



Tulare County Employees' Retirement Association

Actuarial Valuation Report as of June 30, 2017

Produced by Cheiron

Revised May 2018

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May 1, 2018

Board of Retirement
Tulare County Employees' Retirement Association
136 N. Akers St.
Visalia, CA 93291

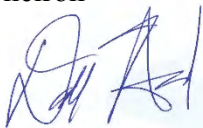
Dear Members of the Board:

At your request, we have revised the actuarial valuation of the Tulare County Employees' Retirement Association (TCERA, the System, the Fund, the Plan) as of June 30, 2017, which was transmitted on November 1, 2017, to reflect a \$250 million contribution expected to be made on or before June 30, 2018 from the proceeds of a Pension Obligation Bond (POB) issued by Tulare County. This report contains information on the System's assets, liabilities, and discloses employer contribution levels. 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 TCERA. This report was prepared for the TCERA Board of Retirement for the purposes described herein and for use by the plan auditor in completing an audit related to the matters herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other users.

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

Sincerely,
Cheiron

A handwritten signature in blue ink, appearing to read "David Holland".

David Holland, FSA, EA, FCA, MAAA
Consulting Actuary

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

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

TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017

FOREWORD

Cheiron has performed the actuarial valuation of the Tulare County Employees' Retirement Association as of June 30, 2017. 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 System's
 - Section II – Assets
 - Section III – Liabilities
 - Section IV – Contributions
 - Section V – Comprehensive Annual Financial Reporting Information
- In the **Appendices**, we conclude our report with detailed information describing plan membership (Appendix A), actuarial assumptions and methods employed in the valuation (Appendix B), a summary of pertinent plan provisions (Appendix C), a glossary of key actuarial terms (Appendix D), and tables containing member contribution rates (Appendix E).

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

In preparing our report, we relied on information (some oral and some written) supplied by the TCERA 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.

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 System,
- Past and expected trends in the funding progress of the System,
- Employer and employee contribution rates for Plan Year 2018-2019; and,
- Information required by the GFOA for the Comprehensive Annual Financial Report.

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 System.

A. Valuation Basis

At the direction of the Board, we have produced this revised valuation to reflect a \$250 million contribution expected to be made on or before June 30, 2018 from the proceeds of a Pension Obligation Bond (POB) issued by Tulare County. In the event that no contribution is made, we recommend the results of the original valuation, dated November 1, 2017, be used instead.

This valuation determines the employer contributions required for the employers' fiscal years beginning July 1, 2018. The System's funding policy is to collect contributions from the employers and employees equal to the sum of (1) the normal cost under the Entry Age Normal Cost Method and (2) amortization of the Unfunded Actuarial Liability.

The Unfunded Actuarial Liability (UAL) is the excess of the Actuarial Liability over the Actuarial Value of Assets. Based on the funding policy adopted by the Board at its October 28, 2015 meeting, the UAL payment in the current valuation is the amount needed to fund the June 30, 2015 UAL over a closed 19-year period with payments as a level percentage of payroll, assuming payroll increases of 3.00% per year, with subsequent gains and losses being amortized over new 19-year closed periods, also as a level percentage of payroll.

Actuarial experience studies are performed every three years. This valuation was performed using the economic and demographic assumptions adopted by the Board, which were based on the experience studies presented by Cheiron on June 28, 2017 and September 27, 2017. For this valuation the discount rate was lowered from 7.60% to 7.25%, the mortality improvement projection scale was updated to MP-2016, and a number of other demographic assumptions were updated to reflect recent experience. A summary of the assumptions and methods used in the current valuation is shown in Appendix B.

At the direction of the Board, the UAL and contribution rates shown in Tables I-1 and I-4 do not reflect any estimated liabilities associated with future transfers to the Supplemental Retiree Benefit Reserve (SRBR). An estimate of this liability has been disclosed in Table III-4.

This valuation was prepared based on the plan provisions shown in Appendix C. There have been no changes to the plan provisions since the last valuation.

SECTION I – EXECUTIVE SUMMARY

B. Key Findings of this Valuation

The key results of the June 30, 2017 actuarial valuation are as follows:

- This revised valuation reflects the impact of an expected contribution of \$250 million to TCERA on or before June 30, 2018 from the proceeds of a Pension Obligation Bond (POB) issued by Tulare County. At the April 12, 2018 meeting of the TCERA Board of Retirement, our understanding is that the following was adopted:
 - The impact on the UAL would be amortized as a separate 19-year layer,
 - The cost impact would be allocated only to Tulare County, except that future experience with respect to the expected contribution would be shared amongst all employers, and
 - The June 30, 2017 valuation would be revised to reflect this expected contribution.

We have incorporated the expected \$250 million contribution as a receivable in the assets as of June 30, 2017, for valuation purposes only. The amount added to the assets is equal to \$233.1 million, which is equal to \$250 million discounted by one year of interest at the plan's discount rate (7.25%). Since the cost impact of this reduction in the UAL is allocated only to the County, Section IV of this report now contains separate employer rates for the County vs. other TCERA employers (except for Safety members, who are all County employees, based on discussion with TCERA Staff). The County rates are based on their share of pensionable payroll for the fiscal year ending June 30, 2017, excluding the Tulare County Association of Governments (TCAG). Note that all other cost components (normal cost, other UAL layers) continue to be pooled based on membership class (General or Safety) in our calculations. Also, the results shown throughout this report continue to be for all employers combined except where otherwise indicated.

- The average actuarially determined employer contribution rate decreased from 14.83% of payroll to 12.98% of payroll. Information on the contribution rates and changes from last year to this year may be found in Tables I-4 and I-5. The largest factor affecting the employer contribution rate was a decrease of 7.00% of pay from the \$250 million contribution expected to be made on or before June 30, 2018, and the second largest was an increase of 4.30% from assumption changes adopted by the Board resulting from the recently completed experience study. There was also a 1.07% increase due to investment losses for the plan year ending June 30, 2017. On a Market Value of Assets basis, the Plan earned 11.3%, as compared to the prior year's 7.60% assumed return. However, on a smoothed (Actuarial Value of Assets) basis, the return was 4.6%. Finally, there was also a decrease of 0.33% in the employer contribution rate due to demographic gains, including the phase-in of Tier 4 (PEPRA) members.
- The UAL is the excess of the System's Actuarial Liability over the Actuarial Value of Assets. The System experienced a decrease in the UAL from \$238.8 million as of June 30, 2016 to \$111.7 million as of June 30, 2017. The decrease in the UAL was primarily

SECTION I – EXECUTIVE SUMMARY

due to the impact of the expected contribution from POB proceeds, which increased the Actuarial Value of Assets by \$233.1 million. The remaining balance of the June 30, 2015 UAL is being amortized over 17 years and the UAL loss from the plan year ending June 20, 2016 is being amortized over 18 years. The UAL loss for the plan year ending June 30, 2017, the UAL increase from assumption changes, and the UAL decrease from the expected POB contribution are all being amortized as new 19-year layers. A detailed reconciliation of the components of change in the UAL is shown in Table I-3.

- The System's funded ratio, the ratio of actuarial assets over Actuarial Liability, increased from 83.3% last year to 92.9% as of June 30, 2017. On a market value basis, the funded ratio increased from 73.7% last year to 88.7% this year. The Actuarial Value of Assets is higher than the market value, meaning that there are deferred investment losses that will be recognized in the Actuarial Value of Assets (and employer contributions) in future years.
- During the 2016-2017 plan year, the actuarial liabilities of the System increased less than expected, before accounting for the assumption changes. The liability gains were associated primarily with salary increases and COLA increases that were lower than expected. In total, the liability gains acted to reduce the overall increase in the actuarial liability by \$13.0 million.
- Overall participant membership increased compared to last year, from 9,287 to 9,562. The total active population increased from 4,496 to 4,536 and total projected payroll increased from \$248,513,879 to \$254,940,772. The number of inactives increased from 1,851 to 1,954, while the number of retirees increased from 2,940 to 3,072.
- In Table III-4 of this valuation we have disclosed a liability of \$90.0 million associated with future transfers to the Supplemental Retiree Benefit Reserve (SRBR). This amount is based on a simulation of investment returns and represents the accrued portion of the present value of SRBR transfers expected to result from future returns on the Actuarial Value of Assets in excess of the 7.25% assumption. It has not been reflected in the calculation of the employer contribution rate. Future SRBR transfers will result in asset losses that are funded through the Plan's amortization method. Note that the present value of future transfers to the SRBR is higher than in the prior valuation, largely due to the investment gains for the plan year ending June 30, 2017. If the liability for future SRBR transfers were to be pre-funded, the employer contribution would be approximately \$7.6 million higher, or about 3.0% of pay. We have also disclosed a liability of \$98.5 million associated with the current SRBR balance, which is equal to the current balance less the portion assumed to represent future benefit accruals. Note that the disclosure of these liabilities does not imply that the current benefit levels are guaranteed. Our understanding is that the Board has the power to adjust the benefit amounts paid from the SRBR.

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

Below we present Tables I-1 and I-2 which summarize the key results of the valuation with respect to TCERA assets, liabilities, Unfunded Actuarial Liability, funded ratios, and membership. The results are presented and compared for both the current and prior plan year.

The leverage ratios are equal to the Market Value of Assets (or Actuarial Liability) divided by payroll and represent a measure of the size of the plan relative to the plan sponsor. For additional discussion, see Table I-6.

Table I-1 Summary of Key Valuation Results - Funded Status (in thousands)				
Valuation Date	June 30, 2016	Original June 30, 2017	Revised June 30, 2017	% Change
Actuarial Liability	\$ 1,431,436	\$ 1,573,406	\$ 1,573,406	9.9%
Market Value of Assets	\$ 1,165,127	\$ 1,270,226	\$ 1,503,326	29.0%
Market Value of Assets (Excluding SRBR)	1,055,147	1,162,022	1,395,122	32.2%
Actuarial Value of Assets (Excluding SRBR)	1,192,642	1,228,655	1,461,755	22.6%
Unfunded Actuarial Liability (UAL)				
- based on Market Value of Assets	\$ 376,289	\$ 411,384	\$ 178,284	-52.6%
- based on Actuarial Value of Assets	238,794	344,751	111,651	-53.2%
Funding Ratio - Market value basis	73.7%	73.9%	88.7%	15.0%
Funding Ratio - Actuarial value basis	83.3%	78.1%	92.9%	9.6%
Expected Payroll	\$ 248,514	\$ 254,941	\$ 254,941	2.6%
Asset Leverage Ratio	4.7	5.0	5.9	25.8%
Actuarial Liability Leverage Ratio	5.8	6.2	6.2	7.1%
Interest on UAL (MVA basis)	\$ 28,598	\$ 29,825	\$ 12,926	-54.8%
Interest Cost as Percent of Payroll	11.5%	11.7%	5.1%	-6.4%

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

Table I-2			
Membership Total			
Item	June 30, 2016	June 30, 2017	% Change
Actives	4,496	4,536	0.9%
Inactives	1,851	1,954	5.6%
Members Receiving Benefits	2,940	3,072	4.5%
Total Members	9,287	9,562	3.0%
Ratio of Retired Members to Active Members	65.4%	67.7%	2.3%
Active Member Projected Payroll for FYE June 30, 2017 and 2018	\$ 248,513,879	\$ 254,940,772	2.6%
Average Pay per Active	\$ 55,274	\$ 56,204	1.7%

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

The Unfunded Actuarial Liability (UAL) for TCERA decreased by \$127.1 million, from \$238.8 million to \$111.7 million. Table I-3 below presents the specific components of the change in the UAL.

Liability experience gains decreased the UAL by \$13.0 million and asset losses – i.e., the smoothed investment return was less than last year's assumed rate of 7.60%, compounded by lower than anticipated contributions – increased the UAL by \$37.2 million. Regularly scheduled contributions were lower than expected due to payroll being lower than expected, as well as timing: the employer contribution was made at the beginning of the year, with a half-year discount for interest. However, in principle this discount would be made up for through increased investment earnings. A detailed breakdown of the liability experience gains can be found in Table III-2.

The largest factor affecting the UAL was a reduction of \$233.1 million to reflect the contribution from POB proceeds expected to be made on or before June 30, 2018. This expected contribution is reflected as a receivable in the assets as of June 30, 2017 for valuation purposes only; \$233.1 million is equal to the expected contribution of \$250 million, discounted with one year of interest at the assumed discount rate (7.25%) based on an assumed contribution date of June 30, 2018.

Table I-3	
Change in Unfunded Actuarial Liability	
Experience	(in thousands)
Unfunded actuarial liability, 6/30/2016	\$ 238,794
Expected change in unfunded actuarial liability	\$ (493)
Increase due to investment loss	35,034
Increase due to contributions less than expected	2,141
Decrease due to liability gain	(12,983)
Increase due to assumption changes	82,259
Decrease due to POB Contribution	(233,100)
Total change in unfunded actuarial liability	\$ (127,142)
Unfunded actuarial liability, 6/30/2017	\$ 111,651

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

Employer and Employee Contributions

Thus far the experience of the 2016-2017 plan year has been presented in terms of the UAL and funded ratio. Table I-4 below compares the net employer contribution rates from the prior year and its components. The overall net employer contribution rate decreased by 1.86% for the June 30, 2017 valuation. The net employer normal cost rate increased by 2.06% and the UAL rate decreased by 3.92%. The average employee rate increased by 1.03%, from 7.39% to 8.42%.

Additional details on contributions may be found in Section IV, including separate rates for the County vs. the other employers, which have been added in this revised report to reflect the Board's decision to allocate the cost impact of the expected POB contribution to the County only. However, we would note that without further action, future investment experience related to this contribution would still be shared amongst all TCERA employers.

Table I-4 Summary Of Contributions				
	FYE 2018	Original FYE 2019	Revised FYE 2019	Absolute Change
<u>Contribution Rates</u>				
Net Employer Contribution Rate	14.83%	19.98%	12.98%	-1.86%
Estimated Employee Contribution Rate	<u>7.39%</u>	<u>8.42%</u>	<u>8.42%</u>	1.03%
Total Contribution Rate	22.22%	28.40%	21.40%	-0.82%
Estimated Net Employer Contributions (in thousands)	\$ 37,964	\$ 52,454	\$ 34,073	\$ (3,891)
<u>Total Contribution Rate</u>				
Estimated Employee Contribution Rate	7.39%	8.42%	8.42%	1.03%
Employer Normal Cost Rate	<u>7.05%</u>	<u>9.12%</u>	<u>9.12%</u>	2.06%
Total Normal Cost Rate	14.44%	17.54%	17.54%	3.10%
Administrative Expense Rate				
UAL Rate				
Interest on Market Value UAL	11.51%	11.70%	5.07%	-6.44%
Principal on Market Value UAL	<u>-3.73%</u>	<u>-0.84%</u>	<u>-1.21%</u>	2.52%
Total UAL Rate	7.78%	10.86%	3.86%	-3.92%
Total Contribution Rate	22.22%	28.40%	21.40%	-0.82%

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

Table I-5 summarizes the changes in the employer contribution rate. The largest change was a decrease of 7.00% from the expected contribution of POB proceeds. At the direction of the Board, the cost impact is allocated only to the County, and Section IV of this report contains information on the employer rates for both the County and for the other employers.

In addition to the POB, the three largest sources were increases due to assumption changes and investment losses, and a decrease due to demographic experience, including the phase-in of Tier 4 (PEPRA) members. In aggregate, the employer contribution rate decreased from 14.83% for FYE 2018 to 12.98% for FYE 2019.

Table I-5 Employer Contribution Reconciliation			
Item	Normal Cost	Amortization	Total
FYE 2018 Net Employer Contribution Rate	7.05%	7.78%	14.83%
Change due to asset loss	0.00%	1.07%	1.07%
Change due to contributions less than expected	0.00%	0.07%	0.07%
Change due to demographic gains and losses	0.07%	-0.40%	-0.33%
Change due to payroll less than expected	0.00%	0.05%	0.05%
Change due to assumption changes	2.00%	2.30%	4.30%
Change due to POB Contribution	0.00%	-7.00%	-7.00%
Total Change in Employer Rate	2.06%	-3.92%	-1.86%
FYE 2019 Net Employer Contribution Rate	9.12%	3.86%	12.98%

SECTION I – EXECUTIVE SUMMARY

Plan Risk

Table I-6 below shows the ratio of assets to active member payroll for TCERA.

Table I - 6	
Asset to Payroll Ratio as of June 30, 2017	
Active Member Payroll	254,940,772
Assets (Market Value)	1,503,326,011
Ratio of Assets to Payroll	5.90
Ratio with 100% Funding	6.17

One of the most important measures of a plan's risk is the ratio of plan assets to payroll. The table above shows TCERA's assets as a percentage of active member payroll. This ratio indicates the sensitivity of the plan to the returns earned on plan assets. We note in the table that assets currently are nearly 6 times covered payroll for the Plan; as funding improves and the Plan reaches 100% funding, the ratio of assets to payroll will increase to over 6 times payroll, perhaps higher depending on the Plan's future demographic makeup.

To appreciate the impact of the ratio of assets to payroll on 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 cost is nil, because the assets are so small. On the other hand, consider the situation for TCERA. Suppose TCERA's assets lose 10% of their value in a year. Since they were assumed to earn 7.25%, there is an actuarial loss of 17.25% of assets. Based on the current ratio of assets to payroll (590%), that means the loss in assets is about 102% of active payroll (590% of the 17.25% loss). There is only one source of funding to make up for this loss: contributions. Consequently, barring future offsetting investment gains, the loss must be made up with future contributions.

As the plan matures and becomes better funded, the ratio of assets to payroll will increase. When assets are 617% of pay, the 10% loss discussed above will translate to a loss of over 106% of payroll. Therefore, the Plan is likely to become more sensitive to market variation in the future than it is today.

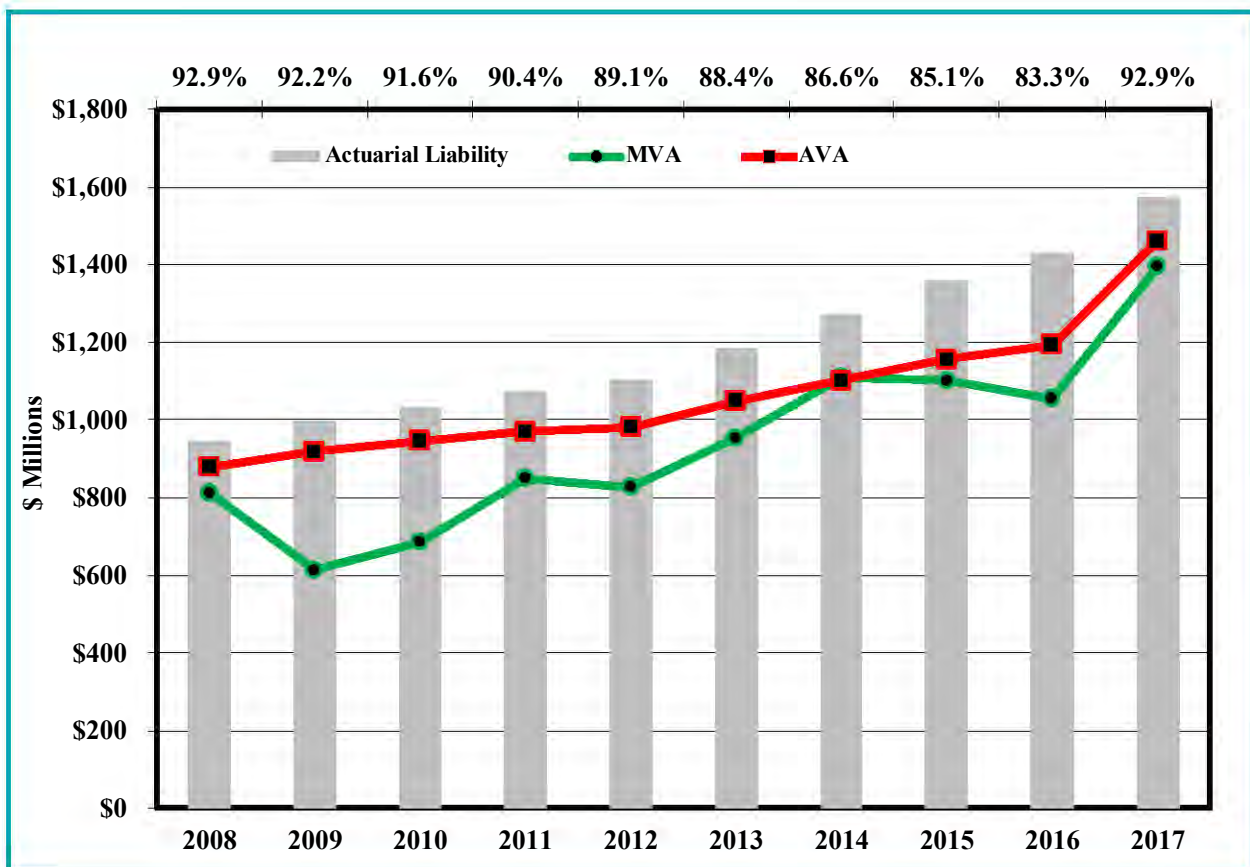
SECTION I – EXECUTIVE SUMMARY

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 important to judge a current year's valuation result relative to historical trends, as well as trends expected into the future.

