

# Fresno County Employees' Retirement Association

Actuarial Valuation and Review as of  
June 30, 2013



This report has been prepared at the request of the Board of Retirement to assist in administering the Fund. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Retirement and may only be provided to other parties in its entirety. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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*January 8, 2014*

*Board of Retirement  
Fresno County Employees' Retirement Association  
1111 "H" Street  
Fresno, CA 93721*

*Dear Board Members:*

*We are pleased to submit this Actuarial Valuation and Review as of June 30, 2013. It summarizes the actuarial data used in the valuation, establishes the funding requirements for fiscal 2014-2015 and analyzes the preceding year's experience.*

*This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Plan. The census information on which our calculations were based was prepared by FCERA and the financial information was provided by FCERA. That assistance is gratefully acknowledged. The actuarial calculations were completed under the supervision of Andy Yeung, ASA, MAAA, FCA, Enrolled Actuary.*

*The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in plan provisions or applicable law.*

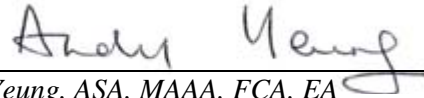
*The actuarial calculations were directed under our supervision. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in the actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and the expectations for the Plan.*

*We look forward to reviewing this report at your next meeting and to answering any questions.*

*Sincerely,*

*Segal Consulting, a Member of The Segal Group, Inc.*

By:   
\_\_\_\_\_  
*Paul Angelo, FSA, MAAA, FCA, EA  
Senior Vice President and Actuary*

  
\_\_\_\_\_  
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Vice President and Associate Actuary*

AW/gxk

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## SECTION 1: Valuation Summary for the Fresno County Employees' Retirement Association

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### Purpose

This report has been prepared by The Segal Company to present a valuation of the Fresno County Employees' Retirement Association as of June 30, 2013. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

- The benefit provisions of the Retirement Association, as administered by the Board of Retirement;
- The characteristics of covered active members, inactive vested members, retired members and beneficiaries as of June 30, 2013, provided by the Retirement Association;
- The assets of the Plan as of June 30, 2013, provided by the Retirement Association;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

One of the general goals of an actuarial valuation is to establish contributions which fully fund the Association's liabilities, and which, as a percentage of payroll, remain as level as possible for each generation of active members. Annual actuarial valuations measure the progress toward this goal, as well as test the adequacy of the contribution rates.

In preparing this valuation, we have employed generally accepted actuarial methods and assumptions to evaluate the Association's assets, liabilities and future contribution requirements. Our calculations are based upon member data and financial information provided to us by the Association's staff. This information has not been audited by us, but it has been reviewed and found to be consistent, both internally and with prior year's information.

The contribution requirements are determined as a percentage of payroll. The Association's employer rates provide for both normal cost and a payment or credit to amortize any unfunded or overfunded actuarial accrued liabilities. In this valuation, we have continued with the Board's funding policy to amortize the Association's outstanding balance of the unfunded actuarial accrued liability (UAAL) established as of June 30, 2003 over a declining 20-year period. Any new UAAL established on each subsequent actuarial valuation after the June 30, 2003 valuation as a result of actuarial gains or losses, changes in actuarial assumptions or plan amendments<sup>1</sup> is amortized over separate 15-year declining periods.

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<sup>1</sup> Prior to the Board's most recent review of actuarial funding policy in April 2011, a 30-year amortization period was used for plan amendments.

## SECTION 1: Valuation Summary for the Fresno County Employees' Retirement Association

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Please note that the Actuarial Standards Board's Actuarial Standard of Practice (ASOP) No. 4 provides guidelines that actuaries have to follow when selecting actuarial assumptions. For a plan such as that offered by the Retirement Association that may utilize excess earnings to provide contribution rate offsets and additional settlement and non-statutory benefits, we are required to indicate in the valuation report that the possible impact of any such application of future excess earnings on the future financial condition of the plan has not been explicitly measured in the valuation.

The rates calculated in this report may be adopted by the Board for the fiscal year that extends from July 1, 2014 through June 30, 2015.

### Significant Issues in Valuation Year

The following key findings were the result of this actuarial valuation:

- Reference:* Pg. 55 > The results of this valuation reflect changes in the economic and non-economic assumptions adopted by the Board for the June 30, 2013 valuation. These changes were documented in our Review of Economic Assumptions and our Actuarial Experience Study and are also outlined in Section 4, Exhibit V of this report. These assumption changes resulted in an increase in the average employer rate of 7.78% of payroll and an increase in the average member rate of 1.04% of payroll.
- Reference:* Pg. 45 > On June 30, 2013, after crediting interest to the various reserve accounts at the assumed earnings rate, the balance of the Contra Tracking Account increased from \$516.3 million as of June 30, 2012 to \$588.3 million as of June 30, 2013.
- Reference:* Pg. 46 > In this June 30, 2013 valuation, the UAAL has increased from \$1,040.4 million to \$1,175.8 million when determined on a valuation (smoothed) value of assets basis. On a market value basis, the UAAL decreased from \$1,225.7 million to \$1,215.7 million. The funded ratio on a valuation value of assets basis has decreased from 76.1% to 75.0%, while on a market value basis, the funded ratio has increased from 71.8% to 74.1%. A reconciliation of the Association's unfunded actuarial accrued liability is provided in Section 3, Exhibit H.
- Reference:* Pg. 19 > The aggregate employer rate calculated in this valuation has increased from 47.37% of payroll to 53.52% of payroll. The reasons for this change are: (i) lower than expected return on investments (based on valuation value of assets after smoothing), (ii) one year delay in implementing employer and employee contribution rates calculated in the June 30, 2012 valuation, (iii) increase in UAAL rate due to less than expected increase in total payroll, and (iv) changes in actuarial assumptions, offset to some degree by (v) salary increases less than expected, (vi) lower than expected COLA increases, (vii) fewer than expected retirements, and (viii) other actuarial gains. A reconciliation of the Association's aggregate employer rate is provided in Section 2, Subsection D (see Chart 15).

## SECTION 1: Valuation Summary for the Fresno County Employees' Retirement Association

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- Reference:* Pg. 20
- The aggregate member rate calculated in this valuation has increased from 8.55% of payroll to 9.56% of payroll. The change in the aggregate member rate is due to changes in actuarial assumptions and changes in membership demographics for the June 30, 2013 valuation. A reconciliation of the Association's aggregate member rate is provided in Section 2, Subsection D (see Chart 16).  
  
Also of note is that based on our discussions with FCERA, we have used the discretion made recently available by AB1380 to no longer round the member's contribution rate to the nearest ¼% as previously required by the California Public Employees' Pension Reform Act of 2013 (CalPEPRA). This should allow for exactly one-half of the Normal Cost to be paid by each of the employee and employer covered under the CalPEPRA plans.
- Reference:* Pg. 102
- The employer and member rates developed in this valuation have been determined only with respect to the Regular and the Settlement benefits. Assets and liabilities associated with the non-vested supplemental benefits (i.e., discretionary purchasing power and additional retiree health benefits) have been excluded from the development of the employer and member rates. However, a comparison of the reserve maintained by the Board for the non-vested supplemental benefits and the annual cash payment requirement is provided in Appendix B.
- Reference:* Pg. 5
- As indicated in Section 2, Subsection B (see Chart 7) of this report, the net total unrecognized investment losses as of June 30, 2013 are \$39.9 million compared to the net total unrecognized investment losses of \$185.3 million as of June 30, 2012. These investment losses will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years, and will offset any investment gains that may occur after June 30, 2013. This means that if the Association earns the assumed net rate of investment return of 7.25% per year on a **market value** basis, that will result in investment losses on the actuarial value of assets in the next few years. So, if the actual market return is equal to the assumed 7.25% rate and all other actuarial assumptions are met, the contribution requirements would increase in the next few years.
  - The unrecognized investment losses represent about 1% of the market value of assets. Unless offset by future investments gains or other favorable experience, the recognition of the \$39.9 million in past market losses is expected to have an impact on the Association's future funded ratio and the aggregate employer contributions. This potential impact may be illustrated as follows:
    - If the deferred losses were recognized immediately in the actuarial value of assets, the funded percentage would decrease from 75.0% to 74.1%.
    - If the deferred losses were recognized immediately in the actuarial value of assets, the aggregate employer contribution rate would increase from 53.5% of payroll to 54.5% of payroll.

## SECTION 1: Valuation Summary for the Fresno County Employees' Retirement Association

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Reference: Pg. 79

- In preparing the breakdown of the total costs of the General Tier 1 plan into the cost to provide the “Regular” and the “Settlement” benefits, we have followed the Association’s practice of allocating the cost to provide a benefit under Section 31676.12 as the cost for the “Regular” benefit and allocating the difference between this “Regular” benefit cost and the cost to provide a benefit under Section 31676.14 plus Section 31627 as the “Settlement” benefit. In particular, this means that the difference between benefits under Sections 31676.12 and 31676.14 is considered “Settlement” and so under the Settlement Agreement could be funded out of future undistributed earnings. Based on prior discussions with Counsel, the Agreement might not be clear as to what should be considered the “Settlement” benefit. This means we will require guidance from the Board if and when the Board considers the use of any future undistributed earnings to pay the cost of the “Settlement” benefit.

For General and Safety Tier 1 members who retire because of disability, there is an allocation of the value of their disability benefits made by the Association’s Pension Administration System between the “Regular” and “Settlement” benefits assuming those members would have been eligible to retire and collect a service retirement benefit. While it does not change the total contribution rates paid by each of the employer and the employee, in this valuation we have adjusted the allocation of the rates between “Regular” and “Settlement” benefits to be consistent with the allocation made by the Association’s Pension Administration System.

- The actuarial valuation report as of June 30, 2013 is based on financial information as of that date. Changes in the value of assets subsequent to that date are not reflected. Declines in asset values will increase the actuarial cost of the plan, while increases will decrease the actuarial cost of the plan.
- The Governmental Accounting Standards Board (GASB) approved two new Statements affecting the reporting of pension liabilities for accounting purposes. Statement 67 replaces Statement 25 and is for plan reporting. Statement 68 replaces Statement 27 and is for employer reporting. It is important to note that the new GASB rules only redefine pension expense for financial reporting purposes, and do not apply to contribution amounts for actual pension funding purposes. Employers and plans can still develop and adopt funding policies under current practices. Because these new Statements are not effective until the fiscal year ending June 30, 2014 for plan reporting and the fiscal year ending June 30, 2015 for employer reporting, we have continued to use Statements 25 and 27 in preparing the financial reporting information in this report.

## **SECTION 1: Valuation Summary for the Fresno County Employees' Retirement Association**

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### Impact of Future Experience on Contribution Rates

Future contribution requirements may differ from those determined in the valuation because of:

- 1) differences between actual experience and anticipated experience;
- 2) changes in actuarial assumptions or methods;
- 3) changes in statutory provisions; and
- 4) difference between the contribution rates determined by the valuation and those adopted by the Board.



## SECTION 1: Valuation Summary for the Fresno County Employees' Retirement Association

### Summary of Key Valuation Results

	June 30, 2013		June 30, 2012	
<b>Employer Contribution Rates:</b>				
	Total Rate	Estimated Annual Amount <sup>(1)</sup>	Total Rate	Estimated Annual Amount <sup>(1)</sup>
General Tier 1	51.07%	\$121,939,000	44.99%	\$107,422,000
General Tier 2	48.27%	\$6,048,000	42.86%	\$5,369,000
General Tier 3	47.33%	\$17,567,000	41.64%	\$15,455,000
General Tier 4	38.17%	\$4,494,000	33.88%	\$3,989,000
General Tier 5	37.48%	\$3,437,000	32.70%	\$2,999,000
Safety Tier 1	74.79%	\$38,425,000	67.17%	\$34,511,000
Safety Tier 2	74.26%	\$3,183,000	67.21%	\$2,881,000
Safety Tier 4	59.02%	\$1,930,000	54.15%	\$1,770,000
Safety Tier 5	57.41%	\$1,027,000	51.76%	\$926,000
All categories combined	53.52%	\$198,050,000	47.37%	\$175,322,000
<b>Average Member Contribution Rates:</b>				
	Total Rate	Estimated Annual Amount <sup>(1)</sup>	Total Rate	Estimated Annual Amount <sup>(1)</sup>
General Tier 1	9.61%	\$22,946,000	8.59%	\$20,510,000
General Tier 2	6.87%	\$861,000	6.21%	\$778,000
General Tier 3	7.56%	\$2,806,000	6.79%	\$2,520,000
General Tier 4	6.51%	\$766,000	6.14%	\$723,000
General Tier 5	6.96%	\$638,000	6.25%	\$573,000
Safety Tier 1	12.36%	\$6,350,000	10.95%	\$5,626,000
Safety Tier 2	10.93%	\$469,000	9.73%	\$417,000
Safety Tier 4	9.60%	\$314,000	9.32%	\$305,000
Safety Tier 5	11.96%	\$214,000	11.25%	\$201,000
All categories combined	9.56%	\$35,364,000	8.55%	\$31,653,000
<b>Funded Status:</b>				
Actuarial accrued liability <sup>(2)</sup>	\$4,694,780,000		\$4,345,402,000	
Valuation value of assets (VVA) <sup>(3)</sup>	\$3,518,982,000		\$3,305,045,000	
Market value of assets (MVA) <sup>(3)</sup>	\$3,479,066,000		\$3,119,702,000	
Funded percentage on a VVA basis	75.0%		76.1%	
Funded percentage on a MVA basis	74.1%		71.8%	
Unfunded actuarial accrued liability on a VVA basis	\$1,175,798,000		\$1,040,357,000	
Unfunded actuarial accrued liability on a MVA basis	\$1,215,714,000		\$1,225,700,000	
<b>Key Economic Assumptions:</b>				
Interest rate	7.25%		7.75%	
Inflation rate	3.25%		3.50%	
Across-the-board salary increase	0.50%		0.50%	

<sup>(1)</sup> Based on June 30, 2013 projected annual compensation.

<sup>(2)</sup> Excludes liabilities for non-vested supplemental benefits.

<sup>(3)</sup> Excludes non-valuation reserves: supplemental COLA, contingency reserve and retiree health insurance reserve.

**SECTION 1: Valuation Summary for the Fresno County Employees' Retirement Association**

**Summary of Key Valuation Demographic and Financial Data**

	June 30, 2013	June 30, 2012	Percentage Change
<b>Active Members:</b>			
Number of members	6,866	6,677	2.8%
Average age	44.0	44.3	N/A
Average service	11.2	11.4	N/A
Projected total compensation	\$370,078,800	\$365,595,810	1.2%
Average projected compensation	\$53,900	\$54,755	-1.6%
<b>Retired Member and Beneficiaries:</b>			
Number of members:			
Service retired	5,209	5,087	2.4%
Disability retired	334	339	-1.5%
Beneficiaries	820	809	1.4%
Total	6,363	6,235	2.1%
Average age	68.6	68.3	N/A
Average monthly benefit <sup>(1)</sup>	\$2,695	\$2,634	2.3%
<b>Vested Terminated Members:</b>			
Number of vested terminated members <sup>(2)</sup>	1,295	1,375	-5.8%
Average age	49.0	48.4	N/A
<b>Summary of Financial Data:</b>			
Market value of assets <sup>(3)</sup>	\$3,499,451,731	\$3,148,512,663	11.1%
Return on market value of assets	11.95%	-0.44%	N/A
Actuarial value of assets <sup>(3)</sup>	\$3,539,367,350	\$3,333,855,518	6.2%
Return on actuarial value of assets	6.91%	5.94%	N/A
Valuation value of assets	\$3,518,982,097	\$3,305,045,273	6.5%
Return on valuation value of assets	6.96%	6.01%	N/A

(1) Benefits include regular and settlement benefits but exclude non-vested supplemental benefits.

(2) Includes members who left their contributions on deposit even though they have less than five years of service.

(3) Includes non-valuation reserves: supplemental COLA, contingency reserve and retiree health insurance reserve.

**SECTION 2: Valuation Results for the Fresno County Employees' Retirement Association**

**A. MEMBER DATA**

The actuarial valuation and review considers the number and demographic characteristics of covered members, including active members, vested terminated members, retired members and beneficiaries.

This section presents a summary of significant statistical data on these member groups.

More detailed information for this valuation year and the preceding valuation can be found in Section 3, Exhibits A, B, and C.

*A historical perspective of how the member population has changed over the past nine valuations can be seen in this chart.*

**CHART 1**  
**Member Population: 2005 – 2013**

<b>Year Ended June 30</b>	<b>Active Members</b>	<b>Vested Terminated Members*</b>	<b>Retired Members and Beneficiaries</b>	<b>Ratio of Non-Actives to Actives</b>
2005	7,644	1,326	4,418	0.75
2006	7,686	1,333	4,579	0.77
2007	7,802	1,393	4,831	0.80
2008	7,740	1,541	5,046	0.85
2009	7,407	1,460	5,322	0.92
2010	6,946	1,452	5,636	1.02
2011	6,763	1,414	5,887	1.08
2012	6,677	1,375	6,235	1.14
2013	6,866	1,295	6,363	1.12

\* Includes terminated members due a refund of member contributions

**SECTION 2: Valuation Results for the Fresno County Employees' Retirement Association**

**Active Members**

Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 6,866 active members with an average age of 44.0 years, average years of service of 11.2 and average compensation of \$53,900. The 6,677 active members in the prior valuation had an average age of 44.3 years, average years of service of 11.4 and average compensation of \$54,755.

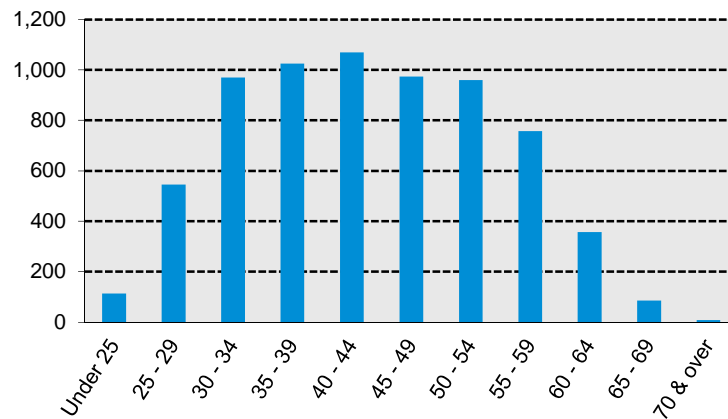
Among the active members, there were none with unknown age.

**Inactive Members**

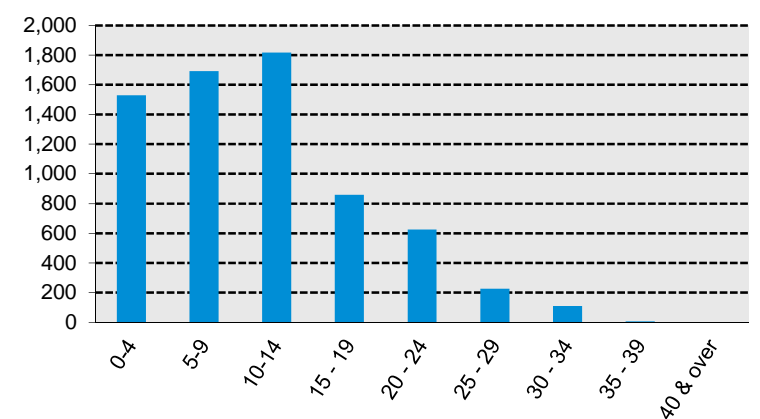
In this year's valuation, there were 1,295 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their member contributions versus 1,375 in the prior valuation

*These graphs show a distribution of active members by age and by years of service.*

**CHART 2**  
**Distribution of Active Members by Age as of June 30, 2013**



**CHART 3**  
**Distribution of Active Members by Years of Service as of June 30, 2013**



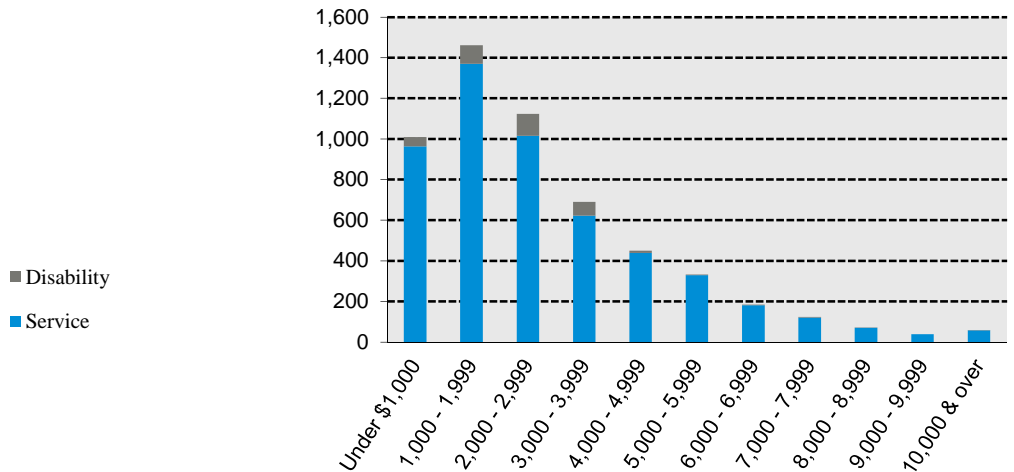
**SECTION 2: Valuation Results for the Fresno County Employees' Retirement Association**

**Retired Members and Beneficiaries**

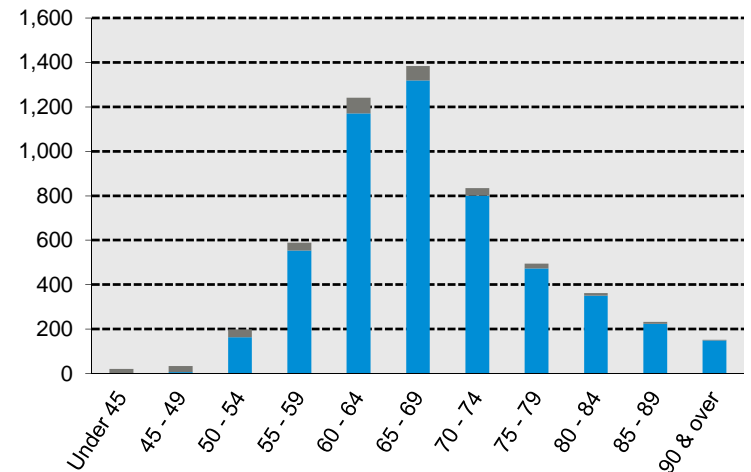
As of June 30, 2013, 5,543 retired members and 820 beneficiaries were receiving total monthly benefits of \$17,145,421. For comparison, in the previous valuation, there were 5,426 retired members and 809 beneficiaries receiving monthly benefits of \$16,420,740. These monthly benefits exclude non-vested supplemental benefits (i.e., discretionary supplemental COLA and additional health benefits).

