

Stanislaus County Employees' Retirement Association

**Actuarial Valuation as of
June 30, 2019**

Produced by Cheiron

February 2020

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February 19, 2020

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, 2019. 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 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.

This report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. 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

A handwritten signature in blue ink, appearing to read "Graham Schmidt".

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

A handwritten signature in blue ink, appearing to read "Jonathan Chipko".

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

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

FOREWORD

Cheiron has performed the actuarial valuation of the Stanislaus County Employees' Retirement Association as of June 30, 2019. 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 – Identification and Assessment of Risks
 - Section III - Assets
 - Section IV - Liabilities
 - Section V- Contributions
 - Section VI- 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).

Future results may differ significantly from the current projections presented in this report due to such factors as the following: plan experience differing from that anticipated by the assumptions; changes in assumptions; and changes in plan provisions or applicable law.

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
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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 2020-2021, and
- An assessment and disclosure of key risks.

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, 2020. 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, 2019 over a period of 17 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, 2018 and reviewed by the Board on January 22, 2019. This valuation is the second 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.

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ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

SECTION I – EXECUTIVE SUMMARY

B. Key Findings of this Valuation

The key results of the June 30, 2019 actuarial valuation are as follows:

- The actuarially determined employer contribution rate increased from 30.38% of payroll to 31.45% of payroll for the current valuation.
- The Plan's funded ratio, the ratio of Actuarial Assets over Actuarial Liability, decreased from 76.4% to 75.9%. Likewise, the Plan's funded ratio on a market value basis decreased from 76.6% to 75.4%.
- 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 \$648.8 million to \$697.3 million as of June 30, 2019. This increase in UAL was largely due to investment and demographic experience losses.
- During the year ending June 30, 2019, the return on Plan assets was 4.69% on a market value basis net of investment (but not administrative) expenses, as compared to the 7.00% 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 5.64% on the smoothed value of assets, an actuarial asset loss of \$28.7 million. The loss in the Actuarial Value of Assets reflects the continued recognition of past investment gains and losses, with past investment gains offsetting the impact of the loss for the current year and leading to a higher actuarial value return than market value return.
- During the 2018-19 Plan Year, the actuarial liabilities of the Plan increased more than expected, with key factors being larger pay increases than expected for continuing actives and larger Cost of Living Adjustments (COLAs) than expected for members in pay status. These and other unexpected changes resulted in a liability loss of \$30.8 million.
- Overall participant membership increased compared to last year. There were 480 new hires and rehires during 2018-2019 and the total active population increased from 4,452 to 4,504, or 1.17%. Total projected payroll increased from \$284,969,342 to \$298,900,309, or 4.89%.

In Tables I-1 and I-2 on the next page, we summarize the key results of the valuation with respect to assets and liabilities, contributions and membership. The results are presented and compared for both the current and prior Plan year.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

SECTION I – EXECUTIVE SUMMARY

Table I-1 Stanislaus County Employees' Retirement Association Summary of Key Valuation Results (in millions)			
Valuation Date	June 30, 2018	June 30, 2019	
Fiscal Year End	2020	2021	
Actuarial Liability	\$ 2,749.1	\$ 2,897.2	
Actuarial Value of Assets ¹	<u>\$ 2,100.3</u>	<u>\$ 2,200.0</u>	
Unfunded Actuarial Liability (Actuarial Value)	\$ 648.8	\$ 697.3	
Funding Ratio (Actuarial Value)	76.4%	75.9%	
Market Value of Assets ¹	<u>\$ 2,105.1</u>	<u>\$ 2,184.8</u>	
Unfunded Actuarial Liability (Market Value)	\$ 644.0	\$ 712.4	
Funding Ratio (Market Value)	76.6%	75.4%	
Net Employer Contribution Rate	30.38%	31.45%	

¹ Net of non-valuation reserves.

Table I-2 Membership Total			
Item	June 30, 2018	June 30, 2019	% Change
Actives	4,452	4,504	1.2%
Deferred Members	1,105	1,122	1.5%
Retired Members	<u>3,856</u>	<u>4,001</u>	<u>3.8%</u>
Total Members	9,413	9,627	2.3%
Ratio of Inactive Members to Active Members	111.4%	113.7%	
Active Member Payroll (FYE 2019/2020)	\$ 284,969,342	\$ 298,900,309	4.9%
Average Pay per Active	\$ 64,009	\$ 66,363	3.7%

The ratio of inactive members (i.e. those receiving benefits or those entitled to a deferred benefit) to active members is a measure of the maturity of the plan. It shows how many inactive members are supported by each active member. A higher ratio indicates a more mature plan and potentially higher risk since the retiree benefits are larger relative to the contribution base, i.e. the active member payroll. Table I-2 shows that the ratio of inactive members to active members increased this year due to a higher increase in inactives than in the active workforce, indicating the ongoing maturation of the Plan.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

SECTION I – EXECUTIVE SUMMARY

Changes in UAL

The Unfunded Actuarial Liability (UAL) for StanCERA increased by \$48.5 million, from \$648.8 million to \$697.3 million. Table I-3 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 5.64% during the 2018-19 Plan Year. Investment returns less than the assumed rate of 7.00% increased the UAL by \$28.7 million.

Liability losses increased the UAL by \$30.8 million, driven by higher than expected pay increases for continuing actives (contributing approximately \$14.5 million to the increase in the liability), as well as higher than expected retiree COLAs (approximately \$6.4 million).

The UAL also decreased by \$4.2 million due to contributions larger than the actuarially determined amount. This is a result of the 12-month lag in the implementation of contribution rates and higher than expected payroll growth.

The expected change in the UAL due to the yearly amortization of the UAL balance – a decrease of \$6.8 million, as a result of the amortization schedule for the current year – combined with the above UAL changes to produce an overall increase of \$48.5 million.

Table I-3 Change in Unfunded Actuarial Liability		
Experience		in millions
1. Unfunded actuarial liability, 6/30/2018	\$	648.8
2. Expected change in unfunded actuarial liability	\$	(6.8)
3. Unfunded increase due to investment loss		28.7
4. Unfunded decrease due to contribution surplus		(4.2)
5. Unfunded increase due to liability loss		30.8
6. Unfunded decrease due to assumption changes		0
7. Total change in unfunded actuarial liability	\$	48.5
8. Unfunded actuarial liability, 6/30/2019	\$	697.3

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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SECTION I – EXECUTIVE SUMMARY

Changes in Employer Contributions

Thus far, the experience of the 2018-19 Plan year has been presented in terms of the UAL and funded ratio. Table I-4 below summarizes the impact of actuarial experience and changes in assumptions on the employer contribution rate.

Table I-4 Employer Contribution Reconciliation				
Item	Total	Normal Cost	Amortization	Admin Expense
<i>FYE 2020 Net Employer Contribution Rate</i>	<i>30.38%</i>	<i>11.65%</i>	<i>17.74%</i>	<i>0.99%</i>
Change Due to Asset Loss	0.79%	0.00%	0.79%	0.00%
Change Due to Contribution Surplus	-0.12%	0.00%	-0.12%	0.00%
Change Due to Demographic Changes	0.77%	-0.09%	0.86%	0.00%
Change Due to Effect of Payroll on Amortization	-0.37%	0.00%	-0.35%	-0.02%
Change Due to Assumption Changes	0.00%	0.00%	0.00%	0.00%
<i>FYE 2021 Net Employer Contribution Rate</i>	<i>31.45%</i>	<i>11.56%</i>	<i>18.92%</i>	<i>0.97%</i>

- Asset experience produced an investment loss on a smoothed basis, as described earlier. The smoothed loss increased the contribution rate by 0.79% of pay.

The ratio of Actuarial to Market Value of Assets is 100.7%. There are now \$15.2 million in net deferred losses as of June 30, 2019, as well as \$21.3 million in a non-valuation Contingency Reserve.

- The Plan received a larger contribution than the actuarially determined amount. The net impact of the excess was a decrease in the employer contribution rate by 0.12% of pay.
- The demographic experience of the Plan – rates of retirement, death, disability, and termination, as well as salary and COLA changes – caused an increase in employer contribution rate of 0.77% of pay. Higher than expected pay increases for returning members was the largest factor contributing to an increase in the Unfunded Actuarial Liability and the associated amortization payment. New entrants and losses associated with new retirees and COLA increases also contributed to the loss. The increase in the amortization payment was offset somewhat by a reduction in the employer-paid Normal Cost as a result of the continued transition of the active workforce to membership in the new PEPPA tiers, which reflect lower benefit levels for new hires.
- Overall payroll was higher than expected by about \$5.4 million, increasing 4.89% compared to the 3.00% assumption. As a result, the unfunded liability amortization payment and administrative expenses were spread over a larger payroll base than expected, and the employer contribution rate decreased by 0.37% of pay.

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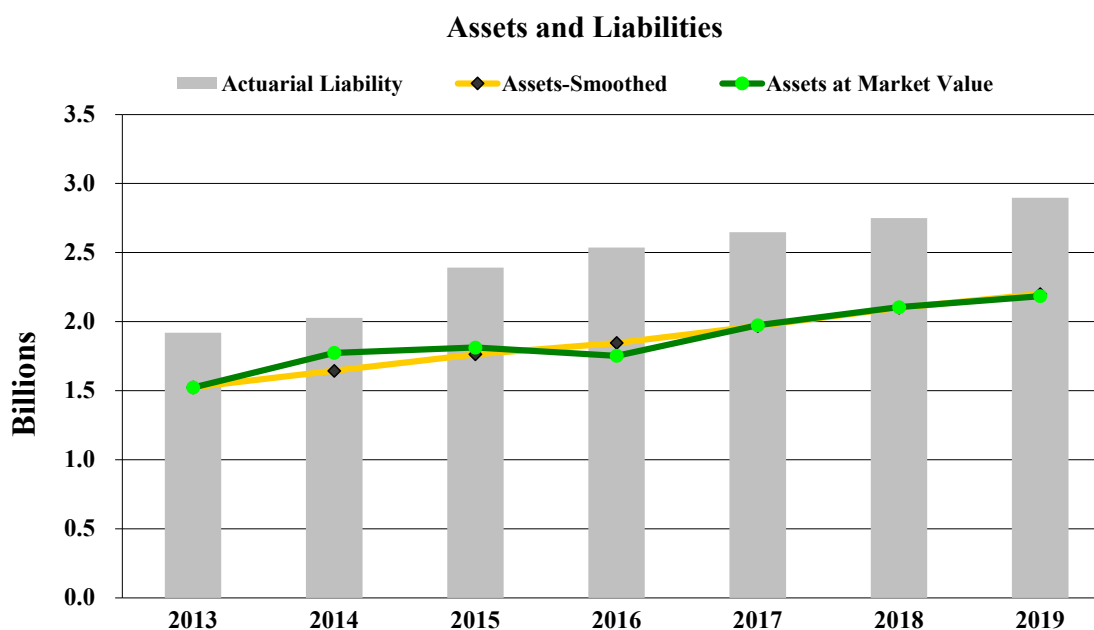
SECTION I – EXECUTIVE SUMMARY

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 decreased from 79.4% in 2013 to 75.9% as of June 30, 2019. The large drop in the funded ratio in 2015 was primarily due to changes in assumptions. The drop in the funded ratio from last year to this year was a result of investment and liability losses.



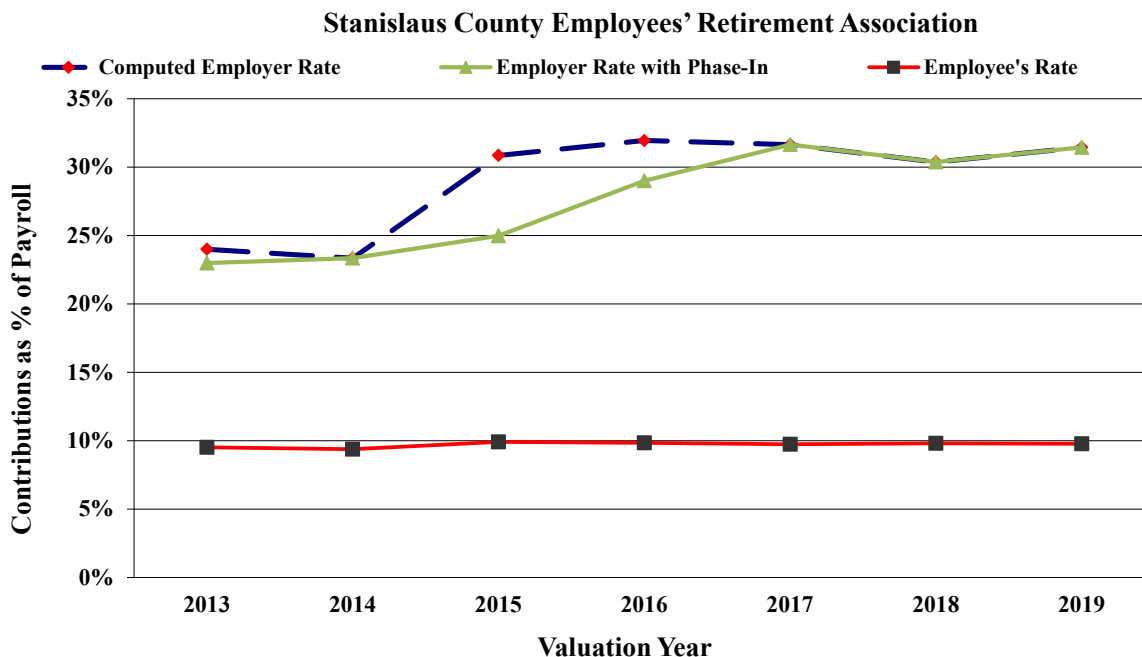
Valuation Year	2013	2014	2015	2016	2017	2018	2019
Funded Ratio	79.4%	81.1%	73.7%	72.8%	74.3%	76.4%	75.9%
UAL (Billions)	\$ 0.40	\$ 0.38	\$ 0.63	\$ 0.69	\$ 0.68	\$ 0.65	\$ 0.70

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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SECTION I – EXECUTIVE SUMMARY

Contribution Trends

In the chart below, we present the historical trends for the StanCERA contribution rates. The employer contribution rates have risen since 2013, primarily as a result of changes to the actuarial assumptions. The average employee contribution rates have also increased as the Plan's economic and demographic assumptions have changed. The phase-in recognizes significant changes in the computed employer rate over a set period to help manage the financial impact.



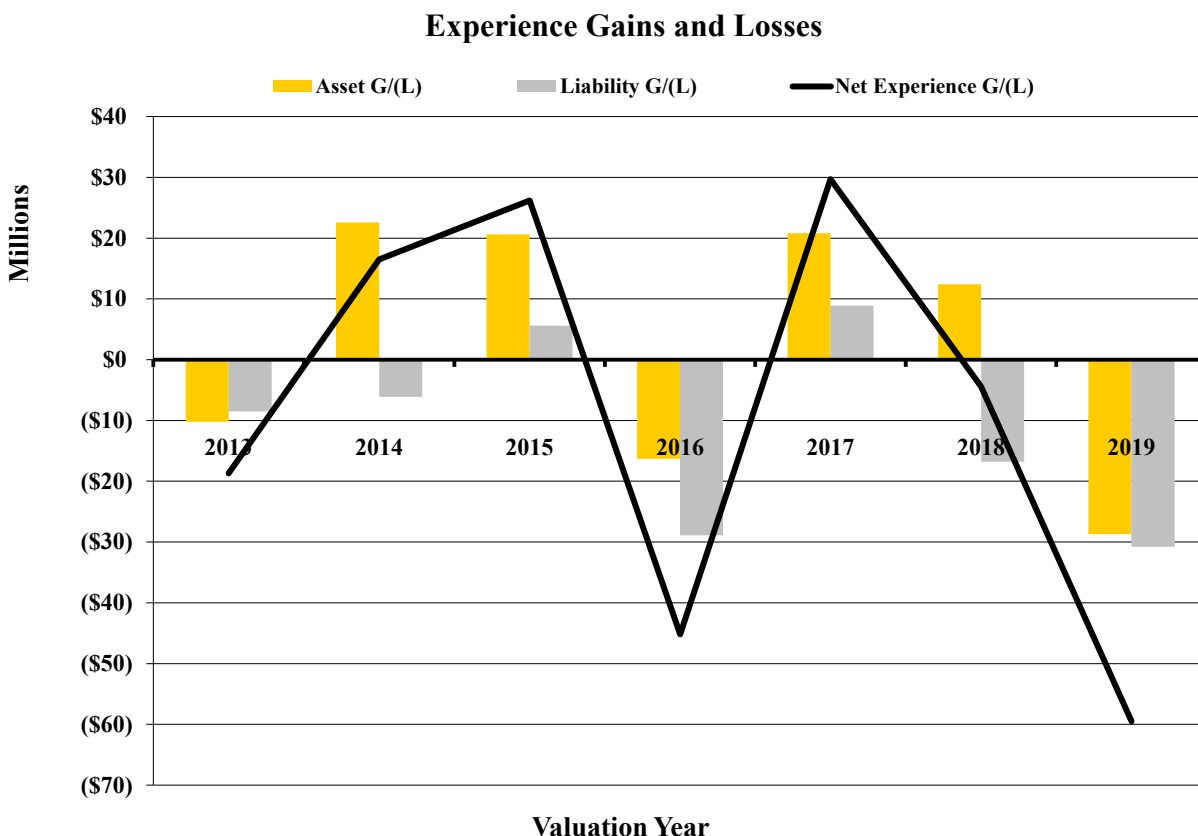
STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019

SECTION I – EXECUTIVE SUMMARY

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.

From July 1, 2012 through the current valuation, the plan has experienced both net gains and losses in individual years, with the current valuation year experiencing both an asset and liability loss.



STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019

SECTION I – EXECUTIVE SUMMARY

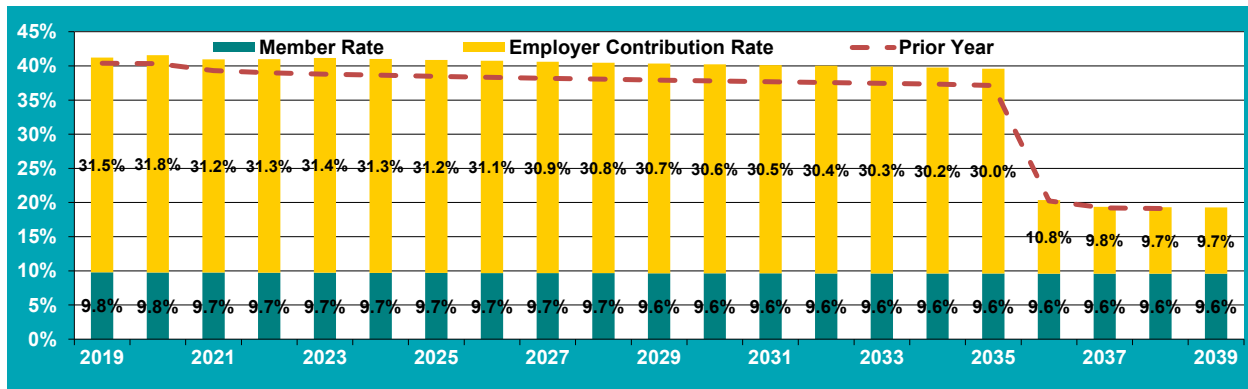
D. Future Expected Financial Trends

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, 2019 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 7.00%. We have assumed future total payroll increases of 3.00% per year.

The graph below shows the expected employer and employee contribution rates based on achieving the 7.00% assumption **each year** for the next 20 years. This scenario is highly unlikely: even if the Plan does achieve an **average** return of 7.00% over this time period, the returns in each given year will certainly vary. The expected total contribution rates based on the prior year valuation as of June 30, 2018 are shown (in the dashed line) for comparison.

The contribution rate graph shows that employer contribution rates are expected to stay relatively stable until the current unfunded liability amortization period (17 years) ends.

Projection of Contributions, 7.00% Return Each Year



The total contribution rate (employer plus employee) is approximately 41% of member payroll for the June 30, 2019 valuation; it is expected to gradually decline to approximately 40% if all actuarial assumptions are met. The gradual decline is due to the expected hiring of new PEPPRA members to replace the legacy employees as they retire, thus lowering the average normal cost of the Plan.