Assets and Liabilities

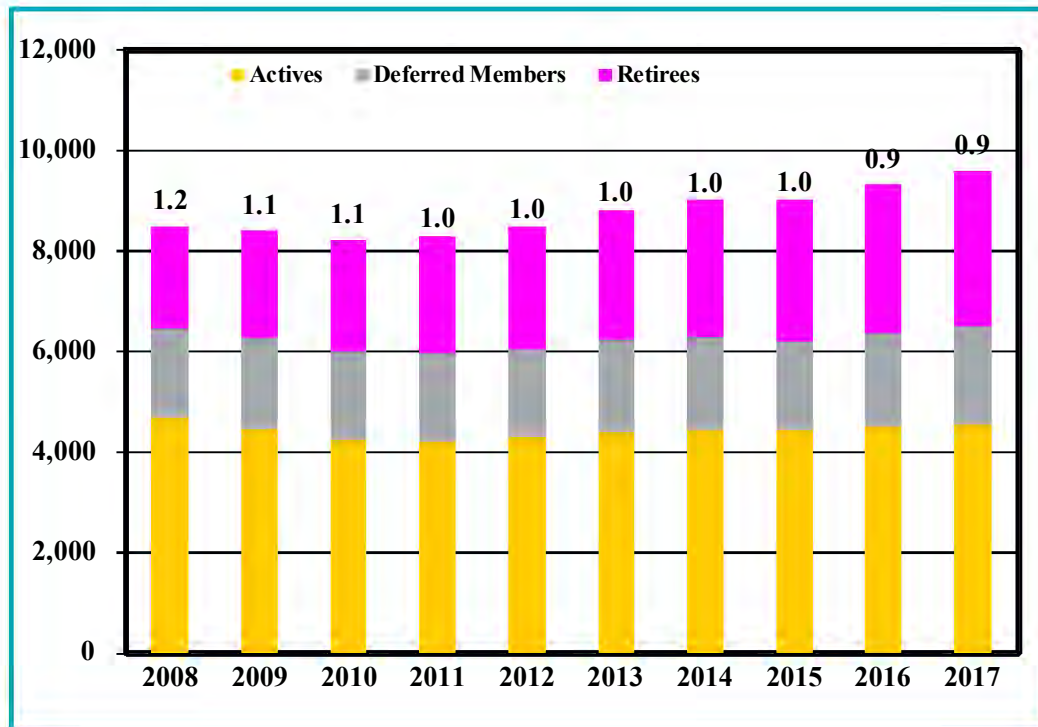
The chart below compares the Market Value of Assets (MVA) and Actuarial Value of Assets (AVA) to the actuarial liabilities. The percentage shown in the table below the graph is the ratio of the Actuarial Value of Assets to the Actuarial Liability (the funded ratio). The funded ratio had declined from 92.9% in 2008 to 83.3% in 2016, but increased to 92.9% as of June 30, 2017. The largest factor for the funding ratio decline was asset losses in 2008-2009, and the significant increase in the funded ratio in 2017 is due to the expected contribution from POB proceeds.



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SECTION I – EXECUTIVE SUMMARY

Participant Trends



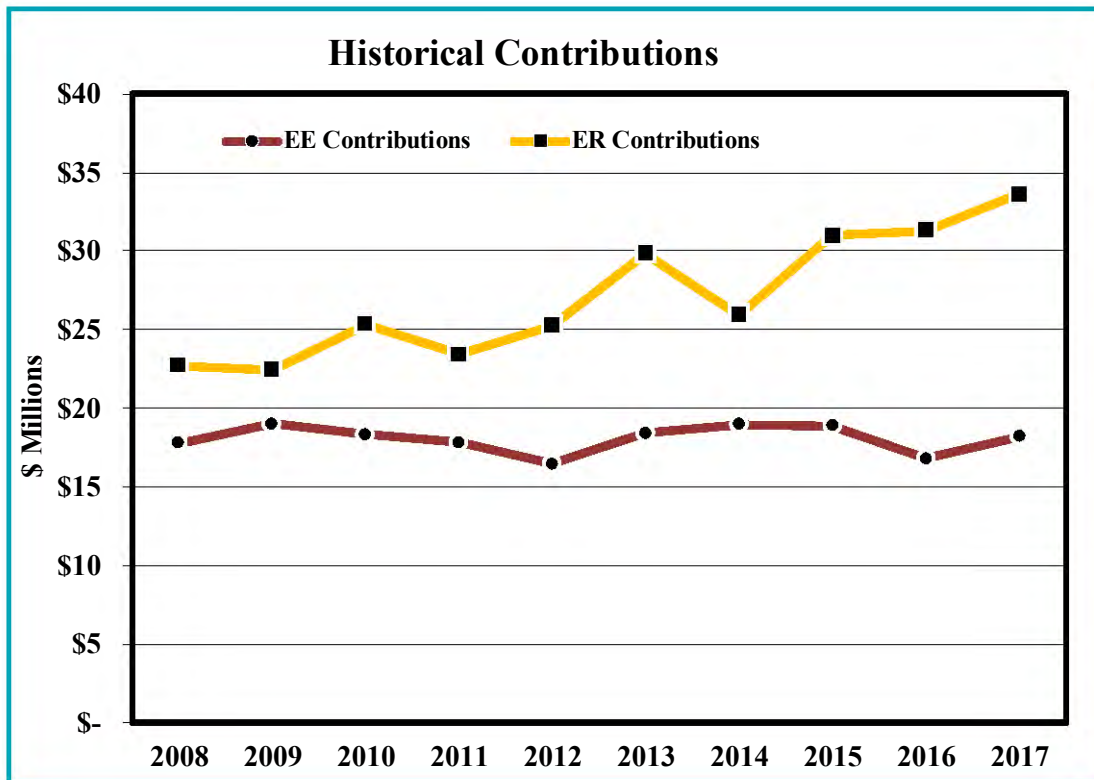
The chart above provides a measure for Plan maturity by comparing the ratio of active members to inactive members (retirees and deferred members). These ratios are given at the top of each bar. The active-to-inactive ratio has decreased from 2008 to 2017, indicating the ongoing maturation of the Plan. While this is neither good nor bad in itself, it does have implications for the risk profile of the Plan, as discussed under Table I-6 earlier in this section.

SECTION I – EXECUTIVE SUMMARY

Contribution Trends

In the chart below, we present the historical trends for the TCERA employer and employee contributions. In the first year of the period, the employer and employee contributions were very close, but the employer contribution rates rose as a result of the 2008-2009 asset losses. Due to the 10-year asset smoothing period, those losses continue to be recognized in the employer contribution rates. TCERA has also experienced asset losses in each of the past two years, as well as significant assumption changes in the current year, further increasing the employer contribution rates.

Note that the 2017 employer contribution does not include the expected contribution from POB proceeds.

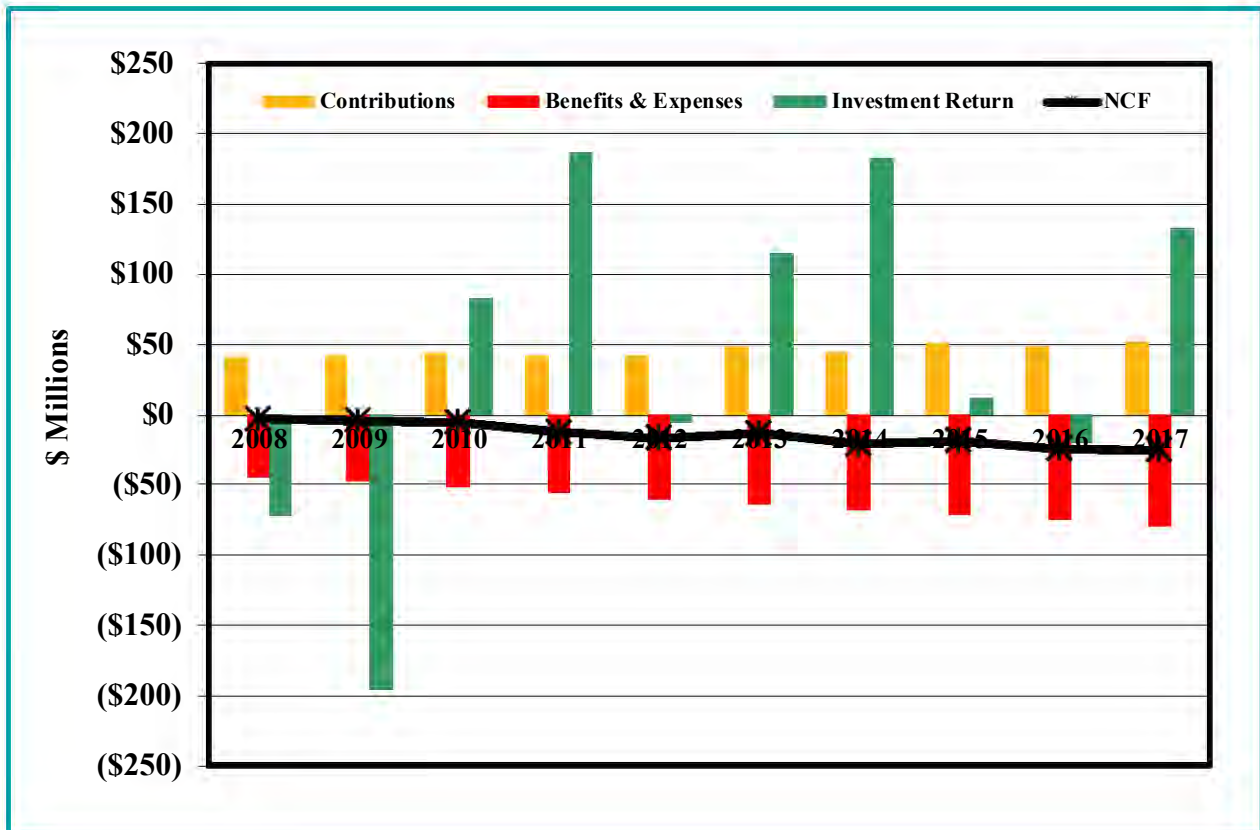


SECTION I – EXECUTIVE SUMMARY

Cash Flows

The chart below shows the Plan's cash flow (contribution less benefit payments and expenses). This is a critical measure, as it reflects the ability to have funds available to meet benefit payments without having to make difficult investment decisions, especially during volatile markets.

Note that the 2017 contributions do not include the expected contribution from POB proceeds.



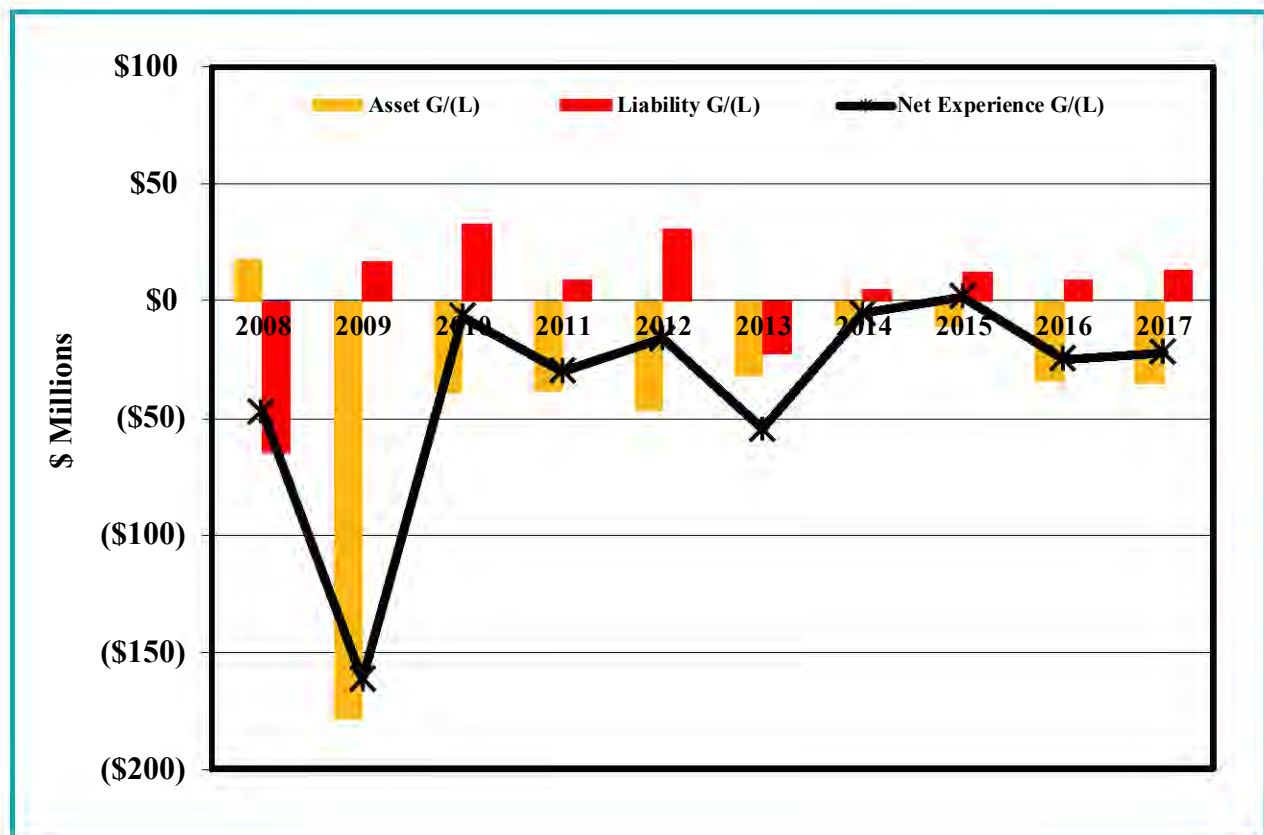
In the chart above, the contributions, benefit payments plus expenses, and investment returns are shown as bars and the Plan's net cash flow (NCF) is shown as a black line. The NCF, which is equal to contributions less benefit payments and expenses, was close to zero for the first half of the period shown but has become more negative over the last few years. For the most recent year, the plan had negative cash flow of approximately 2.4% of assets. A negative cash flow magnifies the losses during a market decline hindering the Plan in its ability to absorb market fluctuations. The implications of a plan in negative cash flow are that the impact of market fluctuations can be more severe: as assets are being depleted to pay benefits in down markets, there is less principal available to be reinvested during favorable return periods.

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Gains and Losses

The chart below 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 TCERA's assets and liabilities attributable to changes to actuarial methods, assumptions or plan benefit changes.

The investment loss in 2008-2009 was by far the most significant gain or loss during the last ten years. Since the Plan uses 10-year smoothing of asset gains and losses, it continues to recognize the 2008-2009 losses in the Actuarial Value of Assets.



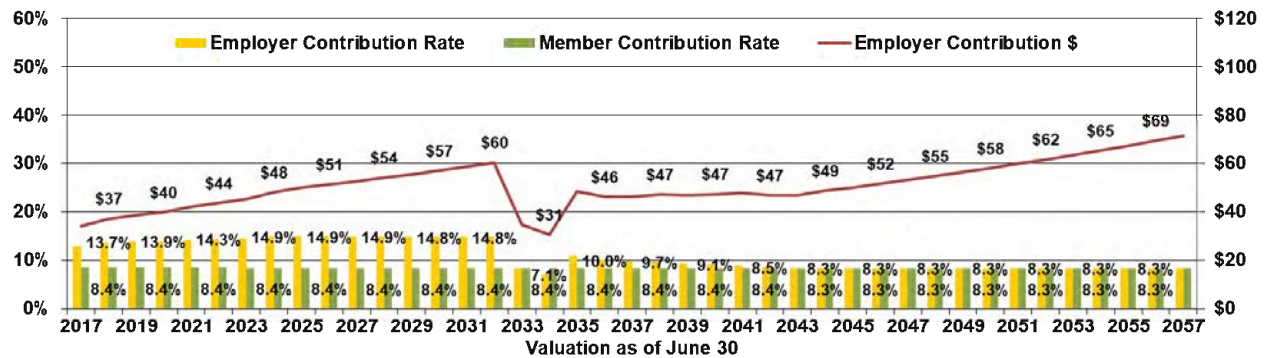
SECTION I – EXECUTIVE SUMMARY

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, 2017 valuation results in terms of benefit security (assets over liabilities). All the projections in this section are based on an investment return assumption of 7.25%. We have assumed future increases in total pensionable payroll of 3.00% per year.

The following graph shows the expected employer contribution rate based on achieving the investment assumption **each year** for the next 40 years. This scenario is highly unlikely: even if the Plan does achieve the assumed return **on average** over this time period, the returns in each given year will certainly vary.

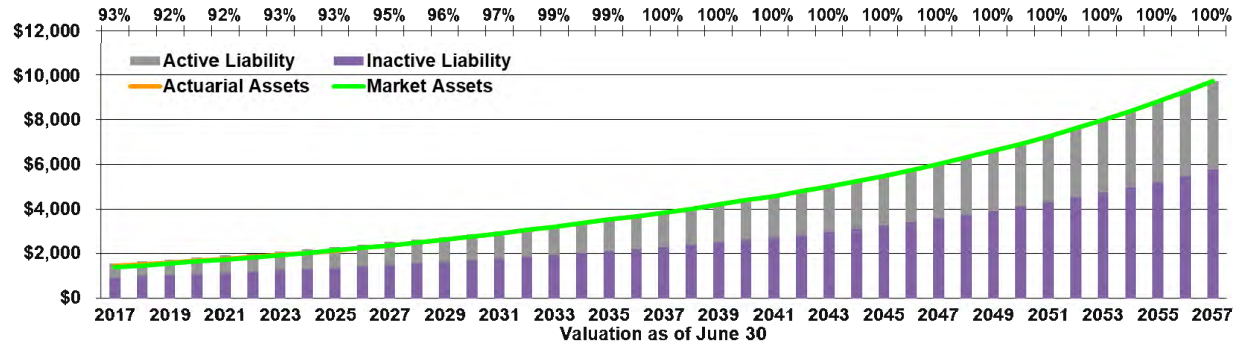
The contribution graph shows that the employer contribution rate is expected to increase slightly for several years as past investment losses are recognized, then experience some fluctuation as certain UAL layers drop off. In the second half of the projection period, there is a small decline projected in the average employee contribution rate, primarily due to PEPPRA members becoming a larger proportion of the active member population over time.



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The following graph shows the projection of assets and liabilities assuming that assets will earn the investment assumption each year during the projection period. The percentages at the top of the graph represent the funded ratio or status of the System.



The funded status, based on the Actuarial Value of Assets, is expected to reach 100% by 2037 assuming the actuarial assumptions are achieved.

However, as with the projection of contribution rates, it is the **actual** return on System assets that will determine the future funded status.

SECTION II – ASSETS

Pension plan assets play a key role in the financial operation of the System 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 System assets including:

- **Disclosure** of System assets as of June 30, 2016 and June 30, 2017;
- Statement of the **changes** in market values during the year;
- Development of the **Actuarial Value of Assets**;
- An allocation of the assets by **reserve balances**; and,
- An assessment of historical **investment performance versus inflation**.

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. The Actuarial Value of Assets reflects smoothing of annual investment returns.

Table II-1 on the next page discloses and compares each asset value as of June 30, 2016 and June 30, 2017.

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

SECTION II – ASSETS

Table II-1 Statement of Assets at Market Value		
	June 30, 2016	June 30, 2017
Cash and Securities Lending Collateral:		
Cash	\$ 37,504,044	\$ 59,581,311
Collateral on Loaned Securities	51,823,894	55,755,489
Total Cash and Securities Lending Collateral	\$ 89,327,938	\$ 115,336,800
Receivables:		
Sales of Investments	\$ 18,319,318	\$ 24,718,343
Interest and Dividends	2,313,112	1,770,583
Employee and Employer Contributions	979,384	1,122,850
Other Receivables	16,404	32,937
Total Receivables	\$ 21,628,218	\$ 27,644,713
Investments, at Fair Value:		
U.S. Government Obligations	\$ 68,756,636	\$ 88,415,682
Global Bonds	67,573,416	75,883,564
Domestic Corporate Bonds	207,183,603	221,648,992
Domestic Stocks	284,278,905	260,877,773
International Stocks	284,549,244	308,184,443
Real Estate	72,509,060	101,063,213
Commodities	38,580,219	37,068,592
Alternative Investments (Hedge Funds, Private Equity, Futures)	111,487,130	138,687,689
Total Investments, at Fair Value	\$ 1,134,918,213	\$ 1,231,829,948
Capital Assets		
Land	\$ 370,346	\$ 370,346
Building, Office Equipment and Furniture Net of Accumulated Depreciation	822,949	793,960
Intangible Assets, Pension Administration System Net of Accumulated Depreciation	1,810,763	1,516,752
Total Capital Assets	\$ 3,004,058	\$ 2,681,058
Total Assets	\$ 1,248,878,427	\$ 1,377,492,519
Current Liabilities:		
Purchase of Investments	\$ 28,313,952	\$ 47,931,143
Obligations under Security Lending Program	51,823,894	55,755,489
Refunds Payable	2,433,892	1,985,806
Accounts Payable	1,048,088	1,481,596
Total Current Liabilities	\$ 83,619,826	\$ 107,154,034
Long-Term Liabilities:		
Compensated Absences	\$ 131,267	\$ 112,707
Total Long-Term Liabilities	\$ 131,267	\$ 112,707
Total Liabilities	\$ 83,751,093	\$ 107,266,741
Total Market Value of Assets, without POB	\$ 1,165,127,334	\$ 1,270,225,778
Receivable for POB Contribution*	\$ -	\$ 233,100,233
Total Market Value of Assets for Valuation	\$ 1,165,127,334	\$ 1,503,326,011

*Based on the expected contribution of \$250 million, discounted with one year of interest at the assumed discount rate (7.25%) with an assumed contribution date of June 30, 2018.

