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# **Tulare County Employees' Retirement Association**

**Report on the Actuarial  
Valuation as of June 30, 2013**

**TULARE COUNTY  
EMPLOYEES' RETIREMENT  
ASSOCIATION**

**REPORT ON THE  
ACTUARIAL VALUATION  
AS OF JUNE 30, 2013**

December 5, 2013

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

Members of the Board:

We are pleased to present our report on the actuarial valuation of the Tulare County Employees' Retirement Association (TCERA) as of June 30, 2013. The actuarial valuation is based on unaudited financial information and member data provided by TCERA and summarized in this report.

All costs, liabilities and other factors under the plan were determined in accordance with generally accepted actuarial principles and procedures, using an actuarial cost method which we believe are reasonable. This report fully and fairly discloses the actuarial position of the plan.

In our opinion, the actuarial assumptions used are reasonable, taking into account the experience of the plan and reasonable expectations, and represent our best estimate of the anticipated experience under the plan. A summary of the actuarial assumptions and methods used in this actuarial valuation are shown in Section 8.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. Because of limited scope, Buck performed no analysis of the potential range of such future differences.

I am an Enrolled Actuary and a Member of the American Academy of Actuaries. I meet the qualification standards of the American Academy of Actuaries to render the actuarial opinions contained in this report. This report has been prepared in accordance with all applicable Actuarial Standards of Practice.

We look forward to discussing this report with the Board and wish to express our appreciation for the invaluable cooperation extended to us by the Retirement Staff during the course of this study.

Respectfully submitted,



Charlie Chittenden, FSA, EA, MAAA  
Principal and Consulting Actuary

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## Section 1: Executive Summary

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The table below summarizes the principal results from the current and the prior valuations.

<b>Item</b>	<b>Actuarial Valuation as of</b>		<b>Change Between Years</b>	
	<b><u>June 30, 2012</u></b>	<b><u>June 30, 2013</u></b>	<b><u>Amount</u></b>	<b><u>Percent</u></b>
<b>Contribution Summary*</b>				
Average Employer Contribution Rate	13.25%	14.09%	0.84%	6.3%
Estimated Employer Contributions	\$29,499,000	\$32,542,000	\$3,043,000	10.3%
Average Member Contribution Rate	8.13%	8.50%	0.38%	4.7%
Estimated Member Contributions	\$18,053,000	\$19,665,000	\$1,612,000	8.9%
<b>Value of Assets</b>				
Market Value of Assets	\$971,490,447	\$1,064,854,594	\$93,364,147	9.6%
Rate of Return for Last 12 Months	-1.30%	11.09%	12.39%	-955.9%
Market Value of Assets Excluding Reserves	\$826,557,190	\$953,753,874	\$127,196,684	15.4%
Actuarial Value of Assets	\$981,945,613	\$1,048,159,873	\$66,214,260	6.7%
Rate of Return for Last 12 Months	3.05%	4.58%	1.53%	50.3%
<b>GASB No. 25 Funded Status</b>				
Actuarial Accrued Liability	\$1,101,456,271	\$1,186,057,453	\$84,601,182	7.7%
Unfunded Actuarial Accrued Liability/(Surplus)	\$119,510,658	\$137,897,580	\$18,386,922	15.4%
Funded Ratio	89.1%	88.4%	-0.70%	-0.8%
<b>Summary of Data</b>				
Active Participants	4,291	4,383	92	2.1%
Participants with Deferred Benefits	1,742	1,858	116	6.7%
Retired Participants and Beneficiaries	<u>2,424</u>	<u>2,542</u>	<u>118</u>	4.9%
<b>Total</b>	8,457	8,783	326	3.9%
<b>Retired Participant Statistics</b>				
Total Annual Allowance	\$48,974,812	\$53,237,266	\$4,262,454	8.7%
Average Annual Allowance	\$20,204	\$20,943	\$739	3.7%
<b>Active Participant Statistics</b>				
Total Annual Compensation	\$222,634,628	\$230,954,756	\$8,320,128	3.7%
Average Annual Compensation	\$51,884	\$52,693	\$809	1.6%
Average Age	43.15	42.69	-0.46	-1.1%
Average Service	9.61	9.53	-0.08	-0.9%
<b>Key Assumptions</b>				
Nominal Interest rate, compounded semi-annually	7.75%	7.75%	0.00%	0.0%
Inflation	4.00%	4.00%	0.00%	0.0%

\* Weighted by June 30th payroll.

## **Section 1: Executive Summary**

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### **Purpose**

Buck Consultants has prepared this report to present the results of the June 30, 2013 actuarial valuation of the Tulare County Employees' Retirement Association (TCERA). The main purposes of the report are to:

1. Review the experience of TCERA over the past year and identify reasons for changes in costs;
2. Recommend economic assumptions to be used in computing TCERA liabilities and costs;
3. Calculate the annual contribution required to fund TCERA in accordance with actuarial principles;
4. Project any emerging trends in TCERA costs;
5. Present items required for disclosure under Statement No. 25 of the Governmental Accounting Standards Board (GASB).

### **Significant Changes Since Last Year**

Employees who are hired on January 1, 2013 or later will have benefits according to the schedules in the California Assembly Bill 340 (AB 340). In addition, the Contingent Reserve is no longer excluded from Plan assets.

### **Contribution Rates**

During the year, the return on the actuarial value of assets was 4.58%, 3.32% less than the effective actuarial assumption of 7.90%. There was also a loss on the actuarial liability in fiscal 2013. The net result is an increase in the recommended County contribution rate from 13.25% as of June 30, 2012, to 14.09% as of June 30, 2013.

The contribution rates reflect the economic and non-economic assumptions recommended in the June 30, 2011, Experience Study.

### **Asset Returns**

During the twelve months ended June 30, 2013, TCERA assets had an investment return of 11.09% on a market value basis and an investment return of 4.58% on an actuarial value basis, compared to the actuarial assumption of 7.90%.

## **Section 1: Executive Summary**

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### **Funding Ratio - GASB 25**

The Governmental Accounting Standards Board Statement No. 25 (GASB 25) requires that the funding progress be shown based on the same funding method which was used to develop the system's contribution requirements, the Entry Age Normal Cost funding method. The funding ratio decreased from 89.1% on June 30, 2012, to 88.4% on June 30, 2013.

### **Noneconomic Assumptions**

A triennial experience study of the members of TCERA was performed two years ago. We analyzed the plan experience during the three-year period from July 1, 2008, through June 30, 2011, regarding service retirements, deaths, disabilities and terminations of employment, and compared the number of actual terminations to the incidence expected using the prior actuarial assumptions. Where the results differed materially, we recommended modifying the assumptions. We anticipate that we will use these new actuarial assumptions until the next experience analysis, which is due to be performed at the time of the June 30, 2014, actuarial valuation.

We have reflected both age and service in determining eligibility for applying the decrements.

### **Economic Assumptions**

To ensure that the same inflationary expectations are consistently included in all of the economic assumptions, we have used a building block approach in developing these assumptions. That is, we assumed that the investment return earned over the long-term comprises inflation and the real rate of return. In addition, we have assumed future salary increases comprise inflation, merit and longevity increases.

### **Inflation Assumption**

We recommend that the current 4.00% long-term level of inflation be continued.

### **Investment Return Assumption**

Based upon future anticipated long-term returns on TCERA's targeted asset mixes, we also recommend that the 3.75% future real rate of return be continued. In combination, these assumptions equate to a 7.75% long-term investment return assumption. Since interest is credited semi-annually, the nominal rate of 3.875% produces an effective annual rate of 7.90%. The board has decided to reduce the effective rate by 0.05% per year, beginning with the July 1, 2014 valuation, until it reaches 7.00%.

## **Section 1: Executive Summary**

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### **Salary Increase Assumption**

We incorporated the same inflation assumption, 4.00%, into the recommended long-term salary increase assumption. The overall effect of the merit and longevity increases is to add approximately 0.35% to 2.30% to the total salary increase assumption. Our assumptions vary by years of service and by division.

### **Actuarial Value of Assets**

The Board has adopted an actuarial value of assets method that recognizes the difference between expected and actual market returns, net of expenses, over a 10-year period. The market value of assets was \$1,064,854,594 including the reserve accounts and the net current actuarial value of assets under this method was \$1,048,159,873, not including the Supplemental Retiree Benefit Reserve. The Contingency Reserve is included in the Actuarial Value of Assets for 2013.

### **Actuarial Balance Sheet**

The actuarial balance sheet compares the present value of all future benefits anticipated to be paid for the current membership with the sources of funds to be used to provide these benefits. It illustrates that if recommended contribution levels made in the future prove out over time, current assets plus future employer and member contributions will be adequate to meet future benefit payments for the current membership.

### **Interest Crediting Policy**

The Retirement Board has adopted an interest crediting policy following the provisions of Section 5.5 of the 1937 Act for Tiers 1, 2, and 3, and following the provisions of Section 5 of the 1937 Act for Tier 4. The target interest rate for reserves is the actuarially assumed rate. Reserves are first credited with the rate of return on the actuarial value of assets each six months, but no more than the actuarial assumption. Next, the portion of any actuarially determined returns in excess of the actuarial assumption attributable to members of Tiers 1, 2, and 3 are split 50-50 between the regular reserves and the Supplemental Retiree Benefits Reserve.



## **Section 2: Assets**

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<b>Assets</b>	The following discussion focuses on the assets of TCERA, which is a key component in the determination of TCERA's funding status.
<b>Financial Exhibits</b>	Exhibit 2.1 presents a statement of net Plan assets at Market Value  Exhibit 2.2 presents a statement of changes in net Plan assets  Exhibit 2.3 presents the derivation of the Actuarial Value of Assets  Exhibit 2.4 presents the derivation of the asset gain and loss for the year  Exhibit 2.5 presents the historical returns on TCERA's assets
<b>Market Value of Assets</b>	Represents the fair market value of assets as of June 30, 2013 as reported by TCERA.
<b>Actuarial Value of Assets</b>	See page 4 for information on the Actuarial Value of Assets.
<b>Valuation Assets</b>	Represents the actuarial value of the fund, less the value of any special reserves that have been set aside for benefits that are to be funded outside the actuarially determined contribution rates. As of the valuation date, there are two special reserves: the Supplemental Retiree Benefits Reserve and the Contingency Reserve.
<b>Asset Returns</b>	See page 2 for information on the Asset Returns.

## Section 2: Assets

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### EXHIBIT 2.1 – STATEMENT OF PLAN NET ASSETS AS OF JUNE 30, 2013

ASSETS	<u>June 30 2013</u> <u>Combined</u>
<b>Current Assets</b>	
<b>Checking/Savings</b>	
1110 · Cash in County Treasury	4,310,089.24
1120 · Cash in Custodial Account	11,202,941.16
1130 · Short Term Investments	38,735,037.81
1140 · Securities Lending Collateral	65,653,502.28
1150 · Impaired Assets	318,153.72
Total Checking/Savings	<u>120,219,724.21</u>
<b>Other Current Assets</b>	
1310 · Fixed Income – Market	296,249,316.35
1340 · Equities – Market	537,329,315.78
1370 · Real Estate – Market	13,586,383.09
1375 – Real Estate – REIT	59,198,317.21
1385 – Hedge Funds	27,877,975.43
1386 – Private Equity	61,033,196.86
1387 – Commodities Fund	48,639,652.64
1390 – Futures Overlay	2,294,035.02
Total Other Current Assets	<u>1,046,208,192.38</u>
<b>Total Current Assets</b>	<b><u>1,166,427,916.59</u></b>
<b>Fixed Assets</b>	
1501 · Building and Improvements	1,175,940.65
1505 · Office Equipment & Computer Sys	198,659.60
1506 · Project in Process CPAS	2,008,917.03
1511 · Allowance for Depreciation	-555,841.94
1512 · Land	370,345.69
<b>Total Fixed Assets</b>	<u>3,198,021.03</u>
<b>Other Assets</b>	
1710 · Open Trades Sales	42,092,263.84
1730 · Investment Income Receivable	2,173,756.61
1735 · Real Estate Income Receivable	171,703.00
1750 · Members Contribution Receivable	739,068.36
1770 · County Contribution Receivable	488,932.01
1780 · Advances Rec- Holding Corp	1,221,230.00
<b>Total Other Assets</b>	<u>46,886,953.82</u>
<b>TOTAL ASSETS</b>	<b><u><u>1,216,512,891.44</u></u></b>

## Section 2: Assets

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### EXHIBIT 2.1 – STATEMENT OF PLAN NET ASSETS AS OF JUNE 30, 2013

#### LIABILITIES & EQUITY

##### Liabilities

##### Current Liabilities

##### Other Current Liabilities

2010 · Sec Lndg Collateral Payable	65,653,502.28
2020 · Open Trades – Purchases	77,722,124.68
2030 · Accounts Payable – Inv	1,279,751.40
2040 · Refunds Payable	1,862,692.06
2050 · Other Payables	128,202.22
2100 · Payroll Liabilities	30,904.24

**Total Other Current Liabilities** 146,677,176.88

**Total Current Liabilities** 146,677,176.88

##### Long Term Liabilities

2060 · Accrual For Benefits At Termination	99,617.54
2070 · Advances Payable – TCERA	1,221,230.00

**Total Long Term Liabilities** 1,320,847.54

**Total Liabilities** 147,998,024.42

##### Equity

3110 · Member Deposit Reserve	238,199,890.35
3120 · Other Reserves – Unapportioned	3,112,391.74
3210 · County Advanced Reserves	425,266,438.14
3310 · Retiree Reserves	350,662,838.70
3320 · Supp. Retiree Benefit Reserve	111,100,720.31
3410 · Contingency Reserve	34,420,709.80
3510 · Market Stabilization	-94,405,999.00
3900 · Retained earnings	-96,761,503.46
Net Income	96,919,380.44

