

Fresno County Employees' Retirement Association

Governmental Accounting Standards Board Statement No. 67 (GAS 67) Actuarial Valuation

As of June 30, 2021



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November 29, 2021

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 Board Statement No. 67 (GAS 67) Actuarial Valuation as of June 30, 2021. 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 FCERA in preparing items related to the pension plan in their financial report. 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; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law.

The actuarial calculations were completed under the supervision of Andy Yeung, ASA, MAAA, FCA and 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 expectations for the Plan.

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

Sincerely,

Segal

A handwritten signature in blue ink, appearing to read "Paul Angelo", written over a horizontal line.

Paul Angelo, FSA, MAAA, FCA, EA
Senior Vice President and Actuary

A handwritten signature in blue ink, appearing to read "Andy Yeung", written over a horizontal line.

Andy Yeung, ASA, MAAA, FCA, EA
Vice President and Actuary

A handwritten signature in blue ink, appearing to read "Molly Calcagno", written over a horizontal line.

Molly Calcagno, ASA, MAAA, EA
Actuary

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Section 1: Actuarial Valuation Summary

Purpose and Basis

This report has been prepared by Segal to present certain disclosure information required by Governmental Accounting Standards Board Statement No. 67 (GAS 67) as of June 30, 2021. This valuation is based on:

- The benefit provisions of FCERA, as administered by the Board;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of June 30, 2020, provided by FCERA;
- The assets of the Plan as of June 30, 2021, provided by FCERA;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board for the June 30, 2021 valuation; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc. adopted by the Board for the June 30, 2021 valuation.

General Observations on GAS 67 Actuarial Valuation

1. It is important to note that 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 actual pension funding purposes. Employers and plans should develop and adopt funding policies under current practices.
2. 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.
3. The Net Pension Liability (NPL) is equal to the difference between the TPL and the Plan's Fiduciary Net Position. The Plan's 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: Actuarial Valuation Summary

Highlights of the Valuation

1. For this report, the reporting dates for the Plan are June 30, 2021 and June 30, 2020. The NPL was measured as of June 30, 2021 and 2020, respectively, and determined based upon rolling forward the TPL from actuarial valuations as of June 30, 2020 and 2019. The Plan's Fiduciary Net Position (plan assets) was valued as of the measurement dates. In addition, any changes in actuarial assumptions or plan provisions that occurred between the valuation date and the measurement date have been reflected.
2. The NPL decreased from \$1,391 million as of June 30, 2020 to \$467 million as of June 30, 2021 primarily due to the 27.3% return on the market value of assets during 2020-2021 fiscal year (that was higher than the assumed return of 7.00% for a gain of \$1,028 million), partially offset by changes in actuarial assumptions¹ (an increase of \$185 million). Changes in these values during the last two fiscal years ending June 30, 2021 and June 30, 2020 can be found in *Section 2, Schedule of Changes in Net Pension Liability* on page 18.
3. The discount rate originally used to measure the TPL and NPL as of June 30, 2021 was 7.00% following the same assumption used by FCERA in the funding valuation as of June 30, 2020. However, as the Board has approved a new set of actuarial assumptions (including a new discount rate of 6.50%) for use in the funding valuation as of June 30, 2021, we have estimated the impact of these assumption changes by (1) revaluing the TPL as of June 30, 2020 (before the roll forward) and (2) using this revalued TPL in rolling forward the results from June 30, 2020 to June 30, 2021. The detailed derivation of the discount rate of 6.50% used in calculation of the TPL and NPL as of June 30, 2021 can be found in *Section 3, Appendix A*. Various other information that is required to be disclosed can be found throughout *Section 2*.
4. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2021. Due to the COVID-19 pandemic, market conditions have changed significantly since the onset of the Public Health Emergency. The plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the plan year. Moreover, this actuarial valuation does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after June 30, 2021. While it is impossible to determine how the pandemic will affect market conditions and other demographic experience of the plan in future valuations, Segal is available to prepare projections of potential outcomes upon request.

¹ The Board has approved new economic assumptions for use in the June 30, 2021 valuation that lowered the investment return assumption from 7.00% to 6.50% and the inflation assumption from 2.75% to 2.50%.