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

SECTION II – ASSETS

Changes in Market Value

The components of asset change are:

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

Table II-2 below shows the components of change in the Market Value of Assets during the fiscal years ending June 30, 2016 and June 30, 2017.

Table II-2 Changes in Market Values		
	June 30, 2016	June 30, 2017
Additions:		
Contributions		
Employer	\$ 31,297,240	\$ 33,615,885
Plan Member	16,814,551	18,190,415
Total Contributions	<u>\$ 48,111,791</u>	<u>\$ 51,806,300</u>
Investment Income		
Net Appreciation/(Depreciation) in		
Fair Value of Investments	\$ (30,259,532)	\$ 127,697,895
Interest	6,633,962	5,109,375
Dividends	3,956,452	3,803,026
Real Estate Operating Income	3,945,235	2,526,209
Other Investment Income	1,736,131	1,035,040
Total Investment Activity Income/(Loss)	<u>\$ (13,987,752)</u>	<u>\$ 140,171,545</u>
Less Expenses from Investing Activities	<u>6,628,573</u>	<u>7,718,257</u>
Net Investing Activity Income/(Loss)	<u>\$ (20,616,325)</u>	<u>\$ 132,453,288</u>
From Securities Lending Activities		
Securities Lending Income	\$ 293,706	\$ 624,617
Less Expenses from Securities Lending Income		
Management Fee	\$ 14,684	\$ 12,625
Borrower Rebate	136,813	365,848
Net Securities Lending Income	<u>\$ 142,209</u>	<u>\$ 246,144</u>
Total Net Investment Income/(Loss)	<u>\$ (20,474,116)</u>	<u>\$ 132,699,432</u>
Other Income	\$ 165,615	\$ 165,600
Total Additions	\$ 27,803,290	\$ 184,671,332

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

SECTION II – ASSETS

**Table II-2
Changes in Market Values (Continued)**

	June 30, 2016	June 30, 2017
Deductions:		
Benefits	\$ 69,134,188	\$ 73,442,266
Refunds of Contributions	3,198,234	3,519,060
Administrative Expenses	<u>2,615,856</u>	<u>2,611,562</u>
Total Deductions	\$ 74,948,278	\$ 79,572,888
Net Increase/(Decrease)	\$ (47,144,988)	\$ 105,098,444
<u>Net Assets Held in Trust for Pension Benefits</u>		
Beginning of Year	\$ 1,212,272,322	\$ 1,165,127,334
End of Year, without POB	\$ 1,165,127,334	\$ 1,270,225,778
Expected POB Contribution*	<u>\$ -</u>	<u>\$ 233,100,233</u>
End of Year for Valuation	\$ 1,165,127,334	\$ 1,503,326,011
Approximate Return	-1.91%	11.29%

**Based on the expected contribution of \$250 million, discounted with one year of interest at the assumed discount rate (7.25%) with an assumed contribution date of June 30, 2018.*

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

SECTION II – ASSETS

Actuarial Value of Assets (AVA)

The table below shows the development of the Actuarial Value of Assets. Based on discussions with TCERA staff, the total actual market returns for each period shown are based on preliminary financial information.

Table II-3 Development of Actuarial Value of Assets for June 30, 2017						
<u>Six month</u> <u>Period</u> <u>From</u> <u>To</u>	<u>Total Actual</u> <u>Market</u> <u>Return (net)</u>	<u>Expected</u> <u>Market</u> <u>Return (net)</u>	<u>Investment</u> <u>Gain (Loss)</u>	<u>Deferred</u> <u>Factor</u>	<u>Deferred</u> <u>Return</u>	
7/08 12/08	\$ (206,287,879)	\$ 37,876,305	\$ (244,164,185)	0.10	\$ (24,416,418)	
1/09 6/09	5,932,310	29,502,818	(23,570,509)	0.15	(3,535,576)	
7/09 12/09	111,719,499	29,390,608	82,328,891	0.20	16,465,778	
1/10 6/10	(33,675,854)	33,673,605	(67,349,458)	0.25	(16,837,365)	
7/10 12/10	130,581,862	32,462,428	98,119,434	0.30	29,435,830	
1/11 6/11	49,953,925	37,183,527	12,770,398	0.35	4,469,639	
7/11 12/11	(58,996,703)	39,029,015	(98,025,719)	0.40	(39,210,288)	
1/12 6/12	46,133,182	36,032,847	10,100,335	0.45	4,545,151	
7/12 12/12	61,934,352	38,223,420	23,710,932	0.50	11,855,466	
1/13 6/13	45,446,072	39,915,825	5,530,247	0.55	3,041,636	
7/13 12/13	114,083,453	41,675,731	72,407,722	0.60	43,444,633	
1/14 6/14	62,482,815	45,022,478	17,460,337	0.65	11,349,219	
7/14 12/14	(17,886,044)	46,676,782	(64,562,826)	0.70	(45,193,978)	
1/15 6/15	26,507,383	44,856,580	(18,349,197)	0.75	(13,761,898)	
7/15 12/15	(45,631,715)	45,909,756	(91,541,471)	0.80	(73,233,177)	
1/16 6/16	24,729,226	43,045,278	(18,316,052)	0.85	(15,568,644)	
7/16 12/16	44,835,718	44,015,787	819,931	0.90	737,938	
1/17 6/17	84,564,705	42,691,625	41,873,080	0.95	39,779,426	
1. Total deferred return					(66,632,628)	
2. Market Value of Assets (includes SRBR)					1,503,326,011	
3. Actuarial Value of Assets for Funding Ratio (2. - 1.)					1,569,958,639	
4. Non-valuation reserves and designations:						
a. Supplemental Retiree Benefit Reserve (SRBR)					108,203,552	
5. Preliminary Actuarial Value of Assets (3. - 4.)					1,461,755,087	
6. Corridor Limit						
a. 70% of Market Value of Assets excluding SRBR					976,585,721	
b. 130% of Market Value of Assets excluding SRBR					1,813,659,196	
7. Actuarial Value of Assets after Corridor					1,461,755,087	

TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017

SECTION II – ASSETS

Allocation of Reserve Balances

The following table shows the allocation of the assets among the various accounting reserves provided by TCERA staff.

Note that the FYE 2017 reserve balances do not include the expected contribution from POB proceeds.

Table II-4 Allocation of Assets by Accounting Reserve Amounts for the Years Ended June 30, 2016 and June 30, 2017			
	FYE 2016		FYE 2017
1. Member Deposit Reserve	\$	272,740,489	\$ 278,900,255
2. Employer Advance Reserve		491,347,084	509,155,763
3. Retiree Reserve		392,924,756	400,056,600
4. Supplemental Retiree Benefit Reserve		109,980,159	108,203,552
5. Contingency Reserve		35,950,077	39,662,444
6. Market Stabilization Reserve		(137,495,102)	(66,632,628)
7. TCERA Property, Inc. Retained Earnings		312,065	413,441
8. Other Reserves		(632,192)	466,351
Total Reserves	\$	1,165,127,334	\$ 1,270,225,778

TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017

SECTION II – ASSETS

Asset Returns vs. Inflation

Table II-5 shows the returns on the Market and Actuarial Values of Assets, with the increase in the CPI for comparison, over the last nine years.

Table II-5 Net Return on Assets vs. Increase in Consumer Price Index			
Year Ended June 30	Net Return at Market Value	Net Return at Actuarial Value	Increase in Consumer Price Index*
2008	-7.8%	10.1%	5.0%
2009	-20.8%	5.1%	-1.4%
2010	10.3%	3.6%	1.1%
2011	21.8%	3.8%	3.6%
2012	-1.3%	3.1%	1.7%
2013	11.1%	4.6%	1.8%
2014	16.7%	6.8%	2.1%
2015	0.7%	6.1%	0.1%
2016	-1.9%	4.7%	1.0%
2017	11.3%	4.6%	1.6%
Compound Average	3.3%	5.2%	1.6%

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

SECTION III – LIABILITIES

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

- **Disclosure** of System liabilities at June 30, 2016 and June 30, 2017;
- Statement of **changes** in these liabilities during the year;
- Present value of future **SRBR** benefits based on current benefit levels; and,
- Liability and funded status **disclosures** with and without the SRBR.

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 System obligations, represents the amount of money needed today to fully fund all benefits of the System both earned as of the valuation date and those to be earned in the future by current plan participants, under the current System 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 System is called the **Entry Age Normal** (EAN) funding method.
- **Unfunded Actuarial Liability:** The excess of the Actuarial Liability over the Actuarial Value of Assets.

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

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

SECTION III – LIABILITIES

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

			June 30, 2017	June 30, 2016
Item	General	Safety	Total	Total
Present Value of Future Benefits (PVFB)				
Actives	\$ 698,415	\$ 292,507	\$ 990,922	\$ 847,897
Terminated Vested	101,026	24,326	125,352	106,245
Retirees	514,787	141,798	656,585	622,475
Disabled	49,307	46,110	95,418	79,064
Beneficiaries	38,072	18,723	56,796	47,163
Total PVFB	\$ 1,401,608	\$ 523,465	\$ 1,925,073	\$ 1,702,845
Actuarial Liability				
Total Present Value of Benefits	\$ 1,401,608	\$ 523,465	\$ 1,925,073	\$ 1,702,845
Present Value of Future Normal Costs				
Employer Portion	126,433	61,035	187,467	138,497
Employee Portion	114,191	50,008	164,199	132,913
Actuarial Liability	\$ 1,160,984	\$ 412,422	\$ 1,573,406	\$ 1,431,436
Actuarial Value of Assets	\$ 1,076,157	\$ 385,598	\$ 1,461,755	\$ 1,192,642
Funded Ratio	92.7%	93.5%	92.9%	83.3%
Unfunded Actuarial Liability/(Surplus)	\$ 84,827	\$ 26,824	\$ 111,651	\$ 238,794

SECTION III – LIABILITIES

Changes in Liabilities

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

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

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

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

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

SECTION III – LIABILITIES

Table III-2 Development of 2017 Experience Gain/(Loss) (in thousands)	
Item	Cost
1. Unfunded Actuarial Liability at June 30, 2016	\$ 238,794
2. Middle of year actuarial liability payment	(17,971)
3. Interest to end of year on 1 and 2	17,478
4. Impact of assumption changes	<u>82,259</u>
5. Expected Unfunded Actuarial Liability at June 30, 2017	\$ 320,560
6. Actual Unfunded Liability at June 30, 2017 (AVA basis)	<u>111,651</u>
7. Net Gain/(Loss): (5 - 6)	\$ 208,908
8. Portion of net gain/(loss) due to:	
a. Investment experience loss	\$ (35,034)
b. Contributions less than expected	(2,141)
c. POB Contribution	233,100
d. New entrant loss	(1,333)
e. Inactive mortality gain	669
f. COLAs less than expected	8,825
g. Salaries less than expected	4,864
h. Retirements	968
i. Terminations	(4,013)
j. Other experience	<u>3,003</u>
k Total gain/(loss)	\$ 208,908

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

SECTION III – LIABILITIES

Table III-3 shows the present value of future SRBR benefits at current benefit levels and the calculation of the net reserve based on the SRBR balance. The net reserve as of June 30, 2017 is positive, meaning that the current SRBR balance is expected to cover SRBR benefits at current levels.

Table III-3 Supplemental Retiree Benefit Reserve as of June 30, 2017		
	June 30, 2016	June 30, 2017
Level One		
1. Current Retirees	\$ 52,530,880	\$ 54,449,298
2. Inactive Members	2,254,630	2,390,763
3. Active members	<u>35,453,290</u>	<u>37,949,971</u>
4. Subtotal	\$ 90,238,800	\$ 94,790,032
Level Two		
5. Supplemental COLA for those who have lost at least 15% of Purchasing Power	\$ 883,413	\$ 826,292
Level Three		
6. Supplemental Spousal Death Benefit	\$ 2,411,862	\$ 3,214,068
7. Total SRBR Combined Liability: (4) + (5) + (6)	\$ 93,534,075	\$ 98,830,392
8. Supplemental Retiree Benefit Reserve: (SRBR)	<u>109,980,159</u>	<u>108,203,552</u>
9. Net Reserve: (8) - (7)	\$ 16,446,084	\$ 9,373,160

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

SECTION III – LIABILITIES

The top portion of Table III-4 shows System assets, liabilities, and funded ratios excluding the SRBR. In the bottom half, the liabilities are adjusted to include the portion associated with the current SRBR balance that has been accrued based on service to date (\$98.5 million) as well as the accrued portion of the present value of future transfers to the SRBR (\$90.0 million). In addition, the SRBR balance of \$108.2 million as of June 30, 2017 is added to the asset values. Note that the present value of future transfers to the SRBR is higher than in the prior valuation, due to the investment gains for the plan year ending June 30, 2017.

The Board has not elected to pre-fund the estimated liability associated with future SRBR transfers. Such transfers will be recognized as asset losses in the valuation as they occur.

These liability disclosures do not imply that the current benefit levels are guaranteed. Our understanding is that the Board has the power to adjust the benefit amounts paid from the SRBR.

Table III-4 Disclosure of SRBR Liabilities (in thousands)	
Valuation Date	June 30, 2017
<u>Without SRBR</u>	
Actuarial Liability (Excluding SRBR)	\$ 1,573,406
Actuarial Value of Assets (Excluding SRBR)	1,461,755
Market Value of Assets (Excluding SRBR)	1,395,122
Funded Ratio - Actuarial Value Basis	92.9%
Funded Ratio - Market Value Basis	88.7%
<u>With SRBR</u>	
Actuarial Liability (Excluding SRBR)	\$ 1,573,406
Liability Associated with Current SRBR Balance	98,464
Liability from Future Transfers	90,018
Total Liability with SRBR	\$ 1,761,888
Actuarial Value of Assets (Including SRBR)	\$ 1,569,959
Market Value of Assets (Including SRBR)	1,503,326
Funded Ratio - Actuarial Value Basis	89.1%
Funded Ratio - Market Value Basis	85.3%

SECTION IV – CONTRIBUTIONS

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what level (if any) of contributions is needed to properly maintain the funding status of the System. 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 System, 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 two primary components to the total contribution: the **normal cost rate** (employee and employer), and the **Unfunded Actuarial Liability rate** (UAL rate).

The normal cost rate is determined in the following steps. First, an individual normal cost rate is determined by taking the value of each member's projected future benefits as of the member's entry age into the System. This value is then divided by the value of the member's expected future salary, also at entry age, 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. Finally, the total normal cost rate is reduced by the member contribution rate to produce the employer normal cost rate.

The Unfunded Actuarial Liability is the difference between the Actuarial Liability and the Actuarial Value of Assets. At its October 28, 2015 meeting, the Board adopted 19-year layered amortization of the UAL. The UAL as of June 30, 2015 is being amortized over a closed 19-year period as a level percentage of payroll, assuming payroll increases of 3.00% per year, and subsequent changes in the UAL due to experience gains and losses, assumption changes, or plan changes will be amortized over new closed 19-year periods.

The tables on the following pages present the calculation of the contribution rates for the System for the current and prior valuations.

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

SECTION IV – CONTRIBUTIONS

The employer contribution rates for FYE 2019 are shown in the table below, split by tier (1-4), membership class (General or Safety), and for General, employer (County or non-County). As directed by the TCERA Board at its April 12, 2018 meeting, we have allocated the cost impact of the expected contribution from POB proceeds to the County only, based on their share of pensionable payroll for the fiscal year ending June 30, 2017 (excluding TCAG). We were notified by Staff that all Safety members are employed by the County, so there is still only one set of Safety rates. Based on information provided by Staff, we recommend that the General (Non-County) employer contribution rates be used for the Strathmore Public Utility District (SPUD).

Table IV-1(a) Development of the Net Employer Contribution Rate as of June 30, 2017 for FYE 2019				
	Tier 1	Tier 2 & 3	Tier 4	Total
General (County)				
1. Total Normal Cost Rate	13.22%	16.54%	14.40%	15.88%
2. Member Contribution Rate	<u>0.46%</u>	<u>8.13%</u>	<u>7.20%</u>	<u>7.80%</u>
3. Employer Normal Cost Rate (1-2)	12.76%	8.41%	7.20%	8.08%
4. UAL Amortization	<u>3.27%</u>	<u>3.27%</u>	<u>3.27%</u>	<u>3.27%</u>
5. Net Employer Contribution Rate (3+4)	16.03%	11.68%	10.47%	11.35%
General (Non-County)				
1. Total Normal Cost Rate	13.22%	16.54%	14.40%	15.88%
2. Member Contribution Rate	<u>0.46%</u>	<u>8.13%</u>	<u>7.20%</u>	<u>7.80%</u>
3. Employer Normal Cost Rate (1-2)	12.76%	8.41%	7.20%	8.08%
4. UAL Amortization	<u>10.68%</u>	<u>10.68%</u>	<u>10.68%</u>	<u>10.68%</u>
5. Net Employer Contribution Rate (3+4)	23.44%	19.09%	17.88%	18.76%
Safety (County)				
1. Total Normal Cost Rate	21.57%	22.67%	24.17%	22.96%
2. Member Contribution Rate	<u>0.00%</u>	<u>10.07%</u>	<u>12.09%</u>	<u>10.44%</u>
3. Employer Normal Cost Rate (1-2)	21.57%	12.59%	12.09%	12.52%
4. UAL Amortization	<u>4.01%</u>	<u>4.01%</u>	<u>4.01%</u>	<u>4.01%</u>
5. Net Employer Contribution Rate (3+4)	25.58%	16.60%	16.10%	16.53%

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

SECTION IV – CONTRIBUTIONS

The employer contribution rates for FYE 2018 are shown in the table below, split by tier (1-4) and membership class (General or Safety).

Table IV-1(b) Development of the Net Employer Contribution Rate as of June 30, 2016 for FYE 2018				
	Tier 1	Tier 2 & 3	Tier 4	Total
General				
1. Total Normal Cost Rate	8.75%	13.02%	11.45%	12.61%
2. Member Contribution Rate	<u>0.26%</u>	<u>7.04%</u>	<u>5.72%</u>	<u>6.68%</u>
3. Employer Normal Cost Rate (1-2)	8.48%	5.98%	5.72%	5.94%
4. UAL Amortization	<u>7.67%</u>	<u>7.67%</u>	<u>7.67%</u>	<u>7.67%</u>
5. Net Employer Contribution Rate (3+4)	16.15%	13.65%	13.39%	13.61%
Safety				
1. Total Normal Cost Rate	18.89%	19.94%	22.08%	20.27%
2. Member Contribution Rate	<u>0.00%</u>	<u>9.44%</u>	<u>11.04%</u>	<u>9.66%</u>
3. Employer Normal Cost Rate (1-2)	18.89%	10.50%	11.04%	10.60%
4. UAL Amortization	<u>8.12%</u>	<u>8.12%</u>	<u>8.12%</u>	<u>8.12%</u>
5. Net Employer Contribution Rate (3+4)	27.01%	18.62%	19.16%	18.72%

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

SECTION IV – CONTRIBUTIONS

The combined General and Safety employer contribution rates for FYE 2019 are shown in the table below, split by tier (1-4). Separate rates are shown above and below the first \$161.54 of biweekly compensation (Social Security Integration).

Table IV-2(a) Development of the Employer Contribution Rate as of June 30, 2017 for FYE 2019 with Social Security Integration				
	Tier 1	Tier 2 & 3	Tier 4	Total
General and Safety				
1. Employer Normal Cost Rate:	13.79%	9.50%	8.02%	9.12%
a. Rate on first \$161.54 of biweekly compensation	9.43%	6.49%		
b. Rate on biweekly compensation in excess of \$161.54	14.14%	9.74%		
2. UAL Rate:	3.84%	3.87%	3.85%	3.86%
a. Rate on first \$161.54 of biweekly compensation	2.63%	2.64%		
b. Rate on biweekly compensation in excess of \$161.54	3.94%	3.97%		
3. Total Rate (1 + 2):	17.64%	13.37%	11.87%	12.98%
a. Rate on first \$161.54 of biweekly compensation	12.05%	9.13%		
b. Rate on biweekly compensation in excess of \$161.54	18.08%	13.70%		

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

SECTION IV – CONTRIBUTIONS

The employer contribution rates for FYE 2019 are shown in the table below, split by tier (1-4), membership class (General or Safety), and for General, employer (County or Non-County). Separate rates are shown above and below the first \$161.54 of biweekly compensation (Social Security Integration).

