

Fresno County Employees' Retirement Association

Actuarial Valuation and Review as of
June 30, 2015



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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December 7, 2015

*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, 2015. It summarizes the actuarial data used in the valuation, establishes the funding requirements for fiscal 2016-2017 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 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 completed under the supervision of Andy Yeung, ASA, MAAA, FCA, Enrolled Actuary. 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, EA, MAAA, FCA
Senior Vice President and Actuary*



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

Purpose

This report has been prepared by Segal Consulting to present a valuation of the Fresno County Employees' Retirement Association as of June 30, 2015. 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;
- The characteristics of covered active members, inactive vested members, retired members and beneficiaries as of June 30, 2015, provided by FCERA;
- The assets of the Plan as of June 30, 2015, provided by FCERA;
- 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 period with 18 years remaining as of June 30, 2015. 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 amendments¹ is amortized over separate 15-year declining period.

¹ 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

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.²

The rates calculated in this report may be adopted by the Board for the fiscal year that extends from July 1, 2016 through June 30, 2017.

Significant Issues in Valuation Year

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

- Reference:* Pg. 5
Pg. 46
- As we previously reported in the June 30, 2014 valuation report, there was a correction to reallocate proceeds from the 2004 issuance of Pension Obligation Bonds among various reserves. After the correction, the balance in the Retiree Health Benefit Reserve (BOR) was -\$3,418,343 as of June 30, 2015. For actuarial valuation purposes, we have again limited the balance in the Retiree Health Benefit Reserve (BOR) to be no less than \$0 in determining the valuation value of assets because excluding a negative balance in that non-valuation reserve would have the unintended consequence of increasing the asset value used in the valuation until that negative balance is offset by future undistributed earnings.
- Reference:* Pg. 42
- The membership data reported by FCERA for use in the actuarial valuation has been maintained in the Wyatt pension administration system. The Association is in the progress of upgrading to the new ARRIVOS pension administration system. As part of that upgrade, FCERA has reviewed and reclassified 1,419 members who were previously reported in the data file reserved for terminated members and understood by Segal (and the prior actuary) as not owed any liability by FCERA. These members are now reported in the data file reserved for vested terminated members owed either a refund of contributions or deferred retirement benefit. Of these members, 1,346 have very small liabilities, with an average account balance of about \$2,800 and average service of about one year. The rest have an average account balance of \$13,000 with an average service of about four years, and about half have gone on to work for a reciprocal employer. The addition of the 1,419 members for the first time in this year's vested terminated file increased the actuarial accrued liability by about \$10.3 million.
- Reference:* Pg. 47

² It should be noted that under the Board's interest crediting policy, the balance of \$649.0 million (negative) in the Contra Tracking Account has to be fully restored before any excess earnings can be utilized in the future to provide any of the above offsets and benefits.

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

Also under the Wyatt pension administration system, the pay rate as of the last pay period ending before the date of the valuation provided to us in the prior year's active data file was compared against the highest average 1-year or 3-year salary in order to project future benefits for members who had experienced decreases in their pensionable salaries (since those benefits could not be computed by just using the projected pay rate provided for the June 30, 2014 valuation). As part of the implementation of the new ARRIVOS pension administration system, we have asked FCERA to add a new salary field corresponding to the actual year-to-date compensation earned during the 2014/2015 plan year. In this valuation, we have used the actual year-to-date compensation earned during the 2014/2015 plan year in lieu of the pay rate in comparing against the highest average 1-year or 3-year salary. We have also extrapolated the 1-year or 3-year salaries in calculating the present value of benefits going back to the entry age. The inclusion of the extrapolated highest average salaries at the entry age increases the employer Normal Cost rate by 0.24% of payroll.

Reference: Pg. 19

Reference: Pg. 47

➤ In this June 30, 2015 valuation, the UAAL has decreased from \$1,052.5 million to \$981.7 million when determined on a valuation (smoothed) value of assets basis. On a market value basis, the UAAL increased from \$831.3 million to \$1,042.9 million. The funded ratio on a valuation value of assets basis has increased from 78.4% to 80.7%, while on a market value basis, the funded ratio has decreased from 83.0% to 79.4%. 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 51.53% of payroll to 52.02% of payroll. The reasons for this change are: (i) actual contributions less than expected (as payroll increase was less than expected), (ii) increase in UAAL rate due to less than expected increase in total payroll, (iii) greater number of retirements than expected, (iv) reclassification of 1,419 members by the Association in the new ARRIVOS pension administration system, (v) increase in normal cost caused by change in demographics, and (vi) the inclusion of extrapolated highest average salaries in calculating the present value of benefits going back to the entry age, offset to some degree by (vii) higher than expected return on investments (based on valuation value of assets after smoothing), (viii) salary increases less than expected, and (ix) lower than expected COLA increases. A reconciliation of the Association's aggregate employer rate is provided in Section 2, Subsection D, Chart 15.

Reference: Pg. 20

➤ The aggregate member rate calculated in this valuation has increased from 9.40% of payroll to 9.41% of payroll. The change in the aggregate member rate is due to change in membership demographics for the June 30, 2015 valuation. A reconciliation of the Association's aggregate member rate is provided in Section 2, Subsection D, see Chart 16.

Reference: Pg. 93

➤ 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, if any,) 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.

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

Reference: Pg. 5

- As indicated in Section 2, Subsection B, Chart 7 of this report, the net total unrecognized investment losses as of June 30, 2015 are \$61.3 million compared to the net total unrecognized investment gains of \$221.3 million as of June 30, 2014. 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, 2015. 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 1.5% of the market value of assets. Unless offset by future investments gains or other favorable experience, the recognition of the \$61.3 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 80.7% to 79.4%.

For comparison purposes, if all the deferred gains in the June 30, 2014 valuation had been recognized immediately in the June 30, 2014 valuation, the funded percentage would have increased from 78.4% to 83.0%.
 - If the deferred losses were recognized immediately in the actuarial value of assets, the aggregate employer contribution rate would increase from 52.0% of payroll to 53.4% of payroll.

For comparison purposes, if all the deferred gains in the June 30, 2014 valuation had been recognized immediately in the June 30, 2014 valuation, the aggregate employer contribution rate would have decreased from 52.6% of payroll to 47.4% of payroll.

Reference: Pg. 70

- 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.

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

- The actuarial valuation report as of June 30, 2015 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.

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, 2015		June 30, 2014	
Employer Contribution Rates:				
	Total Rate	Estimated Annual Amount ⁽¹⁾	Total Rate	Estimated Annual Amount ⁽¹⁾
General Tier 1	51.43%	\$108,838,000	50.80%	\$107,504,000
General Tier 2	47.74%	5,090,000	48.09%	5,128,000
General Tier 3	47.35%	16,923,000	47.38%	16,934,000
General Tier 4	38.73%	5,402,000	38.15%	5,320,000
General Tier 5	36.96%	18,762,000	37.36%	18,964,000
Safety Tier 1	75.93%	35,507,000	74.56%	34,867,000
Safety Tier 2	75.11%	3,278,000	74.20%	3,239,000
Safety Tier 4	60.38%	2,324,000	59.37%	2,284,000
Safety Tier 5	57.99%	3,516,000	57.87%	3,510,000
All categories combined	52.02%	199,640,000	51.53%	197,750,000
Average Member Contribution Rates:				
	Total Rate	Estimated Annual Amount ⁽¹⁾	Total Rate	Estimated Annual Amount ⁽¹⁾
General Tier 1	9.75%	\$20,633,000	9.73%	\$20,591,000
General Tier 2	6.91%	737,000	6.98%	744,000
General Tier 3	7.75%	2,770,000	7.74%	2,766,000
General Tier 4	6.89%	961,000	6.68%	932,000
General Tier 5	6.89%	3,498,000	7.02%	3,563,000
Safety Tier 1	12.68%	5,930,000	12.52%	5,855,000
Safety Tier 2	11.08%	484,000	11.06%	483,000
Safety Tier 4	9.86%	379,000	9.83%	378,000
Safety Tier 5	12.03%	729,000	12.51%	759,000
All categories combined	9.41%	36,121,000	9.40%	36,071,000
Funded Status:				
Actuarial accrued liability ⁽²⁾	\$5,074,333,000		\$4,876,754,000	
Valuation value of assets (VVA) ⁽³⁾	\$4,092,647,000		\$3,824,221,000	
Market value of assets (MVA) ⁽³⁾	\$4,031,390,000		\$4,045,489,000	
Funded percentage on a VVA basis	80.7%		78.4%	
Funded percentage on a MVA basis	79.4%		83.0%	
Unfunded actuarial accrued liability on a VVA basis	\$981,686,000		\$1,052,533,000	
Unfunded actuarial accrued liability on a MVA basis	\$1,042,943,000		\$831,265,000	
Key Economic Assumptions:				
Interest rate	7.25%		7.25%	
Inflation rate	3.25%		3.25%	
Across-the-board salary increase	0.50%		0.50%	

⁽¹⁾ Based on June 30, 2015 projected annual compensation.

⁽²⁾ Excludes liabilities for non-vested supplemental benefits.

⁽³⁾ Excludes non-valuation reserves: contingency reserve, supplemental COLA and retiree health benefit reserve (BOR).

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

Summary of Key Valuation Demographic and Financial Data

	June 30, 2015	June 30, 2014	Percentage Change
Active Members:			
Number of members	7,001	6,968	0.5%
Average age	43.5	43.6	N/A
Average service	10.9	11.0	N/A
Projected total compensation	\$383,774,893	\$373,773,832	2.7%
Average projected compensation	\$54,817	\$53,641	2.2%
Retired Member and Beneficiaries:			
Number of members:			
Service retired	5,663	5,429	4.3%
Disability retired	344	344	0.0%
Beneficiaries	832	797	4.4%
Total	6,839	6,570	4.1%
Average age	68.9	68.8	N/A
Average monthly benefit ⁽¹⁾	\$2,823	\$2,767	2.0%
Vested Terminated Members:			
Number of vested terminated members ⁽²⁾	3,163 ⁽⁴⁾	1,380	129.2%
Average age	46.0	49.0	N/A
Summary of Financial Data:			
Market value of assets ⁽³⁾	\$4,032,119,349	\$4,050,128,933	-0.4%
Return on market value of assets	-0.10%	16.63%	N/A
Actuarial value of assets ⁽³⁾	\$4,093,376,893	\$3,828,861,827	6.9%
Return on actuarial value of assets	7.29%	9.03%	N/A
Valuation value of assets	\$4,092,647,359	\$3,824,221,492	7.0%
Return on valuation value of assets	7.31%	8.98%	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 and retiree health benefit reserve (BOR).

(4) Includes reclassification of 1,419 members by the Association in the newARRIVOS pension administration system.

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

Important Information about Actuarial Valuations

In order to prepare an actuarial valuation, Segal Consulting (“Segal”) relies on a number of input items. These include:

- **Plan of benefits** Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan description in this report to confirm that Segal has correctly interpreted the plan provisions.
- **Participant data** An actuarial valuation for a plan is based on data provided to the actuary by FCERA. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
- **Assets** This valuation is based on the market value of assets as of the valuation date, as provided by FCERA.
- **Actuarial assumptions** In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan’s assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.

The user of Segal’s actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The valuation is prepared at the request of the FCERA. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement of the plan’s assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

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

- If FCERA is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Board should look to their other advisors for expertise in these areas.

As Segal has no discretionary authority with respect to the management or assets of FCERA, it is not a fiduciary in its capacity as actuaries and consultants with respect to FCERA.

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 ten valuations can be seen in this chart.

CHART 1
Member Population: 2006 – 2015

Year Ended June 30	Active Members	Vested Terminated Members*	Retired Members and Beneficiaries	Ratio of Non-Actives to Actives
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
2014	6,968	1,380	6,570	1.14
2015	7,001	3,163	6,839	1.43

* Effective June 30, 2015, includes terminated members due a refund of member contributions unless those non-vested members left their contributions on deposit until age 70.

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 7,001 active members with an average age of 43.5 years, average years of service of 10.9 and average compensation of \$54,817. The 6,968 active members in the prior valuation had an average age of 43.6 years, average years of service of 11.0 and average compensation of \$53,641.

Inactive Members

In this year's valuation, there were 3,163 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their member contributions versus 1,380 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, 2015

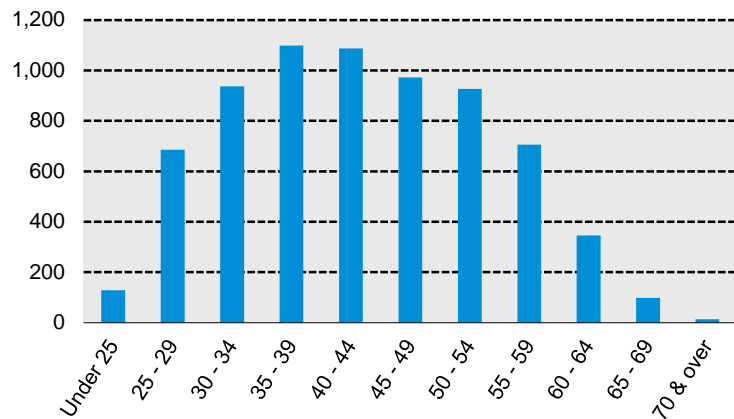
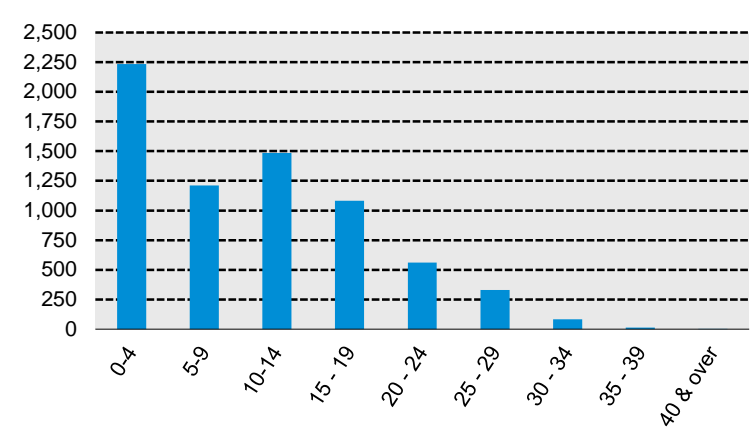


CHART 3
Distribution of Active Members by Years of Service as of June 30, 2015



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

Retired Members and Beneficiaries

As of June 30, 2015, 6,007 retired members and 832 beneficiaries were receiving total monthly benefits of \$19,309,208. For comparison, in the previous valuation, there were 5,773 retired members and 797 beneficiaries receiving monthly benefits of \$18,179,190. 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, 2015

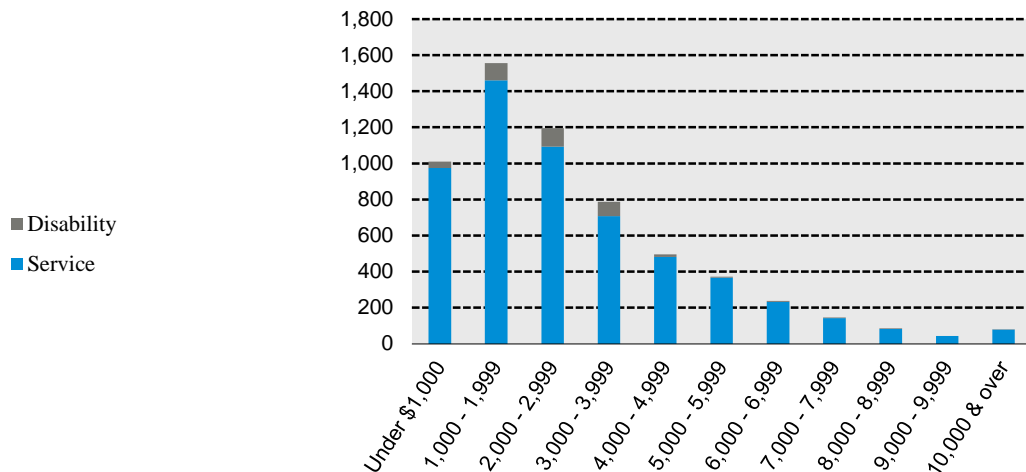
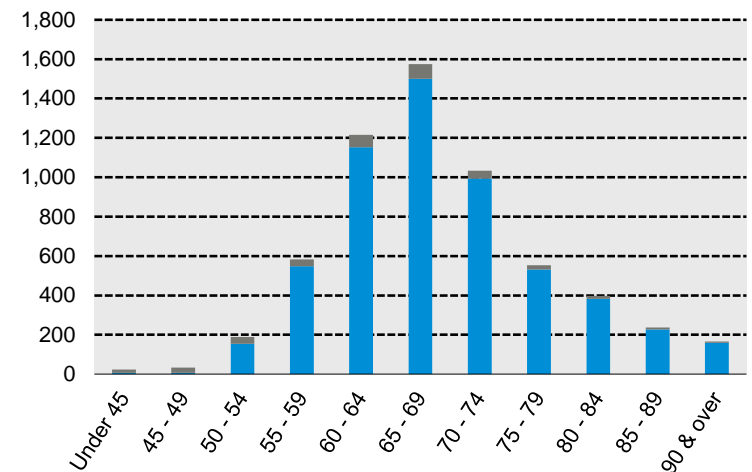


CHART 5
Distribution of Retired Members (Excl. Beneficiaries) by Type and by Age as of June 30, 2015



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.