*These graphs show a distribution of the current retired members based on their monthly amount and age, by type of pension.*

**CHART 4**  
**Distribution of Retired Members (Excl. Beneficiaries) by Type and by Monthly Amount as of June 30, 2013**



**CHART 5**  
**Distribution of Retired Members (Excl. Beneficiaries) by Type and by Age as of June 30, 2013**



**SECTION 2: Valuation Results for the Fresno County Employees' Retirement Association**

**B. FINANCIAL INFORMATION**

Retirement plan funding anticipates that, over the long term, both contributions and net investment earnings (less investment fees and administrative expenses) will be needed to cover benefit payments.

Retirement plan assets change as a result of the net impact of these income and expense components. The adjustment toward market value shown in the chart is the “non-cash” earnings on investments implicitly included in the actuarial value of assets. Additional financial information, including a summary of these transactions for the valuation year, is presented in Section 3, Exhibits D and E.

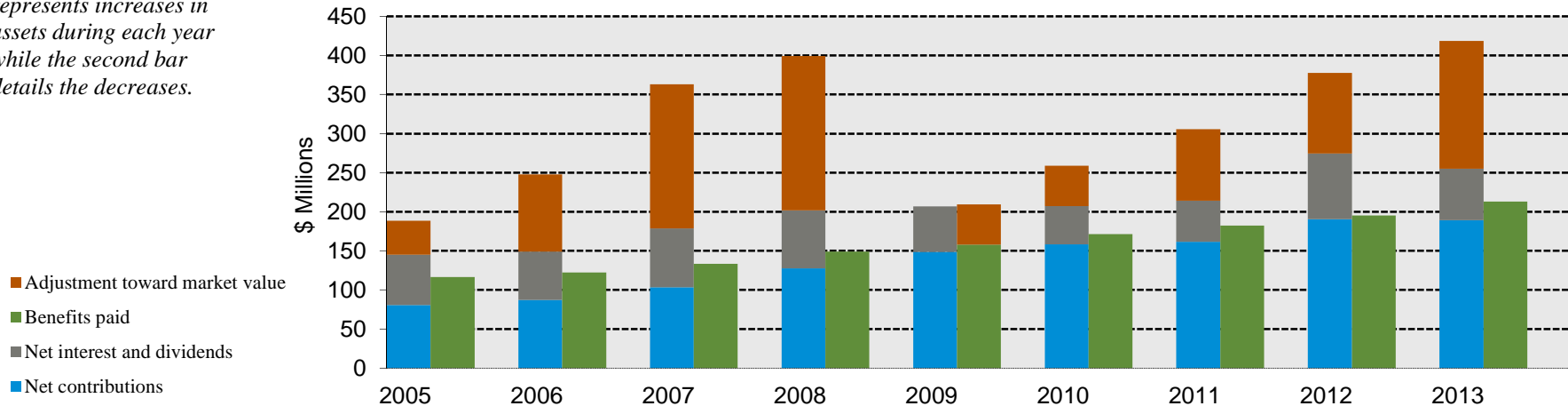
It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board of Retirement has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable.

The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value of assets.

The determination of the Actuarial Value of Assets is provided on the following page.

*The chart depicts the components of changes in the actuarial value of assets over the last nine years. Note: The first bar represents increases in assets during each year while the second bar details the decreases.*

**CHART 6**  
**Comparison of Increases and Decreases in the Actuarial Value of Assets for Years Ended June 30, 2005 through 2013**



**SECTION 2: Valuation Results for the Fresno County Employees' Retirement Association**

**CHART 7**

**Determination of Actuarial Value of Assets for Year Ended June 30, 2013**

Six Month Period		Total Actual	Expected Market	Investment	Deferred	Deferred
From	To	Market Return (net)	Return (net)	Gain (Loss)	Factor	Return
Combined deferred gain through 6/30/2011 <sup>(1)</sup>				\$15,635,252	0.556	\$8,686,251
7/1/2011	12/31/2011	\$(175,101,712)	\$122,793,608	(297,895,320)	0.6	(178,737,192)
1/1/2012	6/30/2012	161,262,327	115,914,939	45,347,388	0.7	31,743,172
7/1/2012	12/31/2012	240,685,052	121,699,116	118,985,935	0.8	95,188,748
1/1/2013	6/30/2013	134,122,546	130,563,210	3,559,336	0.9	3,203,402
1.	Total Deferred Return <sup>(2)</sup>					\$(39,915,619)
2.	Net Market Value					3,499,451,731
3.	Actuarial Value of Assets (Item 2 – Item 1)					3,539,367,350
4.	Actuarial Value (before corridor) as a percentage of Market Value					101.1%
5.	Actuarial Value of Assets – Corridor Limits:					
	a. Lower Limit – 70% of Net Market Value					\$2,449,616,212
	b. Upper Limit – 130% of Net Market Value					4,549,287,250
6.	Actuarial Value of Assets (within corridor)					3,539,367,350
7.	Non-valuation reserves and designations:					
	a. Reserve for Interest Fluctuations (Contingency Reserve), Limited to No Less Than \$0					0
	b. Board Contingency Reserve/Undistributed Earnings (“Available Earnings”)					0
	c. Supplemental COLA					2,131,272
	d. Retiree Health Insurance					18,253,981
	e. Subtotal					\$20,385,253
8.	Valuation Value of Assets (Item 6 – Item 7e)					\$3,518,982,097

The chart shows the determination of the actuarial value of assets as of the valuation date.

<sup>(1)</sup> Based on action taken by the Board in 2012, the net deferred gain of \$15,635,252 through June 30, 2011 as of that valuation has been recognized in nine level amounts, with five six-month periods of recognition remaining after the June 30, 2013 valuation.

<sup>(2)</sup> The amounts of deferred return that will be recognized in each subsequent valuation are as follows:

6/30/2014	\$(22,526,032)
6/30/2015	\$(22,526,032)
6/30/2016	\$(24,263,282)
6/30/2017	\$29,043,793
6/30/2018	\$355,934

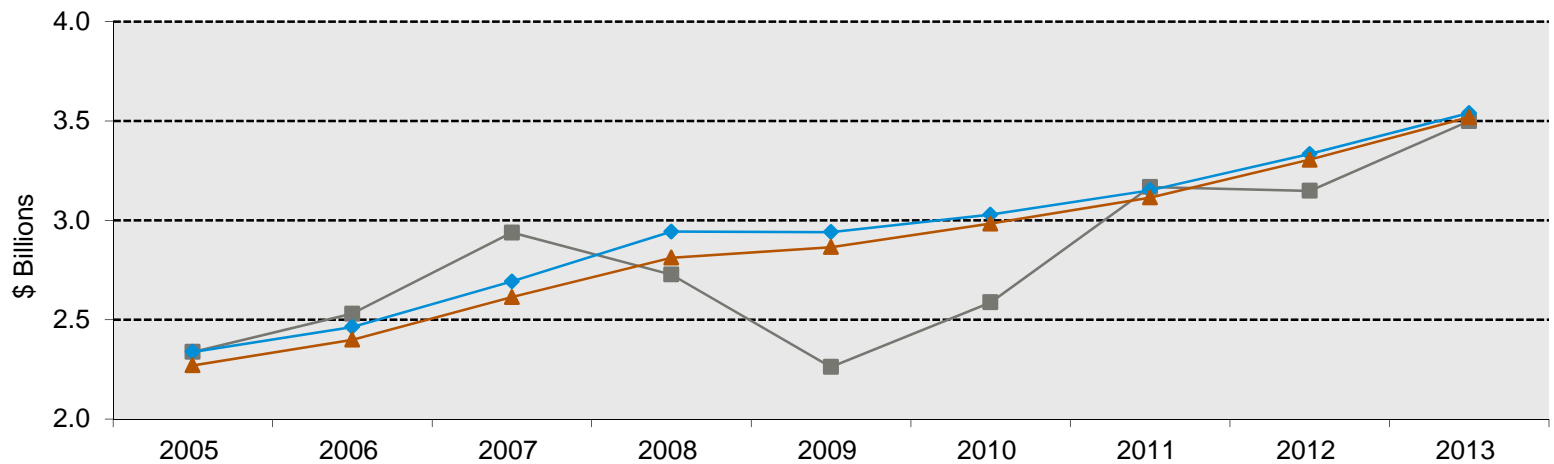
Note: Results may not total properly due to rounding.

**SECTION 2: Valuation Results for the Fresno County Employees' Retirement Association**

The market value, actuarial value, and valuation value of assets are representations of the FCERA's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets, but with less volatility. The valuation value of assets is the actuarial value, excluding any non-valuation reserves. The valuation asset value is significant because FCERA's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

*This chart shows the change in market value, actuarial value and valuation value over the past nine years.*

**CHART 8**  
**Market Value, Actuarial Value and Valuation Value of Assets as of June 30, 2005 – 2013**





**SECTION 2: Valuation Results for the Fresno County Employees' Retirement Association**

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**C. ACTUARIAL EXPERIENCE**

To calculate the required contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the contribution requirement will decrease from the previous year. On the other hand, the contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

The total experience gain was \$112.7 million, a loss of \$26.2 million from investments and a gain of \$138.9 million from all other sources. The net experience variation from individual sources other than investments was 3.0% of the actuarial accrued liability. A discussion of the major components of the actuarial experience is on the following pages.

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**CHART 9**

**Actuarial Experience for Year Ended June 30, 2013**

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1. Net gain/(loss) from investments <sup>(1)</sup>	\$(26,162,000)
2. Net gain/(loss) from other experience <sup>(2)</sup>	<u>138,903,000</u>
3. Net experience gain/(loss): (1) + (2)	\$112,741,000

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<sup>(1)</sup> Details in Chart 10.

<sup>(2)</sup> See Section 3, Items (6b) through (6e) in Exhibit H.

*This chart provides a summary of the actuarial experience during the past year.*

**SECTION 2: Valuation Results for the Fresno County Employees' Retirement Association**

**Investment Rate of Return**

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on FCERA's investment policy. For valuation purposes, the assumed rate of return was 7.75% (based on the June 30, 2012 valuation). The actual rate of return on a valuation basis for the 2012/2013 plan year was 6.96%.

Since the actual return for the year was less than the assumed return, FCERA experienced an actuarial loss during the year ended June 30, 2013 with regard to its investments.

*This chart shows the gain/(loss) due to investment experience.*

**CHART 10**

**Investment Experience for Year Ended June 30, 2013 – Valuation, Actuarial and Market Value of Assets**

	<b>Valuation Value</b>	<b>Actuarial Value</b>	<b>Market Value</b>
1. Actual return	\$229,380,360	\$229,380,360	\$374,807,596
2. Average value of assets	3,297,323,505	3,321,921,254	3,136,578,399
3. Actual rate of return: (1) ÷ (2)	6.96%	6.91%	11.95%
4. Assumed rate of return	7.75%	7.75%	7.75%
5. Expected return: (2) x (4)	255,542,572	257,448,897	243,084,826
6. Actuarial gain/(loss): (1) – (5)	<u>\$(26,162,212)</u>	<u>\$(28,068,537)</u>	<u>\$131,722,770</u>

**SECTION 2: Valuation Results for the Fresno County Employees' Retirement Association**

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Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial, valuation, and market basis for the last nine years.

**CHART 11**

**Investment Return – Valuation Value, Actuarial Value and Market Value: 2005 – 2013**

Year Ended June 30	Valuation Value Investment Return		Actuarial Value Investment Return		Market Value Investment Return	
	Amount	Percent	Amount	Percent	Amount	Percent
2005	\$104,235,839	4.79%	\$107,850,996	4.80%	\$232,922,758	10.97%
2006	155,867,582	6.91%	160,474,530	6.92%	226,902,394	9.78%
2007	237,613,613	9.95%	259,818,285	10.61%	439,056,103	17.46%
2008	212,997,330	8.17%	271,876,171	10.14%	(190,479,656)	(6.51%)
2009	54,209,327	1.93%	6,924,705	0.24%	(455,354,552)	(16.73%)
2010	123,408,438	4.31%	100,789,315	3.44%	337,869,234	14.98%
2011	144,184,273	4.84%	144,184,272	4.78%	601,313,325	23.34%
2012	187,137,138	6.01%	187,138,723	5.94%	(13,839,384)	(0.44%)
2013	229,380,360	6.96%	229,380,360	6.91%	374,807,596	11.95%
Average Return		5.96%		5.93%		6.49%

## SECTION 2: Valuation Results for the Fresno County Employees' Retirement Association

Subsection B described the actuarial asset valuation method that gradually takes into account fluctuations in the market value rate of return. The effect of this is to stabilize the actuarial rate of return, which contributes to leveling pension plan costs.

**CHART 12**

**Market, Actuarial and Valuation Rates of Return for Years Ended June 30, 2005 – 2013**



## SECTION 2: Valuation Results for the Fresno County Employees' Retirement Association

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### **Other Experience**

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- actual turnover among the participants,
- retirement experience (earlier or later than expected),
- mortality (more or fewer deaths than expected),

- the number of disability retirements, and
- salary increases different than assumed.

The net gain from this other experience for the year ended June 30, 2013 amounted to \$138.9 million which is 3.0% of the actuarial accrued liability. See Exhibit H for a detailed development of the Unfunded Actuarial Accrued Liability.

## SECTION 2: Valuation Results for the Fresno County Employees' Retirement Association

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### D. EMPLOYER AND MEMBER CONTRIBUTIONS

Employer contributions consist of two components:

#### *Normal Cost*

The annual contribution rate that, if paid annually from a member's first year of membership through the year of retirement, would accumulate to the amount necessary to fully fund the member's retirement-related benefits. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution rate is expressed as a level percentage of the member's compensation.

#### *Contribution to the Unfunded*

##### *Actuarial Accrued Liability (UAAL)*

The annual contribution rate that, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution (or rate credit in the case of a negative UAAL) is calculated to remain as a level percentage of future active member payroll (including payroll for new members as they enter the Association) assuming a constant number of active members. In order to remain as a level percentage of payroll, amortization payments (credits) are scheduled to increase at the annual inflation rate of 3.75% (i.e., 3.25% inflation plus 0.50% real across-the-board salary increase). The UAAL established as of the June 30, 2003 valuation is being amortized over a declining 20-year period. Any new UAAL established on each subsequent valuation after June 30, 2003 as a result of actuarial gains or losses, changes in actuarial assumptions or plan amendments<sup>(1)</sup> are amortized over separate 15-year declining periods.

The recommended employer contributions are provided on Chart 13.

<sup>(1)</sup> *Prior to the Board's most recent review of actuarial funding policy in April 2011, a 30-year amortization period was used for plan amendments.*

## SECTION 2: Valuation Results for the Fresno County Employees' Retirement Association

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### Member Contributions

#### *Non-CalPEPRA Members*

Articles 6 and 6.8 of the 1937 Act define the methodology to be used in the calculation of member basic contribution rates for General members and Safety members, respectively.

The basic contribution rate for the Regular benefit is determined so that the accumulation of a member's basic contributions made in a given year until a certain age will be sufficient to fund an annuity at that age that is equal to:

- 1/200 of One-Year Average Final Compensation at age 60 for General Tier 1
- 1/240 of One-Year Average Final Compensation at age 60 for General Tier 2
- 1/200 of Three-Year Average Final Compensation at age 55 for General Tier 3
- 1/120 of Three-Year Average Final Compensation at age 60 for General Tier 4
- 1/200 of One-Year Average Final Compensation at age 50 for Safety Tiers 1 and 2
- 1/100 of Three-Year Average Final Compensation at age 50 for Safety Tier 4

In addition, as a result of the Settlement Agreement, General Tier 1 and Safety Tier 1 members are required to make additional basic contributions in order to receive the Settlement Benefit. The total basic Regular plus Settlement rate is:

- 1/160 of One-Year Average Final Compensation at age 55 for General Tier 1
- 1/160 of One-Year Average Final Compensation at age 50 for Safety Tier 1

It is assumed that contributions are made annually at the same rate, starting at entry age. In addition to their basic contributions, members in Tiers 1, 2 and 3 pay one-half of the total normal cost necessary to fund their cost-of-living benefits. There are no cost-of-living benefits provided in General and Safety Tiers 4. Accumulation includes semi-annual crediting of interest at the assumed investment earning rate.

## SECTION 2: Valuation Results for the Fresno County Employees' Retirement Association

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### *CalPEPRA Members*

Pursuant to Section 7522.30(a) of the Government Code, CalPEPRA members in General and Safety Tiers 5 are required to contribute at least 50% of the Normal Cost rate. In addition, there are certain additional requirements that would have to be met such as requiring the new employees to pay the contribution rate of “similarly situated employees”, if it is greater. (reference: Section 7522.30(c)). We further understand that different rules may have to be applied for collectively bargained employees, non-represented, managerial or other supervisory employees. (reference: section 7522.30(e)). In preparing the Normal Cost rates in this report, we have assumed that exactly 50% of the Normal Cost would be paid by the new members and we have taken into account in this valuation only the requirements of Section 7522.30(c), but not requirements of Section 7522.30(e). Also of note is that based on our discussions with FCERA, we have used the discretion made recently available by AB1380 to no longer round the member’s contribution rates to the nearest ¼% as previously required by CalPEPRA. This should allow for exactly one-half of the Normal Cost to be paid by each of the employee and employer covered under the CalPEPRA plans.

The member contribution rates are provided in Appendix A.



**SECTION 2: Valuation Results for the Fresno County Employees' Retirement Association**

**CHART 13**

**Recommended Employer Contribution Rates (Dollar Amounts in Thousands)**

	June 30, 2013						June 30, 2012	
	REGULAR		SETTLEMENT		TOTAL		REGULAR & SETTLEMENT	
	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*
<b>General Tier 1 Members</b>								
Normal Cost	15.49%	\$36,985	5.06%	\$12,082	20.55%	\$49,067	18.44%	\$44,029
UAAL	<u>24.86%</u>	<u>59,358</u>	<u>5.66%</u>	<u>13,514</u>	<u>30.52%</u>	<u>72,872</u>	<u>26.55%</u>	<u>63,393</u>
Total Contribution	40.35%	\$96,343	10.72%	\$25,596	51.07%	\$121,939	44.99%	\$107,422
<b>General Tier 2 Members</b>								
Normal Cost	17.53%	\$2,196	0.22%	\$28	17.75%	\$2,224	16.31%	\$2,043
UAAL	<u>24.86%</u>	<u>3,114</u>	<u>5.66%</u>	<u>710</u>	<u>30.52%</u>	<u>3,824</u>	<u>26.55%</u>	<u>3,326</u>
Total Contribution	42.39%	\$5,310	5.88%	\$738	48.27%	\$6,048	42.86%	\$5,369
<b>General Tier 3 Members</b>								
Normal Cost	16.51%	\$6,128	0.30%	\$111	16.81%	\$6,239	15.09%	\$5,601
UAAL	<u>24.86%</u>	<u>9,227</u>	<u>5.66%</u>	<u>2,101</u>	<u>30.52%</u>	<u>11,328</u>	<u>26.55%</u>	<u>9,854</u>
Total Contribution	41.37%	\$15,355	5.96%	\$2,212	47.33%	\$17,567	41.64%	\$15,455
<b>General Tier 4 Members</b>								
Normal Cost	7.65%	\$901	0.00%	\$0	7.65%	\$901	7.33%	\$863
UAAL	<u>24.86%</u>	<u>2,927</u>	<u>5.66%</u>	<u>666</u>	<u>30.52%</u>	<u>3,593</u>	<u>26.55%</u>	<u>3,126</u>
Total Contribution	32.51%	\$3,828	5.66%	\$666	38.17%	\$4,494	33.88%	\$3,989
<b>General Tier 5 Members</b>								
Normal Cost	6.96%	\$638	0.00%	\$0	6.96%	\$638	6.15%	\$564
UAAL	<u>24.86%</u>	<u>2,280</u>	<u>5.66%</u>	<u>519</u>	<u>30.52%</u>	<u>2,799</u>	<u>26.55%</u>	<u>2,435</u>
Total Contribution	31.82%	\$2,918	5.66%	\$519	37.48%	\$3,437	32.70%	\$2,999

\* Amounts are in thousands and are based on June 30, 2013 projected annual compensation shown on the following page.

