



**Fresno County Employees'  
Retirement Association**  
Governmental Accounting Standards (GAS) 67  
Actuarial Valuation as of June 30, 2017

This report has been prepared at the request of the Board of Retirement to assist FCERA 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 4, 2017*

*Board of Retirement  
Fresno County Employees' Retirement Association  
7772 N Palm Ave  
Fresno, CA 93711*

*Dear Board Members:*

*We are pleased to submit this Governmental Accounting Standards (GAS) 67 Actuarial Valuation as of June 30, 2017. It contains various information that will need to be disclosed in order to comply with GAS 67.*

*This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Association. The census and financial information on which our calculations were based was prepared 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; and changes in plan provisions or applicable law.*

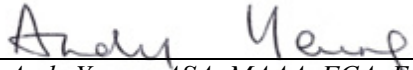
*The actuarial calculations were completed under the supervision of Andy Yeung, ASA, MAAA, FCA, EA. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the 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 expectations for the Plan.*

*We look forward to reviewing this report with you and to answering any questions.*

*Sincerely,*

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

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

  
\_\_\_\_\_  
*Andy Yeung, ASA, MAAA, FCA, EA  
Vice President and Actuary*

*AW/bbf*

## SECTION 1

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

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### **Purpose**

This report has been prepared by Segal Consulting to present certain disclosure information required by Governmental Accounting Standards (GAS) 67 as of June 30, 2017. This valuation is based on:

- The benefit provisions of FCERA, as administered by the Board of Retirement;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of June 30, 2016, provided by FCERA;
- The assets of the Plan as of June 30, 2017, provided by FCERA;
- Economic assumptions regarding future salary increases and investment earnings as of June 30, 2017; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc., as of June 30, 2017.

### **General Observations on GAS 67 Actuarial Valuation**

The following points should be considered when reviewing this GAS 67 report:

- The Governmental Accounting Standards Board (GASB) rules only define pension liability and expense for financial reporting purposes, and do not apply to contribution amounts for pension funding purposes. Employers and plans develop and adopt funding policies under current practices.
- When measuring pension liability GASB uses the same actuarial cost method (Entry Age method) and the same type of discount rate (expected return on assets) as FCERA uses for funding. This means that the Total Pension Liability (TPL) measure for financial reporting shown in this report is determined on generally the same basis as FCERA's Actuarial Accrued Liability (AAL) measure for funding. We note that the same is generally true for the Normal Cost component of the annual plan cost for funding and financial reporting.
- The Net Pension Liability (NPL) is equal to the difference between the TPL and the Plan Fiduciary Net Position. The Plan Fiduciary Net Position is equal to the market value of assets and therefore, the NPL measure is very similar to an Unfunded Actuarial Accrued Liability (UAAL) calculated on a market value basis.

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

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### Significant Issues in Valuation Year

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

- The NPL's measured as of June 30, 2017 and June 30, 2016 have been determined by rolling forward the TPL as of June 30, 2016 and June 30, 2015, respectively. In our reporting as of June 30, 2016, we adjusted the TPL to include \$0.2<sup>1</sup> million that was set aside by the Retirement Board to pay non-vested Supplemental COLA and Retiree Health benefits from funds set aside in those two reserve accounts. We have not made a similar adjustment in our reporting as of June 30, 2017 as there was a \$0 balance in the two reserve accounts.
- The NPL decreased from \$1,533.0 million as of June 30, 2016 to \$1,306.3 million as of June 30, 2017 primarily due to the 10.4% return on the market value of assets during 2016/2017 that was more than the assumed return of 7.00% (a gain of \$137.6 million). There were also actuarial gains from lower than expected salary increases for actives members and lower than expected COLA increases for retirees and beneficiaries during 2015/2016 (because liabilities are rolled forward from June 30, 2015 to June 30, 2016, those changes are not reflected until this valuation as of June 30, 2017). Changes in these values during the last two fiscal years ending June 30, 2017 and June 30, 2016 can be found in Exhibit 3.
- The discount rate used to determine the TPL and NPL as of June 30, 2017 was 7.00%, following the same assumption used by the Association in the pension funding valuation as of June 30, 2016. The detailed calculations of the discount rate of 7.00% used in calculation of the TPL and NPL as of June 30, 2017 can be found in Exhibit 5 of Section 2. Various other information that is required to be disclosed can be found throughout Exhibits 1 through 4 in Section 2.

