (General Tiers 1, 2, 4, 5, and Safety Tiers 2, 4, and 5) as of June 30, 2015 and the period during which the associated employee contribution rates will be in use. The rates also are blended using a male/female weighting of 25% male/75% female for General Members and 80% male/20% female for Safety members.

We anticipate that these mortality assumptions will be used to determine the employee contribution rates in effect for the period of July 1, 2016 through June 30, 2019. We also anticipate that the mortality assumptions for this purpose will be updated again after the next experience study covering the period from July 1, 2015 through June 30, 2018.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015**

**SECTION IV — DEMOGRAPHIC ASSUMPTIONS
OTHER DEMOGRAPHIC ASSUMPTIONS**

TERMINAL PAY

The current assumptions increase the liability for retirement benefits for Safety active participants by 2.5% and 3.5% for General active participants to account for the impact of unused vacation time.

	Retirees	Average Final Compensation	Average Vacation Pay	Load
General	319	66,431	2,472	3.72%
Safety	49	83,196	2,515	3.02%

The data provided by StanCERA includes the vacation pay cashed out at retirement for each member who retired from active status after December 31, 2012. We compared the total vacation pay for retirees to their final average pay. We recommend maintaining the 3.5% assumption for General members, and increasing the Safety assumption to 3.0%.

FAMILY COMPOSITION

The current assumption is that 90% of active male and 50% of active female StanCERA participants have beneficiaries eligible for pre-retirement death benefits and that male spouses are three years older than their wives.

	Retirees	Number Married	Percent Married	Member Age	Spouse Age	Difference
Male	191	149	78%	59.37	56.00	3.37
Female	366	187	51%	58.42	60.27	-1.85

Average ages shown are for married retirees.

Analysis of the retiree data leads us to propose a decrease in the male marriage assumption from 90% to 80%, as well as a change to married female retirees being two years younger than their spouses.

PLAN EXPENSES

An allowance of \$2,100,000 for Plan administrative expenses was included in the annual cost calculation in the prior valuation. The Plan's administrative expenses in during the last two years have averaged approximately \$2,314,000. We recommend changing the Plan's assumed administrative expenses for 2015 to \$2,400,000, increasing each year at the assumed rate of inflation.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015**

APPENDIX A — SUMMARY OF PROPOSED ASSUMPTIONS

The recommended assumptions were adopted by the Board at their March 16, 2016 meeting. The demographic assumptions are based on an experience study covering the period from July 1, 2012 through June 30, 2015.

1. Rate of Return

The annual rate of return on all Plan assets is assumed to be 7.25%, net of investment expenses.

2. Cost of Living

The cost of living as measured by the Consumer Price Index (CPI) will increase at the rate of 3.00% per year.

3. Administrative Expenses

An allowance of \$2,400,000 for Plan administrative expenses has been included in the annual cost calculated.

4. Interest Credited to Employee Accounts

The employee accounts are credited with 0.25% interest annually.

5. Increases in Pay

Base salary increase: 3.25%

Assumed pay increases for active Members consist of increases due to base salary adjustments (as noted above), plus service-based increases due to longevity and promotion, as shown below.

Longevity & Promotion Increases		
Service	General	Safety
0	6.00%	7.00%
1	5.00%	6.00%
2	4.00%	5.00%
3	3.00%	4.00%
4	2.00%	3.00%
5	1.50%	2.00%
6	1.00%	1.75%
7	0.75%	1.50%
8	0.50%	1.25%
9	0.50%	1.00%
10	0.50%	0.75%
11+	0.50%	0.50%

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015

APPENDIX A — SUMMARY OF PROPOSED ASSUMPTIONS

6. PEPRA Compensation Limit

The assumption used for increasing the compensation limit that applies to PEPRA members is 3.0%

7. Post Retirement COLA

100% of CPI up to 3% annually with banking, 2.7% annual increases assumed. Increases are assumed to occur on April 1.

8. Social Security Wage Base

General Plan 3 members have their benefits offset by an assumed Social Security Benefit. For projecting the Social Security Benefit, the annual Social Security Wage Base increase is assumed to be 3.25% per year.

9. 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.

