Los Angeles City Employees' Retirement System

Actuarial Valuation and Review of Retirement and Health Benefits as of June 30, 2020

This report has been prepared at the request of the Board of Administration 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 Administration 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.

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November 3, 2020

Board of Administration
Los Angeles City Employees' Retirement System
202 W. 1st Street, Suite 500
Los Angeles, CA 90012-4401

Re: June 30, 2020 Actuarial Valuations

Dear Board Members:

Enclosed please find the June 30, 2020 actuarial valuations for the retirement and health plans.

As requested by the System, we have attached the following supplemental schedules:

- Exhibit A – Summary of significant results for the retirement and health plans.
- Exhibit B – History of computed contribution rates for the retirement and health plans.
- Exhibit C – Schedule of funded liabilities by type for the retirement plan.[1]
- Exhibit D – Schedule of retirees and beneficiaries added to and removed from the rolls for the retirement plan.[2]

We look forward to discussing the reports and the enclosed schedules with the Board.

Sincerely,

Segal

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

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

DNA/jl

[1] For the health plan, a similar schedule is provided in Exhibit I of Section 3 of the health valuation report.
[2] For the health plan, a similar schedule is provided in Exhibit C of Section 3 of the health valuation report.

Exhibit A

Los Angeles City Employees' Retirement System
Summary of Significant Valuation Results

		June 30, 2020	June 30, 2019	Percent Change
I.	**Total Membership**			
	A. Active Members	27,490	26,632	3.2%
	B. Pensioners and Beneficiaries	20,423	20,034	1.9%
II.	**Valuation Salary**			
	A. Total Annual Projected Payroll	$2,445,016,587	$2,225,412,831	9.9%
	B. Average Projected Monthly Salary	7,412	6,963	6.4%
III.	**Benefits to Current Retirees and Beneficiaries**[1]			
	A. Total Annual Benefits	$1,004,730,961	$947,588,609	6.0%
	B. Average Monthly Benefit Amount	4,100	3,942	4.0%
IV.	**Total System Assets**[2]			
	A. Actuarial Value	$18,697,966,253	$17,711,461,636	5.6%
	B. Market Value	17,863,324,366	17,707,909,933	0.9%
V.	**Unfunded Actuarial Accrued Liability (UAAL)**			
	A. Retirement Benefits	$6,897,092,748	$5,974,856,716	15.4%
	B. Health Subsidy Benefits	502,106,823	521,636,655	(3.7)%

[1] Includes July COLA.

[2] Includes assets for Retirement, Health, Family Death, and Larger Annuity Benefits.

Exhibit A (continued)

Los Angeles City Employees' Retirement System
Summary of Significant Valuation Results

VI. Budget Items (as a Percent of Pay)	FY 2021-2022[1]		FY 2020-2021		Difference	
	Beginning of Year	July 15	Beginning of Year	July 15	Beginning of Year	July 15
A. Retirement Benefits (Tier 1 and Tier 3 Combined)						
1. Normal Cost	7.83%	7.85%	6.23%	6.25%	1.60%	1.60%
2. Amortization of UAAL	20.05%	20.11%	18.33%	18.38%	1.72%	1.73%
3. Total Retirement Contribution	27.88%	27.96%	24.56%	24.63%	3.32%	3.33%
B. Health Subsidy Benefits (Tier 1 and Tier 3 Combined)						
1. Normal Cost	3.47%	3.48%	3.43%	3.44%	0.04%	0.04%
2. Amortization of UAAL	0.81%	0.81%	1.04%	1.05%	(0.23)%	(0.24)%
3. Total Health Subsidy Contribution	4.28%	4.29%	4.47%	4.49%	(0.19)%	(0.20)%
C. Total Contribution (A + B)	32.16%	32.25%	29.03%	29.12%	3.13%	3.13%

VII. Funded Ratio	June 30, 2020	June 30, 2019	Difference
(Based on Valuation Value of Assets)			
A. Retirement Benefits	69.4%	71.3%	(1.9)%
B. Health Subsidy Benefits	85.6%	84.4%	1.2%
C. Total	71.6%	73.1%	(1.5)%
(Based on Market Value of Assets)			
D. Retirement Benefits	66.3%	71.3%	(5.0)%
E. Health Subsidy Benefits	81.8%	84.3%	(2.5)%
F. Total	68.4%	73.1%	(4.7)%

[1] Alternative contribution payment date for FY 2021-2022:

	Retirement	Health	Total
End of Pay Periods	28.84%	4.43%	33.27%

Exhibit B

Los Angeles City Employees' Retirement System
Computed Contribution Rates[1] – Historical Comparison

Valuation Date	Retirement	Health	Total	Projected Valuation Payroll (thousands)
06/30/1994	12.07%	2.99%	15.06%	$884,951
06/30/1995	7.34%	2.30%	9.64%	911,292
06/30/1996	6.51%	3.18%	9.69%	957,423
06/30/1997	6.57%	1.85%	8.42%	990,616
06/30/1998	6.43%	1.27%	7.70%	1,011,857
06/30/1999	4.93%	0.67%	5.60%	1,068,124
06/30/2000	2.54%	2.17%	4.71%	1,182,203
06/30/2001	3.84%	1.98%	5.82%	1,293,350
06/30/2002	9.22%	1.85%	11.07%	1,334,335
06/30/2003	11.95%	4.02%	15.97%	1,405,058
06/30/2004	14.76%	4.94%	19.70%	1,575,285
06/30/2005	17.51%	7.27%	24.78%	1,589,306
06/30/2006	17.18%	6.49%	23.67%	1,733,340
06/30/2007	15.52%	5.38%	20.90%	1,896,609
06/30/2008	14.65%	5.48%	20.13%	1,977,645
06/30/2009	18.73%	6.62%	25.35%	1,816,171
06/30/2010				
Before Additional Employee Contributions	21.19%	7.45%	28.64%	1,817,662
After Additional Employee Contributions	18.67%	6.94%	25.61%	1,817,662
06/30/2011[2]				
Before Additional Employee Contributions	24.31%	4.49%	28.80%	1,833,392
After Additional Employee Contributions	21.64%	4.49%	26.13%	1,833,392
06/30/2012[3]	21.34%	5.74%	27.08%	1,819,270
06/30/2013	22.24%	5.80%	28.04%	1,846,970
06/30/2014	24.05%	5.81%	29.86%	1,898,064
06/30/2015	23.65%	4.90%	28.55%	1,907,665
06/30/2016	22.96%	5.09%	28.05%	1,968,703
06/30/2017[4]	23.81%	5.26%	29.07%	2,062,316
06/30/2018	25.56%	5.07%	30.63%	2,177,687
06/30/2019	25.43%	4.64%	30.07%	2,225,413
06/30/2020	28.84%	4.43%	33.27%	2,445,017

[1] Contributions are assumed to be made at the end of the pay period. For the 6/30/2014 and 6/30/2015 valuations, the contribution rates are the combined rates for Tiers 1 and 2. Beginning with the 6/30/2016 valuation, the contribution rates are the combined rates for Tiers 1 and 3 (Tier 2 was rescinded effective February 21, 2016).

[2] Beginning with the 6/30/2011 valuation date, the contribution rates are before adjustments to phase in over five years the impact of new actuarial assumptions (as a result of the June 30, 2011 Triennial Experience Study) on the City's contributions. Those adjustments no longer apply after the June 30, 2014 valuation.

[3] Beginning with the 6/30/2012 valuation date, the contribution rates are after additional employee contributions.

[4] Beginning with the 6/30/2017 valuation date, the contribution rates are after reflecting enhanced benefits for Airport Peace Officers effective January 7, 2018.

Exhibit C

Los Angeles City Employees' Retirement System
Schedule of Funded Liabilities by Type for Retirement Benefits
For Years Ended June 30
($ In Thousands)

Valuation Date	Aggregate Actuarial Accrued Liabilities For (1) Member Contributions	(2) Retirees, Beneficiaries, & Inactive/Vested	(3) Active Members	Valuation Value of Assets	Portion of Aggregate Accrued Liabilities Covered by Reported Assets (1) Member Contributions	(2) Retirees, Beneficiaries, & Inactive/Vested	(3) Active Members
06/30/1996	$637,737	$2,357,798	$1,480,489	$4,468,433	100.0%	100.0%	99.5%
06/30/1997	683,048	2,598,432	1,604,857	4,802,509	100.0	100.0	94.8
06/30/1998	733,680	2,772,712	1,806,526	5,362,923	100.0	100.0	100.0
06/30/1999	776,617	2,989,218	1,918,751	5,910,948	100.0	100.0	100.0
06/30/2000	827,729	3,149,392	2,035,810	6,561,365	100.0	100.0	100.0
06/30/2001	889,658	3,444,240	2,134,168	6,988,782	100.0	100.0	100.0
06/30/2002	950,002	3,756,935	2,545,181	7,060,188	100.0	100.0	92.5
06/30/2003	1,005,888	4,021,213	2,632,745	6,999,647	100.0	100.0	74.9
06/30/2004	1,062,002	4,348,252	3,123,610	7,042,108	100.0	100.0	52.2
06/30/2005	1,128,101	4,858,932	3,334,492	7,193,142	100.0	100.0	36.2
06/30/2006	1,210,246	5,149,385	3,511,031	7,674,999	100.0	100.0	37.5
06/30/2007	1,307,008	5,365,437	3,854,429	8,599,700[1]	100.0	100.0	50.0
06/30/2008	1,408,074	5,665,130	4,113,200	9,438,318	100.0	100.0	57.5
06/30/2009	1,282,663	7,356,302	3,403,019	9,577,747	100.0	100.0	27.6
06/30/2010	1,379,098	7,507,945	3,707,982	9,554,027	100.0	100.0	18.0
06/30/2011	1,474,824	7,765,071	4,151,809	9,691,011	100.0	100.0	10.9
06/30/2012	1,625,207	7,893,684	4,875,068	9,934,959	100.0	100.0	8.5
06/30/2013	1,757,195	8,066,564	5,057,904	10,223,961	100.0	100.0	7.9
06/30/2014	1,900,068	8,700,896	5,647,889	10,944,751	100.0	100.0	6.1
06/30/2015	2,012,378	9,118,166	5,779,452	11,727,161	100.0	100.0	10.3
06/30/2016	2,137,269	9,439,001	5,848,726	12,439,250	100.0	100.0	14.8
06/30/2017	2,255,048	10,164,403	6,038,737	13,178,334	100.0	100.0	12.6
06/30/2018	2,354,026	11,079,053	6,511,500	13,982,435	100.0	100.0	8.4
06/30/2019	2,469,761	11,933,703	6,389,957	14,818,564	100.0	100.0	6.5
06/30/2020	2,584,851	12,740,109	7,202,235	15,630,103	100.0	100.0	4.2

[1] Excludes assets transferred for Port Police.

Exhibit D

Los Angeles City Employees' Retirement System
Retirees and Beneficiaries Added To and Removed From the Rolls for the Retirement Plan[1]
For Years Ended June 30

Year Ended	No. of New Retirees and Beneficiaries	Annual Allowances Added[2]	No. of Retirees and Beneficiaries Removed	Annual Allowances Removed	No. of Retirees and Beneficiaries at 6/30	Annual Allowances at 6/30	Percent Increase in Annual Allowances	Average Annual Allowance
06/30/2002	844	$23,740,829	620	$11,316,344	13,589	$336,437,038	6.4%	$24,758
06/30/2003	827	24,729,535	611	12,008,132	13,805	359,036,215	6.7%	26,008
06/30/2004	986	53,452,133	654	13,220,316	14,137	399,268,032	11.2%	28,243
06/30/2005	934	43,454,836	749	14,769,736	14,322	427,953,132	7.2%	29,881
06/30/2006	890	42,821,079	642	15,061,287	14,570	455,712,924	6.5%	31,277
06/30/2007	821	34,131,744	555	13,210,740	14,836	476,633,928	4.6%	32,127
06/30/2008	748	40,680,279	609	14,956,623	14,975	502,357,584	5.4%	33,546
06/30/2009	632	36,887,854	616	17,386,042	14,991	521,859,396	3.9%	34,812
06/30/2010	2,893	144,594,918	620	17,604,486	17,264	648,849,828	24.3%	37,584
06/30/2011	528	24,282,965	595	16,585,589	17,197	656,547,204	1.2%	38,178
06/30/2012	620	38,314,256	594	17,986,700	17,223	676,874,760	3.1%	39,301
06/30/2013	772	40,966,952	633	18,776,770	17,362	699,064,942	3.3%	40,264
06/30/2014	831	38,666,905	661	21,175,777	17,532	716,556,070	2.5%	40,871
06/30/2015	1,083	55,849,106	683	22,013,426	17,932	750,391,750	4.7%	41,847
06/30/2016	1,082	51,056,286	657	23,092,610	18,357	778,355,426	3.7%	42,401
06/30/2017	1,142	65,583,105	694	24,422,619	18,805	819,515,912	5.3%	43,580
06/30/2018	1,312	86,917,553	738	26,361,758	19,379	880,071,707	7.4%	45,414
06/30/2019	1,341	93,946,126	686	26,429,224	20,034	947,588,609	7.7%	47,299
06/30/2020	1,134	85,268,880	745	28,126,528	20,423	1,004,730,961	6.0%	49,196

[1] Does not include Family Death Benefit Plan members. Table based on valuation data.

[2] Effective 06/30/2004, also includes the COLA granted in July.

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Los Angeles City Employees' Retirement System

Actuarial Valuation and Review of Retirement Benefits as of June 30, 2020

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November 3, 2020

Board of Administration
Los Angeles City Employees' Retirement System
202 W. 1st Street, Suite 500
Los Angeles, CA 90012-4401

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of June 30, 2020. It summarizes the actuarial data used in the valuation, analyzes the preceding year's experience, and establishes the funding requirements for fiscal year 2021/2022.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Retirement System. The census information and financial information on which our calculations were based was prepared by the staff of the System. That assistance is gratefully acknowledged.

The actuarial calculations were directed 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 this actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and the expectations for the Plan.

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

Sincerely,

Segal

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

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

JRC/jl

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Section 1: Actuarial Valuation Summary

Purpose and Basis

This report was prepared by Segal to present a valuation of the Los Angeles City Employees' Retirement System ("the System") as of June 30, 2020. The valuation was performed to determine whether the assets and contribution rates are sufficient to provide the prescribed benefits. The measurements shown in this actuarial valuation may not be applicable for other purposes. In particular, the measures herein are not necessarily appropriate for assessing the sufficiency of current Plan assets to cover the estimated cost of settling the Plan's accrued benefit obligations.

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 contribution requirements presented in this report are based on:

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

Valuation Highlights

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1. The results of this valuation reflect changes in the actuarial assumptions adopted by the Board on June 23, 2020. These new assumptions are described in *Section 4, Exhibit I* of this report. These assumption changes, in particular the lowering of the investment return assumption,[1] the increase in the merit and promotion salary increase assumption, and the change in the mortality assumption, increased the combined (Tier 1 and Tier 3) City contribution rate by 3.32% of payroll (payable on July 15) and the UAAL by $530.7 million.

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2. The ratio of the valuation value of assets to actuarial accrued liabilities decreased from 71.27% to 69.38%. On a market value of assets basis, the funded ratio decreased from 71.25% to 66.29%. The UAAL increased from $5.975 billion to $6.897 billion. The increase in UAAL was due to: (i) a lower than expected return on the valuation value of assets (after smoothing), (ii) higher than expected salary increases for continuing active members, and (iii) changes in actuarial assumptions, offset somewhat by (iv) actual contributions more than expected as a result of the anticipated one-year delay in implementing the lower contribution rate in the prior valuation, and (v) other miscellaneous actuarial gains.

   A reconciliation of the System's UAAL is provided in *Section 2, Subsection E*. A schedule of the current UAAL amortization amounts is provided in *Section 3, Exhibit G*. Note that a graphical projection of the UAAL amortization bases and payments has been provided in *Section 3, Exhibit H.*

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3. The aggregate employer rate (if received on July 15) calculated in this valuation has increased from 24.63% of payroll to 27.96% of payroll. The annual dollar employer contributions calculated in this valuation increased from about $548.1 million to $683.7 million. The increase in the employer rate was due to: (i) a lower than expected return on the valuation value of assets (after smoothing), (ii) higher than expected salary increases for continuing active members, and (iii) changes in actuarial assumptions, offset somewhat by (iv) a decrease in the normal cost rate due, in part, to the enrollment of new employees in Tier 3, (v) actual contributions more than expected as a result of the anticipated one-year delay in implementing the lower contribution rate in the prior valuation, (vi) amortizing the prior year's UAAL over a larger than expected projected total payroll, (vii) the 40-year minimum GASB 25/27 amortization layer in 2004/2005 being fully amortized, (viii) other miscellaneous actuarial gains.

   A complete reconciliation of the aggregate employer contribution is provided in *Section 2, Subsection F*.

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4. As indicated in *Section 2, Subsection B* of this report, the total net unrecognized investment loss as of June 30, 2020 is $834.6 million[2] for the assets for Retirement, Health, Family Death, and Larger Annuity Benefits. This net investment loss will be recognized in the determination of the actuarial value of assets for funding purposes in the next several years. This implies that earning the assumed rate of investment return of 7.00% per year (net of investment and administrative expenses) on a market value basis will

[1] The increase in cost due to the lowering of the investment return assumption from 7.25% to 7.00% was largely offset by the cost due to the decrease in the inflation assumption from 3.00% to 2.75%.

[2] For comparison purposes, the total net unrecognized investment loss as of June 30, 2019 was $3,551,703.

result in a net investment loss on the actuarial value of assets after June 30, 2020. Item 9 in the chart in *Subsection B of Section 2* shows how, under the asset smoothing method, the $834.6 million net unrecognized loss will be recognized in the next six years.

The net deferred loss of $834.6 million represents 4.7% of the market value of assets as of June 30, 2020. Unless offset by future investment gains or other favorable experience, the recognition of the net $834.6 million market loss is expected to have an impact on the System's future funded percentage and contribution rate requirements. This potential impact may be illustrated as follows:

a. If the retirement plan component of the net deferred loss was recognized immediately in the valuation value of assets, the funded percentage would decrease from 69.38% to 66.29%.

   For comparison purposes, if the net deferred loss for the retirement plan in the June 30, 2019 valuation had been recognized immediately in the June 30, 2019 valuation, the funded percentage would have decreased from 71.27% to 71.25%.

b. If the retirement plan component of the net deferred loss was recognized immediately in the valuation value of assets, the aggregate employer rate (if received on July 15, 2021) would have increased from 27.96% of payroll to about 30.4% of payroll.

   For comparison purposes, if the net deferred loss for the retirement plan in the June 30, 2019 valuation had been recognized immediately in the June 30, 2019 valuation, the aggregate employer rate (if received on July 15, 2020) would have remained at 24.63% of payroll.

