City of Fresno Employees Retirement System

Governmental Accounting Standards (GAS) 67
Actuarial Valuation as of June 30, 2019

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, unless expressly authorized by Segal. The measurements shown in this actuarial valuation may not be applicable for other purposes.

Segal Consulting

180 Howard Street Suite 1100 San Francisco, CA 94105-6147
T 415.263.8200 www.segalco.com

November 15, 2019

Board of Retirement
City of Fresno Employees Retirement System
2828 Fresno Street, Suite 201
Fresno, California 93721-1327

Dear Board Members:

We are pleased to submit this Governmental Accounting Standards (GAS) 67 Actuarial Valuation as of June 30, 2019. 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 City of Fresno Employees Retirement System. The census and financial information on which our calculations were based was prepared by Retirement System. That assistance is gratefully acknowledged. The actuarial calculations were completed under the supervision of Andy Yeung, ASA, MAAA, FCA, Enrolled Actuary.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law.

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 System.

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

MYM/gxk

SECTION 1
VALUATION SUMMARY

SECTION 2
GAS 67 INFORMATION

SECTION 3
APPENDICES

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, 2019. This valuation is based on:

- The benefit provisions of the Retirement System, 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, 2019, provided by the Retirement System;
- The assets of the Plan as of June 30, 2019, provided by the Retirement System;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

The Actuarial Standard of Practice (ASOP) No. 4 provides guidelines for actuaries to follow when measuring pension obligations. For a plan such as that offered by the Retirement System that utilizes the actuarial surplus to provide contribution rate offsets and a Post Retirement Supplemental Benefit (PRSB) benefit, the valuation report must indicate that the impact of the application of any future actuarial surplus on the future financial condition of the plan has not been explicitly measured in the valuation. Furthermore, the actuary must consider using alternative procedures (such as stochastic modeling) for “gain sharing provisions that trigger benefit increases when investment returns are favorable but do not trigger benefit decreases when investment returns are unfavorable.” Based on our analysis, we do not believe the System’s actuarial surplus distribution provisions would necessarily fall under the guidelines of ASOP No. 4 so as to require quantification. This is based on the observation that only a portion of the surplus is available for distribution (on an amortized basis over 30 years) when the funded status of the System is over 110% in a particular valuation but surplus distribution will be suspended immediately in the following valuation if the funded status falls below 110% in the following valuation. Nonetheless, it should be understood that there is still a financial impact associated with the surplus distribution provision. The Board may wish to consider authorizing a supplemental study so that the potential impact can be quantified.

General Observations on GAS 67 Actuarial Valuation

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

- The Governmental Accounting Standards (GAS) 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 GAS uses the same actuarial cost method (Entry Age method) and the same type of discount rate (expected return on assets) as the Retirement System uses for funding. Note that, unrelated to the investment return assumption, the GAS rules use a version of the Entry Age method where the Total Pension Liability (TPL) must be fully accrued by the time a member either enters DROP or is expected to elect the DROP. This is in contrast to the version of the Entry Age method used for funding, where the Actuarial Accrued Liability (AAL) does not have to be fully accrued until members retire from employment after participation in the DROP. Under GAS, actives who are expected to enroll in the DROP in the future would report a Service Cost that is higher than the Normal Cost used for funding, while members already in the DROP would report no Service Cost even though their Normal Cost continues to accrue.

  As the service retirement rates we use in the funding valuation for members who are expected to participate in the DROP are different from the service retirement rates for members who are not expected to participate in the DROP, we have adjusted the service retirement rates for DROP participation accordingly, as described in Section 3.
- The TPL and the Plan's Fiduciary Net Position include liabilities and assets held for DROP, PRSB and City Surplus reserves.
- 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/(Prefunded) Actuarial Accrued Liability (UAAL) calculated on a market value basis. The NPL reflects all investment gains and losses as of the measurement date. This is different from the UAAL on an actuarial value of assets basis in the funding valuation that reflects investment gains and losses over a five-year period.
- For this report, the reporting dates for the Plan are June 30, 2019 and June 30, 2018. The NPLs measured as of June 30, 2019 and June 30, 2018 have been determined from the actuarial valuations as of June 30, 2019 and June 30, 2018, respectively.