**SECTION 2: Valuation Results for the Fresno County Employees' Retirement Association**

**CHART 13 (continued)**

**Recommended Employer Contribution Rates (Dollar Amounts in Thousands)**

	June 30, 2013						June 30, 2012	
	REGULAR		SETTLEMENT		TOTAL		REGULAR & SETTLEMENT	
	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*
<b>Safety Tier 1 Members</b>								
Normal Cost	23.51%	\$12,079	5.83%	\$2,995	29.34%	\$15,074	26.46%	\$13,595
UAAL	<u>39.36%</u>	<u>20,222</u>	<u>6.09%</u>	<u>3,129</u>	<u>45.45%</u>	<u>23,351</u>	<u>40.71%</u>	<u>20,916</u>
Total Contribution	62.87%	\$32,301	11.92%	\$6,124	74.79%	\$38,425	67.17%	\$34,511
<b>Safety Tier 2 Members</b>								
Normal Cost	28.62%	\$1,227	0.19%	\$8	28.81%	\$1,235	26.50%	\$1,136
UAAL	<u>39.36%</u>	<u>1,687</u>	<u>6.09%</u>	<u>261</u>	<u>45.45%</u>	<u>1,948</u>	<u>40.71%</u>	<u>1,745</u>
Total Contribution	67.98%	\$2,914	6.28%	\$269	74.26%	\$3,183	67.21%	\$2,881
<b>Safety Tier 4 Members</b>								
Normal Cost	13.41%	\$439	0.16%	\$5	13.57%	\$444	13.44%	\$439
UAAL	<u>39.36%</u>	<u>1,287</u>	<u>6.09%</u>	<u>199</u>	<u>45.45%</u>	<u>1,486</u>	<u>40.71%</u>	<u>1,331</u>
Total Contribution	52.77%	\$1,726	6.25%	\$204	59.02%	\$1,930	54.15%	\$1,770
<b>Safety Tier 5 Members</b>								
Normal Cost	11.96%	\$214	0.00%	\$0	11.96%	\$214	11.05%	\$198
UAAL	<u>39.36%</u>	<u>704</u>	<u>6.09%</u>	<u>109</u>	<u>45.45%</u>	<u>813</u>	<u>40.71%</u>	<u>728</u>
Total Contribution	51.32%	\$918	6.09%	\$109	57.41%	\$1,027	51.76%	\$926
<b>All Categories Combined</b>								
Normal Cost	16.43%	\$60,807	4.12%	\$15,229	20.55%	\$76,036	18.50%	\$64,468
UAAL	<u>27.24%</u>	<u>100,806</u>	<u>5.73%</u>	<u>21,208</u>	<u>32.97%</u>	<u>122,014</u>	<u>28.87%</u>	<u>106,854</u>
Total Contribution	43.67%	\$161,613	9.85%	\$36,437	53.52%	\$198,050	47.37%	\$175,322

\* Amounts are in thousands and are based on June 30, 2013 projected annual compensation (also in thousands):

General Tier 1	\$238,768
General Tier 2	12,528
General Tier 3	37,116
General Tier 4	11,773
General Tier 5	9,171
Safety Tier 1	51,378
Safety Tier 2	4,287
Safety Tier 4	3,270
Safety Tier 5	1,788
Total Compensation	\$370,079

**SECTION 2: Valuation Results for the Fresno County Employees' Retirement Association**

**CHART 14**

**Breakdown of Employer Contribution Rate Into Basic and COLA**

	General									
	June 30, 2013					June 30, 2012				
	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
<b>Normal Cost</b>										
Regular - Basic	12.47%	14.55%	13.45%	7.65%	6.96%	11.36%	13.37%	12.11%	7.33%	6.15%
Regular - COLA	3.02%	2.98%	3.06%	0.00%	0.00%	2.75%	2.74%	2.72%	0.00%	0.00%
Section 6	4.69%	0.00%	0.00%	0.00%	0.00%	4.01%	0.00%	0.00%	0.00%	0.00%
Section 8	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Section 9	0.37%	0.22%	0.30%	0.00%	0.00%	0.32%	0.20%	0.26%	0.00%	0.00%
<b>UAAL</b>										
Regular – Basic	15.52%	15.52%	15.52%	15.52%	15.52%	13.85%	13.85%	13.85%	13.85%	13.85%
Regular – COLA	9.34%	9.34%	9.34%	9.34%	9.34%	7.85%	7.85%	7.85%	7.85%	7.85%
Section 6	4.57%	4.57%	4.57%	4.57%	4.57%	3.91%	3.91%	3.91%	3.91%	3.91%
Section 8	0.22%	0.22%	0.22%	0.22%	0.22%	0.21%	0.21%	0.21%	0.21%	0.21%
Section 9	0.87%	0.87%	0.87%	0.87%	0.87%	0.73%	0.73%	0.73%	0.73%	0.73%

*Note: Please refer to Section 4, Exhibit VI for definition of Regular and Settlement Sections 6, 8 and 9 benefits.*

**SECTION 2: Valuation Results for the Fresno County Employees' Retirement Association**

**CHART 14 (continued)**

**Breakdown of Employer Contribution Rate Into Basic and COLA**

	Safety							
	June 30, 2013				June 30, 2012			
	Tier 1	Tier 2	Tier 4	Tier 5	Tier 1	Tier 2	Tier 4	Tier 5
<b>Normal Cost</b>								
Regular - Basic	18.68%	22.95%	13.41%	11.96%	17.55%	21.14%	13.18%	11.05%
Regular - COLA	4.83%	5.67%	0.00%	0.00%	4.49%	5.18%	0.00%	0.00%
Section 6	5.52%	0.00%	0.00%	0.00%	4.15%	0.00%	0.00%	0.00%
Section 8	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Section 9	0.31%	0.19%	0.16%	0.00%	0.27%	0.18%	0.26%	0.00%
<b>UAAL</b>								
Regular – Basic	18.40%	18.40%	18.40%	18.40%	16.72%	16.72%	16.72%	16.72%
Regular – COLA	20.96%	20.96%	20.96%	20.96%	18.94%	18.94%	18.94%	18.94%
Section 6	5.00%	5.00%	5.00%	5.00%	4.11%	4.11%	4.11%	4.11%
Section 8	0.22%	0.22%	0.22%	0.22%	0.21%	0.21%	0.21%	0.21%
Section 9	0.87%	0.87%	0.87%	0.87%	0.73%	0.73%	0.73%	0.73%

*Note: Please refer to Section 4, Exhibit VI for definition of Regular and Settlement Sections 6, 8 and 9 benefits.*

## SECTION 2: Valuation Results for the Fresno County Employees' Retirement Association

The employer contribution rates as of June 30, 2013 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the Actuarial Valuation. They include all changes affecting future costs, adopted benefit changes, actuarial gains and losses and changes in the actuarial assumptions.

### Reconciliation of Recommended Employer Contribution

The chart below details the changes in the recommended employer contribution from the prior valuation to the current year's valuation.

*The chart reconciles the employer contribution from the prior valuation to the amount determined in this valuation.*

#### CHART 15

#### Reconciliation of Recommended Employer Contribution from June 30, 2012 to June 30, 2013 (Dollars in Thousands)

	Contribution Rate	Estimated Amount <sup>(1)</sup>
Recommended Contribution Rate as of June 30, 2012	47.37%	\$175,322
Effect of actuarial experience during 2012/2013:		
1. Effect of investment loss on valuation value of assets	0.62%	\$2,294
2. Effect of one year delay in implementing employer and employee contribution rates calculated in June 30, 2012 valuation	0.37%	1,369
3. Effect of salary increases less than expected during 2012/2013 <sup>(2)</sup>	-1.44%	-5,329
4. Effect of increase in UAAL rate due to less than expected increase in total payroll	0.75%	2,776
5. Effect of COLA increases less than expected	-1.00%	-3,701
6. Effect of fewer than expected healthy and disability retirements	-0.53%	-1,961
7. Effect of changes in actuarial assumptions	7.78% <sup>(3)</sup>	28,792
8. Effect of other experience gains	<u>-0.40%</u>	<u>-1,512</u>
Subtotal	6.15%	\$22,728
Recommended Contribution Rate as of June 30, 2013	53.52%	\$198,050

<sup>(1)</sup> Based on June 30, 2013 projected annual compensation of \$370,079.

<sup>(2)</sup> For the majority of the active members, their salaries actually decreased from those reported in the June 30, 2012 valuation.

<sup>(3)</sup> Of this amount, only about 0.5% of payroll is due to the changes in the non-economic (demographic) assumptions.

**SECTION 2: Valuation Results for the Fresno County Employees' Retirement Association**

The member contribution rates as of June 30, 2013 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the Actuarial Valuation. They include all changes affecting future costs, adopted benefit changes, actuarial gains and losses and changes in the actuarial assumptions.

**Reconciliation of Recommended Member Contribution Rate**

The chart below details the changes in the recommended member contribution rate from the prior valuation to the current year's valuation.

**CHART 16**

**Reconciliation of Recommended Member Contribution from June 30, 2012 to June 30, 2013  
(Dollar Amounts in Thousands)**

	Contribution Rate	Estimated Amount <sup>(1)</sup>
Average Contribution Rate as of June 30, 2012	8.55%	\$31,653
1. Effect of changes in actuarial assumptions	1.04% <sup>(2)</sup>	3,849
2. Effect of demographic changes	<u>-0.03%</u>	<u>-138</u>
Subtotal	1.01%	\$3,711
Average Contribution Rate as of June 30, 2013	9.56%	\$35,364

<sup>(1)</sup> Based on June 30, 2013 projected annual compensation of \$370,079.

<sup>(2)</sup> Of this amount, only about 0.1% of payroll is due to the changes in the non-economic (demographic) assumptions.

*The chart reconciles the member contribution from the prior valuation to the amount determined in this valuation.*

**SECTION 2: Valuation Results for the Fresno County Employees' Retirement Association**

**E. INFORMATION REQUIRED BY GASB**

Governmental Accounting Standards Board (GASB) reporting information provides standardized information for comparative purposes of governmental pension plans. This information allows a reader of the financial statements to compare the funding status of one governmental plan to another on relatively equal terms.

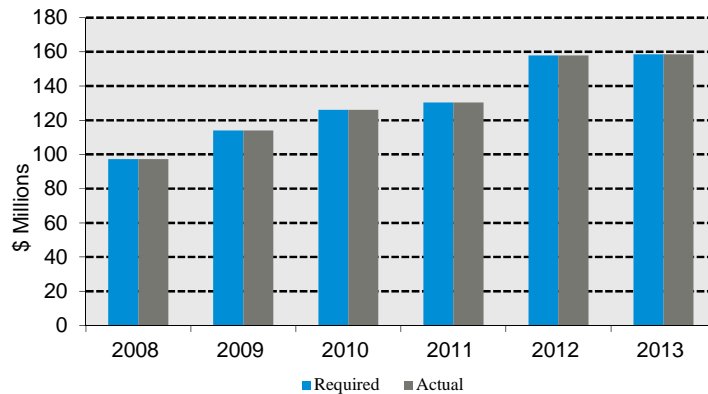
Critical information to GASB is the historical comparison of the GASB required contributions to the actual contributions. This comparison demonstrates whether a plan is being funded on an actuarially sound basis and in accordance with the GASB funding requirements. Chart 17 below presents a graphical representation of this information for the Plan.

The other critical piece of information regarding the Plan's financial status is the funded ratio. This ratio compares the valuation value of assets to the actuarial accrued liabilities of the plan as calculated under GASB. High ratios indicate a well-funded plan with assets sufficient to pay most benefits. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other changes.

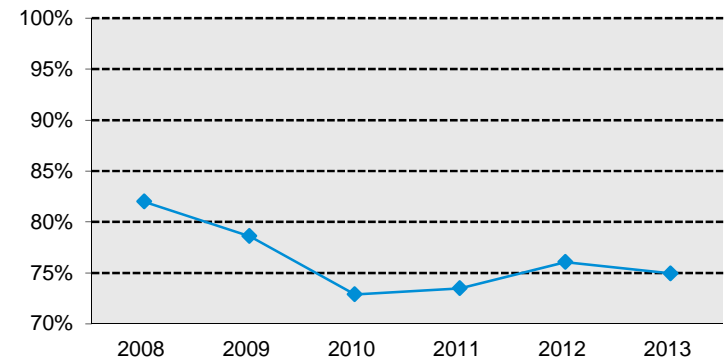
The details regarding the calculations of these values and other GASB numbers may be found in Section 4, Exhibits II, III, and IV.

*These graphs show key GASB factors.*

**CHART 17**  
**Required Versus Actual Contributions**



**CHART 18**  
**Funded Ratio**



**SECTION 2: Valuation Results for the Fresno County Employees' Retirement Association**

**F. VOLATILITY RATIOS**

Retirement plans are subject to volatility in the level of required contributions. This volatility tends to increase as retirement plans become more mature.

The Asset Volatility Ratio (AVR), which is equal to the market value of assets divided by total payroll, provides an indication of the potential contribution volatility for any given level of investment volatility. A higher AVR indicates that the plan is subject to a greater level of contribution volatility. This is a current measure since it is based on the current level of assets.

For FCERA, the current AVR is 9.5. This means that a 1% asset gain/(loss) (relative to the assumed investment return) translates to 9.5% of one-year's payroll. Since FCERA amortizes actuarial gains and losses over a period of 15 years as of June 30, 2013, there would be a 0.8% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss).

The Liability Volatility Ratio (LVR), which is equal to the Actuarial Accrued Liability divided by payroll, provides

an indication of the longer-term potential for contribution volatility for any given level of investment volatility. This is because, over an extended period of time, the plan's assets should track the plan's liabilities. For example, if a plan is 50% funded on a market value basis, the liability volatility ratio would be double the asset volatility ratio and the plan sponsor should expect contribution volatility to increase over time as the plan becomes better funded. The LVR also indicates how volatile contributions will be in response to changes in the Actuarial Accrued Liability due to actual experience or to changes in actuarial assumptions.

For FCERA, the current LVR is 12.7. This is about 34% higher than the AVR. Therefore, we would expect that contribution volatility will increase over the long-term. These ratios are not only sensitive to changes in assets and liability but also to changes in payroll. A comparative schedule of assets, liabilities and payroll is provided in Section 4, Exhibit III.

*This chart shows how the asset and liability volatility ratios have varied over time.*

**CHART 19**  
**Volatility Ratios for Years Ended June 30, 2008 – 2013**

Year Ended June 30	Asset Volatility Ratio	Liability Volatility Ratio
2008	6.4	8.1
2009	5.4	8.6
2010	6.3	10.0
2011	7.9	10.6
2012	8.6	11.9
2013	9.5	12.7



**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

**EXHIBIT A**

**Table of Plan Coverage**

**i. General Tier 1**

<b>Category</b>	<b>Year Ended June 30</b>		<b>Change From Prior Year</b>
	<b>2013</b>	<b>2012</b>	
<b>Active members in valuation</b>			
Number	4,329	4,642	-6.7%
Average age	46.9	46.4	N/A
Average service	14.1	13.4	N/A
Projected total compensation <sup>(1)</sup>	\$238,767,742	\$255,857,624	-6.7%
Projected average compensation <sup>(1)</sup>	\$55,155	\$55,118	0.1%
Member account balances	\$206,891,009	\$202,083,589	2.4%
<b>Vested terminated members</b>			
Number	1,157	1,242	-6.8%
Average age	49.6	49.0	N/A
<b>Retired members</b>			
Number in pay status	4,666	4,562	2.3%
Average age	69.0	68.6	N/A
Average monthly benefit <sup>(2)</sup>	\$2,695	\$2,638	2.2%
<b>Disabled members</b>			
Number in pay status	194	195	-0.5%
Average age	66.1	66.1	N/A
Average monthly benefit <sup>(2)</sup>	\$1,839	\$1,790	2.7%
<b>Beneficiaries</b>			
Number in pay status	676	668	1.2%
Average age	72.4	72.2	N/A
Average monthly benefit <sup>(2)</sup>	\$1,561	\$1,482	5.3%

<sup>(1)</sup> *Projected compensation was calculated by increasing the annualized compensation by one-half of the inflation plus across-the-board salary increase plus merit.*

<sup>(2)</sup> *Benefits include regular and settlement benefits but exclude non-vested supplemental benefits.*

**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

**EXHIBIT A**

**Table of Plan Coverage**

**ii. General Tier 2**

<b>Category</b>	<b>Year Ended June 30</b>		<b>Change From Prior Year</b>
	<b>2013</b>	<b>2012</b>	
<b>Active members in valuation</b>			
Number	200	213	-6.1%
Average age	42.1	41.0	N/A
Average service	4.2	3.2	N/A
Projected total compensation <sup>(1)</sup>	\$12,528,244	\$12,630,744	-0.8%
Projected average compensation <sup>(1)</sup>	\$62,641	\$59,299	5.6%
Member account balances	\$3,064,003	\$2,319,824	32.1%
<b>Vested terminated members</b>			
Number	10	10	0.0%
Average age	42.4	41.7	N/A
<b>Retired members</b>			
Number in pay status	5	5	0.0%
Average age	60.2	59.2	N/A
Average monthly benefit <sup>(2)</sup>	\$2,173	\$2,129	2.1%
<b>Disabled members</b>			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit <sup>(2)</sup>	N/A	N/A	N/A
<b>Beneficiaries</b>			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit <sup>(2)</sup>	N/A	N/A	N/A

<sup>(1)</sup> Projected compensation was calculated by increasing the annualized compensation by one-half of the inflation plus across-the-board salary increase plus merit.

<sup>(2)</sup> Benefits include regular and settlement benefits but exclude non-vested supplemental benefits.

**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

**EXHIBIT A**

**Table of Plan Coverage**

**iii. General Tier 3**

<b>Category</b>	<b>Year Ended June 30</b>		<b>Change From Prior Year</b>
	<b>2013</b>	<b>2012</b>	
<b>Active members in valuation</b>			
Number	921	994	-7.3%
Average age	38.4	37.4	N/A
Average service	4.2	3.2	N/A
Projected total compensation <sup>(1)</sup>	\$37,115,560	\$37,184,452	-0.2%
Projected average compensation <sup>(1)</sup>	\$40,299	\$37,409	7.7%
Member account balances	\$9,285,512	\$7,163,175	29.6%
<b>Vested terminated members</b>			
Number	10	7	42.9%
Average age	39.8	32.3	N/A
<b>Retired members</b>			
Number in pay status	2	2	0.0%
Average age	66.4	65.4	N/A
Average monthly benefit <sup>(2)</sup>	\$1,879	\$1,842	2.0%
<b>Disabled members</b>			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit <sup>(2)</sup>	N/A	N/A	N/A
<b>Beneficiaries</b>			
Number in pay status	1	0	N/A
Average age	63.5	N/A	N/A
Average monthly benefit <sup>(2)</sup>	\$1,241	N/A	N/A

<sup>(1)</sup> *Projected compensation was calculated by increasing the annualized compensation by one-half of the inflation plus across-the-board salary increase plus merit.*

<sup>(2)</sup> *Benefits include regular and settlement benefits but exclude non-vested supplemental benefits.*

**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

**EXHIBIT A**

**Table of Plan Coverage**

**iv. General Tier 4**

<b>Category</b>	<b>Year Ended June 30</b>		<b>Change From Prior Year</b>
	<b>2013</b>	<b>2012</b>	
<b>Active members in valuation</b>			
Number	303	51	494.1%
Average age	36.1	36.2	N/A
Average service	0.8	0.1	N/A
Projected total compensation <sup>(1)</sup>	\$11,772,905	\$1,742,770	575.5%
Projected average compensation <sup>(1)</sup>	\$38,854	\$34,172	13.7%
Member account balances	\$547,549	\$19,951	26.4
<b>Vested terminated members</b>			
Number	0	0	N/A
Average age	N/A	N/A	N/A
<b>Retired members</b>			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit <sup>(2)</sup>	N/A	N/A	N/A
<b>Disabled members</b>			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit <sup>(2)</sup>	N/A	N/A	N/A
<b>Beneficiaries</b>			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit <sup>(2)</sup>	N/A	N/A	N/A

<sup>(1)</sup> *Projected compensation was calculated by increasing the annualized compensation by one-half of the inflation plus across-the-board salary increase plus merit.*

<sup>(2)</sup> *Benefits include regular benefits but exclude non-vested supplemental benefits.*

**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

**EXHIBIT A**

**Table of Plan Coverage  
v. General Tier 5**

<b>Category</b>	<b>Year Ended June 30</b>		<b>Change From Prior Year</b>
	<b>2013</b>	<b>2012</b>	
<b>Active members in valuation</b>			
Number	267	0	N/A
Average age	34.4	N/A	N/A
Average service	0.3	N/A	N/A
Projected total compensation <sup>(1)</sup>	\$9,171,114	N/A	N/A
Projected average compensation <sup>(1)</sup>	\$34,349	N/A	N/A
Member account balances	\$147,616	N/A	N/A
<b>Vested terminated members</b>			
Number	0	0	N/A
Average age	N/A	N/A	N/A
<b>Retired members</b>			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit <sup>(2)</sup>	N/A	N/A	N/A
<b>Disabled members</b>			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit <sup>(2)</sup>	N/A	N/A	N/A
<b>Beneficiaries</b>			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit <sup>(2)</sup>	N/A	N/A	N/A

<sup>(1)</sup> *Projected compensation was calculated by increasing the annualized compensation by one-half of the inflation plus across-the-board salary increase plus merit.*

<sup>(2)</sup> *Benefits include regular benefits but exclude non-vested supplemental benefits.*

**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

**EXHIBIT A**

**Table of Plan Coverage**

**vi. Safety Tier 1**

<b>Category</b>	<b>Year Ended June 30</b>		<b>Change From Prior Year</b>
	<b>2013</b>	<b>2012</b>	
<b>Active members in valuation</b>			
Number	667	698	-4.4%
Average age	43.6	43.0	N/A
Average service	15.4	14.7	N/A
Projected total compensation <sup>(1)</sup>	\$51,377,811	\$53,728,807	-4.4%
Projected average compensation <sup>(1)</sup>	\$77,028	\$76,975	0.1%
Member account balances	\$54,038,622	\$50,706,309	6.6%
<b>Vested terminated members</b>			
Number	114	111	2.7%
Average age	44.7	43.7	N/A
<b>Retired members</b>			
Number in pay status	536	518	3.5%
Average age	65.4	64.9	N/A
Average monthly benefit <sup>(2)</sup>	\$4,485	\$4,431	1.2%
<b>Disabled members</b>			
Number in pay status	140	144	-2.8%
Average age	57.6	57.3	N/A
Average monthly benefit <sup>(2)</sup>	\$3,239	\$3,150	2.8%
<b>Beneficiaries</b>			
Number in pay status	143	141	1.4%
Average age	66.0	66.4	N/A
Average monthly benefit <sup>(2)</sup>	\$2,006	\$2,014	-0.4%

<sup>(1)</sup> *Projected compensation was calculated by increasing the annualized compensation by one-half of the inflation plus across-the-board salary increase plus merit.*

<sup>(2)</sup> *Benefits include regular and settlement benefits but exclude non-vested supplemental benefits.*

**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

**EXHIBIT A**

**Table of Plan Coverage**

**vii. Safety Tier 2**

<b>Category</b>	<b>Year Ended June 30</b>		<b>Change From Prior Year</b>
	<b>2013</b>	<b>2012</b>	
<b>Active members in valuation</b>			
Number	69	69	0.0%
Average age	33.5	32.9	N/A
Average service	3.8	2.8	N/A
Projected total compensation <sup>(1)</sup>	\$4,287,331	\$4,054,342	5.7%
Projected average compensation <sup>(1)</sup>	\$62,135	\$58,759	5.7%
Member account balances	\$1,420,362	\$1,053,795	34.8%
<b>Vested terminated members</b>			
Number	4	5	-20.0%
Average age	31.7	30.3	N/A
<b>Retired members</b>			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit <sup>(2)</sup>	N/A	N/A	N/A
<b>Disabled members</b>			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit <sup>(2)</sup>	N/A	N/A	N/A
<b>Beneficiaries</b>			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit <sup>(2)</sup>	N/A	N/A	N/A

<sup>(1)</sup> Projected compensation was calculated by increasing the annualized compensation by one-half of the inflation plus across-the-board salary increase plus merit.

<sup>(2)</sup> Benefits include regular and settlement benefits but exclude non-vested supplemental benefits.