**Total Equity** 1,068,514,867.02

**TOTAL LIABILITIES & EQUITY** 1,216,512,891.44

Assets Received October 7, 2013

## Section 2: Assets

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### EXHIBIT 2.2 – STATEMENT OF CHANGES IN PLAN NET ASSETS

Ordinary Income/Expense	
Income	
4110 · Interest Income (TCERA & TCERA Prop)	8,029,010.98
4120 · Dividend Income	4,610,781.77
4130 · Real Estate Income	3,942,869.41
4140 · Other Investment Income	14,660,099.62
4200 · Lease Payments from TCERA	54,518.04
4310 · Commission Rebates	21,232.58
4410 · Securities Lending Income	77,552.43
4510 · Realized Gains/Losses	35,511,227.54
4610 · Employee Contributions	18,430,299.01
4620 · Employer Contributions	<u>29,847,225.81</u>
Total Income	115,184,817.19
Expense	
5110 · Benefit Payments	58,522,311.59
5120 · Refunds	3,372,719.53
5130 · Death Retiree ROC	21,370.47
5140 · SDA Payments	7,406.40
5210 Investment Management Fees	4,873,131.69
5250 · Inv.Consultant/Custodial Fees	516,511.40
5270 · Securities Lending Expense	-30,012.93
5276 · Real Estate Mgr Fees	823,182.15
5280 · Other Investment Expense	82,935.93
5410 · Actuarial Study Fees	69,319.00
5450 · Compensated Benefit Expense	18,154.15
5500· Administrative Expense	1,510,014.00
5750 · TCERA Property Admin. Expense	33,572.11
5910 · Depreciation of Fixed Assets	<u>148,812.48</u>
Total Expense	<u>69,969,427.97</u>
Net Ordinary Income	49,215,389.22
Other Income	
4520 · Unrealized Gains/Losses	47,701,992.02
5000 · Other Income	<u>1,999.20</u>
Total Other Income	<u>47,703,991.22</u>
Net Income	<u><u>96,919,380.44</u></u>

Assets Received October 7, 2013

## Section 2: Assets

### EXHIBIT 2.3 – ACTUARIAL VALUE OF ASSETS

<u>Six Month Period From</u>	<u>Six Month Period To</u>	<u>Total Actual Market Return (net)</u>	<u>Expected Market Return (net)</u>	<u>Investment Gain (Loss)</u>	<u>Deferred Factor</u>	<u>Deferred Return</u>
7/08	12/08	(206,287,879)	37,876,305	(244,164,185)	0.50	(122,082,092)
1/09	6/09	5,932,310	29,502,818	(23,570,509)	0.55	(12,963,780)
7/09	12/09	111,719,499	29,390,608	82,328,891	0.60	49,397,335
1/10	6/10	(33,675,854)	33,673,605	(67,349,458)	0.65	(43,777,148)
7/10	12/10	130,581,862	32,462,428	98,119,434	0.70	68,683,604
1/11	6/11	49,953,925	37,183,527	12,770,398	0.75	9,577,798
7/11	12/11	(58,996,703)	39,029,015	(98,025,719)	0.80	(78,420,575)
1/12	6/12	46,133,182	36,032,847	10,100,335	0.85	8,585,285
7/12	12/12	61,934,352	38,223,420	23,710,932	0.90	21,339,839
1/13	6/13	45,446,072	39,915,825	5,530,247	0.95	5,253,735
1. Total deferred return						(94,405,999)
2. Market Value of Assets as of June 30, 2013*						1,064,854,594
3. Actuarial Value of Assets including Reserves as of June 30, 2013 (2) – (1)						1,159,260,593
4. Non-valuation reserves and designations:						
Supplemental Retiree Benefit Reserve						111,100,720
Reserve for Interest Fluctuation (Contingency Reserve)						0
Total						111,100,720
5. Final Actuarial Value of Assets excluding Reserves as of June 30, 2013 (3) – (4)						1,048,159,873

\* The market value of assets was last updated September 17, 2013 and does not include changes incorporated into the assets on page 7 of \$1,068,514,867.

## Section 2: Assets

### EXHIBIT 2.4 – ASSET GAIN/LOSS

		<u>Market Value</u>		<u>Actuarial Value<sup>1</sup></u>
Total as of June 30, 2012	\$	971,490,447	\$	981,945,613
Changes During the Year				
Employer Contributions		29,847,226		29,847,226
Member Contributions		18,430,299		18,430,299
Benefit Payments		(58,522,312)		(58,522,312)
Refunds		(3,372,720)		(3,372,720)
Investment Expenses		(6,353,222)		(6,353,222)
Administrative Expenses		(1,543,586)		(1,543,586)
Investment Return		114,878,462		53,307,865
Contingency Reserve				34,420,710
Total assets as of June 30, 2013	\$	1,064,854,594	\$	1,048,159,873
Expected Investment Return	\$	76,209,854	\$	77,035,812
Expected Assets*	\$	1,034,082,794	\$	1,079,784,629
Asset Gain/(Loss)	\$	30,771,800	\$	(31,624,756)
Gross Return	\$	114,878,462	\$	53,307,865
Net of Expenses	\$	106,981,654	\$	45,411,056
Gross of Expenses		11.96%		5.39%
Net of Expenses		11.09%		4.58%
* Includes Contingent Reserve for the Actuarial Values				

<sup>1</sup> Actuarial Value of Assets excludes the Supplemental Retiree Benefit Reserve. The Contingency Reserve is excluded as of June 30, 2012 but is included as of June 30, 2013.

## Section 2: Assets

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### EXHIBIT 2.5 – HISTORICAL RETURNS ON TCERA ASSETS

<b>Year Ended June 30,</b>	<b>Annualized Rate of Return at Market Value</b>	<b>Annualized Rate of Return at Actuarial Value</b>	<b>Increase in Consumer Price Index**</b>
2008	-7.80%	10.12%	5.00%
2009	-20.79%	5.09%	-1.40%
2010	10.29%	3.62%	1.10%
2011	21.83%	3.78%	3.60%
2012	-1.30%	3.05%	2.53%
2013	11.09%	4.58%	2.24%
Compound Average*	1.23%	5.61%	2.16%

\* Since fiscal 2008

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

## Section 3: Liabilities

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<b>Liabilities</b>	This section focuses on TCERA's actuarial liabilities and the cost components that are derived from those liabilities.
<b>Actuarial Value of Assets</b>	Represents the amount of assets already accumulated by TCERA at Actuarial Value (item 1 in Exhibit 3.1).
<b>Present Value of Future Member Contributions</b>	Represents the present value of the contributions anticipated to be received in the future from the current members (item 2 in Exhibit 3.1).
<b>Present Value of Future Employer Normal Cost Contributions</b>	Represents the present value of future employer normal costs with respect to current members (item 3 in Exhibit 3.1).
<b>Unfunded Actuarial Accrued Liability (Surplus)</b>	Represents the difference between the present value of the benefits to be paid from TCERA and the total of the existing assets plus the present value of the future normal costs and future member contributions. In the text we will abbreviate it as UAAL. The UAAL is amortized as a level percentage of payroll over a rolling 15-year period.
<b>Total Actuarial Assets</b>	Represents the total of all current assets at actuarial value plus the value of all future member and employer contributions for normal cost plus current and future employer costs to amortize the UAAL (item 5 in Exhibit 3.1).
<b>Present Value of Benefits</b>	The valuation determines the amount and timing of all future payments that will be made by TCERA. For active members, the present value of benefits includes the value of all benefits earned to date and all benefits to be earned in the future. For all members, the present value of benefits includes the value of benefits payable to members and survivors over their remaining lifetimes. The present value is then determined by discounting these payments at the assumed interest rate to June 30, 2013, the date of the valuation. The present value of supplemental benefits is shown at reserve values (items 6 to 12 in Exhibit 3.1).



## Section 3: Liabilities

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### **Actuarial Accrued Liability**

Employer contributions have been determined under the Entry Age Normal Actuarial Cost Method, permitted by Government Code Section 31453.5. The Entry Age Normal method defines the Normal Cost as the level percentage of salary necessary to fund the projected future benefit over the period from the date of entry to the date of separation from active service. The Actuarial Accrued Liability is the cost allocated to years prior to the actuarial valuation date; it is the excess of the total value of benefits over the value of future member contributions and the value of future employer Normal Costs. The difference between the Actuarial Accrued Liability and the actuarial value of assets is called the Unfunded Actuarial Accrued Liability.

### **Unfunded Actuarial Accrued Liability**

The valuation compares the actuarial value of assets to the Actuarial Accrued Liabilities. The shortfall, if any, is called the Unfunded Actuarial Accrued Liability (UAAL) and is amortized as a level percentage of payroll over a rolling 15-year period.

### **Actuarial Gain and Loss**

The difference between the UAAL and the expected UAAL is an actuarial gain or loss. The actuarial gain and loss comprises two components: a liability gain and loss (from other sources, such as salary growth, turnover and retirement patterns and life expectancies different from expected) and an asset gain or loss (from investment experience different from expected).

### **Funded Ratio**

Measures the portion of the AAL already funded by the current assets at actuarial value.

### **Supplemental Retiree Benefits Reserve (Article 5.5)**

The financial provisions of Article 5.5 of the 1937 Act have been adopted by the County. This Article provides that a specific portion of TCERA's investment earnings be allocated to a Supplemental Retiree Benefits Reserve (SRBR). Amounts allocated to the SRBR are to be used for the benefit of retired members of Tier 1, 2, and 3 and their beneficiaries pursuant to Government Code Section 31618. Tier 4 members are not eligible for SRBR benefits.

**Level One:** \$18.00 per month for each of the first 20

## Section 3: Liabilities

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years of service (some benefit grandfathering applies). Benefit is subject to a vesting schedule of 50% after 10 years of service, uniformly grading up to 100% at 20 years of service.

The \$18.00 multiplier is reduced to \$17.00 as of July 1, 2013, to \$16.00 as of July 1, 2014, to \$15.00 as of July 1, 2015, to \$14.00 as of July 1, 2016, and to \$12.50 as of July 1, 2017.

**Level Two:** 85% Purchasing Power COLA based on COLA accumulation banks.

We have made the following assumptions in our valuation of the Level Two benefits.

- Future increases in the CPI will be sufficient to trigger the automatic COLA guaranteed under the Tier the member is in (that is 3% for Tier 1 and 2% for Tier 2). Liabilities will be greater if future increases are in excess of the guaranteed COLA.
- This higher cost exposure would be offset (fully or partially) by any future excess earnings that are credited to the SRBR. We did not assume any offset of the purchasing power by benefits received under Level One.

**Level Three:** 60% survivor benefit for retirees who marry after retirement, have been married for at least two years at time of death to a spouse, at least age 55 at time of retiree's death and if the member elected the Unmodified Allowance retirement option.

## Section 3: Liabilities

### EXHIBIT 3.1 – ACTUARIAL BALANCE SHEET

<b><u>ASSETS</u></b>	
1. Actuarial value of assets (including special reserves)	\$ 1,159,260,593
2. Present value of future contributions by members	189,521,677
3. Present value of future employer contributions for normal cost	196,774,700
4. Present value of other future employer contributions (UAAL)	137,897,580
5. Total actuarial assets	\$ 1,683,454,550
<b><u>LIABILITIES</u></b>	
6. Present value of retirement allowances payable to retired members and their survivors	\$ 621,125,335
7. Present value of service retirement allowances payable to presently active members and their survivors	747,232,759
8. Present value of allowances payable to current and future vested terminated members and their survivors	88,474,745
9. Present value of disability retirement allowances payable to presently active members and their survivors	79,750,972
10. Present value of death benefits payable on behalf of presently active members	20,397,177
11. Present value of members' contributions to be returned upon withdrawal	15,372,842
12. Special Reserves	0
13. SRBR	111,100,720
14. Miscellaneous Liabilities	0
15. Total actuarial liabilities	\$ 1,683,454,550

### EXHIBIT 3.2 – ACTUARIAL ACCRUED LIABILITY

16. Present value of future benefits (items 6 to 11)	\$ 1,572,353,830
17. Present value of future contributions by members and employers (items 2 and 3)	386,296,377
18. Actuarial accrued liability (item 16 minus item 17)	1,186,057,453
19. Actuarial value of assets (excluding special reserves)	1,048,159,873
20. Unfunded actuarial accrued liability (UAAL) (item 18 minus item 19)	\$ 137,897,580
21. Funded ratio	88.4%

## Section 3: Liabilities

### EXHIBIT 3.3 – ACTUARIAL GAIN AND LOSS

1.	Unfunded actuarial accrued liability as of July 1, 2012		\$	119,510,658
2.	Change due to contributions:			
	(a) Normal cost	\$	37,421,033	
	(b) Interest on (a)		1,478,131	
	(c) Interest on (1)		9,441,342	
	(d) Contributions (member and employer)		(48,277,525)	
	(e) Interest on (d)		<u>(1,906,962)</u>	
	(f) Net change: (a)+(b)+(c)+(d)+(e)		\$	(1,843,981)
3.	Expected unfunded actuarial accrued liability: (1)+(2)		\$	117,666,677
4.	Change due to actuarial (gain)/loss from asset sources		\$	31,624,759
5.	Liability (gain)/loss		\$	23,026,858
6.	Change regarding Contingency Reserve		\$	<u>(34,420,710)</u>
7.	Unfunded actuarial accrued liability as of June 30, 2013: (3)+(4)+(5)+(6)		\$	137,897,580

### EXHIBIT 3.4 – SUPPLEMENTAL RETIREE BENEFITS RESERVE

We show below the June 30, 2013, present value of the supplemental retiree benefits payable on behalf of all currently retired members and future retired members from the current active and inactive membership.

Present Value of Benefits For		June 30, 2013
<b>Level One</b>		
1.	Current Retirees	\$ 48,133,155
2.	Inactive Members	3,232,803
3.	Active members	<u>41,759,325</u>
4.	Subtotal	\$ 93,125,283
<b>Level Two</b>		
5.	Supplemental COLA for those who have lost at least 15% of Purchasing Power	\$ 1,867,207
<b>Level Three</b>		
6.	Supplemental Spousal Death Benefit	\$ 642,415
7.	Total SRBR Combined Liability: (4)+(5)+(6)	\$ 95,634,905
8.	Supplemental Retiree Benefits Reserve (SRBR)	\$ 111,100,720
9.	Net Reserve: (8)-(7)	\$ 15,465,815

The change for Level One benefits reduced the liability by \$36,394,554 effective July 1, 2013.

## Section 4: Member Contribution Rates

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A summary of the current and recommended average employee contribution rates is provided below.

### Member Contributions

This section focuses on the determination of the member contribution rates to TCERA.

### Member Basic Contributions

Government Code Sections 31621.5 (Tier 1) and 31621.2 (Tiers 2 and 3) set forth the basis for the determination of the normal rates of contribution for General members. Government Code Section 31639.5 (Tier 1) and 31639.25 (Tier 2 and Tier 3) set forth the basis for the normal rates of contribution for Safety members. AB340 requires new members (Tier 4) to pay at least 50% of the normal cost.