5. As in prior years, the employer contribution rates provided in this report have been developed assuming they will be received by LACERS on any of the following dates:
   a. The beginning of the fiscal year, or
   b. On July 15, 2021, or
   c. Throughout the year (i.e., LACERS will receive contributions at the end of every pay period).

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6. Carrying over the prior instructions from the Board of Administration, the recommended contribution is set equal to the contributions under the current funding policy plus an additional contribution due to the application of the 40-year minimum amortization requirement for fiscal year 2004/2005. However, the amortization of the 40-year minimum for 2004/2005 was fully completed in this valuation.

7. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2020. Due to the COVID-19 pandemic, market conditions have changed significantly during 2020. 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. While it is impossible to determine how the pandemic will continue to affect market conditions prior to next year's valuation, Segal is available to prepare projections of potential outcomes upon request.

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8. Actuarial Standard of Practice No. 51 (ASOP 51) requires actuaries to identify and assess risks that "may reasonably be anticipated to significantly affect the plan's future financial condition." Examples of key risks listed that are particularly relevant to LACERS are

asset/liability mismatch risk, investment risk, and longevity risk. The standard also requires an actuary to consider if there is any ongoing contribution risk to the plan, however it does not require the actuary to evaluate the particular ability or willingness of contributing entities to make contributions when due, nor does it require the actuary to assess the likelihood or consequences of future changes in applicable law.

The actuary's initial assessment can be strictly a qualitative discussion about potential adverse experience and the possible effect on future results, but it may also include quantitative numerical demonstrations where informative. The actuary is also encouraged to consider a recommendation as to whether a more detailed assessment or risk report would be significantly beneficial for the intended user in order to examine particular financial risks. When making that recommendation, the actuary will take into account such factors as the plan's design, risk profile, maturity, size, funded status, asset allocation, cash flow, possible insolvency and current market conditions.

Since the actuarial valuation results are dependent on a fixed set of assumptions and data as of a specific date, there is risk that emerging results may differ, perhaps significantly, as actual experience is fluid and will not exactly track current assumptions. This potential divergence may have a significant impact on the future financial condition of the plan. Earlier this year, prior to the completion of the triennial experience study recommending assumptions for the June 30, 2020 valuations, we prepared a stand-alone Risk Assessment report for the Retirement and Health Plans dated February 19, 2020 by using membership and financial information as provided in the actuarial valuations as of June 30, 2019. That report includes various deterministic projections of future results under different investment return scenarios based on the assumptions adopted for the June 30, 2019 valuations (i.e., prior to the adoption of new assumptions for the June 30, 2020 valuations).

A stand-alone risk assessment report associated with this June 30, 2020 valuation, including the quantitative analyses recommended by Segal in consultation with LACERS staff, will be available in the first quarter of 2021. In the interim, we have included a brief discussion of key risks that may affect the System in *Section 2, Subsection J*.

Summary of Key Valuation Results

		% of Payroll	
		June 30, 2020	June 30, 2019
Employer Contribution Rates:[1]	**Tier 1**		
	• At the beginning of the year	28.56%	25.00%
	• On July 15	28.64%	25.08%
	• At the end of each pay period	29.55%	25.90%
	Tier 3		
	• At the beginning of the year	25.35%	22.13%
	• On July 15	25.43%	22.20%
	• At the end of each pay period	26.23%	22.92%
	Combined		
	• At the beginning of the year	27.88%	24.56%
	• On July 15	27.96%	24.63%
	• At the end of each pay period	28.84%	25.43%

[1] There is a 12-month delay until the rate is effective.

Summary of Key Valuation Results (continued)

		June 30, 2020	June 30, 2019
Actuarial Accrued Liability:	• Retired members and beneficiaries	$12,377,357,430	$11,620,004,477
	• Inactive vested members	562,921,724	516,719,939
	• Active members	9,586,916,141	8,656,696,727
	• Total Actuarial Accrued Liability	$22,527,195,295	$20,793,421,143
	• Normal Cost for plan year beginning June 30	451,426,209	374,967,243
Assets:	• Market Value of Assets (MVA)[1]	$17,863,324,366	$17,707,909,933
	• Actuarial Value of Assets (AVA)[1]	18,697,966,253	17,711,461,636
	• AVA as a percentage of MVA	104.7%	100.00%
	• Valuation Value of Retirement Assets (VVA)	$15,630,102,547	$14,818,564,427
	• Market Value of Retirement Assets (MVA)	14,932,404,300	14,815,592,841
Funded status:	• Unfunded Actuarial Accrued Liability (UAAL) on VVA basis	$6,897,092,748	$5,974,856,716
	• Funded ratio on VVA basis for retirement (VVA/AAL)	69.38%	71.27%
	• UAAL on MVA basis	$7,594,790,995	$5,977,828,302
	• Funded ratio on MVA basis for retirement (MVA/AAL)	66.29%	71.25%
Key assumptions:	• Net investment return	7.00%	7.25%
	• Price Inflation	2.75%	3.00%
	• Payroll growth increase	3.25%	3.50%

[1] Includes assets for Retirement, Health, Family Death, and Larger Annuity Benefits.

Summary of Key Valuation Results (continued)

		June 30, 2020	June 30, 2019	Change From Prior Year
Demographic data:	**Active Members:**			
	• Number of members	27,490	26,632	3.2%
	• Average age	46.8	47.0	-0.2
	• Average employment service	12.9	13.2	-0.3
	• Total projected compensation[1]	$2,445,016,587	$2,225,412,831	9.9%
	• Average projected compensation	$88,942	$83,562	6.4%
	Retired Members and Beneficiaries:			
	• Number of members:			
	– Service retired	15,525	15,165	2.4%
	– Disability retired	884	888	-0.5%
	– Beneficiaries	4,014	3,981	0.8%
	– Total	20,423	20,034	1.9%
	• Average age	72.7	72.5	0.2
	• Average monthly benefit	$4,100	$3,942	4.0%
	Inactive Vested Members:			
	• Number of members[2]	9,207	8,588	7.2%
	• Average Age	44.3	44.5	-0.2
	Total Members:	57,120	55,254	3.4%

[1] Reflects annualized salaries for part-time members.
[2] Includes terminated members due a refund of employee contributions.

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 summary included in our 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	The valuation is based on the Market Value of Assets as of the valuation date, as provided by the System. The System uses an "Actuarial Value of Assets" that differs from market value to gradually reflect year-to-year changes in the Market Value of Assets in determining the contribution requirements.
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.
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 actuarial valuation is prepared at the request of the System. 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. Future contribution requirements may differ from those determined in the valuation because of:

- Differences between actual experience and anticipated experience;
- Changes in actuarial assumptions or methods;
- Changes in statutory provisions; and
- Differences between the contribution rates determined by the valuation and those adopted by the Board.

Some actuarial results in this report are not rounded, but that does not imply precision.

If LACERS 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 System 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 the Plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Plan.

Actuarial Certification

November 3, 2020

This is to certify that Segal has conducted an actuarial valuation of the Los Angeles City Employees' Retirement System (LACERS or the System) retirement program as of June 30, 2020, in accordance with generally accepted actuarial principles and practices. In particular, it is our understanding that the assumptions and methods used for funding purposes meet the parameters set by the Actuarial Standards of Practice (ASOPs). Actuarial valuations are performed annually for this retirement program with the last valuation completed on June 30, 2019. The actuarial calculations presented in this report have been made on a basis consistent with our understanding of the historical funding methods used in determination of the liability for retirement benefits.

The actuarial valuation is based on the plan of benefits verified by LACERS and on participant and financial data provided by LACERS. Segal did not audit LACERS' financial statements, but we conducted an examination of all participant data for reasonableness and we concluded that it was reasonable and consistent with the prior year's data.

One of the general goals of an actuarial valuation is to establish contributions that fully fund the System's liabilities, and that, as a percentage of payroll, remain as level as possible for each generation of active members. Both the Normal Cost and the Actuarial Accrued Liability are determined under the Entry Age cost method.

The actuarial computations made are for funding plan benefits. Accordingly, additional determinations will be needed for other purposes, such as satisfying financial accounting requirements under Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68 and judging benefit security at termination of the plan.

Segal prepared all of the supporting schedules in the Actuarial Section of the Comprehensive Annual Financial Report (CAFR) and certain supporting schedules in the Financial Section, based on the results of the June 30, 2020 actuarial valuation. A listing of the supporting schedules Segal prepared for inclusion in the Financial Section as Required Supplementary Information prescribed by GASB, and in the Actuarial Section, is provided below:

Financial Section

1. Schedule of Net Pension Liability[1]
2. Schedule of Changes in Net Pension Liability and Related Ratios[1]
3. Schedule of Contribution History[1]

[1] Source: Segal's GASB Statement No. 67 valuation report as of June 30, 2020.

Actuarial Certification (continued)

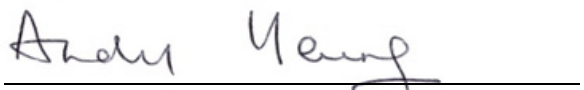
November 3, 2020

Actuarial Section

4. Summary of Significant Valuation Results
5. Active Member Valuation Data
6. Retirees and Beneficiaries Added to and Removed from Retiree Payroll
7. Schedule of Funded Liabilities by Type
8. Schedule of Funding Progress
9. Actuarial Analysis of Financial Experience
10. Actuarial Balance Sheet
11. Schedule of Changes in Net Pension Liability and Related Ratios[1]
12. Projection of Pension Plan's Fiduciary Net Position for use in Calculation of Discount Rate of 7.00% and Preparation of GASB 67 Report as of June 30, 2020[1]

LACERS' staff prepared other trend data schedules in the Statistical Section based on information supplied in Segal's valuation report.

To the best of our knowledge, this report is complete and accurate and in our opinion presents the plan's current funding information. The undersigned is a member of the American Academy of Actuaries and is qualified to render the actuarial opinion contained herein.



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

[1] Source: Segal's GASB Statement No. 67 valuation report as of June 30, 2020.

Section 2: Actuarial Valuation Results

A. Member Data

The Actuarial Valuation and Review considers the number and demographic characteristics of covered members, including active members, inactive vested members, retired members and beneficiaries.

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

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

Member Population: 2011 – 2020

Year Ended June 30	Active Members	Inactive Vested Members[1]	Retired Members and Beneficiaries	Total Non-Actives	Ratio of Non-Actives to Actives	Ratio of Retired Members and Beneficiaries to Actives
2011	25,449	5,623	17,197	22,820	0.90	0.68
2012	24,917	5,808	17,223	23,031	0.92	0.69
2013	24,441	5,799	17,362	23,161	0.95	0.71
2014	24,009	6,031	17,532	23,563	0.98	0.73
2015	23,895	6,507	17,932	24,439	1.02	0.75
2016	24,446	6,895	18,357	25,252	1.03	0.75
2017	25,457	7,428	18,805	26,233	1.03	0.74
2018	26,042	8,028	19,379	27,407	1.05	0.74
2019	26,632	8,588	20,034	28,622	1.07	0.75
2020	27,490	9,207	20,423	29,630	1.08	0.74

[1] Includes terminated members due a refund of member contributions.

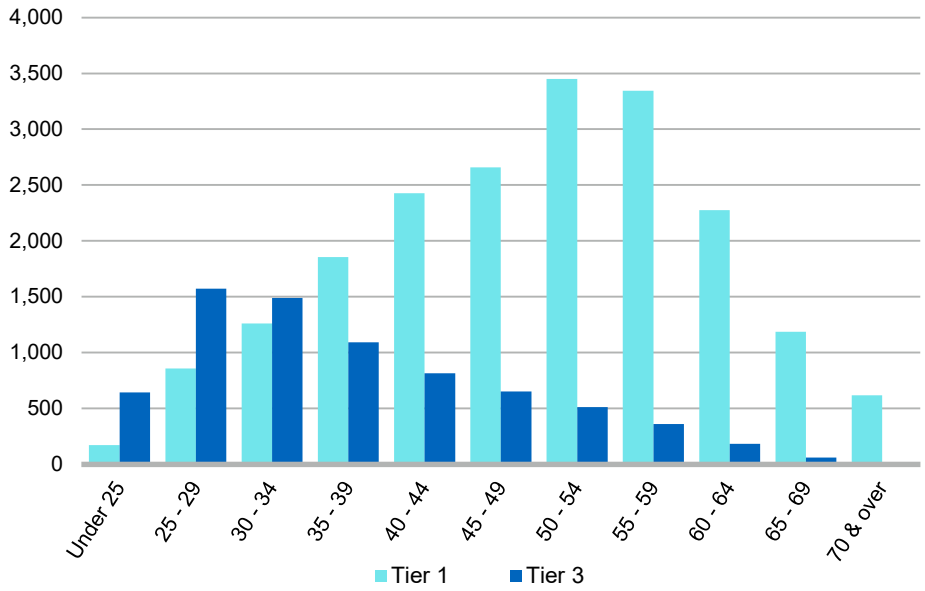
Active Members

Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 27,490 active members with an average age of 46.8, average years of employment service of 12.9 years and average compensation of $88,942. The 26,632 active members in the prior valuation had an average age of 47.0, average employment service of 13.2 years and average compensation of $83,562.

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

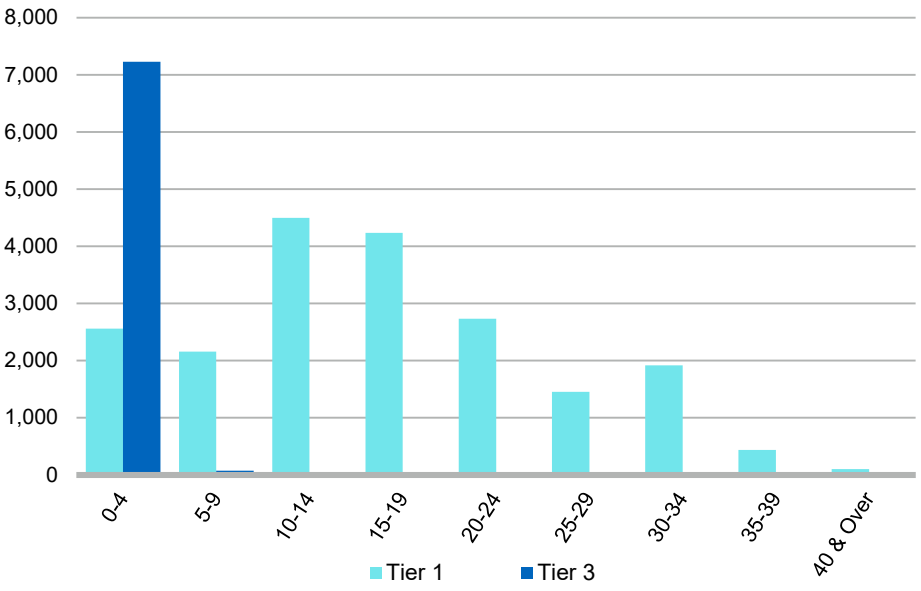
Distribution of Active Members as of June 30, 2020

Actives by Age



Average age	46.8
Prior year average age	47.0
Difference	-0.2

Actives by Years of Employment Service



Average years of service	12.9
Prior year average years of service	13.2
Difference	-0.3

Inactive Members

In this year's valuation, there were 9,207 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their member contributions versus 8,588 in the prior valuation.

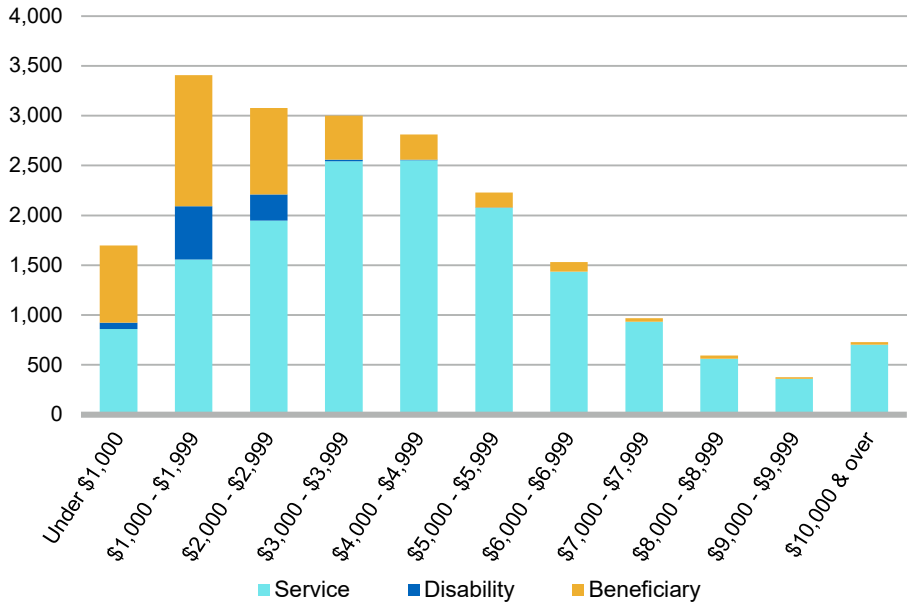
Retired Members and Beneficiaries

As of June 30, 2020, 16,409 retired members and 4,014 beneficiaries were receiving total monthly benefits of $83,727,580. For comparison, in the previous valuation, there were 16,053 retired members and 3,981 beneficiaries receiving monthly benefits of $78,965,717.

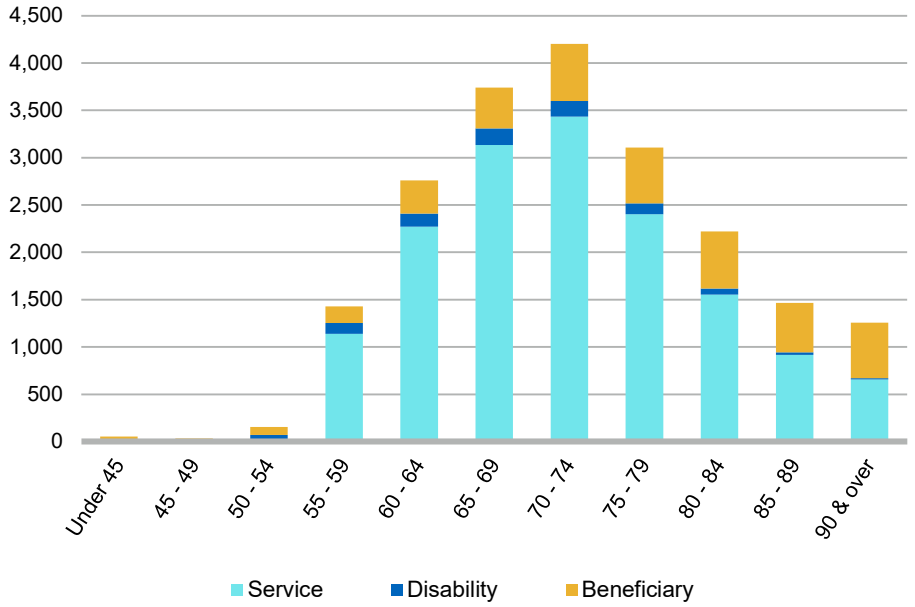
As of June 30, 2020, the average monthly benefit for retired members and beneficiaries is $4,100, compared to $3,942 in the previous valuation. The average age for retired members and beneficiaries is 72.7 in the current valuation, compared with 72.5 in the prior valuation.