Significant Issues in Valuation Year

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

- The NPL increased, i.e., became less negative, from -$153.4 million as of June 30, 2018 to -$101.3 million as of June 30, 2019. This increase was primarily the result of a change in actuarial assumptions[(1)] and an approximately 5.2% return on the Plan Fiduciary Net Position that was lower than the assumed return of 7.25% (a loss of $27 million), offset somewhat by other actuarial experience. Changes in these values during the last two fiscal years ending June 30, 2019 and June 30, 2018 can be found in Exhibit 3.
- The discount rates used to determine the TPL and NPL as of June 30, 2019 and June 30, 2018 were 7.00% and 7.25%, respectively, following the same assumptions used by the Retirement System in the funding valuations as of the same dates. Details on the derivation of the discount rate as of June 30, 2019 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.

[(1)] *The impact of the changes in actuarial assumptions on the accrued liability ($35.8 million) as provided in Exhibit 3 is higher than the impact ($21.1 million) provided in our June 30, 2019 funding valuation. This is because, as part of those assumption changes, the DROP election rates at younger ages were increased, which resulted in a lower average retirement age for GASB purposes (DROP elections and non-DROP retirements are treated the same for GASB purposes). A lower average retirement age, among other things, means that a larger share of the increase in cost due to the assumption changes is allocated to the accrued liability (rather than to future normal costs). In contrast, for funding purposes, actives who enter the DROP are assumed to remain active (i.e. not retire) for another 7 years, and the average retirement age for funding purposes remained unchanged.*

Summary of Key Valuation Results

	2019	2018
Disclosure elements for fiscal year ending June 30:		
Service cost[1]	$23,508,626	$21,275,017
Total Pension Liability	1,278,096,122	1,195,293,933
Plan Fiduciary Net Position	1,379,415,129	1,348,690,633
Net Pension Liability	-101,319,007	-153,396,700
Schedule of contributions for fiscal year ending June 30:		
Actuarially determined contributions	$14,627,425	$14,608,659
Actual contributions	14,627,425	14,608,659
Contribution deficiency (excess)	0	0
Demographic data for plan year ending June 30:		
Number of retired members and beneficiaries	2,045	1,981
Number of inactive vested members[2]	336	316
Number of DROP members	338	351
Number of active members	1,890	1,812
Key assumptions as of June 30:		
Investment rate of return	7.00%	7.25%
Inflation rate	2.75%	3.00%
Projected salary increases[3]	3.75% to 11.25%	3.75% to 11.50%

[1] *The service cost is based on the previous year's valuation, meaning that the 2019 and 2018 values are based on the valuations as of June 30, 2018 and June 30, 2017, respectively. The 2019 service cost has been calculated using the assumptions shown in the 2018 column and the 2018 service cost has been calculated using the assumptions in the 2017 valuation. The key assumptions in the 2017 valuation are as follows:*

Investment rate of return:	7.25%
Inflation Rate:	3.00%
Projected salary increases:	3.75% to 11.50%

[2] *Includes inactive members due a refund of member contributions.*

[3] *Includes inflation at 2.75% as of June 30, 2019 and 3.00% as of June 30, 2018, plus real across-the-board salary increases of 0.50% plus merit and promotional increases.*

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 the System. 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 the System.
- **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.

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 the sponsors of the Fund 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.
- 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 the System 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 the Retirement System, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Retirement System.

EXHIBIT 1

General Information – "Financial Statements", Note Disclosures and Required Supplementary Information for a Single-Employer Pension Plan

Plan Description

Plan administration. The City of Fresno Employees Retirement System was established on June 1, 1939 under Charter Section 910 and is governed by Article 5 of Chapter 3 of the City of Fresno Municipal Code. The Retirement System is a single-employer, contributory, defined benefit pension plan. The Retirement System provides lifetime retirement, disability, and death benefits to the non-safety members employed by City of Fresno.

The Retirement System is administered by a Retirement Board composed of two management employees who are appointed by the Mayor and confirmed by the City Council, one employee who is elected by manual workers of the System, and one employee who is elected by the clerical or supervisory workers of the System. The fifth and final member of the Board shall be a qualified elector of the City, not connected with its government, elected by the previously designated four members. The Board oversees the Retirement Administrator and staff in the performance of their duties in accordance with the Municipal Code and the Board's Rules, Regulations and Policies.