The law further provides that the contribution rates of members will be based on the age nearest birthday at the time of entrance into TCERA. Section 31453 states that no adjustment will be included in the rates of contribution for time prior to the effective date of any revisions.

Member Basic Contributions are based on entry age into TCERA and the following actuarial assumptions:

1. Actuarial investment return (7.90%)
2. Salary increase (see Section 8)
3. Life expectancy

The basic employee contribution rates for General members were calculated on a unisex basis using the RP-2000 Generational Mortality Table (weighted 30% male and 70% female), with no collar or age adjustment. The Safety basic employee rates were based upon the RP-2000 Generational Mortality Table (weighted 75% male and 25% female), with adjustment for blue-collar workers.

### Cost-of-Living Contributions

The employee portion of the cost-of-living provision is expressed as a percentage of the employees' contribution rates ignoring the cost-of-living provision. The percentage are:

	<u>Tier 1</u>	<u>Tiers 2 &amp; 3</u>	<u>Tier 4</u>
<b>2012 Actual</b>	56.06%	19.15%	N/A
<b>2013 Recommended</b>	56.00%	20.04%	16.68%

## Section 4: Member Contribution Rates

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A summary of the current and recommended average employee contribution rates is provided below:

2012 Actual	Average Member Basic and Cost of Living Contribution Rates			
	General		Safety	
	<u>Tier 1</u>	<u>Tier 2 &amp; 3</u>	<u>Tier 1</u>	<u>Tier 2 &amp; 3</u>
Recommended Rates	4.65%	7.64%	6.52%	9.86%

2013 Recommended	Average Member Basic and Cost of Living Contribution Rates					
	General			Safety		
	<u>Tier 1</u>	<u>Tier 2 &amp; 3</u>	<u>Tier 4</u>	<u>Tier 1</u>	<u>Tier 2 &amp; 3</u>	<u>Tier 4</u>
Recommended Rates	4.82%	8.05%	5.70%	6.74%	10.43%	10.70%

## Section 4: Member Contribution Rates

Recommended employee rates at sample ages are shown below.

### RECOMMENDED MEMBER CONTRIBUTION RATES

<b>Sample General Member Contribution Rates*</b> <b>Benefits Under Section 31676.12</b>						
	<b>Basic</b>	<b>With 3% Automatic Cost of Living Increases</b>	<b>Basic</b>	<b>With 2% Automatic Cost of Living Increases</b>	<b>Basic</b>	<b>With 2% Automatic Cost of Living Increases</b>
<b>Entry</b>	<b><u>Tier 1</u></b>	<b><u>Tier 1</u></b>	<b><u>Tier 2 &amp; 3</u></b>	<b><u>Tier 2 &amp; 3</u></b>	<b><u>Tier 4</u></b>	<b><u>Tier 4</u></b>
<b>Age</b>						
25	2.94%	4.59%	5.64%	6.77%	N/A	4.10%
35	3.63%	5.66%	6.95%	8.34%	N/A	6.19%
45	4.46%	6.96%	8.45%	10.14%	N/A	8.31%

\*These are the full rates payable by the member. Contribution rates for the first \$161.54 of bi-weekly salary are one-third lower for Tier 1, 2, and 3 members covered by Social Security.

<b>Sample Safety Member Contribution Rates*</b>						
	<b>Basic</b>	<b>With 3% Automatic Cost of Living Increases</b>	<b>Basic</b>	<b>With 2% Automatic Cost of Living Increases</b>	<b>Basic</b>	<b>With 2% Automatic Cost of Living Increases</b>
<b>Entry</b>	<b><u>Tier 1</u></b>	<b><u>Tier 1</u></b>	<b><u>Tier 2 &amp; 3</u></b>	<b><u>Tier 2 &amp; 3</u></b>	<b><u>Tier 4</u></b>	<b><u>Tier 4</u></b>
<b>Age</b>						
25	4.30%	6.71%	8.24%	9.89%	N/A	8.71%
35	5.00%	7.80%	9.46%	11.36%	N/A	12.09%
45	5.49%	8.57%	10.37%	12.45%	N/A	13.22%

\*These are the full rates payable by the member. Contribution rates for the first \$161.54 of bi-weekly salary are one-third lower for Tier 1, 2, and 3 members covered by Social Security.

The following pages set forth the complete set of members' contribution rates with and without the automatic cost of living benefit. The interest rate, mortality table, inflation rate and cost of living benefit are indicated on the bottom of the table.

## Section 4: Member Contribution Rates

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### GENERAL TIER 1 MEMBERS' RECOMMENDED CONTRIBUTION RATES (expressed as a percentage of bi-weekly compensation) Benefits Under Section 31676.12

Entry Age	Total		Entry Age	Total	
	First \$161.54	Over \$161.54		First \$161.54	Over \$161.54
16	2.53%	3.79%	38	4.01%	6.02%
17	2.59%	3.88%	39	4.10%	6.16%
18	2.64%	3.96%	40	4.20%	6.29%
19	2.70%	4.04%	41	4.29%	6.43%
20	2.76%	4.13%	42	4.38%	6.58%
21	2.82%	4.23%	43	4.48%	6.72%
22	2.87%	4.31%	44	4.59%	6.88%
23	2.93%	4.40%	45	4.63%	6.96%
24	3.00%	4.49%	46	4.70%	7.04%
25	3.06%	4.59%	47	4.74%	7.11%
26	3.12%	4.68%	48	4.79%	7.19%
27	3.20%	4.79%	49	4.85%	7.27%
28	3.26%	4.88%	50	4.90%	7.35%
29	3.32%	4.99%	51	4.94%	7.43%
30	3.40%	5.10%	52	5.01%	7.50%
31	3.46%	5.19%	53	5.05%	7.58%
32	3.54%	5.30%	54	5.12%	7.67%
33	3.62%	5.43%	55	5.16%	7.75%
34	3.70%	5.54%	56	5.23%	7.83%
35	3.77%	5.66%	57	5.27%	7.91%
36	3.85%	5.77%	58	5.32%	7.99%
37	3.93%	5.90%	59	5.38%	8.07%

The employee portion of the cost-of-living provision is 56.00% of the employee's normal contribution rate.

Interest:	7.90%
Inflation:	4.00%
COLA:	3.00%
Mortality:	RP 2000 Generational Mortality, with no collar adjustment or age adjustment (weighted 30% male and 70% female)



## Section 4: Member Contribution Rates

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### GENERAL TIER 2 AND TIER 3 MEMBERS' RECOMMENDED CONTRIBUTION RATES (expressed as a percentage of bi-weekly compensation) Benefits Under Section 31676.12

Entry Age	Total		Entry Age	Total	
	First \$161.54	Over \$161.54		First \$161.54	Over \$161.54
16	3.73%	5.61%	38	5.93%	8.89%
17	3.82%	5.73%	39	6.06%	9.09%
18	3.90%	5.85%	40	6.19%	9.29%
19	3.99%	5.98%	41	6.33%	9.50%
20	4.07%	6.10%	42	6.47%	9.71%
21	4.15%	6.23%	43	6.59%	9.89%
22	4.24%	6.36%	44	6.69%	10.04%
23	4.33%	6.49%	45	6.76%	10.14%
24	4.43%	6.64%	46	6.84%	10.26%
25	4.51%	6.77%	47	6.91%	10.37%
26	4.61%	6.91%	48	6.99%	10.48%
27	4.71%	7.06%	49	7.07%	10.60%
28	4.81%	7.21%	50	7.14%	10.71%
29	4.91%	7.36%	51	7.21%	10.83%
30	5.01%	7.51%	52	7.29%	10.94%
31	5.11%	7.67%	53	7.37%	11.06%
32	5.22%	7.84%	54	7.45%	11.18%
33	5.34%	8.01%	55	7.53%	11.28%
34	5.45%	8.17%	56	7.60%	11.40%
35	5.56%	8.34%	57	7.67%	11.51%
36	5.68%	8.52%	58	7.96%	11.94%
37	5.80%	8.70%	59+	8.27%	12.41%

The employee portion of the cost-of-living provision is 20.04% of the employee's normal contribution rate.

Interest:	7.90%
Inflation:	4.00%
COLA:	2.00%
Mortality:	RP 2000 Generational Mortality, with no collar adjustment or age adjustment (weighted 30% male and 70% female)

## Section 4: Member Contribution Rates

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### SAFETY TIER 1 MEMBERS' RECOMMENDED CONTRIBUTION RATES (expressed as a percentage of bi-weekly compensation) Benefits Under Section 31664

Entry Age	Total		Entry Age	Total	
	First \$161.54	Over \$161.54		First \$161.54	Over \$161.54
20	4.00%	6.00%	35	5.21%	7.80%
21	4.09%	6.13%	36	5.26%	7.88%
22	4.18%	6.27%	37	5.30%	7.96%
23	4.27%	6.41%	38	5.35%	8.03%
24	4.37%	6.55%	39	5.40%	8.11%
25	4.46%	6.71%	40	5.46%	8.19%
26	4.57%	6.86%	41	5.51%	8.27%
27	4.68%	7.02%	42	5.56%	8.34%
28	4.79%	7.19%	43	5.61%	8.42%
29	4.91%	7.36%	44	5.66%	8.50%
30	4.96%	7.44%	45	5.71%	8.57%
31	5.01%	7.51%	46	5.77%	8.64%
32	5.05%	7.58%	47	5.82%	8.72%
33	5.10%	7.66%	48	5.86%	8.80%
34	5.15%	7.74%	49+	5.91%	8.86%

The employee portion of the cost-of-living provision is 56.00% of the employee's normal contribution rate.

Interest:	7.90%
Inflation:	4.00%
COLA:	3.00%
Mortality:	RP 2000 Generational Mortality Table, with blue collar adjustment (weighted 75% male and 25% female)

## Section 4: Member Contribution Rates

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### SAFETY TIER 2 AND TIER 3 MEMBERS' RECOMMENDED CONTRIBUTION RATES (expressed as a percentage of bi-weekly compensation) Benefits Under Section 31664

Entry Age	Total		Entry Age	Total	
	First \$161.54	Over \$161.54		First \$161.54	Over \$161.54
20	5.89%	8.85%	35	7.56%	11.36%
21	6.03%	9.04%	36	7.64%	11.46%
22	6.16%	9.24%	37	7.71%	11.57%
23	6.30%	9.45%	38	7.78%	11.68%
24	6.45%	9.66%	39	7.86%	11.79%
25	6.59%	9.89%	40	7.93%	11.90%
26	6.75%	10.12%	41	8.01%	12.00%
27	6.90%	10.36%	42	8.08%	12.12%
28	7.03%	10.55%	43	8.15%	12.23%
29	7.14%	10.71%	44	8.22%	12.34%
30	7.20%	10.81%	45	8.30%	12.45%
31	7.28%	10.91%	46	8.37%	12.56%
32	7.35%	11.02%	47	8.44%	12.65%
33	7.42%	11.13%	48	8.75%	13.13%
34	7.49%	11.25%	49+	9.09%	13.64%

The employee portion of the cost-of-living provision is 20.04% of the employee's normal contribution rate.

Interest:	7.90%
Inflation:	4.00%
COLA:	2.00%
Mortality:	RP 2000 Generational Mortality Table, with blue collar adjustment (weighted 75% male and 25% female)

## Section 4: Member Contribution Rates

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### TIER 4 MEMBERS' RECOMMENDED CONTRIBUTION RATES Benefits Under Section AB340

Entry Age	General	Safety	Entry Age	General	Safety
20	2.98%	6.81%	40	7.33%	12.80%
21	3.20%	7.21%	41	7.56%	12.92%
22	3.41%	7.58%	42	7.76%	13.04%
23	3.64%	7.95%	43	7.95%	13.14%
24	3.87%	8.33%	44	8.14%	13.22%
25	4.10%	8.71%	45	8.31%	13.22%
26	4.32%	9.08%	46	8.47%	13.22%
27	4.55%	9.45%	47	8.61%	13.22%
28	4.77%	9.82%	48	8.74%	13.22%
29	4.99%	10.19%	49	8.85%	13.22%
30	5.21%	10.55%	50	8.95%	13.22%
31	5.40%	10.94%	51	9.05%	13.22%
32	5.58%	11.26%	52	9.13%	13.22%
33	5.78%	11.57%	53	9.18%	13.22%
34	5.99%	11.84%	54	9.21%	13.22%
35	6.19%	12.09%	55	9.24%	13.22%
36	6.39%	12.27%	56	9.24%	13.22%
37	6.59%	12.44%	57	9.24%	13.22%
38	6.87%	12.58%	58	9.24%	13.22%
39	7.11%	12.70%	59	9.24%	13.22%

The employee portion of the cost-of-living provision has been determined on an individual basis and is included in these rates.

Interest: 7.90%

Inflation: 4.00%

COLA: 2.00%

Mortality: RP 2000 Generational Mortality, with no collar adjustment or age adjustment (weighted 30% male and 70% female) for General

RP 2000 Generational Mortality Table, with blue collar adjustment (weighted 75% male and 25% female) for Safety

## Section 5: Employer Contribution Rates

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### Employer Contributions

This section focuses on the determination of the employer contribution rates to TCERA.

### Employer Contribution rates

Employer contributions have been determined under the Entry Age Normal Actuarial Cost Method, permitted by Government Code Section 31453.5. The Entry Age Normal method defines the Normal Cost as the level percentage of salary necessary to fund the projected future benefit over the period from the date of entry to the date of separation from active service. The Actuarial Accrued Liability is the cost allocated to years prior to the actuarial valuation date; it is the excess of the total value of benefits over the value of future member contributions and the value of future Normal Costs. The difference between the Actuarial Accrued Liability and the plan assets is called the Unfunded Actuarial Accrued Liability and is funded (amortized) as a level percentage of payroll over a rolling 15-year period.

The contribution rates reflect the current economic and noneconomic assumptions. During the year, the return on the actuarial value of assets was 4.58%, 3.32% less than the actuarial assumption of 7.90%., offset by a loss in actuarial liability which resulted in an overall increase in the recommended County contribution rate from 13.25% as of June 30, 2012, to 14.09% as of June 30, 2013.