Distribution of Retired Members and Beneficiaries as of June 30, 2020

Retired Members and Beneficiaries by Type and Monthly Amount



Retired Members and Beneficiaries by Type and Age



Historical Plan Population

The chart below demonstrates the progression of the active population over the last ten years. The chart also shows the growth among the retired population over the same time period.

Member Data Statistics: 2011 – 2020

	Active Members			Retired Members and Beneficiaries		
Year Ended June 30	Count	Average Age	Average Employment Service	Count	Average Age	Average Monthly Amount
2011	25,449	47.0	13.0	17,197	71.5	$3,181
2012	24,917	47.8	13.9	17,223	71.9	3,275
2013	24,441	48.3	14.5	17,362	72.2	3,355
2014	24,009	48.8	15.0	17,532	72.4	3,406
2015	23,895	48.8	15.0	17,932	72.5	3,487
2016	24,446	48.6	14.7	18,357	72.5	3,533
2017	25,457	48.0	14.1	18,805	72.6	3,632
2018	26,042	47.4	13.7	19,379	72.5	3,784
2019	26,632	47.0	13.2	20,034	72.5	3,942
2020	27,490	46.8	12.9	20,423	72.7	4,100

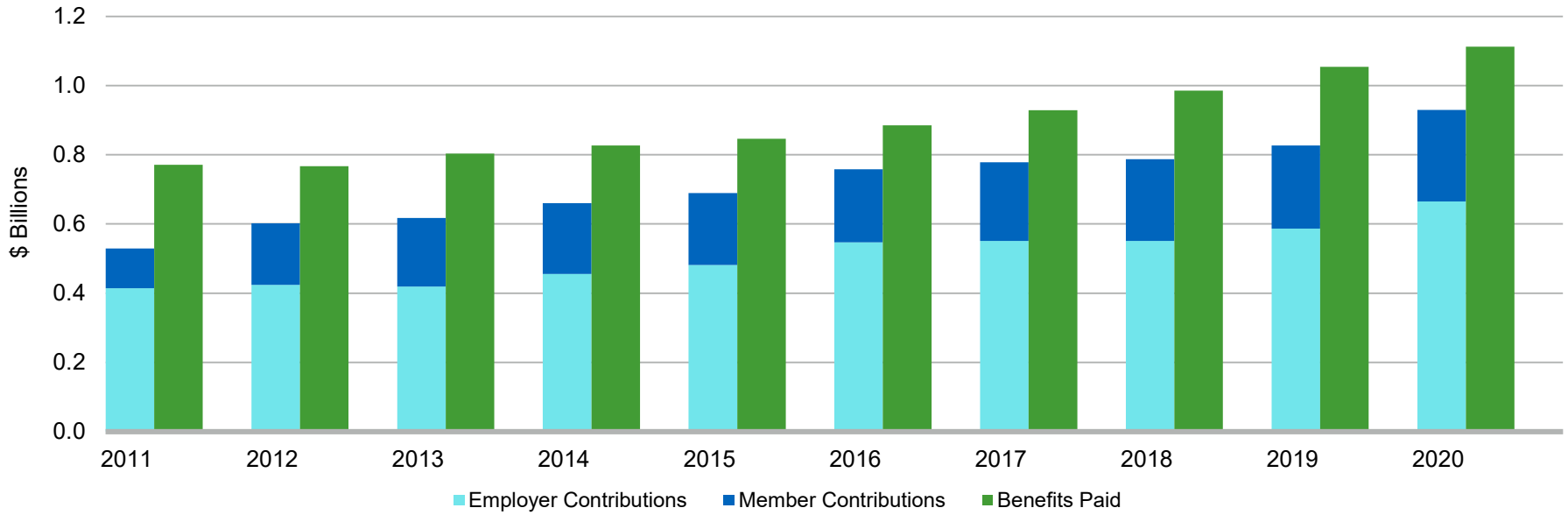
B. Financial Information

Retirement plan funding anticipates that, over the long term, both contributions and investment earnings (less investment fees and administrative expenses) will be needed to cover benefit payments. Retirement plan assets change as a result of the net impact of these income and expense components.

Additional financial information, including a summary of transactions for the valuation year, is presented in *Section 3, Exhibits D, E, and F*.

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board of Administration has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable. The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

Comparison of Contributions Made with Benefits
for Years Ended June 30, 2011 – 2020



Section 2: Actuarial Valuation Results

Determination of Actuarial Value of Assets for Year Ended June 30, 2020

		Actual Return	Expected Return	Investment Gain/(Loss)	Portion Not Recognized	Unrecognized Amount
1	**Market Value of Assets**					**$17,863,324,366**
2	Calculation of unrecognized return[1]					
a)	Year ended June 30, 2020	$338,862,747	$1,299,282,781	-$960,420,034	6/7	-$823,217,172
b)	Year ended June 30, 2019	945,590,839	1,242,978,109	-297,387,270	5/7	-212,419,479
c)	Year ended June 30, 2018	1,498,100,177	1,148,631,872	349,468,305	4/7	199,696,174
d)	Year ended June 30, 2017	1,834,657,728	1,063,688,256	770,969,472	See footnote 2 below	
e)	Year ended June 30, 2016	7,190,895	1,072,214,464	-1,065,023,569		
f)	Year ended June 30, 2015	348,113,908	1,055,874,448	-707,760,540		
g)	Year ended June 30, 2014	2,180,005,303	933,719,722	1,246,285,581		
h)	Combined net deferred loss as of June 30, 2013			-81,571,421	3/6	1,298,590
i)	Total unrecognized return					-$834,641,887
3	**Preliminary Actuarial Value of Assets (1) - (2i)**					**$18,697,966,253**
4	Adjustment to be within 40% corridor					0
5	**Final Actuarial Value of Assets 3 + 4**					**$18,697,966,253**
6	Actuarial Value of Assets as a percentage of Market Value of Assets 5 ÷ 1					104.7%
7	Market value of retirement assets					$14,932,404,300
8	**Valuation value of retirement assets 5 ÷ 1 x 7**					**$15,630,102,547**
9	Deferred return recognized in each of the next 6 years:					
a)	Amount recognized on 6/30/2021					-$129,329,851
b)	Amount recognized on 6/30/2022					-129,329,851
c)	Amount recognized on 6/30/2023					-129,329,851
d)	Amount recognized on 6/30/2024					-129,762,714
e)	Amount recognized on 6/30/2025					-179,686,758
f)	Amount recognized on 6/30/2026					-137,202,862
g)	Total (may not total exactly due to rounding)					-$834,641,887

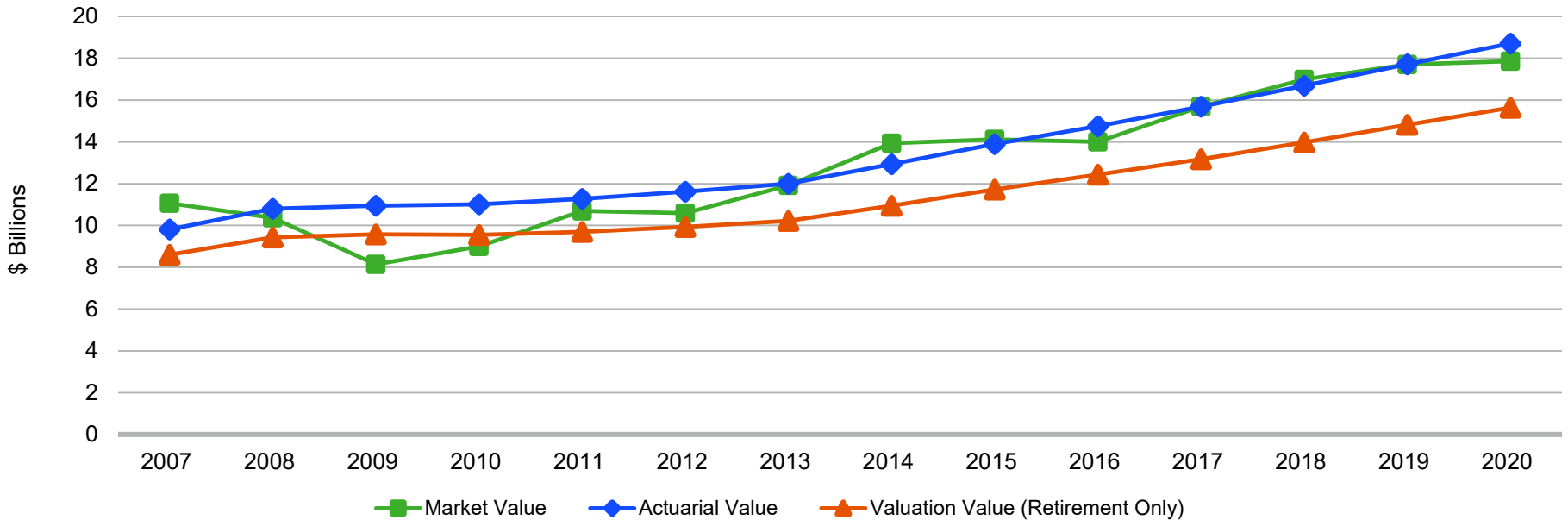
[1] Total return minus expected return on a market value basis.

[2] Based on action taken by the Board on July 24, 2018, the net unrecognized gain as of June 30, 2017 (i.e., $2,597,179) has been divided into six level amounts, with three years of gains remaining to be recognized after June 30, 2020.

Section 2: Actuarial Valuation Results

The Market Value, Actuarial Value and Valuation Value of Assets are representations of the Plan's financial status. As investment gains and losses are gradually taken into account, the Actuarial Value of Assets tracks the Market Value of Assets. The portion of the total actuarial value of assets allocated for retirement benefits, based on a prorated share of market value, is shown as the Valuation Value of Assets. The Valuation Value of Assets is significant because the Plan's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the Unfunded Actuarial Accrued Liability is an important element in determining the contribution requirement.

Market Value, Actuarial Value, and Valuation Value (Retirement Only) of Assets as of June 30, 2007 – 2020



C. Actuarial Experience

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

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

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years. There are changes in actuarial assumptions reflected in this valuation, as noted in *Section 4, Exhibit I*.

The total loss is $393.8 million, which includes $108.8 million from investment losses (after smoothing), a gain of $23.2 million from contribution experience and $308.2 million in losses from all other sources. The net experience variation from individual sources other than investments and contributions was 1.37% of the Actuarial Accrued Liability. A discussion of the major components of the actuarial experience is on the following pages.

Actuarial Experience for Year Ended June 30, 2020

1	Net loss from investments[1]	-$108,785,905
2	Net gain from scheduled one-year delay in implementing the lower contribution rate calculated in the June 30, 2019 valuation until fiscal year 2020/2021	23,183,704
3	Net loss from other experience[2]	-308,183,796
4	**Net experience loss: 1 + 2 + 3[3]**	-$393,785,997

[1] Details on next page.

[2] See *Subsection E* for further details.

[3] The net loss is attributed to actual liability experience from July 1, 2019 through June 30, 2020 compared to the projected experience based on the actuarial assumptions as of June 30, 2019. Does not include the effect of plan or assumption changes as of June 30, 2020, if any.

Investment Experience

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on LACERS' investment policy. The rate of return on the Market Value of Assets was 1.89% for the year ended June 30, 2020.

For valuation purposes, the assumed rate of return on the Valuation Value of Assets was 7.25% for the June 30, 2019 valuation. The actual rate of return on the valuation value basis for the 2019/2020 plan year was 6.52%. Since the actual return for the year was less than the assumed return, the Plan experienced an actuarial loss during the year ended June 30, 2020 with regard to its investments.

Investment Experience for Year Ended June 30, 2020

		Market Value (Includes assets for Retirement, Health, Family Death, and Larger Annuity Benefits)	Actuarial Value (Includes assets for Retirement, Health, Family Death, and Larger Annuity Benefits)	Valuation Value (Includes assets for Retirement Only)
1	Net investment income	$338,862,747	$1,169,952,931	$977,908,737
2	Average value of assets	17,921,141,802	17,924,693,505	14,988,891,614
3	Rate of return: **1 ÷ 2**	1.89%	6.53%	6.52%
4	Assumed rate of return	7.25%	7.25%	7.25%
5	Expected investment income: **2 x 4**	$1,299,282,781	$1,299,540,279	$1,086,694,642
6	**Actuarial gain/(loss): 1 - 5**	**-$960,420,034**	**-$129,587,348**	**-$108,785,905**

Section 2: Actuarial Valuation Results

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial basis compared to the actual market value investment return for Retirement, Health, Family Death, and Larger Annuity Benefits the last ten years, including the five-year average.

Investment Return – Actuarial Value vs. Market Value: 2011 – 2020

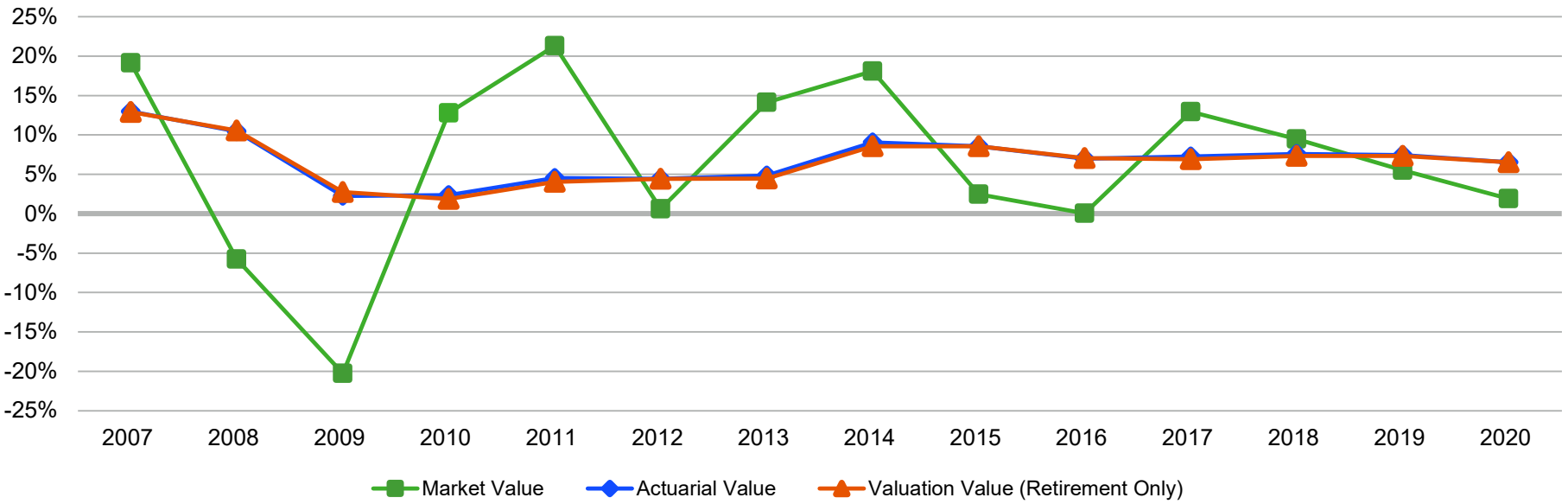
Year Ended June 30	Net Interest and Dividend Income		Recognition of Capital Appreciation		Actuarial Value Investment Return		Market Value Investment Return[1]	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
2011	$211,685,408	1.91%	$291,263,922	2.63%	$502,949,330	4.54%	$1,934,130,562	21.33%
2012	213,980,878	1.88%	290,831,650	2.55%	504,812,528	4.43%	67,093,447	0.62%
2013	253,877,178	2.17%	315,633,473	2.69%	569,510,651	4.86%	1,512,696,071	14.14%
2014	225,147,763	1.86%	873,017,519	7.19%	1,098,165,282	9.05%	2,180,005,303	18.09%
2015	231,942,743	1.77%	887,268,617	6.79%	1,119,211,360	8.56%	348,113,908	2.47%
2016	240,916,934	1.71%	742,488,219	5.28%	983,405,153	6.99%	7,190,895	0.05%
2017	277,724,021	1.86%	807,293,418	5.41%	1,085,017,439	7.27%	1,834,657,728	12.94%
2018	291,385,736	1.84%	907,603,043	5.73%	1,198,988,779	7.57%	1,498,100,177	9.46%
2019	308,498,344	1.83%	942,352,775	5.60%	1,250,851,119	7.43%	945,590,839	5.52%
2020	287,869,198	1.61%	882,083,733	4.92%	1,169,952,931	6.53%	338,862,747	1.89%
				Most recent five-year average return:		**7.16%**		**5.87%**
				Most recent ten-year average return:		**6.71%**		**8.41%**

[1] The rates of return have been calculated on a dollar-weighted basis. It is our understanding that LACERS' investment consultant calculates rates of return on a time-weighted basis, which can produce different results.

Section 2: Actuarial Valuation Results

Section 2, Subsection B described the actuarial asset valuation method that gradually recognizes fluctuations in the market value rate of return. The goal of this is to stabilize the actuarial rate of return and to produce more level pension plan costs.

Market Value, Actuarial Value and Valuation Value (Retirement Only) Rates of Return for Years Ended June 30, 2007 – 2020



Contributions

Contributions for the year ended June 30, 2020, when adjusted for timing, totaled $860.8 million, compared to the projected amount of $837.6 million (also adjusted for timing). This resulted in a gain of $23.2 million for the year.

Non-Investment Experience

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

- the extent of turnover among participants,
- retirement experience (earlier or later than projected),
- mortality (more or fewer deaths than projected),
- the number of disability retirements (more or fewer than projected),
- salary increases (greater or smaller than projected), and
- cost-of-living adjustments (COLAs; higher or lower than anticipated).

The net loss from this other experience for the year ended June 30, 2020 amounted to $308.2 million, which is 1.37% of the Actuarial Accrued Liability. This loss was mainly due to higher than expected individual salary increases for continuing actives offset to some extent by other gains on demographic experience. See *Subsection E* for a detailed development of the Unfunded Actuarial Accrued Liability.

D. Other Changes in the Actuarial Accrued Liability

The Actuarial Accrued Liability as of June 30, 2020 is $22.5 billion, an increase of $1.7 billion, or 8.3%, from the liability as of the prior valuation date. The Actuarial Accrued Liability is expected to grow each year with Normal Cost and interest, and to decline due to benefit payments made. Additional fluctuations can occur due to actual experience that differs from expected (as discussed in the previous subsection).

Actuarial Assumptions

There were assumption changes reflected in this report based on the Actuarial Experience Study (dated June 17, 2020) covering the period July 1, 2016 through June 30, 2019.