Section 1: Actuarial Valuation Summary

Summary of Key Valuation Results

Measurement Date		2021	2020
Disclosure elements for plan year ending June 30:	• Service cost ^{1,2}	\$114,661,714	\$110,809,270
	• Total Pension Liability	6,749,558,488	6,325,968,563
	• Plan's Fiduciary Net Position	6,282,921,666	4,935,294,606
	• Net Pension Liability	466,636,822	1,390,673,957
Schedule of contributions for plan year ending June 30:	• Actuarially determined contributions	\$273,973,000	\$247,474,000
	• Actual contributions	273,973,000	247,474,000
	• Contribution deficiency / (excess)	0	0
Demographic data for plan year ending June 30: ³	• Number of retired members and beneficiaries	7,982	7,838
	• Number of inactive vested members ⁴	4,308	4,014
	• Number of active members	7,660	7,873
Key assumptions as of June 30:	• Investment rate of return	6.50%	7.00%
	• Inflation rate	2.50%	2.75%
	• Projected salary increases ⁵	General: 4.10% to 11.50%	General: 4.35% to 11.75%
		Safety: 4.50% to 11.50%	Safety: 4.75% to 11.75%

¹ The service cost is based on the previous year's valuation, meaning the June 30, 2021 and June 30, 2020 measurement date values are based on the valuations as of June 30, 2020 and June 30, 2019, respectively. Both service costs have been calculated using the assumptions shown in the June 30, 2020 measurement date column, as there had been no changes in the actuarial assumptions between the June 30, 2020 and June 30, 2019 valuations.

² Excludes administrative expense load.

³ Data as of June 30, 2020 is used in the measurement of the TPL as of June 30, 2021.

⁴ Includes terminated members due a refund of member contributions.

⁵ Includes inflation at 2.50% plus real across-the-board salary increases of 0.50% plus merit and promotion increases that vary by service for the June 30, 2021 measurement date and includes inflation at 2.75% plus real across-the-board salary increases of 0.50% plus merit and promotion increases that vary by service for the June 30, 2020 measurement date.

Section 1: Actuarial Valuation Summary

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 a valuation, 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 measurement 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, termination, 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.
Models	Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.

Section 1: Actuarial Valuation Summary

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 Board of Retirement. 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.

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: GAS 67 Information

General Information about the Pension Plan

Plan Description

Plan administration. The Fresno County Employees' Retirement Association (FCERA) was established by the County of Fresno 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 one alternate. 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 is 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, 2021, pension plan membership consisted of the following:

Retired members or beneficiaries currently receiving benefits	7,982
Inactive vested members entitled to but not yet receiving benefits ¹	4,308
Active members	<u>7,660</u>
Total	19,950

Note: Data as of June 30, 2021 is not used in the measurement of the TPL as of June 30, 2021.

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 those involved in active

¹ Includes terminated members due a refund of member contributions.

Section 2: GAS 67 Information

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:

Tier Name	Governing Code	Effective Date	Basic Provisions	Final Average Salary Period	Plan Sponsors
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

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 Tier 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 Tier 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.

Section 2: GAS 67 Information

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 2021 is equal to \$128,059 for those enrolled in Social Security (\$153,671 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.

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, 2021 for 2020-2021 (based on the June 30, 2019 valuation) was 60.24% 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, 2021 for 2020-2021 (based on the June 30, 2019 valuation) was 9.15% of compensation.

Section 2: GAS 67 Information

Net Pension Liability

The components of the Net Pension Liability were as follows:

Measurement Date	June 30, 2021	June 30, 2020
Total Pension Liability	\$6,749,558,488	\$6,325,968,563
Plan's Fiduciary Net Position	(6,282,921,666)	(4,935,294,606)
Net Pension Liability	\$466,636,822	\$1,390,673,957
Plan's Fiduciary Net Position as a percentage of the Total Pension Liability	93.09%	78.02%

The Net Pension Liability (NPL) was measured as of June 30, 2021 and 2020. The Plan's 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, 2020 and 2019, respectively.

Plan provisions. The plan provisions used in the measurement of the NPL as of June 30, 2021 and 2020 are the same as those used in the FCERA actuarial valuations as of June 30, 2021 and 2020, respectively.