The average employer contribution rate increased from 13.25% as of June 30, 2012, to 14.09% as of June 30, 2013, for the following reasons:

<b>June 30, 2012, Recommended Employer Rate</b>	<b>13.25%</b>
Changes during the year due to:	
Asset (gain)/loss	1.19%
Change in actuarial liability	.94%
Inclusion of Contingency Reserve	-1.29%
<b>Total changes</b>	<b>.84%</b>
<b>June 30, 2013, Recommended Employer Rate</b>	<b>14.09%</b>

The following charts specify the recommended employer contributions and components thereof (expressed as a level percentage of payroll) for this valuation. A breakdown between normal cost and UAAL is provided.

## Section 5: Employer Contribution Rates

### NORMAL COST AND UAAL RATE BREAKDOWN (% OF PAYROLL)

2012	Current and Recommended Contribution Rate Breakdown					
	Tier 1 Members		Tier 2 & 3 Members		All Members	
	<u>Current</u>	<u>Recommended*</u>	<u>Current</u>	<u>Recommended*</u>	<u>Current</u>	<u>Recommended*</u>
<b>General</b>						
Normal Cost	10.86%	10.25%	7.21%	7.33%	7.32%	7.40%
UAAL Amortization	<u>3.28%</u>	<u>3.81%</u>	<u>3.28%</u>	<u>3.81%</u>	<u>3.28%</u>	<u>3.81%</u>
Total Cost	14.14%	14.06%	10.49%	11.14%	10.60%	11.21%
<b>Safety</b>						
Normal Cost	15.0%	13.92%	12.27%	12.30%	12.32%	12.32%
UAAL Amortization	<u>6.53%</u>	<u>7.35%</u>	<u>6.53%</u>	<u>7.35%</u>	<u>6.53%</u>	<u>7.35%</u>
Total Cost	21.6%	21.27%	18.80%	19.65%	18.85%	19.67%
*Weighted by June 30, 2012 payroll.						
Average Rate for Total Group:					Current	12.55%
					Recommended	13.25%

2013	Current and Recommended Contribution Rate Breakdown							
	Tier 1 Members		Tier 2 & 3 Members		Tier 4 Members		All Members	
	<u>Current</u>	<u>Recommended*</u>	<u>Current</u>	<u>Recommended*</u>	<u>Current</u>	<u>Recommended*</u>	<u>Current</u>	<u>Recommended*</u>
<b>General</b>								
Normal Cost	10.25%	11.00%	7.33%	7.75%	N/A	5.53%	7.40%	7.71%
UAAL Amortization	<u>3.81%</u>	<u>4.48%</u>	<u>3.81%</u>	<u>4.48%</u>	N/A	<u>4.48%</u>	<u>3.81%</u>	<u>4.48%</u>
Total Cost	14.06%	15.48%	11.14%	12.23%	N/A	10.01%	11.21%	12.19%
<b>Safety</b>								
Normal Cost	13.92%	5.45%	12.30%	12.89%	N/A	6.99%	12.32%	12.69%
UAAL Amortization	<u>7.35%</u>	<u>7.40%</u>	<u>7.35%</u>	<u>7.40%</u>	N/A	<u>7.40%</u>	<u>7.35%</u>	<u>7.40%</u>
Total Cost	21.27%	12.85%	19.65%	20.29%	N/A	14.39%	19.67%	20.09%
*Weighted by June 30, 2013 payroll.								
Average Rate for Total Group:						Current	<b>13.25%</b>	
						Recommended	<b>14.09%</b>	

## Section 5: Employer Contribution Rates

### NORMAL COST AND UAAL RATE BREAKDOWN (BY \$ AMOUNT)

	Current and Recommended Contribution Breakdown *					
	Tier 1 Members		Tier 2 & 3 Members		All Members	
	<u>Current</u>	<u>Recommended</u>	<u>Current</u>	<u>Recommended</u>	<u>Current</u>	<u>Recommended</u>
<b>General</b>						
Normal Cost	462,000	436,000	11,880,000	12,078,000	12,342,000	12,514,000
UAAL Amortization	139,000	162,000	5,404,000	6,278,000	5,543,000	6,440,000
Total Cost	601,000	598,000	17,285,000	18,356,000	17,886,000	18,954,000
<b>Safety</b>						
Normal Cost	92,000	85,000	6,503,000	6,519,000	6,595,000	6,604,000
UAAL Amortization	40,000	45,000	3,461,000	3,896,000	3,501,000	3,941,000
Total Cost	132,000	130,000	9,964,000	10,415,000	10,096,000	10,545,000
*Weighted by June 30, 2012 payroll.						
Total Contribution for Total Group:					Current	27,982,000
					Recommended	29,499,000

	Current and Recommended Contribution Breakdown *							
	Tier 1 Members		Tier 2 & 3 Members		Tier 4 Members		All Members	
	<u>Current</u>	<u>Recommended</u>	<u>Current</u>	<u>Recommended</u>	<u>Current</u>	<u>Recommended</u>	<u>Current</u>	<u>Recommended</u>
<b>General</b>								
Normal Cost	317,000	340,000	12,061,000	12,752,000	0	429,000	12,378,000	13,521,000
UAAL Amortization	118,000	139,000	6,269,000	7,372,000	0	347,000	6,387,000	7,858,000
Total Cost	435,000	479,000	18,331,000	20,124,000	0	776,000	18,766,000	21,379,000
<b>Safety</b>								
Normal Cost	53,000	21,000	6,613,000	6,930,000	0	100,000	6,666,000	7,051,000
UAAL Amortization	28,000	28,000	3,952,000	3,979,000	0	106,000	3,980,000	4,112,000
Total Cost	80,000	49,000	10,564,000	10,909,000	0	206,000	10,644,000	11,163,000
*Weighted by June 30, 2013 payroll.								
Total Contribution for Total Group:					Current	29,410,000		
					Recommended	32,542,000		

## Section 5: Employer Contribution Rates

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**Tulare County Employees' Retirement Association**  
**Recommended Employer Contribution Rates from the June 30, 2013 Actuarial Valuation**  
**Rates to be Effective July 1, 2014**

<b>General – Includes 31676.12 Benefits</b>	<b>Tier 1</b>	<b>Tiers 2 &amp; 3</b>	<b>Tier 4</b>	<b>Total</b>
<b>Aggregate Normal Cost Rate</b>	11.00%	7.75%	5.53%	7.71%
Rate on first \$161.54 of Biweekly Compensation	7.50%	5.31%		
Rate on Biweekly Compensation in excess of first \$161.54	11.25%	7.97%		
<b>Aggregate UAAL Rate</b>	4.48%	4.48%	4.48%	4.48%
Rate on first \$161.54 of Biweekly Compensation	3.06%	3.07%		
Rate on Biweekly Compensation in excess of first \$161.54	4.58%	4.61%		
<b>Total Rate</b>	15.48%	12.23%	10.01%	12.19%
Rate on first \$161.54 of Biweekly Compensation	10.56%	8.38%		
Rate on Biweekly Compensation in excess of first \$161.54	15.83%	12.58%		

<b>Safety</b>	<b>Tier 1</b>	<b>Tiers 2 &amp; 3</b>	<b>Tier 4</b>	<b>Total</b>
<b>Aggregate Normal Cost Rate</b>	5.45%	12.89%	6.99%	12.69%
Rate on first \$161.54 of Biweekly Compensation	3.69%	8.79%		
Rate on Biweekly Compensation in excess of first \$161.54	5.53%	13.18%		
<b>Aggregate UAAL Rate</b>	7.40%	7.40%	7.40%	7.43%
Rate on first \$161.54 of Biweekly Compensation	5.01%	5.04%		
Rate on Biweekly Compensation in excess of first \$161.54	7.51%	7.57%		
<b>Total Rate</b>	12.85%	20.29%	14.39%	20.12%
Rate on first \$161.54 of Biweekly Compensation	8.70%	13.83%		
Rate on Biweekly Compensation in excess of first \$161.54	13.04%	20.75%		



## Section 5: Employer Contribution Rates

**Tulare County Employees' Retirement Association**  
**Recommended Employer Contribution Rates from the June 30, 2013 Actuarial Valuation**  
**Rates to be Effective July 1, 2014**

<b>General and Safety - Includes 31676.12 Benefits</b>	<b>Tier 1</b>	<b>Tiers 2 &amp; 3</b>	<b>Tier 4</b>	<b>Total</b>
<b>Aggregate Normal Cost Rate</b>	10.40%	9.02%	5.76%	8.91%
Rate on first \$161.54 of Biweekly Compensation	7.22%	6.03%		
Rate on Biweekly Compensation in excess of first \$161.54	10.61%	9.27%		
<b>Aggregate UAAL Rate</b>	5.29%	5.20%	4.93%	5.19%
Rate on first \$161.54 of Biweekly Compensation	3.20%	3.48%		
Rate on Biweekly Compensation in excess of first \$161.54	4.91%	5.35%		
<b>Aggregate Rate</b>	15.69%	14.22%	10.69%	14.09%
Rate on first \$161.54 of Biweekly Compensation	10.42%	9.51%		
Rate on Biweekly Compensation in excess of first \$161.54	15.52%	14.09%		

<b>General and Safety - Includes 31676.12 Benefits</b>	<b>Tier 1</b>	<b>Tiers 2 &amp; 3</b>	<b>Tier 4</b>	<b>Total</b>
<b>Aggregate Normal Cost Dollars</b>	360,496	19,685,385	528,239	20,574,120
Dollars on first \$161.54 of Biweekly Compensation	16,370	1,028,976		
Dollars on Biweekly Compensation in excess of first \$161.54	344,126	18,656,409		
<b>Aggregate UAAL Dollars</b>	166,366	11,357,743	452,743	11,976,852
Dollars on first \$161.54 of Biweekly Compensation	7,268	593,417		
Dollars on Biweekly Compensation in excess of first \$161.54	159,098	10,764,326		
<b>Aggregate Dollars</b>	526,862	31,043,128	980,982	32,550,972
Dollars on first \$161.54 of Biweekly Compensation	23,638	1,622,393		
Dollars on Biweekly Compensation in excess of first \$161.54	503,224	29,420,735		

**Tulare County Employees' Retirement Association**

## Section 5: Employer Contribution Rates

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### Recommended Employer Contribution Rates from the June 30, 2013 Actuarial Valuation

#### Rates to be Effective July 1, 2014

<b>Strathmore Public Utility – Includes 31676.12 Benefit</b>	<b>Tier 1</b>	<b>Tiers 2 &amp; 3</b>	<b>Tier 4</b>	<b>Total</b>
<b>Aggregate Normal Cost Rate</b>	11.00%	7.75%	5.53%	7.71%
Rate on first \$161.54 of Biweekly Compensation	7.50%	5.31%		
Rate on Biweekly Compensation in excess of first \$161.54	11.25%	7.97%		
<b>Aggregate UAAL Rate</b>	5.40%	5.40%	5.40%	5.40%
Rate on first \$161.54 of Biweekly Compensation	3.65%	3.65%		
Rate on Biweekly Compensation in excess of first \$161.54	5.48%	5.48%		
<b>Total Rate</b>	16.40%	13.15%	10.93%	13.11%
Rate on first \$161.54 of Biweekly Compensation	11.15%	8.96%		
Rate on Biweekly Compensation in excess of first \$161.54	16.73%	13.45%		

## **Section 6: Recommendations**

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### **Recommendations**

We understand that the Board has decided, subject to periodic reviews, that the interest rate used to discount liabilities will be reduced from 7.9% to 7.0% over the following 18 years. We believe that these rates are in a range of reasonable expectations. This valuation ignores future changes in assumptions and uses the 7.9% rate.

We recommend that the Board adopt the member and employer contribution rates as of June 30, 2014, as shown in the prior sections. These rates, which reflect the current economic assumptions, are based on the Entry Age Normal Actuarial Cost Method and the actuarial value of assets, with an Unfunded Actuarial Accrued Liability amortized as a level percentage of payroll over a rolling 15-year period.

This combination of assumptions and methods reflects our best judgment of future long-term experience for TCERA.

## Section 7: GASB Disclosures and CAFR Information

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A Xerox Company

December 5, 2013

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

Members of the Board:

Buck Consultants, LLC is the Consulting Actuary for the Tulare County Employees' Retirement Association (TCERA). The date of the most recent actuarial valuation was June 30, 2013. We perform valuations for TCERA annually, and in performing each valuation, we conduct an examination of all participant data for reasonableness.

Actuarial funding is based on the Entry Age Normal Cost Method. Under this method, the employer contribution rate provides for current cost (normal cost) plus a level percentage of payroll to amortize the unfunded actuarial accrued liability (UAAL). As of June 30, 2013, the remaining amortization period for the UAAL was 15 years. The funding objective of the Plan is to establish contribution rates that, over time, will remain as a level percentage of payroll and will fully fund the liability for each participant by the participant's retirement date.

For actuarial valuation purposes, Plan assets are valued at Actuarial Value. Under this method, the assets used to determine employer contribution rates take into account the expected market value, and spread all gains and losses (returns above or below expected returns) over ten years. TCERA's financial statements are audited by an outside auditor.

Our firm has prepared all of the schedules presented in the actuarial report. TCERA staff members extract, summarize, and reformat our schedules for the Comprehensive Annual Financial Report. The actuarial assumptions shown in the schedules were selected by Buck as being appropriate for use under the Plan and Buck is solely responsible for the trend schedules presented in this report. An analysis of the Plan's noneconomic experience was performed as of June 30, 2011 to establish the validity of these assumptions. The assumptions used this valuation produce results that, in the aggregate, reasonably approximate the anticipated future experience of the Plan. The next experience analysis is due to be performed as of June 30, 2014.

We certify that the valuation was performed in accordance with generally accepted actuarial principles and practices. In particular, the assumptions and methods used for funding purposes meet the parameters of the Governmental Accounting Standards Board Statements No. 25 and 43, to the extent applicable. I am an Enrolled Actuary and a Member of the American Academy of Actuaries. I meet the qualification standards of the American Academy of Actuaries to render the actuarial opinions contained in this report. This report has been prepared in accordance with all applicable Actuarial Standards of Practice.

Respectfully submitted,

A handwritten signature in cursive script that reads "Charlie E. Chittenden".