After 17 years, the total contribution rate is expected to drop due to the end of the current unfunded liability amortization period, to a level around 20% of pay, representing the expected Normal Cost plus administrative expenses. The end of the amortization period only affects the employer contribution rate. It has no impact on the employee contribution rate.

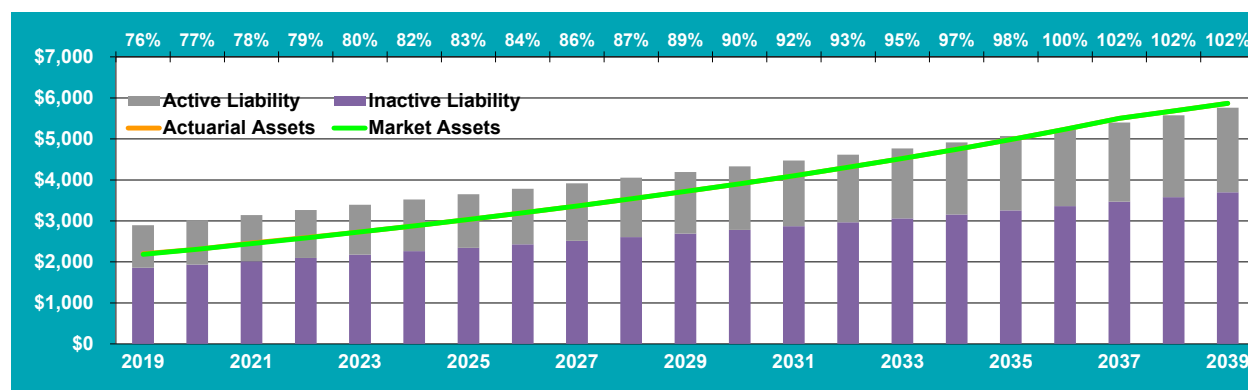
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SECTION I – EXECUTIVE SUMMARY

Asset and Liability Projections:

The following graph shows the projection of assets and liabilities assuming that assets will earn the 7.00% assumption each year during the projection period. The funded ratio shown is based on the Actuarial Value of Assets. The Actuarial Value of Assets is slightly greater than the Market Value of Assets as of June 30, 2019; under the five-year smoothing policy, the two are assumed to be equal past 2022 if there are no additional asset gains/losses.

Projection of Assets And Liabilities, 7.00% Return Each Year
(\$ millions)



The graph above shows that the projected funded status increases over the next 17 years to gradually reach 100%, as can be expected based on the amortization policy, assuming the actuarial assumptions are achieved. However, it is the **actual** return on Plan assets that will determine the future funding status and contribution rate to the Fund.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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SECTION II – DISCLOSURES RELATED TO RISK

Actuarial valuations are based on a set of assumptions about future economic and demographic experience. These assumptions represent a reasonable estimate of future experience, but actual future experience will undoubtedly be different and may vary significantly.

A new Actuarial Standard of Practice (ASOP 51) has been issued which requires actuaries to identify and assess risks that “may reasonably be anticipated to significantly affect the plan’s future financial condition.” This section of the report is intended to identify the primary risks to the Plan, provide some background information about those risks, and provide an assessment of those risks.

Identification of Risks

A fundamental risk to a pension plan is that the contributions needed to pay the benefits become unaffordable. Even in the case that the Plan remains affordable, the contributions needed to support the Plan may differ significantly from expectations. While there are a number of factors that could lead to contribution amounts deviating from expectations, we believe the primary risks are:

- Investment risk,
- Assumption change risk, and
- Contribution risk.

Other risks that we have not identified may also turn out to be important.

Investment Risk is the potential for investment returns to be different than expected. Lower investment returns than anticipated will increase the unfunded actuarial liability necessitating higher contributions in the future unless there are other gains that offset these investment losses. The potential volatility of future investment returns is determined by the Plan’s asset allocation and the affordability of the investment risk is determined by the amount of assets invested relative to the size of the plan sponsors or other contribution base.

Assumption change risk is the potential for the environment to change such that future valuation assumptions are different than the current assumptions. For example, declines in interest rates over the last three decades resulted in higher investment returns for fixed income investments but lower expected future returns, necessitating either a change in investment policy, a reduction in discount rate, or some combination of the two. Assumption change risk is an extension of the other risks identified, but rather than capturing the risk as it is experienced, it captures the cost of recognizing a change in environment when the current assumption is no longer reasonable.

Contribution risk is the potential for actual future contributions to deviate from expected future contributions. There are different sources of contribution risk such as the sponsor failing to make contributions in accordance with the funding policy or the contribution requirement becoming such a financial strain on the sponsor as a result of material changes in the contribution base

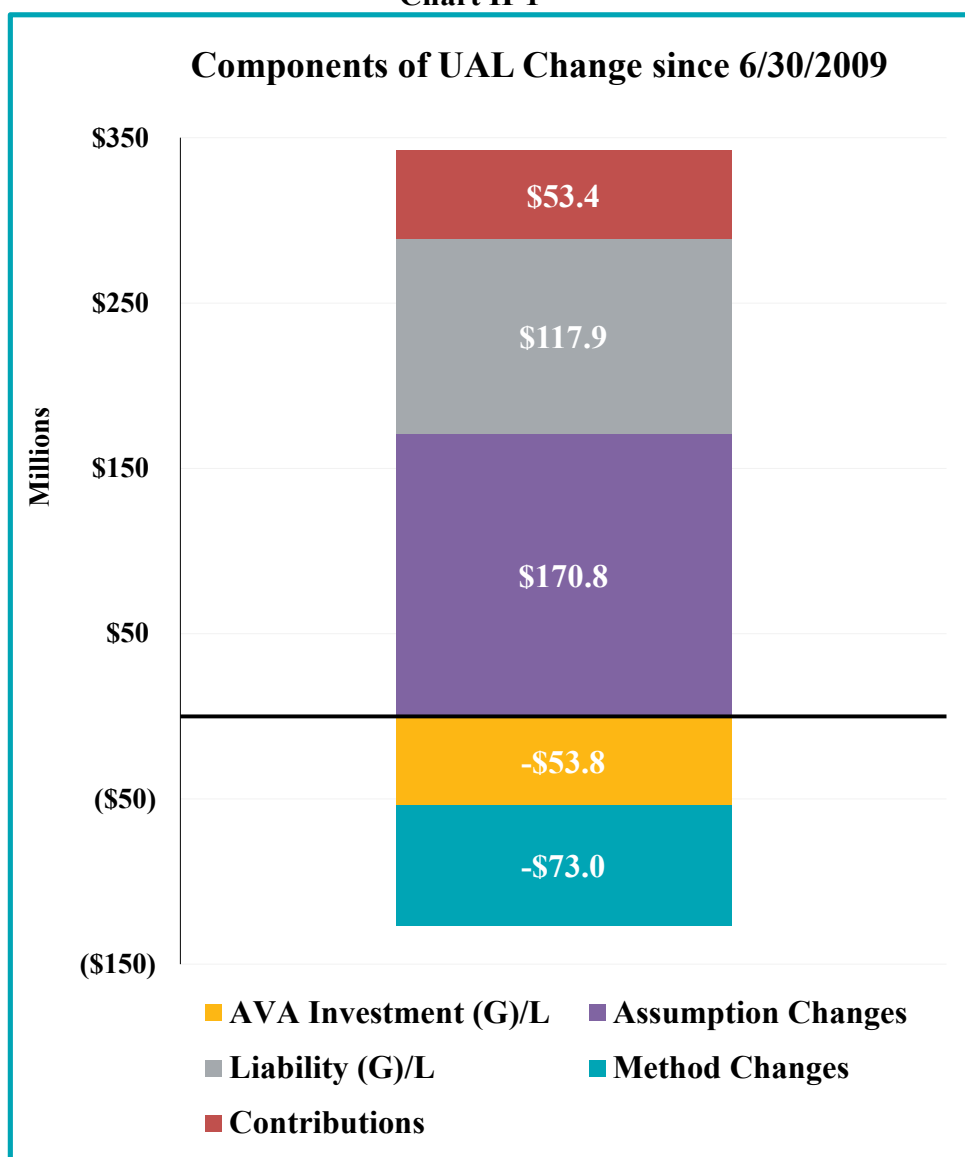
STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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SECTION II – DISCLOSURES RELATED TO RISK

(e.g., covered employees, covered payroll) that it affects the amount of contributions the Plan can collect.

The chart below shows the components contributing to the change in Unfunded Actuarial Liability (UAL) from June 30, 2009 through June 30, 2019. Over the last 10 years, the UAL has increased by approximately \$215 million. The net liability losses (gray bar) of \$118 million, assumption changes (purple bar) of \$171 million, and contributions below the “tread water” level (red bar) of \$53 million resulting in a total UAL increase of \$342 million are the primary sources in the UAL growth. Investment gains (gold bar) of \$54 million and method changes (teal bar) of \$73 million have decreased the UAL since June 30, 2009.

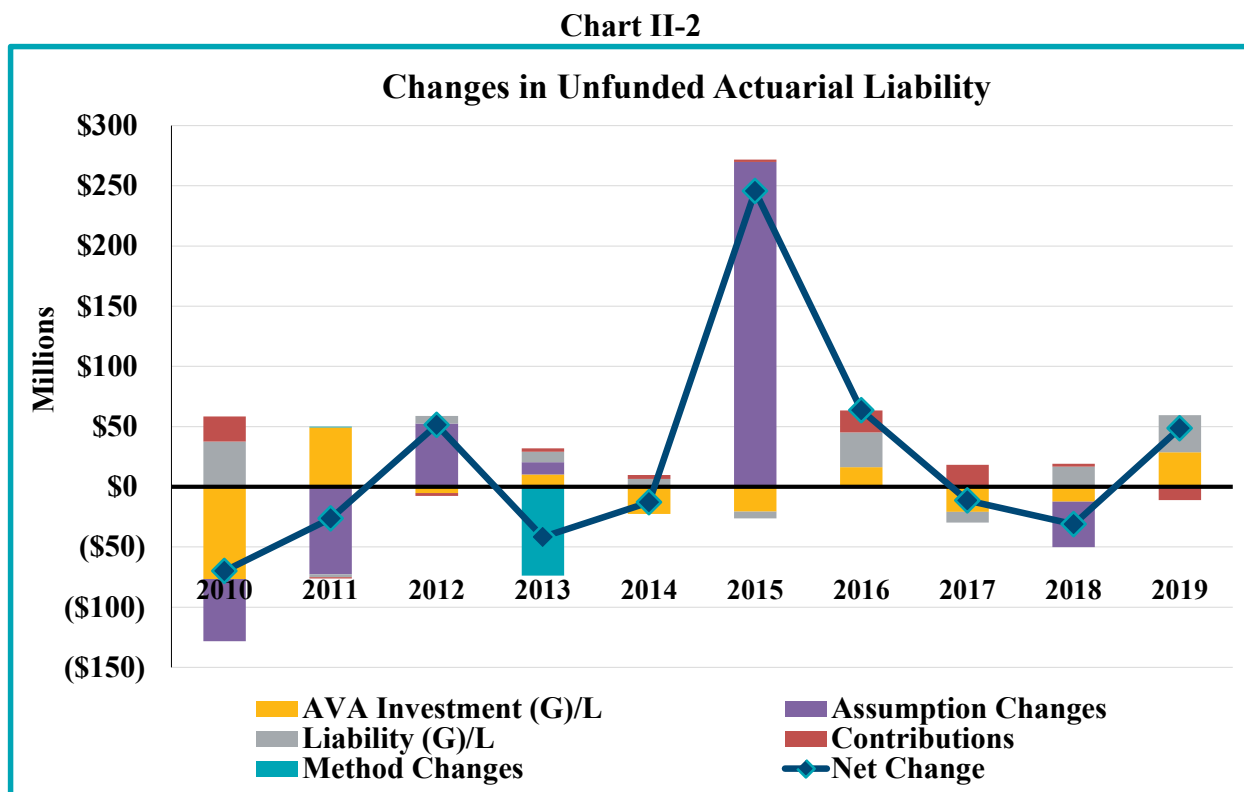
Chart II-1



**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

SECTION II – DISCLOSURES RELATED TO RISK

Chart II-2 below details the annual sources of the UAL change (colored bars) for the plan years ending June 30. The net UAL change for each year is represented by the blue diamonds.



Effective with the June 30, 2013, the actuarial cost method was modified from the Entry Age Normal-to-Decrement method to the Entry Age Normal-to-Final-Decrement method to comply with the accounting standards issued by the Government Accounting Standards Board. The impact of this was to shift some of the liability from past service to future, thereby decreasing the actuarial accrued liability (by approximately \$74 million) and increasing the normal cost. This is represented by the teal bar.

On a market value basis, the average annual geometric return over the 10-year period has been 9.6% with investment gains on the AVA in six years of those years decreasing the UAL, but investment losses in the other four years of the last decade. As of July 1, 2019, there are approximately \$15 million of deferred losses that will be recognized over the next four years.

Over the same time period, the assumed rate of return decreased from 8.16% to 7.00%. It is important to note that these changes simply reflect a downward revision to the estimate of future investment earnings and ultimately costs will be determined by actual investment earnings. Future expectations of investment returns may continue to decline necessitating further reductions in the discount rate.

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SECTION II – DISCLOSURES RELATED TO RISK

The impact of all assumption changes is represented by the purple bars and also includes decreases in mortality rates projected in the future, as well as changes in pay growth assumptions to anticipate the wage freezes that occurred after the Great Recession. The assumption changes effective with the July 1, 2018 valuation changed the expected rate of return from 7.25% to 7.00%, but also contained demographic changes, which reduced the UAL.

Each year the UAL is expected to increase for benefits earned in the current year (the normal cost), administrative expenses, and interest on the UAL. This expected increase is referred to as the tread water level. If contributions are greater than the tread water level, the UAL is expected to decrease. Conversely, if contributions are less than the tread water level, the UAL is expected to increase. The amortization policy (as well as the contribution-timing lag) can impact whether or not the contributions exceed the tread water level. The contribution shortfalls in 2016 and 2017 were due to the phase-in of the 2015 assumption change impact.

For StanCERA, the liability for each valuation group is amortized as a level percentage of payroll over a closed period, 17 years as of the current valuation. Contributions have not met the tread water level in seven of 10 years, resulting in \$53 million of increases to the UAL over the last decade. Table II-1 below numerically summarizes the changes in the UAL for each year by source over the last 10 years.

Table II-1

Unfunded Actuarial Liability (UAL) Change by Source						
June 30,	Investment Experience	Liability Experience	Assumption Changes	Method Changes	Contributions	Total UAL Change
2010	(\$76,507,000)	\$37,493,000	(\$51,744,000)	\$0	\$20,832,000	(\$69,926,000)
2011	49,205,000	(2,387,000)	(72,739,000)	653,000	(1,083,000)	(26,351,000)
2012	(5,284,000)	6,191,000	52,606,000	0	(2,235,000)	51,278,000
2013	10,200,000	8,500,000	10,300,000	(73,700,000)	2,901,000	(41,799,000)
2014	(22,600,000)	6,100,000	400,000	0	3,243,000	(12,857,000)
2015	(20,600,000)	(5,600,000)	269,800,000	0	1,999,000	245,599,000
2016	16,300,000	28,900,000	0	0	18,210,000	63,410,000
2017	(20,800,000)	(8,900,000)	0	0	18,328,000	(11,372,000)
2018	(12,400,000)	16,800,000	(37,800,000)	0	2,260,000	(31,140,000)
2019	28,700,000	30,800,000	0	0	(11,023,000)	48,477,000
Total	(\$53,786,000)	\$117,897,000	\$170,823,000	(\$73,047,000)	\$53,432,000	\$215,319,000

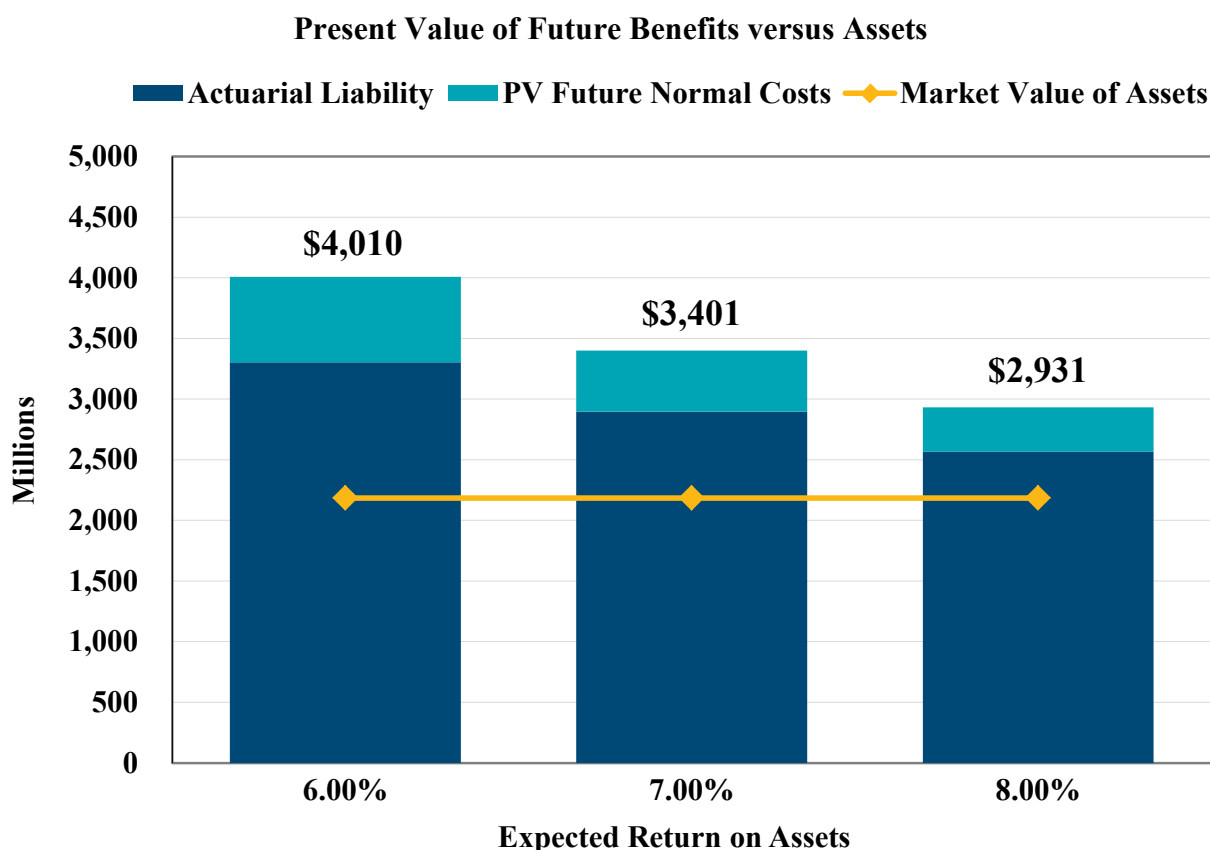
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SECTION II – DISCLOSURES RELATED TO RISK

Assessing Costs and Risks

Sensitivity to Investment Returns

The chart below compares assets to the present value of all projected future benefits discounted at the current expected rate of return and at discount rates 100 basis points above and below the expected rate of return. The present value of future benefits is shown as a bar with the portion attributable to past service in dark blue (Actuarial Liability) and the portion attributable to future service in teal (Present Value of Future Normal Costs). The Market Value of Assets is shown by the gold line.