Plan membership. At June 30, 2019, pension plan membership consisted of the following:

Retired members or beneficiaries currently receiving benefits	2,045
Inactive vested members entitled to, but not yet receiving benefits	336
DROP members	338
Active members	1,890
Total	4,609

Benefits provided. The Retirement System provides lifetime retirement, disability, and death benefits to eligible employees. The Retirement System provides retirement allowances to all non-safety members employed by the City of Fresno.

There is currently one tier applicable to non-safety members. Members are eligible to retire once they attain the age of 50 and have acquired 5 or more years of retirement service credit.

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

The benefit is calculated pursuant to the provisions of Section 3-541 of the Fresno Municipal Code. The monthly allowance for a member is equal to 2% of final compensation times each of the first 25 years of accrued retirement service credit plus 1% of final compensation times any years of accrued retirement service credit in excess of 25, multiplied by the age factor at retirement age.

Final average compensation consists of the highest average consecutive 36 months of compensation earnable calculated using the rate of pay in effect at the time of retirement.

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 50% continuance to an eligible surviving spouse or domestic partner. An eligible surviving spouse is one married to the member one year prior to the effective retirement date for members retiring on or before the effective date of Ordinance No. 2000-5. For members retiring after the effective date of Ordinance 2000-5, an eligible surviving spouse or domestic partner is one married to or registered with the member on or before the date of retirement. 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.

The Municipal Code provides that the Retirement staff must research the percentage change in Consumer Price Index (US city-average for urban wage earners and clerical workers – all items) and propose that percent to the Retirement Board as the cost-of-living adjustment (COLA) to be adopted for the following fiscal year. This procedure must be complete by the end of April each year for implementation in July. The COLA is limited to a five percent (5%) maximum change per year and any excess over 5% is banked for the retiree for use in a year where the percent of CPI change is less than 5%.

The City of Fresno contributes 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 the Retirement System's actuary after the completion of the annual actuarial valuation. The average employer contribution rate as of June 30, 2019 for 2018-2019 (based on the June 30, 2017 valuation) was 10.57% of compensation.

All members are required to make contributions to the Retirement System. The average member contribution rate as of June 30, 2019 for 2018-2019 (based on the June 30, 2017 valuation) was 7.60% of compensation.(1)

---

(1) *Includes contributions for active members who signed up for the DROP which are deposited into the members' DROP accounts.*

EXHIBIT 2

Net Pension Liability

The components of the net pension liability of the Retirement System is as follows:

	June 30, 2019	June 30, 2018
Total Pension Liability	$1,278,096,122	$1,195,293,933
Plan Fiduciary Net Position	-1,379,415,129	-1,348,690,633
System's Net Pension Liability	-$101,319,007	-$153,396,700
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	107.93%	112.83%

The Net Pension Liability (NPL) was measured as of June 30, 2019 and June 30, 2018 and determined based upon the Total Pension Liability (TPL) from actuarial valuations as of June 30, 2019 and June 30, 2018, respectively.

Actuarial assumptions. The TPL as of June 30, 2019 was determined by an actuarial valuation of June 30, 2019. The actuarial assumptions used in the June 30, 2019 valuation were based on the results of an experience study for the period from July 1, 2015 through June 30, 2018. In particular, the following actuarial assumptions were applied to all periods included in the measurement:

Inflation	2.75%
Salary increases	3.75% to 11.25%, varying by service, including inflation
Investment rate of return	7.00%, net of pension plan investment expense, including inflation
Other assumptions	See June 30, 2019 funding valuation and Appendix A for the service retirement rates after they have been adjusted to treat DROP participation as service retirement.

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 and by adding expected inflation and deducting 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. These values were used in the derivation of the long-term expected investment rate of return assumption used in the actuarial valuations as of June 30, 2019. This information is subject to change every three years based on the actuarial experience study.