Actuarial assumptions. The TPL as of June 30, 2021 was remeasured by (1) revaluing the TPL as of June 30, 2020 (before the roll forward) to include the following actuarial assumptions that the Retirement Board has adopted for use in the funding valuation as of June 30, 2021 and (2) using this revalued TPL in rolling forward the results from June 30, 2020 to June 30, 2021:

Inflation:	2.50%
Salary increases:	General: 4.10% to 11.50% and Safety: 4.50% to 11.50%, vary by service, including inflation
Investment rate of return:	6.50%, net of pension plan investment expense, including inflation
Administrative expense:	1.30% 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:	Same as those used in June 30, 2021 funding valuation

Section 2: GAS 67 Information

The TPL as of June 30, 2020 was determined by the actuarial valuation as of June 30, 2019. The actuarial assumptions used were based on the results of an experience study for the period from July 1, 2015 through June 30, 2018 and they are the same as those used in the June 30, 2020 funding valuation for FCERA.

Inflation:	2.75%
Salary increases:	General: 4.35% to 11.75% and Safety: 4.75% to 11.75%, vary by service, including inflation
Investment rate of return:	7.00%, net of pension plan investment expense, including inflation
Administrative expense:	1.20% 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:	Same as those used in June 30, 2020 funding valuation

Section 2: GAS 67 Information

Determination of Discount Rate and Investment Rates of Return

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, are shown in the following tables. This information was used in the derivation of the long-term expected investment rate of return assumption in the June 30, 2021 and June 30, 2020 actuarial valuations. This information will change every three years based on the actuarial experience study.¹

June 30, 2021

Asset Class	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return
Large Cap Equity	22.5%	5.39%
Small Cap Equity	5.5%	6.58%
Developed International Large Cap Equity	12.5%	6.39%
Developed International Small Cap Equity	3.0%	5.64%
Emerging Markets Equity	5.5%	8.60%
Core Bonds	15.0%	0.83%
High Yield Bonds	2.0%	3.06%
Global Sovereign	4.0%	-0.73%
Bank Loan	2.0%	2.73%
Local Emerging Market Debt	3.0%	2.72%
Core Real Estate	4.0%	5.01%
Private Equity	6.0%	10.00%
Private Credit	8.0%	5.02%
Value Add Real Estate	1.5%	7.10%
Opportunistic Real Estate	1.5%	9.80%
Infrastructure	4.0%	7.60%
Total	100.0%	5.07%

¹ The Board approved an out-of-cycle review of the economic assumptions for the June 30, 2021 actuarial valuation. The next full review of all actuarial assumptions is scheduled for next year and any new assumptions adopted will be effective with the June 30, 2022 actuarial valuation.

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June 30, 2020

Asset Class	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return
Large Cap Equity	20.0%	5.44%
Small Cap Equity	5.0%	6.18%
Developed International Large Cap Equity	15.0%	6.54%
Developed International Small Cap Equity	3.0%	6.64%
Emerging Markets Equity	6.0%	8.73%
Core Bonds	4.0%	1.42%
High Yield Bonds	3.0%	3.64%
Global Sovereign	7.0%	0.16%
Bank Loan	3.0%	3.45%
TIPS	3.0%	1.20%
Local Emerging Market Debt	3.0%	4.72%
Real Estate	3.0%	4.51%
Value Add Real Estate	1.0%	8.80%
Opportunistic Real Estate	1.0%	12.00%
Infrastructure	3.0%	7.90%
Hedge Funds	6.0%	3.20%
Private Equity	6.0%	9.90%
Private Credit	<u>8.0%</u>	<u>5.80%</u>
Total	100.0%	5.39%

Section 2: GAS 67 Information

Discount rate. The discount rate used to measure the TPL was 6.50% as of June 30, 2021 and 7.00% as of June 30, 2020. 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's 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, 2021 and 2020.

Section 2: GAS 67 Information

Discount Rate Sensitivity

Sensitivity of the Net Pension Liability to changes in the discount rate. The following presents the NPL of FCERA as of June 30, 2021, calculated using the discount rate of 6.50%, as well as what the FCERA's NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (5.50%) or 1-percentage-point higher (7.50%) than the current rate:

	1% Decrease (5.50%)	Current Discount Rate (6.50%)	1% Increase (7.50%)
Net Pension Liability as of June 30, 2021	\$1,404,080,346	\$466,636,822	\$(298,584,505)