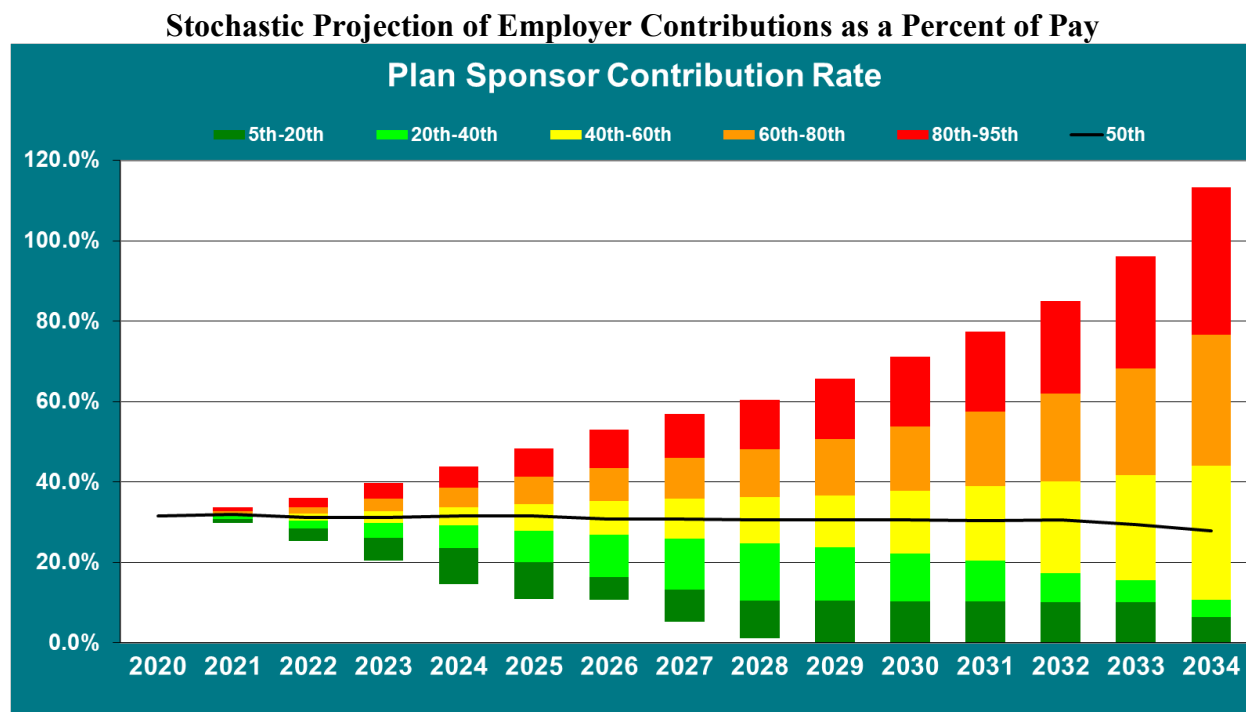
If investments return 7.00% annually, the Plan would need approximately \$3.4 billion in assets today to pay all projected benefits compared to current assets of \$2.1 billion. If investment returns are only 6.00%, the Plan would need approximately \$4.0 billion in assets today, and if investment returns are 8.00%, the Plan would need approximately \$2.9 billion in assets today.

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SECTION II – DISCLOSURES RELATED TO RISK

Sensitivity to Investment Returns - Stochastic Projections

Stochastic projections serve to show the range of probable outcomes of various measurements. The graphs below and on the following page show the projected range of the employer contribution rate and of the funded ratio on an actuarial value of assets basis. The range in both scenarios is driven by the volatility of investment returns (assumed to be based on a 10% standard deviation of annual returns, as indicated in Verus' 2019 capital market assumptions).



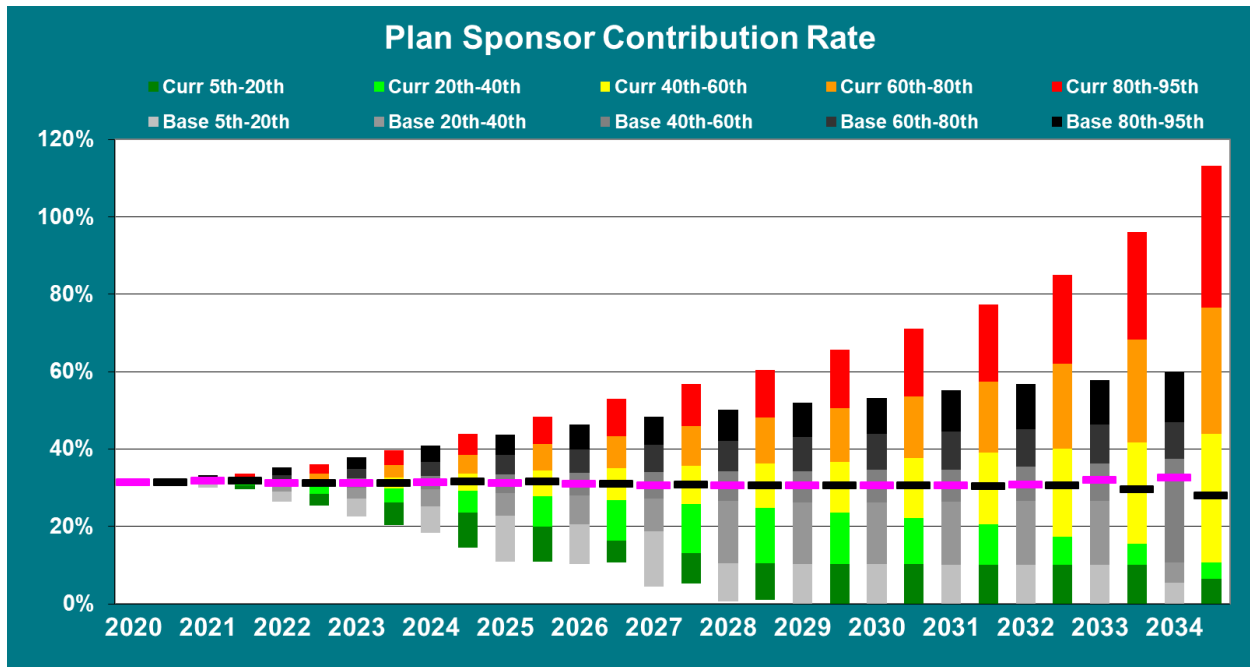
The stochastic projection of employer contributions as a percent of pay shows the probable range of future contribution rates. The baseline contribution rate (black line), which is based on the median of the simulations using an average return of 7.00%, aligns closely with the projections discussed in subsection D. of the Executive Summary of this report. In the most pessimistic scenario shown, the 95th percentile, the projected employer contribution rate exceeds 115% of pay in 2034. Conversely, the most optimistic scenario shown, the 5th percentile, the projected employer contribution rate declines to 0% by 2029. We note that these projections allow the employer contribution to drop below the normal cost only if the Plan becomes extremely overfunded (above 120%), as required under PEPRA.

We also note that the extreme level of volatility in the contribution rates towards the end of the projection period is driven by the declining amortization period. If the Board takes action to modify the amortization period – either by freezing/restarting the amortization schedule, or moving towards a layered amortization policy wherein changes in the UAL are amortized over individual fixed/closed periods based on when the change occurs – the volatility in rates could be reduced significantly.

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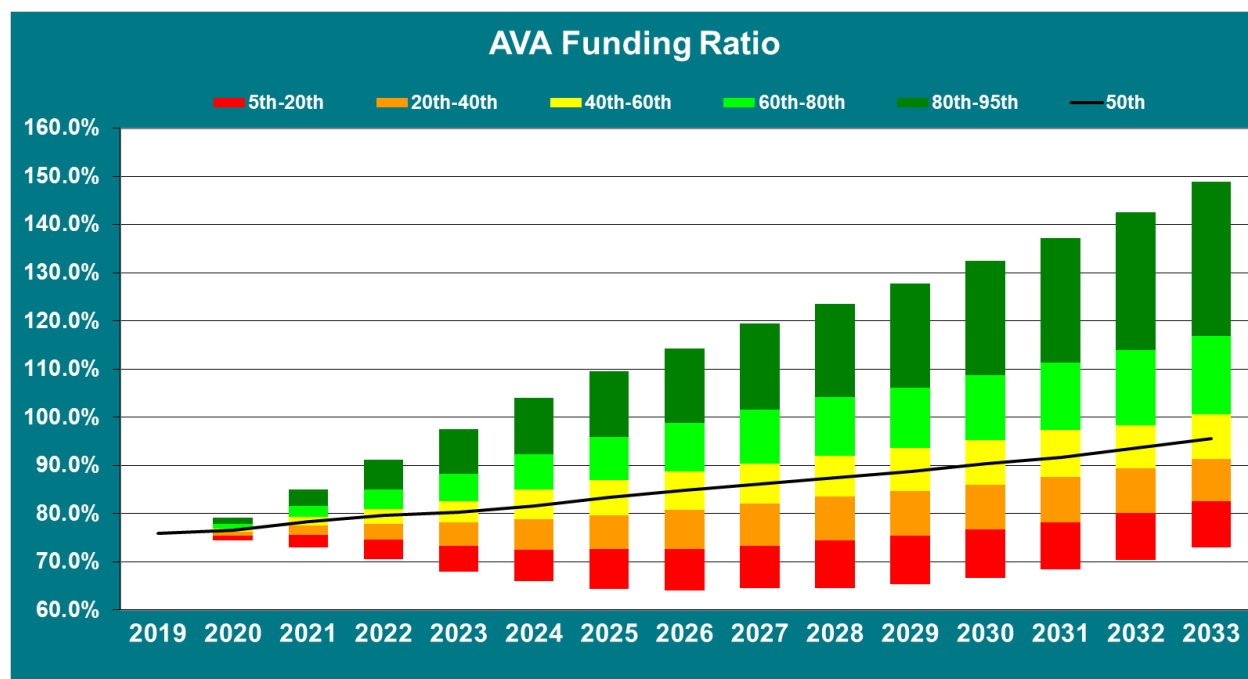
For example, the chart below shows the projected contributions rates under two different amortization policies: the black/gray bars represent a layered amortization policy, where each future year's gain or loss is amortized over a closed 20-year period. The colored bars represent the projected costs under the current closed 17-year amortization policy (matching the projections shown in the chart on the prior page). As can clearly be seen, the expected impact of the change in amortization policy is a significant reduction in the volatility of contribution rates in future years. We encourage the Board to consider modifications to the funding policy within the next few years.



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Stochastic Projection of Funded Ratio on an Actuarial Value of Assets Basis



The graph above shows the projection of the funded ratio based on the actuarial value of assets. It is based on the current amortization policy. While the baseline-funded ratio (black line) is projected to be approximately 95% at the end of the 15-year period shown here, there is a wide range of potential outcomes. Good investment returns have the likelihood of bringing the funded ratio well over 100%.

Due to the current funding policy of the Plan, even in scenarios with unfavorable investment returns, the Plan is projected to remain over 64% funded on an actuarial value of assets basis, as long as the actuarially determined contributions continue to be made. As with the contribution projection, the declining amortization policy also drives the funded ratio higher, as any unfunded liability that develops toward the end of the projection period would be amortized over a very short period (forcing the contribution rates to increase significantly).

Contribution Risk

While investment returns are typically the dominant factor in volatility, contribution rates can also be sensitive to future salary increases and the hiring of new members. When member payroll growth stagnates or even declines, the dollar level of contributions made to the Plan also stagnates or declines since contributions are based on payroll levels, though this will generally only present a funding issue if there is an extended period of payroll reductions.

There is also a risk of the contribution rate increasing even higher when payroll decreases since the Plan's funding policy amortizes the UAL as a level percentage of pay. This means that the

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UAL payments increase at the assumed payroll growth rate of 3.00%, so that the payment is expected to remain constant as a percentage of payroll. If payroll growth is less than the expected 3.00% or there is a decline in payroll, the UAL payments are spread over a smaller payroll base and the contribution rate as a percentage of pay increases, making the Plan less affordable for those sponsors with declining payroll bases.

For example, the UAL Amortization rate as of June 30, 2019 for the FYE 2020 is 18.92%. If the projected payroll for FYE 2020 were 3.00% lower, all else being equal, the UAL Amortization rate would increase 19.49%.

Plan Maturity Measures

The future financial condition of a mature pension plan is more sensitive to each of the risks identified above than a less mature plan. It is important to understand how the maturity has changed over time.

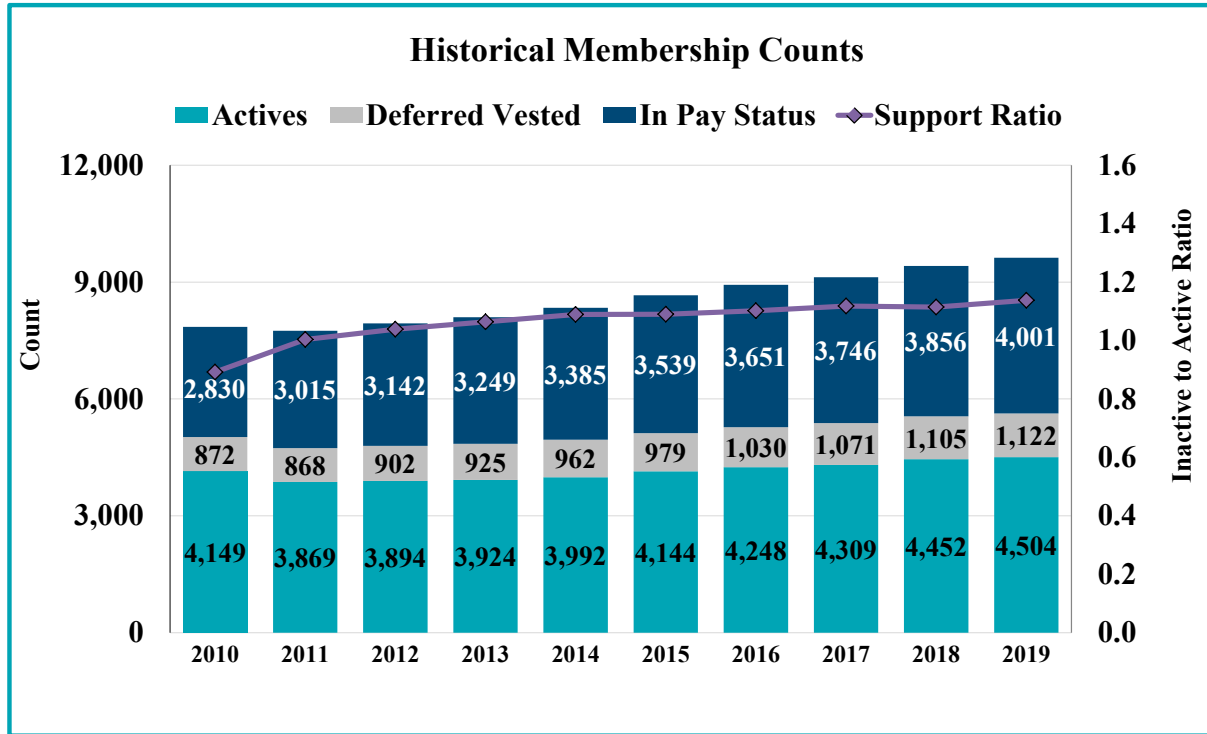
Plan maturity can be measured in a variety of ways, but they all get at one basic dynamic - the larger the plan is compared to the contribution or revenue base that supports it, the more sensitive the plan will be to risk. The measures below have been selected as the most important in understanding the primary risks identified for the Plan.

Inactives per Active (Support Ratio)

One simple measure of plan maturity is the ratio of the number of inactive members to the number of active members. The Support Ratio is expected to increase gradually as a plan matures. The chart below shows the growth in the Support Ratio from 2010 to 2019 as the number of active members declined and then increased slower than the number of retirees and deferred members.

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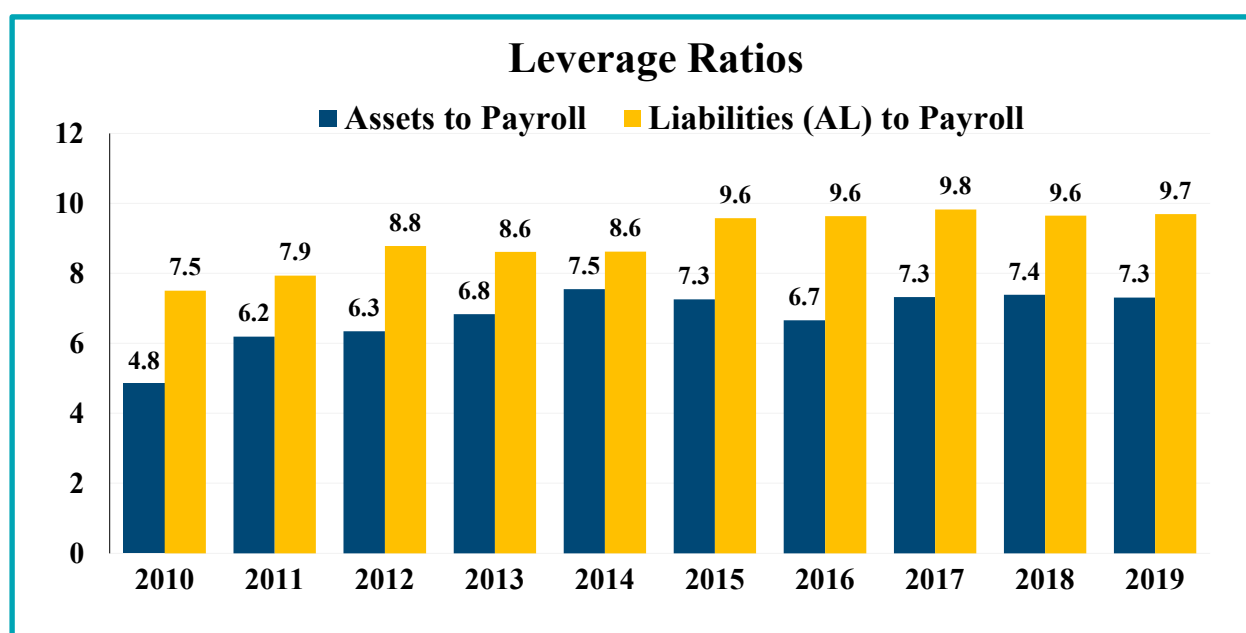
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SECTION II – DISCLOSURES RELATED TO RISK

Leverage Ratios

Leverage or volatility ratios measure the size of the plan compared to its revenue base more directly. The asset leverage ratio is simply the market value of assets to active member payroll and indicates the sensitivity of the Plan to investment returns. The liability leverage ratio is the plan's actuarial liability to active member payroll and indicates the sensitivity of the Plan to assumption changes or demographic experience.

The chart below shows the historical leverage ratios of the Plan. Both leverage ratios have gradually increased since 2010, but the asset to payroll ratio has remained at or above 7.0 - assets are seven times member payroll - for all but one of the last six years.



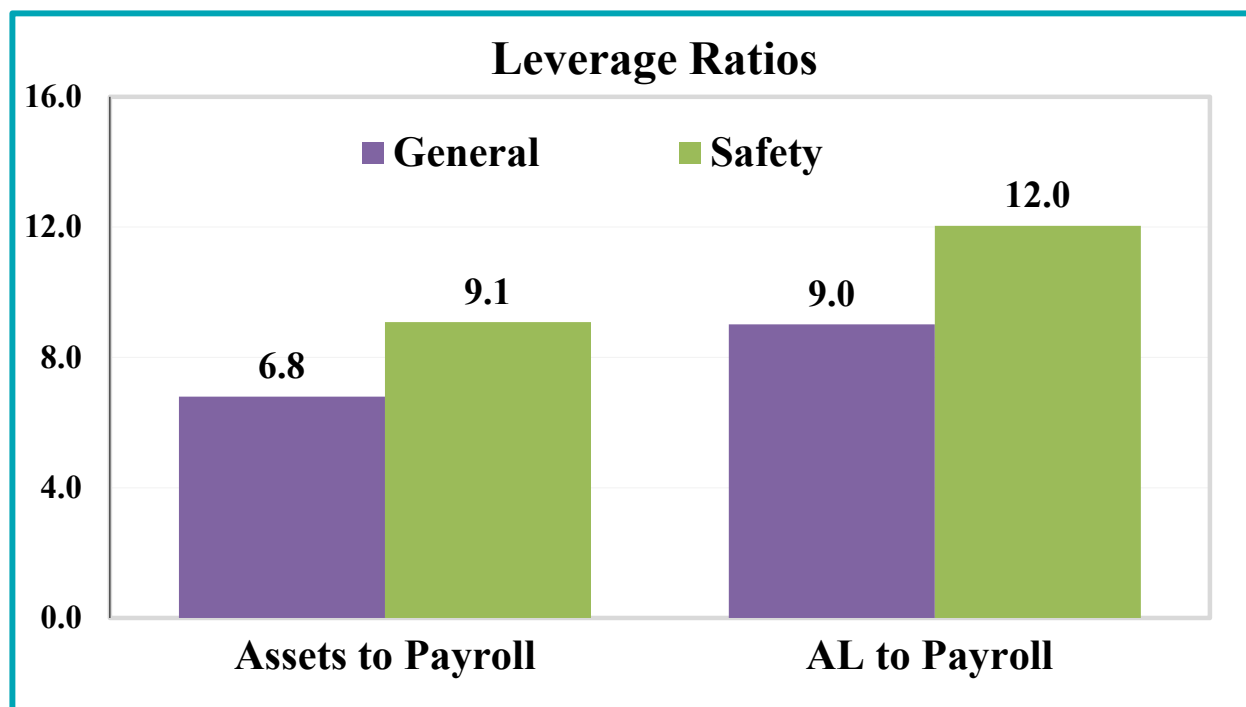
To appreciate the impact of the ratio of assets to payroll on plan cost, consider the situation for a new plan with almost no assets. Even if the assets suffer a bad year of investment returns, the impact on the plan cost is nil, because the asset level is so small.