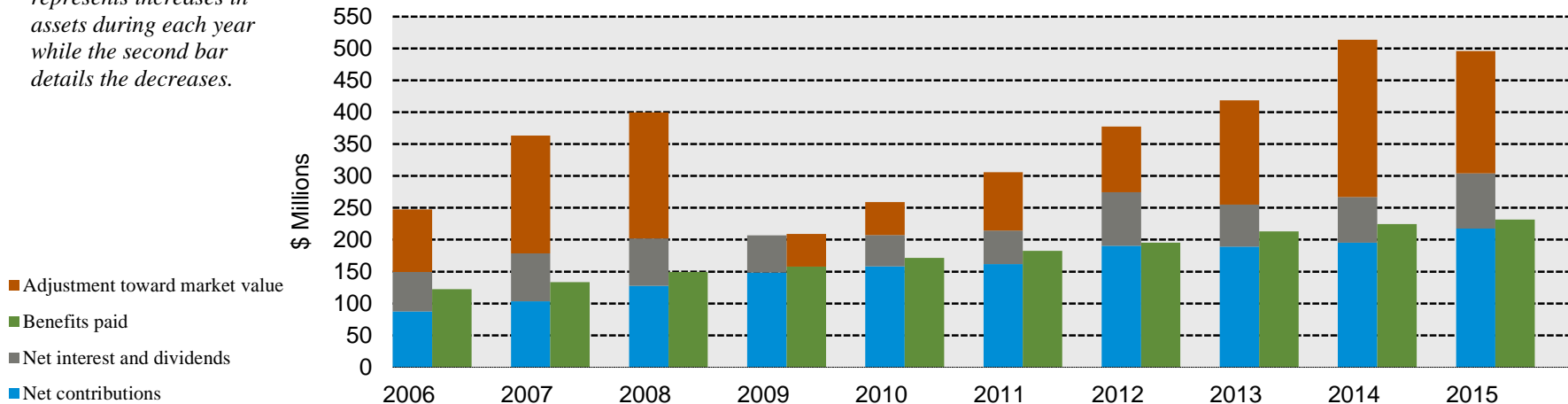
It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board of Retirement has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single 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 ten 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, 2006 through 2015



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

CHART 7

Determination of Actuarial Value of Assets for Year Ended June 30, 2015

Six Month Period		Total Actual	Expected Market	Investment	Deferred	Deferred
From	To	Market Return (net)	Return (net) ⁽¹⁾	Gain (Loss)	Factor	Return
Combined deferred gain through 6/30/2011 ⁽²⁾				\$15,635,252	0.111	\$1,737,250
7/1/2011	12/31/2011	(\$175,101,712)	\$122,793,608	(297,895,320)	0.2	(59,579,064)
1/1/2012	6/30/2012	161,262,327	115,914,939	45,347,388	0.3	13,604,216
7/1/2012	12/31/2012	240,685,052	121,699,116	118,985,935	0.4	47,594,374
1/1/2013	6/30/2013	134,122,546	130,563,210	3,559,336	0.5	1,779,668
7/1/2013	12/31/2013	395,606,395	135,374,319	260,232,075	0.6	156,139,245
1/1/2014	6/30/2014	184,000,262	150,143,559	33,856,703	0.7	23,699,692
7/1/2014	12/31/2014	(49,012,922)	146,717,748	(195,730,670)	0.8	(156,584,536)
1/1/2015	6/30/2015	45,076,629	144,685,951	(99,609,322)	0.9	(89,648,390)
1. Total Deferred Return ⁽³⁾						(\$61,257,544)
2. Net Market Value						4,032,119,349
3. Actuarial Value of Assets (Item 2 – Item 1)						4,093,376,893
4. Actuarial Value (before corridor) as a percentage of Market Value						101.5%
5. Actuarial Value of Assets – Corridor Limits:						
a. Lower Limit – 70% of Net Market Value						\$2,822,483,545
b. Upper Limit – 130% of Net Market Value						5,241,755,154
6. Actuarial Value of Assets (within corridor)						4,093,376,893
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						729,534
d. Retiree Health Benefit (BOR), Limited to No Less Than \$0						0
e. Subtotal						\$729,534
8. Valuation Value of Assets (Item 6 – Item 7e)						\$4,092,647,359

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

⁽¹⁾ The expected market return has been calculated by FCERA using an investment return assumption consistent with that used in the applicable actuarial valuation to set the employer and employee contribution rates for that period.

⁽²⁾ 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 one six-month period of recognition remaining after the June 30, 2015 valuation.

⁽³⁾ The amounts of deferred return that will be recognized in each subsequent valuation are as follows:

6/30/2016	(\$24,513,525)	6/30/2018	\$105,691	6/30/2020	(\$9,960,932)
6/30/2017	\$28,793,550	6/30/2019	(\$55,682,328)		

Note: Results may not total properly due to rounding.

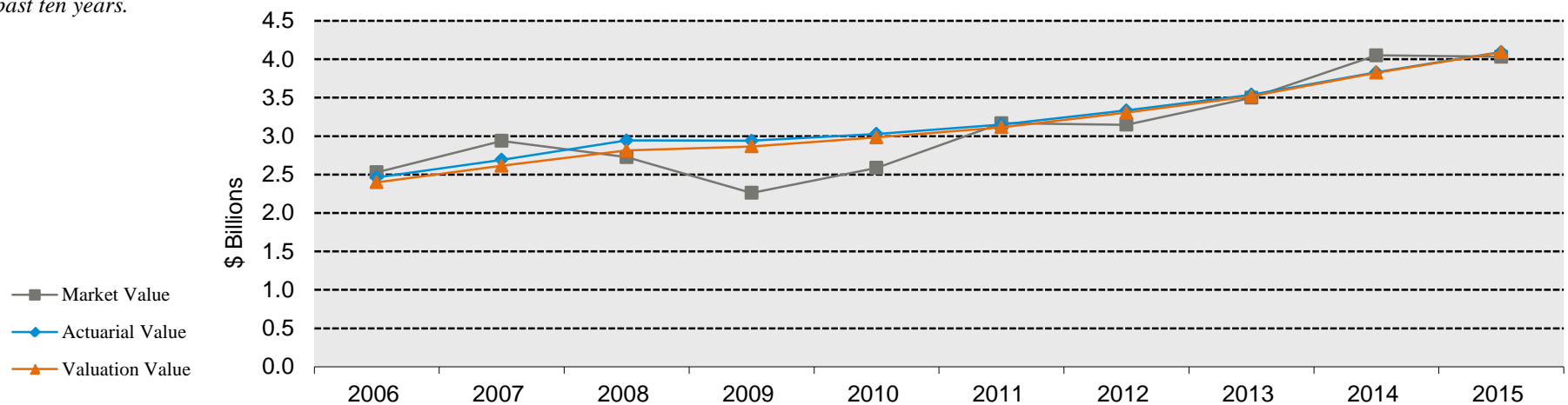
SECTION 2: Valuation Results for the Fresno County Employees' Retirement Association

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 ten years.

CHART 8

Market Value, Actuarial Value and Valuation Value of Assets as of June 30, 2006 – 2015



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

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 \$23.6 million, a gain of \$2.3 million from investments and a gain of \$21.2 million from all other sources. The net experience variation from individual sources other than investments was 0.4% of the actuarial accrued liability. A discussion of the major components of the actuarial experience is on the following pages.

CHART 9

Actuarial Experience for Year Ended June 30, 2015

1. Net gain/(loss) from investments ⁽¹⁾	\$2,341,000
2. Net gain/(loss) from other experience ⁽²⁾	<u>21,243,000</u>
3. Net experience gain/(loss): (1) + (2)	\$23,584,000

⁽¹⁾ Details in Chart 10.

⁽²⁾ See Section 3, Items 7(b) through 7(g) 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 7.25% (based on the June 30, 2014 valuation). The actual rate of return on a valuation basis for the 2014/2015 plan year was 7.31%.

Since the actual return for the year was greater than the assumed return, FCERA experienced an actuarial gain during the year ended June 30, 2015 with regard to its investments.

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

CHART 10

Investment Experience for Year Ended June 30, 2015 – Valuation, Actuarial and Market Value of Assets

	Valuation Value	Actuarial Value	Market Value
1. Actual return	\$279,206,627	\$278,588,356	(\$3,936,293)
2. Average value of assets	3,818,831,112	3,821,825,182	4,043,092,288
3. Actual rate of return: (1) ÷ (2)	7.31%	7.29%	(0.10%)
4. Assumed rate of return	7.25%	7.25%	7.25%
5. Expected return: (2) x (4)	276,865,256	277,082,326	293,124,191
6. Actuarial gain/(loss): (1) – (5)	<u>\$2,341,371</u>	<u>\$1,506,030</u>	<u>(\$297,060,484)</u>

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

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 ten years.

CHART 11

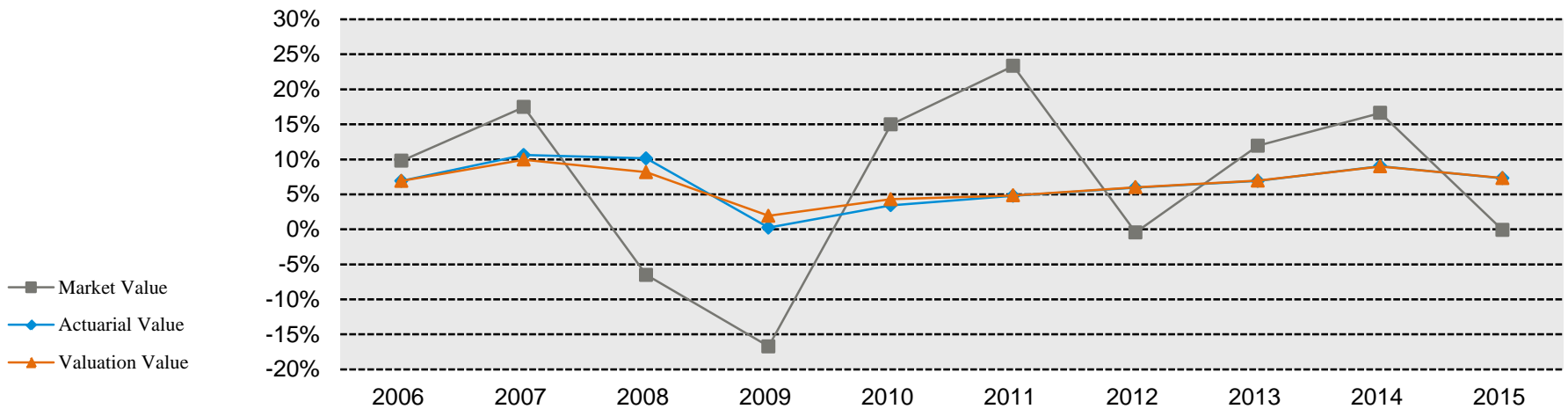
Investment Return – Valuation Value, Actuarial Value and Market Value: 2006 – 2015

Year Ended June 30	Valuation Value Investment Return		Actuarial Value Investment Return		Market Value Investment Return	
	Amount	Percent	Amount	Percent	Amount	Percent
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%
2014	315,164,400	8.98%	318,423,932	9.03%	579,606,657	16.63%
2015	279,206,627	7.31%	278,588,356	7.29%	(3,936,293)	(0.10%)
Five-Year Average Return		6.81%		6.78%		9.88%
Ten-Year Average Return		6.51%		6.49%		6.34%

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, 2006 – 2015



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

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,
- salary increases different than assumed, and
- COLA increases from retirees different than assumed.

The net gain from this other experience for the year ended June 30, 2015 amounted to \$21.2 million which is 0.4% 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

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 period with 18 years remaining as of June 30, 2015. 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⁽¹⁾ are amortized over separate 15-year declining periods.

The recommended employer contributions are provided on Chart 13.

⁽¹⁾ *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

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.

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

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

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).

The member contribution rates are provided in Appendix A.

Administrative Expense

The Board adopted an explicit administrative expense assumption of 1.10% of payroll effective with the June 30, 2014 valuation. Furthermore, the explicit administrative expense is allocated to both the employer and member based on the total average contribution rates as of June 30, 2014 before including administrative expenses. This assumption will be reviewed as part of each regular triennial experience study.

Allocation of Administrative Expense Load of 1.10% of Payroll

<u>Component</u>	<u>% of Payroll</u>
Employer Regular Normal Cost Rate	0.17%
Employer UAAL Rate	0.76%
Member Regular Basic Rate	0.17%

Note that the employer Normal Cost rate has been increased by the same percent of payroll as the member rate with the remaining employer loading allocated to the employer UAAL rate. The administrative expense load has been added to the Regular rates.

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

CHART 13

Recommended Employer Contribution Rates (Dollar Amounts in Thousands)

	June 30, 2015*						June 30, 2014*	
	REGULAR		SETTLEMENT		TOTAL		REGULAR & SETTLEMENT	
	Rate	Estimated Annual Amount**	Rate	Estimated Annual Amount**	Rate	Estimated Annual Amount**	Rate	Estimated Annual Amount**
General Tier 1 Members								
Normal Cost	16.12%	\$34,114	5.24%	\$11,089	21.36%	\$45,203	20.46%	\$43,298
UAAL	<u>25.44%</u>	<u>53,837</u>	<u>4.63%</u>	<u>9,798</u>	<u>30.07%</u>	<u>63,635</u>	<u>30.34%</u>	<u>64,206</u>
Total Contribution	41.56%	\$87,951	9.87%	\$20,887	51.43%	\$108,838	50.80%	\$107,504
General Tier 2 Members								
Normal Cost	17.44%	\$1,860	0.23%	\$24	17.67%	\$1,884	17.75%	\$1,893
UAAL	<u>25.44%</u>	<u>2,713</u>	<u>4.63%</u>	<u>493</u>	<u>30.07%</u>	<u>3,206</u>	<u>30.34%</u>	<u>3,235</u>
Total Contribution	42.88%	\$4,573	4.86%	\$517	47.74%	\$5,090	48.09%	\$5,128
General Tier 3 Members								
Normal Cost	16.96%	\$6,062	0.32%	\$114	17.28%	\$6,176	17.04%	\$6,090
UAAL	<u>25.44%</u>	<u>9,092</u>	<u>4.63%</u>	<u>1,655</u>	<u>30.07%</u>	<u>10,747</u>	<u>30.34%</u>	<u>10,844</u>
Total Contribution	42.40%	\$15,154	4.95%	\$1,769	47.35%	\$16,923	47.38%	\$16,934
General Tier 4 Members								
Normal Cost	8.66%	\$1,208	0.00%	\$0	8.66%	\$1,208	7.81%	\$1,089
UAAL	<u>25.44%</u>	<u>3,548</u>	<u>4.63%</u>	<u>646</u>	<u>30.07%</u>	<u>4,194</u>	<u>30.34%</u>	<u>4,231</u>
Total Contribution	34.10%	\$4,756	4.63%	\$646	38.73%	\$5,402	38.15%	\$5,320
General Tier 5 Members								
Normal Cost	6.89%	\$3,498	0.00%	\$0	6.89%	\$3,498	7.02%	\$3,563
UAAL	<u>25.44%</u>	<u>12,914</u>	<u>4.63%</u>	<u>2,350</u>	<u>30.07%</u>	<u>15,264</u>	<u>30.34%</u>	<u>15,401</u>
Total Contribution	32.33%	\$16,412	4.63%	\$2,350	36.96%	\$18,762	37.36%	\$18,964

* The Regular Normal Cost and UAAL rates shown for each cost group include an explicit administrative expense of 0.17% and 0.76% of payroll, respectively.