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<sup>1</sup> The balance in the Supplemental COLA Reserve was \$0.2 million and the balance in the Retiree Health Reserve was \$0 (after limiting that balance to be no less than \$0).

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

**Summary of Key Valuation Results**

	<b>2017</b>	<b>2016</b>
<b>Disclosure elements for plan year ending June 30:</b>		
Service Cost <sup>(1)(2)</sup>	\$109,231,556	\$105,592,251
Total Pension Liability	5,713,538,731	5,542,506,355
Plan Fiduciary Net Position	4,407,221,766	4,009,495,932
Net Pension Liability	1,306,316,965	1,533,010,423
<b>Schedule of contributions for plan year ending June 30:</b>		
Actuarially determined contributions	\$198,472,000	\$191,529,000
Actual contributions	198,472,000	191,529,000
Contribution deficiency (excess)	0	0
<b>Demographic data for plan year ending June 30:<sup>(3)</sup></b>		
Number of retired members and beneficiaries	7,200	7,032
Number of vested terminated members	3,411	3,289
Number of active members	7,353	7,297
<b>Key assumptions as of June 30:</b>		
Investment rate of return	7.00%	7.00%
Inflation rate	3.00%	3.00%
Projected salary increases <sup>(4)</sup>	General: 4.50% to 11.50% and Safety: 4.90% to 11.50%	General: 4.50% to 11.50% and Safety: 4.90% to 11.50%

<sup>(1)</sup> The service cost is based on the previous year's valuation, meaning the 2017 and 2016 values are based on the valuations as of June 30, 2016 and June 30, 2015, respectively. The 2017 service cost has been calculated using the assumptions shown in the 2016 column and the 2016 service cost has been calculated using the assumptions used in the 2015 valuation. The key assumptions as of June 30, 2015 are as follows:

**Key assumptions as of June 30, 2015:**

Investment rate of return	7.25%
Inflation rate	3.25%
Projected salary increases*	General: 4.75% to 10.75% and Safety: 5.25% to 10.75%

\* Includes inflation at 3.25% plus real across-the-board salary increases of 0.50% plus merit and promotional increases.

<sup>(2)</sup> Excludes administrative expense load.

<sup>(3)</sup> Data as of June 30, 2016 is used in the measurement of the TPL as of June 30, 2017.

<sup>(4)</sup> Includes inflation at 3.00% plus real across-the-board salary increases of 0.50% plus merit and promotional increases.

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

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### Important Information about Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – 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.

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 (as well as the plan summary included in our funding valuation report) to confirm that Segal has correctly interpreted the plan of benefits.
- **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 Board to assist FCERA in preparing items related to the pension plan in their financial reports. Segal is not responsible for the use or misuse of its report, particularly by any other party.

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

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- 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.
- 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 Consulting 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: GAS 67 Information for Fresno County Employees' Retirement Association**

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**EXHIBIT 1**

**General Information – “Financial Statements”, Note Disclosures and Required Supplementary Information for a Cost-Sharing Pension Plan**

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**Plan Description**

*Plan administration.* The Fresno County Employees' Retirement Association (FCERA) was established by the County of Board of Supervisors on January 1, 1945. FCERA is administered by the Board of Retirement and governed by the County Employees' Retirement Law of 1937 (California Government Code Section 31450 et seq.). FCERA is a cost-sharing multiple employer defined benefit public employee retirement system whose main function is to provide service retirement, disability, death and survivor benefits to the General and Safety members employed by the County of Fresno. FCERA also provides retirement benefits to the employee members of the Superior Court County of Fresno, Clovis Veterans Memorial District, Fresno-Madera Area Agency on Aging and Fresno Mosquito and Vector Control District.