- The changes in actuarial assumptions increased the Actuarial Accrued Liability by $530.7 million (a 2.4% increase) and increased the total Normal Cost by $43.6 million (a 10.7% increase). The effect on the employer contribution rate was an increase of 3.32% of payroll (payable on July 15).

Details on actuarial assumptions and methods are in *Section 4, Exhibit I*.

Plan Provisions

There were no changes in plan provisions since the prior valuation.

A summary of plan provisions is in *Section 4, Exhibit II*.

E. Development of Unfunded Actuarial Accrued Liability

Development for Year Ended June 30, 2020

1	**Unfunded actuarial accrued liability at beginning of year**		**$5,974,856,716**
2	Total Normal Cost at beginning of year		374,967,243
3	Expected employer and member contributions at beginning of year[1]		-780,978,713
4	Interest		403,741,280
5	Expected Unfunded Actuarial Accrued Liability at end of year		$5,972,586,526
6	Changes due to:[2]		
	a. Investment loss on smoothed value of assets	$108,785,905	
	b. Gain due to actual contributions more than expected	-23,183,704	
	c. Loss due to higher than expected salary increases for continuing actives	311,808,252	
	d. Other gains on demographic experience	-3,624,456	
	e. Increase due to new actuarial assumptions	530,720,225	
	Total loss		$924,506,222
7	**Unfunded actuarial accrued liability at end of year**		**$6,897,092,748**

[1] Net of the additional expected employer contributions due to the application of the 40-year minimum amortization required for the remaining GASB 25/27 layer, since the beginning of year UAAL was developed without the liability associated with this layer. These additional contributions served to slightly increase the contribution gain (if any) from the scheduled one-year delay in implementing the lower contribution rates calculated in the prior valuation.

[2] The "net loss from other experience" of $308,183,796 from *Subsection C* is equal to the sum of items 6c and 6d.

F. Recommended Contribution

The amount of annual contribution required to fund the Retirement Plan is comprised of an employer normal cost payment and a payment on the unfunded actuarial accrued liability. This total amount, adjusted with interest for timing, is then divided by the projected payroll for active members to determine the funding rate of 27.96% of payroll, if received by LACERS on July 15, 2021. The recommended contribution is set equal to the contributions under the current funding policy. (The amortization of the 40-year minimum for 2004/2005 was fully completed in this valuation).

The Board sets the funding policy used to calculate the recommended contribution based on layered amortization periods. See *Section 4, Exhibit I* for further details on the funding policy.

The contribution requirement for the June 30, 2020 valuation is based on the data previously described, the actuarial assumptions and Plan provisions described in *Section 4*, including all changes affecting future costs adopted at the time of the actuarial valuation, actuarial gains and losses, and changes in the actuarial assumptions.

A reconciliation of the average recommended employer contribution from June 30, 2019 to June 30, 2020 is shown on the next page. A summary of the recommended contributions by tier is shown on pages 31 through 33.

Reconciliation of Average Recommended Employer Contribution Rate

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

Reconciliation of Average Recommended Employer Contribution Rate[1] from June 30, 2019 to June 30, 2020

		Contribution Rate
1	**Average Recommended Employer Contribution Rate as of June 30, 2019**	**24.63%**
2	Effect of decrease in employer normal cost due to payroll and demographic changes (including the enrollment of new employees in Tier 3)	-0.19%
3	Effect of anticipated one-year delay in implementing the lower combined contribution rate calculated in the prior valuation	-0.08%
4	Effect of investment return less than expected on smoothed value of assets	0.38%
5	Effect of individual salary increases larger than expected for continuing active members	1.08%
6	Effect of amortizing prior year's UAAL over a larger than expected projected total payroll	-1.09%
7	Effect of the 40-year minimum GASB 25/27 amortization layer in 2004/2005 being fully amortized	-0.08%
8	Effect of other demographic experience gains on accrued liability	-0.01%
9	Effect of assumptions changes	3.32%
10	Total change	3.33%
11	**Average Recommended Employer Contribution Rate as of June 30, 2020**	**27.96%**

[1] If received on July 15.

Recommended Employer Contribution Rate

Tier 1		June 30, 2020 Actuarial Valuation		June 30, 2019 Actuarial Valuation	
		Amount	% of Payroll	Amount	% of Payroll
	Before Reflecting Increase in Contribution Rates due to Enhanced Benefits for APO				
1	Total normal cost	$367,513,513	19.08%	$323,584,701	17.23%
2	Expected employee contributions[1]	204,809,677	10.64%	199,392,948	10.63%
3	Employer normal cost: 1 - 2	$162,703,836	8.44%	$124,191,753	6.60%
4	Actuarial accrued liability	22,328,886,676		20,683,276,763	
5	Valuation value of assets	15,295,061,248		14,647,297,473	
6	Unfunded actuarial accrued liability: 4 - 5	$7,033,825,428		$6,035,979,290	
7	Amortization of unfunded actuarial accrued liability	384,346,515	19.95%[2,3]	342,147,940	18.22%[2]
8	Total recommended contribution, beginning of year: 3 + 7	$547,050,351	28.39%	$466,339,693	24.82%
9	Total recommended contribution, July 15	548,573,537	28.47%	467,683,003	24.90%
10	Total recommended contribution, end of pay periods	565,873,283	29.38%	482,948,735	25.72%
	Increase in Contribution Rates due to Enhanced Benefits for APO				
11	Employer normal cost, July 15		0.07%		0.07%
12	Unfunded actuarial accrued liability, July 15		0.10%		0.11%
13	Total recommended contribution, July 15		0.17%		0.18%
	After Reflecting Increase in Contribution Rates due to Enhanced Benefits for APO				
14	Total recommended contribution, beginning of year	$550,203,563	28.56%	$469,505,178	25.00%
15	Total recommended contribution, July 15	551,735,529	28.64%	470,857,606	25.08%
16	Total recommended contribution, end of pay periods	569,134,991	29.55%	486,226,961	25.90%
17	Projected payroll	$1,926,176,122		$1,877,504,719	

[1] Discounted to beginning of year. The average employee rate for contributions made at the end of each pay period is actually 11.01% for the June 30, 2019 and June 30, 2020 valuations.

[2] In developing the UAAL contribution rate, we have combined the UAAL for Tiers 1 and 3 and amortized that total UAAL over the total payroll for Tiers 1 and 3.

[3] For purposes of purchasing service with the Water and Power Employees' Retirement Plan (WPERP) for Tier 1, the UAAL rate as of June 30, 2020 is 19.95% before reflecting enhanced benefits for APO, plus an additional 0.10% for the cost increase for the enhanced APO benefits for a total of 20.05%, if received at the beginning of the year. If received on July 15, the total UAAL rate of 20.05% increases to 20.11%.

Recommended Employer Contribution Rate (continued)

Tier 3		June 30, 2020 Actuarial Valuation		June 30, 2019 Actuarial Valuation	
		Amount	% of Payroll	Amount	% of Payroll
	Before Reflecting Increase in Contribution Rates due to Enhanced Benefits for APO				
1	Total normal cost	$82,654,128	15.93%	$50,176,576	14.42%
2	Expected employee contributions[1]	55,142,465	10.63%	36,931,138	10.62%
3	Employer normal cost: 1 - 2	$27,511,663	5.30%	$13,245,438	3.80%
4	Actuarial accrued liability	173,619,563		84,801,657	
5	Valuation value of assets	335,041,299		171,266,954	
6	Unfunded actuarial accrued liability: 4 - 5	-$161,421,736		-$86,465,297	
7	Amortization of unfunded actuarial accrued liability	103,528,707	19.95%[2,3]	63,401,196	18.22%[2]
8	Total recommended contribution, beginning of year: 3 + 7	$131,040,370	25.25%	$76,646,634	22.02%
9	Total recommended contribution, July 15	131,405,234	25.33%	76,867,418	22.09%
10	Total recommended contribution, end of pay periods	135,549,213	26.13%	79,376,462	22.81%
	Increase in Contribution Rates due to Enhanced Benefits for APO				
11	Employer normal cost, July 15		0.00%		0.00%
12	Unfunded actuarial accrued liability, July 15		0.10%		0.11%
13	Total recommended contribution, July 15		0.10%		0.11%
	After Reflecting Increase in Contribution Rates due to Enhanced Benefits for APO				
14	Total recommended contribution, beginning of year	$131,550,718	25.35%	$77,009,739	22.13%
15	Total recommended contribution, July 15	131,917,002	25.43%	77,231,569	22.20%
16	Total recommended contribution, end of pay periods	136,077,121	26.23%	79,752,499	22.92%
17	Projected payroll	$518,840,465		$347,908,112	

[1] Discounted to beginning of year. The average employee rate for contributions made at the end of each pay period is actually 11.00% for the June 30, 2019 and June 30, 2020 valuations.

[2] In developing the UAAL contribution rate, we have combined the UAAL for Tiers 1 and 3 and amortized that total UAAL over the total payroll for Tiers 1 and 3.

[3] For purposes of Government Service Buybacks for Tier 3, the cost of the purchase is based, in part, on the "City Contribution Rate," pursuant to the Administrative Code. As Tier 3 has no UAAL as of June 30, 2020, the City's normal cost of 5.30% (beginning of year) is used for purposes of these buybacks.

Recommended Employer Contribution Rate (continued)

	Combined	June 30, 2020 Actuarial Valuation		June 30, 2019 Actuarial Valuation	
		Amount	% of Payroll	Amount	% of Payroll
	Before Reflecting Increase in Contribution Rates due to Enhanced Benefits for APO				
1	Total normal cost	$450,167,641	18.41%	$373,761,277	16.80%
2	Expected employee contributions	259,952,142	10.63%	236,324,086	10.62%
3	Employer normal cost: 1 - 2	$190,215,499	7.78%	$137,437,191	6.18%
4	Actuarial accrued liability	22,502,506,239		20,768,078,420	
5	Valuation value of assets	15,630,102,547		14,818,564,427	
6	Unfunded actuarial accrued liability: 4 - 5	$6,872,403,692		$5,949,513,993	
7	Amortization of unfunded actuarial accrued liability	487,875,222	19.95%	405,549,136	18.22%
8	Total recommended contribution, beginning of year: 3 + 7	$678,090,721	27.73%	$542,986,327	24.40%
9	Total recommended contribution, July 15	679,978,771	27.81%	544,550,421	24.47%
10	Total recommended contribution, end of pay periods	701,422,496	28.69%	562,325,197	25.27%
	Increase in Contribution Rates due to Enhanced Benefits for APO				
11	Employer normal cost, July 15		0.05%		0.05%
12	Unfunded actuarial accrued liability, July 15		0.10%		0.11%
13	Total recommended contribution, July 15		0.15%		0.16%
	After Reflecting Increase in Contribution Rates due to Enhanced Benefits for APO				
14	Total normal cost	$451,426,209	18.46%	$374,967,243	16.85%
15	Expected employee contributions	259,952,142	10.63%	236,324,086	10.62%
16	Employer normal cost: 14 - 15	$191,474,067	7.83%	$138,643,157	6.23%
17	Actuarial accrued liability	22,527,195,295		20,793,421,143	
18	Valuation value of assets	15,630,102,547		14,818,564,427	
19	Unfunded actuarial accrued liability: 17 - 18	$6,897,092,748		$5,974,856,716	
20	Amortization of unfunded actuarial accrued liability	490,280,214	20.05%	407,871,760	18.33%
21	Total recommended contribution, beginning of year: 16 + 20	$681,754,281	27.88%	$546,514,917	24.56%
22	Total recommended contribution, July 15	683,652,531	27.96%	548,089,175	24.63%
23	Total recommended contribution, end of pay periods	705,212,112	28.84%	565,979,460	25.43%
24	Projected payroll	$2,445,016,587		$2,225,412,831	

Recommended Employer Contribution Rate (continued)

		Tier 1	Tier 3	Combined
	Before Reflecting Increase in Contribution Rates due to Enhanced Benefits for APO			
1	Total normal cost	$367,513,513	$82,654,128	$450,167,641
2	Expected employee contributions[1]	204,809,677	55,142,465	259,952,142
3	Employer normal cost: 1 - 2	$162,703,836	$27,511,663	$190,215,499
4	Payment on unfunded actuarial accrued liability	384,346,515	103,528,707	487,875,222
5	Total recommended contribution: beginning of year: 3 + 4	$547,050,351	$131,040,370	$678,090,721
6	Total recommended contribution: adjusted for July 15 timing	548,573,537	131,405,234	679,978,771
7	Total recommended contribution: adjusted for biweekly timing	565,873,283	135,549,213	701,422,496
8	Item 5 (beginning of year contribution) as a % of projected payroll: 5 ÷ 17	28.39%	25.25%	27.73%
9	Item 6 (July 15 contribution) as a % of projected payroll: 6 ÷ 17	28.47%	25.33%	27.81%
10	Item 7 (biweekly contribution) as a % of projected payroll: 7 ÷ 17	29.38%	26.13%	28.69%
	After Reflecting Increase in Contribution Rates due to Enhanced Benefits for APO			
11	Total recommended contribution: beginning of year	$550,203,563	$131,550,718	$681,754,281
12	Total recommended contribution: adjusted for July 15 timing	551,735,529	131,917,002	683,652,531
13	Total recommended contribution: adjusted for biweekly timing	569,134,991	136,077,121	705,212,112
14	Item 11 (beginning of year contribution) as a % of projected payroll: 11 ÷ 17	28.56%	25.35%	27.88%
15	Item 12 (July 15 contribution) as a % of projected payroll: 12 ÷ 17	28.64%	25.43%	27.96%
16	Item 13 (biweekly contribution) as a % of projected payroll: 13 ÷ 17	29.55%	26.23%	28.84%
17	Projected payroll	$1,926,176,122	$518,840,465	$2,445,016,587

[1] Discounted to beginning of year.

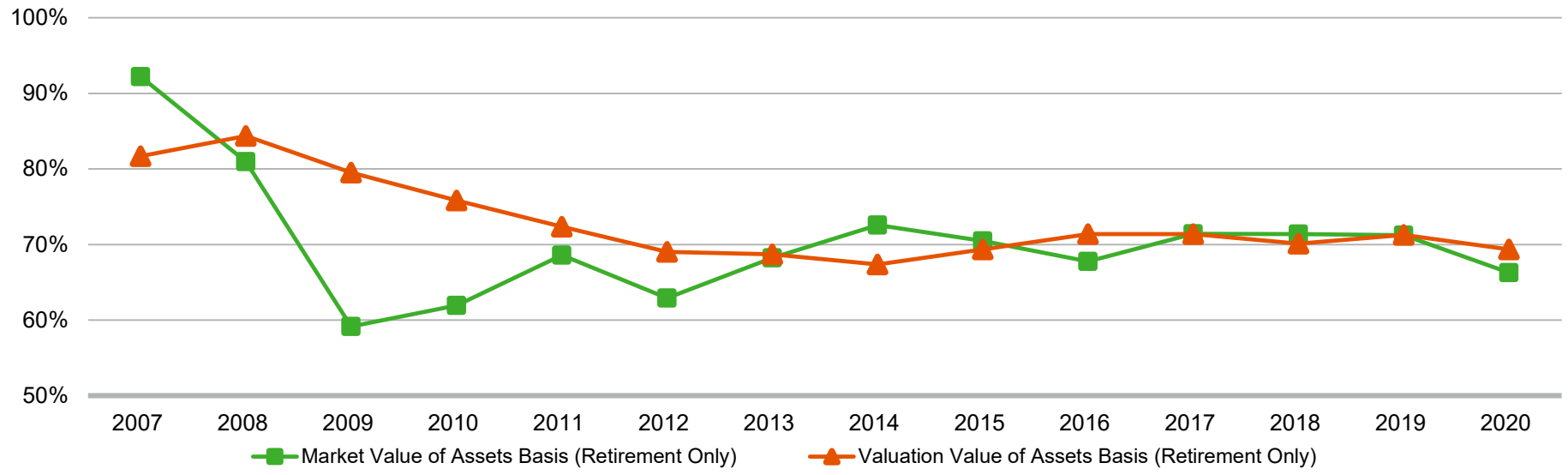
G. Funded Status

A commonly reported piece of information regarding the Plan's financial status is the funded ratio. These ratios compare the Market Value and Valuation Value of Assets to the Actuarial Accrued Liability of the Plan. Higher ratios indicate a relatively well-funded plan while lower ratios may indicate recent changes to actuarial assumptions, funding of the plan below actuarial requirements, poor asset performance, or a variety of other causes.

The chart below depicts a history of the funded ratio for the Plan. The chart on the next page shows the Plan's schedule of funding progress for the last ten years.

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

Funded Ratio for Years Ended June 30, 2007 – 2020



Schedule of Funding Progress for Years Ended June 30, 2011 – 2020

Actuarial Valuation Date as of June 30	Valuation Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Projected Covered Payroll (c)	UAAL as a Percentage of Projected Covered Payroll [(b) - (a)] / (c)
2011	$9,691,011,496	$13,391,704,000	$3,700,692,504	72.37%	$1,833,392,381	201.85%
2012	9,934,959,310	14,393,958,574	4,458,999,264	69.02%	1,819,269,630	245.10%
2013	10,223,960,886	14,881,663,162	4,657,702,276	68.70%	1,846,970,474	252.18%
2014	10,944,750,574	16,248,853,099	5,304,102,525	67.36%	1,898,064,175	279.45%
2015	11,727,161,378	16,909,996,380	5,182,835,002	69.35%	1,907,664,598	271.68%
2016	12,439,250,206	17,424,996,329	4,985,746,123	71.39%	1,968,702,630	253.25%
2017	13,178,333,884	18,458,187,953	5,279,854,069	71.40%	2,062,316,129	256.02%
2018	13,982,435,465	19,944,579,058	5,962,143,593	70.11%	2,177,687,102	273.78%
2019	14,818,564,427	20,793,421,143	5,974,856,716	71.27%	2,225,412,831	268.48%
2020	15,630,102,547	22,527,195,295	6,897,092,748	69.38%	2,445,016,587	282.09%

H. Actuarial Balance Sheet

An overview of the Plan's funding is given by an Actuarial Balance Sheet. In this approach, first the amount and timing of all future payments that will be made by the Plan for current participants is determined. Then these payments are discounted at the valuation interest rate to the date of the valuation, thereby determining the present value, referred to as the actuarial present value of future benefits of the Plan.

Second, this actuarial present value of future benefits is compared to the assets. The "assets" for this purpose include the net amount of assets already accumulated by the Plan, the present value of future member contributions, the present value of future employer normal cost contributions, and the present value of future employer amortization payments for the unfunded actuarial accrued liability.