Section 2: GAS 67 Information

Schedule of Changes in Net Pension Liability – Last Two Fiscal Years

Measurement Date	June 30, 2021	June 30, 2020
Total Pension Liability		
• Service cost	\$114,661,714	\$110,809,270
• Interest	439,979,185	423,497,695
• Change of benefit terms	0	0
• Differences between expected and actual experience	(5,978,692)	22,279,347
• Changes of assumptions	185,354,422	0
• Benefit payments, including refunds of member contributions	(310,426,704)	(294,992,402)
Net change in Total Pension Liability	\$423,589,925	\$261,593,910
Total Pension Liability – beginning	6,325,968,563	6,064,374,653
Total Pension Liability – ending	\$6,749,558,488	\$6,325,968,563
Plan's Fiduciary Net Position		
• Contributions – employer ¹	\$273,973,459	\$247,474,194
• Contributions – employee ¹	41,620,768	41,761,381
• Net investment income	1,348,533,276	12,966,492
• Benefit payments, including refunds of member contributions	(310,426,704)	(294,992,402)
• Administrative expense	(6,073,739)	(6,422,137)
• Other	0	0
Net change in Plan's Fiduciary Net Position	\$1,347,627,060	\$787,528
Plan's Fiduciary Net Position – beginning	4,935,294,606	4,934,507,078
Plan's Fiduciary Net Position – ending	\$6,282,921,666	\$4,935,294,606
Net Pension Liability – ending	\$466,636,822	\$1,390,673,957
Plan's Fiduciary Net Position as a percentage of the Total Pension Liability	93.09%	78.02%
Covered payroll²	\$454,782,000	\$451,525,000
Net Pension Liability as percentage of covered payroll	102.61%	307.99%

Notes to Schedule:

Benefit Changes: None

¹ See footnote 2 under *Section 2, Schedule of Employer Contributions* on next page.

² Covered payroll represents payroll on which contributions to the pension plan are based.

Section 2: GAS 67 Information

Schedule of Employer Contributions – Last Ten Fiscal Years

Year Ended June 30	Actuarially Determined Contributions ¹	Contributions in Relation to the Actuarially Determined Contributions ¹	Contribution Deficiency / (Excess)	Covered Payroll ²	Contributions as a Percentage of Covered Payroll
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%
2018	210,535,000	210,535,000	0	403,018,000	52.24%
2019	225,492,000	225,492,000	0	423,092,000	53.30%
2020	247,474,000	247,474,000	0	451,525,000	54.81%
2021	273,973,000	273,973,000	0	454,782,000	60.24%

See accompanying notes to this schedule on the next page.

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

² Covered payroll represents payroll on which contributions to the pension plan are based.

Section 2: GAS 67 Information

Schedule of Employer Contributions - Last Ten Fiscal Years (continued)

Notes to Schedule:

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
Remaining amortization period:	UAAL established as of June 30, 2003 is amortized over a declining period (with 14 years remaining as of the June 30, 2019 valuation which set the rates for the 2020-2021 fiscal year) plus 15 years (declining) for UAAL due to actuarial gains or losses, changes in actuarial assumptions or plan amendments ¹ established on each subsequent valuation.
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.

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: GAS 67 Information

Schedule of Employer Contributions - Last Ten Fiscal Years (continued)

Actuarial assumptions:

Valuation Date:	June 30, 2019 valuation (for year ended 2021 ADC)
Investment rate of return:	7.00%, net of pension plan investment expense, including inflation
Inflation rate:	2.75%
Administrative expenses:	1.20% 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: ¹	General: 4.35% to 11.75% and Safety: 4.75% to 11.75%, varying by service, including inflation
Consumer Price Index (CPI) and Cost of Living Adjustments (COLA):	CPI increase of 2.75% per year. Retiree COLA increases of 2.75% per year for General Tiers 1, 2 and 3, and Safety Tiers 1 and 2 and 0.00% for General Tiers 4 and 5 and Safety Tiers 4 and 5. For non-Tiers 4 and 5 members that have COLA banks, we assume they receive 3.0% COLA increases until their COLA banks are exhausted and 2.75% thereafter.
Other assumptions:	Same as those used in the June 30, 2019 funding actuarial valuation

¹ Includes inflation at 2.75% plus real across-the-board salary increases of 0.50% plus merit and promotion increases.