Table IV-2(b) Development of the Employer Contribution Rate as of June 30, 2017 for FYE 2019 with Social Security Integration				
	Tier 1	Tier 2 & 3	Tier 4	Total
General (County)				
1. Employer Normal Cost Rate:	12.76%	8.41%	7.20%	8.08%
a. Rate on first \$161.54 of biweekly compensation	8.72%	5.76%		
b. Rate on biweekly compensation in excess of \$161.54	13.09%	8.63%		
2. UAL Rate:	3.27%	3.27%	3.27%	3.27%
a. Rate on first \$161.54 of biweekly compensation	2.24%	2.24%		
b. Rate on biweekly compensation in excess of \$161.54	3.35%	3.36%		
3. Total Rate (1 + 2):	16.03%	11.68%	10.47%	11.35%
a. Rate on first \$161.54 of biweekly compensation	10.96%	7.99%		
b. Rate on biweekly compensation in excess of \$161.54	16.44%	11.99%		
General (Non-County)				
1. Employer Normal Cost Rate:	12.76%	8.41%	7.20%	8.08%
a. Rate on first \$161.54 of biweekly compensation	8.72%	5.76%		
b. Rate on biweekly compensation in excess of \$161.54	13.09%	8.63%		
2. UAL Rate:	10.68%	10.68%	10.68%	10.68%
a. Rate on first \$161.54 of biweekly compensation	7.30%	7.31%		
b. Rate on biweekly compensation in excess of \$161.54	10.96%	10.96%		
3. Total Rate (1 + 2):	23.44%	19.09%	17.88%	18.76%
a. Rate on first \$161.54 of biweekly compensation	16.03%	13.06%		
b. Rate on biweekly compensation in excess of \$161.54	24.04%	19.59%		
Safety (County)				
1. Employer Normal Cost Rate:	21.57%	12.59%	12.09%	12.52%
a. Rate on first \$161.54 of biweekly compensation	14.67%	8.58%		
b. Rate on biweekly compensation in excess of \$161.54	22.01%	12.86%		
2. UAL Rate:	4.01%	4.01%	4.01%	4.01%
a. Rate on first \$161.54 of biweekly compensation	2.73%	2.73%		
b. Rate on biweekly compensation in excess of \$161.54	4.09%	4.10%		
3. Total Rate (1 + 2):	25.58%	16.60%	16.10%	16.53%
a. Rate on first \$161.54 of biweekly compensation	17.40%	11.31%		
b. Rate on biweekly compensation in excess of \$161.54	26.10%	16.96%		

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

SECTION IV – CONTRIBUTIONS

Table IV-3 below shows information on each layer of the June 30, 2017 UAL. At its October 28, 2015 meeting, the Board adopted 19-year layered amortization of the UAL. The UAL as of June 30, 2015 is being amortized over a closed 19-year period as a level percentage of payroll, assuming payroll increases of 3.00% per year, and subsequent changes in the UAL due to experience gains and losses, assumption changes, or plan changes will be amortized over new closed 19-year periods.

Table IV-3 Development of Amortization Payment For the June 30, 2017 Actuarial Valuation						
Type of Base	Date Established	Initial Amount	Initial Amortization Years	June 30, 2017 Outstanding Balance	Remaining Amortization Years	Amortization Amount
1. Initial UAL	6/30/2015	201,848,216	19	199,059,112	17	16,433,331
2. (Gain)/Loss Base	6/30/2016	38,033,040	19	37,821,633	18	3,002,019
3. (Gain)/Loss Base	6/30/2017	25,611,386	19	25,611,386	19	1,960,291
4. Assumption Change Base	6/30/2017	82,259,297	19	82,259,297	19	6,296,113
5. POB Contribution Base	6/30/2017	(233,100,233)	19	<u>(233,100,233)</u>	19	<u>(17,841,454)</u>
Total				\$ 111,651,195		\$ 9,850,300

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

SECTION IV – CONTRIBUTIONS

Table IV-4 below shows the development of the UAL amortization rates. The payroll split between County General and Non-County General is based on pensionable payroll by employer for FYE 2017 provided for the GASB 67/68 report. Following direction from Staff, the pensionable payroll for TCAG is excluded from the County's share.

As shown below (and described earlier in this section), the cost impact of the expected contribution from POB proceeds has been allocated to the County only.

Table IV-4 Development of UAL Amortization Rates for FYE 2019	
General (County)	
1. General County Projected Payroll for FYE June 30, 2018	\$ 181,160,464
2. Total General Projected Payroll for FYE June 30, 2018	\$ 195,668,658
3. County Share (1 divided by 2)	92.5853%
4. UAL Payment, not including POB Contribution	\$ 20,905,290
5. UAL Payment for POB Contribution	\$ (13,436,792)
6. County Share of 4. (3 multiplied by 4)	\$ 19,355,231
7. County Share of 5. (100% of 5)	\$ (13,436,792)
8. Total General County UAL Payment (6+7)	\$ 5,918,439
9. General County UAL Rate (8 divided by 1)	3.27%
General (Non-County)	
1. General Non-County Projected Payroll for FYE June 30, 2018	\$ 14,508,194
2. Total General Projected Payroll for FYE June 30, 2018	\$ 195,668,658
3. Non-County Share (1 divided by 2)	7.4147%
4. UAL Payment, not including POB Contribution	\$ 20,905,290
5. UAL Payment for POB Contribution	\$ (13,436,792)
6. Non-County Share of 4. (3 multiplied by 4)	\$ 1,550,059
7. Non-County Share of 5. (0% of 5)	\$ -
8. Total General Non-County UAL Payment (6+7)	\$ 1,550,059
9. General Non-County UAL Rate (8 divided by 1)	10.68%
Safety (County)	
1. County Safety Projected Payroll for FYE June 30, 2018	\$ 59,385,496
2. Total Safety Projected Payroll for FYE June 30, 2018	\$ 59,385,496
3. County Share (1 divided by 2)	100.0000%
4. UAL Payment, not including POB Contribution	\$ 6,786,464
5. UAL Payment for POB Contribution	\$ (4,404,662)
6. County Share of 4. (3 multiplied by 4)	\$ 6,786,464
7. County Share of 5. (100% of 5)	\$ (4,404,662)
8. Total County Safety UAL Payment (6+7)	\$ 2,381,802
9. County Safety UAL Rate (8 divided by 1)	4.01%

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

SECTION IV – CONTRIBUTIONS

The employer contribution rates for FYE 2019 are shown in Table IV-5 below, split by membership class, employer (County or non-County for General members), and tier (1-4). Separate rates are displayed for Normal Cost and UAL Amortization, both of which are further split into Basic and COLA rates. Table IV-6 below shows employee contribution rates for FYE 2019 at sample ages.

Table IV-5 Detailed Employer Contribution Rate as of June 30, 2017 for FYE 2019										
Member Type	Tier	Normal Cost			UAL Amortization Cost			Total Cost		
		Basic Rate	COLA Rate	Total Rate	Basic Rate	COLA Rate	Total Rate	Basic Rate	COLA Rate	Total Rate
General (County)	1	10.37%	2.39%	12.76%	2.66%	0.61%	3.27%	13.03%	3.00%	16.03%
General (County)	2&3	6.99%	1.42%	8.41%	2.72%	0.55%	3.27%	9.71%	1.97%	11.68%
General (County)	4	5.94%	1.26%	7.20%	2.70%	0.57%	3.27%	8.64%	1.83%	10.47%
General (Non-County)	1	10.37%	2.39%	12.76%	8.68%	2.00%	10.68%	19.05%	4.39%	23.44%
General (Non-County)	2&3	6.99%	1.42%	8.41%	8.88%	1.80%	10.68%	15.87%	3.23%	19.09%
General (Non-County)	4	5.94%	1.26%	7.20%	8.82%	1.86%	10.68%	14.76%	3.12%	17.88%
Safety (County)	1	17.34%	4.24%	21.57%	3.22%	0.79%	4.01%	20.56%	5.02%	25.58%
Safety (County)	2&3	10.22%	2.37%	12.59%	3.25%	0.76%	4.01%	13.48%	3.13%	16.60%
Safety (County)	4	9.76%	2.33%	12.09%	3.24%	0.77%	4.01%	13.00%	3.10%	16.10%

Table IV-6 Employee Contribution Rate at Sample Ages as of June 30, 2017 for FYE 2019					
Member Type	Tier	Age 25	Age 35	Age 45	Single Rate
General (County)	1	4.44%	5.55%	6.67%	N/A
General (County)	2&3	6.86%	8.53%	10.26%	N/A
General (County)	4	5.20%	7.39%	10.08%	N/A
General (Non-County)	1	4.44%	5.55%	6.67%	N/A
General (Non-County)	2&3	6.86%	8.53%	10.26%	N/A
General (Non-County)	4	5.20%	7.39%	10.08%	N/A
Safety (County)	1	6.63%	8.38%	9.90%	N/A
Safety (County)	2&3	9.61%	12.15%	13.82%	N/A
Safety (County)	4	10.70%	14.48%	18.47%	N/A

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

SECTION IV – CONTRIBUTIONS

Table IV-7 below shows projected annual employer contributions for FYE 2019, split by membership class, employer (County or non-County for General members), and tier (1-4). The contribution amounts are further split into Normal Cost and UAL Amortization components.

Table IV-7				
Estimated Annual Employer Contributions for FYE 2019				
Member Type	Tier	Normal Cost	UAL Amortization	Contributions Total
General (County)	1	\$ 151,075	\$ 38,721	\$ 189,796
General (County)	2&3	10,854,194	4,219,040	15,073,234
General (County)	4	4,054,135	1,841,193	5,895,328
General (Non-County)	1	12,099	10,128	22,227
General (Non-County)	2&3	869,256	1,103,537	1,972,793
General (Non-County)	4	324,674	481,585	806,259
Safety (County)	1	47,951	8,913	56,864
Safety (County)	2&3	6,139,022	1,954,674	8,093,696
Safety (County)	4	1,471,281	488,122	1,959,403

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

SECTION V – COMPREHENSIVE ANNUAL FINANCIAL REPORTING INFORMATION

The GASB adopted Statement Nos. 67 and 68, replacing GASB Statement Nos. 25 and 27. GASB 67 was effective for periods beginning after June 15, 2013 (first effective June 30, 2014 for the Plan) and GASB 68 was effective for fiscal years beginning after June 15, 2014 (first effective for the fiscal year July 1, 2014 to June 30, 2015 for the Employers). The disclosures needed to satisfy the GASB requirements will be included in the TCERA GASB 67/68 Report as of June 30, 2017.

In accordance with Government Finance Officers Association (GFOA) and their recommended checklist for Comprehensive Annual Financial Reports (CAFRs), we continue to prepare the Solvency Test disclosure, as shown in Table V-1. As requested by TCERA, we have also included the Schedule of Funding Progress (Table V-2) and the Schedule of Employer Contributions (Table V-3).

Table V-1 SOLVENCY TEST (in thousands)								
Valuation Date	(A) Active/Inactive Member Contributions	(B) Retirees And Beneficiaries	(C) Remaining Active Members' Liabilities	Reported Assets	Portion of Actuarial Liabilities Covered by Reported Assets			
June 30,					(A)	(B)	(C)	
2009	\$ 208,638	\$ 453,205	\$ 334,904	\$ 919,179	100%	100%	77%	
2010	223,373	506,035	303,803	946,640	100%	100%	72%	
2011	228,275	546,553	297,316	969,636	100%	100%	66%	
2012	231,491	570,367	299,598	981,946	100%	100%	60%	
2013	238,200	621,125	326,732	1,048,160	100%	100%	58%	
2014	252,883	660,147	358,802	1,101,929	100%	100%	53%	
2015	264,870	698,147	395,418	1,156,587	100%	100%	49%	
2016	272,740	748,703	409,993	1,192,642	100%	100%	42%	
2017	278,900	808,799	485,707	1,461,755	100%	100%	77%	

June 30, 2014 and earlier numbers calculated by prior actuary

June 30, 2017 assets include receivable for expected contribution from POB

TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017

SECTION V – COMPREHENSIVE ANNUAL FINANCIAL REPORTING INFORMATION

Table V-2
SCHEDULE OF FUNDING PROGRESS
(dollars in thousands)

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Liability (AL)	Unfunded AL	Funded Ratio	Covered Payroll	Unfunded AL as a % of Covered Payroll
June 30, 2001	\$ 574,417	\$ 491,228	\$ (83,189)	116.9%	\$ 142,970	-58.2%
June 30, 2002	612,469	561,377	(51,092)	109.1%	158,263	-32.3%
June 30, 2003	634,249	608,505	(25,744)	104.2%	162,397	-15.9%
June 30, 2004	665,244	649,649	(15,595)	102.4%	158,032	-9.9%
June 30, 2005	681,618	714,656	33,038	95.4%	164,777	20.1%
June 30, 2006	729,899	792,844	62,945	92.1%	186,949	33.7%
June 30, 2007	800,967	846,030	45,063	94.7%	204,803	22.0%
June 30, 2008	879,051	946,414	67,363	92.9%	226,836	29.7%
June 30, 2009	919,179	996,747	77,568	92.2%	227,306	34.1%
June 30, 2010	946,640	1,033,211	86,571	91.6%	217,811	39.7%
June 30, 2011	969,681	1,072,144	102,463	90.4%	219,854	46.6%
June 30, 2012	981,946	1,101,456	119,510	89.1%	222,635	53.7%
June 30, 2013	1,048,160	1,186,057	137,897	88.4%	230,955	59.7%
June 30, 2014	1,101,929	1,271,832	169,903	86.6%	234,569	72.4%
June 30, 2015	1,156,587	1,358,435	201,848	85.1%	239,055	84.4%
June 30, 2016	1,192,642	1,431,436	238,794	83.3%	248,514	96.1%
June 30, 2017	1,461,755	1,573,406	111,651	92.9%	254,941	43.8%

June 30, 2014 and earlier numbers calculated by prior actuary

June 30, 2017 assets include receivable for expected contribution from POB

TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017

SECTION V – COMPREHENSIVE ANNUAL FINANCIAL REPORTING INFORMATION

Table V-3				
SCHEDULE OF EMPLOYER CONTRIBUTIONS				
(dollars in thousands)				
Year Ended June, 30	Actuarially Determined Contribution	Actual Contribution	Percentage Contributed	
2001	\$ 18,872	\$ 18,872	100%	
2002	6,186	6,186	100%	
2003	5,245	5,245	100%	
2004	9,595	9,595	100%	
2005	10,502	10,502	100%	
2006	12,443	12,443	100%	
2007	17,975	17,975	100%	
2008	22,692	22,692	100%	
2009	22,431	22,431	100%	
2010	25,339	25,339	100%	
2011	23,434	23,434	100%	
2012	25,257	25,257	100%	
2013	29,847	29,847	100%	
2014	25,953	25,953	100%	
2015	30,992	30,992	100%	
2016	31,297	31,297	100%	
2017	33,616	33,616	100%	

June 30, 2016 and earlier numbers calculated by prior actuary

Note that the 2017 actual contribution does not include the expected contribution from POB proceeds.

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX A – MEMBERSHIP INFORMATION

The data for this valuation was provided by the Tulare County staff as of June 30, 2017. 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.

SUMMARY OF TOTAL ACTIVE MEMBERSHIP				
	June 30, 2016		June 30, 2017	Change
Total (General & Safety)				
Count		4,496	4,536	0.9%
Average Age		42.0	41.8	-0.4%
Average Service		9.6	9.5	-1.4%
Annual Projected Payroll	\$	248,513,879	\$ 254,940,772	2.6%
Average Annual Pay	\$	55,274	\$ 56,204	1.7%

SUMMARY OF INACTIVE MEMBERSHIP*				
	June 30, 2016		June 30, 2017	Change
General				
Count		1,607	1,686	4.9%
Average Age		44.7	44.6	-0.2%
Total Contribution Balance	\$	38,126,000	\$ 39,175,585	2.8%
Average Contribution Balance	\$	23,725	\$ 23,236	-2.1%
Safety				
Count		244	268	9.8%
Average Age		40.2	39.9	-0.8%
Total Contribution Balance	\$	7,616,801	\$ 8,887,900	16.7%
Average Contribution Balance	\$	31,216	\$ 33,164	6.2%
Total				
Count		1,851	1,954	5.6%
Average Age		44.1	43.9	-0.4%
Total Contribution Balance	\$	45,742,801	\$ 48,063,485	5.1%
Average Contribution Balance	\$	24,712	\$ 24,597	-0.5%

*Includes unclaimed accounts.

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX A – MEMBERSHIP INFORMATION

SUMMARY OF RETIRED MEMBERSHIP					
	June 30, 2016		June 30, 2017		Change
General					
Count		2,473		2,579	4.3%
Average Age		70.4		70.4	0.0%
Total Annual Allowance	\$	48,616,638	\$	51,970,685	6.9%
Average Annual Allowance	\$	19,659	\$	20,151	2.5%
Safety					
Count		467		493	5.6%
Average Age		63.9		64.3	0.7%
Total Annual Allowance	\$	15,675,740	\$	16,699,239	6.5%
Average Annual Allowance	\$	33,567	\$	33,873	0.9%
Total					
Count		2,940		3,072	4.5%
Average Age		69.4		69.4	0.0%
Total Annual Allowance	\$	64,292,378	\$	68,669,924	6.8%
Average Annual Allowance	\$	21,868	\$	22,353	2.2%

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX A – MEMBERSHIP INFORMATION

SUMMARY OF ACTIVE GENERAL MEMBERSHIP			
	June 30, 2016	June 30, 2017	Change
General Tier 1			
Count	26	19	-26.9%
Average Age	62.3	62.5	0.2%
Average Service	37.8	34.2	-9.5%
Annual Projected Payroll	\$ 1,680,430	\$ 1,242,253	-26.1%
Average Annual Pay	\$ 64,632	\$ 65,382	1.2%
General Tier 2 & 3			
Count	2,481	2,288	-7.8%
Average Age	46.2	46.8	1.2%
Average Service	12.6	13.2	5.0%
Annual Projected Payroll	\$ 142,081,908	\$ 135,243,680	-4.8%
Average Annual Pay	\$ 57,268	\$ 59,110	3.2%
General Tier 4			
Count	1,098	1,353	23.2%
Average Age	34.2	34.8	1.8%
Average Service	1.6	2.0	23.8%
Annual Projected Payroll	\$ 45,617,162	\$ 59,069,274	29.5%
Average Annual Pay	\$ 41,546	\$ 43,658	5.1%
General Total			
Count	3,605	3,660	1.5%
Average Age	42.7	42.4	-0.7%
Average Service	9.4	9.2	-2.2%
Annual Projected Payroll	\$ 189,379,500	\$ 195,555,207	3.3%
Average Annual Pay	\$ 52,532	\$ 53,430	1.7%

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX A – MEMBERSHIP INFORMATION

SUMMARY OF ACTIVE SAFETY MEMBERSHIP					
	June 30, 2016		June 30, 2017		Change
Safety Tier 1					
Count		2		2	0.0%
Average Age		62.8		63.8	1.7%
Average Service		37.6		38.5	2.5%
Annual Projected Payroll	\$	210,707	\$	215,881	2.5%
Average Annual Pay	\$	105,354	\$	107,941	2.5%
Safety Tier 2 & 3					
Count		713		658	-7.7%
Average Age		41.3		42.1	1.9%
Average Service		12.5		13.3	6.8%
Annual Projected Payroll	\$	49,658,562	\$	47,346,276	-4.7%
Average Annual Pay	\$	69,647	\$	71,955	3.3%
Safety Tier 4					
Count		176		216	22.7%
Average Age		30.6		30.6	-0.1%
Average Service		1.8		2.2	21.1%
Annual Projected Payroll	\$	9,265,110	\$	11,823,408	27.6%
Average Annual Pay	\$	52,643	\$	54,738	4.0%
Safety Total					
Count		891		876	-1.7%
Average Age		39.2		39.3	0.2%
Average Service		10.5		10.7	1.4%
Annual Projected Payroll	\$	59,134,379	\$	59,385,565	0.4%
Average Annual Pay	\$	66,369	\$	67,792	2.1%

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX A – MEMBERSHIP INFORMATION

SUMMARY OF RETIRED GENERAL MEMBERSHIP					
	June 30, 2016		June 30, 2017		Change
Service Retirement					
Count		1,989		2,039	2.5%
Average Age		70.2		70.4	0.3%
Total Annual Allowance	\$	41,410,693	\$	43,535,018	5.1%
Average Annual Allowance	\$	20,820	\$	21,351	2.6%
Disability					
Count		181		205	13.3%
Average Age		63.4		63.1	-0.4%
Total Annual Allowance	\$	3,392,177	\$	4,066,875	19.9%
Average Annual Allowance	\$	18,741	\$	19,838	5.9%
Beneficiaries					
Count		303		335	10.6%
Average Age		76.0		74.7	-1.7%
Total Annual Allowance	\$	3,813,768	\$	4,368,792	14.6%
Average Annual Allowance	\$	12,587	\$	13,041	3.6%
Total					
Count		2,473		2,579	4.3%
Average Age		70.4		70.4	0.0%
Total Annual Allowance	\$	48,616,638	\$	51,970,685	6.9%
Average Annual Allowance	\$	19,659	\$	20,151	2.5%

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX A – MEMBERSHIP INFORMATION