10. 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.

11. Family Composition

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

Percentage Married	
Gender	Percentage
Males	80%
Females	50%

12. Accumulated Vacation Time Load

Active members' service retirement and related benefits are loaded by 3.0% for Safety Members and 3.5% for General Members for conversion of vacation time.

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015

APPENDIX A — SUMMARY OF PROPOSED ASSUMPTIONS

13. Rates of Separation

Rates of termination apply to all active Members who terminate their employment.

Separate rates of termination are assumed among Safety and General Members.

Termination Rates		
Years of Service	General All	Safety All
0	18.0%	18.0%
1	14.0%	12.0%
2	11.7%	9.0%
3	9.4%	7.0%
4	7.1%	6.0%
5	5.0%	5.0%
10	3.5%	5.0%
15	2.9%	3.4%
20	1.5%	0.0%
25	1.3%	0.0%
30+	0.0%	0.0%

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

14. Withdrawal

Rates of withdrawal apply to active Members who terminate their employment and withdraw their member contributions, forfeiting entitlement to future Plan benefits. Separate rates of withdrawal are assumed among Safety and General Members, and are based on service. The rates do not overlap with the service retirement rates.

50% of all General Member terminations with less than 10 years of service are assumed to take a refund of contributions, as well as 20% of those with 10 or more years of service.

35% of all Safety Member terminations with less than 10 years of service are assumed to take a refund of contributions, and 10% of those with 10 or more years are assumed to take a refund.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015**

APPENDIX A — SUMMARY OF PROPOSED ASSUMPTIONS

15. Vested Termination and Reciprocal Transfers

Rates of vested termination apply to active Members who terminate their employment after five years of service and leave their member contributions on deposit with the Plan. Alternatively, those who terminate their employment with less than five years of service can leave their member contributions with the Plan and transfer to a reciprocal employer, therefore retaining entitlement to future Plan benefits.

Vested terminated Tier 3 General Members are assumed to begin receiving benefits at age 65 while all other General Members are assumed to begin at age 58; terminated Safety Members are assumed to begin receiving benefits at age 53. 25% of vested terminated General Members are assumed to be reciprocal; 50% of vested terminated Safety Members are assumed to be reciprocal.

Reciprocal members are assumed to receive 4% annual pay increases from the date of transfer to the assumed retirement date.

16. Rates of Service-Connected Disability

Separate rates of duty disability are assumed among Safety and General Members; rates for both sexes for Safety Members are combined. Below are sample rates:

Rates of Service-Connected Disability			
	General		Safety
Age	Male	Female	All
20	0.0043%	0.0002%	0.0759%
25	0.0102%	0.0004%	0.1932%
30	0.0211%	0.0008%	0.3457%
35	0.0284%	0.0024%	0.5309%
40	0.0401%	0.0056%	0.7426%
45	0.0613%	0.0101%	1.1297%
50	0.0897%	0.0162%	1.5092%
55	0.1227%	0.0249%	1.7230%
60	0.1637%	0.0349%	0.0000%
65	0.0000%	0.0000%	0.0000%

17. Rates of Nonservice-Connected Disability

Separate rates of ordinary disability are assumed among Safety and General Members. Rates of ordinary disability for Safety Members are assumed to follow the CalPERS Public Agency Police Non-Industrial Disability table; rates of ordinary disability for General Members are assumed to follow the CalPERS Public Agency Miscellaneous

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015**

APPENDIX A — SUMMARY OF PROPOSED ASSUMPTIONS

Non-Industrial Disability table. The rates shown are applied after five Years of Service. Below are sample rates:

Rates of Non Service-Connected Disability			
Age	General		Safety
	Male	Female	All
20	0.0170%	0.0100%	0.0100%
25	0.0170%	0.0100%	0.0100%
30	0.0190%	0.0240%	0.0200%
35	0.0490%	0.0810%	0.0300%
40	0.1220%	0.1550%	0.0400%
45	0.1910%	0.2180%	0.0500%
50	0.2130%	0.2290%	0.0800%
55	0.2210%	0.1790%	0.1300%
60	0.2220%	0.1350%	0.2000%
65	0.2100%	0.1180%	0.2000%
70	0.1800%	0.1140%	0.2000%
75	0.1420%	0.1180%	0.2000%
80	0.1420%	0.1180%	0.2000%
81+	0.0000%	0.0000%	0.0000%