Actuarial Balance Sheet

	Year Ended	
	June 30, 2020	**June 30, 2019**
Actuarial present value of future benefits		
• Present value of benefits for retired members and beneficiaries	$12,377,357,430	$11,620,004,477
• Present value of benefits for inactive vested members	562,921,724	516,719,939
• Present value of benefits for active members	13,316,127,323	11,598,917,004
Total actuarial present value of future benefits	**$26,256,406,477**	**$23,735,641,420**
Current and future assets		
• Total valuation value of assets	$15,630,102,547	$14,818,564,427
• Present value of future contributions by members	2,139,920,447	1,848,423,280
• Present value of future employer contributions for:		
◦ Entry age normal cost	1,589,290,735	1,093,796,997
◦ Unfunded actuarial accrued liability	6,897,092,748	5,974,856,716
Total of current and future assets	**$26,256,406,477**	**$23,735,641,420**

I. Volatility Ratios

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

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

The current AVR is about 6.1. This means that a 1% asset gain or loss (relative to the assumed investment return) translates to about 6.1% of one-year's payroll. Since actuarial gains and losses are amortized over 15 years, there would be a 0.5% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss).

The Liability Volatility Ratio (LVR), which is equal to the actuarial accrued liability divided by payroll, provides an indication of the longer-term potential for contribution volatility for any given level of investment volatility. This is because, over an extended period of time, the plan's assets should track the plan's liabilities.

The LVR also indicates how volatile contributions will be in response to changes in the Actuarial Accrued Liability due to actual experience or to changes in actuarial assumptions. The current LVR is about 9.2. This is about 51% higher than the AVR. Therefore, we would expect that contribution volatility will increase over the long term.

Volatility Ratios for Years Ended 2011 – 2020

Year Ended June 30	Asset Volatility Ratio	Liability Volatility Ratio
2011	5.0	7.3
2012	5.0	7.9
2013	5.5	8.1
2014	6.2	8.6
2015	6.2	8.9
2016	6.0	8.9
2017	6.4	9.0
2018	6.5	9.2
2019	6.7	9.3
2020	6.1	9.2

J. Risk Assessment

Since the actuarial valuation results are dependent on a fixed set of assumptions and data as of a specific date, there is risk that emerging results may differ, perhaps significantly, as actual experience is fluid and will not exactly track current assumptions. This potential divergence may have a significant impact on the future financial condition of the plan.

This report does not contain a detailed analysis of the potential range of future measurements, but does include a concise discussion of some of the primary risks that may affect the Plan's future financial condition. Earlier this year, prior to the completion of the triennial experience study recommending assumptions for the June 30, 2020 valuations, we prepared a stand-alone Risk Assessment report for the Retirement and Health Plans dated February 19, 2020 by using membership and financial information as provided in the actuarial valuations as of June 30, 2019. That report includes various deterministic projections of future results under different investment return scenarios based on the assumptions adopted for the June 30, 2019 valuations (i.e., prior to the adoption of new assumptions for the June 30, 2020 valuations). A copy of the stand-alone risk assessment report associated with this June 30, 2020 valuation, including the quantitative analyses recommended by Segal in consultation with LACERS staff, will be available in the first quarter of 2021.

This section provides descriptions and basic assessments of the primary risks that are likely to have an ongoing influence on the Plan's financial health, as well as a discussion of historical trends and maturity masures:

Risk Assessments

- Asset/Liability Mismatch Risk (the potential that future plan experience does not affect asset and liability values in the same way, causing them to diverge)

  The most significant asset/liability mismatch risk to the Plan is investment risk, as discussed below. In fact, investment risk has the potential to impact asset/liability mismatch in two ways. The first mismatch is evident in annual valuations: when asset values deviate from assumptions they are typically independent from liability changes. The second mismatch can be caused when systemic asset deviations from assumptions may signal the need for an assumption change, which causes liability values and contribution rates to move in the opposite direction from any change in the expected experience of asset growth rates.

  Asset/liability mismatch can also be caused by demographic assumption risk such as longevity, which affects liabilities but have no impact on asset levels. This risk is also discussed below.

- Investment Risk (the risk that investment returns will be different than expected)

  The investment return assumption is a long-term, static assumption for valuation purposes even though in reality market experience can be quite volatile in any given year. That volatility can cause significant changes in the financial health of the system, affecting both funded status and contribution rates. The inherent year-to-year volatility is reduced by smoothing through the Actuarial Value of Assets,

however investment experience can still have a sizable impact. As discussed in *Section 2, Subsection I, Volatility Ratios*, on page 38, a 1% asset gain or loss (relative to the assumed investment return) translates to about 6.1% of one-year's payroll. Since actuarial gains and losses are amortized over 15 years, there would be a 0.5% of payroll decrease/(increase) in the required contribution for each 1% asset gain or loss.

The single year market value rate of return over the last 10 years has ranged from a low of 0.05% to a high of 21.33%.

- Longevity Risk (the risk that mortality experience will be different than expected)

  The actuarial valuation includes current life expectancy assumptions and an expectation of future improvement in life expectancy, which are significant assumptions given the relatively long duration of liabilities for pension plans. Emerging plan experience that does not match these expectations will result in increases or decreases in the actuarially determined contribution over time. This risk can be reduced by using tables appropriate for the Plan (public experience tables) that are weighted by benefit levels, and by using generational mortality projections. Effective with this valuation, the Board has adopted mortality tables based on public plan experience that are weighted by benefits and include generational mortality projections.

- Other Risks

  In addition to longevity, the valuation includes a variety of other assumptions that are unlikely to match future experience exactly. One example is projected salary scales over time. As salary is central to the determination of benefits paid in retirement, deviations from the projected salary scales could have a material impact on the benefits anticipated for each member. Examples of demographic assumptions include retirement, termination and disability assumptions, and will likely vary in significance for different pension plans.

Some plans also carry significant contribution risk, defined as the potential for actual future contributions deviating from expected future contributions. However, the employer has a proven track-record of making the Actuarially Determined Contributions based on the Board's Actuarial Funding Policy, so contribution risk is minimal.

Evaluation of Historical Trends

Past experience can help demonstrate the sensitivity of key results to the Plan's actual experience. Over the past ten years:

- The funded percentage on the Valuation Value of Assets basis has decreased from 72.37% to 69.38%. This is primarily due to changes in the actuarial assumptions. For a more detailed history see *Section 2, Subsection G, Funded Status* starting on page 35.
- The average geometric investment return on the Actuarial Value of Assets over the last 10 years was 6.71%. This includes a high of 9.05% return and a low of 4.43%. The average over the last 5 years was 7.16%. For more details see *Section 2, Subsection C, Investment Return* on page 24.

- The primary source of new UAAL was the strengthening of assumptions through multiple assumption changes. For example, the assumption changes in:
  - 2014 changed the discount rate from 7.75% to 7.50% and updated mortality tables, adding $785 million in unfunded liability;
  - 2017 changed the discount rate from 7.50% to 7.25%, adding $341 million in unfunded liability;
  - 2018 included the use of generational mortality tables to better reflect future mortality improvement, adding $484 million in unfunded liability; and
  - 2020 changed the discount rate from 7.25% to 7.00% and updated mortality tables based on public plan experience that are weighted by benefits, adding $531 million in unfunded liability.

  For more details on the unfunded liability changes see *Section 3, Exhibit G, Table of Amortization Bases* on page 55. A graphical representation of historical changes in UAAL by source prior to this valuation was included in the stand-alone risk assessment report as of June 30, 2019.
- The plan's funding policy effectively deals with these unfunded liabilities over time. This can be seen most clearly in the *Section 3, Exhibit I, Projection of UAAL Balances and Payments* provided on pages 56 and 57.

Maturity Measures

In the last 10 years the ratio of retired members and beneficiaries to active members has increased from 0.68 to 0.74. An increased ratio indicates that the plan has grown in maturity over time. This is to be expected, but is also informative for understanding plan sensitivity to particular risks. For more details see *Section 2, Subsection A, Member Data* on page 15.

As pension plans mature, the cash needed to fulfill benefit obligations will increase over time. Therefore, cash flow projections and analysis should be performed to assure that the Plan's asset allocation is aligned to meet emerging pension liabilities. For the prior year, benefits paid were $166 million more than contributions received. Plans with high levels of negative cash flows may have a need for a larger allocation to income generating assets, which can create a drag on investment return. However, this plan currently has relatively low levels of negative cash flows. For more details on historical cash flows see the Comparison of Contributions with Benefits in *Section 2, Subsection B, Financial Information* on page 19.

A further discussion of plan maturity measures and how they relate to changes in assets and liabilities is included in *Section 2, Subsection I, Volatility Ratios* on page 38.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage

Total Plan

Category	Year Ended June 30 2020	Year Ended June 30 2019	Change From Prior Year
Active members in valuation:			
• Number	27,490	26,632	3.2%
• Average age	46.8	47.0	-0.2
• Average years of employment service	12.9	13.2	-0.3
• Total projected compensation[1]	$2,445,016,587	$2,225,412,831	9.9%
• Average projected compensation[1]	$88,942	$83,562	6.4%
• Account balances	$2,384,680,646	$2,266,740,475	5.2%
• Total active vested members	17,722	17,812	-0.5%
Inactive vested members:			
• Number	9,207	8,588	7.2%
• Average age	44.3	44.5	-0.2
• Average contribution balance for those with under 5 years of service	$7,097	$6,819	4.1%
• Average monthly benefit at age 60 for those with 5 or more years of service	$1,634	$1,616	1.1%
Retired members:			
• Number in pay status	15,525	15,165	2.4%
• Average service at retirement	26.5	26.5	0.0
• Average age at retirement	60.4	60.4	0.0
• Average age	72.0	71.9	0.1
• Average monthly benefit (includes July COLA)	$4,665	$4,489	3.9%

[1] Reflects annualized salaries for part-time members.

Exhibit A: Table of Plan Coverage (continued)

Total Plan (continued)

Category	Year Ended June 30 2020	Year Ended June 30 2019	Change From Prior Year
Disabled members:			
• Number in pay status	884	888	-0.5%
• Average service at retirement	11.5	11.6	-0.1
• Average age at retirement	47.8	47.6	0.2
• Average age	67.6	67.1	0.5
• Average monthly benefit (includes July COLA)	$1,815	$1,762	3.0%
Beneficiaries:			
• Number in pay status	4,014	3,981	0.8%
• Average age	76.4	76.3	0.1
• Average monthly benefit (includes July COLA)	$2,418	$2,342	3.2%

Exhibit A: Table of Plan Coverage (continued)

Tier 1[1]

Category	Year Ended June 30 2020	Year Ended June 30 2019	Change From Prior Year
Active members in valuation:			
• Number	20,101	21,226	-5.3%
• Average age	50.2	49.6	0.6
• Average years of employment service	16.9	16.2	0.7
• Total projected compensation[2]	$1,926,176,122	$1,877,504,719	2.6%
• Average projected compensation[2]	$95,825	$88,453	8.3%
• Account balances	$2,287,178,255	$2,213,161,075	3.3%
• Total active vested members	17,565	17,715	-0.8%
Inactive vested members:			
• Number	7,777	7,638	1.8%
• Average age	45.7	45.5	0.2
• Average contribution balance for those with under 5 years of service	$7,073	$6,941	1.9%
• Average monthly benefit at age 60 for those with 5 or more years of service	$1,635	$1,617	1.1%
Retired members:			
• Number in pay status	15,525	15,165	2.4%
• Average service at retirement	26.5	26.5	0.0
• Average age at retirement	60.4	60.4	0.0
• Average age	72.0	71.9	0.1
• Average monthly benefit (includes July COLA)	$4,665	$4,489	3.9%

[1] Includes the following number of Airport Peace Officers eligible for enhanced benefits:

	June 30, 2020	June 30, 2019
Active Members	416	433
Inactive Members	20	17
Retired Members	55	43

[2] Reflects annualized salaries for part-time members.

Exhibit A: Table of Plan Coverage (continued)

Tier 1 (continued)

Category	Year Ended June 30 2020	2019	Change From Prior Year
Disabled members:			
• Number in pay status	884	888	-0.5%
• Average service at retirement	11.5	11.6	-0.1
• Average age at retirement	47.8	47.6	0.2
• Average age	67.6	67.1	0.5
• Average monthly benefit (includes July COLA)	$1,815	$1,762	3.0%
Beneficiaries:			
• Number in pay status	4,014	3,981	0.8%
• Average age	76.4	76.3	0.1
• Average monthly benefit (includes July COLA)	$2,418	$2,342	3.2%

Exhibit A: Table of Plan Coverage (continued)

Tier 3

Category	Year Ended June 30 2020	Year Ended June 30 2019	Change From Prior Year
Active members in valuation:			
• Number	7,389	5,406	36.7%
• Average age	37.4	37.0	0.4
• Average years of employment service	2.0	1.6	0.4
• Total projected compensation[1]	$518,840,465	$347,908,112	49.1%
• Average projected compensation[1]	$70,218	$64,356	9.1%
• Account balances	$97,502,391	$53,579,400	82.0%
• Total active vested members	157	97	61.9%
Inactive vested members:			
• Number	1,430	950	50.5%
• Average age	36.8	36.3	0.5
• Average contribution balance for those with under 5 years of service	$7,189	$6,152	16.9%
• Average monthly benefit at age 60 for those with 5 or more years of service	$438	$438	0.0%
Retired members:			
• Number in pay status	N/A	N/A	N/A
• Average service at retirement	N/A	N/A	N/A
• Average age at retirement	N/A	N/A	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit (includes July COLA)	N/A	N/A	N/A

[1] Reflects annualized salaries for part-time members.

Exhibit A: Table of Plan Coverage (continued)

Tier 3 (continued)

Category	Year Ended June 30 2020	Year Ended June 30 2019	Change From Prior Year
Disabled members:			
• Number in pay status	N/A	N/A	N/A
• Average service at retirement	N/A	N/A	N/A
• Average age at retirement	N/A	N/A	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit (includes July COLA)	N/A	N/A	N/A
Beneficiaries:			
• Number in pay status	N/A	N/A	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit (includes July COLA)	N/A	N/A	N/A

Exhibit B: Members in Active Service as of June 30, 2020 by Age, Years of Service,[1] and Average Projected Compensation[2]

Total Plan

		Years of Service								
Age	**Total**	**0 – 4**	**5 – 9**	**10 – 14**	**15 – 19**	**20 – 24**	**25 – 29**	**30 – 34**	**35 – 39**	**40 & over**
Under 25	816	815	1	- -	- -	- -	- -	- -	- -	- -
	$51,419	$51,378	$85,021	- -	- -	- -	- -	- -	- -	- -
25 – 29	2,431	2,249	180	2	- -	- -	- -	- -	- -	- -
	62,897	61,554	79,756	$55,786	- -	- -	- -	- -	- -	- -
30 – 34	2,750	1,980	523	238	9	- -	- -	- -	- -	- -
	71,545	67,308	85,935	75,498	$62,823	- -	- -	- -	- -	- -
35 – 39	2,945	1,404	456	851	219	15	- -	- -	- -	- -
	85,728	74,295	96,215	96,853	93,905	$86,449	- -	- -	- -	- -
40 – 44	3,241	1,033	293	850	837	217	11	- -	- -	- -
	93,252	74,887	99,114	99,622	104,054	105,947	$97,159	- -	- -	- -
45 – 49	3,309	811	232	695	802	614	138	17	- -	- -
	95,932	74,439	94,784	94,155	102,168	113,928	115,105	$109,848	- -	- -
50 – 54	3,960	646	192	614	749	714	515	504	26	- -
	100,553	77,808	93,278	89,229	95,265	111,000	125,436	113,557	$107,276	- -
55 – 59	3,704	465	163	547	655	566	416	718	171	3
	100,861	74,710	90,830	86,547	93,832	106,368	118,698	119,155	115,605	$112,908
60 – 64	2,459	272	118	401	506	320	238	423	153	28
	96,953	73,056	92,931	84,393	86,971	101,824	107,415	115,794	127,377	110,883
65 – 69	1,244	83	41	230	308	195	94	187	69	37
	95,348	66,741	93,239	80,575	87,618	100,015	112,672	111,258	121,314	120,593
70 & over	631	35	36	108	175	105	50	70	19	33
	83,152	63,729	80,434	67,208	72,349	90,988	97,379	104,066	95,903	118,002
Total	**27,490**	**9,793**	**2,235**	**4,536**	**4,260**	**2,746**	**1,462**	**1,919**	**438**	**101**
	$88,942	**$68,239**	**$91,583**	**$90,913**	**$95,453**	**$107,552**	**$117,617**	**$115,542**	**$119,268**	**$116,827**

[1] Based on employment service. Average employment service is 12.9 years compared to average benefit service of 12.2 years.
[2] Limited by Internal Revenue Code Section 401(a)(17) compensation limit.

Exhibit B: Members in Active Service as of June 30, 2020 by Age, Years of Service,[1] and Average Projected Compensation[2] (continued)

Tier 1

	Years of Service									
Age	**Total**	**0 – 4**	**5 – 9**	**10 – 14**	**15 – 19**	**20 – 24**	**25 – 29**	**30 – 34**	**35 – 39**	**40 & over**
Under 25	172	171	1	- -	- -	- -	- -	- -	- -	- -
	$44,909	$44,675	$85,021	- -	- -	- -	- -	- -	- -	- -
25 – 29	859	679	178	2	- -	- -	- -	- -	- -	- -
	63,435	59,261	79,444	$55,786	- -	- -	- -	- -	- -	- -
30 – 34	1,261	518	502	232	9	- -	- -	- -	- -	- -
	74,630	63,964	85,565	75,240	$62,823	- -	- -	- -	- -	- -
35 – 39	1,854	349	434	840	216	15	- -	- -	- -	- -
	91,445	71,620	95,768	96,919	93,852	$86,449	- -	- -	- -	- -
40 – 44	2,426	244	282	842	833	214	11	- -	- -	- -
	99,142	76,006	98,053	99,488	104,107	106,366	$97,159	- -	- -	- -
45 – 49	2,657	188	225	684	796	611	136	17	- -	- -
	100,793	75,304	94,349	93,374	102,177	113,974	115,559	$109,848	- -	- -
50 – 54	3,449	158	184	612	743	710	512	504	26	- -
	103,485	72,305	93,827	89,275	95,024	110,996	125,320	113,557	$107,276	- -
55 – 59	3,344	113	161	546	651	566	415	718	171	3
	103,261	66,933	90,228	86,184	93,738	106,368	118,725	119,155	115,605	$112,908
60 – 64	2,276	93	115	401	506	320	238	422	153	28
	98,494	65,827	91,834	84,393	86,971	101,824	107,415	115,873	127,377	110,883
65 – 69	1,185	25	41	230	307	195	94	187	69	37
	96,604	59,566	93,239	80,575	87,620	100,015	112,672	111,258	121,314	120,593
70 & over	618	23	35	108	175	105	50	70	19	33
	82,710	47,976	76,230	67,208	72,349	90,988	97,379	104,066	95,903	118,002
Total	**20,101**	**2,561**	**2,158**	**4,497**	**4,236**	**2,736**	**1,456**	**1,918**	**438**	**101**
	$95,825	**$64,979**	**$91,040**	**$90,714**	**$95,393**	**$107,584**	**$117,613**	**$115,559**	**$119,268**	**$116,827**

[1] Based on employment service. Average employment service for Tier 1 is 16.9 years compared to average benefit service of 16.0 years.
[2] Limited by Internal Revenue Code Section 401(a)(17) compensation limit.