SUMMARY OF RETIRED SAFETY MEMBERSHIP			
	June 30, 2016	June 30, 2017	Change
Service Retirement			
Count	276	284	2.9%
Average Age	65.9	66.1	0.3%
Total Annual Allowance	\$ 11,044,981	\$ 11,359,916	2.9%
Average Annual Allowance	\$ 40,018	\$ 40,000	0.0%
Disability			
Count	113	120	6.2%
Average Age	59.3	58.5	-1.4%
Total Annual Allowance	\$ 3,116,442	\$ 3,538,112	13.5%
Average Annual Allowance	\$ 27,579	\$ 29,484	6.9%
Beneficiaries			
Count	78	89	14.1%
Average Age	63.8	66.5	4.2%
Total Annual Allowance	\$ 1,514,317	\$ 1,801,211	18.9%
Average Annual Allowance	\$ 19,414	\$ 20,238	4.2%
Total			
Count	467	493	5.6%
Average Age	63.9	64.3	0.7%
Total Annual Allowance	\$ 15,675,740	\$ 16,699,239	6.5%
Average Annual Allowance	\$ 33,567	\$ 33,873	0.9%

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX A – MEMBERSHIP INFORMATION

AGE AND SERVICE DISTRIBUTION WITH ANNUAL AVERAGE SALARY OF ACTIVE GENERAL MEMBERS AS OF JUNE 30, 2017 TIER 1																						
Attained Age	YEARS OF CREDITED SERVICE																					
	Under 1		1 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 & up		Total	
	Average No.	Average Comp.	Average No.	Average Comp.	Average No.	Average Comp.	Average No.	Average Comp.	Average No.	Average Comp.	Average No.	Average Comp.	Average No.	Average Comp.	Average No.	Average Comp.	Average No.	Average Comp.	Average No.	Average Comp.	Average No.	Average Comp.
Under 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
25 to 29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
30 to 34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
35 to 39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
40 to 44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
45 to 49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
50 to 54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
55 to 59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	70,853	0	0	6	70,853
60 to 64	0	0	0	0	0	0	0	0	0	0	1	38,991	1	70,807	1	45,659	3	61,590	3	59,764	9	57,724
65 to 69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	42,821	2	108,571	1	37,655	4	74,404
70 & up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	1	38,991	1	70,807	2	44,240	11	75,184	4	54,237	19	65,382

AGE AND SERVICE DISTRIBUTION WITH ANNUAL AVERAGE SALARY OF ACTIVE GENERAL MEMBERS AS OF JUNE 30, 2017 TIER 2 & 3																						
YEARS OF CREDITED SERVICE																						
Attained Age	Under 1		1 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 & up		Total	
	Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average	
	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.
Under 25	0	\$ 0	2	\$ 37,580	2	\$ 37,640	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	4	\$ 37,610
25 to 29	0	0	19	44,497	50	45,330	2	43,236	0	0	0	0	0	0	0	0	0	0	0	0	71	45,048
30 to 34	2	61,149	31	54,470	166	54,720	49	51,380	1	88,194	0	0	0	0	0	0	0	0	0	0	249	54,218
35 to 39	4	51,643	34	56,780	139	59,398	160	60,376	55	52,280	0	0	0	0	0	0	0	0	0	0	392	58,492
40 to 44	0	0	20	66,486	96	58,574	108	60,724	94	54,863	24	59,845	0	0	0	0	0	0	0	0	342	58,785
45 to 49	0	0	13	64,337	71	52,497	93	63,575	99	56,032	47	51,558	8	57,248	0	0	0	0	0	0	331	57,114
50 to 54	0	0	11	62,985	68	54,209	73	59,657	83	56,278	46	62,703	28	56,847	4	68,669	0	0	0	0	313	58,006
55 to 59	0	0	9	76,411	54	64,300	69	61,419	79	57,825	44	59,579	42	77,906	14	76,962	3	42,215	0	0	314	63,897
60 to 64	0	0	4	71,067	30	65,176	42	69,262	58	62,377	22	60,340	25	67,875	14	76,080	7	72,886	0	0	202	66,169
65 to 69	0	0	2	112,645	14	70,737	17	59,272	6	100,956	11	63,714	7	87,492	0	0	0	0	0	0	57	72,671
70 & up	0	0	1	38,991	3	65,066	1	132,170	5	36,153	2	70,748	0	0	1	39,260	0	0	0	0	13	55,991
Total	6	54,812	146	59,143	693	56,755	614	60,874	480	56,899	196	58,853	110	69,373	33	74,440	10	63,685	0	0	2,288	59,110

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX A – MEMBERSHIP INFORMATION

AGE AND SERVICE DISTRIBUTION WITH ANNUAL AVERAGE SALARY OF ACTIVE GENERAL MEMBERS AS OF JUNE 30, 2017 TIER 4																						
Attained Age	YEARS OF CREDITED SERVICE																					
	Under 1		1 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 & up		Total	
	Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average	
	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.
Under 25	54	\$ 34,594	67	\$ 33,045	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	121	\$ 33,736
25 to 29	118	37,322	314	44,011	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	432	42,184
30 to 34	74	40,794	223	48,283	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	297	46,417
35 to 39	51	41,350	120	47,300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	171	45,525
40 to 44	37	42,463	82	44,186	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	119	43,650
45 to 49	21	34,306	51	50,322	1	28,787	0	0	0	0	0	0	0	0	0	0	0	0	0	0	73	45,420
50 to 54	10	45,612	46	47,071	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56	46,810
55 to 59	10	55,046	37	50,016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47	51,086
60 to 64	10	40,022	22	46,041	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	44,160
65 to 69	1	89,571	3	43,094	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	54,713
70 & up	0	0	1	29,037	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	29,037
Total	386	39,346	966	45,397	1	28,787	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,353	43,658

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX A – MEMBERSHIP INFORMATION

AGE AND SERVICE DISTRIBUTION WITH ANNUAL AVERAGE SALARY OF ACTIVE SAFETY MEMBERS AS OF JUNE 30, 2017																
TIER 1																
Attained Age	YEARS OF CREDITED SERVICE															
	Under 1		1 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34	
	No.	Average Comp.	No.	Average Comp.	No.	Average Comp.	No.	Average Comp.	No.	Average Comp.	No.	Average Comp.	No.	Average Comp.	No.	Average Comp.
Under 25	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0
25 to 29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 to 39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40 to 44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 to 49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50 to 54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55 to 59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60 to 64	0	0	0	0	0	0	0	0	0	0	0	0	0	1	65,490	0
65 to 69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	150,391
70 & up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	65,490	2 107,941

AGE AND SERVICE DISTRIBUTION WITH ANNUAL AVERAGE SALARY OF ACTIVE SAFETY MEMBERS AS OF JUNE 30, 2017																
TIER 2 & 3																
Attained Age	YEARS OF CREDITED SERVICE															
	Under 1		1 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34	
	No.	Average Comp.	No.	Average Comp.	No.	Average Comp.	No.	Average Comp.	No.	Average Comp.	No.	Average Comp.	No.	Average Comp.	No.	Average Comp.
Under 25	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0
25 to 29	0	0	12	61,178	31	63,403	2	62,230	0	0	0	0	0	0	0	45 62,758
30 to 34	0	0	7	60,115	67	63,789	38	70,399	0	0	0	0	0	0	0	112 65,802
35 to 39	1	58,727	6	64,478	60	64,828	75	71,982	11	71,779	0	0	0	0	0	153 68,781
40 to 44	1	57,720	2	69,552	27	68,005	44	70,240	37	74,848	5	93,854	0	0	0	116 72,088
45 to 49	0	0	2	59,472	14	65,923	25	73,294	28	78,329	21	79,604	3	81,832	0	93 75,103
50 to 54	0	0	1	68,364	8	72,724	11	74,024	20	69,048	22	83,697	10	91,703	12	109,872
55 to 59	0	0	0	0	5	82,105	6	76,614	4	68,915	9	78,574	8	89,568	4	93,024
60 to 64	0	0	0	0	3	69,808	3	90,953	1	50,572	1	62,735	1	61,091	0	0
65 to 69	0	0	0	0	1	66,851	4	85,932	2	78,378	1	55,379	1	58,901	0	0
70 & up	0	0	0	0	0	0	1	79,878	0	0	0	0	0	0	0	0
Total	2	58,223	30	62,274	216	65,540	209	72,209	103	73,943	59	81,484	23	86,916	16	105,660

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX A – MEMBERSHIP INFORMATION

AGE AND SERVICE DISTRIBUTION WITH ANNUAL AVERAGE SALARY OF ACTIVE SAFETY MEMBERS AS OF JUNE 30, 2017 TIER 4																						
YEARS OF CREDITED SERVICE																						
Attained Age	Under 1		1 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 & up		Total	
	Average		Average		Average		Average		Average		Average		Average		Average		Average		Average		Average	
	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.	No.	Comp.
Under 25	15	\$ 50,025	14	\$ 52,073	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	29	\$ 51,014
25 to 29	30	48,387	76	54,766	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	106	52,960
30 to 34	8	53,912	38	56,442	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46	56,002
35 to 39	3	49,579	11	60,003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	57,769
40 to 44	1	52,323	7	57,786	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	57,104
45 to 49	0	0	5	60,639	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	60,639
50 to 54	2	55,022	2	93,232	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	74,127
55 to 59	0	0	3	70,243	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	70,243
60 to 64	0	0	1	78,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	78,000
65 to 69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70 & up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	59	49,905	157	56,554	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	216	54,738

**Average Increases in Pay
(for upcoming year, based on valuation data)**

Longevity and Promotion Component	2.54%
Wage Inflation Component	3.00%
Total	5.54%

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX A – MEMBERSHIP INFORMATION

AGE DISTRIBUTION OF TOTAL INACTIVE PARTICIPANTS PENSIONERS AND BENEFICIARIES RECEIVING BENEFITS AS OF JUNE 30, 2017								
Age	Disability Retirements		Normal, Early Deferred Vested Retirements		Surviving Spouses and Beneficiaries Receiving Benefits		Total	
	Number	Annual Benefit	Number	Annual Benefit	Number	Annual Benefit	Number	Annual Benefit
Under 55	87	\$ 2,262,634	66	\$ 967,205	33	\$ 396,092	186	\$ 3,625,931
55-59	48	1,084,390	183	3,804,589	22	385,301	253	5,274,280
60-64	60	1,294,258	421	10,908,134	40	548,756	521	12,751,148
65-69	62	1,505,499	571	14,595,203	66	982,957	699	17,083,659
70-74	35	841,753	543	13,804,553	62	1,000,957	640	15,647,263
75-79	23	410,379	255	5,647,152	57	845,964	335	6,903,495
80 & Over	10	206,074	284	5,168,098	144	2,009,976	438	7,384,148
Total	325	\$ 7,604,987	2,323	\$ 54,894,934	424	\$ 6,170,003	3,072	\$ 68,669,924

AGE DISTRIBUTION OF INACTIVE GENERAL PARTICIPANTS PENSIONERS AND BENEFICIARIES RECEIVING BENEFITS AS OF JUNE 30, 2017								
Age	Disability Retirements		Normal, Early Deferred Vested Retirements		Surviving Spouses and Beneficiaries Receiving Benefits		Total	
	Number	Annual Benefit	Number	Annual Benefit	Number	Annual Benefit	Number	Annual Benefit
Under 55	40	\$ 793,894	44	\$ 510,272	19	\$ 181,968	103	\$ 1,486,134
55-59	29	586,770	141	2,294,134	13	141,858	183	3,022,762
60-64	45	892,600	350	7,655,433	28	289,113	423	8,837,146
65-69	43	846,582	517	12,183,736	53	626,919	613	13,657,237
70-74	26	568,666	477	11,168,337	52	816,199	555	12,553,202
75-79	16	288,830	241	5,177,862	46	653,716	303	6,120,408
80 & Over	6	89,533	269	4,545,244	124	1,659,019	399	6,293,796
Total	205	\$ 4,066,875	2,039	\$ 43,535,018	335	\$ 4,368,792	2,579	\$ 51,970,685

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX A – MEMBERSHIP INFORMATION

AGE DISTRIBUTION OF INACTIVE SAFETY PARTICIPANTS PENSIONERS AND BENEFICIARIES RECEIVING BENEFITS AS OF JUNE 30, 2017								
Age	Disability Retirements		Normal, Early Deferred Vested Retirements		Surviving Spouses and Beneficiaries Receiving Benefits		Total	
	Number	Annual Benefit	Number	Annual Benefit	Number	Annual Benefit	Number	Annual Benefit
Under 55	47	\$ 1,468,740	22	\$ 456,933	14	\$ 214,124	83	\$ 2,139,797
55-59	19	497,620	42	1,510,455	9	243,443	70	2,251,518
60-64	15	401,658	71	3,252,701	12	259,643	98	3,914,002
65-69	19	658,917	54	2,411,467	13	356,038	86	3,426,422
70-74	9	273,087	66	2,636,216	10	184,758	85	3,094,061
75-79	7	121,549	14	469,290	11	192,248	32	783,087
80 & Over	4	116,541	15	622,854	20	350,957	39	1,090,352
Total	120	\$ 3,538,112	284	\$ 11,359,916	89	\$ 1,801,211	493	\$ 16,699,239

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX A – MEMBERSHIP INFORMATION

Retirants and Beneficiaries Added to and Removed From Payroll										
Plan Year Ended June 30	At Beginning of Year	Added During Year	Annual Allowances Added to the Rolls	Removed During Year	Annual Allowances Removed from the Rolls	At End of Year	Annual Allowance	% Increase in Annual Allowance	Average Annual Allowance	
2007	1,840	130	\$ 2,331,351	57	\$ 676,524	1,913	\$ 31,014,000	8.00%	\$ 16,212	
2008	1,913	164	\$ 3,444,133	70	\$ 827,830	2,007	\$ 34,244,000	10.40%	\$ 17,062	
2009	2,007	157	\$ 3,418,929	65	\$ 840,949	2,099	\$ 37,485,607	9.47%	\$ 17,859	
2010	2,099	170	\$ 4,343,830	88	\$ 334,218	2,181	\$ 41,495,219	10.70%	\$ 19,026	
2011	2,181	191	\$ 4,602,464	59	\$ 873,415	2,313	\$ 45,224,268	8.99%	\$ 19,552	
2012	2,313	181	\$ 4,736,189	70	\$ 985,645	2,424	\$ 48,974,812	8.29%	\$ 20,204	
2013	2,424	183	\$ 4,745,718	65	\$ 483,264	2,542	\$ 53,237,266	8.70%	\$ 20,943	
2014	2,542	224	\$ 4,198,797	75	\$ 659,212	2,691	\$ 56,776,851	6.65%	\$ 21,099	
2015	2,691	218	\$ 4,360,151	88	\$ 1,432,880	2,821	\$ 59,960,567	5.61%	\$ 21,255	
2016	2,821	185	\$ 4,540,356	66	\$ 986,150	2,940	\$ 64,292,378	7.22%	\$ 21,868	
2017	2,940	191	\$ 4,483,587	79	\$ 896,529	3,072	\$ 68,669,924	6.81%	\$ 22,353	

Data prior to 2015 was compiled by the previous actuary.

Starting in 2015, Annual Allowances Added to the Rolls no longer includes cost of living adjustments for existing retirees.

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX A – MEMBERSHIP INFORMATION

Reconciliation of System Membership Since Prior Valuation											
Total Members											
	Active	Deferred Vested	Deferred Vested - Transferred	Ordinary Disability	Duty Disability	Retired	Beneficiaries	Non-Vested Terminations Due Refund	QDRO	Deferred QDRO	Totals
June 30, 2016	4,496	372	625	117	177	2,265	371	839	10	15	9,287
New Entrants	462										462
Rehires	16	(3)	(4)			(1)		(8)			-
Duty Disabilities	(13)				13						-
Ordinary Disabilities	(5)			5							-
Retirements	(112)	(19)	(24)			155			1	(1)	-
Vested Terminations	(76)	76									-
Non-Vested Terminations and Death without beneficiary	(123)	(1)		(4)		(34)		164			2
Death with beneficiary	(3)			(2)	(2)	(24)	32				1
Transfers	(11)	(12)	30					(5)			2
Beneficiary Deaths							(20)				(20)
Domestic Relations Orders									2	1	3
Deferred Domestic Relations Orders										2	2
Withdrawals Paid	(95)	(21)	(4)					(69)		(1)	(190)
Data Corrections		1		10	11	(38)	6	1	22		13
June 30, 2017	4,536	393	623	126	199	2,323	389	922	35	16	9,562

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX A – MEMBERSHIP INFORMATION

Reconciliation of System Membership Since Prior Valuation											
General Members											
	Active	Deferred Vested	Deferred Vested - Transferred	Ordinary Disability	Duty Disability	Retired	Beneficiaries	Non-Vested Terminations Due Refund	QDRO	Deferred QDRO	Totals
June 30, 2016	3,605	331	523	103	78	1,989	299	746	4	7	7,685
New Entrants	401										401
Rehires	14	(2)	(3)			(1)		(8)			-
Duty Disabilities	(7)				7						-
Ordinary Disabilities	(3)			3							-
Retirements	(97)	(16)	(20)			133					-
Vested Terminations	(58)	58									-
Non-Vested Terminations and Death without beneficiary	(100)	(1)		(4)		(31)		133			(3)
Death with beneficiary	(1)			(2)		(20)	24				1
Transfers	(18)	(9)	25					(3)			(5)
Beneficiary Deaths							(15)				(15)
Domestic Relations Orders									2	1	3
Deferred Domestic Relations Orders											-
Withdrawals Paid	(76)	(17)	(3)					(58)			(154)
Data Corrections		1		11	9	(31)	6	1	15		12
June 30, 2017	3,660	345	522	111	94	2,039	314	811	21	8	7,925

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX A – MEMBERSHIP INFORMATION

Reconciliation of System Membership Since Prior Valuation											
Safety Members											
	Active	Deferred Vested	Deferred Vested - Transferred	Ordinary Disability	Duty Disability	Retired	Beneficiaries	Non-Vested Terminations Due Refund	QDRO	Deferred QDRO	Totals
June 30, 2016	891	41	102	14	99	276	72	93	6	8	1,602
New Entrants	61										61
Rehires	2	(1)	(1)								-
Duty Disabilities	(6)				6						-
Ordinary Disabilities	(2)			2							-
Retirements	(15)	(3)	(4)			22			1	(1)	-
Vested Terminations	(18)	18									-
Non-Vested Terminations and Death without beneficiary	(23)					(3)		31			5
Death with beneficiary	(2)				(2)	(4)	8				-
Transfers	7	(3)	5					(2)			7
Beneficiary Deaths							(5)				(5)
Domestic Relations Orders											-
Deferred Domestic Relations Orders										2	2
Withdrawals Paid	(19)	(4)	(1)					(11)		(1)	(36)
Data Corrections				(1)	2	(7)			7		1
June 30, 2017	876	48	101	15	105	284	75	111	14	8	1,637

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

The methods and assumptions used in the actuarial valuation as of June 30, 2017 are:

Actuarial Methods

1. Actuarial Cost Method

The actuarial valuation is prepared using the entry age actuarial cost method (CERL 31453.5). Under the principles of this method, the actuarial present value of the projected benefits of each individual included in the valuation is allocated as a level percentage of the individual's projected compensation between entry age and assumed exit (until maximum retirement age). For members who transferred between plans, entry age is based on original entry into the system. The normal cost for the Plan is based on the sum of the individual normal costs for each member (Individual Entry Age Method).

The UAL (or Surplus) is amortized as a percentage of the projected salaries of present and future members of TCERA. At its October 28, 2015 meeting, the Board adopted 19-year layered amortization of the UAL. The UAL as of June 30, 2015 is being amortized over a closed 19-year period as a level percentage of payroll, assuming payroll increases of 3.00% per year, and subsequent changes in the UAL due to experience gains and losses, assumption changes, or plan changes will be amortized over new closed 19-year periods.

2. Valuation of Assets

Beginning in fiscal year 2009, the assets are valued using a ten-year smoothed method based on the difference between the expected market value and the actual market value of the assets, net of expenses, as of June 30 and December 31 of each year. The expected market value at the end of each period is the beginning market value increased with the net increase in the cash flow of funds, all increased with interest at the expected investment return rate assumption.

A 30% asset corridor limit is applied.

The contribution of \$250 million expected to be made on or before June 30, 2018 from the proceeds of a POB has been included for the purposes of this valuation as a receivable in both the market and actuarial values of assets as of June 30, 2017.

3. Changes in Actuarial Methods

None.

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

Actuarial Assumptions

The TCERA Board has the authority to select economic and demographic assumptions for the Plan. The assumptions used in this report reflect the results of an Experience Study performed by Cheiron covering the period July 1, 2014 through June 30, 2017.

1. Rate of Return

Assets are assumed to earn 7.25% net of investment and administrative expenses.

2. Inflation

The Consumer Price Index (CPI) is assumed to increase at the rate of 3.00% per year.

3. Post Retirement COLA

Benefits are assumed to increase after retirement at the rate of 2.7% per year for Tier 1 and 2% per year for Tiers 2-4.

4. Internal Revenue Code Limits and PEPRP Pensionable Compensation Limits

The maximum benefit and maximum compensation limitations under Internal Revenue Code Sections 415 and 401(a)(17), respectively, are not reflected in the valuation for funding purposes. Any limitation is reflected in a member's benefit after retirement. The PEPRP compensation limit, which was \$118,775 for calendar year 2017 for members participating in Social Security, was applied.

5. Interest on Member Contributions

The annual credited interest rate on member contributions is assumed to be 7.25%.