As the Plan becomes better funded, the asset leverage ratio will increase, and if it was 100% funded, the asset leverage ratio would be close to 10 times payroll, or the Actuarial Liability (AL) leverage ratio.

We note that the ratio of both assets and liabilities to payroll, and therefore the sensitivity to investment returns, is higher for the Safety members compared to the General members, because of the higher benefit amounts and the earlier average retirement ages for Safety.

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The General asset leverage ratio of 6.8 means that if the Plan's assets lose 10% of their value, which is a 17.00% actuarial loss compared to the expected return of 7.00%, the loss would be equivalent to 116% of payroll (17.00% times 6.8). The same investment loss for the Safety group with an asset ratio of 9.1 would be equivalent to just over 155% of payroll. There is only one source of funding to make up for these investment losses: contributions. Consequently, barring future offsetting investment gains, the employer has to make up the asset loss in additional future contributions. In this example of a one-year loss of 10%, the shortfall will eventually require an additional annual amortization payment of approximately 9% and 13% of payroll for General and Safety, respectively, if amortized over 17 years. Contribution rates for the Safety members will generally be more volatile than those of the General members.

If the Plan were full funded, the 10% loss discussed above would translate to a loss of 153% of payroll for General and 204% of payroll for Safety. When amortized over 17 years, employer contributions would increase approximately 12% and 17% of payroll, respectively. Therefore, the Plan may become significantly more sensitive to market variations in the future than it is today.

More Detailed Assessment

While a more detailed assessment is always valuable to enhance the understanding of the risks identified above, we believe the scenarios illustrated above cover the primary risks facing the Plan at this time. We would be happy to provide the Board with a more in-depth analysis at their request.

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SECTION III – 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, 2018 and June 30, 2019,
- 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 reflects smoothing of annual investment returns.

Table III-1 on the next page discloses and compares each asset class as of June 30, 2018 and June 30, 2019.

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SECTION III – ASSETS

**Table III-1
Statement of Assets at Market Value**

	Fiscal Year ending	Fiscal Year ending
	June 30, 2018	June 30, 2019
Assets		
Cash and Cash Equivalents	\$ 195,650,852	\$ 56,243,082
Total Cash and Cash Equivalents	\$ 195,650,852	\$ 56,243,082
Receivables		
Interest and Dividends	\$ 5,372,554	\$ 6,791,291
Contributions	5,897,011	6,666,983
Securities Transactions	31,426,661	966,581
Total Receivables	\$ 42,696,226	\$ 14,424,855
Fixed Assets		
Capitalized Software	\$ 32,344	\$ 0
Real Estate Occupied	1,650,968	1,630,546
Real Estate Leased	1,100,863	1,087,753
Other	2,542,616	3,891,574
Total Fixed Assets	\$ 5,326,791	\$ 6,609,873
Investments at Market Value		
Fixed Income	\$ 335,655,061	\$ 479,716,064
Equities	1,103,761,404	1,020,306,300
Collateral on Loaned Securities	85,288,212	144,376,536
Other	488,072,923	646,075,887
Total Investments	\$ 2,012,777,600	\$ 2,290,474,787
Liabilities		
Accounts Payable	\$ (12,052,811)	\$ (12,596,100)
Security Transactions Payable	(31,754,701)	(2,143,529)
Collateral Held for Loaned Securities	(85,288,212)	(144,376,536)
Other	(395,000)	(395,000)
Total Liabilities	\$ (129,490,724)	\$ (159,511,165)
Market Value of Assets	\$ 2,126,960,745	\$ 2,208,241,432

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SECTION III – 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 III-2 on the next page shows the components of change in the Market Value of Assets during the fiscal years ending June 30, 2018 and June 30, 2019.

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SECTION III – ASSETS

Table III-2 Changes in Market Values		
<u>Additions</u>	Fiscal Year ending <u>June 30, 2018</u>	Fiscal Year ending <u>June 30, 2019</u>
Contributions		
Employer's Contribution	\$ 76,966,471	\$ 88,589,381
Members' Contributions	26,746,289	27,742,863
Total Contributions	\$ 103,712,760	\$ 116,332,244
Net Investment Income		
Net Appreciation/(Depreciation) in		
Fair Value of Investments	\$ 124,664,847	\$ 54,084,769
Interest and Dividends	40,576,311	53,382,923
Commission Recapture	15,091	22,395
Other Investment Income	303,437	324,140
Total Investment Income	\$ 165,559,686	\$ 107,814,227
Investment Expense	(11,120,770)	(9,008,420)
Net Investment Income	\$ 154,438,916	\$ 98,805,807
Securities Lending Activities		
Securities Lending Income	\$ 784,420	\$ 677,888
Expenses from Securities Lending Activities	(235,137)	(203,170)
Net Securities Lending Income	549,283	474,718
Total Net Investment Income	\$ 154,988,199	\$ 99,280,525
Total Additions	\$ 258,700,959	\$ 215,612,769
<u>Deductions</u>		
Benefits	\$ 120,978,337	\$ 129,100,668
Refunds	2,193,779	2,674,023
Administrative Costs	2,791,409	2,557,391
Total Deductions	\$ 125,963,525	\$ 134,332,082
Net Increase/(Decrease)	\$ 132,737,434	\$ 81,280,687
Net Assets Beginning of Year	\$ 1,994,223,311	\$ 2,126,960,745
Net Assets End of Year	\$ 2,126,960,745	\$ 2,208,241,432
Approximate Return	7.82%	4.69%

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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SECTION III – ASSETS

Actuarial Value of Assets (AVA)

The Actuarial Value of Assets represents a “smoothed” value developed by the actuary to reduce the volatile results that 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, a 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 table on the following page shows the development of the Actuarial Asset and Valuation Assets values.

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SECTION III – ASSETS

Table III-3 Development of Actuarial Value of Assets for 6/30/2019	
Item	Total
1. Market Value as of 6/30/2018	\$ 2,126,960,745
2. Non-Investment Cash Flow for 2018-2019	(17,999,838)
3. Expected Return in 2018-2019	148,267,913
4. Expected Market Value as of 6/30/2019: (1 + 2 + 3)	\$ 2,257,228,820
5. Actual Return in 2018-2019	99,280,525
6. Actual Return Above Expected in 2018-2019: (5 - 3)	(48,987,388)
7. Market Value as of 6/30/2019	\$ 2,208,241,432
8. Deferred Recognition of Returns Above Expected	
A. 2018-2019 (80% of -\$48,987,388)	(39,189,910)
B. 2017-2018 (60% of \$11,199,487)	6,719,692
C. 2016-2017 (40% of \$124,877,553)	49,951,021
D. 2015-2016 (20% of -\$163,175,725)	(32,635,145)
E. Total	\$ (15,154,342)
9. Preliminary Actuarial Value of Assets: (7 - 8E)	\$ 2,223,395,774
10. Corridor Limit	
A. 80% of Net Market Value	1,766,593,146
B. 120% of Net Market Value	2,649,889,718
11. Actuarial Value after Corridor as of 6/30/2019	\$ 2,223,395,774
12. Rate of Return on Actuarial Value of Assets	5.64%
13. Ratio of Actuarial Value to Market Value: (11 ÷ 7)	100.7%
14. Special (Non Valuation) Reserves:	
A. Health Insurance Reserves	0
B. Special COL Reserve	0
C. Legal Contingency Reserve	2,076,541
D. Tier 3 Disability Reserve	1,560
E. Contingency Reserve	21,347,701
F. Total Special Reserves (Market Value)	\$ 23,425,802
15. Adjusted Total Special Reserves (100.7% of Market, Except Contingency)	\$ 23,440,063
16. Pension Reserves at Actuarial Value (Valuation Assets): (11 - 15)	\$ 2,199,955,711

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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SECTION III – ASSETS

Historical Investment Performance

The table shows the historical annual asset returns on a Market Value, Actuarial Value, and Valuation Asset basis, as well as the increase in the Consumer Price Index (CPI) since 1997. Note that the returns prior to 2013 are expressed net of investment and administrative expenses; the returns for 2013 and all following years are expressed net of investment expenses only.

Table III-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 ¹
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%
2016	-1.7%	6.3%	6.3%	1.0%
2017	14.4%	8.3%	8.4%	1.6%
2018	7.8%	7.9%	7.9%	2.9%
2019	4.7%	5.6%	5.6%	1.6%
20-Year Compound Average				
	5.9%	N/A	N/A	2.2%
15-Year Compound Average				
	6.6%	N/A	6.7%	2.0%
10-Year Compound Average				
	9.6%	7.6%	7.9%	1.7%
5-Year Compound Average				
	5.7%	7.4%	7.4%	1.5%

¹ Based on All Urban Consumers - U.S. City Average, June indices.

**TANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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SECTION III – 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 III-5 Allocation of 6/30/2019 Unfunded Liability (in thousands)				
	County and Former County	Ceres and Other Districts	Total	
1. Actuarial Value of Assets			\$	2,199,956
2. Accumulated Employee Contributions	205,764	13,605		219,369
3. Inactive Actuarial Liability	1,776,761	83,976		1,860,738
4. Net Assets for Distribution [1 - 2 - 3]			\$	119,849
5. Active Actuarial Liability	\$ 971,934	\$ 64,551	\$	1,036,485
6. Allocation of Remaining Assets	93.77%	6.23%		100.00%
7. Remaining Assets	112,385	7,464		119,849
8. Total Assets for Actives [2 + 7]	318,148	21,069		339,218
9. Active Funded Ratio [8 ÷ 5]	32.7%	32.6%		32.7%
10. Actuarial Value of Assets [3 + 8]	\$ 2,094,910	\$ 105,046	\$	2,199,956
11. AVA Funded Ratio [10 ÷ (3 + 5)]	76.21471%	70.72471%		75.9%
12. Unfunded Actuarial Liability [5 - 8]	\$ 653,785	\$ 43,482	\$	697,267

Within the two valuation subgroups (County / Former County Members and City of Ceres / Special District Members), the Actuarial Value of Assets and the Unfunded Actuarial Liability are allocated between Safety and General based on each groups' share of the Actuarial Liability, as show in Table IV-1.

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SECTION IV – LIABILITIES

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

- **Disclosure** of Plan liabilities at June 30, 2018 and June 30, 2019,
- 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 IV-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, 2019**

SECTION IV – LIABILITIES

**Table IV-1
Present Value of Future Benefits and Actuarial Liability**
(in thousands)

	General		Safety		June 30, 2019	June 30, 2018
	County and Former County	Ceres and Other Districts	County and Former County	Ceres and Other Districts	Total	Total
Present Value of Future Benefits						
Actives	\$ 1,056,577	\$ 42,083	\$ 389,301	\$ 52,369	\$ 1,540,330	\$ 1,483,059
Terminated Vested	115,716	5,953	34,160	9,425	165,253	153,411
Retirees	1,083,312	29,709	325,149	27,873	1,466,042	1,367,014
Disabled	47,050	1,929	78,461	6,820	134,260	133,254
Beneficiaries	62,737	725	30,178	1,543	95,183	89,810
Total StanCERA	\$ 2,365,392	\$ 80,398	\$ 857,248	\$ 98,030	\$ 3,401,067	\$ 3,226,548
Actuarial Liability						
Total Present Value of Benefits	\$ 2,365,392	\$ 80,398	\$ 857,248	\$ 98,030	\$ 3,401,067	\$ 3,226,548
Present Value of Future Normal Costs						
Employer Portion	184,748	7,980	72,948	9,269	274,944	261,745
Employee Portion	156,210	6,018	60,039	6,634	228,901	215,735
Actuarial Liability	\$ 2,024,434	\$ 66,401	\$ 724,261	\$ 82,127	\$ 2,897,223	\$ 2,749,068
Actuarial Value of Assets	\$ 1,542,917	\$ 46,962	\$ 551,993	\$ 58,084	\$ 2,199,956	\$ 2,100,278
Funded Ratio	76.2%	70.7%	76.2%	70.7%	75.9%	76.4%
Unfunded Actuarial Liability/(Surplus)	\$ 481,518	\$ 19,439	\$ 172,268	\$ 24,043	\$ 697,267	\$ 648,790

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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SECTION IV – LIABILITIES

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

Table IV-2 Liabilities by Group as of June 30, 2019 (in thousands)					
	General		Safety		Total
	County and Former County	Ceres and Other Districts	County and Former County	Ceres and Other Districts	
Actuarial Liability					
Actives	\$ 715,620	\$ 28,085	\$ 256,314	\$ 36,466	\$ 1,036,485
Terminated Vested	115,716	5,953	34,160	9,425	165,253
Retirees	1,083,312	29,709	325,149	27,873	1,466,042
Disabled	47,050	1,929	78,461	6,820	134,260
Beneficiaries	62,737	725	30,178	1,543	95,183
Total	\$ 2,024,434	\$ 66,401	\$ 724,261	\$ 82,127	\$ 2,897,223

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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SECTION IV – 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 IV-3
Development of 2019 Experience Gain/(Loss)
(in millions)

Item	Cost
1. Unfunded Actuarial Liability at June 30, 2018	\$ 648.8
2. Middle of year actuarial liability payment	(50.5)
3. Interest to end of year on 1 and 2	<u>43.7</u>
4. Expected Unfunded Actuarial Liability at June 30, 2019 (1+2+3)	\$ 642.0
5. Actual Unfunded Liability at June 30, 2019	<u>697.3</u>
6. Difference: (4 - 5)	\$ (55.3)
7. Portion of difference due to:	
A. Investment experience	\$ (28.7)
B. Contribution (shortfall)/excess	4.2
C. Assumption changes	0
D. New entrant loss	(2.1)
E. Other experience	<u>(28.6)</u>
F. Total	(55.3)

STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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SECTION V – 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 EAN Actuarial Liability is calculated by subtracting the present value of future total Normal Cost from the Present Value of Future Benefits (as described at the beginning of Section IV).

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 17-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, 2019 valuation, this amount is estimated to be \$2.90 million.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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SECTION V – 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.

**Table V-1
Development of the Net Employer Contribution Rate as of June 30, 2019 for FYE 2021**

	General		June 30, 2019 Safety		COMPOSITE	June 30, 2018 COMPOSITE
	County and Former County	Ceres and Other Districts	County and Former County	Ceres and Other Districts		
1. Total Normal Cost Rate	19.14%	21.00%	28.46%	30.81%	21.34%	21.47%
2. Member Contribution Rate	<u>8.92%</u>	<u>9.24%</u>	<u>12.70%</u>	<u>12.83%</u>	<u>9.78%</u>	<u>9.82%</u>
3. Employer Normal Cost Rate (1-2)	10.22%	11.76%	15.76%	17.98%	11.56%	11.65%
4. UAL Amortization	17.50%	17.94%	23.30%	27.83%	18.92%	17.74%
5. Administrative Expense Rate	<u>0.88%</u>	<u>0.94%</u>	<u>1.25%</u>	<u>1.46%</u>	<u>0.97%</u>	<u>0.99%</u>
6. Net Employer Contribution Rate (3+4+5)	28.60%	30.64%	40.31%	47.27%	31.45%	30.38%

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

SECTION V – CONTRIBUTIONS

Table V-2 contains the details of the calculations of the UAL rates for the Plan and its subgroups.

<p style="text-align: center;">Table V-2 Development of UAL Amortization Rates</p>					
	General		Safety		TOTAL
	County and Former County	Ceres and Other Districts	County and Former County	Ceres and Other Districts	
Salary Scale:					
2020+	3.00%	3.00%	3.00%	3.00%	N/A
Amortization Factor	12.3289	12.3289	12.3289	12.3289	N/A
Payroll	\$ 223,133,953	\$ 8,786,579	\$ 59,972,576	\$ 7,007,201	\$ 298,900,309
Unfunded Actuarial Liability (AVA)	\$ 481,517,646	\$ 19,438,952	\$ 172,267,511	\$ 24,043,016	\$ 697,267,126
UAL Amortization	\$ 39,056,103	\$ 1,576,702	\$ 13,972,692	\$ 1,950,139	\$ 56,555,636
UAL Amortization Rate	17.50%	17.94%	23.30%	27.83%	18.92%

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

SECTION V – CONTRIBUTIONS

Tables V-3 and V-4 contain the calculations of the employer contribution rates for each group and tier.

Table V-3 Development of the General Member Contribution Rate as of June 30, 2019 for FYE 2021							
	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	PEPRA	TOTAL
<u>County and Former County</u>							
A. Total Normal Cost Rate	22.23%	18.69%	2.99%	16.31%	20.65%	17.46%	19.14%
B. Member Contribution Rate	8.64%	8.19%	0.00%	0.58%	9.28%	8.73%	8.92%
C. Employer Normal Cost Rate (A-B)	13.59%	10.50%	2.99%	15.73%	11.37%	8.73%	10.22%
D. UAL Amortization Rate	17.50%	17.50%	17.50%	17.50%	17.50%	17.50%	17.50%
E. Administrative Expense Rate	0.99%	0.89%	0.65%	1.06%	0.92%	0.84%	0.88%
F. Net June 30, 2019 Contribution Rate (C+D+E)	32.08%	28.89%	21.14%	34.29%	29.79%	27.07%	28.60%
<u>Ceres and Other Districts</u>							
A. Total Normal Cost Rate		17.10%		0.00%	22.57%	18.49%	21.00%
B. Member Contribution Rate		8.09%		0.00%	9.29%	9.24%	9.24%
C. Employer Normal Cost Rate (A-B)		9.01%		0.00%	13.28%	9.25%	11.76%
D. UAL Amortization Rate		17.94%		17.94%	17.94%	17.94%	17.94%
E. Administrative Expense Rate		0.86%		0.57%	0.99%	0.87%	0.94%
F. Net June 30, 2019 Contribution Rate (C+D+E)		27.81%		18.51%	32.21%	28.06%	30.64%

Administrative expenses allocated based on projected Employer Normal Cost and UAL Amortization contributions. See Table V-5.

For Ceres and the other Districts, the remaining Tier 4 General member is assumed to retire immediately, therefore there is no Normal Cost for this member; only a UAL payment is calculated for this tier.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

SECTION V – CONTRIBUTIONS

Table V-4 Development of the Safety Member Contribution Rate as of June 30, 2019 for FYE 2021				
	Tier 2	Tier 5	PEPRA	TOTAL
<u>County and Former County</u>				
A. Total Normal Cost Rate	26.89%	31.80%	24.68%	28.46%
B. Member Contribution Rate	<u>12.17%</u>	<u>13.06%</u>	<u>12.34%</u>	<u>12.70%</u>
C. Employer Normal Cost Rate (A-B)	14.72%	18.74%	12.34%	15.76%
D. UAL Amortization Rate	23.30%	23.30%	23.30%	23.30%
E. Administrative Expense Rate	<u>1.21%</u>	<u>1.34%</u>	<u>1.14%</u>	<u>1.25%</u>
F. Net June 30, 2019 Contribution Rate (C+D+E)	39.23%	43.38%	36.78%	40.31%
<u>Ceres and Other Districts</u>				
A. Total Normal Cost Rate		31.84%	27.44%	30.81%
B. Member Contribution Rate		<u>12.56%</u>	<u>13.72%</u>	<u>12.83%</u>
C. Employer Normal Cost Rate (A-B)		19.28%	13.72%	17.98%
D. UAL Amortization Rate		27.83%	27.83%	27.83%
E. Administrative Expense Rate		<u>1.50%</u>	<u>1.32%</u>	<u>1.46%</u>
F. Net June 30, 2019 Contribution Rate (C+D+E)		48.61%	42.87%	47.27%

Administrative expenses allocated based on projected Employer Normal Cost and UAL Amortization contributions. See Table V-6.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

SECTION V – CONTRIBUTIONS

Tables V-5 and V-6 show the allocation of the administrative expense for each group and tier. The administrative expense is allocated to each group and tier based on their share of the projected employer contributions prior to inclusion of the administrative expense.