Exhibit B: Members in Active Service as of June 30, 2020 by Age, Years of Service,[1] and Average Projected Compensation[2] (continued)

Tier 3

	Years of Service									
Age	**Total**	**0 – 4**	**5 – 9**	**10 – 14**	**15 – 19**	**20 – 24**	**25 – 29**	**30 – 34**	**35 – 39**	**40 & over**
Under 25	644	644	- -	- -	- -	- -	- -	- -	- -	- -
	$53,158	$53,158	- -	- -	- -	- -	- -	- -	- -	- -
25 – 29	1,572	1,570	2	- -	- -	- -	- -	- -	- -	- -
	62,603	62,546	$107,579	- -	- -	- -	- -	- -	- -	- -
30 – 34	1,489	1,462	21	6	- -	- -	- -	- -	- -	- -
	68,932	68,493	94,760	$85,497	- -	- -	- -	- -	- -	- -
35 – 39	1,091	1,055	22	11	3	- -	- -	- -	- -	- -
	76,012	75,180	105,045	91,861	$97,705	- -	- -	- -	- -	- -
40 – 44	815	789	11	8	4	3	- -	- -	- -	- -
	75,719	74,540	126,318	113,637	93,077	$76,020	- -	- -	- -	- -
45 – 49	652	623	7	11	6	3	2	- -	- -	- -
	76,124	74,178	108,777	142,737	100,965	104,690	$84,204	- -	- -	- -
50 – 54	511	488	8	2	6	4	3	- -	- -	- -
	80,762	79,590	80,668	75,437	125,127	111,699	145,232	- -	- -	- -
55 – 59	360	352	2	1	4	- -	1	- -	- -	- -
	78,566	77,206	139,316	285,000	109,062	- -	107,348	- -	- -	- -
60 – 64	183	179	3	- -	- -	- -	- -	1	- -	- -
	77,796	76,811	134,986	- -	- -	- -	- -	$82,554	- -	- -
65 – 69	59	58	- -	- -	1	- -	- -	- -	- -	- -
	70,125	69,834	- -	- -	86,999	- -	- -	- -	- -	- -
70 & over	13	12	1	- -	- -	- -	- -	- -	- -	- -
	104,206	93,923	227,602	- -	- -	- -	- -	- -	- -	- -
Total	**7,389**	**7,232**	**77**	**39**	**24**	**10**	**6**	**1**	**- -**	**- -**
	$70,218	**$69,393**	**$106,800**	**$113,808**	**$106,051**	**$98,893**	**$118,575**	**$82,554**	**- -**	**- -**

[1] Based on employment service. Average employment service for Tier 3 is 2.0 years compared to average benefit service of 1.8 years. We understand that some Tier 3 members entered LACERS with incoming reciprocal (i.e., employment) service. Such service is only used for eligibility determination purposes.

[2] Limited by Internal Revenue Code Section 401(a)(17) compensation limit.

Exhibit C: Reconciliation of Member Data

	Active Members	Inactive Vested Members	Retired Members	Disabled Members	Beneficiaries	Total
Number as of June 30, 2019	**26,632**	**8,588**	**15,165**	**888**	**3,981**	**55,254**
• New members	2,535	0	0	0	253	2,788
• Terminations – with vested rights	-1,163	1,163	0	0	0	0
• Contribution refunds	-52	-223	0	0	0	-275
• Retirements	-700	-154	854	0	0	0
• New disabilities	0	-25	0	25	0	0
• Return to work	296	-295	0	-1	0	0
• Died with or without beneficiary	-58	-32	-496	-28	-217	-831
• Data adjustments	0	185[1]	2	0	-3	184
Number as of June 30, 2020	**27,490**	**9,207**	**15,525**	**884**	**4,014**	**57,120**

Note: For the change in the annual benefits from the retirees and beneficiaries added to and removed from the rolls, refer to Exhibit D of the supplemental schedules that accompany this report.

[1] Includes members who were both hired and terminated employment after June 30, 2019.

Exhibit D: Summary Statement of Income and Expenses on a Market Value Basis for Retirement, Health, Family Death, and Larger Annuity Benefits

	Year Ended June 30, 2020		Year Ended June 30, 2019	
Net assets at market value at the beginning of the year		**$17,707,909,933**		**$16,989,616,344**
Contribution income:				
• Employer contributions	$665,358,602		$586,753,902	
• Member contributions	263,935,650		240,357,396	
Net contribution income		$929,294,252		$827,111,298
Investment income:				
• Interest, dividends and other income	$404,725,040		$416,415,425	
• Asset appreciation	50,201,536		637,092,495	
• Less investment and administrative fees	-116,063,829		-107,917,081	
Net investment income		$338,862,747		$945,590,839
Total income available for benefits		**$1,268,156,999**		**$1,772,702,137**
Less benefit payments:				
• Benefits paid[1]	-$1,100,410,396		-$1,042,725,029	
• Member refunds	-12,332,170		-11,683,519	
Net benefit payments		-$1,112,742,566		-$1,054,408,548
Change in net assets at market value		$155,414,433		$718,293,589
Net assets at market value at the end of the year		**$17,863,324,366**		**$17,707,909,933**

Note: Results may be slightly off due to rounding.

[1] Includes offsets related to self funded dental insurance premium and health insurance premium reserve.

Exhibit E: Summary Statement of Plan Assets for Retirement, Health, Family Death, and Larger Annuity Benefits

	June 30, 2020	June 30, 2019
Cash equivalents	$665,047,501	$440,455,108
Accounts receivable:		
• Accrued investment income	$60,957,885	$62,832,172
• Proceeds from sales of investments	73,531,756	234,349,252
• Other	18,773,983	15,324,165
Total accounts receivable	$153,263,624	$312,505,589
Investments:		
• Fixed income	$4,457,096,025	$4,359,360,084
• Equities	9,527,332,330	9,912,472,407
• Real estate and alternative investment	2,991,513,495	2,801,074,174
• Derivative instruments	2,124,127	-796,982
• Other	552,844,013	918,104,377
Total investments at market value	$17,530,909,990	$17,990,214,060
Capital assets	42,358,528	8,788,596
Total assets	$18,391,579,643	$18,751,963,353
Accounts payable:		
• Accounts payable and accrued expenses	-$65,278,228	-$54,418,516
• Accrued investment expenses	-12,118,451	-9,664,366
• Purchases of investments	-125,595,619	-274,435,536
• Securities lending collateral	-325,262,979	-705,535,002
Total accounts payable	-$528,255,277	-$1,044,053,420
Net assets at market value	**$17,863,324,366**	**$17,707,909,933**
Net assets at actuarial value	**$18,697,966,253**	**$17,711,461,636**
Net assets at valuation value	**$15,630,102,547**	**$14,818,564,427**

Note: Results may be slightly off due to rounding.

Exhibit F: Development of the Fund through June 30, 2020 for Retirement, Health, Family Death, and Larger Annuity Benefits

Year Ended June 30	Employer Contributions	Employee Contributions	Net Investment Return[1]	Benefit Payments[2]	Market Value of Assets at Year-End	Actuarial Value of Assets at Year-End	Actuarial Value as a Percent of Market Value
2011	$414,133,032	$114,731,434	$1,934,130,562	$770,755,578	$10,693,603,976	$11,280,641,736	105.5%
2012	423,920,740	178,246,151	67,093,447	767,163,328	10,595,700,986	11,620,457,827	109.7%
2013	419,266,581	197,880,631	1,512,696,071	803,005,352	11,922,538,917	12,004,110,338	100.7%
2014	455,658,786	204,135,914	2,180,005,302	826,566,921	13,935,771,998	12,935,503,398	92.8%
2015	481,765,868	207,564,465	348,113,908	848,455,864[3]	14,124,760,375	13,895,589,227	98.4%
2016	546,687,123	211,344,752	7,190,895	884,923,630	14,005,059,515	14,752,102,625	105.3%
2017	550,961,514	227,531,810	1,834,657,728	928,640,257	15,689,570,310	15,686,973,131	100.0%
2018	551,247,264	236,222,166	1,498,100,177	985,523,573[4]	16,989,616,344	16,687,907,767	98.2%
2019	586,753,902	240,357,396	945,590,839	1,054,408,548	17,707,909,933	17,711,461,636	100.0%
2020	665,358,602	263,935,650	338,862,747	1,112,742,566	17,863,324,366	18,697,966,253	104.7%

Note: Results may be slightly off due to rounding.

[1] On a market value basis, net of investment fees and administrative expenses.

[2] Includes offsets related to self funded dental insurance premium and health insurance premium reserve starting with the June 30, 2019 valuation.

[3] Includes transfer of $2,614,765 to Fire and Police Pension for Office of Public Safety.

[4] Includes approximately $3.0 million transferred to LAFPP on January 5, 2018 for the APO who transferred from LACERS to LAFPP on January 7, 2018.

Exhibit G: Table of Amortization Bases

Type	Date Established	Initial Amount	Initial Period	Outstanding Balance	Years Remaining	Annual Payment[1]
Plan amendment (2009 ERIP)	June 30, 2009	$300,225,354	15	146,872,630	4	38,705,800
Combined base	June 30, 2012	4,173,548,280	30	4,660,231,359	22	300,331,891
Experience loss	June 30, 2013	116,022,989	15	89,970,871	8	12,699,598
Experience gain	June 30, 2014	-215,549,892	15	-177,552,618	9	-22,657,842
Change in assumptions	June 30, 2014	785,439,114	20	752,613,330	14	67,092,088
Experience gain	June 30, 2015	-185,473,782	15	-160,677,898	10	-18,767,232
Experience gain	June 30, 2016	-255,444,007	15	-230,429,645	11	-24,880,212
Experience gain	June 30, 2017	-99,814,895	15	-92,991,301	12	-9,358,109
Change in assumptions	June 30, 2017	340,717,846	20	336,739,650	17	25,952,690
Experience loss	June 30, 2018	147,418,362	15	141,404,425	13	13,354,255
Change in assumptions	June 30, 2018	483,717,164	20	481,329,808	18	35,600,268
Plan amendment (APO Tier 1 Enhancement)	January 7, 2018	25,170,149	15	24,689,056	12.5	2,404,992
Experience loss	June 30, 2019	394,012	15	386,859	14	34,487
Experience loss	June 30, 2020	393,785,997	15	393,785,997	15	33,302,617
Change in assumptions	June 30, 2020	530,720,225	20	530,720,225	20	36,464,923
Subtotal before GASB amount				**$6,897,092,748**		**$490,280,214**
40-year minimum GASB 25/27	June 30, 2005	12,708,684	15	0	0	0
Total				**$6,897,092,748**		**$490,280,214**

Note: the equivalent single amortization period is about 19 years.

[1] Beginning of year payments, based on level percentage of payroll.

Exhibit H: Projection of UAAL Balances and Payments

Outstanding Balance of $6.90 Billion in Net UAAL as of June 30, 2020

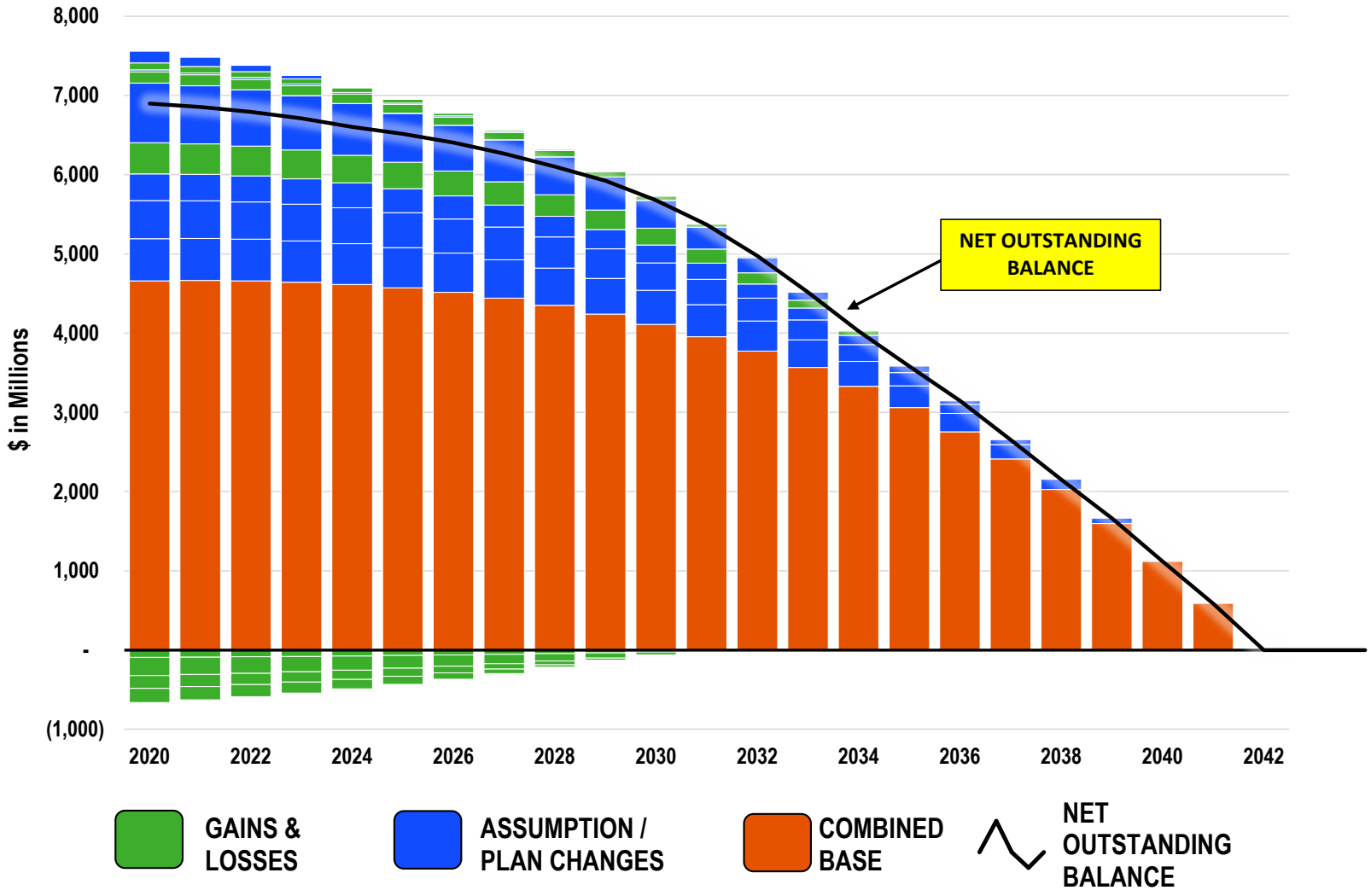


Exhibit H: Projection of UAAL Balances and Payments (continued)

Annual Payments Required to Amortize $6.90 Billion in Net UAAL as of June 30, 2020

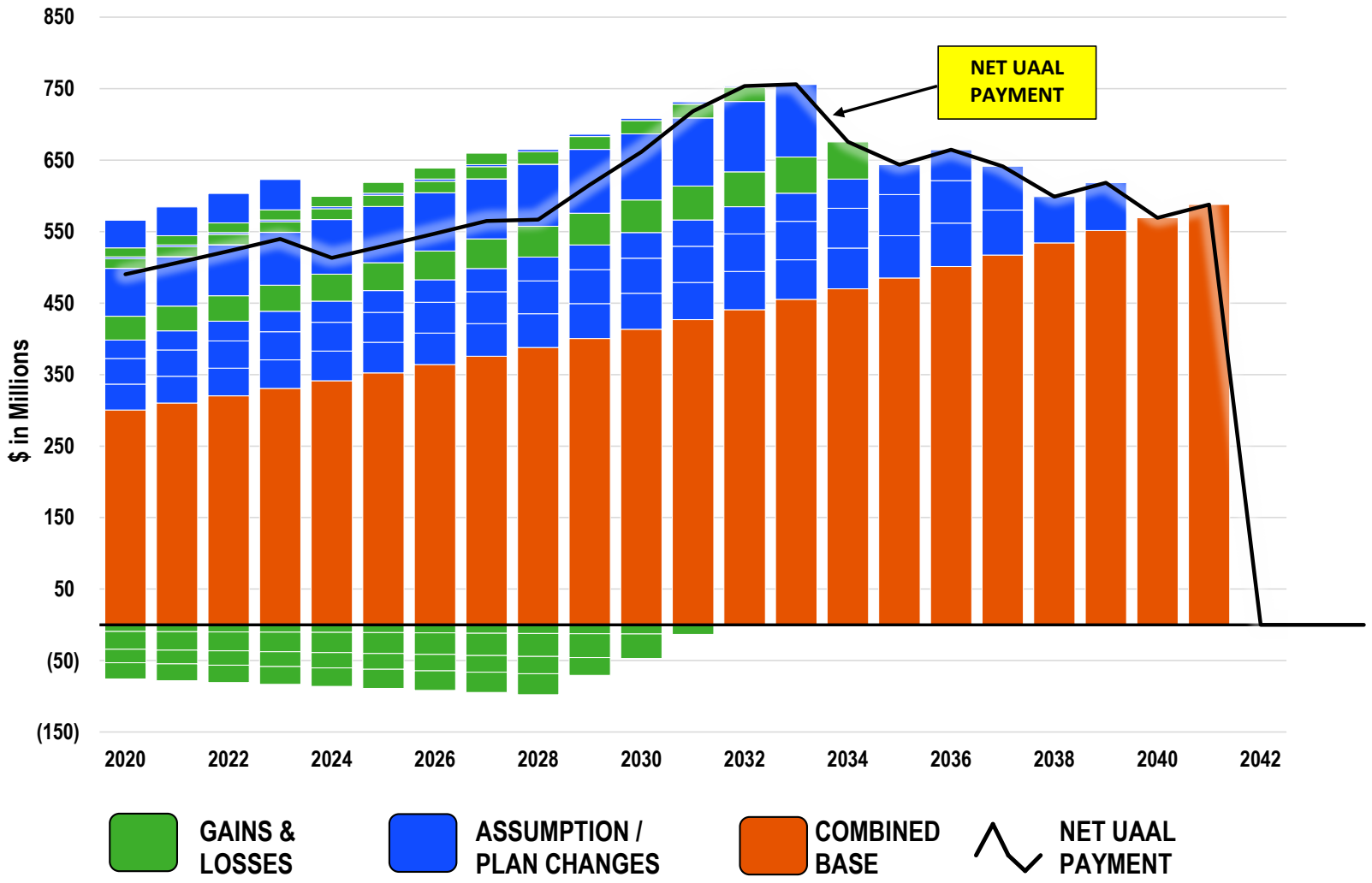


Exhibit I: Definition of Pension Terms

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

Actuarial Accrued Liability for Actives:	The equivalent of the accumulated Normal Costs allocated to the years before the valuation date.
Actuarial Accrued Liability for Pensioners and Beneficiaries:	The single-sum value of lifetime benefits to existing pensioners and beneficiaries. This sum takes account of life expectancies appropriate to the ages of the annuitants and the interest that the sum is expected to earn before it is entirely paid out in benefits.
Actuarial Cost Method:	A procedure allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability that are used to determine the actuarially determined contribution.
Actuarial Gain or Loss:	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. Through the actuarial assumptions, rates of decrements, rates of salary increases, and rates of fund earnings have been forecasted. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., assets earn more than projected, salary increases are less than assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results yield in actuarial liabilities that are larger than projected.
Actuarially Equivalent:	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial Present Value (APV):	The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. Each such amount or series of amounts is: Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.) Multiplied by the probability of the occurrence of an event (such as survival, death, disability, withdrawal, etc.) on which the payment is conditioned, and Discounted according to an assumed rate (or rates) of return to reflect the time value of money.