6. Family Composition

Percentage married for all active members who retire, become disabled, or die during active service is shown below. Male members are assumed to be three years older than their wives, and female members are assumed to be two years younger than their husbands.

Division	Gender	Percentage
General	Males	85%
General	Female	65%
Safety	Male	90%
Safety	Female	70%

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

7. Increases in Pay

Wage inflation component: 3.00% (this assumption is also used to project the compensation limit for PEPRAs members)

Additional longevity and promotion component:

Longevity and Promotion Increases		
Service	General	Safety
0	8.00%	8.00%
1	6.50%	6.00%
2	5.50%	5.00%
3	4.00%	4.50%
4	3.00%	4.25%
5	2.00%	4.00%
6	1.75%	3.00%
7	1.50%	2.50%
8	1.00%	2.00%
9	1.00%	1.75%
10	1.00%	1.50%
11	1.00%	1.00%
12	1.00%	0.50%
13	1.00%	0.50%
14	1.00%	0.50%
15	1.00%	0.50%
16	1.00%	0.50%
17	1.00%	0.50%
18	1.00%	0.50%
19	1.00%	0.50%
20	1.00%	0.50%
21	1.00%	0.50%
22	1.00%	0.50%
23	1.00%	0.50%
24	1.00%	0.50%
25+	0.50%	0.50%

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

8. Termination

Age	Rates of Termination					
	General			Safety		
	Years of Service			Years of Service		
	Less than 3	3 to 5	5 or more	Less than 3	3 to 5	5 or more
20	15.00%	12.00%	10.00%	12.00%	7.00%	6.00%
21	15.00%	12.00%	10.00%	12.00%	7.00%	6.00%
22	15.00%	12.00%	10.00%	12.00%	7.00%	6.00%
23	15.00%	12.00%	10.00%	12.00%	7.00%	6.00%
24	15.00%	12.00%	10.00%	12.00%	7.00%	6.00%
25	15.00%	8.00%	8.00%	12.00%	7.00%	6.00%
26	15.00%	8.00%	8.00%	12.00%	7.00%	6.00%
27	15.00%	8.00%	8.00%	12.00%	7.00%	6.00%
28	15.00%	8.00%	8.00%	12.00%	7.00%	6.00%
29	15.00%	8.00%	8.00%	12.00%	7.00%	6.00%
30	15.00%	8.00%	6.00%	12.00%	7.00%	4.50%
31	15.00%	8.00%	6.00%	12.00%	7.00%	4.50%
32	15.00%	8.00%	6.00%	12.00%	7.00%	4.50%
33	15.00%	8.00%	6.00%	12.00%	7.00%	4.50%
34	15.00%	8.00%	6.00%	12.00%	7.00%	4.50%
35	15.00%	8.00%	5.00%	12.00%	7.00%	4.00%
36	15.00%	8.00%	5.00%	12.00%	7.00%	4.00%
37	15.00%	8.00%	5.00%	12.00%	7.00%	4.00%
38	15.00%	8.00%	5.00%	12.00%	7.00%	4.00%
39	15.00%	8.00%	5.00%	12.00%	7.00%	4.00%
40	14.25%	8.00%	5.00%	12.00%	7.00%	4.00%
41	14.25%	8.00%	5.00%	12.00%	7.00%	4.00%
42	14.25%	8.00%	5.00%	12.00%	7.00%	4.00%
43	14.25%	8.00%	5.00%	12.00%	7.00%	4.00%
44	14.25%	8.00%	5.00%	12.00%	7.00%	4.00%
45	13.50%	8.00%	5.00%	10.00%	6.00%	3.50%
46	13.50%	8.00%	5.00%	10.00%	6.00%	3.50%
47	13.50%	8.00%	5.00%	10.00%	6.00%	3.50%
48	13.50%	8.00%	5.00%	10.00%	6.00%	3.50%
49	13.50%	8.00%	5.00%	10.00%	6.00%	3.50%
50	12.75%	5.00%	5.00%	10.00%	6.00%	0.00%
51	12.75%	5.00%	5.00%	10.00%	6.00%	0.00%
52	12.75%	5.00%	5.00%	10.00%	6.00%	0.00%
53	12.75%	5.00%	5.00%	10.00%	6.00%	0.00%
54	12.75%	5.00%	5.00%	10.00%	6.00%	0.00%
55	12.00%	5.00%	5.00%	5.00%	6.00%	0.00%
56	12.00%	5.00%	5.00%	5.00%	6.00%	0.00%
57	12.00%	5.00%	5.00%	5.00%	6.00%	0.00%
58	12.00%	5.00%	5.00%	5.00%	6.00%	0.00%
59	12.00%	5.00%	5.00%	5.00%	6.00%	0.00%
60	11.25%	5.00%	5.00%	0.00%	0.00%	0.00%
61	11.25%	5.00%	5.00%	0.00%	0.00%	0.00%
62	11.25%	5.00%	5.00%	0.00%	0.00%	0.00%
63	11.25%	5.00%	5.00%	0.00%	0.00%	0.00%
64	11.25%	5.00%	5.00%	0.00%	0.00%	0.00%
65 and over	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

Rates of termination apply to active Members who terminate their employment. Rates are assumed not to apply after eligibility for retirement.

Former members with contributions on deposit are assumed to receive a retirement benefit commencing at the following ages:

General Members: Age 60

Safety Members: Age 53

9. Rates of Deferred Vested Termination

Rates of deferred vested termination are a percentage of the termination rates shown on the previous page.

Service	General Males	General Females	Safety
5-10	75%	50%	60%
10-20	85%	65%	60%
20+	85%	65%	100%

10. Reciprocal Transfers

65% of deferred vested terminated members that leave their member contributions on deposit with the Plan are assumed to be reciprocal.

Reciprocal members are assumed to remain with the reciprocal agency until retirement, and receive annual salary increases of 5.00%.

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

11. Rates of Disability

Disability rates of active participants are shown below.

Age	Rates of Disability					
	General - Males		General - Females		Safety	
	Ordinary	Duty	Ordinary	Duty	Ordinary	Duty
20	0.000%	0.010%	0.000%	0.010%	0.000%	0.110%
21	0.000%	0.010%	0.000%	0.010%	0.000%	0.120%
22	0.000%	0.010%	0.000%	0.010%	0.000%	0.130%
23	0.000%	0.010%	0.000%	0.010%	0.000%	0.140%
24	0.000%	0.010%	0.000%	0.010%	0.000%	0.150%
25	0.010%	0.010%	0.010%	0.010%	0.050%	0.170%
26	0.010%	0.010%	0.010%	0.010%	0.050%	0.200%
27	0.010%	0.010%	0.010%	0.010%	0.050%	0.250%
28	0.010%	0.010%	0.010%	0.010%	0.050%	0.300%
29	0.010%	0.010%	0.010%	0.010%	0.050%	0.350%
30	0.010%	0.010%	0.010%	0.010%	0.050%	0.400%
31	0.010%	0.010%	0.010%	0.010%	0.050%	0.450%
32	0.010%	0.010%	0.010%	0.010%	0.050%	0.500%
33	0.010%	0.010%	0.010%	0.010%	0.050%	0.520%
34	0.010%	0.010%	0.010%	0.010%	0.050%	0.540%
35	0.020%	0.020%	0.080%	0.010%	0.050%	0.560%
36	0.020%	0.020%	0.080%	0.010%	0.050%	0.580%
37	0.020%	0.020%	0.080%	0.010%	0.050%	0.600%
38	0.030%	0.030%	0.120%	0.010%	0.050%	0.620%
39	0.030%	0.030%	0.130%	0.010%	0.050%	0.640%
40	0.030%	0.030%	0.140%	0.010%	0.075%	0.660%
41	0.040%	0.045%	0.160%	0.010%	0.075%	0.670%
42	0.040%	0.045%	0.170%	0.010%	0.080%	0.680%
43	0.040%	0.045%	0.180%	0.010%	0.085%	0.690%
44	0.050%	0.050%	0.190%	0.010%	0.090%	0.700%
45	0.050%	0.055%	0.200%	0.010%	0.095%	0.750%
46	0.050%	0.060%	0.220%	0.010%	0.100%	0.800%
47	0.060%	0.070%	0.240%	0.010%	0.150%	0.850%
48	0.070%	0.080%	0.260%	0.010%	0.200%	0.900%
49	0.080%	0.090%	0.280%	0.010%	0.250%	0.950%
50	0.090%	0.100%	0.300%	0.020%	0.300%	1.000%
51	0.100%	0.150%	0.320%	0.020%	0.350%	1.250%
52	0.120%	0.200%	0.340%	0.030%	0.400%	1.500%
53	0.140%	0.250%	0.360%	0.030%	0.450%	1.750%
54	0.160%	0.300%	0.380%	0.040%	0.500%	2.000%
55	0.180%	0.350%	0.400%	0.040%	0.550%	2.250%
56	0.200%	0.400%	0.420%	0.050%	0.600%	2.300%
57	0.220%	0.450%	0.440%	0.050%	0.650%	2.350%
58	0.240%	0.500%	0.480%	0.060%	0.700%	2.400%
59	0.260%	0.550%	0.520%	0.060%	0.750%	2.450%
60	0.280%	0.600%	0.540%	0.070%	0.000%	0.000%
61	0.300%	0.650%	0.560%	0.070%	0.000%	0.000%
62	0.320%	0.700%	0.600%	0.080%	0.000%	0.000%
63	0.340%	0.750%	0.620%	0.080%	0.000%	0.000%
64	0.360%	0.800%	0.640%	0.080%	0.000%	0.000%
65 and over	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

12. Rates of Mortality for Healthy Lives

Mortality rates for General actives, retirees, beneficiaries, terminated vested, and reciprocals are based on the sex distinct Retired Pensioner (RP) 2014 Combined Healthy Tables, published by the Society of Actuaries, with Generational improvement using Projection Scale MP-2016, and increased by 12.1% for males and 8.0% for females to reflect Plan experience.

Mortality rates for Safety actives, retirees, beneficiaries, terminated vested, and reciprocals are based on the sex distinct Retired Pensioner (RP) 2014 Combined Healthy Tables with blue-collar adjustment, published by the Society of Actuaries, with Generational improvement using Projection Scale MP-2016, and increased by 4.5% for males to reflect Plan experience.

13. Rates of Mortality for Retired Disabled Lives

Mortality rates for disabled retirees are based on the sex distinct Retired Pensioner (RP) 2014 Generational Disabled Annuitant Mortality Table, published by the Society of Actuaries, with Generational improvement using Projection Scale MP-2016.

14. Duty-Related Deaths (Safety Employees Only)

Percentage of deaths assumed to be duty related	
Age	
20-24	37%
25-30	42%
31-34	45%
35-43	50%
44-45	52%
46-47	54%
48-49	56%
50-54	58%
55-56	60%
57-58	62%
59	63%

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

15. Rates of Retirement

Rates of retirement are based on age and service according to the following below.

Age	General Years of Service		Safety Years of Service	
	Less than 30	30 or more	Less than 20	20 or more
45	0.00%	0.00%	7.00%	7.00%
46	0.00%	0.00%	7.00%	7.00%
47	0.00%	0.00%	7.00%	7.00%
48	0.00%	0.00%	7.00%	7.00%
49	0.00%	0.00%	7.00%	7.00%
50	5.00%	10.00%	7.00%	7.00%
51	5.00%	10.00%	7.00%	7.00%
52	5.00%	10.00%	7.00%	7.00%
53	5.00%	10.00%	7.00%	7.00%
54	5.00%	10.00%	7.00%	7.00%
55	6.00%	10.00%	7.00%	18.00%
56	6.00%	10.00%	7.00%	18.00%
57	6.00%	10.00%	7.00%	18.00%
58	6.00%	10.00%	7.00%	18.00%
59	6.00%	10.00%	7.00%	18.00%
60	15.00%	20.00%	20.00%	40.00%
61	15.00%	20.00%	20.00%	40.00%
62	15.00%	20.00%	20.00%	40.00%
63	15.00%	20.00%	20.00%	40.00%
64	15.00%	20.00%	20.00%	40.00%
65	35.00%	35.00%	20.00%	75.00%
66	35.00%	35.00%	20.00%	75.00%
67	35.00%	35.00%	20.00%	75.00%
68	35.00%	35.00%	20.00%	75.00%
69	35.00%	35.00%	20.00%	75.00%
70	35.00%	35.00%	100.00%	100.00%
71	35.00%	35.00%	100.00%	100.00%
72	35.00%	35.00%	100.00%	100.00%
73	35.00%	35.00%	100.00%	100.00%
74	35.00%	35.00%	100.00%	100.00%
75 and over	100.00%	100.00%	100.00%	100.00%

APPENDIX B – STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

16. Changes in Assumptions

Based on the results of Cheiron's July 1, 2014 – June 30, 2017 experience study, the Board adopted the following changes to the economic and demographic assumptions:

- The discount rate decreased from 7.60% to 7.25%.
- The COLA assumption decreased from 3.00% to 2.70% for Tier 1 members.
- The percent married decreased from 88% to 85% for General males, 75% to 65% for General females, 95% to 90% for Safety males, and 80% to 70% for Safety females. Additionally, the number of years that female members are assumed to be younger than their spouses decreased from three to two years.
- Merit-based pay increases were increased for General members at most service points, and modest changes were made for Safety members at lower and mid-service points.
- Termination and retirement rates were changed to be unisex for General members. Both termination and retirement rates were adjusted to better reflect experience.
- Rates of deferred vested termination were increased for all members.
- The adjustment to the base mortality rates for healthy General females decreased from 12.1% to 8.0%. For healthy Safety females, the female blue-collar rates from the RP-2014 Combined Healthy Tables are now used, with no adjustment.
- The mortality improvement scale changed from MP-2015 to MP-2016 for all members.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

All actuarial calculations are based on our understanding of the statutes governing the TCERA 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 TCERA Board, effective through June 30, 2017. 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.

There have been no changes to the Plan provisions since the prior valuation.

A. Membership in Retirement Plans

The County has established several defined benefit tiers based primarily on a member's date of entry into TCERA and in some cases, bargaining unit. There are two types of TCERA members:

Safety members: Employees whose principal duty is active law enforcement or active fire suppression are eligible to be Safety members. Membership in a particular tier depends upon date of entry to the system.

General members: All non-Safety employees are eligible to be General members. Membership in a particular tier depends primarily upon date of entry to the system.

Tier 1: General and Safety employees hired on or before December 31, 1979.

Tier 2: General and Safety employees hired on or after January 1, 1980 through December 31, 1989.

Tier 3: General and Safety employees hired on or after January 1, 1990 through December 31, 2012.

Tier 4 (PEPRA): All new members hired on or after January 1, 2013. Employees who transfer from and are eligible for reciprocity with another public employer will not be PEPRA members if their service in the reciprocal system was under a pre-PEPRA tier.

B. Member Contributions

Basic: Contributions are based on the entry age and class of each member and are required of all members. See Appendix F for details on this calculation. Current member rates are shown in the Appendix. (31621.5, 31621.2, 31639.5, 31639.25)

Contributions cease for all non-PEPRA members credited with 30 years of service. (31625, 31625.2)

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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APPENDIX C – SUMMARY OF PLAN PROVISIONS

Tier 4: PEPRA members must contribute half of the normal cost of the Plan. Contributions for these members will be based on the Normal Cost associated with their benefits; General and Safety members will pay different rates.

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

Cost-of-Living: The following loads are applied to Tier 1-3 Basic rates to pay for the employee portion of Cost-of-Living Adjustments. For PEPRA members, the cost of COLAs is included in the Normal Cost, of which they contribute half.

	Tier 1	Tier 2-3
2016 Actual	36.67% (General) 68.04% (Safety)	15.16% (General) 23.07% (Safety)
2017 Actual	49.97% (General) 68.45% (Safety)	19.94% (General) 26.44% (Safety)

C. Employer Contributions:

The employer (County or District) contributes to the retirement fund a percentage of the total compensation provided for all members based on an actuarial investigation, valuation, and recommendation of the actuary. (31453, 31453.5, 31453.6, 31454, 31454.1, 31581)

D. Service Retirement Allowance:

Eligibility:

General Plan members:

Tiers 1-3: Age 50 with 10 years of service;
Any age with 30 years of service; or
Age 70 regardless of service. (31672, 31672.1)

Tier 4 (PEPRA): Age 52 with 5 years of service.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

Safety Plan members:

Tiers 1-3: Age 50 with 10 years of service;
Any age with 20 years of service. (31663.25)

Tier 4 (PEPRA): Age 50 with 5 years of service.

Final Compensation:

Tier 1: Monthly average of a member's highest 12 consecutive months of compensation. (31462.1)

Tiers 2-3: Monthly average of a member's highest 36 consecutive months of compensation. (31462)

Tier 4 (PEPRA): Monthly average of a member's highest 36 consecutive months of compensation, limited to the Social Security Wage Base on January 1, 2013, adjusted based on the annual change in the CPI-U each January 1 thereafter.

Compensation

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

Integration with

Social Security: General and Safety Tier 1-3 members' benefits are integrated with Social Security. Benefits payable from the first \$161.54 of bi-weekly compensation are reduced by 1/3.

Monthly Allowance:

General Plan members:

Tier 1: Sum of (a) + (b):
(a) $1/60 \times \text{Final Compensation} \times \text{Plan Age Factor} \times \text{Years of Service}$ prior to 7/1/2005 (31676.11); plus
(b) $1/50 \times \text{Final Compensation} \times \text{Plan Age Factor} \times \text{Years of Service}$ after 7/1/2005 (31676.12)

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- Tiers 2-3:** Sum of (a) + (b):
 (a) $1/60 \times \text{Final Compensation} \times \text{Plan Age Factor} \times \text{Years of Service}$ prior to 7/1/2005 (31676.1); plus
 (b) $1/50 \times \text{Final Compensation} \times \text{Plan Age Factor} \times \text{Years of Service}$ after 7/1/2005 (31676.12)
- Tier 4 (PEPRA):** $2\% \times \text{Final Compensation} \times \text{PEPRA Age Factor} \times \text{Years of Service}$

Safety Plan members:

- Tiers 1-3:** $2\% \times \text{Final Compensation} \times \text{Plan Age Factor} \times \text{Years of Service}$ (31664)
- Tier 4 (PEPRA):** $2\% \times \text{Final Compensation} \times \text{PEPRA Age Factor} \times \text{Years of Service}$

Code Section: Label: Base: Age	Age Factors By Plan General				Safety	
	31676.11	31676.1	31676.12	PEPRA	31664	PEPRA
	1.67% @ 55	1.67% @ 57.5	2% @ 57	2% @ 62	2% @ 50	2% @ 50
41					0.6258	
42					0.6625	
43					0.7004	
44					0.7397	
45					0.7805	
46					0.8226	
47					0.8678	
48					0.9085	
49					0.9522	
50	0.7454	0.7091	0.6681		1.0000	1.0000
51	0.7882	0.7457	0.7056		1.0516	1.0500
52	0.8346	0.7816	0.7454	0.5000	1.1078	1.1000
53	0.8850	0.8181	0.7882	0.5500	1.1692	1.1500
54	0.9399	0.8556	0.8346	0.6000	1.2366	1.2000
55	1.0000	0.8954	0.885	0.6500	1.3099	1.2500
56	1.0447	0.9382	0.9399	0.7000	1.3099	1.3000
57	1.1048	0.9846	1.0000	0.7500	1.3099	1.3500
58	1.1686	1.0350	1.0447	0.8000	1.3099	1.3500
59	1.2365	1.0899	1.1048	0.8500	1.3099	1.3500
60	1.3093	1.1500	1.1686	0.9000	1.3099	1.3500
61	1.3608	1.1947	1.2365	0.9500	1.3099	1.3500
62	1.4123	1.2548	1.3093	1.0000	1.3099	1.3500
63	1.4638	1.3186	1.3093	1.0500	1.3099	1.3500
64	1.5153	1.3865	1.3093	1.1000	1.3099	1.3500
65	1.5668	1.4593	1.3093	1.1500	1.3099	1.3500
66	1.5668	1.4593	1.3093	1.2000	1.3099	1.3500
67	1.5668	1.4593	1.3093	1.2500	1.3099	1.3500

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Maximum Allowance:

Allowance may not exceed 100% of Final Compensation.

Unmodified Retirement Allowance (Normal Form):

All Plans: Life Annuity payable to retired member with 60% continuance to an eligible spouse. (31760.1)

Eligible survivor includes certain domestic partners and dependent children. (31780.2) If there is no eligible survivor, any unpaid remainder of the member's accumulated contributions will be paid to the member's designated beneficiary.

Death after Retirement:

All Plans: Upon a member's death after retirement, a special lump sum of \$5,000 is payable to an eligible survivor, or the member's estate. (31789.5)

All Allowances: All allowances are made on a pro-rata basis (based on the number of days in that month) if not in effect for the entire month of retirement. (31600)

Supplemental Retiree Benefit Reserve:

The County has adopted the financial provisions of Article 5.5 of the 1937 Act for Tiers 1-3. The Article requires that in certain cases, a portion of investment earnings be allocated to a Supplemental Retiree Benefit Reserve (SRBR). Earnings allocated to the SRBR are to be used for the benefit of members in Tiers 1-3. Members of Tier 4 are not eligible for supplemental benefits. (31618)

Level 1: Members with at least 20 years of service are eligible for a supplemental benefit up to \$250 a month. The multiplier in effect is as follows:

Period	Multiplier
Prior to July 1, 2013	\$18.00
After July 1, 2013	\$17.00
After July 1, 2014	\$16.00
After July 1, 2015	\$15.00
After July 1, 2016	\$14.00
After July 1, 2017	\$12.50

Members with less than 20 years of service are eligible for benefits in accordance to the schedule on the following page:

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Years of Service	Percentage of Full Benefit
Less than 10	0.00%
10	50.0%
11	55.0%
12	60.0%
13	65.0%
14	70.0%
15	75.0%
16	80.0%
17	85.0%
18	90.0%
19	95.0%

Only years of service with Tulare County are included for this benefit. 50% of member's reduced allowance is payable to a beneficiary having an insurable interest in the life of the member.