Charlie Chittenden, FSA, EA, MAAA  
Principal and Consulting Actuary

## **Section 7: GASB Disclosures and CAFR Information**

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<b>GASB and CAFR Information</b>	This section focuses on the required GASB disclosures and the required CAFR information.
<b>GASB 25 Schedule of Funding Progress</b>	GASB 25 established reporting and disclosures for defined benefit pension plans. The required Schedule of Funding Progress shows a historical comparison of TCERA's assets and liabilities, using the same actuarial method used for funding TCERA.
<b>GASB 25 Schedule of Employer Contributions</b>	The required Schedule of Employer Contributions compares the actual employer contributions to the "Annual Required Contributions" (ARC). The ARC is the employer contribution determined under GASB 25 standards (normal cost and amortization of unfunded actuarial accrued liabilities) using the actuarial funding method used for funding TCERA.
<b>Actuarial Analysis of Financial Experience</b>	The annual CAFR requires the disclosure of historical sources of actuarial gains and losses.
<b>Retiree and Beneficiary Experience</b>	The annual CAFR requires the disclosure of historical summary data for retired members.
<b>Solvency Test</b>	The annual CAFR requires the disclosure of a "Solvency Test." This test compares actuarial assets to actuarial accrued liabilities, applying assets to active member contributions first, then to inactive and retired members and then to the remaining active member liabilities.

## Section 7: GASB Disclosures and CAFR Information

**EXHIBIT 7.1 – GASB 25 SCHEDULE OF FUNDING PROGRESS**  
(\$ in Thousands)

<u>Actuarial Valuation Date</u>	<u>Actuarial Value of Assets*</u>	<u>Actuarial Accrued Liability (AAL)</u>	<u>Unfunded AAL (UAAL)</u>	<u>Funded Ratio</u>	<u>Covered Payroll</u>	<u>UAAL as a Percent of Covered Payroll</u>
6/30/01	574,417	491,228	(83,189)	116.9%	142,970	(58.2)%
6/30/02	612,469	561,377	(51,092)	109.1%	158,263	(32.3)%
6/30/03	634,249	608,505	(25,744)	104.2%	162,397	(15.9)%
6/30/04	665,244	649,649	(15,595)	102.4%	158,032	(9.9)%
6/30/05	681,618	714,656	33,038	95.4%	164,777	20.1%
6/30/06	729,899	792,844	62,945	92.1%	186,949	33.7%
6/30/07	800,967	846,030	45,063	94.7%	204,803	22.0%
6/30/08	879,051	946,414	67,363	92.9%	226,836	29.7%
6/30/09	919,179	996,747	77,568	92.2%	227,306	34.1%
6/30/10	946,640	1,033,211	86,570	91.6%	217,811	39.7%
6/30/11	969,681	1,072,144	102,509	90.4%	219,854	46.6%
6/30/12	981,946	1,101,456	119,511	89.1%	222,635	53.7%
6/30/13	1,048,160	1,186,057	137,898	88.4%	230,955	59.7%

\*Amounts prior to 6/30/05 supplied by previous actuaries.

**EXHIBIT 7.2 – GASB 25 SCHEDULE OF EMPLOYER CONTRIBUTIONS**  
(\$ in Thousands)

<u>Year Ended</u>	<u>Annual Required Contribution</u>	<u>Percentage Contributed</u>
6/30/01	18,872	100%
6/30/02	6,186	100%
6/30/03	5,245	100%
6/30/04	9,595	100%
6/30/05	10,502	100%
6/30/06	12,443	100%
6/30/07	17,975	100%
6/30/08	22,692	100%
6/30/09	22,431	100%
6/30/10	25,339	100%
6/30/11	23,434	100%
6/30/12	25,257	100%
6/30/13	29,847	100%

## Section 7: GASB Disclosures and CAFR Information

**EXHIBIT 7.3 - ACTUARIAL ANALYSIS OF FINANCIAL EXPERIENCE**  
(\$ in Thousands)

<u>Plan Year Ending</u>	<u>Actuarial (Gains)/Losses</u>			<u>Changes in Plan Provisions</u>	<u>Changes in Assumptions/Methods</u>	<u>Total (Gain)/Loss</u>
	<u>Asset Sources</u>	<u>Liability Sources</u>	<u>Total</u>			
6/30/2009	178,344	(16,730)	161,614	0	(153,681)	7,933
6/30/2010	39,254	(32,639)	6,615	0	0	6,615
6/30/2011	38,745	(8,771)	29,974	0	(15,647)*	14,327
6/30/2012	46,660	(30,721)	15,939	0	0	15,939
6/30/2013	31,625	23,027	54,652	0	(34,421)	20,231

\* Includes changes due to Audit correction

**EXHIBIT 7.4 - RETIREE AND BENEFICIARY EXPERIENCE**

<u>Plan Year Ending June 30</u>	<u>At Beginning of Year</u>	<u>Added During the Year</u>	<u>Annual Allowances Added to the Rolls</u>	<u>Removed During the Year</u>	<u>Annual Allowances Removed from the Rolls</u>	<u>At End of Year</u>	<u>Retiree Payroll</u>	<u>% Increase in Retiree Payroll</u>	<u>Average Annual Allowances</u>
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

**EXHIBIT 7.5 - SOLVENCY TEST**  
(\$ in Thousands)

<u>Valuation Date</u>	<u>Actuarial Accrued Liabilities For</u>			<u>Actuarial Accrued Liabilities</u>	<u>Valuation Assets</u>	<u>Portion of Accrued Liabilities Covered by Valuation Assets</u>		
	<u>(1) Active Member Contributions</u>	<u>(2) Retirees and Beneficiaries</u>	<u>(3) Active Members</u>			<u>(1)</u>	<u>(2)</u>	<u>(3)</u>
6/30/2009	\$208,638	\$453,205	\$334,904	\$996,747	\$919,179	100%	100%	76.8%
6/30/2010	223,373	506,035	303,803	1,033,211	946,640	100%	100%	71.5%
6/30/2011	228,275	546,553	297,316	1,072,144	969,636	100%	100%	65.5%
6/30/2012	231,491	570,367	299,598	1,101,456	981,946	100%	100%	60.1%
6/30/2013	238,200	621,125	326,732	1,186,057	1,048,160	100%	100%	57.8%

## Section 8: Summary of Actuarial Assumptions

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### Actuarial Assumptions

This section focuses on the actuarial assumptions used to perform the valuation.

### Actuarial Assumptions

To carry out an actuarial valuation of the assets and liabilities of TCERA, the actuary must first adopt assumptions with respect to each of the following items:

#### *Noneconomic assumptions*

- ◆ The probabilities of members separating from active service on account of nonvested and vested withdrawal, retirement for service, death and disability, and
- ◆ The mortality rates to be experienced among retired persons.

#### *Economic assumptions*

- ◆ Interest earnings to be realized on the funds over many years in the future, and
- ◆ The relative increases in a member's salary from the date of the valuation to the date of separation from active service.

### Noneconomic Assumptions

#### Rates of Separation from Active Service

We performed an experience study for the period from July 1, 2008, to June 30, 2011. On the basis of this study we adjusted the probabilities of separation from service. These adjusted probabilities were incorporated in our 2012 valuation. This report reflects the same probabilities of separation.

A complete list of the current rates of separation from active service can be found in Exhibits 8.1 – 8.6. These rates should be viewed in the aggregate rather than examining each of them separately. This is due to the interdependency of the rates. For example, if turnover were to increase, there would be fewer retirements.



## **Section 8: Summary of Actuarial Assumptions**

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### **Economic Assumptions**

#### **Inflation**

In setting the economic assumptions, we take a building block approach. Specifically, we first look at the rate of inflation, which underlies both the total rate of return and the salary scale assumptions. To aid us in determining an appropriate inflation rate for TCERA, we have reviewed long-term historical inflation averages, recent trends, and the assumptions adopted by other public retirement systems. It should be noted that we have placed more emphasis on long-term historical averages and long-term future predictions than on the more recent, short-term trends. This helps to minimize fluctuations, which are more apparent in short term trends.

The rate of inflation is an important assumption used in valuing TCERA's liabilities. This assumption underlies both the investment return assumption and the salary increase assumption. These in turn directly impact the employer and employee contribution rates.

If the pattern of inflation during the last 90-year period is analyzed, it may be extrapolated that the current low rates will not continue into the future indefinitely.

Because of the cyclical nature of inflation and the long-term nature of TCERA's liabilities, we believe that it is appropriate to assume that the average inflation rate to be experienced over the next 30 to 50 years (which is approximately the lifetime of TCERA's present obligations) will be between 3.50% and 4.50%.

Based on the information presented in the economic assumption section of our experience study, we recommend that the current inflation rate assumption remain at 4.00%.

## **Section 8: Summary of Actuarial Assumptions**

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### **Economic Assumptions**

#### **Real Rate of Return**

In an effort to forecast the expected long-term rate of return on the assets, we use a capital market model (Described in Schedule 5 of the Experience Report) in which individual asset class returns are estimated under a wide variety of simulated economic environments based on their underlying relationships to key economic variables, and then rolled up into a forecast of the performance of a portfolio invested in accordance with the target allocation. The model is calibrated to current economic and market conditions, and trends to a state of equilibrium. Over a 20-year period, the 50th percentile rate of return forecast for such a portfolio is approximately 7.9%.

Applying TCERA's target asset allocation to the our model's real rates of return produces a real rate of return of approximately 4.85%. After adjusting for expenses and potential adverse future experience, we believe that a real rate of return of 3.75% provides a reasonable degree of conservatism when used with a 4.00% inflation rate. Thus, we recommend that the 7.75% investment return assumption be continued. In addition, since the reserves are credited semi-annually, the 7.75% rate of investment return is compounded to an effective rate of 7.90%.

The board has decided to reduce the 7.90% effective rate by 5 basis points annually until it becomes 7.0%. This valuation ignores these future assumption changes.

## **Section 8: Summary of Actuarial Assumptions**

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### **Economic Assumptions**

#### **Salary Scale**

The salary scale assumption is developed in a similar manner. The inflation rate is combined with merit and longevity increases to produce a total salary scale assumption.

#### **Merit and Longevity Increases**

The merit and longevity component of the total salary scale assumption reflects increases in members' salaries due to promotions, advances in pay grades, etc. These increases are dependent on an individual's membership and are graded downward as members' age.

The overall effect of the merit and longevity increases is to add approximately 1.80% to the total salary scale assumption.

## Section 8: Summary of Actuarial Assumptions

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The Entry Age Normal Actuarial Cost Method was used in conjunction with the following actuarial assumptions. The UAAL is being funded as a level percentage of payroll over a rolling 15 year period.

1. Interest: 7.90% per annum (7.75% compounded semi-annually). This rate will be reduced each future year by 0.05% until it reaches 7.00%.
2. Interest Credited to Employee Accounts: 7.90% per annum (7.75% compounded semi-annually).
3. Inflation: 4.00% per annum.
4. Asset Valuation: Smoothed actuarial value (over 10 years) beginning with fiscal 2009, with no corridor around market value.
5. Salary Scale: See Exhibit 8.7
6. Spouses and Dependents: 88% of General male, 75% of General female and 95% of Safety male, 80% of Safety female active employees assumed married at retirement, with wives assumed three years younger than husbands.
7. Rates of Termination of Employment: See Exhibits 8.1 – 8.3
8. Years of Life Expectancy After Retirement (Exhibit 8.4):
  - General Males - RP-2000 Generational Mortality Table for Males, with no collar of age adjustment.
  - General Females - RP-2000 Generational Mortality Table for Females, with no collar of age adjustment.
  - Safety - RP-2000 Generational Mortality Table for Males, with blue-collar adjustment, and no setback.

## Section 8: Summary of Actuarial Assumptions

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9. Years of Life Expectancy After Disability Retirement (Exhibits 8.5 and 8.6):
- General Males - RP-2000 Disabled Annuitant Mortality Table for Males, with no setback.
  - General Females - RP-2000 Disabled Annuitant Mortality Table for Females, with no setback.
  - Safety Males - RP-2000 Disabled Annuitant Mortality Table for Males, with a 2-year setback.
  - Safety Females - RP-2000 Disabled Annuitant Mortality Table for Females, with a 2-year setback.
10. Life Expectancy After Retirement for Employee Contribution Rate Purposes
- The basic employee contribution rates for General members were calculated on a unisex basis using the RP-2000 Mortality Table projected to 2021 (weighted 30% male and 70% female), with no collar or age adjustment.
  - The basic employee contribution rates for Safety members were based upon the RP-2000 Mortality Table projected to 2021 (weighted 75% male and 25% female), with adjustment for blue-collar workers.
11. Reciprocity Assumption: 65% of members who terminate with a vested benefit are assumed to enter a reciprocal system.
12. Deferral Age for Vested Terminations: Age 60 for General members; age 53 for Safety members.