Section 3: Supplemental Information

Actuarial Present Value of Future Plan Benefits:	The Actuarial Present Value of benefit amounts expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age, anticipated future compensation, and future service credits. The Actuarial Present Value of Future Plan Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
Actuarial Valuation:	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB, such as the Actuarially Determined Contribution (ADC) and the Net Pension Liability (NPL).
Actuarial Value of Assets (AVA):	The value of the Fund's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly plans use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the ADC.
Actuarially Determined:	Values that have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the law.
Actuarially Determined Contribution (ADC):	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Plan's funding policy. The ADC consists of the Employer Normal Cost and the Amortization Payment.
Amortization Method:	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.
Amortization Payment:	The portion of the pension plan contribution, or ADC, that is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

Section 3: Supplemental Information

Assumptions or Actuarial Assumptions:	The estimates upon which the cost of the Fund is calculated, including: Investment return - the rate of investment yield that the Fund will earn over the long-term future; Mortality rates - the death rates of employees and pensioners; life expectancy is based on these rates; Retirement rates - the rate or probability of retirement at a given age or service; Disability rates – the probability of disability retirement at a given age; Withdrawal rates - the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement; Salary increase rates - the rates of salary increase due to inflation and productivity growth.
Closed Amortization Period:	A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Open Amortization Period.
Decrements:	Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or withdrawal.
Defined Benefit Plan:	A retirement plan in which benefits are defined by a formula applied to the member's compensation and/or years of service.
Defined Contribution Plan:	A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.
Employer Normal Cost:	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
Experience Study:	A periodic review and analysis of the actual experience of the Fund that may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.
Funded Ratio:	The ratio of the Valuation Value of Assets (VVA) to the Actuarial Accrued liability (AAL). Plans sometimes calculate a market funded ratio, using the Market Value of Assets (MVA), rather than the VVA.
Investment Return:	The rate of earnings of the Fund from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.

Section 3: Supplemental Information

Normal Cost:	That portion of the Actuarial Present Value of pension plan benefits and expenses allocated to a valuation year by the Actuarial Cost Method. Any payment with respect to an Unfunded Actuarial Accrued Liability is not part of Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions, Normal Cost refers to the total of employee contributions and employer Normal Cost unless otherwise specifically stated.
Open Amortization Period:	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. If the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year.
Unfunded Actuarial Accrued Liability:	The excess of the Actuarial Accrued Liability over the Valuation Value of Assets. This value may be negative, in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus.
Valuation Date or Actuarial Valuation Date:	The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Plan Benefits is determined. The expected benefits to be paid in the future are discounted to this date.
Valuation Value of Assets:	The Actuarial Value of Assets reduced by the value of non-valuation reserves.

Section 4: Actuarial Valuation Basis

Exhibit I: Actuarial Assumptions and Methods

Rationale for Assumptions:	The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the July 1, 2016 through June 30, 2019 Actuarial Experience Study dated June 17, 2020. Unless otherwise noted, all actuarial assumptions and methods shown below apply to both Tier 1 and Tier 3 members. These assumptions have been adopted by the Board.
Economic Assumptions	
Net Investment Return:	7.00%; net of administrative and investment expenses. Based on the Actuarial Experience Study report referenced above, expected administrative and investment expenses represent about 0.40% of the Actuarial Value of Assets.
Employee Contribution Crediting Rate:	Based on average of 5-year Treasury note rate. An assumption of 2.75% is used to approximate that crediting rate in this valuation.
Consumer Price Index (CPI):	Increase of 2.75% per year; benefit increases due to CPI subject to 2.75% maximum for Tier 1 and 2.00% maximum for Tier 3. (For Tier 1 members with a sufficient COLA bank, withdrawals from the bank can be made to increase the retiree COLA up to 3% per year.)
Payroll Growth:	Inflation of 2.75% per year plus real “across the board” salary increases of 0.50% per year, used to amortize the UAAL as a level percentage of payroll.
Increase in Internal Revenue Code Section 401(a)(17) Compensation Limit:	Increase of 2.75% per year from the valuation date.

Salary Increases:

The annual rate of compensation increase includes: inflation at 2.75%, plus "across the board" salary increases of 0.50% per year, plus the following merit and promotion increases:

Merit and Promotion Increases

Years of Service	Rate (%)
Less than 1	6.70
1 – 2	6.50
2 – 3	5.80
3 – 4	4.00
4 – 5	3.00
5 – 6	2.20
6 – 7	2.00
7 – 8	1.80
8 – 9	1.60
9 – 10	1.40
10 & Over	1.00

Demographic Assumptions:

Post-Retirement Mortality Rates:

Healthy Members

- Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Tables with rates increased by 10% for males, projected generationally with the two-dimensional mortality improvement scale MP-2019.

Disabled Members

- Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Tables with rates increased by 10% for males and decreased by 5% for females, projected generationally with the two-dimensional mortality improvement scale MP-2019.

Beneficiaries

- Pub-2010 Contingent Survivor Amount-Weighted Above-Median Mortality Tables with rates increased by 10% for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2019.

The Pub-2010 mortality tables and adjustments as shown above reasonably reflect the mortality experience as of the measurement date. These mortality tables were adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

Section 4: Actuarial Valuation Basis

Pre-Retirement Mortality Rates:

- Pub-2010 General Employee Amount-Weighted Above-Median Mortality Tables with rates increased by 10%, projected generationally with the two-dimensional mortality improvement scale MP-2019.

	Rate (%)	
Age	**Male**	**Female**
20	0.04	0.01
25	0.03	0.01
30	0.03	0.01
35	0.05	0.02
40	0.06	0.04
45	0.09	0.06
50	0.14	0.08
55	0.21	0.12
60	0.30	0.19
65	0.45	0.30

Generational projections beyond the base year (2010) are not reflected in the above mortality rates.

For Tier 1 Enhanced, 100% of pre-retirement death benefits are assumed to be service-connected.

Disability Incidence:

Disability Incidence	
Age	**Rate (%)**
25	0.01
30	0.02
35	0.04
40	0.06
45	0.12
50	0.16
55	0.18
60	0.18
65	0.22

For Tier 1 Enhanced, 90% of disability retirements are assumed to be service-connected with service-connected disability benefits based on years of service, as follows:

Years of Service	Benefit
Less than 20	55% of Final Average Monthly Compensation
20 – 30	65% of Final Average Monthly Compensation
More than 30	75% of Final Average Monthly Compensation

For Tier 1 Enhanced, 10% of disability retirements are assumed to be nonservice-connected with nonservice-connected disability benefits equal to 40% of Final Average Monthly Compensation.

Termination:

Less Than Five Years of Service

Years of Service	Rate (%)
Less than 1	11.50
1 – 2	10.00
2 – 3	8.50
3 – 4	7.75
4 – 5	7.00

Five or More Years of Service

Age	Rate (%)
25	7.00
30	6.70
35	5.30
40	3.75
45	3.10
50	3.00
55	3.00
60	3.00

No termination is assumed after a member is eligible for retirement (as long as a retirement rate is present).

Section 4: Actuarial Valuation Basis

Retirement Rates:

	Rate (%)					
	Tier 1		Tier 1 Enhanced		Tier 3	
Age	Non-55/30	55/30	Non-55/30	55/30	Non-55/30	55/30
50	5.0	0.0	7.0	0.0	5.0	0.0
51	3.0	0.0	5.0	0.0	3.0	0.0
52	3.0	0.0	5.0	0.0	3.0	0.0
53	3.0	0.0	5.0	0.0	3.0	0.0
54	18.0	0.0	20.0	0.0	17.0	0.0
55	6.0	27.0	8.0	30.0	0.0[1]	26.0
56	6.0	18.0	8.0	22.0	0.0[1]	17.0
57	6.0	18.0	8.0	22.0	0.0[1]	17.0
58	6.0	18.0	8.0	22.0	0.0[1]	17.0
59	6.0	18.0	8.0	22.0	0.0[1]	17.0
60	7.0	18.0	9.0	22.0	6.0	17.0
61	7.0	18.0	9.0	22.0	6.0	17.0
62	7.0	18.0	9.0	22.0	6.0	17.0
63	7.0	18.0	9.0	22.0	6.0	17.0
64	7.0	18.0	9.0	22.0	6.0	17.0
65	14.0	21.0	16.0	26.0	13.0	20.0
66	14.0	21.0	16.0	26.0	13.0	20.0
67	14.0	21.0	16.0	26.0	13.0	20.0
68	14.0	21.0	16.0	26.0	13.0	20.0
69	14.0	21.0	16.0	26.0	13.0	20.0
70 & Over	100.0	100.0	100.0	100.0	100.0	100.0

[1] Not eligible to retire under the provisions of the Tier 3 plan at these ages with less than 30 years of service. If a member has at least 30 years of service at these ages, they would be subject to the "55/30" rates.

Retirement Age and Benefit for Inactive Vested Members:	Pension benefit paid at the later of age 59 or the current attained age. For reciprocals, 4.25% compensation increases per annum.
Other Reciprocal Service:	5% of future inactive vested members will work at a reciprocal system.

Section 4: Actuarial Valuation Basis

Service:	Employment service is used for eligibility determination purposes. Benefit service is used for benefit calculation purposes.
Future Benefit Accruals:	1.0 year of service credit per year.
Unknown Data for Members:	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.
Form of Payment:	All active and inactive Tier 1 and Tier 3 members who are assumed to be married or with domestic partners at retirement are assumed to elect the 50% Joint and Survivor Cash Refund Annuity. For Tier 1 Enhanced, the continuance percentage is 70% for service retirement and nonservice-connected disability, and 80% for service-connected disability. Those members who are assumed to be un-married or without domestic partners are assumed to elect the Single Cash Refund Annuity.
Percent Married/Domestic Partner:	For all active and inactive members, 76% of male participants and 52% of female participants are assumed to be married or with domestic partner at pre-retirement death or retirement.
Age and Gender of Spouse:	For all active and inactive members, male members are assumed to have a female spouse who is 3 years younger than the member and female members are assumed to have a male spouse who is 2 years older than the member.
Actuarial Funding Policy	
Actuarial Cost Method:	Entry Age Cost Method, level percent of salary. Entry age is calculated as age on the valuation date minus years of employment service. Both the normal cost and the actuarial accrued liability are calculated on an individual basis.
Actuarial Value of Assets:	Market value of assets (MVA) less unrecognized returns in each of the last seven years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a seven-year period. The actuarial value of assets (AVA) is limited by a 40% corridor; the AVA cannot be less than 60% of MVA, nor greater than 140% of MVA.
Valuation Value of Assets:	The portion of the total actuarial value of assets allocated for retirement benefits, based on a prorated share of market value.
Amortization Policy:	The amortization method for the UAAL is a level percent of payroll, assuming annual increases in total covered payroll equal to inflation plus across the board increases (other than inflation). Changes in the UAAL due to actuarial gains/losses are amortized over separate 15-year periods. Changes in the UAAL due to assumption or method changes are amortized over separate 20-year periods. Plan changes, including the 2009 ERIP, are amortized over separate 15-year periods. Future ERIPs will be amortized over 5 years. Any actuarial surplus is amortized over 30 years. All the bases on or before June 30, 2012, except those arising from the 2009 ERIP and the two (at that time) GASB 25/27 layers, were combined and amortized over 30 years effective June 30, 2012.

Section 4: Actuarial Valuation Basis

Other Actuarial Methods	
Employer Contributions:	Employer contributions consist of two components: *Normal Cost* The annual contribution rate that, if paid annually from a member's first year of membership through the year of retirement, would accumulate to the amount necessary to fully fund the member's retirement-related benefits. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution rate is determined as a level percentage of the member's compensation. *Contribution to the Unfunded Actuarial Accrued Liability (UAAL)* The annual contribution rate that, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution (or rate credit in the case of a negative UAAL) is calculated to remain as a level percentage of future active member payroll (including payroll for new members as they enter the System) assuming a constant number of active members. In order to remain as a level percentage of payroll, amortization payments (credits) are scheduled to increase at the annual rate of 3.25% (i.e., 2.75% inflation plus 0.50% across-the-board salary increase). The amortization policy is described on the previous page. The recommended employer contributions are provided in *Section 2, Subsection F*.
Internal Revenue Code Section 415:	Section 415 of the Internal Revenue Code (IRC) specifies the maximum benefits that may be paid to an individual from a defined benefit plan and the maximum amounts that may be allocated each year to an individual's account in a defined contribution plan. A qualified pension plan may not pay benefits in excess of the Section 415 limits. The ultimate penalty for non-compliance is disqualification: active members could be taxed on their vested benefits and the IRS may seek to tax the income earned on the plan's assets. In particular, Section 415(b) of the IRC limits the maximum annual benefit payable at the Normal Retirement Age to a dollar limit of $160,000 indexed for inflation. That limit is $230,000 for 2020. Normal Retirement Age for these purposes is age 62. These are the limits in simplified terms. They must be adjusted based on each participant's circumstances, for such things as age at retirement, form of benefits chosen and after tax contributions. Benefits in excess of the limits may be paid through a qualified governmental excess plan that meets the requirements of Section 415(m). Legal Counsel's review and interpretation of the law and regulations should be sought on any questions in this regard. Contribution rates determined in this valuation have not been reduced for the Section 415 limitations. Actual limitations will result in gains as they occur.

Section 4: Actuarial Valuation Basis

Justification for Change in Actuarial Assumptions:	Based on the July 1, 2016 through June 30, 2019 Actuarial Experience Study, the following actuarial assumptions were changed. Previously, these assumptions were:
Economic Assumptions	
Net Investment Return:	7.25%; net of administrative and investment expenses. Based on the June 30, 2017 Review of Economic Actuarial Assumptions dated June 30, 2017, expected administrative and investment expenses represent about 0.60% of the Market Value of Assets.
Employee Contribution Crediting Rate:	Based on average of 5-year Treasury note rate. An assumption of 3.00% is used to approximate that crediting rate in this valuation.
Consumer Price Index:	Increase of 3.00% per year; benefit increases due to CPI subject to 3.00% maximum for Tier 1 and 2.00% maximum for Tier 3.
Payroll Growth:	Inflation of 3.00% per year plus real "across the board" salary increases of 0.50% per year, used to amortize the UAAL as a level percentage of payroll.
Increase in Internal Revenue Code Section 401(a)(17) Compensation Limit:	Increase of 3.00% per year from the valuation date.
Salary Increases:	The annual rate of compensation increase includes: inflation at 3.00%, plus "across the board" salary increases of 0.50% per year, plus the following merit and promotion increases:

Merit and Promotion Increases

Years of Service	Rate (%)
Less than 1	6.50
1 – 2	6.20
2 – 3	5.10
3 – 4	3.10
4 – 5	2.10
5 – 6	1.10
6 – 7	1.00
7 – 8	0.90
8 – 9	0.70
9 – 10	0.60
10 & Over	0.40

Justification for Change in Actuarial Assumptions:	Based on the July 1, 2016 through June 30, 2019 Actuarial Experience Study, the following actuarial assumptions were changed. Previously, these assumptions were:
Demographic Assumptions:	
Post-Retirement Mortality Rates:	*Healthy Members and All Beneficiaries* • Headcount-Weighted RP-2014 Healthy Annuitant Mortality Tables (separate tables for males and females), with no setback for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2017. *Disabled Members* • Headcount-Weighted RP-2014 Disabled Retiree Mortality Tables (separate tables for males and females), with no setback for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2017. The RP-2014 mortality tables and adjustments as shown above reasonably reflect the mortality experience as of the measurement date. The generational projection is a provision for future mortality improvement.
Pre-Retirement Mortality Rates:	• Headcount-Weighted RP-2014 Employee Mortality Tables (separate tables for males and females), with no setback for males and females, multiplied by 90%, projected generationally with the two-dimensional mortality improvement scale MP-2017.

	Rate (%)[1]	
Age	**Male**	**Female**
20	0.05	0.02
25	0.06	0.02
30	0.05	0.02
35	0.06	0.03
40	0.07	0.04
45	0.11	0.07
50	0.19	0.12
55	0.31	0.19
60	0.51	0.27
65	0.88	0.40

For Tier 1 Enhanced, 100% of pre-retirement death benefits are assumed to be service-connected.

[1] Generational projections beyond the base year (2014) are not reflected in the above mortality rates.

Justification for Change in Actuarial Assumptions:

Based on the July 1, 2016 through June 30, 2019 Actuarial Experience Study, the following actuarial assumptions were changed. Previously, these assumptions were:

Disability Incidence:

Disability Incidence

Age	Rate (%)
25	0.01
30	0.02
35	0.05
40	0.07
45	0.13
50	0.19
55	0.20
60	0.20

For Tier 1 Enhanced, 90% of disability retirements are assumed to be service-connected with service-connected disability benefits based on years of service, as follows:

Years of Service	Benefit
Less than 20	55% of Final Average Monthly Compensation
20 – 30	65% of Final Average Monthly Compensation
More than 30	75% of Final Average Monthly Compensation

For Tier 1 Enhanced, 10% of disability retirements are assumed to be nonservice-connected with nonservice-connected disability benefits equal to 40% of Final Average Monthly Compensation.

Section 4: Actuarial Valuation Basis

Justification for Change in Actuarial Assumptions: Based on the July 1, 2016 through June 30, 2019 Actuarial Experience Study, the following actuarial assumptions were changed. Previously, these assumptions were:

Termination:

Less Than Five Years of Service

Years of Service	Rate (%)
Less than 1	12.00
1 – 2	10.00
2 – 3	9.00
3 – 4	8.25
4 – 5	7.75

Five or More Years of Service

Age	Rate (%)
25	7.00
30	7.00
35	5.50
40	3.90
45	3.20
50	2.70
55	2.50
60	2.50

No termination is assumed after a member is eligible for retirement (as long as a retirement rate is present).