Level 2: In addition to the Level 1 benefit, a supplemental COLA is available to retirees and beneficiaries who have lost more than 15% of their purchasing power, measured by their COLA Banks. The design of this COLA is to allow retirees to retain at least 85% of their purchasing power.

Level 3: 60% of a service retirement or 100% of a service-connected disability is payable to a spouse not married to the member at retirement. The spouse must be at least age 55 at the member's date of retirement, must have been married for at least 2 years, and the member must have elected the Unmodified Allowance retirement option to be eligible for this benefit.

E. Service-Connected Disability Retirement Allowance

Eligibility:

All Plans: Any age and length of service; disability must result from occupational injury or disease, and member must be permanently incapacitated for the performance of duty. (31720, 31720.5, 31720.6, 31720.7, 31720.9)

Monthly Allowance:

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

APPENDIX C – SUMMARY OF PLAN PROVISIONS

Normal Form Of Payment:

All Plans: Life Annuity payable to retired member with 100% continuance to an eligible spouse.

Death after Retirement:

All Plans: Upon a member's death after retirement, a special lump sum of \$5,000 is payable to an eligible survivor, or the member's estate. (31789.5)

F. Non Service-Connected Disability Retirement Allowance

Eligibility:

All Plans: Any age with five (5) years of service and permanently incapacitated for the performance of duty. (31720)

Monthly Allowance:

All Plans: The monthly allowance is equal to a service retirement allowance if the member is eligible to retire and the service retirement allowance exceeds the benefits described below. Otherwise, allowance equals 20% of Final Compensation, plus 2% for each year of service over 5, with a maximum allowance of 40% of Final Compensation at 15 years of service. (31727.7)

Normal Form Of Payment:

All Plans: Life Annuity with 60% continuance to a surviving spouse (or eligible children). (31760.1)

Death after Retirement:

All Plans: Upon a member's death after retirement, a special lump sum of \$5,000 is payable to an eligible survivor, or the member's estate. (31789.5)

G. Service-Connected Death Benefits

Eligibility:

All Plans: Active members who die in service as a result of injury or disease arising out of and in the course of employment. (31486.7, 31787)

APPENDIX C – SUMMARY OF PLAN PROVISIONS

Monthly Allowance:

All Plans: A monthly allowance is payable to an eligible survivor equal to the greater of the Member's Service Retirement Allowance or Non Service-Connected Disability Allowance (if he is eligible for service retirement or non-service disability at his date of death), and (b) $50\% \times$ Final Compensation. (31787)

A lump sum is payable to an eligible survivor equal to $1/12 \times$ final 12 months' Salary \times years of service (up to max of 6 years). (31781)

H. Non Service-Connected Death Benefits

Eligibility:

All Plans: Active members who die while in service but not as a result of injury or disease arising out of and in the course of employment.

Monthly Allowance:

All Plans: If an active member is eligible for Non-Service Connected Disability at his date of death, then a monthly allowance is payable to an eligible survivor equal to $60\% \times$ the member's non-service connected disability allowance. Otherwise, the benefit is a refund of contributions. (31781.1)

I. Deferred Vested Benefits

Eligibility:

All other Plans: Member contributions must be left on deposit and the member must have terminated with five (5) years of service or entered a reciprocal agency. Members are eligible for service retirement when they reach service retirement eligibility (based on years of service at termination plus reciprocal service, if any). (31700, 31701, 31702)

Monthly Allowance:

All other Plans: Same as service retirement allowance; payable any time after the member would have been eligible for service retirement. (31703, 31704, 31705)

J. Cost-of-Living Increases

Cost-of-living increases (or decreases) are applied to all retirement allowances (service and disability), optional death allowances, and annual death allowances effective April 1, based

APPENDIX C – SUMMARY OF PLAN PROVISIONS

on changes in the average annual Consumer Price Index (CPI), rounded to the nearest $\frac{1}{2}$ of 1%. (31870, 31870.1)

All Plans (excluding Tier 1):

Members (and their beneficiaries) are limited to a maximum 2% cost-of-living increase. (31870)

Tier 1:

Members (and their beneficiaries) are limited to a maximum 3% cost-of-living increase. (31870.1)

COLA Bank:

All Plans:

When the CPI exceeds the applicable percentage, the difference between the actual CPI and the maximum cost-of-living increase given in any year is credited to the COLA Accumulation (COLA Bank). It may be used in future years to provide cost-of-living increases when the CPI falls below the applicable percentage. (31874, 31874.1, 31874.2, 31874.3)

K. Optional Forms

In addition to the Unmodified Allowance, retirees may choose one of the following options:

Option 1: A slightly reduced monthly retirement allowance will be paid throughout the member's life, with the provision that accumulated contributions less the sum of the annuity portion of the payments received by the member will be paid upon death to the beneficiary.

Option 2: A reduced monthly retirement allowance will be paid to the member for life, with 100% of the allowance continued after death to the beneficiary.

Option 3: A reduced monthly retirement allowance will be paid to the member for life, with 50% of the allowance continued after death to the beneficiary.

Option 4: This option allows the member to name multiple beneficiaries and provides for a reduced monthly retirement allowance paid to the member for the member's lifetime with an actuarially calculated benefit continued throughout the life of the beneficiaries named at retirement.

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APPENDIX C – SUMMARY OF PLAN PROVISIONS

Assumptions Used for Optional Forms:

Our understanding is that the following assumptions are used to calculate the reduced monthly retirement allowances for Options 1-4 described above.

General

Mortality: RP-2000 Healthy Annuitant Mortality Table with adjustment for white-collar workers (healthy), RP-2000 Disabled Annuitant Mortality Table (disabled)

Gender Blend: 1/3 male, 2/3 female

Discount Rate: 7.25% per annum

Post-Retirement COLA: 3% per annum (Tier 1), 2% per annum (Tiers 2-3)

Safety

Mortality: RP-2000 Healthy Annuitant Mortality Table with adjustment for blue-collar workers (healthy), RP-2000 Disabled Annuitant Mortality Table with 2-year setback (disabled)

Gender Blend: 5/6 male, 1/6 female

Discount Rate: 7.25% per annum

Post-Retirement COLA: 3% per annum (Tier 1), 2% per annum (Tiers 2-3)

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 which 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.

APPENDIX D – GLOSSARY

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.

8. Actuarially Equivalent

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

9. Amortization Payment

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

10. Entry Age Normal Actuarial Cost Method

A method under which the Actuarial Present Value of the Projected Benefits of each individual included in an Actuarial Valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages.

11. Funded Ratio

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

12. Normal Cost

That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.

13. Projected Benefits

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

14. Unfunded Actuarial Liability

The excess of the Actuarial Liability over the Actuarial Value of Assets.

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APPENDIX E – MEMBER CONTRIBUTION RATES

The table below shows the applicable Code Section for Tier 1-3 member contribution rates as well as the corresponding annuity funded by the member.

Plan/Tier	Code Section	Member Contribution Provides Average Annuity	FAS Period
General Tier 1	31621.5	1/200 of Final Average Salary (FAS) at age 60	1 year
General Tier 2	31621.2	1/100 of Final Average Salary (FAS) at age 60	3 years
General Tier 3	31621.2	1/100 of Final Average Salary (FAS) at age 60	3 years
Safety Tier 1	31639.5	1/200 of Final Average Salary (FAS) at age 50	1 year
Safety Tier 2	31639.25	1/100 of Final Average Salary (FAS) at age 50	3 years
Safety Tier 3	31639.25	1/100 of Final Average Salary (FAS) at age 50	3 years

For Tiers 1-3, the following COLA loads were applied to the Basic rates. Starting in 2015, based on discussion with TCERA staff, we developed separate loads for General and Safety.

	Tier 1	Tier 2-3
2016 Actual	36.67% (General) 68.04% (Safety)	15.16% (General) 23.07% (Safety)
2017 Actual	49.97% (General) 68.45% (Safety)	19.94% (General) 26.44% (Safety)

For PEPRA members, the cost of COLAs is included in the Normal Cost, of which they contribute half.

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APPENDIX E – MEMBER CONTRIBUTION RATES

2017 Member Contribution Rates (for fiscal year ending 2019)

	General Tier 1		General Tiers 2 and 3		Safety Tier 1		Safety Tiers 2 and 3		Tier 4 Members	
Entry Age	First	Over	First	Over	First	Over	First	Over	General	Safety
	\$161.54	\$161.54	\$161.54	\$161.54	\$161.54	\$161.54	\$161.54	\$161.54		
16	2.48%	3.72%	3.83%	5.74%	4.06%	6.09%	5.89%	8.84%	4.14%	8.91%
17	2.53%	3.80%	3.92%	5.88%	4.06%	6.09%	5.89%	8.84%	4.14%	8.91%
18	2.59%	3.89%	4.01%	6.01%	4.06%	6.09%	5.89%	8.84%	4.14%	8.91%
19	2.65%	3.98%	4.10%	6.15%	4.06%	6.09%	5.89%	8.84%	4.14%	8.91%
20	2.71%	4.07%	4.20%	6.30%	4.06%	6.09%	5.89%	8.84%	4.14%	8.91%
21	2.78%	4.17%	4.29%	6.44%	4.15%	6.23%	6.03%	9.04%	4.35%	9.26%
22	2.84%	4.26%	4.39%	6.59%	4.25%	6.37%	6.16%	9.24%	4.56%	9.61%
23	2.91%	4.36%	4.49%	6.74%	4.34%	6.51%	6.30%	9.45%	4.77%	9.96%
24	2.97%	4.46%	4.59%	6.89%	4.44%	6.66%	6.45%	9.67%	4.98%	10.33%
25	3.04%	4.56%	4.70%	7.05%	4.54%	6.81%	6.59%	9.88%	5.20%	10.70%
26	3.11%	4.67%	4.81%	7.21%	4.65%	6.97%	6.74%	10.11%	5.41%	11.06%
27	3.18%	4.77%	4.92%	7.38%	4.75%	7.13%	6.89%	10.34%	5.62%	11.42%
28	3.25%	4.88%	5.03%	7.55%	4.86%	7.29%	7.05%	10.58%	5.84%	11.79%
29	3.33%	5.00%	5.15%	7.72%	4.97%	7.46%	7.21%	10.82%	6.05%	12.14%
30	3.41%	5.11%	5.27%	7.90%	5.09%	7.63%	7.38%	11.07%	6.28%	12.50%
31	3.49%	5.23%	5.39%	8.08%	5.21%	7.81%	7.56%	11.34%	6.49%	12.89%
32	3.57%	5.35%	5.51%	8.27%	5.33%	8.00%	7.74%	11.61%	6.70%	13.28%
33	3.65%	5.47%	5.63%	8.45%	5.46%	8.19%	7.93%	11.89%	6.93%	13.67%
34	3.73%	5.60%	5.74%	8.61%	5.60%	8.40%	8.12%	12.18%	7.16%	14.07%
35	3.80%	5.70%	5.85%	8.77%	5.74%	8.61%	8.33%	12.49%	7.39%	14.48%
36	3.87%	5.81%	5.95%	8.93%	5.89%	8.84%	8.53%	12.80%	7.63%	14.84%
37	3.94%	5.91%	6.07%	9.10%	6.05%	9.08%	8.73%	13.09%	7.88%	15.18%
38	4.01%	6.02%	6.18%	9.27%	6.19%	9.29%	8.90%	13.35%	8.15%	15.54%
39	4.09%	6.13%	6.29%	9.44%	6.32%	9.48%	9.05%	13.58%	8.41%	15.91%
40	4.17%	6.25%	6.41%	9.61%	6.43%	9.65%	9.19%	13.79%	8.67%	16.31%
41	4.24%	6.36%	6.53%	9.79%	6.55%	9.83%	9.32%	13.98%	8.93%	16.69%
42	4.32%	6.48%	6.65%	9.97%	6.65%	9.97%	9.40%	14.10%	9.19%	17.10%
43	4.40%	6.60%	6.77%	10.16%	6.73%	10.09%	9.45%	14.17%	9.49%	17.54%
44	4.49%	6.73%	6.91%	10.36%	6.75%	10.13%	9.47%	14.20%	9.78%	18.00%
45	4.57%	6.86%	7.03%	10.55%	6.78%	10.17%	9.47%	14.20%	10.08%	18.47%
46	4.66%	6.99%	7.17%	10.76%	6.79%	10.19%	9.43%	14.15%	10.44%	18.84%
47	4.75%	7.13%	7.31%	10.97%	6.79%	10.19%	9.33%	14.00%	10.81%	19.20%
48	4.85%	7.28%	7.47%	11.20%	6.76%	10.14%	9.65%	14.47%	11.11%	19.56%
49	4.95%	7.43%	7.62%	11.43%	6.65%	9.97%	9.98%	14.97%	11.41%	19.93%
50	5.06%	7.59%	7.78%	11.67%	6.65%	9.97%	9.98%	14.97%	11.69%	19.93%
51	5.18%	7.77%	7.93%	11.89%	6.65%	9.97%	9.98%	14.97%	11.98%	19.93%
52	5.28%	7.92%	8.07%	12.10%	6.65%	9.97%	9.98%	14.97%	12.26%	19.93%
53	5.39%	8.08%	8.19%	12.28%	6.65%	9.97%	9.98%	14.97%	12.54%	19.93%
54	5.49%	8.23%	8.27%	12.40%	6.65%	9.97%	9.98%	14.97%	12.79%	19.93%
55	5.56%	8.34%	8.29%	12.44%	6.65%	9.97%	9.98%	14.97%	13.00%	19.93%
56	5.60%	8.40%	8.25%	12.38%	6.65%	9.97%	9.98%	14.97%	13.23%	19.93%
57	5.59%	8.38%	8.15%	12.23%	6.65%	9.97%	9.98%	14.97%	13.42%	19.93%
58	5.55%	8.32%	8.43%	12.65%	6.65%	9.97%	9.98%	14.97%	13.58%	19.93%
59	5.45%	8.18%	8.72%	13.08%	6.65%	9.97%	9.98%	14.97%	13.67%	19.93%
Assumptions:										
Interest:	7.25%		7.25%		7.25%		7.25%		7.25%	
Salary:	3.00%		3.00%		3.00%		3.00%		3.00%	
COLA:	2.70%		2.00%		2.70%		2.00%		2.00%	
Mortality:	For General: Retired Pensioner (RP) 2014 Combined Healthy Table, with 20-year Generational improvement using Projection Scale MP-2016, increased by 12.1% for males and 8.0% for females to reflect Plan experience, and blended 30% male and 70% female For Safety: Retired Pensioner (RP) 2014 Combined Healthy Table with blue-collar adjustment, with 20-year Generational improvement using Projection Scale MP-2016, increased by 4.5% for males to reflect Plan experience, and blended 75% male and 25% female									

The tables on this and the next five pages show the 2017 member contribution rates split into the Basic and COLA components, by tier.

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX E – MEMBER CONTRIBUTION RATES

Entry Age	General Tier 1					
	Basic Rate		COLA Rate		Total Rate	
	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54
16	1.65%	2.48%	0.83%	1.24%	2.48%	3.72%
17	1.69%	2.53%	0.84%	1.27%	2.53%	3.80%
18	1.73%	2.59%	0.86%	1.30%	2.59%	3.89%
19	1.77%	2.65%	0.88%	1.33%	2.65%	3.98%
20	1.81%	2.71%	0.90%	1.36%	2.71%	4.07%
21	1.85%	2.78%	0.93%	1.39%	2.78%	4.17%
22	1.89%	2.84%	0.95%	1.42%	2.84%	4.26%
23	1.94%	2.91%	0.97%	1.45%	2.91%	4.36%
24	1.98%	2.97%	0.99%	1.49%	2.97%	4.46%
25	2.03%	3.04%	1.01%	1.52%	3.04%	4.56%
26	2.08%	3.11%	1.04%	1.56%	3.11%	4.67%
27	2.12%	3.18%	1.06%	1.59%	3.18%	4.77%
28	2.17%	3.25%	1.08%	1.63%	3.25%	4.88%
29	2.22%	3.33%	1.11%	1.67%	3.33%	5.00%
30	2.27%	3.41%	1.14%	1.70%	3.41%	5.11%
31	2.32%	3.49%	1.16%	1.74%	3.49%	5.23%
32	2.38%	3.57%	1.19%	1.78%	3.57%	5.35%
33	2.43%	3.65%	1.22%	1.82%	3.65%	5.47%
34	2.49%	3.73%	1.24%	1.87%	3.73%	5.60%
35	2.53%	3.80%	1.27%	1.90%	3.80%	5.70%
36	2.58%	3.87%	1.29%	1.94%	3.87%	5.81%
37	2.63%	3.94%	1.31%	1.97%	3.94%	5.91%
38	2.68%	4.01%	1.34%	2.01%	4.01%	6.02%
39	2.72%	4.09%	1.36%	2.04%	4.09%	6.13%
40	2.78%	4.17%	1.39%	2.08%	4.17%	6.25%
41	2.83%	4.24%	1.41%	2.12%	4.24%	6.36%
42	2.88%	4.32%	1.44%	2.16%	4.32%	6.48%
43	2.93%	4.40%	1.47%	2.20%	4.40%	6.60%
44	2.99%	4.49%	1.49%	2.24%	4.49%	6.73%
45	3.05%	4.57%	1.52%	2.29%	4.57%	6.86%
46	3.11%	4.66%	1.55%	2.33%	4.66%	6.99%
47	3.17%	4.75%	1.58%	2.38%	4.75%	7.13%
48	3.24%	4.85%	1.62%	2.43%	4.85%	7.28%
49	3.30%	4.95%	1.65%	2.48%	4.95%	7.43%
50	3.37%	5.06%	1.69%	2.53%	5.06%	7.59%
51	3.45%	5.18%	1.73%	2.59%	5.18%	7.77%
52	3.52%	5.28%	1.76%	2.64%	5.28%	7.92%
53	3.59%	5.39%	1.79%	2.69%	5.39%	8.08%
54	3.66%	5.49%	1.83%	2.74%	5.49%	8.23%
55	3.71%	5.56%	1.85%	2.78%	5.56%	8.34%
56	3.73%	5.60%	1.87%	2.80%	5.60%	8.40%
57	3.73%	5.59%	1.86%	2.79%	5.59%	8.38%
58	3.70%	5.55%	1.85%	2.77%	5.55%	8.32%
59	3.64%	5.45%	1.82%	2.73%	5.45%	8.18%
Assumptions:						
Interest:	7.25%					
Salary:	3.00%					
COLA:	2.70%					
Mortality:	Retired Pensioner (RP) 2014 Combined Healthy Table, with 20-year Generational improvement using Projection Scale MP-2016, increased by 12.1% for males and 8.0% for females to reflect Plan experience, and blended 30% male and 70% female					

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX E – MEMBER CONTRIBUTION RATES