**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

**EXHIBIT A**

**Table of Plan Coverage**

**viii. Safety Tier 4**

<b>Category</b>	<b>Year Ended June 30</b>		<b>Change From Prior Year</b>
	<b>2013</b>	<b>2012</b>	
<b>Active members in valuation</b>			
Number	68	10	580.0%
Average age	29.8	32.2	N/A
Average service	0.8	0.0	N/A
Projected total compensation <sup>(1)</sup>	\$3,270,451	\$397,072	723.6%
Projected average compensation <sup>(1)</sup>	\$48,095	\$39,707	21.1%
Member account balances	\$205,153	\$1,333	152.9
<b>Vested terminated members</b>			
Number	0	0	N/A
Average age	N/A	N/A	N/A
<b>Retired members</b>			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit <sup>(2)</sup>	N/A	N/A	N/A
<b>Disabled members</b>			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit <sup>(2)</sup>	N/A	N/A	N/A
<b>Beneficiaries</b>			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit <sup>(2)</sup>	N/A	N/A	N/A

<sup>(1)</sup> Projected compensation was calculated by increasing the annualized compensation by one-half of the inflation plus across-the-board salary increase plus merit.

<sup>(2)</sup> Benefits include regular and settlement benefits but exclude non-vested supplemental benefits.



**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

**EXHIBIT A**

**Table of Plan Coverage**

**ix. Safety Tier 5**

<b>Category</b>	<b>Year Ended June 30</b>		<b>Change From Prior Year</b>
	<b>2013</b>	<b>2012</b>	
<b>Active members in valuation</b>			
Number	42	0	N/A
Average age	29.9	N/A	N/A
Average service	0.3	N/A	N/A
Projected total compensation <sup>(1)</sup>	\$1,787,641	N/A	N/A
Projected average compensation <sup>(1)</sup>	\$42,563	N/A	N/A
Member account balances	\$50,500	N/A	N/A
<b>Vested terminated members</b>			
Number	0	0	N/A
Average age	N/A	N/A	N/A
<b>Retired members</b>			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit <sup>(2)</sup>	N/A	N/A	N/A
<b>Disabled members</b>			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit <sup>(2)</sup>	N/A	N/A	N/A
<b>Beneficiaries</b>			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit <sup>(2)</sup>	N/A	N/A	N/A

<sup>(1)</sup> *Projected compensation was calculated by increasing the annualized compensation by one-half of the inflation plus across-the-board salary increase plus merit.*

<sup>(2)</sup> *Benefits include regular and settlement benefits but exclude non-vested supplemental benefits.*

**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

**EXHIBIT B**

**Members in Active Service and Projected Average Compensation  
By Age, Years of Service as of June 30, 2013**

**i. General Tier 1**

Age	Total	Years of Service									
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over	
Under 25	3	3	--	--	--	--	--	--	--	--	--
	\$30,059	\$30,059	--	--	--	--	--	--	--	--	--
25 - 29	94	33	61	--	--	--	--	--	--	--	--
	40,658	34,497	\$43,991	--	--	--	--	--	--	--	--
30 - 34	441	39	304	96	2	--	--	--	--	--	--
	49,716	41,208	50,804	\$49,591	\$56,296	--	--	--	--	--	--
35 - 39	633	30	214	354	35	--	--	--	--	--	--
	52,904	40,160	52,228	54,267	54,176	--	--	--	--	--	--
40 - 44	720	16	173	326	163	41	1	--	--	--	--
	55,963	46,092	53,148	55,745	61,310	\$52,418	\$45,649	--	--	--	--
45 - 49	689	13	117	241	166	134	17	1	--	--	--
	56,571	40,554	55,069	53,824	59,702	59,776	62,669	\$49,801	--	--	--
50 - 54	730	7	115	190	151	171	70	25	1	--	--
	57,305	38,933	52,045	54,612	57,324	62,069	62,455	59,744	\$63,642	--	--
55 - 59	640	6	80	185	122	108	72	64	3	--	--
	57,242	43,472	51,868	52,971	57,409	57,829	70,410	61,396	58,807	--	--
60 - 64	303	7	41	106	55	53	30	8	2	1	--
	57,569	56,225	57,230	51,987	55,857	63,451	69,051	63,085	52,595	\$76,233	--
65 - 69	69	--	13	30	14	3	6	2	--	1	--
	55,838	--	53,657	55,187	58,776	40,007	61,816	68,867	--	48,151	--
70 & over	7	--	3	2	1	1	--	--	--	--	--
	58,345	--	66,320	72,347	35,641	29,120	--	--	--	--	--
Total	4,329	154	1,121	1,530	709	511	196	100	6	2	--
	\$55,155	\$40,468	\$52,025	\$53,989	\$58,538	\$59,746	\$66,300	\$61,152	\$57,542	\$62,192	--

**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

**EXHIBIT B**

**Members in Active Service and Projected Average Compensation  
By Age, Years of Service as of June 30, 2013**

**ii. General Tier 2**

Age	Years of Service									
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	2	2	--	--	--	--	--	--	--	--
	\$48,532	\$48,532	--	--	--	--	--	--	--	--
25 - 29	28	27	1	--	--	--	--	--	--	--
	47,235	47,131	\$50,052	--	--	--	--	--	--	--
30 - 34	44	30	14	--	--	--	--	--	--	--
	52,255	46,927	63,671	--	--	--	--	--	--	--
35 - 39	29	14	15	--	--	--	--	--	--	--
	68,817	77,649	60,574	--	--	--	--	--	--	--
40 - 44	19	5	12	1	1	--	--	--	--	--
	64,844	59,886	65,485	\$76,791	\$70,004	--	--	--	--	--
45 - 49	20	14	5	--	1	--	--	--	--	--
	65,314	64,258	72,308	--	45,117	--	--	--	--	--
50 - 54	23	14	8	1	--	--	--	--	--	--
	72,689	75,586	71,775	39,447	--	--	--	--	--	--
55 - 59	18	12	5	1	--	--	--	--	--	--
	86,959	82,462	81,670	167,371	--	--	--	--	--	--
60 - 64	10	4	6	--	--	--	--	--	--	--
	61,691	62,613	61,076	--	--	--	--	--	--	--
65 - 69	6	2	3	1	--	--	--	--	--	--
	44,836	51,596	37,538	53,208	--	--	--	--	--	--
70 & over	1	--	1	--	--	--	--	--	--	--
	152,345	--	152,345	--	--	--	--	--	--	--
<b>Total</b>	<b>200</b>	<b>124</b>	<b>70</b>	<b>4</b>	<b>2</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
	<b>\$62,641</b>	<b>\$60,201</b>	<b>\$65,877</b>	<b>\$84,205</b>	<b>\$57,561</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>

**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

**EXHIBIT B**

**Members in Active Service and Projected Average Compensation  
By Age, Years of Service as of June 30, 2013**

**iii. General Tier 3**

Age	Total	Years of Service								
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	21	21	--	--	--	--	--	--	--	--
	\$28,188	\$28,188	--	--	--	--	--	--	--	--
25 - 29	185	137	48	--	--	--	--	--	--	--
	37,521	36,483	\$40,484	--	--	--	--	--	--	--
30 - 34	241	139	101	1	--	--	--	--	--	--
	40,910	37,553	45,641	\$29,760	--	--	--	--	--	--
35 - 39	140	68	64	8	--	--	--	--	--	--
	43,800	39,864	47,544	47,293	--	--	--	--	--	--
40 - 44	93	47	41	5	--	--	--	--	--	--
	41,084	35,016	47,184	48,114	--	--	--	--	--	--
45 - 49	84	42	31	7	4	--	--	--	--	--
	40,227	36,950	42,066	39,376	\$61,876	--	--	--	--	--
50 - 54	72	39	27	5	1	--	--	--	--	--
	38,226	36,344	39,485	44,372	46,878	--	--	--	--	--
55 - 59	49	21	22	5	--	1	--	--	--	--
	43,056	40,409	47,255	38,208	--	\$30,530	--	--	--	--
60 - 64	26	14	10	2	--	--	--	--	--	--
	39,846	34,770	48,964	29,785	--	--	--	--	--	--
65 - 69	9	3	6	--	--	--	--	--	--	--
	52,110	39,130	58,600	--	--	--	--	--	--	--
70 & over	1	1	--	--	--	--	--	--	--	--
	23,859	23,859	--	--	--	--	--	--	--	--
<b>Total</b>	<b>921</b>	<b>532</b>	<b>350</b>	<b>33</b>	<b>5</b>	<b>1</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
	<b>\$40,299</b>	<b>\$36,866</b>	<b>\$45,090</b>	<b>\$42,326</b>	<b>\$58,877</b>	<b>\$30,530</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>

**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

**EXHIBIT B**

**Members in Active Service and Projected Average Compensation  
By Age, Years of Service as of June 30, 2013**

**iv. General Tier 4**

Age	Total	Years of Service								
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	17	17	--	--	--	--	--	--	--	--
	\$32,063	\$32,063	--	--	--	--	--	--	--	--
25 - 29	92	92	--	--	--	--	--	--	--	--
	38,611	38,611	--	--	--	--	--	--	--	--
30 - 34	66	65	1	--	--	--	--	--	--	--
	40,661	40,478	\$52,593	--	--	--	--	--	--	--
35 - 39	35	35	--	--	--	--	--	--	--	--
	40,011	40,011	--	--	--	--	--	--	--	--
40 - 44	34	34	--	--	--	--	--	--	--	--
	37,219	37,219	--	--	--	--	--	--	--	--
45 - 49	23	23	--	--	--	--	--	--	--	--
	36,790	36,790	--	--	--	--	--	--	--	--
50 - 54	16	15	1	--	--	--	--	--	--	--
	38,854	38,537	43,599	--	--	--	--	--	--	--
55 - 59	15	15	--	--	--	--	--	--	--	--
	39,197	39,197	--	--	--	--	--	--	--	--
60 - 64	5	5	--	--	--	--	--	--	--	--
	54,065	54,065	--	--	--	--	--	--	--	--
65 - 69	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
70 & over	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
<b>Total</b>	<b>303</b>	<b>301</b>	<b>2</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
	<b>\$38,854</b>	<b>\$38,793</b>	<b>\$48,097</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>

**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

**EXHIBIT B**

**Members in Active Service and Projected Average Compensation  
By Age, Years of Service as of June 30, 2013**

**v. General Tier 5**

Age	Total	Years of Service								
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	43	43	--	--	--	--	--	--	--	--
	\$29,622	\$29,622	--	--	--	--	--	--	--	--
25 - 29	72	72	--	--	--	--	--	--	--	--
	33,599	33,599	--	--	--	--	--	--	--	--
30 - 34	56	56	--	--	--	--	--	--	--	--
	33,215	33,215	--	--	--	--	--	--	--	--
35 - 39	31	31	--	--	--	--	--	--	--	--
	36,466	36,466	--	--	--	--	--	--	--	--
40 - 44	23	23	--	--	--	--	--	--	--	--
	29,506	29,506	--	--	--	--	--	--	--	--
45 - 49	11	11	--	--	--	--	--	--	--	--
	39,337	39,337	--	--	--	--	--	--	--	--
50 - 54	14	14	--	--	--	--	--	--	--	--
	44,506	44,506	--	--	--	--	--	--	--	--
55 - 59	13	13	--	--	--	--	--	--	--	--
	45,678	45,678	--	--	--	--	--	--	--	--
60 - 64	3	3	--	--	--	--	--	--	--	--
	39,233	39,233	--	--	--	--	--	--	--	--
65 - 69	1	1	--	--	--	--	--	--	--	--
	41,809	41,809	--	--	--	--	--	--	--	--
70 & over	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	267	267	--	--	--	--	--	--	--	--
	\$34,349	\$34,349	--	--	--	--	--	--	--	--

**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

**EXHIBIT B**

**Members in Active Service and Projected Average Compensation  
By Age, Years of Service as of June 30, 2013**

**vi. Safety Tier 1**

Age	Total	Years of Service									
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over	
Under 25	--	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--	--
25 - 29	3	--	3	--	--	--	--	--	--	--	--
	\$70,335	--	\$70,335	--	--	--	--	--	--	--	--
30 - 34	79	2	51	26	--	--	--	--	--	--	--
	71,016	\$54,393	68,845	\$76,552	--	--	--	--	--	--	--
35 - 39	140	2	31	95	12	--	--	--	--	--	--
	75,020	65,705	72,716	75,775	\$76,549	--	--	--	--	--	--
40 - 44	169	1	18	76	64	10	--	--	--	--	--
	77,441	43,418	71,654	77,645	79,634	\$75,666	--	--	--	--	--
45 - 49	144	1	8	24	51	54	6	--	--	--	--
	78,709	46,528	66,897	74,274	77,509	83,403	\$85,522	--	--	--	--
50 - 54	102	--	3	19	13	39	20	8	--	--	--
	80,094	--	80,738	75,806	79,263	76,228	86,040	\$95,375	--	--	--
55 - 59	19	--	--	5	1	8	3	2	--	--	--
	81,127	--	--	72,889	90,690	77,738	105,728	73,599	--	--	--
60 - 64	10	--	2	3	2	2	--	--	--	--	1
	85,312	--	74,565	76,500	77,816	94,003	--	--	--	--	\$130,851
65 - 69	1	--	--	1	--	--	--	--	--	--	--
	67,987	--	--	67,987	--	--	--	--	--	--	--
70 & over	--	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--	--
Total	667	6	116	249	143	113	29	10	--	--	1
	\$77,028	\$55,024	\$70,626	\$76,204	\$78,635	\$80,029	\$87,969	\$91,020	--	--	\$130,851

**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

**EXHIBIT B**

**Members in Active Service and Projected Average Compensation  
By Age, Years of Service as of June 30, 2013**

**vii. Safety Tier 2**

Age	Total	Years of Service								
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	5	5	--	--	--	--	--	--	--	--
	\$46,639	\$46,639	--	--	--	--	--	--	--	--
25 - 29	24	15	9	--	--	--	--	--	--	--
	56,999	45,754	\$75,741	--	--	--	--	--	--	--
30 - 34	18	4	14	--	--	--	--	--	--	--
	68,758	50,615	73,942	--	--	--	--	--	--	--
35 - 39	10	8	2	--	--	--	--	--	--	--
	54,931	49,558	76,426	--	--	--	--	--	--	--
40 - 44	5	4	1	--	--	--	--	--	--	--
	64,119	58,824	85,300	--	--	--	--	--	--	--
45 - 49	3	--	3	--	--	--	--	--	--	--
	76,797	--	76,797	--	--	--	--	--	--	--
50 - 54	2	--	2	--	--	--	--	--	--	--
	90,398	--	90,398	--	--	--	--	--	--	--
55 - 59	2	--	2	--	--	--	--	--	--	--
	83,707	--	83,707	--	--	--	--	--	--	--
60 - 64	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
65 - 69	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
70 & over	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
<b>Total</b>	<b>69</b>	<b>36</b>	<b>33</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
	<b>\$62,135</b>	<b>\$48,714</b>	<b>\$76,776</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>



**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

**EXHIBIT B**

**Members in Active Service and Projected Average Compensation  
By Age, Years of Service as of June 30, 2013**

**viii. Safety Tier 4**

Age	Total	Years of Service								
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	14	14	--	--	--	--	--	--	--	--
	\$46,375	\$46,375	--	--	--	--	--	--	--	--
25 - 29	28	28	--	--	--	--	--	--	--	--
	45,513	45,513	--	--	--	--	--	--	--	--
30 - 34	16	16	--	--	--	--	--	--	--	--
	47,218	47,218	--	--	--	--	--	--	--	--
35 - 39	4	4	--	--	--	--	--	--	--	--
	63,354	63,354	--	--	--	--	--	--	--	--
40 - 44	5	5	--	--	--	--	--	--	--	--
	50,845	50,845	--	--	--	--	--	--	--	--
45 - 49	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
50 - 54	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
55 - 59	1	1	--	--	--	--	--	--	--	--
	83,713	83,713	--	--	--	--	--	--	--	--
60 - 64	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
65 - 69	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
70 & over	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
<b>Total</b>	<b>68</b>	<b>68</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
	<b>\$48,095</b>	<b>\$48,095</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>

**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

**EXHIBIT B**

**Members in Active Service and Projected Average Compensation  
By Age, Years of Service as of June 30, 2013**

**ix. Safety Tier 5**

Age	Total	Years of Service								
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	8	8	--	--	--	--	--	--	--	--
	\$39,786	\$39,786	--	--	--	--	--	--	--	--
25 - 29	19	19	--	--	--	--	--	--	--	--
	40,626	40,626	--	--	--	--	--	--	--	--
30 - 34	9	9	--	--	--	--	--	--	--	--
	50,471	50,471	--	--	--	--	--	--	--	--
35 - 39	3	3	--	--	--	--	--	--	--	--
	40,182	40,182	--	--	--	--	--	--	--	--
40 - 44	1	1	--	--	--	--	--	--	--	--
	39,286	39,286	--	--	--	--	--	--	--	--
45 - 49	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
50 - 54	1	1	--	--	--	--	--	--	--	--
	41,699	41,699	--	--	--	--	--	--	--	--
55 - 59	1	1	--	--	--	--	--	--	--	--
	41,699	41,699	--	--	--	--	--	--	--	--
60 - 64	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
65 - 69	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
70 & over	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	42	42	--	--	--	--	--	--	--	--
	\$42,563	\$42,563	--	--	--	--	--	--	--	--

**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

**EXHIBIT C**

**Reconciliation of Member Data – June 30, 2012 to June 30, 2013**

	<b>Active Members</b>	<b>Vested Terminated Members</b>	<b>Pensioners</b>	<b>Disableds</b>	<b>Beneficiaries</b>	<b>Total</b>
Number as of June 30, 2012	6,677	1,375	5,087	339	809	14,287
New members	649	0	0	0	0	649
Terminations – with vested rights	-28	28	0	0	0	0
Contributions refunds	-273	-32	0	0	0	-305
Retirements	-164	-62	226	0	0	0
New disabilities	-3	-2	-1	6	0	0
Return to work	11	-11	0	0	0	0
Died with or without beneficiary	-3	-1	-107	-11	29*	-93
Data adjustments	0	0	4	0	-18	-14
Number as of June 30, 2013	6,866	1,295	5,209	334	820	14,524

\* This is the net increase in the number of beneficiaries after subtracting the number of beneficiaries who died during the year.

**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

**EXHIBIT D**

**Summary Statement of Income and Expenses on an Actuarial Value Basis**

	Year Ended June 30,	
	2013	2012
<b>Contribution income:</b>		
Employer contributions	\$158,572,420	\$157,869,172
Employee contributions	<u>30,515,683</u>	<u>32,627,149</u>
Contribution income	\$189,088,102	\$190,496,321
<b>Investment income:</b>		
Interest, dividends and other income	\$84,767,171	\$102,615,687
Adjustment toward market value	163,442,741	102,937,742
Less investment and administrative fees	<u>-18,829,551</u>	<u>-18,414,706</u>
Net investment income	<u>229,380,361</u>	<u>187,138,723</u>
<b>Total income available for benefits</b>	<b>\$418,468,463</b>	<b>\$377,635,044</b>
<b>Less benefit payments:</b>		
Service retirement	-\$196,409,132	-\$180,169,712
Death payments	-1,215,086	-1,291,947
Supplemental cost of living	-889,297	-1,054,713
Members refunds	-2,210,889	-1,785,748
Health insurance subsidies	<u>-12,232,226</u>	<u>-11,018,863</u>
Benefit payments	-\$212,956,631	-\$195,320,983
<b>Change in reserve for future benefits</b>	<b>\$205,511,832</b>	<b>\$182,314,061</b>

*Results may not total properly due to rounding.*

**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

**EXHIBIT E**

**Summary Statement of Assets**

	Year Ended June 30,	
	2013	2012
<b>Cash equivalents</b>	\$147,426,913	\$110,149,707
<b>Accounts receivable:</b>		
Investment trades	\$152,441,618	\$121,333,234
Interest and dividends	9,742,570	9,410,264
Contributions and others	11,033,756	10,186,529
Securities lending	<u>156,584</u>	<u>190,725</u>
Total accounts receivable	173,374,528	141,120,752
<b>Investments:</b>		
Equities	\$1,853,833,483	\$1,551,046,644
Fixed income	883,387,662	888,857,655
Real estate	68,555,179	46,278,197
Securities lending collateral	333,988,314	227,952,164
Capital assets	5,035,431	3,800,637
Others	<u>632,416,955</u>	<u>568,807,039</u>
Total investments at market value	<u>3,777,217,023</u>	<u>3,286,742,336</u>
<b>Total assets</b>	\$4,098,018,464	\$3,538,012,795
<b>Less accounts payable:</b>		
Investment trades	-\$261,483,887	-\$158,550,634
Cash collateral payable for securities lending	-333,988,314	-227,952,164
Securities lending bank and broker fees	-38,542	-64,177
Others	<u>-3,055,990</u>	<u>-2,933,157</u>
Total accounts payable	-\$598,566,733	-\$389,500,132
<b>Net assets at market value</b>	<u>\$3,499,451,731</u>	<u>\$3,148,512,663</u>
<b>Net assets at actuarial value</b>	<u>\$3,539,367,350</u>	<u>\$3,333,855,518</u>
<b>Net assets at valuation value</b>	<u>\$3,518,982,097</u>	<u>\$3,305,045,273</u>

*Results may not total properly due to rounding.*

**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

**EXHIBIT F**

**Actuarial Balance Sheet**

An overview of the Plan's funding is given by an Actuarial Balance Sheet. In this approach, we first determine the amount and timing of all future payments that will be made by the Plan for current participants. We then discount these payments at the valuation interest rate to the date of the valuation, thereby determining their present value. We refer to this present value as the "liability" of the Plan.

Second, we determine how this liability will be met. These actuarial "assets" include the net amount of assets already accumulated by the Plan, the present value of future member contributions, the present value of future employer normal cost contributions, and the present value of future employer amortization payments.

**Actuarial Balance Sheet (Dollar Amounts in Thousands)**

Assets	Regular	Settlement Benefits			Total
		Section 6*	Section 8*	Section 9*	
1. Total valuation assets	\$2,772,245	\$644,312	\$84,856	\$17,569	\$3,518,982
2. Present value of future contributions by members	\$225,411	\$56,853	\$0	\$0	\$282,264
3. Present value of future employer contributions for:					
a. entry age normal cost	\$468,411	\$95,897	\$0	\$7,833	\$572,141
b. unfunded actuarial accrued liability	\$896,520	\$221,120	\$11,842	\$46,316	\$1,175,798
4. Total current and future assets	\$4,362,587	\$1,018,182	\$96,698	\$71,718	\$5,549,185
<b>Liabilities</b>					
5. Present value of benefits already granted	\$2,154,833	\$448,824	\$96,698	\$42,779	\$2,743,134
6. Present value of benefits to be granted - deferred members	\$158,562	\$56,753	\$0	\$2,737	\$218,052
- active members	\$2,049,192	\$512,605	\$0	\$26,202	\$2,587,999
7. Total liabilities	\$4,362,587	\$1,018,182	\$96,698	\$71,718	\$5,549,185

\* See page 79 for a description of these benefits.