The management of FCERA is vested with the FCERA Board of Retirement. The Board consists of nine members and two alternates. The County Treasurer is elected by the general public and a member of the Board of Retirement by law. Four members are appointed by the Board of Supervisors, one of whom may be a County Supervisor. Two active members are elected by the General members; one active member and one alternate are elected by the Safety members; one retired member and one alternate are elected by the retired members. All members of the Board of Retirement serve terms of three years except for the County Treasurer whose term runs concurrent with his term as County Treasurer.

*Plan membership.* At June 30, 2017, pension plan membership consisted of the following:

Retired members or beneficiaries currently receiving benefits	7,200
Vested terminated members entitled to, but not yet receiving benefits <sup>(1)</sup>	3,411
Active members	<u>7,353</u>
Total	17,964

<sup>(1)</sup> Includes terminated members due a refund of member contributions.

*Benefits provided.* FCERA provides service retirement, disability, death and survivor benefits to eligible employees. All regular full-time employees and permanent part-time employees who work 50% or more for the County of Fresno or the other participating agencies become members of FCERA effective on the first day of the first full pay period after employment in a permanent position. There are separate retirement benefits for General and Safety members. Safety membership is extended to

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those involved in active law enforcement, fire suppression, and district attorney investigators. All other employees are classified as General members. The tiers and their basic provisions are listed below:

<u>Tier Name</u>	<u>Governing Code</u>	<u>Effective Date</u>	<u>Basic Provisions</u>	<u>Final Average Salary Period</u>	<u>Plan Sponsors</u>
Pre-Ventura General	§31676.12	Various	2.0% at 57; maximum 3% COLA	Highest 1-year	All
General Tier 1	§31676.14 and the Settlement Agreement	January 1, 2001	2.5% at 55; maximum 3% COLA	Highest 1-year	All
General Tier 2	§31676.16	February 26, 2006	2.0% at 55; maximum 3% COLA	Highest 1-year	County and FMAAA
General Tier 3	§31676.15	December 17, 2007	2.0% at 55; maximum 3% COLA	Highest 3-years	County
General Tier 4	§31676.1	June 11, 2012	2.0% at 61; no COLA	Highest 3-years	County
General Tier 5	§7522.20(a)	January 1, 2013	2.5% at 67; no COLA	Highest 3-years	All
Pre-Ventura Safety	§31664	Various	2.0% at 50; maximum 3% COLA	Highest 1-year	All
Safety Tier 1	§31664 and the Settlement Agreement	January 1, 2001	2.5% at 50; maximum 3% COLA	Highest 1-year	County and NCFPD
Safety Tier 2	§31664.2	February 26, 2006	3.0% at 55; maximum 3% COLA	Highest 1-year	County
Safety Tier 4	§31664	June 11, 2012	2.0% at 50; no COLA	Highest 3-years	County
Safety Tier 5	§7522.25(d)	January 1, 2013	2.7% at 57; no COLA	Highest 3-years	All

*Note: FMAAA – Fresno-Madera Area Agency on Aging*

*NCFPD – North Central Fire Protection District (NCFPD withdrew active membership from FCERA as of August 31, 2007)*

*There is no Safety Tier 3 offered by FCERA*

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Any new member who becomes a member on or after January 1, 2013 is placed into Tier 5 and is subject to the provisions of California Public Employees' Pension Reform Act of 2013 (PEPRA) and California Government Code 7522 et seq.

General members enrolled in Tiers 1, 2, 3, or 4 are eligible to retire once they attain the age of 70 regardless of service or at age 50 and have acquired 10 or more years of retirement service credit. A member with 30 years of service is eligible to retire regardless of age. General members enrolled in General Tier 5 are eligible to retire once they attain the age of 70 regardless of service or at age 52 and have acquired five years of retirement service credit.

Safety members enrolled in Tiers 1, 2, or 4 are eligible to retire once they attain the age of 70 regardless of service or at age 50 and have acquired 10 or more years of retirement service credit. A member with 20 years of service is eligible to retire regardless of age. Safety members enrolled in Safety Tier 5 are eligible to retire once they attain the age of 70 regardless of service or at age 50 and have acquired five years of retirement service credit.