Table V-5 Development of the General Member Administrative Expense Rate as of June 30, 2019 for FYE 2021							
	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	PEPRA	TOTAL
<u>County and Former County</u>							
A. Projected Payroll for FYE 2021	\$ 53,774	\$ 15,895,121	\$ 452,297	\$ 867,891	\$ 113,565,923	\$ 92,298,947	\$ 223,133,953
B. Employer Normal Cost Rate	13.59%	10.50%	2.99%	15.73%	11.37%	8.73%	
C. UAL Amortization Rate	17.50%	17.50%	17.50%	17.50%	17.50%	17.50%	
D. Employer Contribution Rate							
Prior to Administrative Expense (B+C)	31.09%	28.00%	20.49%	33.23%	28.87%	26.23%	
E. Projected Employer Contribution for FYE 2021							
Prior to Administrative Expense							
1. Normal Cost (A*B)	\$ 7,308	\$ 1,668,988	\$ 13,524	\$ 136,519	\$ 12,912,445	\$ 8,057,698	\$ 22,796,482
2. UAL Amortization (A*C)	9,410	2,781,646	79,152	151,881	19,874,037	16,152,316	39,048,442
3. Total Prior to Administrative Expense (A*D)	\$ 16,718	\$ 4,450,634	\$ 92,676	\$ 288,400	\$ 32,786,482	\$ 24,210,014	\$ 61,844,924
F. Allocated Administrative Expense	\$ 533	\$ 141,823	\$ 2,953	\$ 9,190	\$ 1,044,768	\$ 771,766	\$ 1,971,032
G. Administrative Expense Rate (F÷A)	0.99%	0.89%	0.65%	1.06%	0.92%	0.84%	
H. Projected Employer Contribution for FYE 2021							
Due to Administrative Expense (A*G)	\$ 532	\$ 141,467	\$ 2,940	\$ 9,200	\$ 1,044,806	\$ 775,311	\$ 1,974,256
<u>Ceres and Other Districts</u>							
A. Projected Payroll for FYE 2021		\$ 251,262		\$ 60,505	\$ 5,474,031	\$ 3,000,781	\$ 8,786,579
B. Employer Normal Cost Rate		9.01%		0.00%	13.28%	9.25%	
C. UAL Amortization Rate		17.94%		17.94%	17.94%	17.94%	
D. Employer Contribution Rate							
Prior to Administrative Expense (B+C)		26.95%		17.94%	31.22%	27.19%	
E. Projected Employer Contribution for FYE 2021							
Prior to Administrative Expense							
1. Normal Cost (A*B)		\$ 22,639		\$ 0	\$ 726,951	\$ 277,572	\$ 1,027,162
2. UAL Amortization (A*C)		45,076		10,855	982,041	538,340	1,576,312
3. Total Prior to Administrative Expense (A*D)		\$ 67,715		\$ 10,855	\$ 1,708,992	\$ 815,912	\$ 2,603,474
F. Allocated Administrative Expense		\$ 2,158		\$ 346	\$ 54,458	\$ 26,000	\$ 82,962
G. Administrative Expense Rate (F÷A)		0.86%		0.57%	0.99%	0.87%	
H. Projected Employer Contribution for FYE 2021							
Due to Administrative Expense (A*G)		\$ 2,161		\$ 345	\$ 54,193	\$ 26,107	\$ 82,806

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

SECTION V – CONTRIBUTIONS

Table V-6 Development of the Safety Member Administrative Expense Rate as of June 30, 2019 for FYE 2021				
	Tier 2	Tier 5	PEPRA	TOTAL
<u>County and Former County</u>				
A. Projected Payroll for FYE 2021	\$ 3,556,748	\$ 30,984,655	\$ 25,431,173	\$ 59,972,576
B. Employer Normal Cost Rate	14.72%	18.74%	12.34%	
C. UAL Amortization Rate	<u>23.30%</u>	<u>23.30%</u>	<u>23.30%</u>	
D. Employer Contribution Rate				
Prior to Administrative Expense (B+C)	38.02%	42.04%	35.64%	
E. Projected Employer Contribution for FYE 2021				
Prior to Administrative Expense				
1. Normal Cost (A*B)	\$ 523,554	\$ 5,806,524	\$ 3,138,207	\$ 9,468,285
2. UAL Amortization (A*C)	<u>828,722</u>	<u>7,219,425</u>	<u>5,925,463</u>	<u>13,973,610</u>
3. Total Prior to Administrative Expense (A*D)	\$ 1,352,276	\$ 13,025,949	\$ 9,063,670	\$ 23,441,895
F. Allocated Administrative Expense	\$ 43,091	\$ 415,082	\$ 288,902	\$ 747,076
G. Administrative Expense Rate (F÷A)	1.21%	1.34%	1.14%	
H. Projected Employer Contribution for FYE 2021				
Due to Administrative Expense (A*G)	\$ 43,037	\$ 415,194	\$ 289,915	\$ 748,146
<u>Ceres and Other Districts</u>				
A. Projected Payroll for FYE 2021		\$ 5,352,293	\$ 1,654,908	\$ 7,007,201
B. Employer Normal Cost Rate		19.28%	13.72%	
C. UAL Amortization Rate		<u>27.83%</u>	<u>27.83%</u>	
D. Employer Contribution Rate				
Prior to Administrative Expense (B+C)		47.11%	41.55%	
E. Projected Employer Contribution for FYE 2021				
Prior to Administrative Expense				
1. Normal Cost (A*B)		\$ 1,031,922	\$ 227,053	\$ 1,258,975
2. UAL Amortization (A*C)		<u>1,489,543</u>	<u>460,561</u>	<u>1,950,104</u>
3. Total Prior to Administrative Expense (A*D)		\$ 2,521,465	\$ 687,614	\$ 3,209,079
F. Allocated Administrative Expense		\$ 80,349	\$ 21,911	\$ 102,260
G. Administrative Expense Rate (F÷A)		1.50%	1.32%	
H. Projected Employer Contribution for FYE 2021				
Due to Administrative Expense (A*G)		\$ 80,284	\$ 21,845	\$ 102,129

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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SECTION VI – REQUIRED CAFR EXHIBITS

The GASB adopted Statement Nos. 67 and 68, which replaced GASB Statement Nos. 25, and 27. The disclosures needed to satisfy GASB requirements can be found in the StanCERA GASB 67/68 Report as of June 30, 2019.

In accordance with Government Finance Officers Association (GFOA) and their recommended checklist for Comprehensive Annual Financial Reports (CAFRs), we continue to prepare several schedules for the Plan that are not included in the GASB report.

The Schedule of Funded Liabilities by Type (Table VI-1, formerly referred to as the Solvency Test) shows the portion of actuarial liabilities for active member contributions, inactive members, and the employer-financed portion of the active members covered by the Actuarial Value of Assets. The accrued liability is determined assuming that the Plan is ongoing and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions, including a 7.00% discount rate for the most recent valuation.

The information needed to prepare the Actuarial Gain/Loss exhibit can now be found in Table II-1 (Unfunded Actuarial Liability Change by Source) in the Disclosures Related to Risk section. 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 or methods. Finally, the unfunded liability will change based on whether the contributions exceed the interest on the unfunded liability plus the normal cost. A negative number in this column (“Contributions”) indicates that the contributions in the given year are greater than the interest on the unfunded liability plus the normal cost, and thus reduce the unfunded liability.

We have also included a Schedule of Funding Progress (Table VI-2) this year, showing the historical assets, liabilities, and funded ratios for the Plan, along with the covered payroll and the unfunded actuarial liability as a percent of payroll.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

SECTION VI – REQUIRED CAFR EXHIBITS

Table VI-1 SCHEDULE OF FUNDED LIABILITIES BY TYPE (dollars in thousands)									
Valuation Date June 30,	(1) Active Member Contributions	(2) Retirees And Beneficiaries	(3) Active And Terminated Members	Actuarial Accrued Liabilities	Valuation Assets	Portion of Actuarial Liabilities Covered by Reported Assets			
						(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 ¹	219,907	619,109	355,888	1,194,904	1,154,048	100%	100%	89%	
2008 ²	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 ³	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	1,337,781	857,667	2,391,522	1,763,629	100%	100%	27%	
2016	200,960	1,427,166	908,941	2,537,067	1,845,764	100%	100%	24%	
2017	206,386	1,510,151	931,625	2,648,162	1,968,231	100%	100%	27%	
2018	213,223	1,590,078	945,767	2,749,068	2,100,278	100%	100%	31%	
2019	219,369	1,695,484	982,369	2,897,223	2,199,956	100%	100%	29%	

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

² Reflects transfer as of June 30, 2008 of \$50 million from Non-Valuation to Valuation Reserves.

³ Reflects change to include only refundable contribution balance.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

SECTION VI – REQUIRED CAFR EXHIBITS

Table VI-2 Schedule of Funding Progress							
Actuarial Valuation Date ¹	Valuation Assets	Actuarial Accrued Liability (AAL)	Unfunded AAL	Funded Ratio	Covered Payroll	Unfunded AAL as a % of Covered Payroll	
2008 ²	\$ 1,317,167,000	\$ 1,548,824,000	\$ 231,657,000	85.0%	\$ 275,580,000	84.1%	
2009	1,171,767,000	1,653,716,000	481,949,000	70.9%	248,316,000	194.1%	
2010	1,325,801,000	1,737,824,000	412,023,000	76.3%	248,830,473	165.6%	
2011	1,372,046,000	1,757,718,000	385,672,000	78.1%	226,706,796	170.1%	
2012	1,451,764,000	1,888,713,000	436,949,000	76.9%	220,918,009	197.8%	
2013	1,524,076,000	1,919,227,000	395,151,000	79.4%	219,028,318	180.4%	
2014	1,644,077,000	2,026,371,000	382,294,000	81.1%	223,028,288	171.4%	
2015	1,763,629,000	2,391,522,000	627,893,000	73.7%	237,717,727	264.1%	
2016	1,845,764,000	2,537,067,000	691,303,000	72.8%	250,447,580	276.0%	
2017	1,968,231,000	2,648,162,000	679,931,000	74.3%	256,143,684	265.4%	
2018	2,100,278,000	2,749,068,000	648,790,000	76.4%	270,755,220	239.6%	
2019	2,199,956,000	2,897,223,000	697,267,000	75.9%	284,008,303	245.5%	

¹ Excludes value of Non-Valuation Reserves.

² Includes \$50 million transferred from Non-Valuation Reserves as of June 30, 2008.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

APPENDIX A – MEMBERSHIP INFORMATION

The data for this valuation was provided by StanCERA as of June 30, 2019. Cheiron did not audit any of the data. However, 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.

	<u>General Members</u>		<u>Safety Members</u>		<u>Total</u>	
	7/1/2018	7/1/2019	7/1/2018	7/1/2019	7/1/2018	7/1/2019
Active Participants						
Number	3,658	3,690	794	814	4,452	4,504
Average Age	44.80	44.72	37.44	37.42	43.49	43.40
Average Service	10.44	10.30	9.82	9.87	10.33	10.22
Average Pay (does not reflect impact of furloughs)	\$ 57,933	\$ 59,727	\$ 74,100	\$ 78,151	\$ 60,817	\$ 63,057
Service Retired						
Number	2,694	2,797	413	434	3,107	3,231
Average Age	70.13	70.27	64.81	64.75	69.42	69.53
Average Annual Total Benefit	\$ 30,912	\$ 31,900	\$ 56,445	\$ 57,721	\$ 34,306	\$ 35,368
Beneficiaries						
Number	348	368	96	101	444	469
Average Age	72.59	72.79	67.11	67.16	71.41	71.58
Average Annual Total Benefit	\$ 18,617	\$ 19,160	\$ 30,886	\$ 31,349	\$ 21,270	\$ 21,785
Duty Disabled						
Number	96	89	127	130	223	219
Average Age	68.65	69.24	58.71	58.98	62.99	63.15
Average Annual Total Benefit	\$ 25,940	\$ 26,767	\$ 39,182	\$ 39,697	\$ 33,482	\$ 34,442
Ordinary Disabled						
Number	75	75	7	7	82	82
Average Age	64.04	64.23	60.00	61.00	63.70	63.95
Average Annual Total Benefit	\$ 17,686	\$ 18,551	\$ 24,414	\$ 25,147	\$ 18,261	\$ 19,114
Total In Pay						
Number	3,213	3,329	643	672	3,856	4,001
Average Age	70.21	70.39	63.90	63.96	69.15	69.31
Average Annual Total Benefit	\$ 29,123	\$ 30,054	\$ 48,871	\$ 49,931	\$ 32,416	\$ 33,392
Terminated Vested						
Number	396	381	74	66	470	447
Average Age	49.60	50.35	43.62	43.06	48.66	49.27
Average Service	10.48	10.73	9.75	9.74	10.37	10.58
Transfers						
Number	470	502	165	173	635	675
Average Age	46.34	46.10	41.42	41.75	45.06	44.98
Average Service	7.17	7.26	7.21	7.39	7.18	7.29
Total Deferred						
Number	866	883	239	239	1,105	1,122
Average Age	47.83	47.93	42.10	42.11	46.59	46.69
Average Service	8.69	8.76	7.99	8.04	8.54	8.60

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

APPENDIX A – MEMBERSHIP INFORMATION

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
2016	211	\$ 7,066,750	(99)	\$ (2,160,689)	3,651	\$ 111,260,240	6.93%	\$ 30,474
2017	202	\$ 6,749,973	(107)	\$ (2,471,229)	3,746	\$ 117,901,627	5.97%	\$ 31,474
2018	233	\$ 7,555,825	(123)	\$ (3,109,178)	3,856	\$ 124,995,337	6.02%	\$ 32,416
2019	242	\$ 8,421,538	(97)	\$ (2,580,158)	4,001	\$ 133,601,799	6.89%	\$ 33,392

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

APPENDIX A – MEMBERSHIP INFORMATION

Active and Vested Participant Data as of July 1, 2019

	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			
	7/1/2018	7/1/2019	7/1/2018	7/1/2019	7/1/2018	7/1/2019	7/1/2018	7/1/2019	7/1/2018	7/1/2019	7/1/2018	7/1/2019	7/1/2018	7/1/2019
Active Participants														
Number	3,536	3,557	721	735	4,257	4,292	122	133	73	79	195	212	4,452	4,504
Average Age	44.76	44.68	37.18	37.23	43.48	43.41	45.97	45.74	40.10	39.22	43.77	43.31	43.49	43.40
Average Service	10.41	10.26	9.54	9.67	10.26	10.16	11.29	11.37	12.57	11.70	11.77	11.49	10.33	10.22
Average Pay ¹	\$ 57,946	\$ 59,610	\$ 73,132	\$ 77,442	\$ 60,518	\$ 62,664	\$ 57,557	\$ 62,846	\$ 83,657	\$ 84,750	\$ 67,328	\$ 71,008	\$ 60,817	\$ 63,057
Terminated Vested														
Number	380	369	64	59	444	428	16	12	10	7	26	19	470	447
Average Age	49.57	50.27	43.78	43.00	48.74	49.26	50.31	52.83	42.60	43.57	47.35	49.42	48.66	49.27
Average Service	10.46	10.70	9.72	9.67	10.36	10.56	10.98	11.69	9.94	10.32	10.58	11.19	10.37	10.58
Transfers														
Number	432	460	130	139	562	599	38	42	35	34	73	76	635	675
Average Age	46.71	46.43	40.95	41.30	45.37	45.24	42.18	42.43	43.20	43.62	42.67	42.96	45.06	44.98
Average Service	7.08	7.20	6.81	7.07	7.01	7.17	8.29	7.86	8.70	8.70	8.48	8.24	7.18	7.29
Total Deferred														
Number	812	829	194	198	1,006	1,027	54	54	45	41	99	95	1,105	1,122
Average Age	48.05	48.14	41.88	41.80	46.86	46.92	44.59	44.74	43.07	43.61	43.90	44.25	46.59	46.69
Average Service	8.66	8.76	7.77	7.85	8.49	8.58	9.09	8.71	8.97	8.98	9.03	8.83	8.54	8.60

¹ All payroll figures shown are annual.

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

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	
	7/1/2018	7/1/2019	7/1/2018	7/1/2019	7/1/2018	7/1/2019	7/1/2018	7/1/2019	7/1/2018	7/1/2019	7/1/2018	7/1/2019	7/1/2018	7/1/2019	7/1/2018	7/1/2019	7/1/2018	7/1/2019
Active Participants																		
Number	1	1	233	227	11	8	14	7	1,773	1,614	1,504	1,700	1	0	391	372	329	363
Average Age	59.00	60.00	41.70	42.76	53.18	51.25	62.64	62.14	50.88	51.29	37.79	38.55	64.00	0.00	43.37	44.06	29.74	30.22
Average Service	19.80	20.74	7.62	8.71	19.74	19.65	37.44	37.25	17.23	18.03	2.48	2.92	23.73	0.00	15.43	16.14	2.49	3.04
Average Pay ¹	\$ 46,903	\$ 51,948	\$ 62,886	\$ 66,711	\$ 54,906	\$ 54,617	\$ 95,516	\$ 119,774	\$ 65,829	\$ 67,946	\$ 47,568	\$ 50,529	\$ 89,216	\$ 0	\$ 84,008	\$ 89,587	\$ 60,158	\$ 64,996
Terminated Vested																		
Number	5	4	57	53	16	17	1	0	298	287	3	8	1	0	63	56	0	3
Average Age	63.60	65.75	53.40	53.47	57.75	58.94	69.00	0.00	48.23	49.17	36.00	42.13	70.00	0.00	43.37	43.71	0.00	29.67
Average Service	8.76	8.87	8.05	7.74	12.74	14.15	5.55	0.00	10.90	11.21	5.01	5.49	15.43	0.00	9.63	9.89	0.00	5.60
Transfers																		
Number	5	1	122	125	13	12	0	0	228	237	64	85	0	0	113	116	17	23
Average Age	63.80	64.00	48.52	48.68	52.08	52.33	0.00	0.00	47.75	48.09	37.09	37.46	0.00	0.00	42.19	43.00	32.65	32.70
Average Service	11.60	5.95	3.19	3.56	15.86	17.67	0.00	0.00	10.00	10.42	1.91	2.12	0.00	0.00	7.48	7.96	2.33	2.61
Total Deferred																		
Number	10	5	179	178	29	29	1	0	526	524	67	93	1	0	176	172	17	26
Average Age	63.70	65.40	50.07	50.11	55.21	56.21	69.00	0.00	48.03	48.68	37.04	37.86	70.00	0.00	42.61	43.23	32.65	32.35
Average Service	10.18	8.29	4.74	4.81	14.14	15.61	5.55	0.00	10.51	10.85	2.05	2.41	15.43	0.00	8.25	8.59	2.33	2.96

¹ 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	
	7/1/2018	7/1/2019	7/1/2018	7/1/2019	7/1/2018	7/1/2019	7/1/2018	7/1/2019	7/1/2018	7/1/2019	7/1/2018	7/1/2019	7/1/2018	7/1/2019	7/1/2018	7/1/2019	7/1/2018	7/1/2019
Active Participants																		
Number	0	0	4	4	0	0	1	1	67	69	50	59	0	0	58	54	15	25
Average Age	0.00	0.00	47.00	48.00	0.00	0.00	71.00	72.00	50.10	50.68	39.84	39.37	0.00	0.00	41.34	41.67	35.27	33.92
Average Service	0.00	0.00	12.58	13.54	0.00	0.00	49.87	50.87	17.21	18.11	2.47	2.67	0.00	0.00	14.82	15.55	3.85	3.37
Average Pay ¹	\$ 0	\$ 0	\$ 57,540	\$ 60,682	\$ 0	\$ 0	\$ 55,657	\$ 58,451	\$ 66,661	\$ 76,458	\$ 45,397	\$ 47,149	\$ 0	\$ 0	\$ 88,969	\$ 95,583	\$ 63,119	\$ 61,350
Terminated Vested																		
Number	1	0	4	4	0	0	0	0	9	6	2	2	0	0	10	7	0	0
Average Age	64.00	0.00	58.25	59.25	0.00	0.00	0.00	0.00	47.22	52.00	41.50	42.50	0.00	0.00	42.60	43.57	0.00	0.00
Average Service	5.32	0.00	7.59	7.59	0.00	0.00	0.00	0.00	12.68	14.03	12.90	12.90	0.00	0.00	9.94	10.32	0.00	0.00
Transfers																		
Number	0	1	5	5	0	0	0	0	27	28	6	8	0	0	33	32	2	2
Average Age	0.00	65.00	52.00	53.00	0.00	0.00	0.00	0.00	42.26	41.79	33.67	35.25	0.00	0.00	44.09	44.50	28.50	29.50
Average Service	0.00	19.81	2.11	2.11	0.00	0.00	0.00	0.00	10.60	9.76	3.03	3.31	0.00	0.00	9.09	9.11	2.18	2.18
Total Deferred																		
Number	1	1	9	9	0	0	0	0	36	34	8	10	0	0	43	39	2	2
Average Age	64.00	65.00	54.78	55.78	0.00	0.00	0.00	0.00	43.50	43.59	35.63	36.70	0.00	0.00	43.74	44.33	28.50	29.50
Average Service	5.32	19.81	4.55	4.55	0.00	0.00	0.00	0.00	11.12	10.52	5.50	5.23	0.00	0.00	9.29	9.33	2.18	2.18

¹ All payroll figures shown are annual.