**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

**EXHIBIT G**

**Summary of Reported Asset Information as of June 30, 2013**

	<b>Reserves</b>
<b>Used in Development of Valuation Value of Assets</b>	
<i>Regular Valuation Reserves</i>	
Members' Accumulated Contributions	\$352,931,172
Current Service Reserve	804,224,191
Annuity Pension Reserve	136,053,413
Current Service Pension Reserve	1,073,077,909
Cost of Living Reserve	865,020,115
Survivors' Death Benefit Reserve	1,535,868
Subtotal	<u>\$3,232,842,667</u>
<i>Settlement Reserves (Section 6)</i>	
Supplemental Annuity Reserve	\$512,147,685
Members' Accumulated Contributions	45,956,426
Current Service Reserve	173,598,213
Annuity Pension Reserve	15,436,371
Subtotal	<u>\$747,138,694</u>
<i>Supplemental Benefit Reserve (Section 8)</i>	
	\$104,214,079
<i>Retiree Health Insurance Reserve (Section 9)</i>	
	\$23,099,472
<i>Contra Tracking Account</i>	
	<u>\$(588,312,815)</u>
Total	\$3,518,982,097
<b>Not Used in Development of Valuation Value of Assets</b>	
<i>Supplemental COLA</i>	
	\$2,131,272
<i>Retiree Health Insurance Reserves</i>	
	18,253,981
<i>Contingency Reserve</i>	
	0
<i>Board Contingency Reserve/Undistributed Earnings ("Available Earnings")</i>	
	0
<i>Market Stabilization Reserve</i>	
	<u>(39,915,619)</u>
Total	\$(19,530,366)
Grand Total	\$3,499,451,731

*Note: Results may not total properly due to rounding.*

**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

**EXHIBIT H**

**Development of Unfunded Actuarial Accrued Liability as of June 30, 2013**

	<b>(Dollar amounts in Thousands)</b>
1 Unfunded actuarial accrued liability at beginning of year	\$1,040,357
2 Total Normal Cost payable at middle of year	101,137
3 Actual employer and member contributions	-189,088
4 Interest (full year on (1) plus half year on (2) + (3))	<u>77,220</u>
5 Expected unfunded actuarial accrued liability at end of year <sup>(1)</sup>	\$1,029,626
6 Actuarial (gain)/loss due to all changes:	
<u>Experience (gain)/loss</u>	
a. Loss from investment return	\$26,162
b. Gain from lower than expected salary increases	-60,554
c. Gain from lower than expected COLA increases	-42,060
d. Gain from fewer than expected healthy and disabled retirements	-22,418
e. Other experience gains	<u>-13,871</u>
f. Subtotal	-\$112,741
<u>Other changes</u>	
g. Change in actuarial assumptions <sup>(2)</sup>	<u>258,913</u>
h. Subtotal	\$258,913
7 Actual unfunded actuarial accrued liability at end of year (5) + (6f) + (6h)	\$1,175,798

<sup>(1)</sup> Includes a contribution loss of about \$16 million due to the one-year lag in implementation of the contribution rates determined in the June 30, 2012 valuation and the payment of the UAAL contributions based on lower than expected payroll.

<sup>(2)</sup> Of this amount, about \$2 million is due to the changes in the non-economic (demographic) assumptions.



### SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association

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#### EXHIBIT I

#### Section 415 Limitations

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Section 415 of the Internal Revenue Code (IRC) specifies the maximum benefits that may be paid to an individual from a defined benefit plan and the maximum amounts that may be allocated each year to an individual's account in a defined contribution plan.

A qualified pension plan may not pay benefits in excess of the Section 415 limits. The ultimate penalty for non-compliance is disqualification: active participants could be taxed on their vested benefits and the IRS may seek to tax the income earned on the plan's assets.

In particular, Section 415(b) of the IRC limits the maximum annual benefit payable at the Normal Retirement Age to a dollar indexed for inflation. That limit is \$205,000 for 2013 and \$210,000 for 2014. Normal Retirement Age for these purposes is age 62. These are the limits in simplified terms. They must generally be adjusted based on each participant's circumstances, for such things as age at retirement, form of benefits chosen and after tax contributions.

For non-PEPRA members, benefits in excess of the limits may be paid through a qualified governmental excess plan that meets the requirements of Section 415(m).

Legal Counsel's review and interpretation of the law and regulations should be sought on any questions in this regard.

Contributions rates determined in this valuation have not been reduced for the Section 415 limitations. Actual limitations will result in gains as they occur.

**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

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**EXHIBIT J**

**Definitions of Pension Terms**

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The following list defines certain technical terms for the convenience of the reader:

**Assumptions or Actuarial Assumptions:**

The estimates on which the cost of the Plan is calculated including:

- (a) Investment return — the rate of investment yield that the Plan will earn over the long-term net, in this case, of investment and administrative expenses.
- (b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;
- (c) Retirement rates — the rate or probability of retirement at a given age; and
- (d) Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

**Normal Cost:**

The amount of contributions required to fund the level cost allocated to the current year of service.

**Actuarial Accrued Liability For Actives:**

The equivalent of the accumulated normal costs allocated to the years before the valuation date.

**Actuarial Accrued Liability For Pensioners:**

The single sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and the interest that the sum is expected to earn before it is entirely paid out in benefits.

**Unfunded (Overfunded) Actuarial Accrued Liability:**

The extent to which the actuarial accrued liability of the Plan exceeds (or is exceeded by) the assets of the Plan. There are many approaches to paying off the unfunded or overfunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time.

**SECTION 3: Supplemental Information for the Fresno County Employees' Retirement Association**

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**Amortization of the Unfunded  
(Overfunded) Actuarial  
Accrued Liability:**

Payments made over a period of years equal in value to the Plan's unfunded or overfunded actuarial accrued liability.

**Investment Return:**

The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the gains and losses on the market value of assets to avoid significant swings in the value of assets from one year to the next.

## SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association

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### EXHIBIT I

#### Summary of Actuarial Valuation Results

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The valuation was made with respect to the following data supplied to us:

1. Retired members as of the valuation date (including 820 beneficiaries in pay status)	6,363
2. Members inactive during year ended June 30, 2013 with vested rights	1,295
3. Members active during the year ended June 30, 2013	6,866

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The actuarial factors as of the valuation date are as follows (amounts in 000s):

1. Normal cost		\$111,400
2. Present value of future benefits		5,549,185
3. Present value of future normal costs		854,405
4. Actuarial accrued liability*		4,694,780
Retired members and beneficiaries	\$2,743,134	
Inactive members with vested rights	218,052	
Active members	1,733,594	
5. Valuation value of assets* (\$3,499,452 at market value as reported by FCERA)		3,518,982
6. Unfunded actuarial accrued liability		\$1,175,798

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\* Excludes non-valuation reserves and designations.

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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**EXHIBIT I (continued)**

**Summary of Actuarial Valuation Results**

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The determination of the recommended average employer contribution is as follows  
(amounts in 000s):

	<b>Dollar Amount</b>	<b>% of Payroll</b>
1. Total normal cost	\$111,400	30.11%
2. Expected employee contributions	<u>-35,364</u>	<u>-9.56%</u>
3. Employer normal cost: (1) + (2)	\$76,036	20.55%
4. Amortization of unfunded actuarial accrued liability	<u>122,014</u>	<u>32.97%</u>
5. Total recommended average employer contribution: (3) + (4)	\$198,050	53.52%
8. Projected compensation	\$370,079	

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**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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**EXHIBIT II**

**Supplementary Information Required by GASB – Schedule of Employer Contributions (Dollar Amounts in Millions)**

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<b>Plan Year Ended June 30</b>	<b>Annual Required Contributions</b>	<b>Actual Contributions</b>	<b>Percentage Contributed</b>
2008	97	97	100.0%
2009	114	114	100.0%
2010	126	126	100.0%
2011	130	130	100.0%
2012	158	158	100.0%
2013	159	159	100.0%

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**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

**EXHIBIT III**

**Supplementary Information Required by GASB – Schedule of Funding Progress (Dollar Amounts in Thousands)**

<b>Actuarial Valuation Date</b>	<b>Valuation Value of Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) (b)</b>	<b>Unfunded/ (Overfunded) AAL (UAAL) (a) – (b)</b>	<b>Funded Ratio (%) (a) / (b)</b>	<b>Covered Payroll (c)</b>	<b>UAAL as a Percentage of Covered Payroll (%) [(a) – (b)] / (c)</b>
6/30/2008	\$2,812,423	\$3,429,990	\$617,567	82.0	\$424,083	145.6
6/30/2009	2,864,956	3,644,743	779,787	78.6	422,519	184.6
6/30/2010	2,983,044	4,092,464	1,109,420	72.9	408,861	271.3
6/30/2011	3,114,483	4,237,961	1,123,478	73.5	398,976	281.6
6/30/2012	3,305,045	4,345,402	1,040,357	76.1	365,596	284.6
6/30/2013	3,518,982	4,694,780	1,175,798	75.0	370,079	317.7

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

**EXHIBIT IV**

**Supplementary Information Required by GASB**

<b>Valuation date</b>	June 30, 2013
<b>Actuarial cost method</b>	Entry Age Cost Method
<b>Amortization method</b>	Level percent of payroll for total unfunded liability
<b>Remaining amortization period</b>	20 years (declining) for UAAL established as of June 30, 2003 plus 15 years (declining) for UAAL due to actuarial gains or losses, changes in actuarial assumptions or plan amendments* established on each subsequent valuation.
<b>Asset valuation method</b>	The actuarial value of assets is determined by recognizing any difference between the actual and the expected market return over 10 six-month interest crediting periods. The actuarial value of assets is further adjusted, if necessary, to be within 30% of the market value of assets. The valuation value of assets is the actuarial value of assets reduced by the value of the non-valuation reserves. Deferred gains and losses as of June 30, 2011 have been combined and will be recognized in equal amounts over a period of four and a half years from that date.
<b>Actuarial assumptions:</b>	
Investment rate of return	7.25%
Inflation rate	3.25%
Real across-the-board salary increase	0.50%
Projected salary increases**	General: 4.75% to 10.75% and Safety: 5.25% to 10.75%
Cost of living adjustments	3.00% of retirement income for General Tiers 1, 2 and 3, and Safety Tiers 1 and 2 0.00% for General Tiers 4 and 5 and Safety Tiers 4 and 5
<b>Plan membership:</b>	
Retired members and beneficiaries receiving benefits	6,363
Terminated members entitled to, but not yet receiving benefits	1,295
Active members	<u>6,866</u>
Total	14,524

\* Prior to the Board's most recent review of actuarial funding policy in April 2011, a 30-year amortization period was used for plan amendments.

\*\* Includes inflation at 3.25% plus real across-the-board salary increase of 0.50% plus merit and longevity increases. See Exhibit V for these increases.



**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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**EXHIBIT V**

**Actuarial Assumptions and Actuarial Cost Method**

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**Post – Retirement Mortality Rates:**

*Healthy:*

For General Members and all Beneficiaries: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2015, set back one year for males and set back two years for females.

For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2015, set back one year.

*Disabled:*

For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2015, set forward six years for males and set forward five years for females.

For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2015, set forward one year.

The mortality tables shown above were determined so as to reasonably reflect future mortality improvement, based on a review of mortality experience in the June 30, 2012 actuarial experience study.

*Employee Contribution Rates  
and Optional Benefits:*

For General Members and Beneficiaries: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2015, set back one year for males and set back two years for females weighted 35% male and 65% female for members and weighted 65% male and 35% female for beneficiaries.

For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2015, set back one year weighted 80% male and 20% female.

For Safety Beneficiaries: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2015, set back one year for males and set back two years for females weighted 20% male and 80% female.

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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**Termination Rates Before Retirement:**

Age	Rate (%) Mortality			
	General <sup>(1)</sup>		Safety <sup>(1)</sup>	
	Male	Female	Male	Female
25	0.03	0.02	0.03	0.02
30	0.04	0.02	0.04	0.02
35	0.07	0.03	0.07	0.04
40	0.09	0.05	0.09	0.05
45	0.12	0.07	0.12	0.08
50	0.15	0.11	0.15	0.12
55	0.24	0.18	0.24	0.21
60	0.47	0.36	0.47	0.41
65	0.91	0.71	0.91	0.80

<sup>(1)</sup> All pre-retirement deaths are assumed to be non-service connected.

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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**Termination Rates Before Retirement (Continued):**

Age	Rate (%) Disability		
	General <sup>(1)</sup>		Safety <sup>(2)</sup>
	Male	Female	Male and Female
20	0.01	0.01	0.01
25	0.01	0.02	0.11
30	0.02	0.02	0.24
35	0.03	0.06	0.42
40	0.04	0.10	0.62
45	0.17	0.16	0.82
50	0.28	0.19	1.02
55	0.39	0.29	2.24
60	0.78	0.44	3.00
65	1.00	0.50	3.00

<sup>(1)</sup> One-third of General disabilities are assumed to be duty disabilities. The other two-thirds are assumed to be ordinary disabilities.

<sup>(2)</sup> 100% of Safety disabilities are assumed to be duty disabilities.

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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**Termination Rates Before Retirement (Continued):**

**Rate (%)**  
**Total Termination (< 5 Years of Service)**

<b>Years of Service</b>	<b>General</b>		<b>Safety</b>
	<b>Male</b>	<b>Female</b>	<b>Male and Female</b>
0	17.00	15.00	17.00
1	8.00	7.00	6.00
2	7.00	6.50	5.00
3	6.00	5.00	4.75
4	6.00	5.00	4.50

**Rate (%)**  
**Total Termination (5+ Years of Service)**

<b>Age</b>	<b>General</b>		<b>Safety</b>
	<b>Male</b>	<b>Female</b>	<b>Male and Female</b>
20	5.50	5.00	3.75
25	5.50	5.00	3.75
30	4.90	5.00	3.30
35	4.20	4.70	2.70
40	3.88	4.20	2.20
45	3.68	3.70	1.40
50	3.54	3.35	1.00
55	3.35	3.10	1.00
60	3.10	3.00	0.40
65	2.10	2.10	0.00

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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**Termination Rates Before Retirement (Continued):**

**Proportion of Total Termination Assumed to  
Receive Refunds and Deferred Vested Benefits (%)**

<b>Years of Service</b>	<b>Refunds</b>	<b>Deferred Vested Benefits</b>
0-4	90.00	10.00
5-9	30.00	70.00
10-14	30.00	70.00
15-19	15.00	85.00
20 or more	15.00	85.00

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

**Retirement Rates:**

Rate (%)						
General						
Age	Tier 1	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
	Male	Female	Male & Female	Male & Female	Male & Female	Male & Female
50	4.00	5.00	3.00	3.00	2.00	0.00
51	3.00	5.00	3.00	3.00	2.00	0.00
52	3.00	5.00	3.60	3.60	2.50	4.50
53	4.00	5.00	3.60	3.60	2.50	2.00
54	5.00	6.00	4.20	4.20	3.00	2.50
55	8.00	9.00	8.40	8.40	4.00	3.50
56	11.00	12.00	10.00	10.00	5.00	4.50
57	16.00	14.00	10.00	10.00	6.00	5.50
58	21.00	15.00	10.00	10.00	7.00	6.50
59	22.00	18.00	10.00	15.00	8.00	7.50
60	25.00	19.00	15.00	19.20	9.00	8.50
61	25.00	23.00	15.00	19.20	11.00	10.50
62	27.00	27.00	25.00	34.20	17.00	16.00
63	27.00	25.00	24.00	23.70	16.00	15.00
64	30.00	27.00	24.00	23.70	20.00	19.00
65	40.00	40.00	35.00	43.30	25.00	24.00
66	50.00	40.00	34.00	33.30	21.00	21.00
67	50.00	40.00	34.00	33.30	21.00	21.00
68	50.00	45.00	35.00	40.00	25.00	25.00
69	50.00	50.00	35.00	46.70	30.00	30.00
70	100.00	100.00	100.00	100.00	100.00	100.00

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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**Retirement Rates (Continued):**

<b>Rate (%)</b>			
<b>Safety</b>			
<b>Age</b>	<b>Tier 1 &amp; Tier 2</b>	<b>Tier 4</b>	<b>Tier 5</b>
	<b>Male &amp; Female</b>	<b>Male &amp; Female</b>	<b>Male &amp; Female</b>
45	1.00	1.00	0.00
46	1.00	1.00	0.00
47	1.00	1.00	0.00
48	1.00	1.00	0.00
49	3.00	2.00	0.00
50	6.00	4.00	4.00
51	6.00	4.00	4.00
52	9.00	5.00	5.00
53	18.00	6.00	6.00
54	30.00	11.00	11.00
55	40.00	20.00	20.00
56	25.00	20.00	20.00
57	25.00	20.00	20.00
58	25.00	20.00	20.00
59	25.00	23.00	23.00
60	50.00	50.00	50.00
61	50.00	50.00	50.00
62	50.00	50.00	50.00
63	50.00	50.00	50.00
64	50.00	50.00	50.00
65	100.00	100.00	100.00

#### SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association

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**Retirement Age and Benefit for  
Deferred Vested Members:**

For current deferred vested members, retirement assumptions are as follows:

General:           Age 58  
Safety:             Age 55

We assume that 40% of future General and 65% of future Safety deferred vested members will continue to work for a reciprocal employer. For these members, we assume 4.75% and 5.25% compensation increases per annum for General and Safety members, respectively.

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**Future Benefit Accruals:**

1.0 year of service per year of employment.

**Annual Leave Conversion:**

Eligibility for annual leave plans is determined based on hire date along with other factors. The number of members in each plan used to set the assumptions below can be found on page 48 of our June 30, 2012 Actuarial Experience Study. The following assumptions for service converted from unused annual leave at retirement are used:

New Annual Leave Plan:

40 hours per year of service.

Annual Leave Plan II:

30 hours per year of service.

Vacation/Sick Leave Plans:

35 hours per year of service for General and 40 hours per year of service for Safety.

Annual Leave IV Plan or  
the Old Annual Leave Plan:

Based on actual hours in a member's frozen time off bank.

**Unknown Data for Members:**

Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.

**Inclusion of Deferred Vested  
Members:**

All deferred vested members are included in the valuation.

**Percent Married:**

75% of male members; 55% of female members.

**Age of Spouse:**

Wives are 3 years younger than their husbands.



**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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**Net Investment Return:** 7.25%, net of administration and investment expenses.

**Employee Contribution Crediting Rate:** 3.00%, compounded semi-annually.

**Consumer Price Index:** Increase of 3.25% per year, retiree COLA increases due to CPI subject to a 3.00% maximum change per year for General Tiers 1, 2 and 3, and Safety Tiers 1 and 2. General and Safety Tiers 4 and 5 receive no COLA increases.

**Salary Increases:**

Annual Rate of Compensation Increase		
Inflation: 3.25%; an additional 0.50% “across the board” salary increases (other than inflation); plus the following Merit and Longevity increases based on service.		
Service	General	Safety
0	7.00%	7.00%
1	6.00%	6.00%
2	5.50%	5.50%
3	5.00%	5.25%
4	4.00%	4.25%
5	2.25%	3.75%
6	1.50%	3.50%
7	1.25%	3.25%
8 or more	1.00%	1.50%

**Actuarial Value of Assets:** The actuarial value of assets is determined by recognizing any difference between actual and expected market return over 10 six-month interest crediting periods. The actuarial value of assets is further adjusted, if necessary, to be within 30% of the market value of assets. Deferred gains and losses as of June 30, 2011 have been combined and will be recognized in equal amounts over a period of four and a half years from that date.

**Valuation Value of Assets:** The actuarial value of assets reduced by the value of the non-valuation reserves.

**Actuarial Cost Method:** Entry Age Cost Method. Entry Age is the age at the member’s hire date. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are based on costs allocated as a level percentage of compensation, as if the current benefit formulas have always been in effect (i.e., “replacement life”).

## SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association

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### **Changes in Actuarial Assumptions and Methods:**

Based on the Actuarial Experience Study and Review of Economic Assumptions, the following assumptions and methods were changed. Previously, these assumptions and methods were as follows:

### **Post – Retirement Mortality Rates:**

#### *Healthy:*

For General Members and all Beneficiaries: RP-2000 Healthy Annuitant Mortality Table, with adjustment for white collar workers set back two years.

For Safety Members: RP-2000 Healthy Annuitant Mortality Table, with adjustment for blue collar workers set back three years.

#### *Disabled:*

For General Members: RP-2000 Healthy Annuitant Mortality Table, with adjustment for white collar workers set forward four years.

For Safety Members: RP-2000 Healthy Annuitant Mortality Table, with adjustment for blue collar workers set back three years.

The mortality tables shown above were determined to contain sufficient provision appropriate to reasonably reflect future mortality improvement, based on a review of mortality experience in the June 30, 2009 actuarial experience study.

#### *Employee Contribution Rates and Optional Benefits:*

For General Members and Beneficiaries: RP-2000 Healthy Annuitant Mortality Table, with adjustment for white collar workers set back two years weighted 35% male and 65% female for members and weighted 65% male and 35% female for beneficiaries.

For Safety Members: RP-2000 Healthy Annuitant Mortality Table, with adjustment for blue collar workers set back three years weighted 80% male and 20% female.

For Safety Beneficiaries: RP-2000 Healthy Annuitant Mortality Table, with adjustment for white collar workers set back two years weighted 20% male and 80% female.

Please note that in determining optional benefits for disabled members the RP-2000 Healthy Annuitant Mortality Table, with adjustment for white collar workers set forward four years for General members and the RP-2000 Healthy Annuitant Mortality Table, with adjustment for blue collar workers set back three years for Safety members are used instead.

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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**Changes in Actuarial Assumptions and Methods – Prior Assumptions (Continued):**

**Termination Rates Before Retirement:**

Age	Rate (%)			
	Mortality			
	General <sup>(1)</sup>		Safety <sup>(1)</sup>	
	Male	Female	Male	Female
25	0.04	0.02	0.04	0.02
30	0.04	0.02	0.04	0.02
35	0.05	0.04	0.09	0.04
40	0.08	0.06	0.12	0.06
45	0.11	0.08	0.15	0.11
50	0.17	0.13	0.20	0.16
55	0.27	0.21	0.30	0.22
60	0.45	0.37	0.56	0.34
65	0.85	0.68	1.08	0.68

<sup>(1)</sup> All pre-retirement deaths are assumed to be non-service connected.