## Section 8: Summary of Actuarial Assumptions

### EXHIBIT 8.1 – PROBABILITIES OF SEPARATION FROM ACTIVE SERVICE GENERAL MEMBERS – MALES, RECOMMENDED ASSUMPTIONS

Age	Total Death	Percent Duty	Withdrawal			Ordinary Disability	Duty Disability	Service Retirement		
			svc < 3	svc 3 to 5	svc > 5			Svc < 15	Svc 15 to 20	Svc = 20+
20	0.000345	36.59%	0.15000	0.09000	0.05000	0.00000	0.00000			
21	0.000357	36.59%	0.15000	0.09000	0.05000	0.00000	0.00010			
22	0.000366	36.59%	0.15000	0.09000	0.05000	0.00000	0.00010			
23	0.000373	36.59%	0.15000	0.09000	0.05000	0.00000	0.00010			
24	0.000376	36.59%	0.15000	0.09000	0.05000	0.00000	0.00010			
25	0.000376	42.22%	0.15000	0.09000	0.05000	0.00010	0.00010			
26	0.000378	42.22%	0.15000	0.09000	0.05000	0.00010	0.00010			
27	0.000382	42.22%	0.15000	0.09000	0.05000	0.00010	0.00010			
28	0.000393	42.22%	0.15000	0.09000	0.05000	0.00010	0.00010			
29	0.000412	42.22%	0.15000	0.09000	0.05000	0.00010	0.00010			
30	0.000444	42.22%	0.15000	0.09000	0.04000	0.00020	0.00010			
31	0.000499	45.83%	0.15000	0.09000	0.04000	0.00020	0.00010			
32	0.000562	45.83%	0.15000	0.09000	0.04000	0.00020	0.00010			
33	0.000631	45.83%	0.15000	0.09000	0.04000	0.00020	0.00010			
34	0.000702	45.45%	0.15000	0.09000	0.04000	0.00020	0.00010			
35	0.000773	49.15%	0.15000	0.10000	0.03000	0.00030	0.00010			
36	0.000841	49.15%	0.15000	0.10000	0.03000	0.00030	0.00020			
37	0.000904	48.48%	0.15000	0.10000	0.03000	0.00030	0.00020			
38	0.000964	48.48%	0.15000	0.10000	0.03000	0.00040	0.00020			
39	0.001021	50.72%	0.15000	0.10000	0.03000	0.00040	0.00030			
40	0.001079	48.28%	0.09000	0.10000	0.02000	0.00040	0.00040			
41	0.001142	50.33%	0.09000	0.10000	0.02000	0.00050	0.00050			
42	0.001215	50.33%	0.09000	0.10000	0.02000	0.00050	0.00060			
43	0.001299	50.00%	0.09000	0.10000	0.02000	0.00060	0.00070			
44	0.001397	52.33%	0.09000	0.10000	0.02000	0.00060	0.00080			
45	0.001508	51.61%	0.09000	0.07500	0.01000	0.00080	0.00100			
46	0.001616	53.61%	0.09000	0.07500	0.01000	0.00090	0.00120			
47	0.001734	53.14%	0.09000	0.07500	0.01000	0.00100	0.00140			
48	0.001860	56.11%	0.09000	0.07500	0.01000	0.00110	0.00160			
49	0.001995	56.79%	0.09000	0.07500	0.01000	0.00120	0.00180			
50	0.002138	57.58%	0.09000	0.07500	0.00700	0.00140	0.00200	0.0300	0.0240	0.0330
51	0.002449	57.14%	0.09000	0.07500	0.00700	0.00160	0.00250	0.0300	0.0240	0.0330
52	0.002667	57.81%	0.09000	0.07500	0.00700	0.00180	0.00300	0.0300	0.0240	0.0330
53	0.002916	57.41%	0.09000	0.07500	0.00700	0.00200	0.00350	0.0300	0.0240	0.0330
54	0.003196	57.99%	0.09000	0.07500	0.00700	0.00220	0.00400	0.0300	0.0240	0.0330
55	0.003624	59.24%	0.09000	0.07500	0.00450	0.00240	0.00450	0.0800	0.0640	0.0880
56	0.004200	60.45%	0.09000	0.07500	0.00450	0.00260	0.00500	0.0800	0.0640	0.0880
57	0.004693	61.36%	0.09000	0.07500	0.00450	0.00280	0.00550	0.0800	0.0640	0.0880
58	0.005273	62.28%	0.09000	0.07500	0.00450	0.00300	0.00600	0.0800	0.0640	0.0880
59	0.005945	62.96%	0.09000	0.07500	0.00450	0.00320	0.00650	0.0800	0.0640	0.0880
60	0.006747		0.09000	0.07500	0.00300	0.00340	0.00700	0.1400	0.1120	0.1540
61	0.007676		0.09000	0.07500	0.00300	0.00360	0.00750	0.1400	0.1120	0.1540
62	0.008757		0.09000	0.07500	0.00300	0.00380	0.00800	0.1400	0.1120	0.1540
63	0.010012		0.09000	0.07500	0.00300	0.00400	0.00850	0.1400	0.1120	0.1540
64	0.011280		0.09000	0.07500	0.00300	0.00420	0.00900	0.1400	0.1120	0.1540
65	0.012737							0.2000	0.1600	0.2200
66	0.014409							0.2000	0.1600	0.2200
67	0.016075							0.2000	0.1600	0.2200
68	0.017871							0.2000	0.1600	0.2200
69	0.019802							0.2000	0.1600	0.2200
70	0.022206							0.3000	0.2400	0.3300
71	0.024570							0.3000	0.2400	0.3300
72	0.027281							0.3000	0.2400	0.3300
73	0.030387							0.3000	0.2400	0.3300
74	0.033900							0.3000	0.2400	0.3300
75	0.037834							1.0000	1.0000	1.0000

## Section 8: Summary of Actuarial Assumptions

### EXHIBIT 8.2 – PROBABILITIES OF SEPARATION FROM ACTIVE SERVICE GENERAL MEMBERS – FEMALES, RECOMMENDED ASSUMPTIONS

Age	Total Death	Percent Duty	Withdrawal			Ordinary Disability	Duty Disability	Service Retirement	
			svc < 3	svc 3 to 5	svc>5			Svc <15	Svc=15+
20	0.000191	36.59%	0.13000	0.10000	0.04000	0.00000	0.00010		
21	0.000192	36.59%	0.13000	0.10000	0.04000	0.00000	0.00010		
22	0.000194	36.59%	0.13000	0.10000	0.04000	0.00000	0.00010		
23	0.000197	36.59%	0.13000	0.10000	0.04000	0.00000	0.00010		
24	0.000201	36.59%	0.13000	0.10000	0.04000	0.00000	0.00010		
25	0.000207	42.22%	0.13000	0.10000	0.04000	0.00010	0.00010		
26	0.000214	42.22%	0.13000	0.10000	0.04000	0.00010	0.00010		
27	0.000223	42.22%	0.13000	0.10000	0.04000	0.00010	0.00010		
28	0.000235	42.22%	0.13000	0.10000	0.04000	0.00010	0.00010		
29	0.000248	42.22%	0.13000	0.10000	0.04000	0.00010	0.00010		
30	0.000264	42.22%	0.13000	0.10000	0.04000	0.00010	0.00010		
31	0.000307	45.83%	0.13000	0.10000	0.04000	0.00010	0.00010		
32	0.000350	45.83%	0.13000	0.10000	0.04000	0.00010	0.00010		
33	0.000394	45.83%	0.13000	0.10000	0.04000	0.00010	0.00010		
34	0.000435	45.45%	0.13000	0.10000	0.04000	0.00010	0.00010		
35	0.000475	49.15%	0.13000	0.10000	0.02500	0.00070	0.00010		
36	0.000514	49.15%	0.13000	0.10000	0.02500	0.00070	0.00010		
37	0.000554	48.48%	0.13000	0.10000	0.02500	0.00070	0.00010		
38	0.000598	48.48%	0.13000	0.10000	0.02500	0.00110	0.00010		
39	0.000648	50.72%	0.13000	0.10000	0.02500	0.00110	0.00010		
40	0.000706	48.28%	0.09000	0.09000	0.01500	0.00120	0.00010		
41	0.000774	50.33%	0.09000	0.09000	0.01500	0.00130	0.00010		
42	0.000852	50.33%	0.09000	0.09000	0.01500	0.00140	0.00010		
43	0.000937	50.00%	0.09000	0.09000	0.01500	0.00140	0.00010		
44	0.001029	52.33%	0.09000	0.09000	0.01500	0.00150	0.00020		
45	0.001124	51.61%	0.09000	0.09000	0.01500	0.00160	0.00020		
46	0.001223	53.61%	0.09000	0.09000	0.01500	0.00180	0.00030		
47	0.001326	53.14%	0.09000	0.09000	0.01500	0.00200	0.00030		
48	0.001434	56.11%	0.09000	0.09000	0.01500	0.00240	0.00040		
49	0.001550	56.79%	0.09000	0.09000	0.01500	0.00260	0.00050		
50	0.001676	57.58%	0.09000	0.09000	0.01400	0.00280	0.00060	0.0300	0.0500
51	0.001852	57.14%	0.09000	0.09000	0.01000	0.00300	0.00070	0.0300	0.0500
52	0.002018	57.81%	0.09000	0.09000	0.01000	0.00320	0.00080	0.0300	0.0500
53	0.002207	57.41%	0.09000	0.09000	0.01000	0.00340	0.00100	0.0300	0.0500
54	0.002424	57.99%	0.09000	0.09000	0.01000	0.00380	0.00110	0.0300	0.0500
55	0.002717	59.24%	0.09000	0.09000	0.01000	0.00420	0.00120	0.0420	0.0700
56	0.003090	60.45%	0.09000	0.09000	0.01000	0.00440	0.00130	0.0420	0.0700
57	0.003478	61.36%	0.09000	0.09000	0.01000	0.00460	0.00140	0.0420	0.0700
58	0.003923	62.28%	0.09000	0.09000	0.01000	0.00480	0.00150	0.0420	0.0700
59	0.004441	62.96%	0.09000	0.09000	0.01000	0.00500	0.00160	0.0420	0.0700
60	0.005055		0.09000	0.09000	0.00000	0.00520	0.00180	0.0780	0.1300
61	0.005814		0.09000	0.09000	0.00000	0.00540	0.00200	0.0780	0.1300
62	0.006657		0.09000	0.09000	0.00000	0.00580	0.00220	0.0780	0.1300
63	0.007648		0.09000	0.09000	0.00000	0.00600	0.00240	0.0780	0.1300
64	0.008619		0.09000	0.09000	0.00000	0.00620	0.00260	0.0780	0.1300
65	0.009706							0.1320	0.2200
66	0.010954							0.1320	0.2200
67	0.012163							0.1320	0.2200
68	0.013445							0.1320	0.2200
69	0.014860							0.1320	0.2200
70	0.016742							0.1800	0.3000
71	0.018579							0.1800	0.3000
72	0.020665							0.1800	0.3000
73	0.022970							0.1800	0.3000
74	0.025458							0.1800	0.3000
75	0.028106							1.0000	1.0000

## Section 8: Summary of Actuarial Assumptions

\* Rates are also adjusted for service.

### EXHIBIT 8.3 – PROBABILITIES OF SEPARATION FROM ACTIVE SERVICE SAFETY MEMBERS, RECOMMENDED ASSUMPTIONS

Age	Total Death	Percent Duty	Withdrawal			Ordinary Disability	Duty Disability	Service Retirement		
			svc < 3	svc 3 to 5	svc>5			Svc <15	Svc 15 to 20	Svc=20+
20	0.000345	36.59%	0.20000	0.08000	0.04500	0.00000	0.00110			
21	0.000357	36.59%	0.20000	0.08000	0.04500	0.00000	0.00120			
22	0.000366	36.59%	0.20000	0.08000	0.04500	0.00000	0.00130			
23	0.000373	36.59%	0.20000	0.08000	0.04500	0.00000	0.00150			
24	0.000376	36.59%	0.20000	0.08000	0.04500	0.00000	0.00180			
25	0.000376	42.22%	0.20000	0.08000	0.04500	0.00050	0.00230			
26	0.000378	42.22%	0.20000	0.08000	0.04500	0.00050	0.00280			
27	0.000382	42.22%	0.20000	0.08000	0.04500	0.00050	0.00320			
28	0.000393	42.22%	0.20000	0.08000	0.04500	0.00050	0.00320			
29	0.000412	42.22%	0.20000	0.08000	0.04500	0.00050	0.00400			
30	0.000726	42.22%	0.20000	0.08000	0.03500	0.00070	0.00500			
31	0.000800	45.83%	0.20000	0.08000	0.03500	0.00070	0.00570			
32	0.000875	45.83%	0.20000	0.08000	0.03500	0.00070	0.00600			
33	0.000949	45.83%	0.20000	0.08000	0.03500	0.00070	0.00620			
34	0.001019	45.45%	0.20000	0.08000	0.03500	0.00070	0.00640			
35	0.001087	49.15%	0.20000	0.08000	0.03400	0.00090	0.00640			
36	0.001150	49.15%	0.20000	0.08000	0.01000	0.00090	0.00650			
37	0.001206	48.48%	0.20000	0.08000	0.01000	0.00090	0.00660			
38	0.001262	48.48%	0.20000	0.08000	0.01000	0.00090	0.00670			
39	0.001315	50.72%	0.20000	0.08000	0.01000	0.00090	0.00670			
40	0.001371	48.28%	0.20000	0.08000	0.01000	0.00120	0.00680			
41	0.001434	50.33%	0.20000	0.08000	0.01000	0.00120	0.00690			
42	0.001508	50.33%	0.20000	0.08000	0.01000	0.00120	0.00690			
43	0.001591	50.00%	0.20000	0.08000	0.01000	0.00140	0.00700			
44	0.001686	52.33%	0.20000	0.08000	0.01000	0.00160	0.00710			
45	0.001793	51.61%	0.10000	0.06000	0.01000	0.00190	0.00980	0.0300	0.0500	0.1300
46	0.001894	53.61%	0.10000	0.06000	0.01000	0.00210	0.00980	0.0300	0.0500	0.1300
47	0.002006	53.14%	0.10000	0.06000	0.01000	0.00260	0.00980	0.0300	0.0500	0.1300
48	0.002128	56.11%	0.10000	0.06000	0.01000	0.00300	0.00980	0.0300	0.0500	0.1300
49	0.002264	56.79%	0.10000	0.06000	0.01000	0.00350	0.00980	0.0300	0.0500	0.1300
50	0.002412	57.58%	0.10000	0.06000	0.00000	0.00400	0.01000	0.0300	0.0500	0.1300
51	0.002758	57.14%	0.10000	0.06000	0.00000	0.00440	0.01250	0.0300	0.0500	0.1300
52	0.003000	57.81%	0.10000	0.06000	0.00000	0.00490	0.01500	0.0300	0.0500	0.1300
53	0.003283	57.41%	0.10000	0.06000	0.00000	0.00540	0.01750	0.0300	0.0500	0.1300
54	0.003599	57.99%	0.10000	0.06000	0.00000	0.00580	0.02000	0.0150	0.0250	0.0650
55	0.004081	59.24%	0.05000	0.06000	0.00000	0.00650	0.02250	0.0600	0.1000	0.2600
56	0.004717	60.45%	0.05000	0.06000	0.00000	0.00750	0.02380	0.0384	0.0640	0.1664
57	0.005242	61.36%	0.05000	0.06000	0.00000	0.00840	0.02510	0.0384	0.0640	0.1664
58	0.005853	62.28%	0.05000	0.06000	0.00000	0.00960	0.02650	0.0384	0.0640	0.1664
59	0.006545	62.96%	0.05000	0.06000	0.00000	0.01100	0.02810	0.0450	0.0750	0.1950
60	0.007361							0.0600	0.1000	0.2600
61	0.008282							0.0600	0.1000	0.2600
62	0.009344							0.0600	0.1000	0.2600
63	0.010563							0.0600	0.1000	0.2600
64	0.011776							0.1500	0.2500	0.6500
65	0.013170							0.1500	0.2500	0.6500
66	0.014769							0.1500	0.2500	0.6500
67	0.016364							0.1500	0.2500	0.6500
68	0.018068							0.3000	0.5000	1.0000
69	0.019901							0.3000	0.5000	1.0000
70	0.022206							1.0000	1.0000	1.0000



## **Section 8: Summary of Actuarial Assumptions**

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In addition to the rates of termination, we have assumed that a percentage of members who terminate will elect a deferred pension with the remainder taking a refund. The percentage of terminated who defer their benefit are shown below:

	<u>Electing to Defer Payment to Retirement</u>			
	<u>Svc &lt;10</u>	<u>Svc 10 to 15</u>	<u>Svc 15 to 20</u>	<u>Svc 20+</u>
General Males	5%	5%	25%	75%
General Females	5%	5%	30%	80%
Safety	5%	10%	50%	100%

## Section 8: Summary of Actuarial Assumptions

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### EXHIBIT 8.4 – SALARY INCREASE ASSUMPTION

<b>Years of Service</b>	<b>General Members</b>	<b>Safety Members</b>
0	6.00%	6.30%
1	5.80%	6.15%
2	5.80%	6.15%
3	5.75%	6.10%
4	5.75%	6.10%
5	5.75%	6.00%
6	5.75%	6.00%
7	5.75%	6.00%
8	5.70%	6.00%
9	5.70%	6.00%
10	5.70%	6.00%
11	5.70%	6.00%
12	5.70%	6.00%
13	5.70%	5.95%
14	5.70%	5.95%
15	5.70%	5.95%
16	4.35%	5.95%
17	4.35%	5.95%
18	4.35%	5.95%
19	4.35%	5.95%
20 or more	4.35%	4.40%

Note: Salary scale assumption reflects 4.00% for inflation and graded merit and longevity.