18. Rates of Mortality for Non-annuitants

Rates of ordinary death for active Members are specified by the CalPERS Pre-Retirement Non-Industrial Mortality table, adjusted by 100.3% for males and 98.8% for females, with generational mortality improvements projected from 2009 using Scale MP-2015. Duty related mortality rates are only applicable for Safety Active Members, and are based on the CalPERS Pre-Retirement Individual Death table without adjustment or projection.

The following table provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015**

APPENDIX A — SUMMARY OF PROPOSED ASSUMPTIONS

Mortality Rates			
	Ordinary Death - General and Safety		Duty Death
Age	Male	Female	Safety All
20	0.0330%	0.0209%	0.0030%
25	0.0426%	0.0241%	0.0070%
30	0.0522%	0.0262%	0.0100%
35	0.0607%	0.0368%	0.0120%
40	0.0798%	0.0525%	0.0130%
45	0.1129%	0.0745%	0.0140%
50	0.1651%	0.1049%	0.0150%
55	0.2428%	0.1508%	0.0160%
60	0.3556%	0.2198%	0.0170%
65	0.5107%	0.3233%	0.0180%
70	0.7110%	0.4616%	0.0190%

19. Rates of Mortality for Nonservice-Connected Disabled Retirees

Rates of mortality for nonservice-connected disabled Members are specified by the CalPERS Non-Industrially Disabled Annuitant Mortality table, adjusted by 96.4% for males and 110.4% for females, with generational mortality improvements projected from 2009 using Scale MP-2015.

The following table provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

Nonservice-Connected Disabled Mortality Rates		
Age	Male	Female
45	1.250%	0.943%
50	1.720%	1.358%
55	2.020%	1.402%
60	2.539%	1.667%
65	3.008%	2.259%
70	3.750%	3.107%
75	5.204%	4.269%
80	7.934%	6.642%
85	12.692%	10.910%
90	17.804%	17.755%

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015**

APPENDIX A — SUMMARY OF PROPOSED ASSUMPTIONS

20. Rates of Mortality for Service-Connected Disabled Retirees

Rates of mortality for service-connected disabled Members are specified by the CalPERS Industrially Disabled Annuitant Mortality table, adjusted by 100.2% for males and 100.1% for females, with generational mortality improvements projected from 2009 using Scale MP-2015.

The following table provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

Service-Connected Disabled Mortality Rates		
Age	Male	Female
45	0.339%	0.298%
50	0.533%	0.496%
55	0.637%	0.460%
60	0.869%	0.634%
65	1.431%	1.068%
70	2.216%	1.777%
75	3.842%	2.955%
80	6.642%	4.983%
85	10.410%	7.967%
90	16.218%	12.347%

21. Rates of Mortality for Healthy Annuitants

Rates of mortality for retired Members and their beneficiaries are specified by the CalPERS Healthy Annuitant Mortality table, adjusted by 93.4% for males and 107.9% for females, with generational mortality improvements projected from 2009 using Scale MP-2015.

The following table provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015

APPENDIX A — SUMMARY OF PROPOSED ASSUMPTIONS

Healthy Annuitant Mortality Rates		
Age	Male	Female
45	0.225%	0.229%
50	0.497%	0.534%
55	0.594%	0.496%
60	0.763%	0.576%
65	0.986%	0.807%
70	1.649%	1.365%
75	2.786%	2.366%
80	4.928%	3.987%
85	8.807%	7.202%
90	15.118%	13.310%

22. Mortality Improvement

As mentioned above, the mortality assumptions employ fully generational mortality improvement projection from a base year of 2009 using Scale MP-2015.