Asset Class	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return
Large Cap U.S. Equity	15.8%	5.44%
Small/Mid Cap U.S. Equity	7.2%	6.18%
Developed International Equity	19.0%	6.54%
Emerging Markets Equity	6.0%	8.73%
Private Equity	5.0%	9.27%
Core Bonds	10.0%	1.42%
High Yield Bonds	5.0%	3.64%
Private Debt/Direct Lending	8.0%	5.54%
Midstream Energy	5.0%	6.24%
Real Estate	15.0%	4.60%
Private Real Assets - Infrastructure/Land	4.0%	4.89%
Total	100.0%	

Discount rate: The discount rates used to measure the TPL were 7.00% and 7.25% as of June 30, 2019 and June 30, 2018, 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 Pension Plan Fiduciary Net Position was projected to be available to make all projected future benefit payments for current plan members. Therefore, the respective long-term expected rates of return on pension plan investments were applied to all periods of projected benefit payments to determine the TPL as of both June 30, 2019 and June 30, 2018.

Sensitivity of the Net Pension Liability to changes in the discount rate. The following presents the NPL of the Retirement System as of June 30, 2019, calculated using the discount rate of 7.00%, as well as what the Retirement System's 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:

	1% Decrease (6.00%)	**Current Discount Rate (7.00%)**	**1% Increase (8.00%)**
Retirement System's Net Pension Liability as of June 30, 2019	$48,131,784	-$101,319,007	-$223,777,900

EXHIBIT 3

Schedule of Changes in the Retirement System's Net Pension Liability – Last Two Fiscal Years

	2019	2018
Total Pension Liability		
Service cost	$23,508,626	$21,275,017
Interest	86,110,462	82,832,663
Change of benefit terms	0	0
Differences between expected and actual experience	-445,688	-4,163,896
Changes of assumptions	35,772,874	2,938,640[1]
Actual benefit payments, including refunds of employee contributions	-62,144,085	-57,665,936
Net change in Total Pension Liability	$82,802,189	$45,216,488
Total Pension Liability – beginning	1,195,293,933	1,150,077,445
Total Pension Liability – ending (a)	$1,278,096,122	$1,195,293,933
Plan Fiduciary Net Position		
Contributions – employer	$14,627,425	$14,608,659
Contributions – employee	10,515,533	10,329,475
Net investment income	69,388,982	108,915,466
Actual benefit payments, including refunds of employee contributions	-62,144,085	-57,665,936
Administrative expense	-1,663,359	-1,618,767
Other	0	0
Net change in Plan Fiduciary Net Position	$30,724,496	$74,568,897
Plan fiduciary net position – beginning	1,348,690,633	1,274,121,736
Plan Fiduciary Net Position – ending (b)	$1,379,415,129	$1,348,690,633
System's Net Pension Liability – ending (a) – (b)	-$101,319,007	-$153,396,700
Plan Fiduciary Net Position as a percentage of the total pension liability	107.93%	112.83%
Covered payroll[2]	$138,395,785	$128,461,461
Plan Net Pension Liability as percentage of covered payroll	-73.21%	-119.41%

(1) *Reflects introduction of an assumption to anticipate the actuarial losses that would otherwise take place annually when active members who are married (or have a domestic partner) elect an optional form of payment to increase the level of continuance benefit payable to the spouse/domestic partner.*

(2) *Covered payroll represents pensionable compensation. Only pensionable compensation that would possibly go into the determination of retirement benefits is included.*

EXHIBIT 4

Schedule of the Retirement System's Contributions – Last Ten Fiscal Years

Year Ended June 30	Actuarially Determined Contributions[1]	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll[2]	Contributions as a Percentage of Covered Payroll
2010	$3,267,115	$3,267,115	$0	$129,258,191	2.53%
2011	8,214,569	8,214,569	0	119,260,220	6.89%
2012	11,373,870	11,373,870	0	110,492,026	10.29%
2013	13,329,655	13,329,655	0	105,508,591	12.63%
2014	11,439,981	11,439,981	0	103,596,902	11.04%
2015	12,326,570	12,326,570	0	105,820,382	11.65%
2016	13,060,088	13,060,088	0	108,541,068	12.03%
2017	15,205,360	15,205,360	0	119,006,918	12.78%
2018	14,608,659	14,608,659	0	128,461,461	11.37%
2019	14,627,425	14,627,425	0	138,395,785	10.57%