** Amounts are in thousands and are based on June 30, 2015 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, 2015*						June 30, 2014*	
	REGULAR		SETTLEMENT		TOTAL		REGULAR & SETTLEMENT	
	Rate	Estimated Annual Amount**	Rate	Estimated Annual Amount**	Rate	Estimated Annual Amount**	Rate	Estimated Annual Amount**
Safety Tier 1 Members								
Normal Cost	24.05%	\$11,247	5.92%	\$2,768	29.97%	\$14,015	29.20%	\$13,655
UAAL	<u>41.22%</u>	<u>19,275</u>	<u>4.74%</u>	<u>2,217</u>	<u>45.96%</u>	<u>21,492</u>	<u>45.36%</u>	<u>21,212</u>
Total Contribution	65.27%	\$30,522	10.66%	\$4,985	75.93%	\$35,507	74.56%	\$34,867
Safety Tier 2 Members								
Normal Cost	28.91%	\$1,262	0.24%	\$10	29.15%	\$1,272	28.84%	\$1,259
UAAL	<u>41.22%</u>	<u>1,799</u>	<u>4.74%</u>	<u>207</u>	<u>45.96%</u>	<u>2,006</u>	<u>45.36%</u>	<u>1,980</u>
Total Contribution	70.13%	\$3,061	4.98%	\$217	75.11%	\$3,278	74.20%	\$3,239
Safety Tier 4 Members								
Normal Cost	14.23%	\$548	0.19%	\$7	14.42%	\$555	14.01%	\$539
UAAL	<u>41.22%</u>	<u>1,587</u>	<u>4.74%</u>	<u>182</u>	<u>45.96%</u>	<u>1,769</u>	<u>45.36%</u>	<u>1,745</u>
Total Contribution	55.45%	\$2,135	4.93%	\$189	60.38%	\$2,324	59.37%	\$2,284
Safety Tier 5 Members								
Normal Cost	12.03%	\$729	0.00%	\$0	12.03%	\$729	12.51%	\$759
UAAL	<u>41.22%</u>	<u>2,499</u>	<u>4.74%</u>	<u>288</u>	<u>45.96%</u>	<u>2,787</u>	<u>45.36%</u>	<u>2,751</u>
Total Contribution	53.25%	\$3,228	4.74%	\$288	57.99%	\$3,516	57.87%	\$3,510
All Categories Combined								
Normal Cost	15.77%	\$60,528	3.65%	\$14,012	19.42%	\$74,540	18.80%	\$72,145
UAAL	<u>27.95%</u>	<u>107,264</u>	<u>4.65%</u>	<u>17,836</u>	<u>32.60%</u>	<u>125,100</u>	<u>32.73%</u>	<u>125,605</u>
Total Contribution	43.72%	\$167,792	8.30%	\$31,848	52.02%	\$199,640	51.53%	\$197,750

* The Regular Normal Cost and UAAL rates shown for each cost group include an explicit administrative expense of 0.17% and 0.76% of payroll, respectively.

** Amounts are in thousands and are based on June 30, 2015 projected annual compensation (also in thousands):

General Tier 1	\$211,623
General Tier 2	10,663
General Tier 3	35,741
General Tier 4	13,946
General Tier 5	50,762
Safety Tier 1	46,763
Safety Tier 2	4,365
Safety Tier 4	3,848
Safety Tier 5	6,064
Total Compensation	\$383,775

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, 2015					June 30, 2014				
	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
Normal Cost										
Regular - Basic	12.79%	14.29%	13.65%	8.49%	6.72%	12.29%	14.37%	13.49%	7.64%	6.85%
Regular - COLA	3.16%	2.98%	3.14%	0.00%	0.00%	2.99%	2.97%	3.08%	0.00%	0.00%
Section 6	4.86%	0.00%	0.00%	0.00%	0.00%	4.64%	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	0.38%	0.23%	0.32%	0.00%	0.00%	0.37%	0.24%	0.30%	0.00%	0.00%
Administrative Expense	0.17%	0.17%	0.17%	0.17%	0.17%	0.17%	0.17%	0.17%	0.17%	0.17%
Subtotal	21.36%	17.67%	17.28%	8.66%	6.89%	20.46%	17.75%	17.04%	7.81%	7.02%
UAAL										
Regular - Basic	16.06%	16.06%	16.06%	16.06%	16.06%	15.69%	15.69%	15.69%	15.69%	15.69%
Regular - COLA	8.62%	8.62%	8.62%	8.62%	8.62%	8.84%	8.84%	8.84%	8.84%	8.84%
Section 6	3.81%	3.81%	3.81%	3.81%	3.81%	4.24%	4.24%	4.24%	4.24%	4.24%
Section 8	0.02%	0.02%	0.02%	0.02%	0.02%	0.09%	0.09%	0.09%	0.09%	0.09%
Section 9	0.80%	0.80%	0.80%	0.80%	0.80%	0.72%	0.72%	0.72%	0.72%	0.72%
Administrative Expense	0.76%	0.76%	0.76%	0.76%	0.76%	0.76%	0.76%	0.76%	0.76%	0.76%
Subtotal	30.07%	30.07%	30.07%	30.07%	30.07%	30.34%	30.34%	30.34%	30.34%	30.34%
Total	51.43%	47.74%	47.35%	38.73%	36.96%	50.80%	48.09%	47.38%	38.15%	37.36%

Note: Please refer to Section 4, Exhibit III 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, 2015				June 30, 2014			
	Tier 1	Tier 2	Tier 4	Tier 5	Tier 1	Tier 2	Tier 4	Tier 5
Normal Cost								
Regular - Basic	18.99%	22.97%	14.06%	11.86%	18.50%	22.78%	13.68%	12.34%
Regular - COLA	4.89%	5.77%	0.00%	0.00%	4.78%	5.69%	0.00%	0.00%
Section 6	5.59%	0.00%	0.00%	0.00%	5.44%	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	0.33%	0.24%	0.19%	0.00%	0.31%	0.20%	0.16%	0.00%
Administrative Expense	0.17%	0.17%	0.17%	0.17%	0.17%	0.17%	0.17%	0.17%
Subtotal	29.97%	29.15%	14.42%	12.03%	29.20%	28.84%	14.01%	12.51%
UAAL								
Regular - Basic	19.77%	19.77%	19.77%	19.77%	18.19%	18.19%	18.19%	18.19%
Regular - COLA	20.69%	20.69%	20.69%	20.69%	20.82%	20.82%	20.82%	20.82%
Section 6	3.92%	3.92%	3.92%	3.92%	4.78%	4.78%	4.78%	4.78%
Section 8	0.02%	0.02%	0.02%	0.02%	0.09%	0.09%	0.09%	0.09%
Section 9	0.80%	0.80%	0.80%	0.80%	0.72%	0.72%	0.72%	0.72%
Administrative Expense	0.76%	0.76%	0.76%	0.76%	0.76%	0.76%	0.76%	0.76%
Subtotal	45.96%	45.96%	45.96%	45.96%	45.36%	45.36%	45.36%	45.36%
Total	75.93%	75.11%	60.38%	57.99%	74.56%	74.20%	59.37%	57.87%

Note: Please refer to Section 4, Exhibit III 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, 2015 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.

CHART 15

Reconciliation of Recommended Employer Contribution from June 30, 2014 to June 30, 2015 (Dollars in Thousands)

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

	Contribution Rate	Estimated Amount ⁽¹⁾
Recommended Contribution Rate as of June 30, 2014	51.53%	\$197,750
Effect of actuarial experience during 2014/2015:		
1. Effect of investment gain on valuation value of assets ⁽²⁾	-0.05%	-192
2. Effect of difference between actual and expected contributions ⁽³⁾	0.35%	1,343
3. Effect of salary increases less than expected during 2014/2015	-0.92%	-3,531
4. Effect of increase in UAAL rate due to less than expected increase in total payroll	0.34%	1,305
5. Effect of COLA increases less than expected	-0.83%	-3,185
6. Effect of greater number of retirements than expected	0.58%	2,226
7. Effect of reclassification of 1,419 members in the new ARRIVOS pension admin. system	0.23%	891
8. Effect of increase in normal cost caused by change in member demographics	0.23%	891
9. Effect of increase in normal cost caused by inclusion of extrapolated highest average salaries in calculating the present value of benefits going back to the entry age	0.24%	921
10. Effect of other experience losses	<u>0.32%</u>	<u>1,221</u>
Subtotal	0.49%	\$1,890
Recommended Contribution Rate as of June 30, 2015	52.02%	\$199,640

⁽¹⁾ Based on June 30, 2015 projected annual compensation of \$383,775.

⁽²⁾ Return on valuation value of assets of 7.31% was greater than the 7.25% assumed rate of return.

⁽³⁾ Contribution loss from payroll increase less than expected offset somewhat by the contributions gain from one-year delay in implementing lower contribution rates recommended in June 30, 2014 valuation.

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

The member contribution rates as of June 30, 2015 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, 2014 to June 30, 2015
(Dollar Amounts in Thousands)**

	Contribution Rate	Estimated Amount ⁽¹⁾
Average Contribution Rate as of June 30, 2014	9.40%	\$36,071
1. Effect of change in active member demographics	<u>0.01%</u>	<u>\$50</u>
Subtotal	0.01%	\$50
Average Contribution Rate as of June 30, 2015	9.41%	\$36,121

⁽¹⁾ Based on June 30, 2015 projected annual compensation of \$383,775.

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. FUNDED RATIO

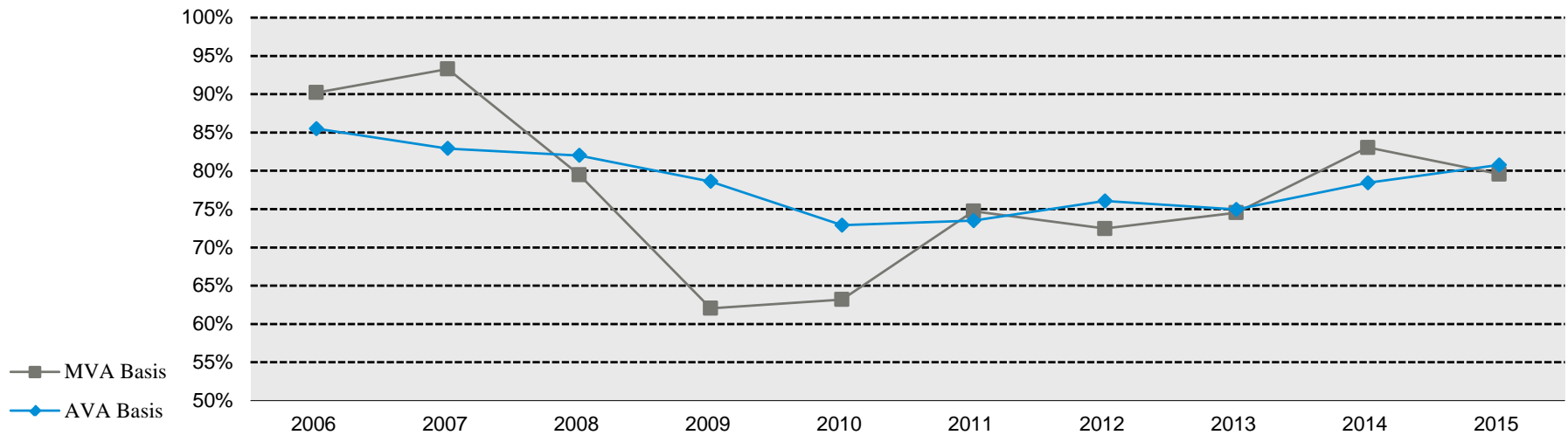
A commonly reported piece of information regarding the Plan's financial status is the funded ratio. These ratios compare the actuarial value of assets and market value of assets to the actuarial accrued liabilities of the Plan as calculated. High ratios indicate a well-funded plan with assets sufficient to cover the plan's actuarial accrued liabilities. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other factors. The chart below depicts a history of the funded

ratio for this plan. Chart 18 on the next page shows the Plan's schedule of funding progress for the last ten years.

The funded status measures shown in this valuation are appropriate for assessing the need for or amount of future contributions. However, they are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations. As the chart below shows, the measures are different depending on whether the valuation or market value of assets is used.

CHART 17

Funded Ratio for Plan Years Ending June 30, 2006 - 2015



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

CHART 18

Schedule of Funding Progress (Dollar Amounts in Thousands)

Actuarial Valuation Date	Valuation Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded/ (Overfunded) AAL (UAAL) (a) – (b)	Funded Ratio (%) (a) / (b)	Projected Covered Payroll (c)	UAAL as a Percentage of Projected Covered Payroll (%) [(a) – (b)] / (c)
6/30/2006	\$2,398,454	\$2,803,990	\$405,536	85.5	\$376,270	107.8
6/30/2007	2,610,269 ⁽¹⁾	3,149,570	539,301	82.9	404,277	133.4
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
6/30/2014	3,824,221	4,876,754	1,052,533	78.4	373,774	281.6
6/30/2015	4,092,647	5,074,333	981,686	80.7	383,775	255.8

⁽¹⁾ After decreasing assets by \$3,169 for a net overpayment of member contributions discounted to June 30, 2007.

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 10.5. This means that a 1% asset gain/(loss) (relative to the assumed investment return) translates to 10.5% of one-year's payroll. Since FCERA amortizes actuarial gains and losses over a period of 15 years as of June 30, 2015, there would be a 0.9% 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 about 13.2. This is about 26% higher than the AVR. Therefore, we would expect that contribution volatility will increase over the long-term.