The retirement benefit the member will receive is based upon age at retirement, final average compensation, years of retirement service credit and retirement plan and tier.

For members enrolled in Tier 1, 2, 3, or 4, the maximum monthly retirement allowance is 100% of final compensation. There is no maximum for members enrolled in Tier 5. However, for members with membership dates on or after January 1, 2013 the maximum amount of pensionable compensation that can be taken into account for 2017 is equal to \$118,775 for those enrolled in Social Security (\$142,530 for those not enrolled in Social Security). This limit is adjusted on an annual basis. Members are exempt from paying member contributions and employers are exempt from paying employer contributions on compensation in excess of the annual cap.

The member may elect an unmodified retirement allowance, or choose an optional retirement allowance. The unmodified retirement allowance provides the highest monthly benefit and a 60% continuance to an eligible surviving spouse or domestic partner. An eligible surviving spouse or domestic partner is one married to or registered with the member one year prior to the effective retirement date. Certain surviving spouses or domestic partners may also be eligible if marriage or domestic partnership was at least two years prior to the date of death and the surviving spouse or domestic partner has attained age 55 on or prior to the date of death. There are four optional retirement allowances the member may choose. Each of the optional retirement allowances requires a reduction in the unmodified retirement allowance in order to allow the member the ability to provide certain benefits to a surviving spouse, domestic partner, or named beneficiary having an insurable interest in the life of the member.

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FCERA provides an annual cost-of-living benefit to all retirees in Tier 1, 2, or 3. The cost-of-living adjustment, based upon the Consumer Price Index for the West Region (with 1982-84 as the base period), is capped at 3.0%.

The County of Fresno and the other participating agencies contribute to the retirement plan based upon actuarially determined contribution rates adopted by the Board of Retirement. Employer contribution rates are adopted annually based upon recommendations received from FCERA's actuary after the completion of the annual actuarial valuation. The average employer contribution rate as of June 30, 2017 for 2016-2017 (based on the June 30, 2015 valuation) was 51.37% of compensation.

Members are required to make contributions to FCERA regardless of the retirement plan or tier in which they are included. The average member contribution rate as of June 30, 2017 for 2016-2017 (based on the June 30, 2015 valuation) was 9.39% of compensation.

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### EXHIBIT 2

#### Net Pension Liability

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The components of the Net Pension Liability as follows:

	<b>June 30, 2017</b>	<b>June 30, 2016</b>
Total Pension Liability	\$5,713,538,731	\$5,542,506,355
Plan Fiduciary Net Position	<u>4,407,221,766</u>	<u>4,009,495,932</u>
Net Pension Liability	\$1,306,316,965	\$1,533,010,423
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	77.14%	72.34%

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The Net Pension Liability (NPL) was measured as of June 30, 2017 and 2016. The Plan Fiduciary Net Position (plan assets) was valued as of the measurement date while the Total Pension Liability (TPL) was determined based upon rolling forward the TPL from actuarial valuations as of June 30, 2016 and 2015, respectively.

*Plan provisions.* The plan provisions used in the measurement of the NPL as of June 30, 2017 and 2016 are the same as those used in the FCERA actuarial valuation as of June 30, 2017 and 2016, respectively.

*Actuarial assumptions.* The TPL as of June 30, 2017 and June 30, 2016<sup>1</sup> were determined by actuarial valuations as of June 30, 2016 and June 30, 2015, respectively. The actuarial assumptions used were based on the results of an experience study for the period from July 1, 2012 through June 30, 2015. They are the same assumptions used in the June 30, 2017 funding valuation for FCERA. The assumptions are outlined on page 10 of this report. In particular, the following actuarial assumptions were applied to all periods included in the measurement:

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<sup>1</sup> Because new actuarial assumptions were adopted by the Board for the June 30, 2016 funding valuation, the TPL as of June 30, 2016 was remeasured by (1) revaluing the TPL as of June 30, 2015 (before the roll forward) to include the actuarial assumptions that the Retirement Board adopted for use in the funding valuation as of June 30, 2016 and (2) using this revalued TPL in rolling forward the results from June 30, 2015 to June 30, 2016.