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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**Changes in Actuarial Assumptions and Methods – Prior Assumptions (Continued):**

**Termination Rates Before Retirement (Continued):**

Age	Rate (%) Disability		
	General <sup>(1)</sup>		Safety <sup>(2)</sup>
	Male	Female	Male and Female
20	0.01	0.01	0.01
25	0.01	0.02	0.11
30	0.02	0.02	0.24
35	0.03	0.06	0.42
40	0.05	0.10	0.56
45	0.18	0.16	0.66
50	0.28	0.19	0.94
55	0.36	0.26	2.24
60	0.76	0.42	1.20

<sup>(1)</sup> *One-third of General disabilities are assumed to be duty disabilities. The other two-thirds are assumed to be ordinary disabilities.*

<sup>(2)</sup> *100% of Safety disabilities are assumed to be duty disabilities.*

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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**Changes in Actuarial Assumptions and Methods – Prior Assumptions (Continued):**

**Termination Rates Before Retirement (Continued):**

Rate (%)			
Total Termination (< 5 Years of Service)			
Years of Service	General		Safety
	Male	Female	Male and Female
0	17.00	17.00	17.00
1	6.00	6.00	4.00
2	6.00	6.00	4.00
3	6.00	6.00	4.00
4	6.00	6.00	4.00

Rate (%)			
Total Termination (5+ Years of Service)			
Age	General		Safety
	Male	Female	Male and Female
20	6.00	7.50	4.00
25	6.00	7.50	4.00
30	5.40	7.20	3.70
35	4.70	5.80	3.20
40	4.35	4.70	2.70
45	4.10	4.20	1.60
50	3.70	3.70	1.00
55	3.20	3.20	1.00
60	3.00	3.00	0.00

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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**Changes in Actuarial Assumptions and Methods – Prior Assumptions (Continued):**

**Termination Rates Before Retirement (Continued):**

<b>Proportion of Total Termination Assumed to Receive Refunds and Deferred Vested Benefits (%)</b>		
<b>Years of Service</b>	<b>Refunds</b>	<b>Deferred Vested Benefits</b>
0-4	90.00	10.00
5-9	30.00	70.00
10-14	30.00	70.00
15-19	30.00	70.00
20 or more	30.00	70.00

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

**Changes in Actuarial Assumptions and Methods – Prior Assumptions (Continued):**

**Retirement Rates:**

Age	Rate (%)						
	General				Safety		
	Tier 1		Tier 2	Tier 3	Tier 4	Tiers 1 & 2	Tier 4
	Male	Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female
45	0.00	0.00	0.00	0.00	0.00	1.00	1.00
46	0.00	0.00	0.00	0.00	0.00	1.00	1.00
47	0.00	0.00	0.00	0.00	0.00	1.00	1.00
48	0.00	0.00	0.00	0.00	0.00	1.00	1.00
49	0.00	0.00	0.00	0.00	0.00	3.00	2.00
50	3.00	4.00	3.00	3.00	2.00	5.00	4.00
51	3.00	4.00	3.00	3.00	2.00	5.00	4.00
52	3.00	4.00	3.60	3.60	2.50	8.00	5.00
53	4.00	4.00	3.60	3.60	2.50	15.00	6.00
54	4.00	5.00	4.20	4.20	3.00	25.00	11.00
55	9.00	10.00	8.40	8.40	4.00	35.00	20.00
56	13.00	12.00	10.00	10.00	5.00	25.00	20.00
57	17.00	13.00	10.00	10.00	6.00	25.00	20.00
58	20.00	15.00	10.00	10.00	7.00	25.00	20.00
59	20.00	16.00	10.00	15.00	8.00	30.00	23.00
60	30.00	18.00	15.00	19.20	9.00	100.00	56.00
61	30.00	22.00	15.00	19.20	11.00	100.00	58.00
62	30.00	25.00	25.00	34.20	17.00	100.00	62.00
63	30.00	25.00	24.00	23.70	16.00	100.00	64.00
64	30.00	25.00	24.00	23.70	20.00	100.00	70.00
65	40.00	35.00	35.00	43.30	25.00	100.00	100.00
66	50.00	35.00	34.00	33.30	21.00	100.00	100.00
67	50.00	40.00	34.00	33.30	21.00	100.00	100.00
68	50.00	45.00	35.00	40.00	25.00	100.00	100.00
69	50.00	50.00	35.00	46.70	30.00	100.00	100.00
70	100.00	100.00	100.00	100.00	100.00	100.00	100.00

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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**Changes in Actuarial Assumptions and Methods – Prior Assumptions (Continued):**

**Retirement Age and Benefit for  
Deferred Vested Members:**

For current deferred vested members, retirement assumptions are as follows:

General:           Age 58  
Safety:             Age 55

We assume that 40% of future General and 60% of future Safety deferred vested members will continue to work for a reciprocal employer. For these members, we assume 5.00% and 5.50% compensation increases per annum for General and Safety members, respectively.

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**Annual Leave Conversion:**

The following assumptions for service converted from unused annual leave at retirement are used:

New Annual Leave Plan:

40 hours per year of service.

Annual Leave Plan II:

35 hours per year of service.

Vacation/Sick Leave Plans:

20 hours per year of service for General and 45 hours per year of service for Safety.

Annual Leave IV Plan or  
the Old Annual Leave Plan:

Based on actual hours in a member's frozen time off bank.

**Percent Married:**

80% of male members; 55% of female members.

**Net Investment Return:**

7.75%, net of administration and investment expenses.

**Consumer Price Index:**

Increase of 3.50% per year, retiree COLA increases due to CPI subject to a 3.00% maximum change per year for General Tiers 1, 2 and 3, and Safety Tiers 1 and 2. General and Safety Tiers 4 and 5 receive no COLA increases.



**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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**Changes in Actuarial Assumptions and Methods – Prior Assumptions (Continued):**

**Salary Increases:**

Annual Rate of Compensation Increase		
Inflation: 3.50%; an additional 0.50% “across the board” salary increases (other than inflation); plus the following Merit and Longevity increases based on service.		
Service	General	Safety
0	7.00%	7.00%
1	6.00%	6.00%
2	5.50%	5.75%
3	5.00%	5.25%
4	4.25%	4.35%
5	2.00%	3.75%
6	1.50%	3.75%
7	1.25%	3.50%
8 or more	1.00%	1.50%

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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**EXHIBIT VI**

**Summary of Plan Provisions**

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This exhibit summarizes the major provisions of the FCERA included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

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**Membership Eligibility:**

	Membership with FCERA usually begins with the first day of the pay period following the date of appointment to a permanent position of at least 50% full-time.
<i>General and Safety Tier 1</i>	All General and Safety members hired on or before June 30, 2005 and General and Safety members of certain bargaining units hired after June 30, 2005.
<i>General and Safety Tier 2</i>	General and Safety members of certain bargaining units hired after June 30, 2005 and those Tier 1 members hired on or before June 30, 2005 who elect to transfer to Tier 2.
<i>General Tier 3</i>	General members of certain bargaining units hired after December 17, 2007 and those eligible Tier 2 members hired on or before December 17, 2007 who elect to transfer to Tier 3.
<i>General and Safety Tier 4</i>	General and Safety County members hired on or after June 11, 2012.
<i>General and Safety Tier 5</i>	All General and Safety members hired on or after January 1, 2013.

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**Final Compensation for Benefit Determination:**

<i>General and Safety Tiers 1 &amp; 2</i>	Highest one-year average final compensation (§31462.1) (FAS1).
<i>General Tiers 3 &amp; 4 and Safety Tier 4</i>	Highest three-year average final compensation (§31462) (FAS3).
<i>General and Safety Tier 5</i>	Highest consecutive three years of pensionable compensation (§7522.10(c), §7522.32 and §7522.34) (FAS3)

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**Service:** Years of service (Yrs).

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

**Service Retirement Eligibility:**

<i>General</i>	
<i>General Tiers 1, 2, 3 &amp;4</i>	Age 50 with 10 years of service, or age 70 regardless of service, or after 30 years, regardless of age (§31672).
<i>General Tier 5</i>	Age 52 with 5 years of service credit (§7522.20(a)) or age 70 regardless of service (§31672.3).
<i>Safety</i>	
<i>Safety Tiers 1, 2 &amp;4</i>	Age 50 with 10 years of service, or after 30 years, regardless of age (§31663.25).
<i>Safety Tier 5</i>	Age 50 with 5 years of service credit (§7522.25(d)) or age 70 regardless of service (§31672.3).

**Benefit Formula:**

	<b>Retirement Age</b>	<b>Benefit Formula</b>
<i>General Tier 1</i>	50	$(1.86\% \times \text{FAS1} - 1/3 \times 1.86\% \times \$350 \times 12) \times \text{Yrs}$
<i>Regular benefit under §31676.12 and</i>	55	$(2.50\% \times \text{FAS1} - 1/3 \times 2.50\% \times \$350 \times 12) \times \text{Yrs}$
<i>Settlement benefit under §31676.14 and §31627</i>	60 or later	$(3.27\% \times \text{FAS1} - 1/3 \times 3.27\% \times \$350 \times 12) \times \text{Yrs}$
<i>General Tier 2 (§31676.16)</i>	50	$(1.43\% \times \text{FAS1} - 1/3 \times 1.43\% \times \$350 \times 12) \times \text{Yrs}$
	55	$(2.00\% \times \text{FAS1} - 1/3 \times 2.00\% \times \$350 \times 12) \times \text{Yrs}$
	60	$(2.26\% \times \text{FAS1} - 1/3 \times 2.26\% \times \$350 \times 12) \times \text{Yrs}$
	62	$(2.37\% \times \text{FAS1} - 1/3 \times 2.37\% \times \$350 \times 12) \times \text{Yrs}$
	63 or later	$(2.42\% \times \text{FAS1} - 1/3 \times 2.42\% \times \$350 \times 12) \times \text{Yrs}$
<i>General Tier 3 (§31676.15)</i>	50	$(1.49\% \times \text{FAS3} - 1/3 \times 1.49\% \times \$350 \times 12) \times \text{Yrs}$
	55	$(2.00\% \times \text{FAS3} - 1/3 \times 2.00\% \times \$350 \times 12) \times \text{Yrs}$
	60	$(2.62\% \times \text{FAS3} - 1/3 \times 2.62\% \times \$350 \times 12) \times \text{Yrs}$
	62	$(2.82\% \times \text{FAS3} - 1/3 \times 2.82\% \times \$350 \times 12) \times \text{Yrs}$
	65 or later	$(3.13\% \times \text{FAS3} - 1/3 \times 3.13\% \times \$350 \times 12) \times \text{Yrs}$

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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<i>General Tier 4 (§31676.1)</i>	50	(1.18% x FAS3 – 1/3 x 1.18% x \$350 x 12) x Yrs
	55	(1.49% x FAS3 – 1/3 x 1.49% x \$350 x 12) x Yrs
	60	(1.92% x FAS3 – 1/3 x 1.92% x \$350 x 12) x Yrs
	62	(2.09% x FAS3 – 1/3 x 2.09% x \$350 x 12) x Yrs
	65 or later	(2.43% x FAS3 – 1/3 x 2.43% x \$350 x 12) x Yrs

<i>General Tier 5 (§7522.20(a))</i>	52	1.00% x FAS3 x Yrs
	55	1.30% x FAS3 x Yrs
	60	1.80% x FAS3 x Yrs
	62	2.00% x FAS3 x Yrs
	65	2.30% x FAS3 x Yrs
	67 or later	2.50% x FAS3 x Yrs

	<b>Retirement Age</b>	<b>Benefit Formula</b>
<i>Safety Tier 1</i> <i>Regular benefit under §31664 and</i> <i>Settlement benefit under §31627</i>	50	(2.50% x FAS1 – 1/3 x 2.50% x \$350 x 12) x Yrs
	55 or later	(3.27% x FAS1 – 1/3 x 3.27% x \$350 x 12) x Yrs
<i>Safety Tier 2 (§31664.2)</i>	50	(2.29% x FAS1 – 1/3 x 2.29% x \$350 x 12) x Yrs
	55 or later	(3.00% x FAS1 – 1/3 x 3.00% x \$350 x 12) x Yrs
<i>Safety Tier 4 (§31664)</i>	50	(2.00% x FAS3 – 1/3 x 2.00% x \$350 x 12) x Yrs
	55 or later	(2.62% x FAS3 – 1/3 x 2.62% x \$350 x 12) x Yrs
<i>Safety Tier 5 (§7522.25(d))</i>	50	2.00% x FAS3 x Yrs
	55	2.50% x FAS3 x Yrs
	57 or later	2.70% x FAS3 x Yrs

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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**Maximum Benefit:**

<i>General Tiers 1, 2, 3 &amp; 4 and Safety Tiers 1, 2 &amp; 4</i>	100% of Final Compensation (§31676.14, §31676.16, §31676.15, §31676.1, §31664 and §31664.2).
<i>General Tier 5 and Safety Tier 5</i>	None.

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**Ordinary Disability:**

<u><i>General Tiers 1, 2, 4 &amp; 5</i></u>	
<i>Eligibility</i>	Five years of service (§31720).
<i>Benefit Formula</i>	1.5% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 65, but the total benefit cannot be more than one-third of Final Compensation. The service retirement benefit is paid, if greater.
 <u><i>General Tier 3</i></u>	
<i>Eligibility</i>	Five years of service (§31720).
<i>Benefit Formula</i>	1.8% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 62, but the total benefit cannot be more than one-third of Final Compensation. The service retirement benefit is paid, if greater.
 <u><i>Safety Tiers 1, 2, 4 &amp; 5</i></u>	
<i>Eligibility</i>	Five years of service (§31720).
<i>Benefit Formula</i>	1.8% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 55, but the total benefit cannot be more than one-third of Final Compensation. The service retirement benefit is paid, if greater.

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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**Line-of-Duty Disability:**

All Members

*Eligibility*

No age or service requirements (§31720).

*Benefit Formula*

50% of the Final Compensation or 100% of Service Retirement benefit, if greater (§31727.4).

---

**Pre-Retirement Death:**

All Members

*Eligibility*

None.

*Basic lump sum benefit*

Refund of employee contributions with interest, plus one month's compensation for each year of service, to a maximum of six months' compensation (§31781).

*Death in line of duty*

50% of Final Compensation or 100% of Service Retirement benefit, if greater, payable to spouse or minor children (§31787).

OR

Vested Members

*Eligibility*

Five years of service.

*Basic benefit*

60% of the greater of Service or Ordinary Disability Retirement benefit payable to surviving eligible spouse (§31765.1, §31781.1), in lieu of the basic lump sum benefit above.

*Death in line of duty*

50% of Final Compensation or 100% of Service Retirement benefit, if greater, payable to spouse or minor children (§31787).

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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**Death After Retirement:**

*All Members*

*Service or*

*Ordinary Disability Retirement*

60% of member's unmodified allowance continued to eligible spouse (§31760.1). An eligible spouse is a surviving spouse who was married to the member at least one year prior to the date of retirement (§31760.1) or at least two years prior to the date of death and has attained age 55 on or prior to the date of death (§31786.1).

*Line-of-Duty Disability*

100% of member's allowance continued to eligible spouse (§31786).

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**Withdrawal Benefits:**

*Less than Five Years of Service*

Refund of accumulated employee contributions with interest, or earned benefit at age 70 (§31628). Effective January 1, 2003, a member may also elect to leave contributions on deposit in the retirement fund (§31629.5).

*Five or More Years of Service*

If contributions left on deposit, entitled to earned benefits commencing at any time after eligible to retire (§31700).

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**Post-retirement**

**Cost-of-Living Benefits:**

*General Tiers 1, 2 & 3 and  
Safety Tiers 1 & 2*

Future changes based on Consumer Price Index to a maximum of 3% per year; excess "banked" (§31870.1).

*General Tiers 4 & 5 and  
Safety Tiers 4 & 5*

None.

## SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association

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### Conversion of Annual Leave

#### *General members*

New Annual Leave Plan (5Y)	Members who entered the plan on or before October 10, 1983 and in bargaining groups who have agreed to this plan may convert hours in excess of 1,100 hours.
Annual Leave Plan II (5Y)	Members who entered the plan after October 10, 1983 with accruals in the 5Y leave plan and in bargaining groups who have agreed to this plan may convert hours in excess of 400 hours.
Vacation/Sick Leave Plans (5Q, 5S and 5W)	Members who entered the plan on or after December 14, 1998 and in bargaining groups who have agreed to these plans may convert all accrued sick leave hours to service upon retirement.
Annual Leave IV Plan or the Old Annual Leave Plan (5O)	Members hired on or after October 10, 1983 or prior to that date, respectively, and who are in bargaining groups who have agreed to these plans, management or are unrepresented will convert any frozen hours balance to service at retirement.

#### *Safety members*

New Annual Leave Plan (5Y)	Members who entered the plan on or before October 10, 1983 and in bargaining groups who have agreed to this plan may convert hours in excess of 1,100 hours.
Annual Leave Plan II (5Y)	Members who entered the plan after October 10, 1983 with accruals in the 5Y leave plan and in bargaining groups who have agreed to this plan may convert hours in excess of 400 hours.
Vacation/Sick Leave Plans (5Q, 5S and 5W)	Members who entered the plan on or after December 14, 1998 and in bargaining groups who have agreed to these plans may convert all accrued sick leave hours to service.
Annual Leave IV Plan or the Old Annual Leave Plan (5O)	Members hired on or after October 10, 1983 or prior to that date, respectively, and who are in bargaining groups who have agreed to these plans, management or are unrepresented will convert any frozen hours balance to service at retirement.



#### SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association

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**County Contributions:** Unfunded Actuarial Accrued Liability established as of June 30, 2003 is amortized over a declining 20-year period. Unfunded Actuarial Accrued Liability established as a result of the Tier 3 benefit improvement is amortized over a declining 23-year period. The amortization period for UAAL established on each subsequent valuation as a result of actuarial gains or losses, changes in actuarial assumptions or plan amendments is a declining 15-year period.

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**Ventura Settlement Benefits:**

Section 6 For Tier 1 members retiring on or after January 1, 2001 – This is the difference between the regular plus settlement benefits and the regular benefit (i.e., Section 31676.12 for General Tier 1 and Section 31664 for Safety Tier 1)

Section 8 For Tier 1 members who retired prior to January 1, 2001 - \$15 per month per year of service, up to a maximum monthly benefit of \$450.

Section 9 All retired members (excluding General Tiers 4 & 5 and Safety Tier 5 members) are entitled to a \$3 per month per year of service benefit. Future increase in this benefit will be tied to the amount of future undistributed earnings. For the purpose of this valuation, it is assumed that there will be no future increase in the amount of benefit.

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**Non-Vested Supplemental Benefit:** Non-vested discretionary purchasing power and additional retiree health benefits are also paid to eligible retirees and beneficiaries. These benefits and the associated reserves have been excluded from the development of employer and member contribution rates in this valuation.

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**Member Contributions:** Please refer to Appendix A for specific rates.

*General Tier 1*

*Regular Basic* Provide for an average annuity at age 60 equal to 1/200 of FAS1 (§31621.5).

*Regular Plus Settlement Basic* Provide for an average annuity at age 55 equal to 1/160 of FAS1 (§31627).

*Cost-of-Living* Provide for one-half of future Cost-of-Living costs.

*General Tier 2*

*Basic* Provide for an average annuity at age 60 equal to 1/240 of FAS1 (§31621.4).

*Cost-of-Living* Provide for one-half of future Cost-of-Living costs.

## SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association

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### *General Tier 3*

*Basic* Provide for an average annuity at age 55 equal to 1/200 of FAS3 (§31621.6 and §31630).

*Cost-of-Living* Provide for one-half of future Cost-of-Living costs.

### *General Tier 4*

*Basic* Provide for an average annuity at age 60 equal to 1/120 of FAS3 (§31621).

*Cost-of-Living* Not applicable.

### *General Tier 5*

50% of the total Normal Cost rate.

### *Safety Tier 1*

*Regular Basic* Provide for an average annuity at age 50 equal to 1/200 of FAS1 (§31639.5).

*Regular Plus Settlement Basic* Provide for an average annuity at age 50 equal to 1/160 of FAS1 (§31627).

*Cost-of-Living* Provide for one-half of future Cost-of-Living costs.

### *Safety Tier 2*

*Basic* Provide for an average annuity at age 50 equal to 1/200 of FAS1 (§31639.5).

*Cost-of-Living* Provide for one-half of future Cost-of-Living costs.

### *Safety Tier 4*

*Basic* Provide for an average annuity at age 50 equal to 1/100 of FAS3 (§31639.25).

*Cost-of-Living* Not applicable.

### *Safety Tier 5*

50% of the total Normal Cost rate.

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### **Other Information:**

Non-Tier 5 Safety members with 30 or more years of service are exempt from paying member contributions. The same applies for General members hired on or before March 7, 1973.

### **Plan Amendment:**

All members with hire dates on or after January 1, 2013 enter either General or Safety Tier 5.

**NOTE:** *The summary of major plan provisions is designed to outline principal plan benefits as interpreted for purposes of the actuarial valuation. If the Association should find the plan summary not in accordance with the actual provisions, the Association should alert the actuary so they can both be sure the proper provisions are valued.*

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

**Appendix A**

**Member Contribution Rates**

Comparison of Total Member Rate from June 30, 2013 (New) and June 30, 2012 (Current) Valuations

General Tier 1 <sup>(1)</sup>				General Tier 2 <sup>(1)</sup>			
Entry Age	Current	New	Change	Entry Age	Current	New	Change
25	7.72%	8.78%	<b>1.06%</b>	25	5.09%	5.74%	<b>0.65%</b>
35	8.99%	10.09%	<b>1.10%</b>	35	5.92%	6.60%	<b>0.68%</b>
45	10.65%	11.79%	<b>1.14%</b>	45	6.93%	7.62%	<b>0.69%</b>
General Tier 3 <sup>(1)</sup>				General Tier 4 <sup>(1)</sup>			
Entry Age	Current	New	Change	Entry Age	Current	New	Change
25	6.10%	6.89%	<b>0.79%</b>	25	5.32%	5.81%	<b>0.49%</b>
35	7.11%	7.92%	<b>0.81%</b>	35	6.20%	6.68%	<b>0.48%</b>
45	8.42%	9.26%	<b>0.84%</b>	45	7.25%	7.71%	<b>0.46%</b>
General Tier 5							
Entry Age	Current	New	Change				
Any <sup>(2)</sup>	6.25%	6.96%	<b>0.71%</b>				

<sup>(1)</sup> For non-CalPEPRA members, contributions for the first \$350 of monthly payroll are based on 2/3 of the above rates.