[1] *All "Actuarially Determined Contributions" through June 30, 2015 were determined as the "Annual Required Contribution" under GAS 25 and 27.*

[2] *Covered payroll represents pensionable compensation. Only pensionable compensation that would possibly go into the determination of retirement benefits is included.*

Notes to Exhibit 4

Methods and assumptions used to establish "actuarially determined contribution" rates:	
Valuation date	Actuarially determined contribution rates are calculated as of June 30, two years 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	
June 30, 2017 valuation	Effective with the June 30, 2013 valuation, any new UAAL established on each subsequent valuation as a result of actuarial gains or losses or plan amendments are amortized over separate 15-year declining periods (with the exception of temporary retirement incentives which are amortized over its own declining period of up to 5 years). Any new UAAL established as a result of changes in actuarial assumptions or methods at each valuation is amortized over separate 25-year declining periods. Any actuarial surplus (when the funded ratio is over 110%) will be amortized over a non-declining 25-year period.
Asset valuation method	Market value of assets less unrecognized returns from each of the last five years. Unrecognized returns are equal to the difference between the actual market return and the expected return on a market value basis and are recognized over a five-year period. The Actuarial Value of Assets is reduced by the value of the non-valuation reserves.
Actuarial assumptions:	
June 30, 2017 valuation	
Investment rate of return	7.25%
Inflation rate	3.00%
Real across-the-board salary increase	0.50%
Projected salary increases(1)	Ranges from 3.75% to 11.50% based on years of service
Cost of living adjustments	3.00% of retirement income
Other assumptions	See June 30, 2017 funding valuation

(1) *Includes inflation at 3.00% plus across the board salary increases of 0.50% plus merit and promotional increases.*

EXHIBIT 5

Determination of Discount Rate as of June 30, 2019 under Paragraph 43 of Statement 67

The discount rate used to measure the Total Pension Liability (TPL) as of June 30, 2019 was 7.00%.

This rate was determined under the assumption that current members and the employer will continue to make contributions to the System at the required rates. Under that assumption, the Plan Fiduciary Net Position as of June 30, 2019 is greater than the present value of future benefits and administrative expenses, less the present value of future member contributions and employer normal cost contributions, discounted at 7.00% to the same date. In other words, the current level of assets is projected to be more than sufficient to fund all future expected benefit payments and expenses assuming members and the employer continue to make the required normal cost contributions.

This determination was made without projecting the Plan Fiduciary Net Position as required under Paragraph 41 of Statement 67. Per Paragraph 43, if the sufficiency of the Net Position "…can be made with sufficient reliability without a separate projection of cash flows into and out of the pension plan, alternative methods may be applied in making the evaluations." Based on our professional judgment, we believe this standard has been met.

Appendix A

Retirement Rates after Adjustment for DROP Participation

Service Retirement Rates (for non-DROP retirements):

Age	Rate (%)	Age	Rate (%)	Age	Rate (%)	Age	Rate (%)
50	1.00	57	3.00	64	15.00	71	75.00
51	1.00	58	4.00	65	20.00	72	75.00
52	2.00	59	4.00	66	25.00	73	75.00
53	2.00	60	5.00	67	25.00	74	75.00
54	2.00	61	5.00	68	25.00	75 & Above	100.00
55	5.00	62	10.00	69	30.00		
56	3.00	63	8.00	70	75.00		

For purposes of the GAS 67 valuation, members entering the DROP are treated just like service retirements. We have increased the service retirement rates shown above by the DROP retirements in our GAS 67 valuation.

DROP Retirements:

	Rate (%)				
	Years of Service				
Age	5 – 10	10 – 15	15 – 20	20 – 25	25 & Above
50 – 51	0.0	0.0	1.5	2.5	2.5
52 – 53	0.0	0.0	1.5	5.0	15.0
54	0.0	0.0	10.0	40.0	45.0
55	1.5	15.0	35.0	45.0	50.0
56 – 58	1.5	7.5	25.0	35.0	35.0
59 – 61	1.5	7.5	18.0	35.0	15.0
62 – 64	1.5	7.5	10.0	15.0	15.0
65 – 70	1.5	7.5	10.0	10.0	10.0
71 & Above	0.0	0.0	0.0	0.0	0.0