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Inflation	3.00%
Salary increases	General: 4.50% to 11.50% and Safety: 4.90% to 11.50%, vary by service, including inflation
Investment rate of return	7.00%, net of pension plan investment expense, including inflation
Administrative expenses	1.10% of payroll allocated to both the employer and member based on the components of the total contribution rate (before expenses) for the employer and member.
Other assumptions	See analysis of actuarial experience during the period July 1, 2012 through June 30, 2015

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage, adding expected inflation and subtracting expected investment expenses and a risk margin. The target allocation and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before deducting investment expenses, used in the derivation of the long-term expected investment rate of return assumption are summarized in the following table:

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<b>Asset Class</b>	<b>Target Allocation</b>	<b>Long-Term Expected Arithmetic Real Rate of Return</b>
Large Cap U.S. Equity	14%	5.80%
Small Cap U.S. Equity	3%	6.52%
Developed International Equity	12%	6.89%
Emerging Markets Equity	7%	8.88%
U.S. Core Fixed Income	5%	0.76%
High Yield Fixed Income	5%	3.55%
Global Bonds	7%	0.41%
Bank Loans	5%	2.34%
TIPS	4%	0.41%
Emerging Market Debt	5%	4.52%
Real Estate	5%	4.48%
Commodities	3%	4.14%
Infrastructure	3%	3.80%
Hedge Funds	8%	4.40%
Private Credit	8%	7.70%
Private Equity	6%	9.00%
<b>Total</b>	<b>100%</b>	

*Discount rate:* The discount rates used to measure the TPL was 7.00% as of both June 30, 2017 and June 30, 2016, respectively. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially determined contribution rates. For this purpose, only employer contributions that are intended to fund benefits for current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the Plan Fiduciary Net Position was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the TPL as of both June 30, 2017 and June 30, 2016.

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*Sensitivity of the Net Pension Liability to changes in the discount rate.* The following presents the NPL as of June 30, 2017, calculated using the discount rate of 7.00%, as well as what the NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (6.00%) or 1-percentage-point higher (8.00%) than the current rate:

	<b>1% Decrease (6.00%)</b>	<b>Current Discount Rate (7.00%)</b>	<b>1% Increase (8.00%)</b>
FCERA's Net Pension Liability as of June 30, 2017	\$2,103,213,222	\$1,306,316,965	\$653,541,476



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**EXHIBIT 3**

**Schedules of Changes in Net Pension Liability – Last Two Fiscal Years**

	2017	2016
<b>Total Pension Liability</b>		
1. Service cost	\$109,231,556	\$105,592,251
2. Interest	381,845,701	366,855,100
3. Change of benefit terms	0	0
4. Differences between expected and actual experience	(70,197,987)	(42,178,682)
5. Changes of assumptions	0	235,227,824
6. Benefit payments, including refunds of member contributions	<u>(249,846,894)</u>	<u>(240,231,354)</u>
7. Net change in Total Pension Liability	\$171,032,376	\$425,265,139
8. Total Pension Liability – beginning	<u>5,542,506,355</u>	<u>5,117,241,216</u>
9. Total Pension Liability – ending	<u>\$5,713,538,731</u>	<u>\$5,542,506,355</u>
<b>Plan's Fiduciary Net Position</b>		
10. Contributions – employer	\$198,472,119	\$191,529,239
11. Contributions – employee	36,259,132	35,211,756
12. Net investment income	417,603,730	(4,319,055)
13. Benefit payments, including refunds of member contributions	(249,846,894)	(240,231,354)
14. Administrative expense	(4,762,253)	(4,814,003)
15. Other	<u>0</u>	<u>0</u>
16. Net change in Plan's Fiduciary Net Position	\$397,725,834	\$(22,623,417)
17. Plan's Fiduciary Net Position – beginning	<u>4,009,495,932</u>	<u>4,032,119,349</u>
18. Plan's Fiduciary Net Position – ending	\$4,407,221,766	\$4,009,495,932
19. Net Pension Liability – ending (9) – (18)	<u>\$1,306,316,965</u>	<u>\$1,533,010,423</u>
20. Plan's Fiduciary Net Position as a percentage of the Total Pension Liability	77.14%	72.34%
21. Covered employee payroll <sup>(1)</sup>	\$386,345,000	\$370,318,000
22. Plan's Net Pension Liability as percentage of covered employee payroll	338.12%	413.97%