<sup>(2)</sup> CalPEPRA member rates are independent of entry age.

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

**Appendix A**

**Member Contribution Rates**

Comparison of Total Member Rate from June 30, 2013 (New) and June 30, 2012 (Current) Valuations

Safety Tier 1 <sup>(1)</sup>				Safety Tier 2 <sup>(1)</sup>			
Entry Age	Current	New	Change	Entry Age	Current	New	Change
25	10.82%	12.40%	<b>1.58%</b>	25	9.38%	10.65%	<b>1.27%</b>
30	11.55%	13.16%	<b>1.61%</b>	30	10.01%	11.29%	<b>1.28%</b>
35	12.40%	14.01%	<b>1.61%</b>	35	10.75%	12.03%	<b>1.28%</b>
Safety Tier 4 <sup>(1)</sup>				Safety Tier 5			
Entry Age	Current	New	Change	Entry Age	Current	New	Change
25	8.67%	9.47%	<b>0.80%</b>	Any <sup>(2)</sup>	11.25%	11.96%	<b>0.71%</b>
30	9.26%	10.04%	<b>0.78%</b>				
35	9.93%	10.70%	<b>0.77%</b>				

<sup>(1)</sup> For non-CalPEPRA members, contributions for the first \$350 of monthly payroll are based on 2/3 of the above rates.

<sup>(2)</sup> CalPEPRA member rates are independent of entry age.

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

**Appendix A**

**Member Contribution Rates (Continued)**

**General Tier 1 Members' Contribution Rates based on the June 30, 2013  
Actuarial Valuation as a percentage of payroll**

Age	Basic Regular First \$350 per month	Basic Regular Over \$350 per month	COLA Regular First \$350 per month	COLA Regular Over \$350 per month	Basic Settlement First \$350 per month	Basic Settlement Over \$350 per month	COLA Settlement First \$350 per month	COLA Settlement Over \$350 per month	Combined First \$350 per month	Combined Over \$350 per month
15	2.15%	3.22%	1.57%	2.35%	0.93%	1.39%	0.52%	0.78%	5.17%	7.74%
16	2.15%	3.22%	1.57%	2.35%	0.93%	1.39%	0.52%	0.78%	5.17%	7.74%
17	2.18%	3.27%	1.59%	2.39%	0.93%	1.40%	0.53%	0.79%	5.23%	7.85%
18	2.21%	3.31%	1.61%	2.42%	0.95%	1.43%	0.54%	0.81%	5.31%	7.97%
19	2.24%	3.36%	1.63%	2.45%	0.96%	1.44%	0.54%	0.81%	5.37%	8.06%
20	2.27%	3.41%	1.66%	2.49%	0.97%	1.46%	0.55%	0.82%	5.45%	8.18%
21	2.30%	3.45%	1.68%	2.52%	0.99%	1.49%	0.56%	0.84%	5.53%	8.30%
22	2.34%	3.50%	1.71%	2.56%	1.01%	1.51%	0.57%	0.85%	5.63%	8.42%
23	2.37%	3.55%	1.73%	2.60%	1.02%	1.53%	0.57%	0.86%	5.69%	8.54%
24	2.40%	3.60%	1.75%	2.63%	1.03%	1.55%	0.58%	0.87%	5.76%	8.65%
25	2.43%	3.65%	1.78%	2.67%	1.05%	1.57%	0.59%	0.89%	5.85%	8.78%
26	2.47%	3.70%	1.81%	2.71%	1.06%	1.59%	0.60%	0.90%	5.94%	8.90%
27	2.50%	3.75%	1.83%	2.74%	1.08%	1.62%	0.61%	0.91%	6.02%	9.02%
28	2.54%	3.81%	1.85%	2.78%	1.09%	1.63%	0.61%	0.92%	6.09%	9.14%
29	2.57%	3.86%	1.88%	2.82%	1.11%	1.66%	0.63%	0.94%	6.19%	9.28%
30	2.61%	3.91%	1.91%	2.86%	1.12%	1.68%	0.63%	0.95%	6.27%	9.40%
31	2.65%	3.97%	1.93%	2.90%	1.13%	1.70%	0.64%	0.96%	6.35%	9.53%
32	2.68%	4.02%	1.96%	2.94%	1.15%	1.73%	0.65%	0.98%	6.44%	9.67%

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

Age	Basic Regular	Basic Regular	COLA	COLA	Basic	Basic	COLA	COLA	Combined	Combined
	First \$350 per month	Over \$350 per month	Regular	Regular	Settlement	Settlement	Settlement	Settlement		
			First \$350 per month	Over \$350 per month	First \$350 per month	Over \$350 per month	First \$350 per month	Over \$350 per month	First \$350 per month	Over \$350 per month
33	2.72%	4.08%	1.99%	2.98%	1.17%	1.75%	0.66%	0.99%	6.54%	9.80%
34	2.76%	4.14%	2.01%	3.02%	1.19%	1.78%	0.67%	1.00%	6.63%	9.94%
35	2.80%	4.20%	2.05%	3.07%	1.20%	1.80%	0.68%	1.02%	6.73%	10.09%
36	2.84%	4.25%	2.07%	3.11%	1.23%	1.84%	0.69%	1.04%	6.83%	10.24%
37	2.88%	4.31%	2.10%	3.15%	1.25%	1.87%	0.70%	1.05%	6.93%	10.38%
38	2.92%	4.37%	2.13%	3.20%	1.27%	1.90%	0.71%	1.07%	7.03%	10.54%
39	2.96%	4.44%	2.16%	3.24%	1.28%	1.92%	0.72%	1.08%	7.12%	10.68%
40	3.00%	4.50%	2.19%	3.29%	1.31%	1.96%	0.74%	1.11%	7.24%	10.86%
41	3.04%	4.57%	2.23%	3.34%	1.33%	1.99%	0.75%	1.12%	7.35%	11.02%
42	3.09%	4.63%	2.26%	3.39%	1.36%	2.04%	0.77%	1.15%	7.48%	11.21%
43	3.13%	4.70%	2.29%	3.44%	1.39%	2.08%	0.78%	1.17%	7.59%	11.39%
44	3.18%	4.77%	2.33%	3.49%	1.41%	2.12%	0.80%	1.20%	7.72%	11.58%
45	3.23%	4.84%	2.36%	3.54%	1.45%	2.18%	0.82%	1.23%	7.86%	11.79%
46	3.28%	4.92%	2.40%	3.60%	1.49%	2.24%	0.84%	1.26%	8.01%	12.02%
47	3.33%	5.00%	2.43%	3.65%	1.53%	2.30%	0.87%	1.30%	8.16%	12.25%
48	3.39%	5.08%	2.47%	3.71%	1.57%	2.36%	0.89%	1.33%	8.32%	12.48%
49	3.45%	5.17%	2.52%	3.78%	1.59%	2.38%	0.89%	1.34%	8.45%	12.67%
50	3.51%	5.26%	2.57%	3.85%	1.54%	2.31%	0.87%	1.30%	8.49%	12.72%
51	3.58%	5.37%	2.61%	3.92%	1.44%	2.16%	0.81%	1.22%	8.44%	12.67%
52	3.65%	5.47%	2.67%	4.00%	1.34%	2.01%	0.75%	1.13%	8.41%	12.61%
53	3.72%	5.58%	2.71%	4.07%	1.22%	1.83%	0.69%	1.03%	8.34%	12.51%
54	3.77%	5.66%	2.76%	4.14%	1.09%	1.63%	0.61%	0.92%	8.23%	12.35%

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

Age	Basic Regular First \$350 per month	Basic Regular Over \$350 per month	COLA Regular First \$350 per month	COLA Regular Over \$350 per month	Basic Settlement First \$350 per month	Basic Settlement Over \$350 per month	COLA Settlement First \$350 per month	COLA Settlement Over \$350 per month	Combined First \$350 per month	Combined Over \$350 per month
55	3.78%	5.67%	2.77%	4.15%	1.09%	1.63%	0.61%	0.92%	8.25%	12.37%
56	3.77%	5.65%	2.75%	4.13%	1.09%	1.63%	0.61%	0.92%	8.22%	12.33%
57	3.74%	5.61%	2.73%	4.10%	1.09%	1.63%	0.61%	0.92%	8.17%	12.26%
58	3.70%	5.55%	2.71%	4.06%	1.09%	1.63%	0.61%	0.92%	8.11%	12.16%
59+	3.64%	5.47%	2.66%	3.99%	1.09%	1.63%	0.61%	0.92%	8.00%	12.01%

Interest: 7.25% per annum  
 COLA: 3.00%  
 Mortality: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2015, set back one year for males and set back two years for females weighted 35% male and 65% female  
 Salary Increase: Inflation (3.25%) + Across-the-Board Increase (0.50%) + Merit (See Exhibit V)  
 COLA Loading Factor: 73.08% for Regular Benefits, 56.41% for Settlement Benefits.

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

**Appendix A**

**Member Contribution Rates (Continued)**

**General Tier 2 Members' Contribution Rates based on the June 30, 2013  
Actuarial Valuation as a percentage of payroll**

Age	Basic Regular First \$350 per month	Basic Regular Over \$350 per month	COLA Regular First \$350 per month	COLA Regular Over \$350 per month	Combined First \$350 per month	Combined Over \$350 per month
15	1.79%	2.68%	1.59%	2.38%	3.38%	5.06%
16	1.79%	2.68%	1.59%	2.38%	3.38%	5.06%
17	1.81%	2.72%	1.61%	2.41%	3.42%	5.13%
18	1.84%	2.76%	1.63%	2.45%	3.47%	5.21%
19	1.87%	2.80%	1.65%	2.48%	3.52%	5.28%
20	1.89%	2.84%	1.68%	2.52%	3.57%	5.36%
21	1.92%	2.88%	1.70%	2.55%	3.62%	5.43%
22	1.95%	2.92%	1.73%	2.59%	3.68%	5.51%
23	1.97%	2.96%	1.75%	2.62%	3.72%	5.58%
24	2.00%	3.00%	1.77%	2.66%	3.77%	5.66%
25	2.03%	3.04%	1.80%	2.70%	3.83%	5.74%
26	2.06%	3.09%	1.83%	2.74%	3.89%	5.83%
27	2.09%	3.13%	1.85%	2.77%	3.94%	5.90%
28	2.12%	3.17%	1.87%	2.81%	3.99%	5.98%
29	2.14%	3.22%	1.90%	2.85%	4.04%	6.07%



**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

Age	Basic Regular First \$350 per month	Basic Regular Over \$350 per month	COLA Regular First \$350 per month	COLA Regular Over \$350 per month	Combined First \$350 per month	Combined Over \$350 per month
30	2.17%	3.26%	1.93%	2.89%	4.10%	6.15%
31	2.20%	3.31%	1.95%	2.93%	4.15%	6.24%
32	2.24%	3.35%	1.98%	2.97%	4.22%	6.32%
33	2.27%	3.40%	2.01%	3.02%	4.28%	6.42%
34	2.30%	3.45%	2.04%	3.06%	4.34%	6.51%
35	2.33%	3.50%	2.07%	3.10%	4.40%	6.60%
36	2.36%	3.54%	2.09%	3.14%	4.45%	6.68%
37	2.40%	3.59%	2.13%	3.19%	4.53%	6.78%
38	2.43%	3.65%	2.15%	3.23%	4.58%	6.88%
39	2.47%	3.70%	2.19%	3.28%	4.66%	6.98%
40	2.50%	3.75%	2.22%	3.33%	4.72%	7.08%
41	2.54%	3.80%	2.25%	3.37%	4.79%	7.17%
42	2.57%	3.86%	2.28%	3.42%	4.85%	7.28%
43	2.61%	3.92%	2.31%	3.47%	4.92%	7.39%
44	2.65%	3.98%	2.35%	3.53%	5.00%	7.51%
45	2.69%	4.04%	2.39%	3.58%	5.08%	7.62%
46	2.73%	4.10%	2.43%	3.64%	5.16%	7.74%
47	2.78%	4.17%	2.46%	3.69%	5.24%	7.86%
48	2.82%	4.23%	2.51%	3.76%	5.33%	7.99%
49	2.87%	4.31%	2.55%	3.82%	5.42%	8.13%

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

Age	Basic Regular First \$350 per month	Basic Regular Over \$350 per month	COLA Regular First \$350 per month	COLA Regular Over \$350 per month	Combined First \$350 per month	Combined Over \$350 per month
50	2.92%	4.39%	2.59%	3.89%	5.51%	8.28%
51	2.98%	4.47%	2.65%	3.97%	5.63%	8.44%
52	3.04%	4.56%	2.69%	4.04%	5.73%	8.60%
53	3.10%	4.65%	2.75%	4.12%	5.85%	8.77%
54	3.14%	4.72%	2.79%	4.18%	5.93%	8.90%
55	3.15%	4.73%	2.79%	4.19%	5.94%	8.92%
56	3.14%	4.71%	2.79%	4.18%	5.93%	8.89%
57	3.12%	4.67%	2.77%	4.15%	5.89%	8.82%
58	3.09%	4.63%	2.73%	4.10%	5.82%	8.73%
59+	3.04%	4.56%	2.69%	4.04%	5.73%	8.60%

Interest: 7.25% per annum  
 COLA: 3.00%  
 Mortality: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2015, set back one year for males and set back two years for females weighted 35% male and 65% female  
 Salary Increase: Inflation (3.25%) + Across-the-Board Increase (0.50%) + Merit (See Exhibit V)  
 COLA Loading Factor: 88.68% for Regular Benefits

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

**Appendix A**

**Member Contribution Rates (Continued)**

**General Tier 3 Members' Contribution Rates based on the June 30, 2013  
Actuarial Valuation as a percentage of payroll**

Age	Basic Regular	Basic Regular	COLA	COLA	Combined	Combined
	First \$350 per month	Over \$350 per month	Regular First \$350 per month	Regular Over \$350 per month	First \$350 per month	Over \$350 per month
15	2.35%	3.52%	1.71%	2.56%	4.06%	6.08%
16	2.35%	3.52%	1.71%	2.56%	4.06%	6.08%
17	2.38%	3.57%	1.73%	2.59%	4.11%	6.16%
18	2.41%	3.62%	1.75%	2.63%	4.16%	6.25%
19	2.45%	3.67%	1.78%	2.67%	4.23%	6.34%
20	2.48%	3.72%	1.80%	2.70%	4.28%	6.42%
21	2.52%	3.77%	1.83%	2.74%	4.35%	6.51%
22	2.55%	3.83%	1.85%	2.78%	4.40%	6.61%
23	2.59%	3.88%	1.88%	2.82%	4.47%	6.70%
24	2.62%	3.93%	1.91%	2.86%	4.53%	6.79%
25	2.66%	3.99%	1.93%	2.90%	4.59%	6.89%
26	2.70%	4.05%	1.96%	2.94%	4.66%	6.99%
27	2.73%	4.10%	1.99%	2.98%	4.72%	7.08%
28	2.77%	4.16%	2.01%	3.02%	4.78%	7.18%
29	2.81%	4.22%	2.04%	3.06%	4.85%	7.28%

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

Age	Basic Regular	Basic Regular	COLA	COLA	Combined	Combined
	First \$350 per month	Over \$350 per month	Regular	Regular	First \$350 per month	Over \$350 per month
30	2.85%	4.28%	2.07%	3.11%	4.92%	7.39%
31	2.89%	4.34%	2.10%	3.15%	4.99%	7.49%
32	2.93%	4.40%	2.13%	3.19%	5.06%	7.59%
33	2.97%	4.46%	2.16%	3.24%	5.13%	7.70%
34	3.02%	4.52%	2.19%	3.29%	5.21%	7.81%
35	3.06%	4.59%	2.22%	3.33%	5.28%	7.92%
36	3.10%	4.65%	2.25%	3.38%	5.35%	8.03%
37	3.15%	4.72%	2.29%	3.43%	5.44%	8.15%
38	3.19%	4.79%	2.32%	3.48%	5.51%	8.27%
39	3.24%	4.86%	2.35%	3.53%	5.59%	8.39%
40	3.29%	4.94%	2.39%	3.59%	5.68%	8.53%
41	3.34%	5.01%	2.43%	3.64%	5.77%	8.65%
42	3.40%	5.09%	2.47%	3.70%	5.87%	8.79%
43	3.45%	5.18%	2.51%	3.76%	5.96%	8.94%
44	3.51%	5.27%	2.55%	3.83%	6.06%	9.10%
45	3.57%	5.36%	2.60%	3.90%	6.17%	9.26%
46	3.64%	5.45%	2.64%	3.96%	6.28%	9.41%
47	3.69%	5.54%	2.68%	4.02%	6.37%	9.56%
48	3.73%	5.59%	2.71%	4.06%	6.44%	9.65%
49	3.73%	5.60%	2.71%	4.07%	6.44%	9.67%

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

Age	Basic Regular First \$350 per month	Basic Regular Over \$350 per month	COLA Regular First \$350 per month	COLA Regular Over \$350 per month	Combined First \$350 per month	Combined Over \$350 per month
50	3.71%	5.57%	2.70%	4.05%	6.41%	9.62%
51	3.68%	5.52%	2.67%	4.01%	6.35%	9.53%
52	3.64%	5.45%	2.64%	3.96%	6.28%	9.41%
53	3.76%	5.64%	2.73%	4.10%	6.49%	9.74%
54+	3.89%	5.83%	2.83%	4.24%	6.72%	10.07%

Interest: 7.25% per annum  
 COLA: 3.00%  
 Mortality: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2015, set back one year for males and set back two years for females weighted 35% male and 65% female  
 Salary Increase: Inflation (3.25%) + Across-the-Board Increase (0.50%) + Merit (See Exhibit V)  
 COLA Loading Factor: 72.66% for Regular Benefits

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

**Appendix A**

**Member Contribution Rates (Continued)**

**General Tier 4 Members' Contribution Rates based on the June 30, 2013  
Actuarial Valuation as a percentage of payroll**

Age	Basic Regular First \$350 per month	Basic Regular Over \$350 per month	Age	Basic Regular First \$350 per month	Basic Regular Over \$350 per month	Age	Basic Regular First \$350 per month	Basic Regular Over \$350 per month
15	3.42%	5.13%	30	4.15%	6.23%	45	5.14%	7.71%
16	3.42%	5.13%	31	4.21%	6.32%	46	5.22%	7.83%
17	3.47%	5.20%	32	4.27%	6.41%	47	5.31%	7.96%
18	3.52%	5.27%	33	4.33%	6.50%	48	5.39%	8.09%
19	3.57%	5.35%	34	4.39%	6.59%	49	5.49%	8.23%
20	3.62%	5.42%	35	4.45%	6.68%	50	5.58%	8.38%
21	3.67%	5.50%	36	4.52%	6.77%	51	5.68%	8.52%
22	3.72%	5.58%	37	4.58%	6.87%	52	5.77%	8.65%
23	3.77%	5.66%	38	4.64%	6.97%	53	5.82%	8.73%
24	3.82%	5.73%	39	4.71%	7.06%	54	5.83%	8.75%
25	3.88%	5.81%	40	4.78%	7.17%	55	5.80%	8.70%
26	3.93%	5.90%	41	4.85%	7.27%	56	5.75%	8.63%
27	3.99%	5.98%	42	4.92%	7.38%	57	5.68%	8.52%
28	4.04%	6.06%	43	4.99%	7.48%	58	5.87%	8.81%
29	4.10%	6.15%	44	5.06%	7.60%	59+	6.07%	9.11%

## SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association

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Interest:	7.25% per annum
COLA:	0.00%
Mortality:	RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2015, set back one year for males and set back two years for females weighted 35% male and 65% female
Salary Increase:	Inflation (3.25%) + Across-the-Board Increase (0.50%) + Merit (See Exhibit V)

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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**Appendix A**

**Member Contribution Rates (Continued)**

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**General Tier 5 Members' Contribution Rates based on the June 30, 2013 Actuarial Valuation as a percentage of payroll**

		<u>All Eligible Pay*</u>
	All members	6.96%
Interest:	7.25% per annum	
COLA:	0.00%	
Mortality:	RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2015, set back one year for males and set back two years for females weighted 35% male and 65% female	
Salary Increase:	Inflation (3.25%) + Across-the-Board Increase (0.50%) + Merit (See Exhibit V)	

\* *It is our understanding that in the determination of pension benefits under the CalPEPRA formulas, the compensation that can be taken into account for 2013 is equal to the Social Security Taxable Wage Base or \$113,700 (For an employer that is not enrolled in Social Security, the maximum amount is \$136,440 or 120% of the Social Security Taxable Wage Base) (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2013 (reference: Section 7522.10(d)).*



**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

**Appendix A**

**Member Contribution Rates (Continued)**

**Safety Tier 1 Members' Contribution Rates based on the June 30, 2013  
Actuarial Valuation as a percentage of payroll**

Age	Basic Regular	Basic Regular	COLA Regular	COLA Regular	Basic Settlement	Basic Settlement	COLA Settlement	COLA Settlement	Combined	Combined
	First \$350 per month	Over \$350 per month	First \$350 per month	Over \$350 per month	First \$350 per month	Over \$350 per month	First \$350 per month	Over \$350 per month	First \$350 per month	Over \$350 per month
15	3.00%	4.50%	3.01%	4.52%	0.75%	1.13%	0.71%	1.07%	7.47%	11.22%
16	3.00%	4.50%	3.01%	4.52%	0.75%	1.13%	0.71%	1.07%	7.47%	11.22%
17	3.03%	4.55%	3.05%	4.57%	0.76%	1.14%	0.72%	1.08%	7.56%	11.34%
18	3.07%	4.60%	3.09%	4.63%	0.77%	1.15%	0.73%	1.09%	7.66%	11.47%
19	3.10%	4.65%	3.12%	4.68%	0.78%	1.17%	0.74%	1.11%	7.74%	11.61%
20	3.14%	4.71%	3.15%	4.73%	0.78%	1.17%	0.74%	1.11%	7.81%	11.72%
21	3.17%	4.76%	3.19%	4.78%	0.79%	1.19%	0.75%	1.13%	7.90%	11.86%
22	3.21%	4.81%	3.23%	4.84%	0.81%	1.21%	0.76%	1.14%	8.01%	12.00%
23	3.25%	4.87%	3.26%	4.89%	0.81%	1.21%	0.76%	1.14%	8.08%	12.11%
24	3.28%	4.92%	3.30%	4.95%	0.82%	1.23%	0.77%	1.16%	8.17%	12.26%
25	3.32%	4.98%	3.34%	5.01%	0.83%	1.24%	0.78%	1.17%	8.27%	12.40%
26	3.36%	5.04%	3.37%	5.06%	0.84%	1.26%	0.79%	1.19%	8.36%	12.55%
27	3.40%	5.10%	3.41%	5.12%	0.85%	1.27%	0.80%	1.20%	8.46%	12.69%
28	3.44%	5.16%	3.45%	5.18%	0.86%	1.29%	0.81%	1.22%	8.56%	12.85%
29	3.48%	5.22%	3.49%	5.24%	0.87%	1.30%	0.82%	1.23%	8.66%	12.99%
30	3.52%	5.28%	3.54%	5.31%	0.88%	1.32%	0.83%	1.25%	8.77%	13.16%
31	3.56%	5.34%	3.58%	5.37%	0.89%	1.34%	0.85%	1.27%	8.88%	13.32%
32	3.61%	5.41%	3.63%	5.44%	0.90%	1.35%	0.85%	1.28%	8.99%	13.48%
33	3.65%	5.48%	3.67%	5.51%	0.91%	1.37%	0.87%	1.30%	9.10%	13.66%
34	3.70%	5.55%	3.72%	5.58%	0.93%	1.39%	0.87%	1.31%	9.22%	13.83%