**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

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%
June 30, 2016	General	3,521	\$198,457,059	\$56,364	2.26%
	Safety	727	\$52,020,521	\$71,555	5.22%
	Total	4,248	\$250,477,580	\$58,964	2.79%
June 30, 2017	General	3,552	\$201,758,423	\$56,801	0.78%
	Safety	757	\$54,385,261	\$71,843	0.40%
	Total	4,309	\$256,143,684	\$59,444	0.81%
June 30, 2018	General	3,658	\$211,919,963	\$57,933	1.99%
	Safety	794	\$58,835,257	\$74,100	3.14%
	Total	4,452	\$270,755,220	\$60,817	2.31%
June 30, 2019	General	3,690	\$220,393,008	\$59,727	3.10%
	Safety	814	\$63,615,295	\$78,151	5.47%
	Total	4,504	\$284,008,303	\$63,057	3.68%

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

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

APPENDIX A – MEMBERSHIP INFORMATION

StanCERA Membership – Retired Members as of June 30, 2019

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	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	3	\$ 53,268	0	\$ 0	0	\$ 0	3	\$ 53,268
50-54	45	\$ 19,412	64	\$ 60,657	0	\$ 0	6	\$ 61,368	115	\$ 44,555
55-59	201	\$ 29,054	66	\$ 61,242	4	\$ 32,571	6	\$ 64,395	277	\$ 37,539
60-64	418	\$ 32,381	72	\$ 51,331	14	\$ 32,637	5	\$ 119,014	509	\$ 35,919
65-69	689	\$ 33,816	71	\$ 51,370	22	\$ 25,673	5	\$ 87,825	787	\$ 35,515
70-74	627	\$ 35,942	68	\$ 62,190	19	\$ 34,582	0	\$ 0	714	\$ 38,406
75-79	370	\$ 31,290	36	\$ 52,303	9	\$ 35,939	0	\$ 0	415	\$ 33,213
80-84	182	\$ 25,236	20	\$ 62,465	4	\$ 52,512	0	\$ 0	206	\$ 29,380
85-89	124	\$ 25,873	6	\$ 52,583	1	\$ 9,079	0	\$ 0	131	\$ 26,968
90-94	50	\$ 18,497	5	\$ 27,294	0	\$ 0	0	\$ 0	55	\$ 19,297
95+	18	\$ 26,954	1	\$ 21,991	0	\$ 0	0	\$ 0	19	\$ 26,693
All Ages	2,724	\$ 31,891	412	\$ 56,461	73	\$ 32,214	22	\$ 81,308	3,231	\$ 35,368

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

APPENDIX A – MEMBERSHIP INFORMATION

StanCERA Membership – Service-Connected Disabled Members as of June 30, 2019

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		
25-29	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0
30-34	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0
35-39	0	\$ 0	7	\$ 26,941	0	\$ 0	1	\$ 40,291	8	\$ 28,610
40-44	1	\$ 16,399	5	\$ 31,338	0	\$ 0	2	\$ 29,650	8	\$ 29,049
45-49	1	\$ 22,285	17	\$ 32,953	0	\$ 0	0	\$ 0	18	\$ 32,361
50-54	2	\$ 29,788	12	\$ 41,496	0	\$ 0	1	\$ 32,473	15	\$ 39,333
55-59	4	\$ 30,609	19	\$ 35,215	1	\$ 32,113	1	\$ 100,454	25	\$ 36,964
60-64	12	\$ 24,083	19	\$ 42,022	1	\$ 0	0	\$ 0	32	\$ 33,982
65-69	24	\$ 24,778	17	\$ 42,767	1	\$ 25,156	3	\$ 43,063	45	\$ 32,802
70-74	20	\$ 28,090	17	\$ 49,267	2	\$ 22,603	0	\$ 0	39	\$ 37,040
75-79	8	\$ 31,072	6	\$ 41,389	0	\$ 0	0	\$ 0	14	\$ 35,494
80-84	9	\$ 29,357	1	\$ 35,855	0	\$ 0	0	\$ 0	10	\$ 30,007
85-89	2	\$ 40,893	2	\$ 39,617	0	\$ 0	0	\$ 0	4	\$ 40,255
90-94	1	\$ 18,995	0	\$ 0	0	\$ 0	0	\$ 0	1	\$ 18,995
95+	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0
All Ages	84	\$ 27,140	122	\$ 39,336	5	\$ 20,495	8	\$ 45,214	219	\$ 34,442

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

APPENDIX A – MEMBERSHIP INFORMATION

StanCERA Membership – Nonservice-Connected Disabled Members as of June 30, 2019

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	0	\$ 0	0	\$ 0	1	\$ 23,610	0	\$ 0	1	\$ 23,610
40-44	3	\$ 16,784	0	\$ 0	0	\$ 0	0	\$ 0	3	\$ 16,784
45-49	5	\$ 20,369	1	\$ 24,320	0	\$ 0	1	\$ 38,216	7	\$ 23,483
50-54	9	\$ 18,056	0	\$ 0	0	\$ 0	0	\$ 0	9	\$ 18,056
55-59	7	\$ 18,484	0	\$ 0	0	\$ 0	0	\$ 0	7	\$ 18,484
60-64	10	\$ 20,198	3	\$ 25,332	0	\$ 0	0	\$ 0	13	\$ 21,383
65-69	12	\$ 18,223	1	\$ 15,531	0	\$ 0	0	\$ 0	13	\$ 18,016
70-74	13	\$ 21,031	0	\$ 0	0	\$ 0	0	\$ 0	13	\$ 21,031
75-79	10	\$ 14,482	1	\$ 21,964	0	\$ 0	0	\$ 0	11	\$ 15,162
80-84	3	\$ 16,543	0	\$ 0	0	\$ 0	0	\$ 0	3	\$ 16,543
85-89	2	\$ 17,544	0	\$ 0	0	\$ 0	0	\$ 0	2	\$ 17,544
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	74	\$ 18,482	6	\$ 22,968	1	\$ 23,610	1	\$ 38,216	82	\$ 19,114

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

APPENDIX A – MEMBERSHIP INFORMATION

StanCERA Membership – Beneficiaries as of June 30, 2019

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		
0-24	1	\$ 33,047	2	\$ 19,434	0	\$ 0	0	\$ 0	3	\$ 23,971
25-29	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0
30-34	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0
35-39	1	\$ 39,949	1	\$ 16,186	0	\$ 0	0	\$ 0	2	\$ 28,068
40-44	5	\$ 10,921	3	\$ 14,255	0	\$ 0	0	\$ 0	8	\$ 12,171
45-49	9	\$ 10,914	4	\$ 25,021	0	\$ 0	0	\$ 0	13	\$ 15,255
50-54	17	\$ 13,640	6	\$ 28,882	0	\$ 0	0	\$ 0	23	\$ 17,616
55-59	17	\$ 14,872	9	\$ 24,668	1	\$ 23,762	1	\$ 29,091	28	\$ 18,846
60-64	26	\$ 17,362	11	\$ 29,172	0	\$ 0	1	\$ 38,292	38	\$ 21,331
65-69	52	\$ 19,591	16	\$ 26,968	2	\$ 12,634	0	\$ 0	70	\$ 21,078
70-74	84	\$ 19,105	15	\$ 42,026	0	\$ 0	1	\$ 86,953	100	\$ 23,221
75-79	41	\$ 21,265	11	\$ 35,780	0	\$ 0	0	\$ 0	52	\$ 24,336
80-84	38	\$ 20,182	12	\$ 31,081	1	\$ 19,014	0	\$ 0	51	\$ 22,724
85-89	36	\$ 23,878	7	\$ 33,179	0	\$ 0	0	\$ 0	43	\$ 25,392
90-94	23	\$ 20,156	1	\$ 37,135	0	\$ 0	0	\$ 0	24	\$ 20,863
95+	14	\$ 16,821	0	\$ 0	0	\$ 0	0	\$ 0	14	\$ 16,821
All Ages	364	\$ 19,184	98	\$ 30,734	4	\$ 17,011	3	\$ 51,445	469	\$ 21,785

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

APPENDIX A – MEMBERSHIP INFORMATION

StanCERA Membership – Benefit Form Elections as of June 30, 2019

	County and Former County		Ceres and Other Districts		Total
	General	Safety	General	Safety	
Service Retired					
Option #0 (Unmodified 60% to Spouse)	2,255	365	56	20	2,696
Option #1 (Cash Refund)	216	10	7	0	233
Option #2 (100% Continuance)	220	31	10	1	262
Option #3 (50% Continuance)	31	5	0	1	37
Option #4 (Other)	2	1	0	0	3
Total Service Retired	2,724	412	73	22	3,231
Ordinary Disability					
Option #0 (Unmodified 60% to Spouse)	65	4	1	1	71
Option #1 (Cash Refund)	5	2	0	0	7
Option #2 (100% Continuance)	4	0	0	0	4
Option #3 (50% Continuance)	0	0	0	0	0
Total Ordinary Disability	74	6	1	1	82
Duty Disability					
Option #0 (Unmodified 60% to Spouse)	74	109	5	7	195
Option #1 (Cash Refund)	1	1	0	0	2
Option #2 (100% Continuance)	6	10	0	1	17
Option #3 (50% Continuance)	3	2	0	0	5
Total Duty Disability	84	122	5	8	219
Total	2,882	540	79	31	3,532

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

APPENDIX A – MEMBERSHIP INFORMATION

**Age & Service Distribution of Active Members by Count and Average Compensation as of June 30, 2019
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
20-24	20	10	3	2	0	0	0	0	0	0	0	0	35
25-29	93	93	55	46	28	11	0	0	0	0	0	0	326
30-34	76	72	54	72	55	96	18	0	0	0	0	0	443
35-39	58	47	48	55	54	119	106	18	0	0	0	0	505
40-44	44	34	32	27	40	74	118	104	18	0	0	0	491
45-49	27	20	21	21	26	62	110	112	62	7	0	0	468
50-54	27	20	15	26	27	37	83	83	84	35	8	0	445
55-59	14	20	19	15	13	42	77	84	86	50	31	6	457
60-64	15	6	7	14	8	16	51	69	44	31	15	8	284
65-69	3	1	1	5	0	8	25	18	9	4	3	1	78
70 & Over	0	1	0	1	0	1	4	9	5	4	0	0	25
Total Count	377	324	255	284	251	466	592	497	308	131	57	15	3,557

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
20-24	34,719	37,210	43,584	40,389	0	0	0	0	0	0	0	0	36,515
25-29	42,198	40,821	45,253	48,682	51,177	51,627	0	0	0	0	0	0	44,325
30-34	45,876	46,346	50,213	52,494	55,146	58,413	50,420	0	0	0	0	0	51,609
35-39	48,419	52,953	49,966	50,828	59,508	59,234	63,837	64,523	0	0	0	0	56,795
40-44	47,948	52,704	52,524	57,258	52,160	58,775	64,307	64,783	61,701	0	0	0	59,064
45-49	50,507	44,106	55,328	54,465	52,077	61,844	64,558	70,097	77,932	71,925	0	0	64,161
50-54	62,632	47,414	50,815	52,573	55,984	55,932	71,992	67,866	73,596	74,239	86,785	0	66,140
55-59	57,240	48,162	73,674	58,473	57,332	68,529	65,859	65,123	67,174	76,054	77,114	59,571	66,814
60-64	70,156	53,765	66,995	51,482	46,113	60,493	57,647	64,938	71,994	83,243	87,776	106,553	67,745
65-69	61,648	50,309	48,434	64,271	0	74,694	54,468	56,592	56,935	96,519	67,618	105,055	61,402
70 & Over	0	32,267	0	124,282	0	92,269	121,868	55,588	51,305	61,516	0	0	69,567
Average	48,055	46,250	51,967	52,801	54,763	60,115	64,526	66,102	70,903	77,231	80,778	87,661	59,610

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

APPENDIX A – MEMBERSHIP INFORMATION

**Age & Service Distribution of Active Members by Count and Average Compensation as of June 30, 2019
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
20-24	1	0	0	0	0	0	0	0	0	0	0	0	1
25-29	3	4	3	1	1	2	0	0	0	0	0	0	14
30-34	2	1	0	2	1	3	0	0	0	0	0	0	9
35-39	4	2	1	2	1	4	1	2	0	0	0	0	17
40-44	4	3	0	0	2	2	2	5	1	0	0	0	19
45-49	2	1	0	2	1	1	4	4	1	0	0	0	16
50-54	2	3	1	0	1	1	4	8	2	0	2	0	24
55-59	2	1	1	0	1	2	3	2	2	3	1	0	18
60-64	1	0	0	0	0	2	3	3	0	1	1	0	11
65-69	0	0	0	0	0	1	0	0	0	1	0	0	2
70 & Over	0	0	0	0	0	0	1	0	0	0	0	1	2
Total Count	21	15	6	7	8	18	18	24	6	5	4	1	133

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
20-24	30,597	0	0	0	0	0	0	0	0	0	0	0	30,597
25-29	37,863	40,696	43,056	41,244	43,508	51,340	0	0	0	0	0	0	42,355
30-34	34,077	46,190	0	41,335	47,983	56,874	0	0	0	0	0	0	46,180
35-39	39,275	36,575	43,470	50,768	43,077	65,883	54,040	60,330	0	0	0	0	50,386
40-44	98,896	53,650	0	0	50,445	50,773	54,132	66,780	62,948	0	0	0	66,531
45-49	46,483	36,762	0	90,268	68,984	200,576	60,297	78,828	74,169	0	0	0	75,656
50-54	90,888	49,448	104,989	0	40,199	53,838	86,700	68,511	103,477	0	84,606	0	75,009
55-59	76,577	34,863	87,706	0	53,368	56,084	87,223	62,337	74,757	65,739	63,888	0	68,790
60-64	43,896	0	0	0	0	43,025	58,982	61,183	0	140,778	51,921	0	62,104
65-69	0	0	0	0	0	53,964	0	0	0	48,798	0	0	51,381
70 & Over	0	0	0	0	0	0	105,455	0	0	0	0	58,451	81,953
Average	58,896	44,203	60,889	57,998	49,751	63,610	71,909	67,758	82,264	77,359	71,255	58,451	62,846

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

APPENDIX A – MEMBERSHIP INFORMATION

**Age & Service Distribution of Active Members by Count and Average Compensation as of June 30, 2019
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
20-24	18	17	4	0	0	0	0	0	0	0	0	0	39
25-29	26	31	38	23	22	23	0	0	0	0	0	0	163
30-34	9	16	17	19	19	42	11	0	0	0	0	0	133
35-39	5	9	6	7	11	20	42	12	0	0	0	0	112
40-44	0	2	1	1	3	13	33	49	10	0	0	0	112
45-49	0	2	1	0	1	1	17	32	35	2	0	0	91
50-54	2	0	1	1	1	0	7	8	17	9	0	0	46
55-59	0	1	0	1	2	2	5	6	4	3	0	0	24
60-64	0	0	0	0	0	1	5	4	0	1	0	0	11
65-69	0	0	0	0	0	2	0	0	1	0	0	0	3
70 & Over	0	0	0	0	0	0	1	0	0	0	0	0	1
Total Count	60	78	68	52	59	104	121	111	67	15	0	0	735

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
20-24	54,508	62,990	65,683	0	0	0	0	0	0	0	0	0	59,352
25-29	57,304	59,981	59,886	66,090	71,237	74,596	0	0	0	0	0	0	63,975
30-34	56,360	60,019	64,022	66,884	70,134	74,448	86,170	0	0	0	0	0	69,428
35-39	64,940	64,173	61,320	65,515	76,138	78,780	86,831	88,355	0	0	0	0	79,009
40-44	0	75,397	52,910	68,020	76,156	76,731	83,013	92,256	94,929	0	0	0	86,669
45-49	0	62,519	62,993	0	78,935	57,291	85,804	85,003	101,836	83,226	0	0	90,481
50-54	84,052	0	82,198	88,421	98,246	0	95,856	90,717	109,216	95,953	0	0	98,999
55-59	0	138,736	0	83,100	79,333	92,591	76,022	82,938	95,630	127,521	0	0	92,021
60-64	0	0	0	0	0	78,598	79,651	94,055	0	82,343	0	0	85,038
65-69	0	0	0	0	0	93,367	0	0	99,167	0	0	0	95,300
70 & Over	0	0	0	0	0	0	169,938	0	0	0	0	0	169,938
Average	57,851	62,599	61,659	67,096	72,908	76,187	86,051	89,193	102,267	99,662	0	0	77,442

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

APPENDIX A – MEMBERSHIP INFORMATION

**Age & Service Distribution of Active Members by Count and Average Compensation as of June 30, 2019
Safety 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
20-24	0	0	0	0	0	0	0	0	0	0	0	0	0
25-29	6	2	0	0	2	1	0	0	0	0	0	0	11
30-34	2	0	1	6	0	3	4	0	0	0	0	0	16
35-39	0	0	0	1	1	2	8	2	0	0	0	0	14
40-44	0	0	1	0	0	1	5	2	3	0	0	0	12
45-49	1	1	1	1	1	1	2	4	5	1	1	0	19
50-54	0	0	0	0	0	0	1	2	1	0	0	0	4
55-59	0	0	0	0	1	0	0	0	2	0	0	0	3
60-64	0	0	0	0	0	0	0	0	0	0	0	0	0
65-69	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
Total Count	9	3	3	8	5	8	20	10	11	1	1	0	79

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
20-24	0	0	0	0	0	0	0	0	0	0	0	0	0
25-29	52,914	62,851	0	0	71,193	74,209	0	0	0	0	0	0	59,980
30-34	55,896	0	68,253	62,035	0	77,711	89,774	0	0	0	0	0	71,530
35-39	0	0	0	69,003	88,213	79,212	84,009	92,655	0	0	0	0	83,788
40-44	0	0	46,067	0	0	93,460	92,615	99,614	116,338	0	0	0	95,903
45-49	133,636	65,960	78,113	73,686	74,484	76,630	87,400	104,088	122,043	114,877	96,415	0	100,798
50-54	0	0	0	0	0	0	78,739	95,492	110,303	0	0	0	95,006
55-59	0	0	0	0	74,887	0	0	0	98,504	0	0	0	90,631
60-64	0	0	0	0	0	0	0	0	0	0	0	0	0
65-69	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
Average	62,546	63,887	64,145	64,362	75,994	79,482	87,389	99,187	115,140	114,877	96,415	0	84,750