<sup>(1)</sup> Covered employee payroll represents compensation earnable and pensionable compensation. Only compensation earnable and pensionable compensation that would possibly go into the determination of retirement benefits are included.

**Notes to Schedule:**

Benefit changes: None

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**EXHIBIT 4**

**Schedule of Employer's Contributions – Last Ten Fiscal Years**

<b>Year Ended June 30</b>	<b>Actuarially Determined Contributions<sup>(1)</sup></b>	<b>Contributions in Relation to the Actuarially Determined Contributions</b>	<b>Contribution Deficiency (Excess)</b>	<b>Covered Payroll<sup>(2)</sup></b>	<b>Contributions as a Percentage of Covered Payroll</b>
2008	\$97,305,000	\$97,305,000	\$0	\$394,449,000	24.67%
2009	113,959,000	113,959,000	0	399,799,000	28.50%
2010	126,138,000	126,138,000	0	392,713,000	32.12%
2011	130,290,000	130,290,000	0	385,204,000	33.82%
2012	157,869,000	157,869,000	0	346,742,000	45.53%
2013	158,572,000	158,572,000	0	346,808,000	45.72%
2014	165,309,000	165,309,000	0	350,326,000	47.19%
2015	184,213,000	184,213,000	0	351,109,000	52.47%
2016	191,529,000	191,529,000	0	370,318,000	51.72%
2017	198,472,000	198,472,000	0	386,345,000	51.37%

*See accompanying notes to this schedule on next page.*

<sup>(1)</sup> All "Actuarially Determined Contributions" through June 30, 2016 were determined as the "Annual Required Contribution" under GAS 25 and 27.

<sup>(2)</sup> Covered payroll represents compensation earnable and pensionable compensation. Only compensation earnable and pensionable compensation that would possibly go into the determination of retirement benefits are included.

## SECTION 2: GAS 67 Information for Fresno County Employees' Retirement Association

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### Notes to Exhibit 4

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#### Methods and assumptions used to establish "actuarially determined contribution" rates:

Valuation date	Actuarially determined contribution rates are calculated as of June 30, one year prior to the end of the fiscal year in which contributions are reported
Actuarial cost method	Entry Age Actuarial Cost Method
Amortization method	Level percent of payroll (3.75% payroll growth assumed)
Remaining amortization period	UAAL established as of June 30, 2003 is amortized over a declining period (with 18 years remaining as of the June 30, 2015 valuation which set the rates for the 2016/2017 fiscal year) plus 15 years (declining) for UAAL due to actuarial gains or losses, changes in actuarial assumptions or plan amendments <sup>(1)</sup> established on each subsequent valuation. <sup>(1)</sup>
Asset valuation method	The actuarial value of assets is determined by recognizing any difference between the actual and the expected market return over 10 six-month interest crediting periods. The actuarial value of assets is further adjusted, if necessary, to be within 30% of the market value of assets. The valuation value of assets is the actuarial value of assets reduced by the value of the non-valuation reserves. Deferred gains and losses as of June 30, 2011 have been combined and will be recognized in equal amounts over a period of four and a half years from that date.
<b>Actuarial assumptions:</b>	
June 30, 2015 valuation (for year ended 2017 ADC)	
Investment rate of return	7.25%, net of pension plan investment expense, including inflation
Inflation rate	3.25%
Administrative expenses	1.10% of payroll allocated to both the employer and member based on the components of the total contribution rate (before expenses) for the employer and member.
Projected salary increases <sup>(2)</sup>	General: 4.75% to 10.75% and Safety: 5.25% to 10.75%, vary by service, including inflation
Cost of living adjustments	3.00% of retirement income for General Tiers 1, 2 and 3, and Safety Tiers 1 and 2 0.00% for General Tiers 4 and 5 and Safety Tiers 4 and 5
Other assumptions	Same as those used in the June 30, 2015 funding actuarial valuation

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

<sup>(2)</sup> Includes inflation at 3.25% plus real across-the-board salary increases of 0.50% plus merit and promotional increases.