Section 3: Appendices

Appendix A: Projection of Plan's Fiduciary Net Position for use in the Calculation of Discount Rate as of June 30, 2021 (\$ in millions)

Year Beginning July 1,	Projected Beginning Plan's Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Plan's Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2020	\$4,935	\$316	\$310	\$6	\$1,349	\$6,283
2021	6,283	295	347	6	406	6,630
2022	6,630	263	352	5	427	6,964
2023	6,964	240	367	5	448	7,279
2024	7,279	198	382	5	466	7,556
2025	7,556	99	398	5	480	7,732
2026	7,732	94	414	5	491	7,898
2027	7,898	89	431	5	501	8,053
2028	8,053	85	448	4	510	8,196
2029	8,196	80	464	4	519	8,326
2060	6,088	2	595	0 *	375	5,870
2061	5,870	1	581	0 *	361	5,652
2062	5,652	1	566	0 *	348	5,435
2063	5,435	1	549	0 *	334	5,220
2080	3,304	0	185	0	208	3,327
2081	3,327	0	166	0	210	3,371
2082	3,371	0	149	0	214	3,436
2083	3,436	0	133	0	219	3,522
2100	8,050	0	6	0	523	8,567
2101	8,567	0	5	0	557	9,119
2102	9,119	0	4	0	593	9,707
2103	9,707	0	3	0	631	10,335
2120	28,279	0	0 *	0	1,838	30,118
2121	30,118	0	0 *	0	1,958	32,075
2122	32,075	0	0 *	0	2,085	34,160
2123	34,160	0	0 *	0	2,220	36,380
2137	82,492	0	0	0	5,362	87,854
2138	87,854					
2138	Discounted Value: 55 **					

* Less than \$1 million, when rounded.

** \$87,854 million when discounted with interest at the rate of 6.50% per annum has a value of \$55 million as of July 1, 2021. This is equivalent to the present value of the overfunded position at July 1 of the year the plan first becomes overfunded. The overfunded position is a result of UAAL contributions made during plan years before the date of overfunding while the deferred investment gains and losses established on or before the June 30, 2021 measurement date are being recognized.

Section 3: Appendices

Appendix A: Projection of Plan's Fiduciary Net Position for use in the Calculation of Discount Rate as of June 30, 2021 (continued)

Notes:

- (1) Amounts may not total exactly due to rounding.
- (2) Amounts shown in the year beginning July 1, 2020 row are actual amounts, based on the financial statements provided by FCERA.
- (3) Various years have been omitted from this table.
- (4) Column (a): Except for the "discounted value" shown for 2138, none of the projected beginning Plan's Fiduciary Net Position amounts shown have been adjusted for the time value of money.
- (5) Column (b): Projected total contributions include employee and employer normal cost contributions based on closed group projections (based on covered active members as of June 30, 2020); plus employer contributions to the unfunded actuarial accrued liability; plus employer and employee 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, 2020. The projected benefit payments reflect the cost of living increase assumptions used in the June 30, 2021 valuation report. Benefit payments are assumed to occur halfway through the year, on average.
- (7) Column (d): Projected administrative expenses are calculated as approximately 1.30% of the closed group payroll. Administrative expenses 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 6.50% per annum.
- (9) As illustrated in this Exhibit, the Plan's 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 6.50% per annum was applied to all periods of projected benefit payments to determine the Total Pension Liability as of June 30, 2021 shown earlier in this report, pursuant to Paragraph 44 of GASB Statement No. 67.
- (10) This projection is based on a model developed by our Actuarial Technology and Systems unit, comprised of both actuaries and programmers. The model allows the client team, under the supervision of the responsible actuary, control over the entry of future expected contribution income, benefit payments and administrative expenses. The projection of fiduciary net position and the discounting of benefits is part of the model.

Section 3: Appendices

Appendix B: Definition of Terms

Definitions of certain terms as they are used in Statement 67. The terms may have different meanings in other contexts.

Actuarial Present Value of Projected Benefit Payments:	Projected benefit payments discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment.
Actuarial Valuation:	The determination, as of a point in time (the actuarial valuation date), of the service cost, Total Pension Liability, and related actuarial present value of projected benefit payments for pensions performed in conformity with Actuarial Standards of Practice unless otherwise specified by the GASB.
Actuarial Valuation Date:	The date as of which an actuarial valuation is performed.
Actuarially Determined Contribution:	A target or recommended contribution to a defined benefit pension plan for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.
Ad Hoc Cost-of-Living Adjustments (Ad Hoc COLAs):	Cost-of-living adjustments that require a decision to grant by the authority responsible for making such decisions.
Ad Hoc Postemployment Benefit Changes:	Postemployment benefit changes that require a decision to grant by the authority responsible for making such decisions.
Automatic Cost-of-Living Adjustments (Automatic COLAs):	Cost-of-living adjustments that occur without a requirement for a decision to grant by a responsible authority, including those for which the amounts are determined by reference to a specified experience factor (such as the earnings experience of the pension plan) or to another variable (such as an increase in the consumer price index).
Automatic Postemployment Benefit Changes:	Postemployment benefit changes that occur without a requirement for a decision to grant by a responsible authority, including those for which the amounts are determined by reference to a specified experience factor (such as the earnings experience of the pension plan) or to another variable (such as an increase in the consumer price index).
Cost-of-Living Adjustments:	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (Cost-Sharing Pension Plan):	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
Covered Payroll:	Payroll on which contributions to the pension plan are based.
Defined Benefit Pension Plans:	Pension plans that are used to provide defined benefit pensions.