23. Rates of Mortality for Purposes of Determining Employee Contribution Rates

The rates are based on the same base tables described above (CalPERS mortality tables with StanCERA-specific adjustments) and are projected using Scale MP-2015 from 2009 to 2037 for General members and to 2039 for Safety members. The rates are blended using a male/female weighting of 25% male/75% female for General members and 80% male/20% female for Safety members. These assumptions are used only for determining the employee contribution rates for General members in Tiers 1, 2, 4 and 5 and Safety members in Tiers 2, 4 and 5.

24. Rates of Retirement

Retirement is assumed to occur among eligible members in accordance with the tables below:

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015**

APPENDIX A — SUMMARY OF PROPOSED ASSUMPTIONS

Rates of Retirement General				Rates of Retirement Safety			
Age	Years of Service			Age	Years of Service		
	0-9	10-29	30+		0-9	10-19	20+
40-44	0.00%	0.00%	0.00%	40-44	0.00%	0.00%	5.00%
45-49	0.00%	0.00%	10.00%	45-48	0.00%	0.00%	10.00%
50-54	0.00%	5.00%	10.00%	49	0.00%	0.00%	20.00%
55	0.00%	10.00%	25.00%	50	0.00%	10.00%	30.00%
56	0.00%	10.00%	25.00%	51	0.00%	10.00%	20.00%
57	0.00%	10.00%	25.00%	52	0.00%	10.00%	20.00%
58	0.00%	15.00%	25.00%	53	0.00%	10.00%	20.00%
59	0.00%	15.00%	25.00%	54	0.00%	10.00%	20.00%
60	0.00%	15.00%	25.00%	55	0.00%	10.00%	30.00%
61	0.00%	20.00%	25.00%	56	0.00%	10.00%	30.00%
62	0.00%	25.00%	40.00%	57	0.00%	10.00%	30.00%
63	0.00%	20.00%	25.00%	58	0.00%	10.00%	30.00%
64	0.00%	25.00%	25.00%	59	0.00%	10.00%	30.00%
65	0.00%	35.00%	35.00%	60	0.00%	25.00%	100.00%
66	0.00%	45.00%	45.00%	61	0.00%	25.00%	100.00%
67	0.00%	20.00%	25.00%	62	0.00%	25.00%	100.00%
68	0.00%	20.00%	25.00%	63	0.00%	25.00%	100.00%
69	0.00%	20.00%	25.00%	64	0.00%	25.00%	100.00%
70	50.00%	50.00%	100.00%	65	0.00%	100.00%	100.00%
71	50.00%	50.00%	100.00%	66	0.00%	100.00%	100.00%
72	50.00%	50.00%	100.00%	67	0.00%	100.00%	100.00%
73	50.00%	50.00%	100.00%	68	0.00%	100.00%	100.00%
74	50.00%	50.00%	100.00%	69	0.00%	100.00%	100.00%
75+	100.00%	100.00%	100.00%	70+	100.00%	100.00%	100.00%

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015**

APPENDIX B — SUMMARY OF PRIOR ASSUMPTIONS

The following are the assumptions used in the actuarial valuation as of June 30, 2014. The economic and demographic assumptions and methods for that valuation were determined in the Actuarial Experience Study performed by EFI/Cheiron as of June 30, 2012 and adopted by the Board on January 22, 2013.

1. Rate of Return

The annual rate of return on all Plan assets is assumed to be 7.75%, net of investment expenses.

2. Cost of Living

The cost of living as measured by the Consumer Price Index (CPI) will increase at the rate of 3.25% per year.

3. Administrative Expenses

An allowance of \$2,100,000 for Plan administrative expenses has been included in the annual cost calculated for the current Plan year.

4. Interest Credited to Employee Accounts

The employee accounts are credited with 0.25% interest annually.

5. Increases in Pay

Base salary increase: 3.50%

Assumed pay increases for active Members consist of increases due to base salary adjustments (as noted above), plus service-based increases due to longevity and promotion, as shown below.

Longevity & Promotion Increases		
Service	General	Safety
0	4.00%	8.00%
1	4.00%	7.00%
2	4.00%	6.00%
3	4.00%	5.00%
4	4.00%	4.00%
5-9	2.00%	2.00%
10-19	1.00%	1.00%
20-29	0.50%	1.00%
30+	0.50%	0.50%

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015

APPENDIX B — SUMMARY OF PRIOR ASSUMPTIONS

6. PEPRA Compensation Limit

The assumption used for increasing the compensation limit that applies to PEPRA members is 3.25%.