**SECTION 2: GAS 67 Information for Fresno County Employees' Retirement Association**

**EXHIBIT 5**

**Projection of Pension Plan Fiduciary Net Position for Use in Calculation of Discount Rate as of June 30, 2017**

(\$ in millions)

Year Beginning July 1,	Projected Beginning Plan Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Plan Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2016	\$4,009	\$235	\$250	\$5	\$418	\$4,407
2017	4,407	260	272	4	307	4,697
2018	4,697	265	288	4	327	4,997
2019	4,997	295	303	4	348	5,334
2020	5,334	273	318	4	370	5,656
2021	5,656	254	335	4	392	5,963
2022	5,963	234	351	3	412	6,254
2023	6,254	223	369	3	431	6,536
2024	6,536	200	386	3	449	6,797
2025	6,797	153	404	3	465	7,008
2033	8,177	58	553	2	553	8,233
2034	8,233	39	570	2	556	8,256
2035	8,256	28	586	2	556	8,251
2051	6,284	4	651	0 *	415	6,051
2052	6,051	3	642	0 *	399	5,810
2053	5,810	2	631	0 *	382	5,563
2080	371	0	85	0	23	308
2081	308	0	72	0	19	255
2082	255	0	60	0	16	210
2102	56	0	1	0	4	60
2103	60	0	1	0	4	63
2104	63	0	0 *	0	4	67
2122	208	0	0 *	0	15	222
2123	222					
2123	Discounted Value:	0 **				

\* Less than \$1 million, when rounded.

\*\* \$222 million when discounted with interest at the rate of 7.00% per annum has a value of less than \$1 million as of June 30, 2016.

## SECTION 2: GAS 67 Information for Fresno County Employees' Retirement Association

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### EXHIBIT 5

#### Projection of Pension Plan Fiduciary Net Position for Use in Calculation of Discount Rate as of June 30, 2017

(\$ in millions) - continued

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Notes:

- (1) Amounts may not total exactly due to rounding.
- (2) Amounts shown in the year beginning July 1, 2016 row are actual amounts, based on the financial statements provided by FCERA.
- (3) Years 2026-2032, 2036-2050, 2054-2079, 2083-2101, and 2105-2121 have been omitted from this table.
- (4) Column (a): Except for the "discounted value" shown for 2123, all of the projected beginning Plan Fiduciary Net Position amounts shown have not been adjusted for the time value of money.
- (5) Column (b): Projected total contributions include member and employer normal cost contributions based on closed group projections (based on covered active members as of June 30, 2016); plus employer contributions to the unfunded actuarial accrued liability; plus employee and employer contributions to fund each year's annual administrative expenses. Contributions are assumed to occur halfway through the year, on average.
- (6) Column (c): Projected benefit payments have been determined in accordance with paragraph 39 of GASB Statement No. 67, and are based on the closed group of active, inactive vested, retired members, and beneficiaries as of June 30, 2016. The projected benefit payments reflect the cost of living increase assumptions used in the June 30, 2017 valuation report.
- (7) Column (d): Projected administrative expenses are assumed to be 1.10% of closed group projected payroll and are assumed to occur halfway through the year, on average.
- (8) Column (e): Projected investment earnings are based on the assumed investment rate of return of 7.00% per annum.
- (9) As illustrated in this Exhibit, the Plan Fiduciary Net Position was projected to be available to make all projected future benefit payments for current Plan members. In other words, there is no projected "cross-over date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 7.00% per annum was applied to all periods of projected benefit payments to determine the Total Pension Liability as of June 30, 2017 shown earlier in this report, pursuant to paragraph 44 of GASB Statement No. 67.

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