General Tiers 2 and 3						
Entry Age	Basic Rate		COLA Rate		Total Rate	
	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54
16	3.19%	4.79%	0.64%	0.95%	3.83%	5.74%
17	3.27%	4.90%	0.65%	0.98%	3.92%	5.88%
18	3.34%	5.01%	0.67%	1.00%	4.01%	6.01%
19	3.42%	5.13%	0.68%	1.02%	4.10%	6.15%
20	3.50%	5.25%	0.70%	1.05%	4.20%	6.30%
21	3.58%	5.37%	0.71%	1.07%	4.29%	6.44%
22	3.66%	5.49%	0.73%	1.10%	4.39%	6.59%
23	3.75%	5.62%	0.75%	1.12%	4.49%	6.74%
24	3.83%	5.74%	0.76%	1.15%	4.59%	6.89%
25	3.92%	5.88%	0.78%	1.17%	4.70%	7.05%
26	4.01%	6.01%	0.80%	1.20%	4.81%	7.21%
27	4.10%	6.15%	0.82%	1.23%	4.92%	7.38%
28	4.20%	6.29%	0.84%	1.26%	5.03%	7.55%
29	4.29%	6.44%	0.86%	1.28%	5.15%	7.72%
30	4.39%	6.59%	0.88%	1.31%	5.27%	7.90%
31	4.49%	6.74%	0.90%	1.34%	5.39%	8.08%
32	4.60%	6.90%	0.92%	1.37%	5.51%	8.27%
33	4.70%	7.05%	0.94%	1.40%	5.63%	8.45%
34	4.79%	7.18%	0.95%	1.43%	5.74%	8.61%
35	4.87%	7.31%	0.97%	1.46%	5.85%	8.77%
36	4.96%	7.45%	0.99%	1.48%	5.95%	8.93%
37	5.06%	7.59%	1.01%	1.51%	6.07%	9.10%
38	5.15%	7.73%	1.03%	1.54%	6.18%	9.27%
39	5.25%	7.87%	1.05%	1.57%	6.29%	9.44%
40	5.34%	8.01%	1.07%	1.60%	6.41%	9.61%
41	5.44%	8.16%	1.09%	1.63%	6.53%	9.79%
42	5.54%	8.31%	1.11%	1.66%	6.65%	9.97%
43	5.65%	8.47%	1.13%	1.69%	6.77%	10.16%
44	5.76%	8.64%	1.15%	1.72%	6.91%	10.36%
45	5.86%	8.80%	1.17%	1.75%	7.03%	10.55%
46	5.98%	8.97%	1.19%	1.79%	7.17%	10.76%
47	6.10%	9.15%	1.22%	1.82%	7.31%	10.97%
48	6.23%	9.34%	1.24%	1.86%	7.47%	11.20%
49	6.35%	9.53%	1.27%	1.90%	7.62%	11.43%
50	6.49%	9.73%	1.29%	1.94%	7.78%	11.67%
51	6.61%	9.91%	1.32%	1.98%	7.93%	11.89%
52	6.73%	10.09%	1.34%	2.01%	8.07%	12.10%
53	6.83%	10.24%	1.36%	2.04%	8.19%	12.28%
54	6.89%	10.34%	1.37%	2.06%	8.27%	12.40%
55	6.91%	10.37%	1.38%	2.07%	8.29%	12.44%
56	6.88%	10.32%	1.37%	2.06%	8.25%	12.38%
57	6.80%	10.20%	1.36%	2.03%	8.15%	12.23%
58	7.03%	10.55%	1.40%	2.10%	8.43%	12.65%
59	7.27%	10.91%	1.45%	2.17%	8.72%	13.08%
Assumptions:						
Interest:	7.25%					
Salary:	3.00%					
COLA:	2.00%					
Mortality:	Retired Pensioner (RP) 2014 Combined Healthy Table, with 20-year Generational improvement using Projection Scale MP-2016, increased by 12.1% for males and 8.0% for females to reflect Plan experience, and blended 30% male and 70% female					

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX E – MEMBER CONTRIBUTION RATES

General Tier 4			
Entry Age	Basic Rate	COLA Rate	Total Rate
16	3.47%	0.67%	4.14%
17	3.47%	0.67%	4.14%
18	3.47%	0.67%	4.14%
19	3.47%	0.67%	4.14%
20	3.47%	0.67%	4.14%
21	3.64%	0.71%	4.35%
22	3.81%	0.75%	4.56%
23	3.99%	0.78%	4.77%
24	4.16%	0.82%	4.98%
25	4.35%	0.85%	5.20%
26	4.52%	0.89%	5.41%
27	4.70%	0.92%	5.62%
28	4.88%	0.96%	5.84%
29	5.06%	0.99%	6.05%
30	5.25%	1.03%	6.28%
31	5.42%	1.07%	6.49%
32	5.61%	1.09%	6.70%
33	5.80%	1.13%	6.93%
34	5.99%	1.17%	7.16%
35	6.18%	1.21%	7.39%
36	6.39%	1.24%	7.63%
37	6.60%	1.28%	7.88%
38	6.82%	1.33%	8.15%
39	7.04%	1.37%	8.41%
40	7.26%	1.41%	8.67%
41	7.48%	1.45%	8.93%
42	7.71%	1.48%	9.19%
43	7.95%	1.54%	9.49%
44	8.20%	1.58%	9.78%
45	8.44%	1.64%	10.08%
46	8.74%	1.70%	10.44%
47	9.04%	1.77%	10.81%
48	9.30%	1.81%	11.11%
49	9.56%	1.85%	11.41%
50	9.81%	1.88%	11.69%
51	10.07%	1.91%	11.98%
52	10.32%	1.94%	12.26%
53	10.57%	1.97%	12.54%
54	10.80%	1.99%	12.79%
55	10.99%	2.01%	13.00%
56	11.21%	2.02%	13.23%
57	11.39%	2.03%	13.42%
58	11.55%	2.03%	13.58%
59	11.65%	2.02%	13.67%
Assumptions:			
Interest:	7.25%		
Salary:	3.00%		
COLA:	2.00%		
Mortality:	Retired Pensioner (RP) 2014 Combined Healthy Table, with 20-year Generational improvement using Projection Scale MP-2016, increased by 12.1% for males and 8.0% for females to reflect Plan experience, and blended 30% male and 70% female		

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX E – MEMBER CONTRIBUTION RATES

Entry Age	Safety Tier 1					
	Basic Rate		COLA Rate		Total Rate	
	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54
16	2.41%	3.62%	1.65%	2.47%	4.06%	6.09%
17	2.41%	3.62%	1.65%	2.47%	4.06%	6.09%
18	2.41%	3.62%	1.65%	2.47%	4.06%	6.09%
19	2.41%	3.62%	1.65%	2.47%	4.06%	6.09%
20	2.41%	3.62%	1.65%	2.47%	4.06%	6.09%
21	2.47%	3.70%	1.69%	2.53%	4.15%	6.23%
22	2.52%	3.78%	1.73%	2.59%	4.25%	6.37%
23	2.58%	3.86%	1.76%	2.65%	4.34%	6.51%
24	2.64%	3.95%	1.80%	2.71%	4.44%	6.66%
25	2.70%	4.04%	1.84%	2.77%	4.54%	6.81%
26	2.76%	4.14%	1.89%	2.83%	4.65%	6.97%
27	2.82%	4.23%	1.93%	2.90%	4.75%	7.13%
28	2.89%	4.33%	1.97%	2.96%	4.86%	7.29%
29	2.95%	4.43%	2.02%	3.03%	4.97%	7.46%
30	3.02%	4.53%	2.07%	3.10%	5.09%	7.63%
31	3.09%	4.64%	2.12%	3.17%	5.21%	7.81%
32	3.17%	4.75%	2.17%	3.25%	5.33%	8.00%
33	3.24%	4.86%	2.22%	3.33%	5.46%	8.19%
34	3.32%	4.99%	2.28%	3.41%	5.60%	8.40%
35	3.41%	5.11%	2.33%	3.50%	5.74%	8.61%
36	3.50%	5.25%	2.39%	3.59%	5.89%	8.84%
37	3.59%	5.39%	2.46%	3.69%	6.05%	9.08%
38	3.68%	5.51%	2.52%	3.78%	6.19%	9.29%
39	3.75%	5.63%	2.57%	3.85%	6.32%	9.48%
40	3.82%	5.73%	2.61%	3.92%	6.43%	9.65%
41	3.89%	5.84%	2.66%	3.99%	6.55%	9.83%
42	3.95%	5.92%	2.70%	4.05%	6.65%	9.97%
43	3.99%	5.99%	2.73%	4.10%	6.73%	10.09%
44	4.01%	6.01%	2.74%	4.12%	6.75%	10.13%
45	4.02%	6.04%	2.76%	4.13%	6.78%	10.17%
46	4.03%	6.05%	2.76%	4.14%	6.79%	10.19%
47	4.03%	6.05%	2.76%	4.14%	6.79%	10.19%
48	4.01%	6.02%	2.75%	4.12%	6.76%	10.14%
49	3.95%	5.92%	2.70%	4.05%	6.65%	9.97%
50	3.95%	5.92%	2.70%	4.05%	6.65%	9.97%
51	3.95%	5.92%	2.70%	4.05%	6.65%	9.97%
52	3.95%	5.92%	2.70%	4.05%	6.65%	9.97%
53	3.95%	5.92%	2.70%	4.05%	6.65%	9.97%
54	3.95%	5.92%	2.70%	4.05%	6.65%	9.97%
55	3.95%	5.92%	2.70%	4.05%	6.65%	9.97%
56	3.95%	5.92%	2.70%	4.05%	6.65%	9.97%
57	3.95%	5.92%	2.70%	4.05%	6.65%	9.97%
58	3.95%	5.92%	2.70%	4.05%	6.65%	9.97%
59	3.95%	5.92%	2.70%	4.05%	6.65%	9.97%
Assumptions:						
Interest:	7.25%					
Salary:	3.00%					
COLA:	2.70%					
Mortality:	Retired Pensioner (RP) 2014 Combined Healthy Table with blue-collar adjustment, with 20-year Generational improvement using Projection Scale MP-2016, increased by 4.5% for males to reflect Plan experience, and blended 75% male and 25% female					

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX E – MEMBER CONTRIBUTION RATES

Safety Tiers 2 and 3						
Entry Age	Basic Rate		COLA Rate		Total Rate	
	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54
16	4.66%	6.99%	1.23%	1.85%	5.89%	8.84%
17	4.66%	6.99%	1.23%	1.85%	5.89%	8.84%
18	4.66%	6.99%	1.23%	1.85%	5.89%	8.84%
19	4.66%	6.99%	1.23%	1.85%	5.89%	8.84%
20	4.66%	6.99%	1.23%	1.85%	5.89%	8.84%
21	4.77%	7.15%	1.26%	1.89%	6.03%	9.04%
22	4.87%	7.31%	1.29%	1.93%	6.16%	9.24%
23	4.98%	7.47%	1.32%	1.98%	6.30%	9.45%
24	5.10%	7.65%	1.35%	2.02%	6.45%	9.67%
25	5.21%	7.81%	1.38%	2.07%	6.59%	9.88%
26	5.33%	8.00%	1.41%	2.11%	6.74%	10.11%
27	5.45%	8.18%	1.44%	2.16%	6.89%	10.34%
28	5.58%	8.37%	1.47%	2.21%	7.05%	10.58%
29	5.70%	8.56%	1.51%	2.26%	7.21%	10.82%
30	5.84%	8.76%	1.54%	2.31%	7.38%	11.07%
31	5.98%	8.97%	1.58%	2.37%	7.56%	11.34%
32	6.12%	9.18%	1.62%	2.43%	7.74%	11.61%
33	6.27%	9.40%	1.66%	2.49%	7.93%	11.89%
34	6.42%	9.63%	1.70%	2.55%	8.12%	12.18%
35	6.59%	9.88%	1.74%	2.61%	8.33%	12.49%
36	6.75%	10.12%	1.78%	2.68%	8.53%	12.80%
37	6.90%	10.35%	1.82%	2.74%	8.73%	13.09%
38	7.04%	10.56%	1.86%	2.79%	8.90%	13.35%
39	7.16%	10.74%	1.89%	2.84%	9.05%	13.58%
40	7.27%	10.91%	1.92%	2.88%	9.19%	13.79%
41	7.37%	11.06%	1.95%	2.92%	9.32%	13.98%
42	7.43%	11.15%	1.97%	2.95%	9.40%	14.10%
43	7.47%	11.21%	1.98%	2.96%	9.45%	14.17%
44	7.49%	11.23%	1.98%	2.97%	9.47%	14.20%
45	7.49%	11.23%	1.98%	2.97%	9.47%	14.20%
46	7.46%	11.19%	1.97%	2.96%	9.43%	14.15%
47	7.38%	11.07%	1.95%	2.93%	9.33%	14.00%
48	7.63%	11.44%	2.02%	3.03%	9.65%	14.47%
49	7.89%	11.84%	2.09%	3.13%	9.98%	14.97%
50	7.89%	11.84%	2.09%	3.13%	9.98%	14.97%
51	7.89%	11.84%	2.09%	3.13%	9.98%	14.97%
52	7.89%	11.84%	2.09%	3.13%	9.98%	14.97%
53	7.89%	11.84%	2.09%	3.13%	9.98%	14.97%
54	7.89%	11.84%	2.09%	3.13%	9.98%	14.97%
55	7.89%	11.84%	2.09%	3.13%	9.98%	14.97%
56	7.89%	11.84%	2.09%	3.13%	9.98%	14.97%
57	7.89%	11.84%	2.09%	3.13%	9.98%	14.97%
58	7.89%	11.84%	2.09%	3.13%	9.98%	14.97%
59	7.89%	11.84%	2.09%	3.13%	9.98%	14.97%
Assumptions:						
Interest:	7.25%					
Salary:	3.00%					
COLA:	2.00%					
Mortality:	Retired Pensioner (RP) 2014 Combined Healthy Table with blue-collar adjustment, with 20-year Generational improvement using Projection Scale MP-2016, increased by 4.5% for males to reflect Plan experience, and blended 75% male and 25% female					

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX E – MEMBER CONTRIBUTION RATES

Safety Tier 4			
Entry Age	Basic Rate	COLA Rate	Total Rate
16	7.25%	1.66%	8.91%
17	7.25%	1.66%	8.91%
18	7.25%	1.66%	8.91%
19	7.25%	1.66%	8.91%
20	7.25%	1.66%	8.91%
21	7.53%	1.73%	9.26%
22	7.82%	1.79%	9.61%
23	8.11%	1.85%	9.96%
24	8.40%	1.93%	10.33%
25	8.70%	2.00%	10.70%
26	9.00%	2.06%	11.06%
27	9.30%	2.12%	11.42%
28	9.60%	2.19%	11.79%
29	9.89%	2.25%	12.14%
30	10.18%	2.32%	12.50%
31	10.50%	2.39%	12.89%
32	10.82%	2.46%	13.28%
33	11.14%	2.53%	13.67%
34	11.46%	2.61%	14.07%
35	11.80%	2.68%	14.48%
36	12.09%	2.75%	14.84%
37	12.38%	2.80%	15.18%
38	12.68%	2.86%	15.54%
39	12.99%	2.92%	15.91%
40	13.33%	2.98%	16.31%
41	13.64%	3.05%	16.69%
42	13.98%	3.12%	17.10%
43	14.35%	3.19%	17.54%
44	14.74%	3.26%	18.00%
45	15.13%	3.34%	18.47%
46	15.46%	3.38%	18.84%
47	15.79%	3.41%	19.20%
48	16.12%	3.44%	19.56%
49	16.45%	3.48%	19.93%
50	16.45%	3.48%	19.93%
51	16.45%	3.48%	19.93%
52	16.45%	3.48%	19.93%
53	16.45%	3.48%	19.93%
54	16.45%	3.48%	19.93%
55	16.45%	3.48%	19.93%
56	16.45%	3.48%	19.93%
57	16.45%	3.48%	19.93%
58	16.45%	3.48%	19.93%
59	16.45%	3.48%	19.93%
Assumptions:			
Interest:	7.25%		
Salary:	3.00%		
COLA:	2.00%		
Mortality:	Retired Pensioner (RP) 2014 Combined Healthy Table with blue-collar adjustment, with 20-year Generational improvement using Projection Scale MP-2016, increased by 4.5% for males to reflect Plan experience, and blended 75% male and 25% female		

**TULARE COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
ACTUARIAL VALUATION REPORT AS OF JUNE 30, 2017**

APPENDIX E – MEMBER CONTRIBUTION RATES

2016 Member Contribution Rates (for fiscal year ending 2018)

Entry Age	General Tier 1		General Tiers 2 and 3		Safety Tier 1		Safety Tiers 2 and 3		Tier 4 Members	
	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54	General	Safety
16	1.92%	2.88%	3.13%	4.70%	3.76%	5.64%	5.33%	7.99%	3.05%	7.83%
17	1.97%	2.96%	3.21%	4.82%	3.76%	5.64%	5.33%	7.99%	3.05%	7.83%
18	2.02%	3.03%	3.29%	4.94%	3.76%	5.64%	5.33%	7.99%	3.05%	7.83%
19	2.07%	3.11%	3.37%	5.06%	3.76%	5.64%	5.33%	7.99%	3.05%	7.83%
20	2.12%	3.18%	3.46%	5.19%	3.76%	5.64%	5.33%	7.99%	3.05%	7.83%
21	2.17%	3.26%	3.55%	5.32%	3.85%	5.78%	5.46%	8.19%	3.18%	8.16%
22	2.23%	3.34%	3.63%	5.45%	3.95%	5.92%	5.59%	8.39%	3.32%	8.48%
23	2.29%	3.43%	3.72%	5.58%	4.05%	6.07%	5.73%	8.60%	3.48%	8.82%
24	2.34%	3.51%	3.81%	5.72%	4.15%	6.22%	5.87%	8.81%	3.64%	9.16%
25	2.40%	3.60%	3.91%	5.86%	4.25%	6.38%	6.02%	9.03%	3.80%	9.50%
26	2.45%	3.68%	4.00%	6.00%	4.36%	6.54%	6.17%	9.26%	3.96%	9.84%
27	2.51%	3.77%	4.10%	6.15%	4.47%	6.70%	6.33%	9.49%	4.13%	10.18%
28	2.57%	3.86%	4.19%	6.29%	4.58%	6.87%	6.49%	9.73%	4.30%	10.52%
29	2.64%	3.96%	4.30%	6.45%	4.70%	7.05%	6.65%	9.98%	4.48%	10.85%
30	2.70%	4.05%	4.40%	6.60%	4.82%	7.23%	6.82%	10.23%	4.66%	11.18%
31	2.77%	4.15%	4.51%	6.76%	4.94%	7.41%	7.00%	10.50%	4.83%	11.54%
32	2.83%	4.25%	4.61%	6.92%	5.07%	7.61%	7.18%	10.77%	5.01%	11.89%
33	2.90%	4.35%	4.73%	7.09%	5.21%	7.81%	7.37%	11.06%	5.25%	12.22%
34	2.97%	4.45%	4.83%	7.25%	5.35%	8.02%	7.57%	11.36%	5.49%	12.56%
35	3.04%	4.56%	4.95%	7.43%	5.50%	8.25%	7.78%	11.67%	5.74%	12.90%
36	3.11%	4.67%	5.07%	7.60%	5.65%	8.48%	7.99%	11.99%	6.08%	13.27%
37	3.19%	4.78%	5.19%	7.78%	5.82%	8.73%	8.19%	12.29%	6.41%	13.63%
38	3.26%	4.89%	5.31%	7.96%	5.97%	8.96%	8.37%	12.55%	6.75%	14.00%
39	3.33%	5.00%	5.43%	8.15%	6.11%	9.17%	8.52%	12.78%	7.09%	14.39%
40	3.41%	5.12%	5.56%	8.34%	6.23%	9.34%	8.65%	12.97%	7.42%	14.79%
41	3.49%	5.24%	5.69%	8.54%	6.33%	9.49%	8.74%	13.11%	7.74%	15.17%
42	3.58%	5.37%	5.83%	8.74%	6.41%	9.61%	8.81%	13.22%	8.06%	15.57%
43	3.67%	5.50%	5.97%	8.95%	6.47%	9.70%	8.86%	13.29%	8.40%	16.07%
44	3.75%	5.63%	6.11%	9.17%	6.50%	9.75%	8.89%	13.33%	8.74%	16.58%
45	3.84%	5.76%	6.26%	9.39%	6.53%	9.80%	8.89%	13.34%	9.08%	16.96%
46	3.93%	5.90%	6.41%	9.61%	6.55%	9.83%	8.87%	13.30%	9.40%	17.26%
47	4.03%	6.05%	6.57%	9.85%	6.53%	9.80%	8.81%	13.22%	9.71%	17.58%
48	4.13%	6.20%	6.73%	10.10%	6.50%	9.75%	9.13%	13.70%	9.97%	17.97%
49	4.24%	6.36%	6.89%	10.34%	6.46%	9.69%	9.46%	14.19%	10.21%	18.29%
50	4.35%	6.53%	7.05%	10.57%	6.46%	9.69%	9.46%	14.19%	10.45%	18.29%
51	4.45%	6.68%	7.18%	10.77%	6.46%	9.69%	9.46%	14.19%	10.72%	18.29%
52	4.54%	6.81%	7.30%	10.95%	6.46%	9.69%	9.46%	14.19%	10.97%	18.29%
53	4.62%	6.93%	7.41%	11.12%	6.46%	9.69%	9.46%	14.19%	11.19%	18.29%
54	4.69%	7.04%	7.51%	11.27%	6.46%	9.69%	9.46%	14.19%	11.40%	18.29%
55	4.77%	7.15%	7.59%	11.38%	6.46%	9.69%	9.46%	14.19%	11.58%	18.29%
56	4.84%	7.26%	7.62%	11.43%	6.46%	9.69%	9.46%	14.19%	11.72%	18.29%
57	4.86%	7.29%	7.62%	11.43%	6.46%	9.69%	9.46%	14.19%	11.82%	18.29%
58	4.87%	7.30%	7.89%	11.84%	6.46%	9.69%	9.46%	14.19%	11.88%	18.29%
59	4.85%	7.28%	8.19%	12.28%	6.46%	9.69%	9.46%	14.19%	11.92%	18.29%
Assumptions:										
Interest:	7.60%		7.60%		7.60%		7.60%		7.60%	
Salary:	3.00%		3.00%		3.00%		3.00%		3.00%	
COLA:	3.00%		2.00%		3.00%		2.00%		2.00%	
Mortality:	For General: Retired Pensioner (RP) 2014 Combined Healthy Table, with 20-year Generational improvement using Projection Scale MP-2015, increased by 12.1% to reflect Plan experience, and blended 30% male and 70% female For Safety: Retired Pensioner (RP) 2014 Combined Healthy Table with blue-collar adjustment, with 20-year Generational improvement using Projection Scale MP-2015, increased by 4.5% to reflect Plan experience, and blended 75% male and 25% female									



Classic Values, Innovative Advice