7. Post Retirement COLA

100% of CPI up to 3% annually with banking, 2.7% annual increases assumed.

8. Social Security Wage Base

General Plan 3 members have their benefits offset by an assumed Social Security Benefit. For projecting the Social Security Benefit, the annual Social Security Wage Base increase is assumed to be 3.5% per year.

9. 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.

10. 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.

11. Family Composition

Percentage married for all active members who retire, become disabled, or die during active service is shown in the following table. Women are assumed to be three years younger than men.

Percentage Married	
Gender	Percentage
Males	90%
Females	50%

12. Accumulated Vacation Time Load

Active members' service retirement and related benefits are loaded by 2.5% for Safety Members and 3.5% for General Members for conversion of vacation time.

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015

APPENDIX B — SUMMARY OF PRIOR ASSUMPTIONS

13. Rates of Separation

Rates of termination apply to all active Members who terminate their employment.

Separate rates of termination are assumed among Safety and General Members.

Years of Service	Termination Rates		Safety All
	General Male	General Female	
0	24.0%	14.0%	15.0%
1	14.0%	9.4%	15.0%
2	11.7%	7.9%	10.5%
3	9.4%	7.9%	10.0%
4	7.1%	7.1%	6.0%
5	5.0%	5.0%	3.7%
10	3.5%	3.5%	3.4%
15	2.9%	2.9%	1.9%
20	1.5%	1.5%	0.0%
25	1.3%	1.3%	0.0%
30+	0.0%	0.0%	0.0%

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

14. Withdrawal

Rates of withdrawal apply to active Members who terminate their employment and withdraw their member contributions, forfeiting entitlement to future Plan benefits. Separate rates of withdrawal are assumed among Safety and General Members, and are based on service. The rates do not overlap with the service retirement rates.

50% of all General Member terminations with less than 10 years of service are assumed to take a refund of contributions, as well as 20% of those with 10 or more years of service.

35% of all Safety Member terminations with less than 10 years of service are assumed to take a refund of contributions, and 10% of those with 10 or more years are assumed to take a refund.

APPENDIX B — SUMMARY OF PRIOR ASSUMPTIONS

15. Vested Termination and Reciprocal Transfers

Rates of vested termination apply to active Members who terminate their employment after five years of service and leave their member contributions on deposit with the Plan. Alternatively, those who terminate their employment with less than five years of service can leave their member contributions with the Plan and transfer to a reciprocal employer, therefore retaining entitlement to future Plan benefits.

Vested terminated Tier 3 General Members are assumed to begin receiving benefits at age 65 while all other General Members are assumed to begin at age 58; terminated Safety Members are assumed to begin receiving benefits at age 53. 25% of vested terminated General Members are assumed to be reciprocal; 50% of vested terminated Safety Members are assumed to be reciprocal.

Reciprocal members are assumed to receive 4% annual pay increases from the date of transfer to the assumed retirement date.

16. Rates of Service-Connected Disability

Separate rates of duty disability are assumed among Safety and General Members; rates for both sexes for Safety Members are combined. Below are sample rates:

Rates of Service-Connected Disability			
	General		Safety
Age	Male	Female	All
20	0.0043%	0.0002%	0.0759%
25	0.0102%	0.0004%	0.1932%
30	0.0211%	0.0008%	0.3457%
35	0.0284%	0.0024%	0.5309%
40	0.0401%	0.0056%	0.7426%
45	0.0613%	0.0101%	1.1297%
50	0.0897%	0.0162%	1.5092%
55	0.1227%	0.0249%	1.7230%
60	0.1637%	0.0349%	0.0000%
65	0.0000%	0.0000%	0.0000%

17. Rates of Nonservice-Connected Disability

Separate rates of ordinary disability are assumed among Safety and General Members; rates for both sexes for Safety Members are combined. The rates shown are applied after five Years of Service. On the next page are sample rates:

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015**

APPENDIX B — SUMMARY OF PRIOR ASSUMPTIONS

Rates of Non Service-Connected Disability			
Age	General		Safety
	Male	Female	All
20	0.0130%	0.0025%	0.0173%
25	0.0307%	0.0050%	0.0409%
30	0.0316%	0.0100%	0.0421%
35	0.0426%	0.0281%	0.0568%
40	0.0602%	0.0446%	0.0802%
45	0.0920%	0.0808%	0.1227%
50	0.1345%	0.1295%	0.1793%
55	0.1840%	0.1990%	0.2453%
60	0.2456%	0.2764%	0.0000%
65	0.0000%	0.0000%	0.0000%

18. Rates of Mortality for Healthy Lives

Rates of mortality for active Members are specified by the Retired Pensioners (RP) 2000 tables published by the Society of Actuaries (projected from 2000 to 2020 using Scale AA). Duty related mortality rates are only applicable for Safety Active Members. Sample rates are as follows:

Mortality Rates			
Age	Ordinary Death - General and Safety		Duty Death
	Male	Female	Safety All
20	0.0235%	0.0138%	0.0150%
25	0.0308%	0.0156%	0.0189%
30	0.0402%	0.0216%	0.0254%
35	0.0699%	0.0381%	0.0357%
40	0.0919%	0.0522%	0.0564%
45	0.1161%	0.0814%	0.0885%
50	0.1487%	0.1189%	0.0703%
55	0.2469%	0.2314%	0.1055%
60	0.4887%	0.4573%	0.0000%
65	0.9607%	0.8780%	0.0000%
70	1.6413%	1.5145%	0.0000%

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015

APPENDIX B — SUMMARY OF PRIOR ASSUMPTIONS

19. Rates of Mortality for Disabled Retirees

Rates of mortality for disabled Members and specified by the Retired Pensioners (RP) 2000 tables published by the Society of Actuaries (projected from 2000 to 2020 using Scale AA) set forward seven years. Sample rates are shown below.

Disabled Mortality Rates		
Age	Male	Female
45	0.178%	0.152%
50	0.333%	0.315%
55	0.647%	0.602%
60	1.237%	1.100%
65	2.016%	1.832%
70	3.611%	2.963%
75	6.854%	4.892%
80	12.062%	8.892%
85	20.397%	14.843%
90	28.808%	21.098%

20. Retired Member and Beneficiary Mortality

Rates of mortality for retired Members and their beneficiaries are specified by the Retired Pensioners (RP) 2000 tables published by the Society of Actuaries (projected from 2000 to 2020 using Scale AA). Sample rates are shown below.

Retired Mortality Rates		
Age	Male	Female
45	0.116%	0.081%
50	0.149%	0.119%
55	0.247%	0.231%
60	0.489%	0.457%
65	0.961%	0.868%
70	1.641%	1.514%
75	2.854%	2.393%
80	5.265%	3.987%
85	9.624%	6.866%
90	16.928%	12.400%

21. Mortality Improvement

The mortality tables have been projected to the year 2020 using Scale AA to account for expected future improvements in mortality. The experience study report for the period covering July 1, 2009 to June 30, 2012 contains a full description of these adjustments.

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
EXPERIENCE STUDY AS OF JUNE 30, 2015

APPENDIX B — SUMMARY OF PRIOR ASSUMPTIONS

22. Rates of Retirement

Retirement is assumed to occur among eligible members in accordance with the tables below:

Rates of Retirement		
Age	General	Safety
40-44	0.00%	5.00%
45-49	0.00%	5.00%
50	5.00%	15.00%
51	4.00%	15.00%
52	4.00%	15.00%
53	5.00%	15.00%
54	6.00%	15.00%
55	10.00%	15.00%
56	10.00%	15.00%
57	10.00%	20.00%
58	12.00%	30.00%
59	15.00%	30.00%
60	18.00%	100.00%
61	18.00%	100.00%
62	30.00%	100.00%
63	25.00%	100.00%
64	25.00%	100.00%
65	40.00%	100.00%
66	30.00%	100.00%
67	30.00%	100.00%
68	30.00%	100.00%
69	30.00%	100.00%
70	100.00%	100.00%



Classic Values, Innovative Advice