CHART 19
Volatility Ratios for Years Ended June 30, 2009 – 2015

Year Ended June 30	Asset Volatility Ratios			Liability Volatility Ratios		
	General	Safety	Total	General	Safety	Total
2009	5.2	6.0	5.4	8.3	10.2	8.6
2010	6.1	7.4	6.3	9.6	12.3	10.0
2011	7.6	9.9	7.9	10.1	13.6	10.6
2012	8.3	10.4	8.6	11.3	14.9	11.9
2013	9.1	11.2	9.5	12.1	15.6	12.7
2014	10.4	13.0	10.8	12.4	16.1	13.0
2015	10.0	13.1	10.5	12.5	16.8	13.2

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

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

EXHIBIT A

Table of Plan Coverage

i. General Tier 1

Category	Year Ended June 30		Change From Prior Year
	2015	2014	
Active members in valuation			
Number	3,646	4,006	-9.0%
Average age	48.0	47.4	N/A
Average service	15.7	14.8	N/A
Projected total compensation ⁽¹⁾	\$211,623,282	\$225,890,358	-6.3%
Projected average compensation ⁽¹⁾	\$58,043	\$56,388	2.9%
Member account balances	\$208,315,150	\$208,186,180	0.1%
Vested terminated members			
Number	2,193	1,211	81.1%
Average age	48.6	49.7	N/A
Retired members			
Number in pay status	5,045	4,853	4.0%
Average age	69.3	69.1	N/A
Average monthly benefit ⁽²⁾	\$2,812	\$2,747	2.4%
Disabled members			
Number in pay status	192	196	-2.0%
Average age	67.4	66.6	N/A
Average monthly benefit ⁽²⁾	\$1,944	\$1,919	1.3%
Beneficiaries			
Number in pay status	681	658	3.5%
Average age	72.2	72.9	N/A
Average monthly benefit ⁽²⁾	\$1,667	\$1,669	-0.1%

⁽¹⁾ *Projected compensation for June 30, 2014 valuation was calculated by increasing the annualized pay rate as of June 30, 2014 by one-half year of the inflation plus across-the-board salary increase plus merit. Projected compensation for June 30, 2015 valuation was calculated by increasing the annualized 2014-2015 compensation by one-full year of the inflation plus across-the-board salary increase plus merit.*

⁽²⁾ *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

Category	Year Ended June 30		Change From Prior Year
	2015	2014	
Active members in valuation			
Number	157	177	-11.3%
Average age	43.5	42.9	N/A
Average service	6.4	5.1	N/A
Projected total compensation ⁽¹⁾	\$10,663,149	\$11,368,641	-6.2%
Projected average compensation ⁽¹⁾	\$67,918	\$64,230	5.7%
Member account balances	\$3,800,813	\$3,332,989	14.0%
Vested terminated members			
Number	110	14	685.7%
Average age	44.0	42.9	N/A
Retired members			
Number in pay status	11	8	37.5%
Average age	61.1	60.6	N/A
Average monthly benefit ⁽²⁾	\$2,493	\$2,712	-8.1%
Disabled members			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit ⁽²⁾	N/A	N/A	N/A
Beneficiaries			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit ⁽²⁾	N/A	N/A	N/A

⁽¹⁾ Projected compensation for June 30, 2014 valuation was calculated by increasing the annualized pay rate as of June 30, 2014 by one-half year of the inflation plus across-the-board salary increase plus merit. Projected compensation for June 30, 2015 valuation was calculated by increasing the annualized 2014-2015 compensation by one-full year of the inflation plus across-the-board salary increase plus merit.

⁽²⁾ 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

Category	Year Ended June 30		Change From Prior Year
	2015	2014	
Active members in valuation			
Number	801	855	-6.3%
Average age	40.6	39.4	N/A
Average service	6.3	5.2	N/A
Projected total compensation ⁽¹⁾	\$35,740,562	\$36,433,639	-1.9%
Projected average compensation ⁽¹⁾	\$44,620	\$42,612	4.7%
Member account balances	\$13,217,721	\$11,185,270	18.2%
Vested terminated members			
Number	219	23	852.2%
Average age	40.0	39.2	N/A
Retired members			
Number in pay status	7	4	75.0%
Average age	64.2	64.1	N/A
Average monthly benefit ⁽²⁾	\$1,079	\$1,511	-28.6%
Disabled members			
Number in pay status	0	1	N/A
Average age	N/A	59.7	N/A
Average monthly benefit ⁽²⁾	N/A	\$896	N/A
Beneficiaries			
Number in pay status	2	1	100.0%
Average age	60.9	64.5	N/A
Average monthly benefit ⁽²⁾	\$1,094	\$1,259	-13.1%

⁽¹⁾ *Projected compensation for June 30, 2014 valuation was calculated by increasing the annualized pay rate as of June 30, 2014 by one-half year of the inflation plus across-the-board salary increase plus merit. Projected compensation for June 30, 2015 valuation was calculated by increasing the annualized 2014-2015 compensation by one-full year of the inflation plus across-the-board salary increase plus merit.*

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

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EXHIBIT A

Table of Plan Coverage

iv. General Tier 4

Category	Year Ended June 30		Change From Prior Year
	2015	2014	
Active members in valuation			
Number	304	256	18.8%
Average age	39.7	37.1	N/A
Average service	2.5	1.8	N/A
Projected total compensation ⁽¹⁾	\$13,946,059	\$10,619,621	31.3%
Projected average compensation ⁽¹⁾	\$45,875	\$41,483	10.6%
Member account balances	\$1,821,555	\$995,342	83.0%
Vested terminated members			
Number	103	1	10200.0%
Average age	38.4	36.7	N/A
Retired members			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit ⁽²⁾	N/A	N/A	N/A
Disabled members			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit ⁽²⁾	N/A	N/A	N/A
Beneficiaries			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit ⁽²⁾	N/A	N/A	N/A

⁽¹⁾ *Projected compensation for June 30, 2014 valuation was calculated by increasing the annualized pay rate as of June 30, 2014 by one-half year of the inflation plus across-the-board salary increase plus merit. Projected compensation for June 30, 2015 valuation was calculated by increasing the annualized 2014-2015 compensation by one-full year of the inflation plus across-the-board salary increase plus merit.*

⁽²⁾ *Benefits include regular benefits but exclude non-vested supplemental benefits.*

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Table of Plan Coverage

v. General Tier 5

Category	Year Ended June 30		Change From Prior Year
	2015	2014	
Active members in valuation			
Number	1,251	836	49.6%
Average age	34.9	34.6	N/A
Average service	1.0	0.7	N/A
Projected total compensation ⁽¹⁾	\$50,762,002	\$28,350,434	79.1%
Projected average compensation ⁽¹⁾	\$40,577	\$33,912	19.7%
Member account balances	\$2,915,805	\$1,178,158	147.5%
Vested terminated members			
Number	262	0	N/A
Average age	35.6	N/A	N/A
Retired members			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit ⁽²⁾	N/A	N/A	N/A
Disabled members			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit ⁽²⁾	N/A	N/A	N/A
Beneficiaries			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit ⁽²⁾	N/A	N/A	N/A

⁽¹⁾ *Projected compensation for June 30, 2014 valuation was calculated by increasing the annualized pay rate as of June 30, 2014 by one-half year of the inflation plus across-the-board salary increase plus merit. Projected compensation for June 30, 2015 valuation was calculated by increasing the annualized 2014-2015 compensation by one-full year of the inflation plus across-the-board salary increase plus merit.*

⁽²⁾ *Benefits include regular benefits but exclude non-vested supplemental benefits.*

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EXHIBIT A

Table of Plan Coverage

vi. Safety Tier 1

Category	Year Ended June 30		Change From Prior Year
	2015	2014	
Active members in valuation			
Number	594	623	-4.7%
Average age	44.8	44.0	N/A
Average service	16.8	16.0	N/A
Projected total compensation ⁽¹⁾	\$46,763,419	\$49,350,014	-5.2%
Projected average compensation ⁽¹⁾	\$78,726	\$79,214	-0.6%
Member account balances	\$57,752,053	\$55,129,962	4.8%
Vested terminated members			
Number	216	123	75.6%
Average age	45.8	45.4	N/A
Retired members			
Number in pay status	600	564	6.4%
Average age	65.6	65.7	N/A
Average monthly benefit ⁽²⁾	\$4,605	\$4,558	1.0%
Disabled members			
Number in pay status	152	147	3.4%
Average age	59.1	58.0	N/A
Average monthly benefit ⁽²⁾	\$3,315	\$3,313	0.1%
Beneficiaries			
Number in pay status	149	138	8.0%
Average age	66.8	67.5	N/A
Average monthly benefit ⁽²⁾	\$2,092	\$2,075	0.8%

⁽¹⁾ *Projected compensation for June 30, 2014 valuation was calculated by increasing the annualized pay rate as of June 30, 2014 by one-half year of the inflation plus across-the-board salary increase plus merit. Projected compensation for June 30, 2015 valuation was calculated by increasing the annualized 2014-2015 compensation by one-full year of the inflation plus across-the-board salary increase plus merit.*

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

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Table of Plan Coverage

vii. Safety Tier 2

Category	Year Ended June 30		Change From Prior Year
	2015	2014	
Active members in valuation			
Number	65	62	4.8%
Average age	35.5	34.4	N/A
Average service	6.0	4.8	N/A
Projected total compensation ⁽¹⁾	\$4,364,865	\$4,178,316	4.5%
Projected average compensation ⁽¹⁾	\$67,152	\$67,392	-0.4%
Member account balances	\$2,224,841	\$1,653,153	34.6%
Vested terminated members			
Number	23	8	187.5%
Average age	34.3	35.2	N/A
Retired members			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit ⁽²⁾	N/A	N/A	N/A
Disabled members			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit ⁽²⁾	N/A	N/A	N/A
Beneficiaries			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit ⁽²⁾	N/A	N/A	N/A

⁽¹⁾ *Projected compensation for June 30, 2014 valuation was calculated by increasing the annualized pay rate as of June 30, 2014 by one-half year of the inflation plus across-the-board salary increase plus merit. Projected compensation for June 30, 2015 valuation was calculated by increasing the annualized 2014-2015 compensation by one-full year of the inflation plus across-the-board salary increase plus merit.*

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

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Table of Plan Coverage

viii. Safety Tier 4

Category	Year Ended June 30		Change From Prior Year
	2015	2014	
Active members in valuation			
Number	67	58	15.5%
Average age	32.6	31.1	N/A
Average service	2.4	1.8	N/A
Projected total compensation ⁽¹⁾	\$3,847,528	\$3,240,811	18.7%
Projected average compensation ⁽¹⁾	\$57,426	\$55,876	2.8%
Member account balances	\$729,969	\$417,213	75.0%
Vested terminated members			
Number	17	0	N/A
Average age	33.3	N/A	N/A
Retired members			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit ⁽²⁾	N/A	N/A	N/A
Disabled members			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit ⁽²⁾	N/A	N/A	N/A
Beneficiaries			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit ⁽²⁾	N/A	N/A	N/A

⁽¹⁾ *Projected compensation for June 30, 2014 valuation was calculated by increasing the annualized pay rate as of June 30, 2014 by one-half year of the inflation plus across-the-board salary increase plus merit. Projected compensation for June 30, 2015 valuation was calculated by increasing the annualized 2014-2015 compensation by one-full year of the inflation plus across-the-board salary increase plus merit.*

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

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Table of Plan Coverage

ix. Safety Tier 5

Category	Year Ended June 30		Change From Prior Year
	2015	2014	
Active members in valuation			
Number	116	95	22.1%
Average age	31.1	31.3	N/A
Average service	1.4	0.9	N/A
Projected total compensation ⁽¹⁾	\$6,064,027	\$4,341,999	39.7%
Projected average compensation ⁽¹⁾	\$52,276	\$45,705	14.4%
Member account balances	\$809,539	\$369,242	119.2%
Vested terminated members			
Number	20	0	N/A
Average age	32.3	N/A	N/A
Retired members			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit ⁽²⁾	N/A	N/A	N/A
Disabled members			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit ⁽²⁾	N/A	N/A	N/A
Beneficiaries			
Number in pay status	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit ⁽²⁾	N/A	N/A	N/A

⁽¹⁾ *Projected compensation for June 30, 2014 valuation was calculated by increasing the annualized pay rate as of June 30, 2014 by one-half year of the inflation plus across-the-board salary increase plus merit. Projected compensation for June 30, 2015 valuation was calculated by increasing the annualized 2014-2015 compensation by one-full year of the inflation plus across-the-board salary increase plus merit.*

⁽²⁾ *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, 2015**

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	--	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--	--
25 - 29	33	6	26	1	--	--	--	--	--	--	--
	\$41,004	\$36,833	\$41,725	\$47,294	--	--	--	--	--	--	--
30 - 34	237	17	151	69	--	--	--	--	--	--	--
	49,780	42,851	49,861	51,308	--	--	--	--	--	--	--
35 - 39	543	12	165	294	71	1	--	--	--	--	--
	56,096	58,185	55,425	56,722	\$54,411	\$77,209	--	--	--	--	--
40 - 44	674	13	96	283	244	36	2	--	--	--	--
	58,029	40,800	57,005	55,562	62,041	59,309	\$55,863	--	--	--	--
45 - 49	611	4	51	193	203	124	36	--	--	--	--
	59,442	41,659	59,319	55,546	61,935	62,591	57,580	--	--	--	--
50 - 54	646	3	66	156	145	143	109	24	--	--	--
	59,867	58,105	56,638	56,460	59,013	63,729	64,691	\$51,357	--	--	--
55 - 59	543	4	44	137	123	98	84	43	10	--	--
	60,409	49,764	57,223	52,801	60,690	62,024	69,254	68,078	\$56,333	--	--
60 - 64	276	1	27	79	68	53	33	13	1	1	--
	59,716	33,985	51,556	60,414	58,783	61,689	57,987	78,167	49,951	\$36,549	--
65 - 69	74	--	8	21	25	11	5	--	2	2	--
	55,061	--	39,499	52,526	61,168	52,323	60,808	--	60,742	62,613	--
70 & over	9	--	1	4	2	2	--	--	--	--	--
	61,039	--	43,742	64,118	67,279	57,289	--	--	--	--	--
Total	3,646	60	635	1,237	881	468	269	80	13	3	--
	\$58,043	\$45,868	\$53,960	\$55,685	\$60,450	\$62,233	\$64,204	\$64,701	\$56,521	\$53,925	--

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, 2015**

ii. General 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	--	--	--	--	--	--	--	--	--	--
25 - 29	14	12	2	--	--	--	--	--	--	--
	\$57,068	\$57,020	\$57,351	--	--	--	--	--	--	--
30 - 34	25	19	6	--	--	--	--	--	--	--
	56,501	53,303	66,626	--	--	--	--	--	--	--
35 - 39	34	8	24	2	--	--	--	--	--	--
	63,983	56,558	66,250	\$66,481	--	--	--	--	--	--
40 - 44	23	6	14	1	2	--	--	--	--	--
	76,466	80,151	74,278	92,080	\$72,916	--	--	--	--	--
45 - 49	15	4	11	--	--	--	--	--	--	--
	77,965	108,088	67,011	--	--	--	--	--	--	--
50 - 54	18	7	10	1	--	--	--	--	--	--
	66,346	72,515	53,556	151,054	--	--	--	--	--	--
55 - 59	14	4	8	--	1	1	--	--	--	--
	81,179	88,153	81,557	--	42,531	\$88,907	--	--	--	--
60 - 64	6	1	5	--	--	--	--	--	--	--
	74,886	44,736	80,916	--	--	--	--	--	--	--
65 - 69	6	--	4	2	--	--	--	--	--	--
	62,388	--	64,548	58,069	--	--	--	--	--	--
70 & over	2	--	2	--	--	--	--	--	--	--
	96,855	--	96,855	--	--	--	--	--	--	--
Total	157	61	86	6	3	1	--	--	--	--
	\$67,918	\$65,044	\$68,907	\$82,039	\$62,788	\$88,907	--	--	--	--

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, 2015**

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	2	2	--	--	--	--	--	--	--	--
	\$25,140	\$25,140	--	--	--	--	--	--	--	--
25 - 29	86	69	17	--	--	--	--	--	--	--
	40,629	40,853	\$39,720	--	--	--	--	--	--	--
30 - 34	231	102	126	3	--	--	--	--	--	--
	43,959	40,005	47,257	\$39,907	--	--	--	--	--	--
35 - 39	146	49	91	4	2	--	--	--	--	--
	46,574	40,491	49,881	43,813	\$50,621	--	--	--	--	--
40 - 44	91	35	45	10	1	--	--	--	--	--
	46,698	41,675	50,057	48,955	48,751	--	--	--	--	--
45 - 49	81	29	41	5	5	1	--	--	--	--
	45,807	41,597	46,614	50,179	55,348	\$65,255	--	--	--	--
50 - 54	73	30	34	6	2	1	--	--	--	--
	42,287	41,946	41,560	42,145	48,313	66,036	--	--	--	--
55 - 59	53	19	27	4	3	--	--	--	--	--
	44,913	44,027	47,467	39,663	34,539	--	--	--	--	--
60 - 64	26	9	13	3	--	1	--	--	--	--
	45,045	41,960	48,930	42,042	--	31,320	--	--	--	--
65 - 69	11	--	10	1	--	--	--	--	--	--
	56,239	--	58,280	35,829	--	--	--	--	--	--
70 & over	1	1	--	--	--	--	--	--	--	--
	24,886	24,886	--	--	--	--	--	--	--	--
Total	801	345	404	36	13	3	--	--	--	--
	\$44,620	\$40,858	\$47,639	\$44,692	\$48,229	\$54,204	--	--	--	--