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

APPENDIX A – MEMBERSHIP INFORMATION

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

All Members

	Actives	Transfers	Non Vested Terminations due Refunds	Vested Terminations	Ordinary Disabled	Duty Disabled	Retired	Beneficiaries	Total
July 1, 2018	4,452	635	432	470	82	223	3,107	444	9,845
New Entrants	459	1	0	0	0	0	0	0	460
Rehires	21	(4)	(9)	(7)	0	0	0	0	1
Duty Disabilities	(2)	(2)	0	0	0	4	0	0	0
Ordinary Disabilities	(1)	0	0	(1)	2	0	0	0	0
Retirements	(136)	(24)	0	(36)	0	0	195	0	(1)
Retirements from General with Safety Service	0	0	0	0	0	0	1	0	1
Vested Terminations	(45)	(3)	0	48	0	0	0	0	0
Died, With Beneficiaries' Benefit Payable	(1)	0	0	0	(1)	(3)	(28)	33	0
Died, Without Beneficiary, and Other Terminations	(92)	0	83	(1)	(1)	(5)	(44)	0	(60)
Transfers	(40)	74	(13)	(18)	0	0	0	0	3
Beneficiary Deaths	0	0	0	0	0	0	0	(14)	(14)
Domestic Relations Orders	0	0	0	0	0	0	0	6	6
Withdrawals Paid	(111)	0	(52)	(8)	0	0	0	(1)	(172)
Member Reclassifications	0	(2)	(1)	0	0	0	0	1	(2)
July 1, 2019	4,504	675	440	447	82	219	3,231	469	10,067

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

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, 2018	3,536	432	362	380	74	89	2,626	345	7,844
New Entrants	367	0	0	0	0	0	0	0	367
Rehires	17	(3)	(7)	(6)	0	0	0	0	1
Duty Disabilities	0	0	0	0	0	0	0	0	0
Ordinary Disabilities	(1)	0	0	(1)	2	0	0	0	0
Retirements	(114)	(19)	0	(29)	0	0	161	0	(1)
Retirements from General with Safety Service	0	0	0	0	0	0	0	0	0
Vested Terminations	(39)	(2)	0	41	0	0	0	0	0
Died, With Beneficiaries' Benefit Payable	(1)	0	0	0	(1)	(1)	(25)	28	0
Died, Without Beneficiary, and Other Terminations	(76)	0	69	0	(1)	(4)	(38)	0	(50)
Transfers	(34)	54	(9)	(9)	0	0	0	0	2
Beneficiary Deaths	0	0	0	0	0	0	0	(12)	(12)
Domestic Relations Orders	0	0	0	0	0	0	0	3	3
Withdrawals Paid	(97)	0	(40)	(7)	0	0	0	(1)	(145)
Member Reclassifications	(1)	(2)	0	0	0	0	0	1	(2)
July 1, 2019	3,557	460	375	369	74	84	2,724	364	8,007

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

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, 2018	721	130	49	64	6	121	397	93	1,581
New Entrants	60	1	0	0	0	0	0	0	61
Rehires	1	0	0	(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	(15)	(3)	0	(6)	0	0	24	0	0
Retirements from General with Safety Service	0	0	0	0	0	0	0	0	0
Vested Terminations	(5)	(1)	0	6	0	0	0	0	0
Died, With Beneficiaries' Benefit Payable	0	0	0	0	0	(1)	(3)	4	0
Died, Without Beneficiary, and Other Terminations	(11)	0	10	0	0	0	(6)	0	(7)
Transfers	(6)	13	(2)	(4)	0	0	0	0	1
Beneficiary Deaths	0	0	0	0	0	0	0	(2)	(2)
Domestic Relations Orders	0	0	0	0	0	0	0	3	3
Withdrawals Paid	(10)	0	(10)	(1)	0	0	0	0	(21)
Member Reclassifications	1	0	(1)	1	0	0	0	0	1
July 1, 2019	735	139	46	59	6	122	412	98	1,617

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

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, 2018	122	38	8	16	1	7	68	3	263
New Entrants	22	0	0	0	0	0	0	0	22
Rehires	1	(1)	0	0	0	0	0	0	0
Duty Disabilities	0	0	0	0	0	0	0	0	0
Ordinary Disabilities	0	0	0	0	0	0	0	0	0
Retirements	(3)	(1)	0	0	0	0	4	0	0
Retirements from General with Safety Service	0	0	0	0	0	0	1	0	1
Vested Terminations	(1)	0	0	1	0	0	0	0	0
Died, With Beneficiaries' Benefit Payable	0	0	0	0	0	(1)	0	1	0
Died, Without Beneficiary, and Other Terminations	(4)	0	3	(1)	0	(1)	0	0	(3)
Transfers	0	6	(2)	(4)	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	(4)	0	(1)	0	0	0	0	0	(5)
Member Reclassifications	0	0	0	0	0	0	0	0	0
July 1, 2019	133	42	8	12	1	5	73	4	278

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

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, 2018	73	35	13	10	1	6	16	3	157
New Entrants	10	0	0	0	0	0	0	0	10
Rehires	2	0	(2)	0	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	(4)	(1)	0	(1)	0	0	6	0	0
Retirements from General with Safety Service	0	0	0	0	0	0	0	0	0
Vested Terminations	0	0	0	0	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	(1)	0	1	0	0	0	0	0	0
Transfers	0	1	0	(1)	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	0	0	(1)	0	0	0	0	0	(1)
Member Reclassifications	0	0	0	(1)	0	0	0	0	(1)
July 1, 2019	79	34	11	7	1	8	22	3	165

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**APPENDIX B – STATEMENT OF CURRENT ACTUARIAL
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The assumptions and methods used in the actuarial valuation as of July 1, 2019 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 (17 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.

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

None

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Actuarial Assumptions

All actuarial assumptions are based on the Actuarial Experience Study Report for the period covering July 1, 2015 through June 30, 2018 report. The proposed assumptions were summarized and reviewed with the Board at the January 22, 2019 Board meeting, at which the Board provided direction to proceed with the valuation based on those assumptions. Final adoption of these assumptions was effective with the June 30, 2018 report.

4. Rate of Return

The annual rate of return on all Plan assets is assumed to be 7.00%, 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 2.75% per year.

6. Administrative Expenses

An allowance of \$2,903,330 for Plan administrative expenses for the current year has been included in the annual cost calculated. The administrative expense amount has been assumed to increase in future years at the rate of the Cost of Living assumption (2.75%).

7. Interest Credited to Employee Accounts

The employee accounts are credited with 0.25% interest annually.

8. Increases in Pay

Base salary increase: 3.00%

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 on the next page.

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Longevity & Promotion Increases		
Service	General	Safety
0	5.00%	7.00%
1	5.00%	6.00%
2	5.00%	5.00%
3	5.00%	4.00%
4	5.00%	3.00%
5	3.50%	2.00%
6	2.50%	1.75%
7	1.50%	1.50%
8	1.25%	1.25%
9	1.00%	1.00%
10	0.75%	0.75%
11+	0.50%	0.50%

9. PEPR Compensation Limit

The assumption used for increasing the compensation limit that applies to PEPR members is 2.75%

10. Post Retirement COLA

For those with the 3% COLA benefit (i.e. 100% of CPI up to 3% annually with banking), 2.60% annual increases are 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 3.00% per year.

12. Internal Revenue Code Section 415 Limit

The Internal Revenue Code (IRC) Section 415 maximum benefit limitations have been applied to the benefits for members currently in pay status, as the limited benefits have been provided by StanCERA for valuation purposes. Future projected benefits for members in active and deferred statuses have not been reduced for potential Section 415 limits in the current valuation, though any actual limitations for these members will result in actuarial gains upon their actual retirement, which will reduce future contributions.

13. Internal Revenue Code Section 401(a)(17)

The IRC Section 401(a)(17) maximum compensation limitation for active members is not reflected in the valuation for funding purposes; limitations are reflected after retirement.

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**APPENDIX B – STATEMENT OF CURRENT ACTUARIAL
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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 1.75% for Safety Members and 1.00% for General Members for conversion of vacation time. 1/3 of this load applies for members with a 36-month final average service period. No other adjustment is made to the liabilities for anticipated future service purchases.

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, unless they have reciprocity, in which case they are assumed to begin at age 61; terminated Safety Members are assumed to begin receiving benefits at age 53. 50% of vested terminated General Members are assumed to be reciprocal; 65% of vested terminated Safety Members are assumed to be reciprocal.

Reciprocal members are assumed to receive 3.75% annual pay increases from the date of transfer to the assumed retirement date.

19. Form of Benefit

Upon retirement, all married members are assumed to elect the normal payment form (joint & 50% survivor annuity for Tier 3 and joint & 60% survivor annuity for all other tiers). Non-married members are assumed to elect a single life annuity. Actual form elections are not anticipated to materially affect results due to the actuarially equivalent optional form factors.

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20. 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. Safety members are assumed to follow the CALPERS State Safety rates. Sample rates are shown below:

Rates of Service-Connected Disability			
Age	General		Safety
	Male	Female	All
20	0.0043%	0.0002%	0.0020%
25	0.0102%	0.0004%	0.0760%
30	0.0211%	0.0008%	0.1700%
35	0.0284%	0.0024%	0.2640%
40	0.0401%	0.0056%	0.3600%
45	0.0613%	0.0101%	0.4570%
50	0.0897%	0.0162%	0.5570%
55	0.1227%	0.0249%	0.6580%
60	0.1637%	0.0349%	0.7620%
65	0.0000%	0.0000%	0.8690%

21. 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 2018 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 General			Rates of Non Service-Connected Disability Safety	
Age	Male	Female	Age	All
20	0.0170%	0.0100%	20	0.0100%
25	0.0170%	0.0100%	25	0.0100%
30	0.0190%	0.0240%	30	0.0200%
35	0.0390%	0.0710%	35	0.0300%
40	0.1020%	0.1350%	40	0.0400%
45	0.1510%	0.1880%	45	0.0500%
50	0.1580%	0.1990%	50	0.0800%
55	0.1580%	0.1490%	55	0.1300%
60	0.1530%	0.1050%	60	0.2000%
65	0.1280%	0.0880%	65+	0.2000%
70+	0.1020%	0.0840%		

22. 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 97.2% for males and 101.6% for females, with generational mortality improvements projected from 2009 using SOA Scale MP-2018. 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 table on the following page provides a sample of the base mortality rates including adjustments but prior to any projections for mortality improvements.

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Non-Annuitant Mortality Rates			
Age	Ordinary Death - General and Safety		Duty Death
	Male	Female	Safety All
20	0.0320%	0.0215%	0.0030%
25	0.0413%	0.0248%	0.0070%
30	0.0505%	0.0269%	0.0100%
35	0.0588%	0.0378%	0.0120%
40	0.0774%	0.0539%	0.0130%
45	0.1094%	0.0766%	0.0140%
50	0.1600%	0.1079%	0.0150%
55	0.2353%	0.1550%	0.0160%
60	0.3446%	0.2261%	0.0170%
65	0.4949%	0.3324%	0.0180%
70	0.6891%	0.4747%	0.0190%

23. 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 104.5% for females (no adjustment for males), with generational mortality improvements projected from 2009 using SOA Scale MP-2018.

The 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	1.297%	0.892%
50	1.784%	1.285%
55	2.095%	1.327%
60	2.634%	1.578%
65	3.120%	2.138%
70	3.890%	2.941%
75	5.398%	4.041%
80	8.230%	6.287%
85	13.166%	10.327%
90	18.469%	16.806%

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24. 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 101.9% for males (no adjustment for females), with generational mortality improvements projected from 2009 using SOA Scale MP-2018.

The 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	0.344%	0.298%
50	0.542%	0.495%
55	0.648%	0.460%
60	0.884%	0.633%
65	1.455%	1.066%
70	2.254%	1.775%
75	3.908%	2.952%
80	6.754%	4.978%
85	10.587%	7.959%
90	16.493%	12.335%

25. Rates of Mortality for Emerging Disabled Retirees

Rates of mortality for future General 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 General retirees is 75% and 25%, respectively. The proportions reflect the expected splits in future disabled retirees between nonservice- and service-connected disablements.

Future disabled Safety retirees are assumed to follow the same rates of mortality as the service-connected disabled retirees indicated in the prior bullet.

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26. 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 97.2% for males and 104.1% for females, with generational mortality improvements projected from 2009 using SOA Scale MP-2018.

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

Healthy Annuitant Mortality Rates		
Age	Male	Female
45	0.234%	0.221%
50	0.517%	0.515%
55	0.618%	0.479%
60	0.794%	0.556%
65	1.026%	0.779%
70	1.717%	1.317%
75	2.900%	2.283%
80	5.128%	3.847%
85	9.165%	6.949%
90	15.733%	12.841%

27. Mortality Improvement

As mentioned above, the mortality assumptions employ a fully generational mortality improvement projection from base year 2009 using SOA Scale MP-2018.

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28. Rates of Retirement

Retirement for members in non-PEPRA Tiers (Tier 6) are assumed to occur among eligible members in accordance with the tables below:

Rates of Retirement General (Non-PEPRA)				Rates of Retirement Safety (Non-PEPRA)			
Years of Service				Years of Service			
Age	0-9	10-29	30+	Age	0-9	10-19	20+
40-44	0.00%	0.00%	0.00%	40-48	0.00%	0.00%	5.00%
45-49	0.00%	0.00%	10.00%	49	0.00%	0.00%	20.00%
50-54	0.00%	5.00%	10.00%	50	0.00%	10.00%	30.00%
55	0.00%	7.50%	20.00%	51	0.00%	10.00%	20.00%
56	0.00%	7.50%	20.00%	52	0.00%	10.00%	20.00%
57	0.00%	7.50%	20.00%	53	0.00%	10.00%	20.00%
58	0.00%	12.50%	20.00%	54	0.00%	10.00%	20.00%
59	0.00%	12.50%	20.00%	55	0.00%	10.00%	30.00%
60	0.00%	12.50%	25.00%	56	0.00%	10.00%	30.00%
61	0.00%	20.00%	25.00%	57	0.00%	10.00%	30.00%
62	0.00%	25.00%	40.00%	58	0.00%	10.00%	30.00%
63	0.00%	20.00%	25.00%	59	0.00%	10.00%	30.00%
64	0.00%	25.00%	25.00%	60	0.00%	25.00%	100.00%
65	0.00%	35.00%	35.00%	61	0.00%	25.00%	100.00%
66	0.00%	45.00%	45.00%	62	0.00%	25.00%	100.00%
67	0.00%	20.00%	25.00%	63	0.00%	25.00%	100.00%
68	0.00%	20.00%	25.00%	64	0.00%	25.00%	100.00%
69	0.00%	20.00%	25.00%	65	0.00%	100.00%	100.00%
70	50.00%	50.00%	100.00%	66	0.00%	100.00%	100.00%
71	50.00%	50.00%	100.00%	67	0.00%	100.00%	100.00%
72	50.00%	50.00%	100.00%	68	0.00%	100.00%	100.00%
73	50.00%	50.00%	100.00%	69	0.00%	100.00%	100.00%
74	50.00%	50.00%	100.00%	70+	100.00%	100.00%	100.00%
75+	100.00%	100.00%	100.00%				

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Retirement for members in PEPRA, Tier 6, are assumed to occur among eligible members in accordance with the sample rates below, from the full tables CALPERS Public Agency Miscellaneous 2% @ 62 table for General and the CALPERS Public Agency Safety Police 2.7% @ 57 table for Safety:

Rates of Retirement General (PEPRA) Years of Service				
Age	5	10	25	35
50-51	0.00%	0.00%	0.00%	0.00%
52	0.50%	0.80%	1.90%	3.80%
53	0.70%	1.10%	2.10%	4.80%
54	0.70%	1.10%	2.30%	5.40%
55	1.00%	1.90%	6.10%	15.20%
56	1.40%	2.60%	7.50%	16.70%
57	1.80%	2.90%	7.40%	14.30%
58	2.30%	3.50%	7.30%	13.50%
59	2.50%	3.80%	9.20%	17.50%
60	3.10%	5.10%	11.10%	18.30%
61	3.80%	5.80%	12.10%	23.20%
62	4.40%	7.40%	16.40%	27.10%
63	7.70%	10.50%	19.20%	26.60%
64	7.20%	10.10%	18.70%	27.60%
65	10.80%	14.10%	23.90%	34.80%
66	13.20%	17.20%	29.20%	42.60%
67	13.20%	17.20%	29.20%	40.50%
68	12.00%	15.60%	26.50%	38.70%
69	12.00%	15.60%	26.50%	36.80%
70	12.00%	15.60%	26.50%	38.70%
71	12.00%	15.60%	26.50%	38.70%
72	12.00%	15.60%	26.50%	38.70%
73	12.00%	15.60%	26.50%	38.70%
74	12.00%	15.60%	26.50%	38.70%
75+	100.00%	100.00%	100.00%	100.00%

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Rates of Retirement Safety (PEPRA) Years of Service				
Age	5	10	25	35
50	5.00%	5.00%	5.00%	11.00%
51	4.00%	4.00%	5.75%	13.92%
52	3.80%	3.80%	5.80%	13.21%
53	3.80%	3.80%	7.74%	28.98%
54	3.80%	3.80%	9.31%	33.25%
55	6.84%	6.84%	13.40%	38.76%
56	6.27%	6.27%	12.28%	34.49%
57	6.00%	6.00%	11.75%	32.00%
58	8.00%	8.00%	13.75%	35.00%
59	8.00%	8.00%	14.00%	40.00%
60	15.00%	15.00%	15.00%	35.00%
61	14.40%	14.40%	14.40%	26.40%
62	15.00%	15.00%	15.00%	33.00%
63	15.00%	15.00%	15.00%	40.00%
64	15.00%	15.00%	15.00%	52.50%
65+	100.00%	100.00%	100.00%	100.00%

29. Changes in Actuarial Assumptions

The administrative expenses assumption increased by 2.75% from \$2,825,625 to \$2,903,330, per the procedure established in the Actuarial Experience Study Report for the period covering July 1, 2015 through June 30, 2018.

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APPENDIX C – SUMMARY OF PLAN PROVISIONS

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, 2019. 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 PEPRA Compensation Limit will count for computing Plan benefits and employee contributions and employer contributions. For those participating in Social Security, the compensation cap is \$124,180 for calendar year 2019. For those not participating in Social Security, the compensation cap is \$149,016 for calendar year 2019. 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**
- **Prior full time Service:** Member may buyback full time service that may have been cashed out upon termination.

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- **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 36 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.

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

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C. Service Retirement

Eligibility: New members who meet the requirements to enter a legacy tier under PEPRA will enter Tier 2; all other new members will enter Tier 6.

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, nor is the 10-year Association membership requirement.

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, the age factors are applied *after* the benefit amount as determined under Table 1 has been offset by the designated fraction of the member's projected age 65 Social Security benefit.

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 GC §: 7522.25 Opt2	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 GC §: 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	1.0000	1.0000	2.0000	0.7091	0.6681	0.8850	N/A	N/A
51	1.0516	1.0000	2.1000	0.7457	0.7056	0.9399	N/A	N/A
52	1.1078	1.0000	2.2000	0.7816	0.7454	1.0000	N/A	1.0000
53	1.1692	1.0000	2.3000	0.8181	0.7882	1.0447	N/A	1.1000
54	1.2366	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.

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.

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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.

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.

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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 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

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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, including COLA; 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 that 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 Normal contribution rates vary by benefit formula as defined in the CERL and described in the table below, with the exception that 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).

Plan/Tier	Code Section	Member Contribution Provides Average Annuity
General Tier 1	31621.5	1/200th of Final Average Salary (FAS) at age 60
General Tier 2	31621	1/120th of Final Average Salary (FAS) at age 60
General Tier 3	NA	NA
General Tier 4	31621.3	1/240th of Final Average Salary (FAS) at age 55
General Tier 5	31621.9	1/120th of Final Average Salary (FAS) at age 55
Safety Tier 2	31639.25	1/100th of Final Average Salary (FAS) at age 50
Safety Tier 4	31639.5	1/200th of Final Average Salary (FAS) at age 50
Safety Tier 5	31639.25	1/100th of Final Average Salary (FAS) at age 50

Employee COLA contribution rates are determined based on 50% of the normal cost associated with the expected COLA benefits, including all forms of decrement and the value of any assumed joint and survivor benefits, determined for each individual entry age. Similar to the benefit formulas, for those members integrated with Social Security (other than Tiers 3 and 6), contributions based on the first \$350 of monthly compensation are reduced by one-third.