## Section 9: Member Data

The June 30, 2013, actuarial valuation of TCERA was based on the following data. For comparison, we also show a summary of the June 30, 2012, statistical information.

<b>SUMMARY OF RETIRED MEMBERSHIP</b>			
	<u>June 30, 2012</u>	<u>June 30, 2013</u>	<u>Percentage Change During the Period</u>
<b>GENERAL</b>			
Number	2,058	2,156	4.76%
Total Annual Allowance	\$37,246,457	\$40,459,814	8.63%
Average Total Monthly Allowance	1,508	1,564	3.69%
<b>SAFETY</b>			
Number	366	386	5.46%
Total Annual Allowance	\$11,728,355	\$12,777,452	8.94%
Average Total Monthly Allowance	2,670	2,759	3.30%
<b>TOTAL</b>			
Number	2,424	2,542	4.87%
Total Annual Allowance	\$48,974,812	\$53,237,266	8.70%
Average Total Monthly Allowance	\$1,684	\$1,745	3.66%

<b>SUMMARY OF INACTIVE MEMBERSHIP*</b>			
	<u>June 30, 2012</u>	<u>June 30, 2013</u>	<u>Percentage Change During the Period</u>
<b>GENERAL</b>			
Number	1,533	1,637	6.78%
<b>SAFETY</b>			
Number	209	221	5.74%
<b>TOTAL</b>			
Number	1,742	1,858	6.66%

\*Includes unclaimed accounts.

## Section 9: Member Data

<b>SUMMARY OF ACTIVE MEMBERSHIP</b>			
	<u>June 30, 2012</u>	<u>June 30, 2013</u>	<u>Percentage Change During the Period</u>
<b>GENERAL TIER 1</b>			
Number	68	50	-26.5%
Annual Payroll*	\$4,252,229	\$3,091,290	-27.3%
Average Monthly Salary	\$5,211	\$5,152	-1.1%
Average Age	59.37	59.56	0.3%
Average Service	31.89	32.76	2.7%
<b>GENERAL TIER 2 &amp; 3</b>			
Numbers	3,374	3,215	-4.7%
Annual Payroll*	\$164,771,319	\$164,546,897	-0.1%
Average Monthly Salary	\$4,070	\$4,265	4.8%
Average Age	43.90	44.22	0.7%
Average Service	9.12	9.77	7.1%
<b>GENERAL TIER 4</b>			
Number	0	238	N/A
Annual Payroll*	\$0	\$7,747,554	N/A
Average Monthly Salary	\$0	\$2,713	N/A
Average Age	0	33.04	N/A
Average Service	0	0.28	N/A
<b>GENERAL TOTAL</b>			
Number	3,442	3,503	1.8%
Annual Payroll*	\$169,023,548	\$175,385,741	3.8%
Average Monthly Salary	\$4,092	\$4,172	2.0%
Average Age	44.2	43.67	-1.2%
Average Service	9.57	9.45	-1.2%

\* Represents the annualization of active members' pay rates on June 30.

<b>SUMMARY OF ACTIVE MEMBERSHIP</b>
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## Section 9: Member Data

	<u>June 30, 2012</u>	<u>June 30, 2013</u>	<u>Percentage Change During the Period</u>
<b>SAFETY TIER 1</b>			
Number	6	4	-33.3%
Annual Payroll*	\$610,767	\$378,117	-38.1%
Average Monthly Salary	\$8,483	\$7,877	-7.1%
Average Age	58.21	59.28	1.8%
Average Service	33.54	34.78	3.7%
<b>SAFETY TIER 2 &amp; 3</b>			
Numbers	843	845	0.2%
Annual Payroll*	\$53,000,313	\$53,763,149	1.4%
Average Monthly Salary	\$5,239	\$5,302	1.2%
Average Age	38.75	38.93	0.5%
Average Service	9.62	10.09	4.9%
<b>SAFETY TIER 4</b>			
Number	0	31	N/A
Annual Payroll*	\$0	\$1,427,749	N/A
Average Monthly Salary	\$0	\$3,838	N/A
Average Age	0	31.98	N/A
Average Service	0	0.3	N/A
<b>SAFETY TOTAL</b>			
Number	849	880	3.7%
Annual Payroll*	\$53,611,080	\$55,569,015	3.7%
Average Monthly Salary	\$5,262	\$5,262	0.0%
Average Age	38.89	38.78	-0.3%
Average Service	9.79	9.86	0.7%
<b>TOTAL</b>			
Number	4,291	4,383	2.1%
Annual Payroll*	\$222,634,628	\$230,954,756	3.7%
Average Monthly Salary	\$4,324	\$4,391	1.6%
Average Age	43.15	42.69	-1.1%
Average Service	9.61	9.53	-0.9%

\* Represents the annualization of active members' pay rates on June 30.

## Section 9: Member Data

**AGE AND SERVICE DISTRIBUTION WITH ANNUAL AVERAGE SALARY  
OF ACTIVE GENERAL MEMBERS  
AS OF JUNE 30, 2013  
TIER 1**

Current Age	Years of Service							TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30 & OVER	
Below 19	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
35-39	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
45-49	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	7	7
	0	0	0	0	0	0	53,200	53,200
55-59	0	0	0	1	1	2	17	21
	0	0	0	62,486	35,458	51,033	66,876	63,662
60-64	0	0	1	1	0	0	17	19
	0	0	56,865	57,947	0	0	60,787	60,431
65-69	0	0	0	0	0	0	3	3
	0	0	0	0	0	0	55,370	55,370
70 & Over	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
Total	0	0	1	2	1	2	44	50
	0	0	56,865	60,216	35,458	51,033	61,563	60,472

## Section 9: Member Data

**AGE AND SERVICE DISTRIBUTION WITH ANNUAL AVERAGE SALARY  
OF ACTIVE GENERAL MEMBERS  
AS OF JUNE 30, 2013  
TIER 2 & 3**

Current Age	Years of Service							TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30 & OVER	
Below 19	2	0	0	0	0	0	0	2
	29,670	0	0	0	0	0	0	29,670
20-24	62	8	0	0	0	0	0	70
	31,896	36,973	0	0	0	0	0	32,477
25-29	227	90	0	0	0	0	0	317
	40,925	40,773	0	0	0	0	0	40,882
30-34	193	235	54	1	0	0	0	483
	44,177	50,359	44,336	43,853	0	0	0	47,202
35-39	132	153	126	30	0	0	0	441
	45,437	50,871	49,274	55,317	0	0	0	49,091
40-44	88	124	128	65	5	0	0	410
	46,561	53,385	48,221	46,853	44,376	0	0	49,163
45-49	62	117	93	68	29	4	0	373
	43,549	53,300	50,016	51,892	52,693	48,050	0	50,500
50-54	58	117	101	67	58	27	5	433
	52,249	54,568	51,717	53,492	59,759	66,682	64,980	54,997
55-59	33	75	97	67	39	30	12	353
	48,490	56,746	51,164	54,827	52,158	63,336	71,161	54,619
60-64	24	59	61	46	34	11	5	240
	47,666	54,355	56,534	49,755	55,058	82,436	71,315	55,098
65-69	10	19	24	16	5	2	0	76
	72,543	57,251	43,690	53,573	63,536	37,294	0	54,095
70 & Over	1	7	5	2	2	0	0	17
	34,797	62,874	46,614	38,809	60,230	0	0	53,298
Total	892	1,004	689	362	172	74	22	3,215
	43,927	51,608	49,845	51,819	55,583	65,866	69,791	49,788

## Section 9: Member Data

**AGE AND SERVICE DISTRIBUTION WITH ANNUAL AVERAGE SALARY  
OF ACTIVE GENERAL MEMBERS  
AS OF JUNE 30, 2013  
TIER 4**

Current Age	Years of Service							TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30 & OVER	
Below 19	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
20-24	55	0	0	0	0	0	0	55
	27,498	0	0	0	0	0	0	27,498
25-29	63	0	0	0	0	0	0	63
	34,306	0	0	0	0	0	0	34,306
30-34	33	0	0	0	0	0	0	33
	31,767	0	0	0	0	0	0	31,767
35-39	29	0	0	0	0	0	0	29
	30,857	0	0	0	0	0	0	30,857
40-44	20	0	0	0	0	0	0	20
	35,367	0	0	0	0	0	0	35,367
45-49	22	0	0	0	0	0	0	22
	28,773	0	0	0	0	0	0	28,773
50-54	8	0	0	0	0	0	0	8
	35,923	0	0	0	0	0	0	35,923
55-59	6	0	0	0	0	0	0	6
	32,680	0	0	0	0	0	0	32,680
60-64	2	0	0	0	0	0	0	2
	42,223	0	0	0	0	0	0	42,223
65-69	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
70 & Over	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
Total	238	0	0	0	0	0	0	238
	31,618	0	0	0	0	0	0	31,618



## Section 9: Member Data

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**AGE AND SERVICE DISTRIBUTION WITH ANNUAL AVERAGE SALARY  
OF ACTIVE SAFETY MEMBERS  
AS OF JUNE 30, 2013  
TIER 1**

Current Age	Years of Service							TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30 & OVER	
Below 19	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
35-39	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
45-49	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
55-59	0	2	0	0	0	0	0	2
	0	81,742	0	0	0	0	0	81,742
60-64	0	2	0	0	0	0	0	2
	0	103,201	0	0	0	0	0	103,201
65-69	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
70 & Over	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
Total	0	4	0	0	0	0	0	4
	0	92,471	0	0	0	0	0	92,471

## Section 9: Member Data

**AGE AND SERVICE DISTRIBUTION WITH ANNUAL AVERAGE SALARY  
OF ACTIVE SAFETY MEMBERS  
AS OF JUNE 30, 2013  
TIER 2&3**

Current Age	Years of Service							TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30 & OVER	
Below 19	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
20-24	30	1	0	0	0	0	0	31
	45,641	49,009	0	0	0	0	0	45,750
25-29	81	54	0	0	0	0	0	135
	48,331	59,041	0	0	0	0	0	52,615
30-34	51	119	7	0	0	0	0	177
	50,751	60,361	64,725	0	0	0	0	57,764
35-39	26	84	38	2	0	0	0	150
	55,459	60,782	69,533	82,546	0	0	0	62,367
40-44	10	56	38	21	1	0	0	126
	55,715	61,091	68,871	72,325	65,475	0	0	64,918
45-49	8	39	19	17	12	14	0	109
	56,807	65,237	64,009	77,458	72,951	94,655	0	70,938
50-54	4	21	4	10	7	14	0	60
	57,178	63,168	65,847	74,868	71,779	88,163	0	71,734
55-59	2	12	2	7	3	2	0	28
	59,652	62,810	59,729	72,159	79,175	73,125	0	67,192
60-64	2	13	6	2	1	1	1	26
	56,971	75,171	67,440	63,386	65,687	80,743	72,086	70,811
65-69	0	3	0	0	0	0	0	3
	0	56,755	0	0	0	0	0	56,755
70 & Over	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
Total	214	402	114	59	24	31	1	845
	50,410	61,490	67,685	74,259	72,773	89,886	72,086	61,786

## Section 9: Member Data

**AGE AND SERVICE DISTRIBUTION WITH ANNUAL AVERAGE SALARY  
OF ACTIVE SAFETY MEMBERS  
AS OF JUNE 30, 2013  
TIER 4**

Current Age	Years of Service							TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30 & OVER	
Below 19	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
20-24	7	0	0	0	0	0	0	7
	40,775	0	0	0	0	0	0	40,775
25-29	10	0	0	0	0	0	0	10
	40,266	0	0	0	0	0	0	40,266
30-34	5	0	0	0	0	0	0	5
	42,989	0	0	0	0	0	0	42,989
35-39	1	0	0	0	0	0	0	1
	49,009	0	0	0	0	0	0	49,009
40-44	4	0	0	0	0	0	0	4
	45,685	0	0	0	0	0	0	45,685
45-49	2	0	0	0	0	0	0	2
	50,330	0	0	0	0	0	0	50,330
50-54	2	0	0	0	0	0	0	2
	74,841	0	0	0	0	0	0	74,841
55-59	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
65-69	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
70 & Over	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
Total	31	0	0	0	0	0	0	31
	44,681	0	0	0	0	0	0	44,681