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, 2015**

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	4	4	--	--	--	--	--	--	--	--
	\$32,504	\$32,504	--	--	--	--	--	--	--	--
25 - 29	63	62	1	--	--	--	--	--	--	--
	44,531	44,418	\$51,523	--	--	--	--	--	--	--
30 - 34	65	65	--	--	--	--	--	--	--	--
	44,501	44,501	--	--	--	--	--	--	--	--
35 - 39	46	44	2	--	--	--	--	--	--	--
	43,654	43,118	55,463	--	--	--	--	--	--	--
40 - 44	34	33	--	1	--	--	--	--	--	--
	49,123	49,080	--	\$50,544	--	--	--	--	--	--
45 - 49	32	31	--	1	--	--	--	--	--	--
	43,983	43,123	--	70,648	--	--	--	--	--	--
50 - 54	28	28	--	--	--	--	--	--	--	--
	53,296	53,296	--	--	--	--	--	--	--	--
55 - 59	18	18	--	--	--	--	--	--	--	--
	38,481	38,481	--	--	--	--	--	--	--	--
60 - 64	12	12	--	--	--	--	--	--	--	--
	63,383	63,383	--	--	--	--	--	--	--	--
65 - 69	2	2	--	--	--	--	--	--	--	--
	43,386	43,386	--	--	--	--	--	--	--	--
70 & over	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	304	299	3	2	--	--	--	--	--	--
	\$45,875	\$45,694	\$54,149	\$60,596	--	--	--	--	--	--

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, 2015**

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	108	108	--	--	--	--	--	--	--	--
	\$38,836	\$38,836	--	--	--	--	--	--	--	--
25 - 29	394	393	1	--	--	--	--	--	--	--
	40,107	40,127	\$32,342	--	--	--	--	--	--	--
30 - 34	266	266	--	--	--	--	--	--	--	--
	41,246	41,246	--	--	--	--	--	--	--	--
35 - 39	185	185	--	--	--	--	--	--	--	--
	39,269	39,269	--	--	--	--	--	--	--	--
40 - 44	94	94	--	--	--	--	--	--	--	--
	40,863	40,863	--	--	--	--	--	--	--	--
45 - 49	72	72	--	--	--	--	--	--	--	--
	43,878	43,878	--	--	--	--	--	--	--	--
50 - 54	60	60	--	--	--	--	--	--	--	--
	44,540	44,540	--	--	--	--	--	--	--	--
55 - 59	50	50	--	--	--	--	--	--	--	--
	40,788	40,788	--	--	--	--	--	--	--	--
60 - 64	18	18	--	--	--	--	--	--	--	--
	37,498	37,498	--	--	--	--	--	--	--	--
65 - 69	3	3	--	--	--	--	--	--	--	--
	36,525	36,525	--	--	--	--	--	--	--	--
70 & over	1	1	--	--	--	--	--	--	--	--
	32,558	32,558	--	--	--	--	--	--	--	--
Total	1,251	1,250	1	--	--	--	--	--	--	--
	\$40,577	\$40,584	\$32,342	--	--	--	--	--	--	--

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, 2015**

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	--	--	--	--	--	--	--	--	--	--	--
30 - 34	37	1	14	22	--	--	--	--	--	--	--
	\$70,158	\$73,440	\$65,737	\$72,821	--	--	--	--	--	--	--
35 - 39	122	--	17	79	26	--	--	--	--	--	--
	76,812	--	70,251	76,603	\$81,737	--	--	--	--	--	--
40 - 44	153	1	10	50	77	15	--	--	--	--	--
	78,992	47,673	72,302	76,788	80,655	\$84,350	--	--	--	--	--
45 - 49	151	1	6	35	47	45	17	--	--	--	--
	79,778	55,580	75,844	74,623	77,010	83,809	\$90,185	--	--	--	--
50 - 54	98	--	1	9	31	22	33	2	--	--	--
	81,195	--	84,887	69,364	79,366	79,606	85,826	\$101,990	--	--	--
55 - 59	24	--	--	4	4	6	9	1	--	--	--
	77,646	--	--	76,765	71,102	79,575	76,830	103,104	--	--	--
60 - 64	7	--	--	3	1	1	1	1	--	--	--
	97,429	--	--	76,605	89,184	67,109	114,812	181,084	--	--	--
65 - 69	1	--	--	--	--	--	--	--	--	--	1
	129,654	--	--	--	--	--	--	--	--	--	\$129,654
70 & over	1	--	--	--	--	--	1	--	--	--	--
	31,956	--	--	--	--	--	31,956	--	--	--	--
Total	594	3	48	202	186	89	61	4	--	--	1
	\$78,726	\$58,898	\$70,366	\$75,575	\$79,511	\$82,388	\$85,305	\$122,042	--	--	\$129,654

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, 2015**

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	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
25 - 29	13	12	1	--	--	--	--	--	--	--
	\$56,969	\$54,622	\$85,132	--	--	--	--	--	--	--
30 - 34	27	7	20	--	--	--	--	--	--	--
	69,695	55,108	74,801	--	--	--	--	--	--	--
35 - 39	10	5	4	1	--	--	--	--	--	--
	69,353	60,984	75,828	\$85,304	--	--	--	--	--	--
40 - 44	7	5	1	1	--	--	--	--	--	--
	57,495	56,873	53,784	64,314	--	--	--	--	--	--
45 - 49	4	--	4	--	--	--	--	--	--	--
	79,148	--	79,148	--	--	--	--	--	--	--
50 - 54	1	--	1	--	--	--	--	--	--	--
	72,934	--	72,934	--	--	--	--	--	--	--
55 - 59	2	--	2	--	--	--	--	--	--	--
	85,656	--	85,656	--	--	--	--	--	--	--
60 - 64	1	--	1	--	--	--	--	--	--	--
	85,656	--	85,656	--	--	--	--	--	--	--
65 - 69	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
70 & over	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	65	29	34	2	--	--	--	--	--	--
	\$67,152	\$56,224	\$76,022	\$74,809	--	--	--	--	--	--

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, 2015**

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	3	3	--	--	--	--	--	--	--	--
	\$51,507	\$51,507	--	--	--	--	--	--	--	--
25 - 29	26	26	--	--	--	--	--	--	--	--
	55,917	55,917	--	--	--	--	--	--	--	--
30 - 34	22	22	--	--	--	--	--	--	--	--
	57,254	57,254	--	--	--	--	--	--	--	--
35 - 39	6	6	--	--	--	--	--	--	--	--
	60,826	60,826	--	--	--	--	--	--	--	--
40 - 44	3	3	--	--	--	--	--	--	--	--
	60,292	60,292	--	--	--	--	--	--	--	--
45 - 49	5	5	--	--	--	--	--	--	--	--
	58,377	58,377	--	--	--	--	--	--	--	--
50 - 54	1	1	--	--	--	--	--	--	--	--
	59,523	59,523	--	--	--	--	--	--	--	--
55 - 59	1	1	--	--	--	--	--	--	--	--
	82,326	82,326	--	--	--	--	--	--	--	--
60 - 64	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
65 - 69	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
70 & over	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	67	67	--	--	--	--	--	--	--	--
	\$57,426	\$57,426	--	--	--	--	--	--	--	--

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, 2015**

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	12	12	--	--	--	--	--	--	--	--	--
	\$48,852	\$48,852	--	--	--	--	--	--	--	--	--
25 - 29	57	57	--	--	--	--	--	--	--	--	--
	51,803	51,803	--	--	--	--	--	--	--	--	--
30 - 34	27	27	--	--	--	--	--	--	--	--	--
	51,046	51,046	--	--	--	--	--	--	--	--	--
35 - 39	7	7	--	--	--	--	--	--	--	--	--
	61,022	61,022	--	--	--	--	--	--	--	--	--
40 - 44	8	8	--	--	--	--	--	--	--	--	--
	53,925	53,925	--	--	--	--	--	--	--	--	--
45 - 49	1	1	--	--	--	--	--	--	--	--	--
	49,524	49,524	--	--	--	--	--	--	--	--	--
50 - 54	2	2	--	--	--	--	--	--	--	--	--
	65,090	65,090	--	--	--	--	--	--	--	--	--
55 - 59	1	1	--	--	--	--	--	--	--	--	--
	56,470	56,470	--	--	--	--	--	--	--	--	--
60 - 64	--	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--	--
65 - 69	1	1	--	--	--	--	--	--	--	--	--
	52,029	52,029	--	--	--	--	--	--	--	--	--
70 & over	--	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--	--
Total	116	116	--	--	--	--	--	--	--	--	--
	\$52,276	\$52,276	--	--	--	--	--	--	--	--	--

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

EXHIBIT C

Reconciliation of Member Data – June 30, 2014 to June 30, 2015

	Active Members	Vested Terminated Members	Pensioners	Disableds	Beneficiaries	Total
Number as of June 30, 2014	6,968	1,380	5,429	344	797	14,918
New members	703	165	0	0	0	868
Terminations – with vested rights	-344	344	0	0	0	0
Contributions refunds	-116	-18	0	0	0	-134
Retirements	-212	-107	319	0	0	0
New disabilities	-1	-3	-15	19	0	0
Return to work	9	-9	0	0	0	0
Died with or without beneficiary	-6	-9	-103	-13	42*	-89
Data Reclassification**	0	1,419	0	0	0	1,419
Data adjustments	0	1	33	-6	-7	21
Number as of June 30, 2015	7,001	3,163	5,663	344	832	17,003

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

** Reclassification of 1,419 members by the Association in the new ARRIVOS pension administration system.

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	
	2015	2014
Contribution income:		
Employer contributions	\$184,213,235	\$165,309,213
Employee contributions	<u>33,109,947</u>	<u>30,153,934</u>
Contribution income	\$217,323,182	\$195,463,147
Investment income:		
Interest, dividends and other income	\$107,411,249	\$91,038,716
Adjustment toward market value	191,848,578	246,721,523
Less investment and administrative fees	<u>(20,671,471)</u>	<u>(19,336,307)</u>
Net investment income	<u>278,588,356</u>	<u>318,423,932</u>
Total income available for benefits	\$495,911,538	\$513,887,079
Less benefit payments:		
Service retirement	(\$220,186,023)	(\$208,165,612)
Death payments	(1,277,447)	(1,414,569)
Supplemental cost of living	(651,269)	(750,469)
Members refunds	(2,281,949)	(2,103,211)
Health benefit subsidies	<u>(6,999,784)</u>	<u>(11,958,741)</u>
Benefit payments	(\$231,396,472)	(\$224,392,602)
Change in reserve for future benefits	\$264,515,066	\$289,494,477

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,	
	2015	2014
Cash equivalents	\$94,482,125	\$98,697,164
Accounts receivable:		
Investment trades	\$13,313,027	\$88,150,717
Interest and dividends	12,607,803	11,694,497
Contributions and others	13,287,608	12,217,713
Securities lending	<u>82,586</u>	<u>110,013</u>
Total accounts receivable	39,291,024	112,172,941
Investments:		
Equities	\$1,605,510,034	\$1,581,316,456
Fixed income	1,567,135,876	1,671,655,791
Real estate	11,361,741	64,381,320
Securities lending collateral	229,788,086	339,375,854
Capital assets	9,816,120	7,032,472
Others	<u>724,238,871</u>	<u>646,826,641</u>
Total investments at market value	4,147,850,728	4,310,588,535
Total assets	\$4,281,623,877	\$4,521,458,640
Less accounts payable:		
Investment trades	(\$16,512,308)	(\$128,637,930)
Cash collateral payable for securities lending	(229,788,086)	(339,375,854)
Securities lending bank and broker fees	(19,529)	(26,962)
Others	<u>(3,184,605)</u>	<u>(3,288,960)</u>
Total accounts payable	(\$249,504,528)	(\$471,329,707)
Net assets at market value	<u>\$4,032,119,349</u>	<u>\$4,050,128,933</u>
Net assets at actuarial value	<u>\$4,093,376,893</u>	<u>\$3,828,861,827</u>
Net assets at valuation value	<u>\$4,092,647,359</u>	<u>\$3,824,221,492</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)

		<u>Settlement Benefits</u>			
<u>Assets</u>	<u>Regular*</u>	<u>Section 6*</u>	<u>Section 8*</u>	<u>Section 9*</u>	<u>Total</u>
1. Total valuation assets	\$3,216,036	\$763,968	\$86,094	\$26,549	\$4,092,647
2. Present value of future contributions by members	238,538	48,010	0	0	286,548
3. Present value of future employer contributions for:					
a. entry age normal cost	448,481	81,786	0	6,876	537,143
b. unfunded actuarial accrued liability	766,020	174,001	1,176	40,489	981,686
4. Total current and future assets	\$4,669,075	\$1,067,765	\$87,270	\$73,914	\$5,898,024
<u>Liabilities</u>					
5. Present value of benefits already granted	\$2,421,718	\$519,672	\$87,270	\$45,832	\$3,074,492
6. Present value of benefits to be granted - deferred members	201,276	68,372	0	3,206	272,854
- active members	2,046,081	479,721	0	24,876	2,550,678
7. Total liabilities	\$4,669,075	\$1,067,765	\$87,270	\$73,914	\$5,898,024

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

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

EXHIBIT G

Summary of Reported Asset Information as of June 30, 2015

Reserves	
Used in Development of Valuation Value of Assets	
<i>Regular Valuation Reserves</i>	
Members' Accumulated Contributions	\$376,874,061
Current Service Reserve	977,013,929
Annuity Pension Reserve	134,702,133
Current Service Pension Reserve	1,191,236,809
Cost of Living Reserve	1,040,772,995
Survivors' Death Benefit Reserve	154,935
Subtotal	\$3,720,754,863
<i>Settlement Reserves (Section 6)</i>	
Supplemental Annuity Reserve	\$582,403,449
Members' Accumulated Contributions	50,256,083
Current Service Reserve	221,298,531
Annuity Pension Reserve	23,140,061
Subtotal	\$877,098,124
<i>Settlement Benefit Reserve (Section 8)</i>	
	\$106,786,961
<i>Retiree Health Benefit Reserve (Section 9)</i>	
	\$36,975,634
<i>Contra Tracking Account</i>	
	(\$648,968,222)
Total	\$4,092,647,359
Not Used in Development of Valuation Value of Assets	
<i>Supplemental COLA</i>	\$729,534
<i>Retiree Health Benefit Reserve (BOR)</i>	0*
<i>Contingency Reserve</i>	0
<i>Board Contingency Reserve/Undistributed Earnings ("Available Earnings")</i>	0
<i>Market Stabilization Reserve</i>	(61,257,544)
Total	(\$60,528,010)
Grand Total	\$4,032,119,349

Note: Results may not total properly due to rounding.

** The balance in this reserve was equal to (\$3,418,343) before it was limited to no less than \$0. This reduced the balance in the Current Service Pension Reserve by \$3,418,343.*

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

EXHIBIT H

Development of Unfunded Actuarial Accrued Liability as of June 30, 2015

	(Dollar amounts in Thousands)
1 Unfunded actuarial accrued liability at beginning of year	\$1,052,533
2 Total Normal Cost payable at middle of year ⁽¹⁾	108,399
3 Expected administrative expenses	4,111
4 Expected employer and member contributions ⁽²⁾	-232,250
5 Interest (full year on (1) plus half year on (2) + (3)+(4))	<u>72,477</u>
6 Expected unfunded actuarial accrued liability at end of year	\$1,005,270
7 Actuarial (gain)/loss due to all changes:	
<u>Experience (gain)/loss</u>	
a. Gain from investment return	-\$2,341
b. Loss from actual contributions less than expected ⁽³⁾	15,459
c. Gain from lower than expected salary increases	-41,010
d. Gain from lower than expected COLA increases	-36,749
e. Loss from greater number of retirements than expected	25,693
f. Loss from reclassification of 1,419 members in the new ARRIVOS pension administration system	10,306
g. Other experience losses	<u>5,058</u>
h. Subtotal	-\$23,584
8 Actual unfunded actuarial accrued liability at end of year (6) + (7h)	\$981,686

Notes: The "Net gain from other experience" of \$21,243,000 shown in Section 2, Chart 9 is equal to the sum of items 7(b) through 7(g).