The rates were changed following the Experience Study covering the period June 30, 2015 through June 30, 2018. The current employee contribution rates are shown in the following tables, and were determined based on the assumptions used in the current actuarial valuation. These assumptions include an interest rate of 7.00% per annum, an average salary increase of 3.00% per year (plus longevity and promotion increases), and the CalPERS mortality tables with adjustment as specified in the Appendix B and projected using Scale MP-2018 from 2009 to 2040 for General members and to 2040 for Safety members. The projection periods are based upon the duration of liabilities for the respective groups as of June 30, 2018. 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. Basic and COLA rates include the value of the accumulated vacation time load, except that the load is not applied when calculating the Basic rates for members with less than three years of service.

Employee contribution rates for Tier 6 (PEPRA) members are determined based on half the Normal Cost (including COLA) 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.

The member contribution rates shown in this appendix apply only to pensionable compensation (up to the PEPRA Compensation Limits for PEPRA members).

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Entry Age	General Tier 1					
	Basic First \$350	Basic Over \$350	COL First \$350	COL Over \$350	Total First \$350	Total Over \$350
16	2.30%	3.45%	1.16%	1.74%	3.46%	5.19%
17	2.30%	3.45%	1.16%	1.74%	3.46%	5.19%
18	2.30%	3.45%	1.16%	1.74%	3.46%	5.19%
19	2.30%	3.45%	1.16%	1.74%	3.46%	5.19%
20	2.30%	3.45%	1.16%	1.74%	3.46%	5.19%
21	2.32%	3.48%	1.19%	1.78%	3.51%	5.26%
22	2.34%	3.51%	1.21%	1.82%	3.55%	5.33%
23	2.35%	3.53%	1.24%	1.86%	3.59%	5.39%
24	2.37%	3.55%	1.27%	1.91%	3.64%	5.46%
25	2.38%	3.57%	1.30%	1.95%	3.68%	5.52%
26	2.39%	3.58%	1.33%	1.99%	3.71%	5.57%
27	2.40%	3.59%	1.36%	2.04%	3.76%	5.63%
28	2.40%	3.60%	1.39%	2.08%	3.79%	5.68%
29	2.40%	3.61%	1.41%	2.12%	3.82%	5.73%
30	2.41%	3.61%	1.44%	2.16%	3.85%	5.77%
31	2.45%	3.68%	1.47%	2.20%	3.92%	5.88%
32	2.51%	3.76%	1.50%	2.25%	4.01%	6.01%
33	2.56%	3.84%	1.53%	2.29%	4.08%	6.13%
34	2.61%	3.91%	1.56%	2.34%	4.17%	6.25%
35	2.66%	3.99%	1.60%	2.40%	4.26%	6.39%
36	2.72%	4.08%	1.64%	2.46%	4.36%	6.54%
37	2.77%	4.16%	1.69%	2.53%	4.46%	6.69%
38	2.83%	4.25%	1.73%	2.59%	4.56%	6.84%
39	2.89%	4.34%	1.77%	2.66%	4.66%	7.00%
40	2.95%	4.43%	1.81%	2.72%	4.77%	7.15%
41	3.01%	4.52%	1.85%	2.77%	4.86%	7.29%
42	3.08%	4.62%	1.88%	2.82%	4.96%	7.44%
43	3.15%	4.72%	1.91%	2.87%	5.06%	7.59%
44	3.22%	4.82%	1.94%	2.91%	5.16%	7.73%
45	3.29%	4.93%	1.97%	2.95%	5.26%	7.88%
46	3.37%	5.05%	2.00%	3.00%	5.37%	8.05%
47	3.45%	5.17%	2.02%	3.03%	5.47%	8.20%
48	3.53%	5.30%	2.05%	3.07%	5.58%	8.37%
49	3.62%	5.42%	2.06%	3.09%	5.68%	8.51%
50	3.70%	5.55%	2.07%	3.11%	5.77%	8.66%
51	3.78%	5.67%	2.07%	3.11%	5.85%	8.78%
52	3.86%	5.79%	2.05%	3.07%	5.91%	8.86%
53	3.91%	5.87%	1.99%	2.99%	5.91%	8.86%
54	3.94%	5.91%	1.96%	2.94%	5.90%	8.85%
55	3.92%	5.88%	1.92%	2.88%	5.84%	8.76%
56	3.90%	5.85%	1.84%	2.76%	5.74%	8.61%
57	3.88%	5.82%	1.71%	2.57%	5.59%	8.39%
58	3.82%	5.73%	1.67%	2.51%	5.49%	8.24%
59+	3.80%	5.70%	1.65%	2.47%	5.45%	8.17%

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

APPENDIX E – MEMBER CONTRIBUTION RATES

Entry Age	General Tier 2					
	Basic First \$350	Basic Over \$350	COL First \$350	COL Over \$350	Total First \$350	Total Over \$350
16	3.69%	5.53%	0.95%	1.42%	4.63%	6.95%
17	3.69%	5.53%	0.95%	1.42%	4.63%	6.95%
18	3.69%	5.53%	0.95%	1.42%	4.63%	6.95%
19	3.69%	5.53%	0.95%	1.42%	4.63%	6.95%
20	3.69%	5.53%	0.95%	1.42%	4.63%	6.95%
21	3.71%	5.57%	0.97%	1.45%	4.68%	7.02%
22	3.74%	5.61%	0.99%	1.48%	4.73%	7.09%
23	3.76%	5.65%	1.01%	1.51%	4.77%	7.16%
24	3.79%	5.68%	1.03%	1.54%	4.81%	7.22%
25	3.81%	5.71%	1.05%	1.57%	4.85%	7.28%
26	3.82%	5.73%	1.07%	1.61%	4.89%	7.34%
27	3.83%	5.75%	1.09%	1.64%	4.93%	7.39%
28	3.84%	5.76%	1.12%	1.68%	4.96%	7.44%
29	3.85%	5.77%	1.14%	1.71%	4.99%	7.48%
30	3.85%	5.77%	1.17%	1.75%	5.02%	7.52%
31	3.93%	5.89%	1.19%	1.79%	5.12%	7.68%
32	4.01%	6.01%	1.22%	1.83%	5.23%	7.84%
33	4.09%	6.14%	1.25%	1.87%	5.34%	8.01%
34	4.17%	6.26%	1.28%	1.92%	5.45%	8.18%
35	4.26%	6.39%	1.31%	1.96%	5.57%	8.35%
36	4.35%	6.52%	1.34%	2.01%	5.69%	8.53%
37	4.44%	6.66%	1.38%	2.07%	5.82%	8.73%
38	4.53%	6.80%	1.41%	2.12%	5.94%	8.92%
39	4.63%	6.94%	1.45%	2.17%	6.07%	9.11%
40	4.72%	7.09%	1.49%	2.23%	6.21%	9.32%
41	4.82%	7.24%	1.51%	2.26%	6.33%	9.50%
42	4.93%	7.39%	1.53%	2.30%	6.46%	9.69%
43	5.03%	7.55%	1.56%	2.34%	6.59%	9.89%
44	5.15%	7.72%	1.58%	2.37%	6.73%	10.09%
45	5.26%	7.89%	1.61%	2.41%	6.87%	10.30%
46	5.39%	8.08%	1.63%	2.44%	7.01%	10.52%
47	5.51%	8.26%	1.65%	2.47%	7.16%	10.73%
48	5.63%	8.45%	1.67%	2.51%	7.31%	10.96%
49	5.75%	8.63%	1.69%	2.54%	7.45%	11.17%
50	5.87%	8.80%	1.71%	2.56%	7.58%	11.36%
51	5.97%	8.95%	1.72%	2.58%	7.69%	11.53%
52	6.04%	9.06%	1.73%	2.59%	7.77%	11.65%
53	6.06%	9.09%	1.72%	2.58%	7.78%	11.67%
54	6.05%	9.07%	1.71%	2.56%	7.75%	11.63%
55	6.02%	9.02%	1.67%	2.51%	7.69%	11.53%
56	5.98%	8.97%	1.61%	2.42%	7.60%	11.39%
57	5.95%	8.93%	1.51%	2.26%	7.46%	11.19%
58	6.13%	9.19%	1.47%	2.21%	7.60%	11.40%
59+	6.33%	9.50%	1.45%	2.17%	7.78%	11.67%

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

APPENDIX E – MEMBER CONTRIBUTION RATES

General Tier 4						
Entry Age	Basic First \$350	Basic Over \$350	COL First \$350	COL Over \$350	Total First \$350	Total Over \$350
16	2.09%	3.13%	1.23%	1.85%	3.32%	4.98%
17	2.09%	3.13%	1.23%	1.85%	3.32%	4.98%
18	2.09%	3.13%	1.23%	1.85%	3.32%	4.98%
19	2.09%	3.13%	1.23%	1.85%	3.32%	4.98%
20	2.09%	3.13%	1.23%	1.85%	3.32%	4.98%
21	2.10%	3.15%	1.27%	1.90%	3.36%	5.05%
22	2.10%	3.16%	1.29%	1.94%	3.40%	5.10%
23	2.11%	3.16%	1.32%	1.98%	3.43%	5.14%
24	2.11%	3.17%	1.35%	2.02%	3.46%	5.19%
25	2.11%	3.17%	1.38%	2.07%	3.49%	5.24%
26	2.16%	3.23%	1.41%	2.11%	3.56%	5.34%
27	2.20%	3.30%	1.43%	2.14%	3.63%	5.44%
28	2.25%	3.37%	1.45%	2.18%	3.70%	5.55%
29	2.29%	3.44%	1.48%	2.22%	3.77%	5.66%
30	2.34%	3.51%	1.51%	2.26%	3.85%	5.77%
31	2.39%	3.58%	1.53%	2.30%	3.92%	5.88%
32	2.44%	3.65%	1.57%	2.35%	4.00%	6.00%
33	2.49%	3.73%	1.59%	2.39%	4.08%	6.12%
34	2.54%	3.81%	1.63%	2.45%	4.17%	6.26%
35	2.59%	3.89%	1.67%	2.51%	4.27%	6.40%
36	2.65%	3.97%	1.71%	2.57%	4.36%	6.54%
37	2.70%	4.06%	1.76%	2.64%	4.46%	6.70%
38	2.76%	4.14%	1.80%	2.70%	4.56%	6.84%
39	2.82%	4.24%	1.85%	2.77%	4.67%	7.01%
40	2.89%	4.33%	1.89%	2.84%	4.78%	7.17%
41	2.96%	4.43%	1.92%	2.88%	4.88%	7.31%
42	3.03%	4.54%	1.95%	2.92%	4.97%	7.46%
43	3.10%	4.65%	1.98%	2.97%	5.08%	7.62%
44	3.17%	4.76%	2.00%	3.00%	5.17%	7.76%
45	3.25%	4.87%	2.03%	3.04%	5.27%	7.91%
46	3.32%	4.98%	2.05%	3.07%	5.36%	8.05%
47	3.39%	5.08%	2.07%	3.10%	5.46%	8.18%
48	3.44%	5.16%	2.08%	3.12%	5.52%	8.28%
49	3.46%	5.19%	2.09%	3.13%	5.55%	8.32%
50	3.44%	5.16%	2.09%	3.13%	5.53%	8.29%
51	3.42%	5.14%	2.09%	3.13%	5.51%	8.27%
52	3.41%	5.11%	2.05%	3.08%	5.46%	8.19%
53	3.36%	5.03%	2.00%	3.00%	5.36%	8.03%
54+	3.34%	5.01%	1.97%	2.95%	5.30%	7.96%

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

APPENDIX E – MEMBER CONTRIBUTION RATES

Entry Age	General Tier 5					
	Basic First \$350	Basic Over \$350	COL First \$350	COL Over \$350	Total First \$350	Total Over \$350
16	4.18%	6.26%	1.23%	1.85%	5.41%	8.11%
17	4.18%	6.26%	1.23%	1.85%	5.41%	8.11%
18	4.18%	6.26%	1.23%	1.85%	5.41%	8.11%
19	4.18%	6.26%	1.23%	1.85%	5.41%	8.11%
20	4.18%	6.26%	1.23%	1.85%	5.41%	8.11%
21	4.19%	6.29%	1.27%	1.90%	5.46%	8.19%
22	4.21%	6.31%	1.29%	1.94%	5.50%	8.25%
23	4.22%	6.33%	1.32%	1.98%	5.54%	8.31%
24	4.22%	6.33%	1.35%	2.02%	5.57%	8.35%
25	4.22%	6.34%	1.38%	2.07%	5.60%	8.41%
26	4.31%	6.47%	1.41%	2.11%	5.72%	8.58%
27	4.40%	6.60%	1.43%	2.14%	5.83%	8.74%
28	4.49%	6.74%	1.45%	2.18%	5.94%	8.92%
29	4.58%	6.87%	1.48%	2.22%	6.06%	9.09%
30	4.68%	7.02%	1.51%	2.26%	6.18%	9.28%
31	4.77%	7.16%	1.53%	2.30%	6.31%	9.46%
32	4.87%	7.31%	1.57%	2.35%	6.44%	9.66%
33	4.97%	7.46%	1.59%	2.39%	6.57%	9.85%
34	5.08%	7.62%	1.63%	2.45%	6.71%	10.07%
35	5.18%	7.78%	1.67%	2.51%	6.86%	10.29%
36	5.29%	7.94%	1.71%	2.57%	7.01%	10.51%
37	5.41%	8.11%	1.76%	2.64%	7.17%	10.75%
38	5.53%	8.29%	1.80%	2.70%	7.33%	10.99%
39	5.65%	8.47%	1.85%	2.77%	7.50%	11.24%
40	5.78%	8.66%	1.89%	2.84%	7.67%	11.50%
41	5.91%	8.87%	1.92%	2.88%	7.83%	11.75%
42	6.05%	9.08%	1.95%	2.92%	8.00%	12.00%
43	6.20%	9.30%	1.98%	2.97%	8.18%	12.27%
44	6.35%	9.52%	2.00%	3.00%	8.35%	12.52%
45	6.49%	9.74%	2.03%	3.04%	8.52%	12.78%
46	6.64%	9.95%	2.05%	3.07%	8.68%	13.02%
47	6.78%	10.17%	2.07%	3.10%	8.84%	13.27%
48	6.87%	10.31%	2.08%	3.12%	8.95%	13.43%
49	6.92%	10.38%	2.09%	3.13%	9.01%	13.51%
50	6.89%	10.33%	2.09%	3.13%	8.97%	13.46%
51	6.85%	10.27%	2.09%	3.13%	8.94%	13.40%
52	6.81%	10.22%	2.05%	3.08%	8.87%	13.30%
53	6.71%	10.07%	2.00%	3.00%	8.71%	13.07%
54+	6.67%	10.01%	1.97%	2.95%	8.64%	12.96%

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

APPENDIX E – MEMBER CONTRIBUTION RATES

Entry Age	Safety Tier 2					
	Basic First \$350	Basic Over \$350	COL First \$350	COL Over \$350	Total First \$350	Total Over \$350
18	4.95%	7.43%	1.70%	2.55%	6.65%	9.98%
19	4.95%	7.43%	1.70%	2.55%	6.65%	9.98%
20	4.95%	7.43%	1.70%	2.55%	6.65%	9.98%
21	5.06%	7.58%	1.77%	2.66%	6.83%	10.24%
22	5.16%	7.74%	1.82%	2.73%	6.98%	10.47%
23	5.26%	7.89%	1.87%	2.81%	7.14%	10.70%
24	5.37%	8.05%	1.93%	2.89%	7.30%	10.94%
25	5.48%	8.22%	1.98%	2.97%	7.46%	11.19%
26	5.59%	8.38%	2.03%	3.04%	7.62%	11.42%
27	5.70%	8.55%	2.08%	3.12%	7.78%	11.67%
28	5.82%	8.73%	2.14%	3.21%	7.96%	11.94%
29	5.94%	8.91%	2.19%	3.29%	8.13%	12.20%
30	6.06%	9.09%	2.25%	3.37%	8.31%	12.46%
31	6.19%	9.28%	2.31%	3.47%	8.50%	12.75%
32	6.32%	9.47%	2.37%	3.56%	8.69%	13.03%
33	6.45%	9.67%	2.43%	3.65%	8.88%	13.32%
34	6.59%	9.88%	2.49%	3.73%	9.07%	13.61%
35	6.73%	10.10%	2.54%	3.81%	9.27%	13.91%
36	6.88%	10.32%	2.58%	3.87%	9.46%	14.19%
37	7.03%	10.55%	2.61%	3.92%	9.64%	14.47%
38	7.18%	10.77%	2.66%	3.99%	9.84%	14.76%
39	7.32%	10.98%	2.71%	4.06%	10.03%	15.04%
40	7.45%	11.18%	2.76%	4.14%	10.21%	15.32%
41	7.58%	11.37%	2.77%	4.15%	10.34%	15.52%
42	7.70%	11.54%	2.77%	4.15%	10.46%	15.69%
43	7.79%	11.69%	2.76%	4.14%	10.55%	15.83%
44	7.86%	11.78%	2.75%	4.13%	10.61%	15.91%
45	7.87%	11.80%	2.74%	4.11%	10.61%	15.91%
46	7.83%	11.74%	2.75%	4.12%	10.58%	15.86%
47	7.74%	11.61%	2.75%	4.12%	10.49%	15.73%
48	7.95%	11.93%	2.75%	4.13%	10.70%	16.06%
49+	8.22%	12.32%	2.75%	4.13%	10.97%	16.45%

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

APPENDIX E – MEMBER CONTRIBUTION RATES

Entry Age	Safety Tier 5					
	Basic First \$350	Basic Over \$350	COL First \$350	COL Over \$350	Total First \$350	Total Over \$350
18	5.19%	7.78%	2.35%	3.53%	7.54%	11.31%
19	5.19%	7.78%	2.35%	3.53%	7.54%	11.31%
20	5.19%	7.78%	2.35%	3.53%	7.54%	11.31%
21	5.29%	7.94%	2.45%	3.67%	7.74%	11.61%
22	5.40%	8.10%	2.51%	3.77%	7.91%	11.87%
23	5.51%	8.26%	2.57%	3.86%	8.08%	12.12%
24	5.62%	8.43%	2.63%	3.95%	8.25%	12.38%
25	5.73%	8.60%	2.69%	4.04%	8.43%	12.64%
26	5.85%	8.78%	2.75%	4.13%	8.60%	12.91%
27	5.97%	8.95%	2.81%	4.22%	8.78%	13.17%
28	6.09%	9.14%	2.87%	4.31%	8.97%	13.45%
29	6.22%	9.32%	2.93%	4.39%	9.14%	13.71%
30	6.34%	9.52%	2.95%	4.42%	9.29%	13.94%
31	6.48%	9.71%	2.96%	4.44%	9.44%	14.15%
32	6.61%	9.92%	3.01%	4.52%	9.62%	14.44%
33	6.75%	10.13%	3.07%	4.60%	9.82%	14.73%
34	6.90%	10.34%	3.12%	4.68%	10.02%	15.02%
35	7.04%	10.57%	3.18%	4.77%	10.22%	15.34%
36	7.20%	10.80%	3.22%	4.83%	10.42%	15.63%
37	7.37%	11.05%	3.27%	4.90%	10.63%	15.95%
38	7.54%	11.31%	3.32%	4.98%	10.86%	16.29%
39	7.70%	11.56%	3.37%	5.06%	11.08%	16.62%
40	7.86%	11.79%	3.44%	5.16%	11.30%	16.95%
41	8.01%	12.02%	3.39%	5.09%	11.41%	17.11%
42	8.16%	12.24%	3.35%	5.03%	11.51%	17.27%
43	8.30%	12.45%	3.32%	4.98%	11.62%	17.43%
44	8.45%	12.67%	3.29%	4.94%	11.74%	17.61%
45	8.54%	12.81%	3.27%	4.90%	11.80%	17.71%
46	8.57%	12.86%	3.26%	4.89%	11.83%	17.75%
47	8.55%	12.83%	3.26%	4.89%	11.81%	17.72%
48	8.34%	12.51%	3.26%	4.89%	11.60%	17.40%
49+	8.22%	12.32%	3.26%	4.89%	11.48%	17.21%

**STANISLAUS COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2019**

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
Current	8.73%	9.24%	12.34%	13.72%
Prior	8.63%	9.41%	12.33%	14.11%
Assumptions:				
Interest:	7.00%			
Salary:	2018 Valuation Scale (Service based, includes wage inflation at 3.00%)			
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-2018)			



Classic Values, Innovative Advice