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Defined Benefit Pensions:	Pensions for which the income or other benefits that the employee will receive at or after separation from employment are defined by the benefit terms. The pensions may be stated as a specified dollar amount or as an amount that is calculated based on one or more factors such as age, years of service, and compensation. (A pension that does not meet the criteria of a defined contribution pension is classified as a defined benefit pension for purposes of Statement 67.)
Defined Contribution Pension Plans:	Pension plans that are used to provide defined contribution pensions.
Defined Contribution Pensions:	Pensions having terms that (1) provide an individual account for each employee; (2) define the contributions that an employer is required to make (or the credits that it is required to provide) to an active employee's account for periods in which that employee renders service; and (3) provide that the pensions an employee will receive will depend only on the contributions (or credits) to the employee's account, actual earnings on investments of those contributions (or credits), and the effects of forfeitures of contributions (or credits) made for other employees, as well as pension plan administrative costs, that are allocated to the employee's account.
Discount Rate:	<p>The single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the total of the following:</p> <ol style="list-style-type: none">1. The actuarial present value of benefit payments projected to be made in future periods in which (a) the amount of the pension Plan's Fiduciary Net Position is projected (under the requirements of Statement 67) to be greater than the benefit payments that are projected to be made in that period and (b) pension plan assets up to that point are expected to be invested using a strategy to achieve the long-term expected rate of return, calculated using the long-term expected rate of return on pension plan investments.2. The actuarial present value of projected benefit payments not included in (1), calculated using the municipal bond rate.
Entry Age Actuarial Cost Method:	A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age(s). The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is called the actuarial accrued liability.
Inactive Employees:	Terminated individuals that have accumulated benefits but are not yet receiving them, and retirees or their beneficiaries currently receiving benefits.
Multiple-Employer Defined Benefit Pension Plan:	A defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
Net Pension Liability (NPL):	The liability of employers and non-employer contributing entities to employees for benefits provided through a defined benefit pension plan.

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Other Postemployment Benefits:	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits, regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.
Pension Plans:	Arrangements through which pensions are determined, assets dedicated for pensions are accumulated and managed and benefits are paid as they come due.
Pensions:	Retirement income and, if provided through a pension plan, postemployment benefits other than retirement income (such as death benefits, life insurance, and disability benefits). Pensions do not include postemployment healthcare benefits and termination benefits.
Plan Members:	Individuals that are covered under the terms of a pension plan. Plan members generally include (1) employees in active service (active plan members) and (2) terminated employees who have accumulated benefits but are not yet receiving them and retirees or their beneficiaries currently receiving benefits (inactive plan members).
Postemployment:	The period after employment.
Postemployment Benefit Changes:	Adjustments to the pension of an inactive employee.
Postemployment Healthcare Benefits:	Medical, dental, vision, and other health-related benefits paid subsequent to the termination of employment.
Projected Benefit Payments:	All benefits estimated to be payable through the pension plan to current active and inactive employees as a result of their past service and their expected future service.
Public Employee Retirement System:	A special-purpose government that administers one or more pension plans; also may administer other types of employee benefit plans, including postemployment healthcare plans and deferred compensation plans.
Real Rate of Return:	The rate of return on an investment after adjustment to eliminate inflation.
Service Costs:	The portions of the actuarial present value of projected benefit payments that are attributed to valuation years.
Single-Employer Defined Benefit Pension Plan (Single-Employer Pension Plan):	A defined benefit pension plan that is used to provide pensions to employees of only one employer.
Termination Benefits:	Inducements offered by employers to active employees to hasten the termination of services, or payments made in consequence of the early termination of services. Termination benefits include early-retirement incentives, severance benefits, and other termination-related benefits.
Total Pension Liability (TPL):	The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of Statement 67.