⁽¹⁾ Excludes administrative expense load.

⁽²⁾ Includes contributions toward administrative expenses.

⁽³⁾ Contribution loss from payroll increase less than expected offset somewhat by the contributions gain from one-year delay in implementing lower contribution rates recommended in June 30, 2014 valuation.

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

EXHIBIT I

Section 415 Limitations

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 \$210,000 for 2015 and 2016. 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

EXHIBIT J

Definitions of Pension Terms

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 future;
- (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

**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

EXHIBIT I

Summary of Actuarial Valuation Results

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

1. Retired members as of the valuation date (including 832 beneficiaries in pay status)	6,839
2. Members inactive during year ended June 30, 2015 with vested rights	3,163
3. Members active during the year ended June 30, 2015	7,001

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

1. Normal cost*	\$110,661
2. Present value of future benefits	5,898,024
3. Present value of future normal costs	823,691
4. Actuarial accrued liability**	5,074,333
Retired members and beneficiaries	\$3,074,492
Inactive members with vested rights	272,854
Active members	1,726,987
5. Valuation value of assets* (\$4,032,119 at market value as reported by FCERA)	4,092,647
6. Unfunded actuarial accrued liability	\$981,686

* Includes administrative expense load.

** Excludes non-valuation reserves and designations.

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

EXHIBIT I (continued)

Summary of Actuarial Valuation Results

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

	Dollar Amount	% of Payroll
1. Total normal cost	\$110,661	28.83%
2. Expected employee contributions	<u>-36,121</u>	<u>-9.41%</u>
3. Employer normal cost: (1) + (2)	\$74,540	19.42%
4. Amortization of unfunded actuarial accrued liability	<u>125,100</u>	<u>32.60%</u>
5. Total recommended average employer contribution: (3) + (4)	\$199,640	52.02%
8. Projected compensation	\$383,775	

Note: Both total normal cost and total UAAL rates include an explicit administrative expense load.

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

EXHIBIT II

Actuarial Assumptions and Actuarial Cost Method

Rationale for Assumptions: The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the July 1, 2009 through June 30, 2012 Actuarial Experience Study and June 30, 2013 Economic Actuarial Assumptions Report both dated August 9, 2013. Unless otherwise noted, all actuarial assumptions and methods shown below apply to members for all tiers.

Economic Assumptions

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

Administrative Expenses: 1.10% of payroll allocated to both the employer and member based on the components of the total average contribution rate (before expenses) for the employer and member

Employee Contribution Crediting Rate: 3.00%, compounded semi-annually. (The difference between the 7.25% net investment return assumption and 3.00% is credited to the other valuation reserves.)

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.

Payroll Growth: Inflation of 3.25% per year plus “across the board” real salary increases of 0.50% per year.

Demographic Assumptions

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.

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

Disabled:

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

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 above mortality tables contain about a 10% margin, based on actual to expected deaths, as a provision appropriate to reasonably anticipate future mortality improvement, based on a review of mortality experience as of the measurement date.

*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

Termination Rates Before Retirement:

Age	Rate (%) Mortality			
	General ⁽¹⁾		Safety ⁽¹⁾	
	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

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

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

Termination Rates Before Retirement (Continued):

Age	Rate (%) Disability		
	General ⁽¹⁾		Safety ⁽²⁾
	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

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

⁽²⁾ 100% of Safety disabilities are assumed to be duty disabilities.

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

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	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)

Age	General		Safety
	Male	Female	Male and Female
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

Termination Rates Before Retirement (Continued):

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

Years of Service	Refunds	Deferred Vested Benefits
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

Retirement Rates (Continued):

Rate (%)			
Safety			
Age	Tier 1 & Tier 2	Tier 4	Tier 5
	Male & Female	Male & Female	Male & Female
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

**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.

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

Individual Salary Increases:

Annual Rate of Compensation Increase		
Inflation: 3.25%; an additional 0.50% “across the board” real 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%

Increase in Section 7522.10 Compensation Limit:

Increase of 3.25% per year from the valuation date.

Actuarial Methods

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.

Changes in Actuarial Assumptions and Methods:

None.

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

EXHIBIT III

Summary of Plan Provisions

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.

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 February 26, 2006 and General and Safety members of certain bargaining units hired after February 26, 2006.
<i>General and Safety Tier 2</i>	General and Safety members of certain bargaining units hired after February 26, 2006 and those Tier 1 members hired on or before February 26, 2006 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.
<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.

Final Compensation for Benefit Determination:

<i>General and Safety Tiers 1 & 2</i>	Highest one-year average final compensation (§31462.1) (FAS1).
<i>General Tiers 3 & 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)

Service: Years of service (Yrs).

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

Service Retirement Eligibility:

General

General Tiers 1, 2, 3 &4

Age 50 with 10 years of service, or age 70 regardless of service, or after 30 years, regardless of age (§31672).

General Tier 5

Age 52 with 5 years of service credit (§7522.20(a)) or age 70 regardless of service (§31672.3).

Safety

Safety Tiers 1, 2 &4

Age 50 with 10 years of service, or after 30 years, regardless of age (§31663.25).

Safety Tier 5

Age 50 with 5 years of service credit (§7522.25(d)) or age 70 regardless of service (§31672.3).

Benefit Formula:

	Retirement Age	Benefit Formula
<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

	Retirement Age	Benefit Formula
<i>General Tier 4 (§31676.1)</i>	50	$(1.18\% \times \text{FAS3} - 1/3 \times 1.18\% \times \$350 \times 12) \times \text{Yrs}$
	55	$(1.49\% \times \text{FAS3} - 1/3 \times 1.49\% \times \$350 \times 12) \times \text{Yrs}$
	60	$(1.92\% \times \text{FAS3} - 1/3 \times 1.92\% \times \$350 \times 12) \times \text{Yrs}$
	62	$(2.09\% \times \text{FAS3} - 1/3 \times 2.09\% \times \$350 \times 12) \times \text{Yrs}$
	65 or later	$(2.43\% \times \text{FAS3} - 1/3 \times 2.43\% \times \$350 \times 12) \times \text{Yrs}$
<i>General Tier 5 (§7522.20(a))</i>	52	$1.00\% \times \text{FAS3} \times \text{Yrs}$
	55	$1.30\% \times \text{FAS3} \times \text{Yrs}$
	60	$1.80\% \times \text{FAS3} \times \text{Yrs}$
	62	$2.00\% \times \text{FAS3} \times \text{Yrs}$
	65	$2.30\% \times \text{FAS3} \times \text{Yrs}$
	67 or later	$2.50\% \times \text{FAS3} \times \text{Yrs}$
<i>Safety Tier 1</i>	50	$(2.50\% \times \text{FAS1} - 1/3 \times 2.50\% \times \$350 \times 12) \times \text{Yrs}$
<i>Regular benefit under §31664 and Settlement benefit under §31627</i>	55 or later	$(3.27\% \times \text{FAS1} - 1/3 \times 3.27\% \times \$350 \times 12) \times \text{Yrs}$
<i>Safety Tier 2 (§31664.2)</i>	50	$(2.29\% \times \text{FAS1} - 1/3 \times 2.29\% \times \$350 \times 12) \times \text{Yrs}$
	55 or later	$(3.00\% \times \text{FAS1} - 1/3 \times 3.00\% \times \$350 \times 12) \times \text{Yrs}$
<i>Safety Tier 4 (§31664)</i>	50	$(2.00\% \times \text{FAS3} - 1/3 \times 2.00\% \times \$350 \times 12) \times \text{Yrs}$
	55 or later	$(2.62\% \times \text{FAS3} - 1/3 \times 2.62\% \times \$350 \times 12) \times \text{Yrs}$
<i>Safety Tier 5 (§7522.25(d))</i>	50	$2.00\% \times \text{FAS3} \times \text{Yrs}$
	55	$2.50\% \times \text{FAS3} \times \text{Yrs}$
	57 or later	$2.70\% \times \text{FAS3} \times \text{Yrs}$

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

Maximum Benefit:

<i>General Tiers 1, 2, 3 & 4 and Safety Tiers 1, 2 & 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.

Ordinary Disability:*

General Tiers 1, 2, 4 & 5

<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.

General Tier 3

<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 65, but the total benefit cannot be more than one-third of Final Compensation. The service retirement benefit is paid, if greater.

Safety Tiers 1, 2, 4 & 5

<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.

* 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, consistent with the prior valuations we have continued in this valuation to adjust the allocation of the rates between "Regular" and "Settlement" benefits so as to be consistent with the allocation made by the Association's Pension Administration System.

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Line-of-Duty Disability:*

All Members

<i>Eligibility</i>	No age or service requirements (§31720).
<i>Benefit Formula</i>	50% of the Final Compensation or 100% of Service Retirement benefit, if greater (§31727.4).

Pre-Retirement Death:

All Members

<i>Eligibility</i>	None.
<i>Basic lump sum benefit</i>	Refund of employee contributions with interest, plus one month's compensation for each year of service, to a maximum of six months' compensation (§31781).
<i>Death in line of duty</i>	50% of Final Compensation or 100% of Service Retirement benefit, if greater, payable to spouse or minor children (§31787).

OR

Vested Members

<i>Eligibility</i>	Five years of service.
<i>Basic benefit</i>	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.
<i>Death in line of duty</i>	50% of Final Compensation or 100% of Service Retirement benefit, if greater, payable to spouse or minor children (§31787).

** 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, consistent with the prior valuations we have continued in this valuation to adjust the allocation of the rates between "Regular" and "Settlement" benefits so as to be consistent with the allocation made by the Association's Pension Administration System.*

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

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).

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).

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

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

County Contributions: Unfunded Actuarial Accrued Liability established as of June 30, 2003 is amortized over a declining 18-year period. Unfunded Actuarial Accrued Liability established as a result of the Tier 3 benefit improvement is amortized over a declining 21-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.

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.

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.

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

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.

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.

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, 2015 (New)⁽¹⁾ and June 30, 2014 (Current) Valuations

General Tier 1 ⁽²⁾				General Tier 2 ⁽²⁾			
Entry Age	Current	New	Change	Entry Age	Current	New	Change
25	8.93%	8.98%	0.05%	25	5.90%	5.90%	0.00%
35	10.23%	10.29%	0.06%	35	6.76%	6.76%	0.00%
45	11.94%	12.01%	0.07%	45	7.78%	7.77%	-0.01%
General Tier 3 ⁽²⁾				General Tier 4 ⁽²⁾			
Entry Age	Current	New	Change	Entry Age	Current	New	Change
25	7.05%	7.04%	-0.01%	25	5.98%	5.98%	0.00%
35	8.08%	8.08%	0.00%	35	6.85%	6.85%	0.00%
45	9.41%	9.41%	0.00%	45	7.88%	7.88%	0.00%
General Tier 5							
Entry Age	Current	New	Change				
Any ⁽³⁾	7.02%	6.89%	-0.13%				

⁽¹⁾ Includes an explicit administrative expense load of 0.17% of payroll that has been allocated to the member contribution rate.

⁽²⁾ For non-CalPEPRA members, contributions for the first \$350 of monthly payroll are based on 2/3 (no adjustment for the 0.17% administrative expense load) of the above rates.

⁽³⁾ 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)

Comparison of Total Member Rate from June 30, 2015 (New)⁽¹⁾ and June 30, 2014 (Current)⁽¹⁾ Valuations

Safety Tier 1 ⁽²⁾				Safety Tier 2 ⁽²⁾			
Entry Age	Current	New	Change	Entry Age	Current	New	Change
25	12.56%	12.68%	0.12%	25	10.80%	10.81%	0.01%
30	13.31%	13.44%	0.13%	30	11.44%	11.45%	0.01%
35	14.17%	14.30%	0.13%	35	12.19%	12.19%	0.00%
Safety Tier 4 ⁽²⁾				Safety Tier 5			
Entry Age	Current	New	Change	Entry Age	Current	New	Change
25	9.64%	9.64%	0.00%	Any ⁽³⁾	12.51%	12.03%	-0.48%
30	10.21%	10.21%	0.00%				
35	10.87%	10.87%	0.00%				

⁽¹⁾ Includes an explicit administrative expense load of 0.17% of payroll that has been allocated to the member contribution rate.

⁽²⁾ For non-CalPEPRA members, contributions for the first \$350 of monthly payroll are based on 2/3 (no adjustment for the 0.17% administrative expense load) of the above rates.

⁽³⁾ 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, 2015
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	2.32%	3.39%	1.59%	2.38%	0.93%	1.39%	0.53%	0.79%	5.37%	7.95%
16	2.32%	3.39%	1.59%	2.38%	0.93%	1.39%	0.53%	0.79%	5.37%	7.95%
17	2.35%	3.44%	1.61%	2.41%	0.93%	1.40%	0.53%	0.79%	5.42%	8.04%
18	2.38%	3.48%	1.63%	2.45%	0.95%	1.43%	0.54%	0.81%	5.50%	8.17%
19	2.41%	3.53%	1.65%	2.48%	0.96%	1.44%	0.55%	0.82%	5.57%	8.27%
20	2.44%	3.58%	1.68%	2.52%	0.97%	1.46%	0.55%	0.83%	5.64%	8.39%
21	2.47%	3.62%	1.70%	2.55%	0.99%	1.49%	0.57%	0.85%	5.73%	8.51%
22	2.51%	3.67%	1.73%	2.59%	1.01%	1.51%	0.57%	0.86%	5.82%	8.63%
23	2.54%	3.72%	1.75%	2.62%	1.02%	1.53%	0.58%	0.87%	5.89%	8.74%
24	2.57%	3.77%	1.77%	2.66%	1.03%	1.55%	0.59%	0.88%	5.96%	8.86%
25	2.60%	3.82%	1.80%	2.70%	1.05%	1.57%	0.59%	0.89%	6.04%	8.98%
26	2.64%	3.87%	1.83%	2.74%	1.06%	1.59%	0.60%	0.90%	6.13%	9.10%
27	2.67%	3.92%	1.85%	2.77%	1.08%	1.62%	0.61%	0.92%	6.21%	9.23%
28	2.71%	3.98%	1.87%	2.81%	1.09%	1.63%	0.62%	0.93%	6.29%	9.35%
29	2.74%	4.03%	1.90%	2.85%	1.11%	1.66%	0.63%	0.94%	6.38%	9.48%
30	2.78%	4.08%	1.93%	2.89%	1.12%	1.68%	0.63%	0.95%	6.46%	9.60%
31	2.82%	4.14%	1.95%	2.93%	1.13%	1.70%	0.65%	0.97%	6.55%	9.74%
32	2.85%	4.19%	1.98%	2.97%	1.15%	1.73%	0.65%	0.98%	6.63%	9.87%