## Section 9: Member Data

**AVERAGE ANNUAL BENEFIT AND MEMBERSHIP DISTRIBUTION  
OF RETIRED GENERAL MEMBERS  
AS OF JUNE 30, 2013  
TOTAL**

Current Age	Years of Retirement							TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30 & OVER	
Below 45	8	3	1	0	0	0	0	12
	11,913	13,913	15,298	0	0	0	0	12,695
45-49	9	2	0	0	0	0	0	11
	17,804	21,185	0	0	0	0	0	18,419
50-54	50	4	6	2	0	1	0	63
	13,149	16,594	14,247	6,398	0	3,348	0	13,103
55-59	108	62	10	6	1	0	0	187
	21,183	14,523	12,730	9,427	5,762	0	0	18,063
60-64	200	91	57	11	4	2	1	366
	25,007	16,416	12,642	8,734	18,348	7,005	5,189	20,231
65-69	185	196	129	37	10	3	3	563
	28,378	21,894	18,899	9,738	10,743	13,080	8,300	22,222
70-74	45	86	132	48	31	5	5	352
	21,461	21,291	20,807	13,030	11,992	12,797	9,084	18,892
75-79	7	19	68	63	37	22	8	224
	14,919	15,457	19,304	17,684	11,535	12,256	14,013	16,221
80-84	1	1	11	42	60	34	28	177
	23,910	27,337	14,788	15,360	18,345	12,675	8,937	14,920
85 & Over	0	3	1	6	32	54	105	201
	0	40,003	5,230	20,631	15,575	18,138	12,716	15,234
Total	613	467	415	215	175	121	150	2,156
	23,729	19,503	18,346	14,112	14,767	14,881	11,820	18,766

## Section 9: Member Data

**AVERAGE ANNUAL BENEFIT AND MEMBERSHIP DISTRIBUTION  
OF RETIRED SAFETY MEMBERS  
AS OF JUNE 30, 2013  
TOTAL**

Current Age	Years of Retirement							TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30 & OVER	
Below 45	4	4	3	0	0	0	0	11
	35,662	18,169	18,565	0	0	0	0	24,638
45-49	3	2	6	2	2	0	0	15
	29,354	29,426	21,836	25,266	22,625	0	0	24,914
50-54	19	8	2	5	1	1	0	36
	23,694	24,727	29,821	23,040	24,464	29,438	0	24,354
55-59	34	20	5	3	2	3	0	67
	48,083	27,632	26,327	24,324	26,127	32,043	0	37,917
60-64	16	24	20	6	7	1	1	75
	47,044	49,020	30,412	22,614	25,773	27,332	21,264	38,695
65-69	8	11	42	13	4	2	0	80
	49,606	32,039	47,519	26,131	24,639	22,291	0	40,349
70-74	1	4	3	16	13	3	7	47
	22,835	22,978	34,564	34,757	22,812	13,260	18,062	26,326
75-79	0	0	1	5	13	7	4	30
	0	0	36,937	30,787	29,504	27,740	18,854	28,134
80-84	0	0	0	0	4	6	6	16
	0	0	0	0	16,590	35,552	12,387	22,125
85 & Over	0	0	0	0	0	2	7	9
	0	0	0	0	0	11,741	18,100	16,687
Total	85	73	82	50	46	25	25	386
	41,036	34,285	38,081	28,483	24,944	26,730	16,965	33,102

## Section 9: Member Data

**AVERAGE ANNUAL BENEFIT AND MEMBERSHIP DISTRIBUTION  
OF RETIRED GENERAL AND SAFETY MEMBERS  
AS OF JUNE 30, 2013  
TOTAL**

Current Age	Years of Retirement							TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30 & OVER	
Below 45	12	7	4	0	0	0	0	23
	19,829	16,345	17,748	0	0	0	0	18,407
45-49	12	4	6	2	2	0	0	26
	20,691	25,305	21,836	25,266	22,625	0	0	22,166
50-54	69	12	8	7	1	2	0	99
	16,053	22,016	18,141	18,285	24,464	16,393	0	17,194
55-59	142	82	15	9	3	3	0	254
	27,624	17,721	17,262	14,392	19,339	32,043	0	23,300
60-64	216	115	77	17	11	3	2	441
	26,639	23,220	17,257	13,633	23,073	13,781	13,226	23,371
65-69	193	207	171	50	14	5	3	643
	29,258	22,433	25,928	14,000	14,713	16,765	8,300	24,477
70-74	46	90	135	64	44	8	12	399
	21,491	21,366	21,113	18,462	15,189	12,970	14,321	19,767
75-79	7	19	69	68	50	29	12	254
	14,919	15,457	19,560	18,647	16,207	15,994	15,627	17,628
80-84	1	1	11	42	64	40	34	193
	23,910	27,337	14,788	15,360	18,235	16,106	9,546	15,518
85 & Over	0	3	1	6	32	56	112	210
	0	40,003	5,230	20,631	15,575	17,909	13,053	15,296
Total	698	540	497	265	221	146	175	2,542
	25,837	21,501	21,602	16,824	16,885	16,910	12,555	20,943

## Section 9: Member Data

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### SUMMARY OF ANNUAL RETIREMENT ALLOWANCES AS OF JUNE 30, 2013

#### GENERAL MEMBERS

	<u>Number</u>	<u>Annual Allowance</u>
Service		
Males	713	\$ 17,578,216
Females	997	16,666,025
Total	<u>1,710</u>	<u>\$ 34,244,241</u>
Disability		
Males	64	\$ 1,213,887
Females	109	1,841,218
Total	<u>173</u>	<u>\$ 3,055,105</u>
Beneficiaries		
Males	73	\$ 655,899
Females	200	2,504,568
Total	<u>273</u>	<u>\$ 3,160,467</u>
Total	<u>2,156</u>	<u>\$ 40,459,813</u>

#### SAFETY MEMBERS

	<u>Number</u>	<u>Annual Allowance</u>
Service		
Males	207	\$ 8,451,456
Females	34	960,906
Total	<u>241</u>	<u>\$ 9,412,362</u>
Disability		
Males	72	\$ 1,888,463
Females	21	436,319
Total	<u>93</u>	<u>\$ 2,324,782</u>
Beneficiaries		
Males	2	\$ 35,831
Females	50	1,004,477
Total	<u>52</u>	<u>\$ 1,040,308</u>
Total	<u>386</u>	<u>\$ 12,777,452</u>

## Section 10: Summary of Major Plan Provisions

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**Eligibility** First pay period following date of employment.

**Final Average Salary** Highest 12 consecutive months of compensation earnable for Tier 1 members and highest 36 consecutive months of compensation earnable for Tier 2 and Tier 3 members. The compensation for Tier 4 members will be limited to the Social Security Wage Base.

**Service Retirement** **Early retirement**

<u>Membership</u>	<u>Tier</u>	<u>Eligibility</u>
General	Tier 1-3	Age 50 and 10 years or 30 years
General	Tier 4	Age 52 and 5 years
Safety	Tier 1-3	Age 50 and 10 years or 20 years
Safety	Tier 4	Age 50 and 5 years

Any Tier 1, 2, or 3 member who reaches age 70 may retire regardless of service.

### **Benefit**

#### *General Members:*

For service prior to July 1, 2005:

Benefits under Section 31676.11 (Tier 1) and Section 31676.1 (Tier 2 and Tier 3):  $1/60$  of final average salary times years of service times factor in the Benefit Factors table.

For service after June 30, 2005:

Benefits under Section 31676.12 (Tiers 1-3):  $1/50$  of final average salary times years of service times factor in Benefit Factors table.

#### *Safety Members:*

Benefits under Section 31664: 2% of final average salary times years of service times factor in the table on the following page.

#### *For Tier 4 members:*

Benefits required by AB340 of 2% of final average salary times years of service times factor in the table on the following page.



## Section 10: Summary of Major Plan Provisions

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Benefit Factors	General Tier 1	General Tier 2&3	General Tier 4	General All Tiers	Safety	Safety Tier 4
	<u>31676.11</u>	<u>31676.1</u>	<u>AB340</u>	<u>31676.12</u>	<u>31664</u>	<u>AB340</u>
Age						
41					.6258	
42					.6625	
43					.7004	
44					.7397	
45					.7805	
46					.8226	
47					.8678	
48					.9085	
49					.9522	
50	.7454	.7091		.6681	1.0000	1.0000
51	.7882	.7457		.7056	1.0516	1.0500
52	.8346	.7816	.5000	.7454	1.1078	1.1000
53	.8850	.8181	.5500	.7882	1.1692	1.1500
54	.9399	.8556	.6000	.8346	1.2366	1.2000
55	1.0000	.8954	.6500	.8850	1.3099	1.2500
56	1.0447	.9382	.7000	.9399	1.3099	1.3000
57	1.1048	.9846	.7500	1.0000	1.3099	1.3500
58	1.1686	1.0350	.8000	1.0447	1.3099	1.3500
59	1.2365	1.0899	.8500	1.1048	1.3099	1.3500
60	1.3093	1.1500	.9000	1.1686	1.3099	1.3500
61	1.3608	1.1947	.9500	1.2365	1.3099	1.3500
62	1.4123	1.2548	1.0000	1.3093	1.3099	1.3500
63	1.4638	1.3186	1.0500	1.3093	1.3099	1.3500
64	1.5153	1.3865	1.1000	1.3093	1.3099	1.3500
65	1.5668	1.4593	1.1500	1.3093	1.3099	1.3500

**Non Service Connected Disability Retirement**

20% if 5 years of service plus 2% for each of the next ten years or service retirement benefit (if eligible).

**Service Connected Disability Retirement**

Greater of 50% of final average salary or service retirement benefit (if eligible).

**Integration with Social Security**

Tier 1-3 members' benefits are integrated with Social Security. Benefits based on the first \$161.54 of bi-weekly final average salary are reduced by 1/3.

## **Section 10: Summary of Major Plan Provisions**

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<b>Death Before Retirement</b>	<p>If non-service connected before eligible to retire, this benefit is a refund of contributions plus 1/12 of last year's salary per year of service up to 6 years.</p> <p>If eligible for non-service connected disability or service retirement the benefit is 60% of member's accrued allowance.</p> <p>If service connected death, the benefit is 50% of salary.</p>
<b>Death After Retirement</b>	<p>For service retirement or non-service connected disability, the benefit is 60% of member's allowance payable to an eligible spouse.</p> <p>For service connected disability, the benefit is 100% of member's allowance payable to an eligible spouse.</p> <p>\$5,000 lump sum benefit payable to member's beneficiary.</p>
<b>Vesting</b>	<p>After five years of Service</p> <p>Must leave contributions on deposit.</p>
<b>Member Contributions</b>	<p>Based on entry age. Members of Tiers 1, 2, or 3 who have 30 or more years of service do not pay member contributions.</p>
<b>Maximum Benefit</b>	<p>100% of final average salary</p>
<b>Cost-Of-Living Benefits</b>	<p>Payable April 1. Up to 3% COLA for Tier 1 members (2% for Tier 2, Tier 3, and Tier 4 members), depending on CPI (Los Angeles–Riverside–Orange) changes for the prior calendar year.</p>

## Section 10: Summary of Major Plan Provisions

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### Supplemental Retiree Benefits Reserve

#### Level One

A monthly benefit of up to \$360 is provided for members with 20 or more years of service. The benefit is determined using an \$18 multiplier rate prior to July 1, 2013 with service limited to 20 years. The multiplier will be reduced for all years as follows:

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

For members with less than 20 years of service, the benefit is provided in the following schedule:

Years of Service	% of Full Benefit	Years of Service	% of Full Benefit
Less than 10	0.00%	15	75.0%
10	50.0%	16	80.0%
11	55.0%	17	85.0%
12	60.0%	18	90.0%
13	65.0%	19	95.0%
14	70.0%	20 +	100.0%

Only years of service with Tulare County are considered. After a member's death, a continuance will be paid to an eligible spouse at one half of the amount payable to the retired member.

#### Level Two

In addition to the \$360 benefit described above, the Board authorized that the SRBR provide a supplemental COLA for retirees and beneficiaries who have lost at least 15% of their purchasing power as measured by their COLA banks. This program is designed to maintain retiree purchasing power at a minimum of 85% of its original value. For example, Tier 1 members, who retired on or before April 1, 1974, have lost 60% of their original purchasing power (as measured by their COLA bank). These members would receive a Level Two benefit equal to 45% (60% minus 15%) of their benefit.

#### Level Three

60% survivor benefits to a spouse not married to the member at retirement. To be eligible this spouse must be at least age 55 at the date of the retired members death, be married for at least two years and the member must have elected the Unmodified Allowance retirement option.

## Section 11: Glossary of Terms

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Following is a glossary of some of the commonly used actuarial terms.

<i>Actuarial Accrued Liability</i>	The portion, as determined by a particular cost method, of the total present value of benefits that is attributable to past service credit.
<i>Actuarial Gain (Loss)</i>	A measure of the difference between actual and expected experience based upon a set of actuarial assumptions. Examples include higher than expected salary increases (loss) and a higher return on fund assets than anticipated (gain).
<i>Actuarial Present Value</i>	Also referred to as the present value of benefits. It is the value, as of a specified date, of an amount payable in the future, where the amount has been adjusted to reflect both the time value of money and the probability that the payment is actually made.
<i>Amortization or UAAL Payment</i>	That portion of the pension plan contribution which is designed to pay off (amortize) the unfunded actuarial accrued liability in a systematic fashion. Equivalently, it is a series of periodic payments required to pay off a debt.
<i>Annual Amount</i>	Estimated contributions due for the year in order to ensure the orderly funding of the pension plan (equal to the contribution rate multiplied by the annual payroll). The annual amount is comprised of normal cost and UAAL payments.
<i>Entry Age Actuarial Cost Method</i>	This method assumes that the annual costs are the level premiums needed from entry age until retirement age to fund the ultimate retirement benefit. These premiums are expressed as a percentage of salary. The portion of this actuarial present value allocated to a valuation year is called the normal cost.
<i>Final Average Salary</i>	The average amount of compensation earned over a specified number of consecutive months preceding retirement during which compensation was highest.
<i>Funding Policy</i>	The policy for the amounts and timing of contributions to be made by the employer, members and any other sources to provide the benefits promised by the pension plan.

## Section 11: Glossary of Terms

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<i>Noneconomic Actuarial Assumptions</i>	Probabilities that members will separate from active service for causes such as retirement, disability, death and withdrawal, as well as rates of post-retirement mortality. The probabilities reflect the experience of TCERA's membership.
<i>Normal Cost</i>	The ongoing annual cost allocated to the system by a particular actuarial cost method for providing benefits (future cost). Normal cost payments are made during the working lifetime of the member.
<i>Unfunded Actuarial Accrued Liability</i>	The excess of the actuarial accrued liability over the actuarial value of assets.
<i>Vested Benefit</i>	The benefit an employee is entitled to even if the employee separates from active service prior to normal retirement age.