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

Age	Basic Regular	Basic Regular	COLA Regular	COLA Regular	Basic Settlement	Basic Settlement	COLA Settlement	COLA Settlement	Combined	Combined
	First \$350 per month	Over \$350 per month	First \$350 per month	Over \$350 per month	First \$350 per month	Over \$350 per month	First \$350 per month	Over \$350 per month	First \$350 per month	Over \$350 per month
35	3.75%	5.63%	3.77%	5.66%	0.93%	1.40%	0.88%	1.32%	9.33%	14.01%
36	3.80%	5.71%	3.82%	5.73%	0.95%	1.42%	0.89%	1.34%	9.46%	14.20%
37	3.86%	5.79%	3.88%	5.82%	0.97%	1.45%	0.91%	1.37%	9.62%	14.43%
38	3.92%	5.88%	3.94%	5.91%	0.98%	1.47%	0.93%	1.39%	9.77%	14.65%
39	3.98%	5.97%	4.00%	6.00%	1.00%	1.50%	0.95%	1.42%	9.93%	14.89%
40	4.05%	6.08%	4.07%	6.11%	1.01%	1.52%	0.96%	1.44%	10.09%	15.15%
41	4.13%	6.20%	4.15%	6.23%	1.03%	1.55%	0.98%	1.47%	10.29%	15.45%
42	4.16%	6.23%	4.18%	6.27%	1.04%	1.56%	0.99%	1.48%	10.37%	15.54%
43	4.17%	6.26%	4.19%	6.29%	1.05%	1.57%	0.99%	1.48%	10.40%	15.60%
44	4.19%	6.28%	4.21%	6.32%	1.05%	1.57%	0.99%	1.48%	10.44%	15.65%
45	4.19%	6.29%	4.21%	6.32%	1.05%	1.57%	0.99%	1.48%	10.44%	15.66%
46	4.17%	6.25%	4.19%	6.28%	1.04%	1.56%	0.99%	1.48%	10.39%	15.57%
47	4.14%	6.21%	4.16%	6.24%	1.03%	1.55%	0.98%	1.47%	10.31%	15.47%
48	4.10%	6.14%	4.12%	6.18%	1.03%	1.54%	0.97%	1.46%	10.22%	15.32%
49+	4.03%	6.05%	4.05%	6.08%	1.01%	1.51%	0.95%	1.43%	10.04%	15.07%

Interest: 7.25% per annum  
 COLA: 3.00%  
 Mortality: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2015, set back one year weighted 80% male and 20% female  
 Salary Increase: Inflation (3.25%) + Across-the-Board Increase (0.50%) + Merit (See Exhibit V)  
 COLA Loading Factor: 100.51% for Regular Benefits, 94.57% for Settlement Benefits.

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

**Appendix A**

**Member Contribution Rates (Continued)**

**Safety Tier 2 Members' Contribution Rates based on the June 30, 2013  
Actuarial Valuation as a percentage of payroll**

Age	Basic Regular	Basic Regular	COLA	COLA	Combined	Combined
	First \$350 per month	Over \$350 per month	Regular First \$350 per month	Regular Over \$350 per month	First \$350 per month	Over \$350 per month
15	3.00%	4.50%	3.41%	5.12%	6.41%	9.62%
16	3.00%	4.50%	3.41%	5.12%	6.41%	9.62%
17	3.03%	4.55%	3.45%	5.18%	6.48%	9.73%
18	3.07%	4.60%	3.49%	5.24%	6.56%	9.84%
19	3.10%	4.65%	3.53%	5.30%	6.63%	9.95%
20	3.14%	4.71%	3.57%	5.36%	6.71%	10.07%
21	3.17%	4.76%	3.61%	5.42%	6.78%	10.18%
22	3.21%	4.81%	3.65%	5.48%	6.86%	10.29%
23	3.25%	4.87%	3.69%	5.54%	6.94%	10.41%
24	3.28%	4.92%	3.73%	5.60%	7.01%	10.52%
25	3.32%	4.98%	3.78%	5.67%	7.10%	10.65%
26	3.36%	5.04%	3.82%	5.73%	7.18%	10.77%
27	3.40%	5.10%	3.87%	5.80%	7.27%	10.90%
28	3.44%	5.16%	3.91%	5.87%	7.35%	11.03%
29	3.48%	5.22%	3.96%	5.94%	7.44%	11.16%
30	3.52%	5.28%	4.01%	6.01%	7.53%	11.29%
31	3.56%	5.34%	4.05%	6.08%	7.61%	11.42%
32	3.61%	5.41%	4.11%	6.16%	7.72%	11.57%
33	3.65%	5.48%	4.16%	6.24%	7.81%	11.72%
34	3.70%	5.55%	4.21%	6.32%	7.91%	11.87%

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

Age	Basic Regular First \$350 per month	Basic Regular Over \$350 per month	COLA Regular First \$350 per month	COLA Regular Over \$350 per month	Combined First \$350 per month	Combined Over \$350 per month
35	3.75%	5.63%	4.27%	6.40%	8.02%	12.03%
36	3.80%	5.71%	4.33%	6.49%	8.13%	12.20%
37	3.86%	5.79%	4.39%	6.59%	8.25%	12.38%
38	3.92%	5.88%	4.46%	6.69%	8.38%	12.57%
39	3.98%	5.97%	4.53%	6.80%	8.51%	12.77%
40	4.05%	6.08%	4.61%	6.92%	8.66%	13.00%
41	4.13%	6.20%	4.71%	7.06%	8.84%	13.26%
42	4.16%	6.23%	4.73%	7.10%	8.89%	13.33%
43	4.17%	6.26%	4.75%	7.13%	8.92%	13.39%
44	4.19%	6.28%	4.77%	7.15%	8.96%	13.43%
45	4.19%	6.29%	4.77%	7.16%	8.96%	13.45%
46	4.17%	6.25%	4.74%	7.11%	8.91%	13.36%
47	4.14%	6.21%	4.71%	7.06%	8.85%	13.27%
48	4.10%	6.14%	4.66%	6.99%	8.76%	13.13%
49+	4.03%	6.05%	4.59%	6.88%	8.62%	12.93%

Interest: 7.25% per annum  
 COLA: 3.00%  
 Mortality: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2015, set back one year weighted 80% male and 20% female  
 Salary Increase: Inflation (3.25%) + Across-the-Board Increase (0.50%) + Merit (See Exhibit V)  
 COLA Loading Factor: 113.82% for Regular Benefits

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

**Appendix A**

**Member Contribution Rates (Continued)**

**Safety Tier 4 Members' Contribution Rates based on the June 30, 2013  
Actuarial Valuation as a percentage of payroll**

Age	Basic Regular First \$350 per month	Basic Regular Over \$350 per month	Age	Basic Regular First \$350 per month	Basic Regular Over \$350 per month
15	5.71%	8.56%	33	6.95%	10.42%
16	5.71%	8.56%	34	7.04%	10.56%
17	5.77%	8.66%	35	7.13%	10.70%
18	5.84%	8.75%	36	7.23%	10.85%
19	5.90%	8.85%	37	7.34%	11.01%
20	5.97%	8.95%	38	7.45%	11.18%
21	6.03%	9.05%	39	7.57%	11.36%
22	6.10%	9.15%	40	7.67%	11.50%
23	6.17%	9.26%	41	7.73%	11.60%
24	6.24%	9.36%	42	7.76%	11.64%
25	6.31%	9.47%	43	7.77%	11.65%
26	6.39%	9.58%	44	7.75%	11.63%
27	6.46%	9.69%	45	7.71%	11.56%
28	6.54%	9.81%	46	7.64%	11.46%
29	6.62%	9.92%	47	7.54%	11.31%
30	6.70%	10.04%	48	7.80%	11.69%
31	6.78%	10.17%	49+	8.06%	12.10%
32	6.86%	10.29%			

## SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association

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Interest:	7.25% per annum
COLA:	0.00%
Mortality:	RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2015, set back one year weighted 80% male and 20% female
Salary Increase:	Inflation (3.25%) + Across-the-Board Increase (0.50%) + Merit (See Exhibit V)

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

**Appendix A**

**Member Contribution Rates (Continued)**

**Safety Tier 5 Members' Contribution Rates based on the June 30, 2013 Actuarial Valuation as a percentage of payroll**

		<u>All Eligible Pay*</u>
	All members	11.96%
Interest:	7.25% per annum	
COLA:	0.00%	
Mortality:	RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2015, set back one year weighted 80% male and 20% female	
Salary Increase:	Inflation (3.25%) + Across-the-Board Increase (0.50%) + Merit (See Exhibit V)	

\* *It is our understanding that in the determination of pension benefits under the CalPEPRA formulas, the compensation that can be taken into account for 2013 is equal to the Social Security Taxable Wage Base or \$113,700 (For an employer that is not enrolled in Social Security, the maximum amount is \$136,440 or 120% of the Social Security Taxable Wage Base) (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2013 (reference: Section 7522.10(d)).*

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

**Appendix B**

**Non-Valuation Reserves and Benefits**

The Board of Retirement has established a Supplemental COLA Reserve and a Retiree Health Insurance Reserve to pay non-vested discretionary purchasing power and additional taxable retiree health benefits. As requested by the Association, we have provided below a table of the anticipated cash payments and determined the sufficiency of current reserves to make those payments. Please note that in determining the sufficiency of the reserves, we assume no new excess earnings transfers will be made by the Board.

**Supplemental COLA Benefit<sup>(1) (2) (3)</sup>**

Total Undiscounted Benefits as of June 30, 2013:	\$6,266,244
Reserve <sup>(4)</sup> as of June 30, 2013:	\$2,131,272

It is anticipated that the current reserve will be sufficient to pay the current benefit only through the year 2016-2017 for the current recipients. As shown in the table below, the benefit payment stream is substantially “front loaded” as total payments are expected to decrease as the number of recipients decreases. For example, in the year 2016-2017 only about 77% of the current recipients are expected to be alive and continuing to receive benefits. Furthermore, we assume that no new members will become eligible for this benefit.

<b>Period</b>	<b>Payment (undiscounted)</b>	<b>Period</b>	<b>Payment (undiscounted)</b>
2013 - 2014	\$755,606	2015 - 2016	\$614,398
2014 - 2015	683,993	2016 - 2017 <sup>(5)</sup>	77,275

**Retiree Health Insurance Benefit<sup>(1) (3)</sup>**

Total Undiscounted Benefits as of June 30, 2013:	\$435,176,338
Reserve <sup>(4)</sup> as of June 30, 2013:	\$18,253,981

It is anticipated that the current reserve will be sufficient to pay the current benefit only through the year 2015-2016. As shown in the table below, the benefit payment stream is somewhat “back loaded” as total payments are expected to increase as the number of recipients increases. For example, in the year 2015-2016 the total number of recipients is expected to be about 6% higher than at June 30, 2013.

<b>Period</b>	<b>Payment (undiscounted)</b>	<b>Period</b>	<b>Payment (undiscounted)</b>
2013 - 2014	\$8,048,120	2015 - 2016 <sup>(5)</sup>	\$1,952,808
2014 - 2015	8,253,053		

- <sup>(1)</sup> Assuming no change in the level of benefit provided as of June 30, 2013.
- <sup>(2)</sup> Including only those members receiving the benefits as of June 30, 2013.
- <sup>(3)</sup> Assuming no interest will be credited and no excess earnings will be transferred to this reserve.
- <sup>(4)</sup> Based on actuarial value of assets.
- <sup>(5)</sup> Payment will only be paid for part of the year.



**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

**Appendix C**

**Amortization Schedule for UAAL**

<b>General – Regular Benefits</b>	<b>Source</b>	<b>Initial Amount</b>	<b>Outstanding Balance</b>	<b>Years Remaining</b>	<b>Payment</b>
June 30, 2003	Restart Amortization	N/A*	\$62,048,810	20	\$4,336,281
June 30, 2004	Actuarial Loss/POB Proceeds**	N/A*	(32,009,650)	6	(6,010,356)
June 30, 2005	Actuarial Loss	\$165,807,070	121,116,382	7	19,807,131
June 30, 2006	Actuarial Loss	74,355,835	58,602,925	8	8,520,220
June 30, 2006	Plan Provision Change	333,000	373,483	23	23,715
June 30, 2007	Actuarial Loss	9,736,697	8,183,118	9	1,074,402
June 30, 2007	Assumption Change	48,705,000	40,933,664	9	5,374,385
June 30, 2008	Actuarial Loss	37,435,443	33,023,702	10	3,964,066
June 30, 2009	Actuarial Loss	99,661,060	91,367,203	11	10,127,415
June 30, 2010	Actuarial Loss	40,450,188	38,225,602	12	3,944,768
June 30, 2010	Assumption Change	180,478,000	170,552,487	12	17,600,505
June 30, 2011	Actuarial Loss	33,654,586	32,589,721	13	3,152,795
June 30, 2012	Actuarial Gain	(37,654,021)	(37,146,496)	14	(3,388,578)
June 30, 2013	Actuarial Gain	(55,328,951)	(55,328,951)	15	(4,783,187)
June 30, 2013	Assumption Change	152,395,000	<u>152,395,000</u>	15	<u>13,174,548</u>
	Total		\$684,927,000		\$76,918,110

\* The initial amounts are only available for periods based on prior audit and valuation results reviewed or prepared by Segal.

\*\* It appears that the proceeds from the Pension Obligation Bonds issued by the County were used to offset the actuarial loss in the June 30, 2004 valuation.

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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<b>General – Settlement Benefits</b>	<b>Source</b>	<b>Initial Amount</b>	<b>Outstanding Balance</b>	<b>Years Remaining</b>	<b>Payment</b>
June 30, 2003	Restart Amortization	N/A*	\$151,045,719	20	\$10,555,830
June 30, 2004	Actuarial Loss/POB Proceeds **	N/A*	(35,639,598)	6	(6,691,940)
June 30, 2005	Actuarial Loss	\$10,771,055	7,867,887	7	1,286,699
June 30, 2006	Actuarial Loss	8,282,685	6,527,928	8	949,089
June 30, 2007	Actuarial Gain	(162,430)	(136,512)	9	(17,923)
June 30, 2007	Assumption Change	37,063,000	31,149,256	9	4,089,742
June 30, 2008	Actuarial Loss	11,510,769	10,154,233	10	1,218,884
June 30, 2009	Actuarial Loss	17,637,452	16,169,652	11	1,792,293
June 30, 2010	Actuarial Loss	4,210,394	3,978,841	12	410,604
June 30, 2010	Assumption Change	38,322,000	36,214,455	12	3,737,223
June 30, 2011	Actuarial Loss	208,522	201,924	13	19,535
June 30, 2012	Actuarial Gain	(18,843,015)	(18,589,037)	14	(1,695,729)
June 30, 2013	Actuarial Gain	(20,059,381)	(20,059,381)	15	(1,734,133)
June 30, 2013	Assumption Change	41,809,000	<u>41,809,000</u>	15	<u>3,614,388</u>
	Total		\$230,694,367		\$17,534,562

\* The initial amounts are only available for periods based on prior audit and valuation results reviewed or prepared by Segal.

\*\* It appears that the proceeds from the Pension Obligation Bonds issued by the County were used to offset the actuarial losses in the June 30, 2004 valuation.

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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<b>Safety – Regular Benefits</b>	<b>Source</b>	<b>Initial Amount</b>	<b>Outstanding Balance</b>	<b>Years Remaining</b>	<b>Payment</b>
June 30, 2003	Restart Amortization	N/A*	\$21,228,150	20	\$1,483,529
June 30, 2004	Actuarial Loss/POB Proceeds **	N/A*	(6,917,148)	6	(1,298,812)
June 30, 2005	Actuarial Loss	\$28,456,160	20,786,250	7	3,399,341
June 30, 2006	Actuarial Loss	36,122,657	28,469,767	8	4,139,191
June 30, 2007	Actuarial Loss	11,440,206	9,614,814	9	1,262,377
June 30, 2007	Assumption Change	18,663,000	15,685,145	9	2,059,381
June 30, 2008	Actuarial Loss	25,279,442	22,300,279	10	2,676,858
June 30, 2009	Actuarial Loss	33,290,245	30,519,810	11	3,382,908
June 30, 2010	Actuarial Loss	7,016,461	6,630,585	12	684,256
June 30, 2010	Assumption Change	44,211,000	41,779,586	12	4,311,528
June 30, 2011	Actuarial Gain	(3,902,219)	(3,778,748)	13	(365,564)
June 30, 2012	Actuarial Gain	(4,727,978)	(4,664,251)	14	(425,483)
June 30, 2013	Actuarial Gain	(17,551,239)	(17,551,239)	15	(1,517,305)
June 30, 2013	Assumption Change	47,490,000	<u>47,490,000</u>	15	<u>4,105,510</u>
	<b>Total</b>		<b>\$211,593,000</b>		<b>\$23,897,715</b>

\* The initial amounts are only available for periods based on prior audit and valuation results reviewed or prepared by Segal.

\*\* It appears that the proceeds from the Pension Obligation Bonds issued by the County were used to offset the actuarial losses in the June 30, 2004 valuation.

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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<b>Safety – Settlement Benefits</b>	<b>Source</b>	<b>Initial Amount</b>	<b>Outstanding Balance</b>	<b>Years Remaining</b>	<b>Payment</b>
June 30, 2003	Restart Amortization	N/A*	\$25,740,299	20	\$1,798,861
June 30, 2004	Actuarial Loss/POB Proceeds **	N/A*	(5,664,702)	6	(1,063,644)
June 30, 2005	Actuarial Gain	\$(8,133,004)	(5,940,880)	7	(971,560)
June 30, 2006	Actuarial Loss	6,885,605	5,426,833	8	789,002
June 30, 2007	Actuarial Loss	810,988	681,588	9	89,489
June 30, 2007	Assumption Change	4,474,000	3,760,130	9	493,686
June 30, 2008	Actuarial Loss	4,845,166	4,274,167	10	513,058
June 30, 2009	Actuarial Loss	7,849,312	7,196,088	11	797,636
June 30, 2010	Actuarial Loss	1,272,629	1,202,640	12	124,109
June 30, 2010	Assumption Change	6,935,000	6,553,605	12	676,312
June 30, 2011	Actuarial Gain	(433,930)	(420,200)	13	(40,651)
June 30, 2012	Actuarial Gain	(1,098,338)	(1,083,534)	14	(98,842)
June 30, 2013	Actuarial Gain	(3,609,401)	(3,609,401)	15	(312,033)
June 30, 2013	Assumption Change	10,467,000	<u>10,467,000</u>	15	<u>904,872</u>
	<b>Total</b>		<b>\$48,583,633</b>		<b>\$3,700,295</b>

\* The initial amounts are only available for periods based on prior audit and valuation results reviewed or prepared by Segal.

\*\* It appears that the proceeds from the Pension Obligation Bonds issued by the County were used to offset the actuarial losses in the June 30, 2004 valuation.

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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<b>Total</b>	<b>Source</b>	<b>Initial Amount</b>	<b>Outstanding Balance</b>	<b>Years Remaining</b>	<b>Payment</b>
June 30, 2003	Restart Amortization	N/A*	\$260,062,978	20	\$18,174,501
June 30, 2004	Actuarial Loss/POB Proceeds **	N/A*	(80,231,098)	6	(15,064,752)
June 30, 2005	Actuarial Gain	\$196,901,281	143,829,639	7	23,521,611
June 30, 2006	Actuarial Loss	125,646,782	99,027,453	8	14,397,502
June 30, 2006	Plan Provision Change	333,000	373,483	23	23,715
June 30, 2007	Actuarial Loss	21,825,461	18,343,008	9	2,408,345
June 30, 2007	Assumption Change	108,905,000	91,528,195	9	12,017,194
June 30, 2008	Actuarial Loss	79,070,820	69,752,381	10	8,372,866
June 30, 2009	Actuarial Loss	158,438,069	145,252,753	11	16,100,252
June 30, 2010	Actuarial Loss	52,949,672	50,037,668	12	5,163,737
June 30, 2010	Assumption Change	269,946,000	255,100,133	12	26,325,568
June 30, 2011	Actuarial Gain	29,526,959	28,592,697	13	2,766,115
June 30, 2012	Actuarial Gain	(62,323,352)	(61,483,318)	14	(5,608,632)
June 30, 2013	Actuarial Gain	(96,548,872)	(96,548,972)	15	(8,346,658)
June 30, 2013	Assumption Change	252,161,000	<u>252,161,000</u>	15	<u>21,799,318</u>
	<b>Total</b>		<b>\$1,175,798,000</b>		<b>\$122,050,682</b>

\* The initial amounts are only available for periods based on prior audit and valuation results reviewed or prepared by Segal.

\*\* It appears that the proceeds from the Pension Obligation Bonds issued by the County were used to offset the actuarial losses in the June 30, 2004 valuation.

**SECTION 4: Reporting Information for the Fresno County Employees' Retirement Association**

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**Appendix D**

**Schedule of UAAL and Associated Funded Ratios (Dollar Amounts in Thousands)**

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	<b>Regular Benefit</b>	<b>Settlement Benefit</b>	<b>Total</b>
AAL	\$3,668,765	\$1,026,015	\$4,694,780
UAAL	\$896,520	\$279,278	\$1,175,798
Funded Ratio	75.6%	72.8%	75.0%

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