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	2.89%	4.25%	2.01%	3.01%	1.17%	1.75%	0.66%	0.99%	6.73%	10.00%
34	2.93%	4.31%	2.04%	3.06%	1.19%	1.78%	0.67%	1.01%	6.83%	10.16%
35	2.97%	4.37%	2.07%	3.10%	1.20%	1.80%	0.68%	1.02%	6.92%	10.29%
36	3.01%	4.42%	2.09%	3.14%	1.23%	1.84%	0.69%	1.04%	7.02%	10.44%
37	3.05%	4.48%	2.13%	3.19%	1.25%	1.87%	0.71%	1.06%	7.14%	10.60%
38	3.09%	4.54%	2.15%	3.23%	1.27%	1.90%	0.72%	1.08%	7.23%	10.75%
39	3.13%	4.61%	2.19%	3.28%	1.28%	1.92%	0.73%	1.09%	7.33%	10.90%
40	3.17%	4.67%	2.22%	3.33%	1.31%	1.96%	0.74%	1.11%	7.44%	11.07%
41	3.21%	4.74%	2.25%	3.37%	1.33%	1.99%	0.75%	1.13%	7.54%	11.23%
42	3.26%	4.80%	2.28%	3.42%	1.36%	2.04%	0.77%	1.16%	7.67%	11.42%
43	3.30%	4.87%	2.31%	3.47%	1.39%	2.08%	0.79%	1.18%	7.79%	11.60%
44	3.35%	4.94%	2.35%	3.52%	1.41%	2.12%	0.80%	1.20%	7.91%	11.78%
45	3.40%	5.01%	2.39%	3.58%	1.45%	2.18%	0.83%	1.24%	8.07%	12.01%
46	3.45%	5.09%	2.42%	3.63%	1.49%	2.24%	0.85%	1.27%	8.21%	12.23%
47	3.50%	5.17%	2.46%	3.69%	1.53%	2.30%	0.87%	1.31%	8.36%	12.47%
48	3.56%	5.25%	2.50%	3.75%	1.57%	2.36%	0.89%	1.34%	8.52%	12.70%
49	3.62%	5.34%	2.55%	3.82%	1.59%	2.38%	0.90%	1.35%	8.66%	12.89%
50	3.68%	5.43%	2.59%	3.89%	1.54%	2.31%	0.87%	1.31%	8.68%	12.94%
51	3.75%	5.54%	2.65%	3.97%	1.44%	2.16%	0.82%	1.23%	8.66%	12.90%
52	3.82%	5.64%	2.69%	4.04%	1.34%	2.01%	0.76%	1.14%	8.61%	12.83%
53	3.89%	5.75%	2.75%	4.12%	1.22%	1.83%	0.69%	1.04%	8.55%	12.74%
54	3.94%	5.83%	2.79%	4.18%	1.09%	1.63%	0.62%	0.93%	8.44%	12.57%

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	3.95%	5.84%	2.79%	4.19%	1.09%	1.63%	0.62%	0.93%	8.45%	12.59%
56	3.94%	5.82%	2.78%	4.17%	1.09%	1.63%	0.62%	0.93%	8.43%	12.55%
57	3.91%	5.78%	2.76%	4.14%	1.09%	1.63%	0.62%	0.93%	8.38%	12.48%
58	3.87%	5.72%	2.73%	4.10%	1.09%	1.63%	0.62%	0.93%	8.31%	12.38%
59+	3.81%	5.64%	2.69%	4.04%	1.09%	1.63%	0.62%	0.93%	8.21%	12.24%

Interest: 7.25% per annum
 COLA: 3.00%
 Administrative Expenses: 0.17% of payroll added to Basic Regular rates
 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 II)
 COLA Loading Factor: 73.88% for Regular Benefits, applied to Basic rates prior to adjustment for administrative expenses, and 56.78% 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, 2015
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	1.96%	2.85%	1.58%	2.37%	3.54%	5.22%
16	1.96%	2.85%	1.58%	2.37%	3.54%	5.22%
17	1.98%	2.89%	1.60%	2.40%	3.58%	5.29%
18	2.01%	2.93%	1.63%	2.44%	3.64%	5.37%
19	2.04%	2.97%	1.65%	2.47%	3.69%	5.44%
20	2.06%	3.01%	1.67%	2.51%	3.73%	5.52%
21	2.09%	3.05%	1.69%	2.54%	3.78%	5.59%
22	2.12%	3.09%	1.72%	2.58%	3.84%	5.67%
23	2.14%	3.13%	1.74%	2.61%	3.88%	5.74%
24	2.17%	3.17%	1.77%	2.65%	3.94%	5.82%
25	2.20%	3.21%	1.79%	2.69%	3.99%	5.90%
26	2.23%	3.26%	1.81%	2.72%	4.04%	5.98%
27	2.26%	3.30%	1.84%	2.76%	4.10%	6.06%
28	2.29%	3.34%	1.87%	2.80%	4.16%	6.14%
29	2.31%	3.39%	1.89%	2.84%	4.20%	6.23%

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	2.34%	3.43%	1.92%	2.88%	4.26%	6.31%
31	2.37%	3.48%	1.95%	2.92%	4.32%	6.40%
32	2.41%	3.52%	1.97%	2.96%	4.38%	6.48%
33	2.44%	3.57%	2.00%	3.00%	4.44%	6.57%
34	2.47%	3.62%	2.03%	3.04%	4.50%	6.66%
35	2.50%	3.67%	2.06%	3.09%	4.56%	6.76%
36	2.53%	3.71%	2.09%	3.13%	4.62%	6.84%
37	2.57%	3.76%	2.11%	3.17%	4.68%	6.93%
38	2.60%	3.82%	2.15%	3.22%	4.75%	7.04%
39	2.64%	3.87%	2.17%	3.26%	4.81%	7.13%
40	2.67%	3.92%	2.21%	3.31%	4.88%	7.23%
41	2.71%	3.97%	2.24%	3.36%	4.95%	7.33%
42	2.74%	4.03%	2.27%	3.41%	5.01%	7.44%
43	2.78%	4.09%	2.31%	3.46%	5.09%	7.55%
44	2.82%	4.15%	2.34%	3.51%	5.16%	7.66%
45	2.86%	4.21%	2.37%	3.56%	5.23%	7.77%
46	2.90%	4.27%	2.41%	3.62%	5.31%	7.89%
47	2.95%	4.34%	2.45%	3.68%	5.40%	8.02%
48	2.99%	4.40%	2.49%	3.74%	5.48%	8.14%
49	3.04%	4.48%	2.53%	3.80%	5.57%	8.28%

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	3.09%	4.56%	2.58%	3.87%	5.67%	8.43%
51	3.15%	4.64%	2.63%	3.95%	5.78%	8.59%
52	3.21%	4.73%	2.69%	4.03%	5.90%	8.76%
53	3.27%	4.82%	2.73%	4.10%	6.00%	8.92%
54	3.31%	4.89%	2.77%	4.16%	6.08%	9.05%
55	3.32%	4.90%	2.78%	4.17%	6.10%	9.07%
56	3.31%	4.88%	2.77%	4.16%	6.08%	9.04%
57	3.29%	4.84%	2.75%	4.13%	6.04%	8.97%
58	3.26%	4.80%	2.73%	4.09%	5.99%	8.89%
59+	3.21%	4.73%	2.68%	4.02%	5.89%	8.75%

Interest: 7.25% per annum
 COLA: 3.00%
 Administrative Expenses: 0.17% of payroll added to Basic Regular rates
 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 II)
 COLA Loading Factor: 88.29% for Regular Benefits, applied to Basic rates prior to adjustment for administrative expenses

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, 2015
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	2.52%	3.69%	1.70%	2.55%	4.22%	6.24%
16	2.52%	3.69%	1.70%	2.55%	4.22%	6.24%
17	2.55%	3.74%	1.72%	2.58%	4.27%	6.32%
18	2.58%	3.79%	1.75%	2.62%	4.33%	6.41%
19	2.62%	3.84%	1.77%	2.65%	4.39%	6.49%
20	2.65%	3.89%	1.79%	2.69%	4.44%	6.58%
21	2.69%	3.94%	1.82%	2.73%	4.51%	6.67%
22	2.72%	4.00%	1.85%	2.77%	4.57%	6.77%
23	2.76%	4.05%	1.87%	2.81%	4.63%	6.86%
24	2.79%	4.10%	1.89%	2.84%	4.68%	6.94%
25	2.83%	4.16%	1.92%	2.88%	4.75%	7.04%
26	2.87%	4.22%	1.95%	2.92%	4.82%	7.14%
27	2.90%	4.27%	1.98%	2.97%	4.88%	7.24%
28	2.94%	4.33%	2.01%	3.01%	4.95%	7.34%
29	2.98%	4.39%	2.03%	3.05%	5.01%	7.44%

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	3.02%	4.45%	2.06%	3.09%	5.08%	7.54%
31	3.06%	4.51%	2.09%	3.13%	5.15%	7.64%
32	3.10%	4.57%	2.12%	3.18%	5.22%	7.75%
33	3.14%	4.63%	2.15%	3.22%	5.29%	7.85%
34	3.19%	4.69%	2.18%	3.27%	5.37%	7.96%
35	3.23%	4.76%	2.21%	3.32%	5.44%	8.08%
36	3.27%	4.82%	2.24%	3.36%	5.51%	8.18%
37	3.32%	4.89%	2.27%	3.41%	5.59%	8.30%
38	3.36%	4.96%	2.31%	3.46%	5.67%	8.42%
39	3.41%	5.03%	2.35%	3.52%	5.76%	8.55%
40	3.46%	5.11%	2.38%	3.57%	5.84%	8.68%
41	3.51%	5.18%	2.42%	3.63%	5.93%	8.81%
42	3.57%	5.26%	2.45%	3.68%	6.02%	8.94%
43	3.62%	5.35%	2.49%	3.74%	6.11%	9.09%
44	3.68%	5.44%	2.54%	3.81%	6.22%	9.25%
45	3.74%	5.53%	2.59%	3.88%	6.33%	9.41%
46	3.81%	5.62%	2.63%	3.94%	6.44%	9.56%
47	3.86%	5.71%	2.67%	4.00%	6.53%	9.71%
48	3.90%	5.76%	2.69%	4.04%	6.59%	9.80%
49	3.90%	5.77%	2.70%	4.05%	6.60%	9.82%

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	3.88%	5.74%	2.69%	4.03%	6.57%	9.77%
51	3.85%	5.69%	2.66%	3.99%	6.51%	9.68%
52	3.81%	5.62%	2.63%	3.94%	6.44%	9.56%
53	3.93%	5.81%	2.72%	4.08%	6.65%	9.89%
54+	4.06%	6.00%	2.81%	4.22%	6.87%	10.22%

Interest: 7.25% per annum
 COLA: 3.00%
 Administrative Expenses: 0.17% of payroll added to Basic Regular rates
 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 II)
 COLA Loading Factor: 72.30% for Regular Benefits, applied to Basic rates prior to adjustment for administrative expenses

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, 2015
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	3.59%	5.30%	30	4.32%	6.40%	45	5.31%	7.88%
16	3.59%	5.30%	31	4.38%	6.49%	46	5.39%	8.00%
17	3.64%	5.37%	32	4.44%	6.58%	47	5.48%	8.13%
18	3.69%	5.44%	33	4.50%	6.67%	48	5.56%	8.26%
19	3.74%	5.52%	34	4.56%	6.76%	49	5.66%	8.40%
20	3.79%	5.59%	35	4.62%	6.85%	50	5.75%	8.55%
21	3.84%	5.67%	36	4.69%	6.94%	51	5.85%	8.69%
22	3.89%	5.75%	37	4.75%	7.04%	52	5.94%	8.82%
23	3.94%	5.83%	38	4.81%	7.14%	53	5.99%	8.90%
24	3.99%	5.90%	39	4.88%	7.23%	54	6.00%	8.92%
25	4.05%	5.98%	40	4.95%	7.34%	55	5.97%	8.87%
26	4.10%	6.07%	41	5.02%	7.44%	56	5.92%	8.80%
27	4.16%	6.15%	42	5.09%	7.55%	57	5.85%	8.69%
28	4.21%	6.23%	43	5.16%	7.65%	58	6.04%	8.98%
29	4.27%	6.32%	44	5.23%	7.77%	59+	6.24%	9.28%

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

Interest:	7.25% per annum
COLA:	0.00%
Administrative Expenses:	0.17% of payroll added to Basic Regular rates
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 II)

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

Appendix A

Member Contribution Rates (Continued)

General Tier 5 Members' Contribution Rates based on the June 30, 2015 Actuarial Valuation as a percentage of payroll

		<u>All Eligible Pay*</u>
	All members	6.89%
Interest:	7.25% per annum	
COLA:	0.00%	
Administrative Expenses:	0.17% of payroll added to the rate	
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 II)	

* *It is our understanding that in the determination of pension benefits under the CalPEPRA formulas, the compensation that can be taken into account for 2015 is \$117,020. (For an employer that is not enrolled in Social Security, the maximum amount is \$140,424) (reference Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2015 (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, 2015 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	3.17%	4.67%	3.07%	4.61%	0.75%	1.13%	0.72%	1.08%	7.71%	11.49%
16	3.17%	4.67%	3.07%	4.61%	0.75%	1.13%	0.72%	1.08%	7.71%	11.49%
17	3.20%	4.72%	3.11%	4.66%	0.76%	1.14%	0.73%	1.09%	7.80%	11.61%
18	3.24%	4.77%	3.14%	4.71%	0.77%	1.15%	0.73%	1.10%	7.88%	11.73%
19	3.27%	4.82%	3.17%	4.76%	0.78%	1.17%	0.75%	1.12%	7.97%	11.87%
20	3.31%	4.88%	3.21%	4.82%	0.78%	1.17%	0.75%	1.12%	8.05%	11.99%
21	3.34%	4.93%	3.25%	4.87%	0.79%	1.19%	0.76%	1.14%	8.14%	12.13%
22	3.38%	4.98%	3.29%	4.93%	0.81%	1.21%	0.77%	1.16%	8.25%	12.28%
23	3.42%	5.04%	3.32%	4.98%	0.81%	1.21%	0.77%	1.16%	8.32%	12.39%
24	3.45%	5.09%	3.36%	5.04%	0.82%	1.23%	0.79%	1.18%	8.42%	12.54%
25	3.49%	5.15%	3.40%	5.10%	0.83%	1.24%	0.79%	1.19%	8.51%	12.68%
26	3.53%	5.21%	3.44%	5.16%	0.84%	1.26%	0.81%	1.21%	8.62%	12.84%
27	3.57%	5.27%	3.48%	5.22%	0.85%	1.27%	0.81%	1.22%	8.71%	12.98%
28	3.61%	5.33%	3.52%	5.28%	0.86%	1.29%	0.83%	1.24%	8.82%	13.14%
29	3.65%	5.39%	3.56%	5.34%	0.87%	1.30%	0.83%	1.25%	8.91%	13.28%
30	3.69%	5.45%	3.60%	5.40%	0.88%	1.32%	0.85%	1.27%	9.02%	13.44%
31	3.73%	5.51%	3.65%	5.47%	0.89%	1.34%	0.86%	1.29%	9.13%	13.61%
32	3.78%	5.58%	3.69%	5.54%	0.90%	1.35%	0.86%	1.29%	9.23%	13.76%
33	3.82%	5.65%	3.74%	5.61%	0.91%	1.37%	0.87%	1.31%	9.34%	13.94%
34	3.87%	5.72%	3.79%	5.68%	0.93%	1.39%	0.89%	1.33%	9.48%	14.12%
35	3.92%	5.80%	3.84%	5.76%	0.93%	1.40%	0.89%	1.34%	9.58%	14.30%

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
36	3.97%	5.88%	3.89%	5.84%	0.95%	1.42%	0.91%	1.36%	9.72%	14.50%
37	4.03%	5.96%	3.95%	5.93%	0.97%	1.45%	0.93%	1.39%	9.88%	14.73%
38	4.09%	6.05%	4.01%	6.02%	0.98%	1.47%	0.94%	1.41%	10.02%	14.95%
39	4.15%	6.14%	4.08%	6.12%	1.00%	1.50%	0.96%	1.44%	10.19%	15.20%
40	4.22%	6.25%	4.15%	6.22%	1.01%	1.52%	0.97%	1.46%	10.35%	15.45%
41	4.30%	6.37%	4.23%	6.35%	1.03%	1.55%	0.99%	1.49%	10.55%	15.76%
42	4.33%	6.40%	4.25%	6.38%	1.04%	1.56%	1.00%	1.50%	10.62%	15.84%
43	4.34%	6.43%	4.27%	6.41%	1.05%	1.57%	1.01%	1.51%	10.67%	15.92%
44	4.36%	6.45%	4.29%	6.43%	1.05%	1.57%	1.01%	1.51%	10.71%	15.96%
45	4.36%	6.46%	4.29%	6.44%	1.05%	1.57%	1.01%	1.51%	10.71%	15.98%
46	4.34%	6.42%	4.27%	6.40%	1.04%	1.56%	1.00%	1.50%	10.65%	15.88%
47	4.31%	6.38%	4.23%	6.35%	1.03%	1.55%	0.99%	1.49%	10.56%	15.77%
48	4.27%	6.31%	4.19%	6.29%	1.03%	1.54%	0.99%	1.48%	10.48%	15.62%
49+	4.20%	6.22%	4.13%	6.19%	1.01%	1.51%	0.97%	1.45%	10.31%	15.37%

Interest: 7.25% per annum
 COLA: 3.00%
 Administrative Expenses: 0.17% of payroll added to Basic Regular rates
 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 II)
 COLA Loading Factor: 102.36% for Regular Benefits, applied to Basic rates prior to adjustment for administrative expenses, and 95.91% 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, 2015
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	3.17%	4.67%	3.41%	5.11%	6.58%	9.78%
16	3.17%	4.67%	3.41%	5.11%	6.58%	9.78%
17	3.20%	4.72%	3.45%	5.17%	6.65%	9.89%
18	3.24%	4.77%	3.49%	5.23%	6.73%	10.00%
19	3.27%	4.82%	3.53%	5.29%	6.80%	10.11%
20	3.31%	4.88%	3.57%	5.35%	6.88%	10.23%
21	3.34%	4.93%	3.61%	5.41%	6.95%	10.34%
22	3.38%	4.98%	3.65%	5.47%	7.03%	10.45%
23	3.42%	5.04%	3.69%	5.53%	7.11%	10.57%
24	3.45%	5.09%	3.73%	5.59%	7.18%	10.68%
25	3.49%	5.15%	3.77%	5.66%	7.26%	10.81%
26	3.53%	5.21%	3.81%	5.72%	7.34%	10.93%
27	3.57%	5.27%	3.86%	5.79%	7.43%	11.06%
28	3.61%	5.33%	3.91%	5.86%	7.52%	11.19%
29	3.65%	5.39%	3.95%	5.93%	7.60%	11.32%
30	3.69%	5.45%	4.00%	6.00%	7.69%	11.45%
31	3.73%	5.51%	4.05%	6.07%	7.78%	11.58%
32	3.78%	5.58%	4.10%	6.15%	7.88%	11.73%
33	3.82%	5.65%	4.15%	6.23%	7.97%	11.88%
34	3.87%	5.72%	4.21%	6.31%	8.08%	12.03%

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	3.92%	5.80%	4.26%	6.39%	8.18%	12.19%
36	3.97%	5.88%	4.32%	6.48%	8.29%	12.36%
37	4.03%	5.96%	4.39%	6.58%	8.42%	12.54%
38	4.09%	6.05%	4.45%	6.68%	8.54%	12.73%
39	4.15%	6.14%	4.53%	6.79%	8.68%	12.93%
40	4.22%	6.25%	4.61%	6.91%	8.83%	13.16%
41	4.30%	6.37%	4.69%	7.04%	8.99%	13.41%
42	4.33%	6.40%	4.72%	7.08%	9.05%	13.48%
43	4.34%	6.43%	4.74%	7.11%	9.08%	13.54%
44	4.36%	6.45%	4.76%	7.14%	9.12%	13.59%
45	4.36%	6.46%	4.76%	7.14%	9.12%	13.60%
46	4.34%	6.42%	4.73%	7.10%	9.07%	13.52%
47	4.31%	6.38%	4.70%	7.05%	9.01%	13.43%
48	4.27%	6.31%	4.65%	6.98%	8.92%	13.29%
49+	4.20%	6.22%	4.58%	6.87%	8.78%	13.09%

Interest: 7.25% per annum
 COLA: 3.00%
 Administrative Expenses: 0.17% of payroll added to Basic Regular rates
 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 II)
 COLA Loading Factor: 113.60% for Regular Benefits, applied to Basic rates prior to adjustment for administrative expenses

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, 2015 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	5.88%	8.73%	33	6.95%	10.59%
16	5.71%	8.73%	34	7.04%	10.73%
17	5.77%	8.83%	35	7.13%	10.87%
18	5.84%	8.92%	36	7.23%	11.02%
19	5.90%	9.02%	37	7.34%	11.18%
20	5.97%	9.12%	38	7.45%	11.35%
21	6.03%	9.22%	39	7.57%	11.53%
22	6.10%	9.32%	40	7.67%	11.67%
23	6.17%	9.43%	41	7.73%	11.77%
24	6.24%	9.53%	42	7.76%	11.81%
25	6.31%	9.64%	43	7.77%	11.82%
26	6.39%	9.75%	44	7.75%	11.80%
27	6.46%	9.86%	45	7.71%	11.73%
28	6.54%	9.98%	46	7.64%	11.63%
29	6.62%	10.09%	47	7.54%	11.48%
30	6.70%	10.21%	48	7.80%	11.86%
31	6.78%	10.34%	49+	8.06%	12.27%
32	6.86%	10.46%			

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

Interest:	7.25% per annum
COLA:	0.00%
Administrative Expenses:	0.17% of payroll added to Basic Regular rates
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 II)

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, 2015
Actuarial Valuation as a percentage of payroll**

		<u>All Eligible Pay*</u>
	All members	12.03%
Interest:	7.25% per annum	
COLA:	0.00%	
Administrative Expenses:	0.17% of payroll added to the rate	
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 II)	

* *It is our understanding that in the determination of pension benefits under the CalPEPRA formulas, the compensation that can be taken into account for 2015 is \$117,020. (For an employer that is not enrolled in Social Security, the maximum amount is \$140,424) (reference Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2015 (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 Benefit Reserve (BOR) to pay non-vested discretionary purchasing power and additional taxable retiree health benefits, if any. 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^{(1) (2) (3)}

Total Undiscounted Benefits as of June 30, 2015:	\$4,668,465
Reserve ⁽⁴⁾ as of June 30, 2015:	\$729,534

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. Furthermore, we assume that no new members will become eligible for this benefit.

Period	Payment (undiscounted)
2015 - 2016	\$573,373
2016 - 2017	156,161

Retiree Health Benefit (BOR)^{(1) (3)}

Total Undiscounted Benefits as of June 30, 2015:	Not Applicable
Reserve ⁽⁴⁾ as of June 30, 2015:	-\$3,418,343

As of June 30, 2015, the Retiree Health Benefit Reserve (BOR) became negative after a prior restatement of the reserve balance by FCERA. For valuation purposes, Segal has assumed this non-valuation reserve to be no less than \$0 in determining the Valuation Value of Asset as of June 30, 2015 and reduced the valuation reserves by \$3,418,343. As long as this reserve is zero (or negative), no benefit can be paid out of this reserve.

- ⁽¹⁾ Assuming no change in the level of benefit provided as of June 30, 2015.
- ⁽²⁾ Including only those members receiving the benefits as of June 30, 2015.
- ⁽³⁾ Assuming no interest will be credited and no excess earnings will be transferred to this reserve.
- ⁽⁴⁾ Based on actuarial value of assets.
- ⁽⁵⁾ 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

General – Regular Benefits	Source	Initial Amount	Outstanding Balance	Years Remaining	Payment
June 30, 2003	Restart Amortization	N/A*	\$61,923,777	18	\$4,667,567
June 30, 2004	Actuarial Loss/POB Proceeds**	N/A*	(23,723,396)	4	(6,469,584)
June 30, 2005	Actuarial Loss	\$165,807,070	96,157,354	5	21,320,585
June 30, 2006	Actuarial Loss	74,355,835	48,843,718	6	9,171,238
June 30, 2006	Plan Provision Change	333,000	377,928	21	25,528
June 30, 2007	Actuarial Loss	9,736,697	7,071,688	7	1,156,490
June 30, 2007	Assumption Change	48,705,000	35,374,058	7	5,785,002
June 30, 2008	Actuarial Loss	37,435,443	29,348,447	8	4,266,942
June 30, 2009	Actuarial Loss	99,661,060	83,029,082	9	10,901,303
June 30, 2010	Actuarial Loss	40,450,188	35,373,984	10	4,246,186
June 30, 2010	Assumption Change	180,478,000	157,829,326	10	18,945,359
June 30, 2011	Actuarial Loss	33,654,586	30,616,940	11	3,393,674
June 30, 2012	Actuarial Gain	(37,654,021)	(35,344,664)	12	(3,647,464)
June 30, 2013	Actuarial Gain	(55,328,951)	(53,220,437)	13	(5,148,651)
June 30, 2013	Assumption Change	152,395,000	146,587,428	13	14,181,161
June 30, 2014	Actuarial Gain	(35,957,667)	(35,354,567)	14	(3,225,114)
June 30, 2015	Actuarial Loss	1,049,334	<u>1,049,334</u>	15	<u>90,715</u>
	Total		\$585,940,000		\$79,660,937

* 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

Appendix C (continued)

Amortization Schedule for UAAL

General – Settlement Benefits	Source	Initial Amount	Outstanding Balance	Years Remaining	Payment
June 30, 2003	Restart Amortization*	N/A**	\$137,262,064	18	\$10,346,265
June 30, 2004	Actuarial Loss/POB Proceeds ***	N/A**	(26,413,670)	4	(7,203,246)
June 30, 2005	Actuarial Loss	\$10,771,055	6,246,514	5	1,385,015
June 30, 2006	Actuarial Loss	8,282,685	5,440,826	6	1,021,608
June 30, 2007	Actuarial Gain	(162,430)	(117,971)	7	(19,293)
June 30, 2007	Assumption Change	37,063,000	26,918,567	7	4,402,209
June 30, 2008	Actuarial Loss	11,510,769	9,024,154	8	1,312,013
June 30, 2009	Actuarial Loss	17,637,452	14,694,018	9	1,929,251
June 30, 2010	Actuarial Loss	4,210,394	3,682,021	10	441,979
June 30, 2010	Assumption Change	38,322,000	33,512,869	10	4,022,784
June 30, 2011	Actuarial Loss	208,522	189,701	11	21,027
June 30, 2012	Actuarial Gain	(18,843,015)	(17,687,355)	12	(1,825,282)
June 30, 2013	Actuarial Gain	(20,059,381)	(19,294,944)	13	(1,866,631)
June 30, 2013	Assumption Change	41,809,000	40,215,714	13	3,890,549
June 30, 2014	Actuarial Gain	(16,375,093)	(16,100,442)	14	(1,468,715)
June 30, 2015	Actuarial Gain	(16,849,948)	<u>(16,849,948)</u>	15	<u>(1,456,678)</u>
	Total		\$180,722,118		\$14,932,855

* The outstanding balance includes the full General Section 8 UAAL and General Section 9 UAAL.

** 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

Appendix C (continued)

Amortization Schedule for UAAL

Safety – Regular Benefits	Source	Initial Amount	Outstanding Balance	Years Remaining	Payment
June 30, 2003	Restart Amortization	N/A*	\$21,185,373	18	\$1,596,869
June 30, 2004	Actuarial Loss/POB Proceeds **	N/A*	(5,126,524)	4	(1,398,049)
June 30, 2005	Actuarial Loss	\$28,456,160	16,502,729	5	3,659,084
June 30, 2006	Actuarial Loss	36,122,657	23,728,667	6	4,455,461
June 30, 2007	Actuarial Loss	11,440,206	8,308,931	7	1,358,826
June 30, 2007	Assumption Change	18,663,000	13,554,790	7	2,216,723
June 30, 2008	Actuarial Loss	25,279,442	19,818,448	8	2,881,384
June 30, 2009	Actuarial Loss	33,290,245	27,734,589	9	3,641,413
June 30, 2010	Actuarial Loss	7,016,461	6,135,945	10	736,541
June 30, 2010	Assumption Change	44,211,000	38,662,842	10	4,640,971
June 30, 2011	Actuarial Gain	(3,902,219)	(3,550,005)	11	(393,494)
June 30, 2012	Actuarial Gain	(4,727,978)	(4,438,006)	12	(457,989)
June 30, 2013	Actuarial Gain	(17,551,239)	(16,882,384)	13	(1,633,236)
June 30, 2013	Assumption Change	47,490,000	45,680,219	13	4,419,195
June 30, 2014	Actuarial Gain	(11,045,503)	(10,860,243)	14	(990,693)
June 30, 2015	Actuarial Gain	(375,371)	(375,371)	15	(32,451)
	Total		\$180,080,000		\$24,700,555

* 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

Appendix C (continued)

Amortization Schedule for UAAL

Safety – Settlement Benefits	Source	Initial Amount	Outstanding Balance	Years Remaining	Payment
June 30, 2003	Restart Amortization*	N/A**	\$22,791,907	18	\$1,717,963
June 30, 2004	Actuarial Loss/POB Proceeds ***	N/A**	(4,198,296)	4	(1,144,913)
June 30, 2005	Actuarial Gain	\$(8,133,004)	(4,716,614)	5	(1,045,796)
June 30, 2006	Actuarial Loss	6,885,605	4,523,097	6	849,288
June 30, 2007	Actuarial Loss	810,988	589,015	7	96,326
June 30, 2007	Assumption Change	4,474,000	3,249,430	7	531,405
June 30, 2008	Actuarial Loss	4,845,166	3,798,488	8	552,258
June 30, 2009	Actuarial Loss	7,849,312	6,539,377	9	858,588
June 30, 2010	Actuarial Loss	1,272,629	1,112,924	10	133,592
June 30, 2010	Assumption Change	6,935,000	6,064,708	10	727,989
June 30, 2011	Actuarial Gain	(433,930)	(394,763)	11	(43,757)
June 30, 2012	Actuarial Gain	(1,098,338)	(1,030,976)	12	(106,394)
June 30, 2013	Actuarial Gain	(3,609,401)	(3,471,851)	13	(335,874)
June 30, 2013	Assumption Change	10,467,000	10,068,116	13	974,010
June 30, 2014	Actuarial Gain	(2,617,021)	(2,573,127)	14	(234,726)
June 30, 2015	Actuarial Gain	(7,407,553)	<u>(7,407,553)</u>	15	<u>(640,383)</u>
	Total		\$34,943,882		\$2,889,576

* The outstanding balance includes the full Safety Section 8 UAAL and Safety Section 9 UAAL.

** 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

Appendix C (continued)

Amortization Schedule for UAAL

Total	Source	Initial Amount	Outstanding Balance	Years Remaining	Payment
June 30, 2003	Restart Amortization*	N/A**	\$243,163,121	18	\$18,328,664
June 30, 2004	Actuarial Loss/POB Proceeds ***	N/A**	(59,461,886)	4	(16,215,792)
June 30, 2005	Actuarial Loss	\$196,901,281	114,189,983	5	25,318,888
June 30, 2006	Actuarial Loss	125,646,782	82,536,308	6	15,497,595
June 30, 2006	Plan Provision Change	333,000	377,928	21	25,528
June 30, 2007	Actuarial Loss	21,825,461	15,851,663	7	2,592,349
June 30, 2007	Assumption Change	108,905,000	79,096,845	7	12,935,339
June 30, 2008	Actuarial Loss	79,070,820	61,989,537	8	9,012,597
June 30, 2009	Actuarial Loss	158,438,069	131,997,066	9	17,330,555
June 30, 2010	Actuarial Loss	52,949,672	46,304,874	10	5,558,298
June 30, 2010	Assumption Change	269,946,000	236,069,745	10	28,337,103
June 30, 2011	Actuarial Loss	29,526,959	26,861,873	11	2,977,450
June 30, 2012	Actuarial Gain	(62,323,352)	(58,501,001)	12	(6,037,129)
June 30, 2013	Actuarial Gain	(96,548,872)	(92,869,616)	13	(8,984,392)
June 30, 2013	Assumption Change	252,161,000	242,551,477	13	23,464,915
June 30, 2014	Actuarial Gain	(65,995,284)	(64,888,379)	14	(5,919,248)
June 30, 2015	Actuarial Gain	(23,583,538)	<u>(23,583,538)</u>	15	<u>(2,038,797)</u>
	Total		\$981,686,000		\$122,183,923

* The outstanding balance includes the full Section 8 UAAL and Section 9 UAAL.

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*** 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

Appendix D

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

	Regular Benefit	Settlement Benefit	Total
AAL	\$3,982,056	\$1,092,277	\$5,074,333
Valuation Value of Assets	\$3,216,036	\$876,611	\$4,092,647
UAAL	\$766,020	\$215,666	\$981,686
Funded Ratio	80.8%	80.3%	80.7%

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