Section 4: Actuarial Valuation Basis

Justification for Change in Actuarial Assumptions: Based on the July 1, 2016 through June 30, 2019 Actuarial Experience Study, the following actuarial assumptions were changed. Previously, these assumptions were:

Retirement Rates:

	Retirement Rates (%)					
	Tier 1		Tier 1 Enhanced[1]		Tier 3	
Age	Non-55/30	55/30	Non-55/30	55/30	Non-55/30	55/30
50	6.0	0.0	7.0	0.0	6.0	0.0
51	3.0	0.0	4.0	0.0	3.0	0.0
52	3.0	0.0	4.0	0.0	3.0	0.0
53	3.0	0.0	4.0	0.0	3.0	0.0
54	17.0	0.0	18.0	0.0	16.0	0.0
55	6.0	24.0	7.0	25.0	0.0[2]	23.0
56	6.0	16.0	7.0	17.0	0.0[2]	15.0
57	6.0	16.0	7.0	17.0	0.0[2]	15.0
58	6.0	16.0	7.0	17.0	0.0[2]	15.0
59	6.0	16.0	7.0	17.0	0.0[2]	15.0
60	7.0	16.0	8.0	17.0	6.0	15.0
61	7.0	16.0	8.0	17.0	6.0	15.0
62	7.0	16.0	8.0	17.0	6.0	15.0
63	7.0	16.0	8.0	17.0	6.0	15.0
64	7.0	16.0	8.0	17.0	6.0	15.0
65	13.0	20.0	14.0	21.0	12.0	19.0
66	13.0	20.0	14.0	21.0	12.0	19.0
67	13.0	20.0	14.0	21.0	12.0	19.0
68	13.0	20.0	14.0	21.0	12.0	19.0
69	13.0	20.0	14.0	21.0	12.0	19.0
70 & Over	100.0	100.0	100.0	100.0	100.0	100.0

[1] Consistent with the cost study prepared for the adoption of enhanced Tier 1 benefits, we have estimated the rates above by increasing the retirement rates for Tier 1 by a flat 1%.

[2] Not eligible to retire under the provisions of the Tier 3 plan.

Section 4: Actuarial Valuation Basis

Justification for Change in Actuarial Assumptions:	Based on the July 1, 2016 through June 30, 2019 Actuarial Experience Study, the following actuarial assumptions were changed. Previously, these assumptions were:
Retirement Age and Benefit for Inactive Vested Members:	Pension benefit paid at the later of age 59 or the current attained age. For reciprocals, 3.90% compensation increases per annum.
Percent Married/Domestic Partner:	For all active and inactive members, 76% of male participants and 50% of female participants are assumed to be married or with domestic partner at pre-retirement death or retirement.

Exhibit II: Summary of Plan Provisions

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

Plan Year:	July 1 through June 30
Census Date:	June 30
Membership Eligibility:	
Tier 1 *(§ 4.1002(a))* *(§ 4.1002.1)*	All employees who became members of the System before July 1, 2013, and certain employees who became members of the System on or after July 1, 2013. In addition, pursuant to Ordinance No. 184134, all Tier 2 employees who became members of the System between July 1, 2013 and February 21, 2016 were transferred to Tier 1 effective February 21, 2016. Includes Airport Peace Officers who did not pay for enhanced benefits.
Tier 1 Enhanced *(§4.1002(e))*	All Tier 1 Airport Peace Officers (including certain fire fighters) appointed to their positions before January 7, 2018 who elected to remain at LACERS after January 6, 2018, and who paid their mandatory additional contribution of $5,700 to LACERS before January 8, 2019, or prior to their retirement date, whichever was earlier.
Tier 3 *(§4.1080.2(a))*	All employees who became members of the System on or after February 21, 2016, except as provided otherwise in Section 4.1080.2(b) of the Los Angeles Administrative Code.
Normal Retirement Benefit:	
Tier 1 & Tier 1 Enhanced *Age & Service Requirement* *(§ 4.1005(a))*	Age 70; or Age 60 with 10 years of continuous City service; or Age 55 with at least 30 years of City service.
Tier 1 *Amount (§ 4.1007(a))*	2.16% per year of service credit (not greater than 100%) of the Final Average Monthly Compensation.
Tier 1 Enhanced *Amount (§ 4.1007(a))*	2.30% per year of service credit (not greater than 100%) of the Final Average Monthly Compensation.

Normal Retirement Benefit: (continued)

Tier 3

- *With less than 30 Years of Service (§ 4.1080.5(a)(2)(i))*

Age & Service Requirement: Age 60 with 10 years of service, including 5 years of continuous City service.

Amount: 1.50% per year of service credit at age 60 (not greater than 80%[1]) of the Final Average Monthly Compensation.

- *With 30 or more Years of Service (§ 4.1080.5(a)(2)(ii))*

Age & Service Requirement: Age 60 with 30 years of service, including 5 years of continuous City service.

Amount: 2.00% per year of service credit at age 60 (not greater than 80%[1]) of the Final Average Monthly Compensation.

[1] Except when benefit is based solely on the annuity component funded by the member's contributions.

Early Retirement Benefit:

Tier 1 & Tier 1 Enhanced

Age & Service Requirement (§ 4.1005(b)): Age 55 with 10 years of continuous City service; or
Any age with 30 years of City service.

Amount (§ 4.1007(a) & (b)): 2.16% and 2.30% per year of service credit for Tier 1 and Tier 1 Enhanced, respectively, (not greater than 100%) of the Final Average Monthly Compensation, reduced for retirement ages below age 60 using the following Early Retirement benefit adjustment factors:

Age	Factor	Age	Factor
45	0.6250	53	0.8650
46	0.6550	54	0.8950
47	0.6850	55	0.9250
48	0.7150	56	0.9400
49	0.7450	57	0.9550
50	0.7750	58	0.9700
51	0.8050	59	0.9850
52	0.8350	60	1.0000

Early Retirement Benefit: (continued)

Tier 3

Age & Service Requirement (§ 4.1080.5(a)(1))

Prior to age 60 with 30 years of service, including 5 years of continuous City service.

Amount (§ 4.1080.5(a)(1))

2.00% per year of service credit (not greater than 80%[1]) of the Final Average Monthly Compensation, reduced for retirement ages below age 55 using the following Early Retirement benefit adjustment factors:

Age	Factor	Age	Factor
45	0.6250	50	0.7750
46	0.6550	51	0.8050
47	0.6850	52	0.8350
48	0.7150	53	0.8650
49	0.7450	54	0.8950
		55 - 60	1.0000

[1] Except when benefit is based solely on the annuity component funded by the member's contributions.

Enhanced Retirement Benefit:

Tier 1 & Tier 1 Enhanced

Age & Service Requirement

Not applicable - see Normal Retirement age and service requirement.

Amount

Not applicable - see Normal Retirement amount.

Tier 3

- *With less than 30 Years of Service (§ 4.1080.5(a)(3)(i))*

Age & Service Requirement

Age 63 with 10 years of service, including 5 years of continuous City service.

Amount

2.00% per year of service credit at age 63 (not greater than 80%[1]) of the Final Average Monthly Compensation.

- *With 30 or more Years of Service (§ 4.1080.5(a)(3)(ii))*

Age & Service Requirement

Age 63 with 30 years of service, including 5 years of continuous City service.

Amount

2.10% per year of service credit at age 63 (not greater than 80%[1]) of the Final Average Monthly Compensation.

[1] Except when benefit is based solely on the annuity component funded by the member's contributions.

Service Credit:

Tier 1, Tier 1 Enhanced, & Tier 3 (§ 4.1001(a) & § 4.1080.1(a))

The time component of the formula used by LACERS for purposes of calculating benefits.

Section 4: Actuarial Valuation Basis

Final Average Monthly Compensation:	
Tier 1 & Tier 1 Enhanced *(§ 4.1001(b))*	Equivalent of monthly average salary of highest continuous 12 months (one year); includes base salary plus regularly assigned pensionable bonuses or premium pay.[1]
Tier 3 *(§ 4.1080.1(b))*	Equivalent of monthly average salary of highest continuous 36 months (three years); limited to base salary and any items of compensation that are designated as pension based.[1] [1] IRC Section 401(a)(17) compensation limit would apply to all employees who began membership in LACERS after June 30, 1996.
Post-Retirement Cost-of-Living Benefits:	
Tier 1 & Tier 1 Enhanced *(§ 4.1022)*	Based on changes to Los Angeles area[1] Consumer Price Index, to a maximum of 3% per year; excess banked.
Tier 3 *(§ 4.1080.17)*	Based on changes to Los Angeles area[1] Consumer Price Index, to a maximum of 2% per year; excess not banked. [1] Currently referred to as the Los Angeles-Long Beach-Anaheim Area, by the Bureau of Labor Statistics.
Death after Retirement:	
Tier 1 & Tier 3 *(§ 4.1010(c), § 4.1080.10(c), & § 4.1012(c))*	(i) 50% of retiree's unmodified allowance continued to an eligible spouse or a domestic partner; or a modified continuance to an eligible spouse or a domestic partner at the time of member's death (or a designated beneficiary selected by member at the time of retirement);[1] (ii) $2,500 lump sum death benefit paid to a designated beneficiary; and (iii) Any unused contributions if the member has elected the cash refund annuity option. [1] The retiree may elect at the time of retirement to take a reduced allowance in order to provide for a higher continuance percentage pursuant to the provisions of either Section 4.1015 (Tier 1) or Section 4.1080.14 (Tier 3).
Tier 1 Enhanced *(§ 4.1010.1(b), § 4.1010.1(i), and § 4.1010.1(j))* • *While on service-connected disability*	(i) 80% of retiree's unmodified allowance continued to an eligible spouse or a domestic partner; or a modified continuance to an eligible spouse or a domestic partner at the time of member's death (or a designated beneficiary selected by member at the time of retirement) [1, 2] (ii) $2,500 lump sum death benefit paid to a designated beneficiary; and (iii) Any unused contributions if the member has elected the cash refund annuity option. [1] If the death occurs within three years of the retiree's retirement, the eligible survivor shall receive 80% of the Final Average Monthly Compensation (adjusted with Cost of Living benefit). [2] The retiree may elect at the time of retirement to take a reduced allowance in order to provide for a higher continuance percentage pursuant to the provision of Section 4.1010.1(c).

Death after Retirement: (continued)

- *While on nonservice-connected disability or service retirement*

(i) 70% of retiree's unmodified allowance continued to an eligible spouse or a domestic partner; or a modified continuance to an eligible spouse or a domestic partner at the time of member's death (or a designated beneficiary selected by member at the time of retirement)[3]

(ii) $2,500 lump sum death benefit paid to a designated beneficiary; and

(iii) Any unused contributions if the member has elected the cash refund annuity option.

[3] The retiree may elect at the time of retirement to take a reduced allowance in order to provide for a higher continuance percentage pursuant to the provision of Section 4.1010.1(c).

Death before Retirement:

Tier 1, Tier 1 Enhanced & Tier 3 (§ 4.1010(a), § 4.1010.1(b), & § 4.1080.10(a))

Greater of:

Option #1:

(i) Eligibility – None.

(ii) Benefit – Refund of employee contributions plus a limited pension benefit equal to 50% of monthly salary paid, according to the following schedule:[1]

Service Credit	Total Number of Monthly Payments
Less than 1 year	0
1 year	2
2 years	4
3 years	6
4 years	8
5 years	10
6+ Years	12

[1] Refund only if less than one year of service credit.

Tier 1 & Tier 3

Option #2:

(i) Eligibility – Duty-related death or after 5 years of continuous service.

(ii) Benefit – Deferred, service, optional, or disability survivorship benefit payable under 100% joint and survivor option to an eligible spouse or qualified domestic partner. (Limited pension waived.)

(iii) Refund of accumulated contributions. No survivorship benefit payable with refund.

Death before Retirement: (continued)	
Tier 1 Enhanced • *Service-Connected Death*	Option #2 (i) Eligibility – None. (ii) Benefit – 80% of member's Final Average Monthly Compensation.
• *Nonservice-Connected Death*	(i) Eligibility – 5 years of service (unless on military leave and killed while on military duties). (ii) Benefit – 50% of member's Final Average Monthly Compensation. (iii) Eligibility – Less than 5 years of service. (iv) Benefit – The Basic Death Benefit shall consist of: (1) the return of a deceased Member's accumulated contributions to the Retirement System with accrued interest thereon, subject to the rights created by virtue of the Member's designation of a beneficiary as otherwise provided in the Retirement System; and (2) if the deceased Member had at least one year of service, the deceased Member's Final Compensation multiplied by the number of completed years of Service, not to exceed six years, provided that said amount shall be paid in monthly installments of one-half of the deceased Member's Final Compensation.
Member Contributions:	
Tier 1 & Tier 1 Enhanced *(§ 4.1003)*	Effective July 1, 2011, the member contribution rate became 7% for all employees. Of the 7% rate, 0.5% is the survivor contribution portion and 6.5% is the normal contribution. The 7% member rate shall be paid until June 30, 2026 or until the ERIP Cost Obligation (defined in ERIP Ordinance No. 180926) is fully paid, whichever comes first.[1] Beginning January 1, 2013, all non-represented members and members in certain bargaining groups are required to pay an additional 4% member contribution rate to defray the cost of providing a Retiree Medical Plan premium subsidy (this additional rate has increased to 4.5% for certain members). For Tier 1 (excluding Tier 1 Enhanced), members with no eligible spouse or domestic partner at retirement can request a refund of the survivor portion of the member contributions (i.e., generally based on a contribution rate of 0.5% of pay). [1] The member contribution rate will drop to 6% afterwards.
Tier 3 *(§ 4.1080.3)*	The member contribution rate is 7% for all employees. Of the 7% rate, 0.5% is the survivor contribution portion and 6.5% is the normal contribution. All members are required to pay an additional 4% member contribution rate to defray the cost of providing a Retiree Medical Plan premium subsidy. Members with no eligible spouse or domestic partner at retirement can request a refund of the survivor portion of the member contributions (i.e., generally based on a contribution rate of 0.5% of pay).

Disability:	
Tier 1 & Tier 3	
Service Requirement	
(§ 4.1008(a) & § 4.1080.8(a))	5 years of continuous service
Amount[1]	1/70 (1.43%) of the Final Average Monthly Compensation per year of service or 1/3 of the Final Average Monthly Compensation, if greater.
(§ 4.1008(c) & § 4.1080.8(c))	[1] The benefit calculated using the service retirement formula will be paid if the member is eligible and that benefit is greater than that calculated under the disability retirement formula.
Tier 1 Enhanced	
Service Requirement	
(§ 4.1008.1)	
• *Service-Connected Disability*	None
• *Nonservice-Connected Disability*	5 years of continuous service
Amount[1]	
(§ 4.1008.1)	
• *Service-Connected Disability*	30% to 90% of the Final Average Monthly Compensation depending on severity of disability, with a minimum of 2% of the Final Average Monthly Compensation per year of service.
• *Nonservice-Connected Disability*	30% to 50% of the Final Average Monthly Compensation depending on severity of disability.
	[1] The benefit calculated using the service retirement formula will be paid if the member is eligible and that benefit is greater than that calculated under the disability retirement formula.
Deferred Retirement Benefit (Vested):	
Tier 1 & Tier 1 Enhanced	
(§ 4.1006)	
Age & Service Requirement	Age 70 with 5 years of continuous City service; or Age 60 with 5 years of continuous City service and at least 10 years elapsed from first date of membership; or Age 55 with at least 30 years of service. Deferred employee who meets part-time eligibility: age 60 and at least 10 years elapsed from first date of membership.
Amount	Normal retirement benefit (or refund of contributions and accumulated interest).

Deferred Retirement Benefit (Vested): (continued)

Age & Service Requirement

A former member who is not yet age 60 may retire for early retirement with an age-based reduced retirement allowance at age 55 or older with 5 years of continuous City service, provided at least 10 years have elapsed from first date of membership.

Deferred employee who meets part-time eligibility: age 55 and at least 10 years elapsed from first date of membership.

Amount

Early retirement benefit (or refund of contributions and accumulated interest), using the following Early Retirement benefit adjustment factors:

Age	Factor
55	0.9250
56	0.9400
57	0.9550
58	0.9700
59	0.9850

Tier 3
(§ 4.1080.6)

Age & Service Requirement

Age 60 with 5 years of continuous City service and at least 10 years elapsed from first date of membership; or

Age 70 with 5 years of continuous City service, regardless of the number of years that have elapsed from first date of membership.

Amount

Normal retirement benefit (based on a Retirement Factor of 1.50%; or refund of contributions and accumulated interest).

Age & Service Requirement

Age 60 with 30 years of continuous City service and at least 10 years elapsed from first date of membership; or Age 63 with 10 years of service, including 5 years of continuous City service.

Amount

Normal retirement benefit (benefit based on a Retirement Factor of 2.00%; or refund of contributions and accumulated interest).

Age & Service Requirement

Age 63 with 30 years of continuous City service and at least 10 years elapsed from first date of membership.

Amount

Enhanced retirement benefit (full retirement benefit based on an unreduced Retirement Factor of 2.10%; or refund of contributions and accumulated interest).

Deferred Retirement Benefit (Vested): (continued)	
Tier 3	
Age & Service Requirement	Age 55 (but not yet 60) with 5 years of continuous City service and at least 10 years elapsed from first date of membership.
Amount	Early retirement benefit (based on a Retirement Factor of 1.50% and using the following Early Retirement benefit adjustment factors; or refund of contributions and accumulated interest):

Age	Factor
55	0.9250
56	0.9400
57	0.9550
58	0.9700
59	0.9850

Withdrawal of Contributions Benefit (Ordinary Withdrawal):	Refund of employee contributions with interest.
Changes in Plan Provisions:	There have been no changes in plan provisions since the last valuation.

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

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Los Angeles City Employees' Retirement System

Actuarial Valuation and Review of Other Postemployment Benefits (OPEB) as of June 30, 2020

This report has been prepared at the request of the Board of Administration 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 Administration 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.

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November 3, 2020

Board of Administration
Los Angeles City Employees' Retirement System
202 W. 1st Street, Suite 500
Los Angeles, CA 90012-4401

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review of Other Postemployment Benefits (OPEB) as of June 30, 2020. The report summarizes the actuarial data used in the valuation, establishes the Actuarially Determined Contribution (ADC) for the Fiscal Year 2021/2022, and analyzes the preceding year's experience. This report was based on the census and unaudited financial data provided by the System and the terms of the Plan as summarized in Exhbit III. The actuarial calculations were completed under the supervision of Thomas Bergman, ASA, MAAA, Enrolled Actuary and Andy Yeung, ASA, MAAA, FCA, Enrolled Actuary. The health care trend and other related medical assumptions have been reviewed by Paul Sadro, ASA, MAAA.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Retirement System. The census information and financial information on which our calculations were based was prepared by the staff of the System. That assistance is gratefully acknowledged.

This actuarial valuation has been completed in accordance with generally accepted actuarial principles and practices. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. Further, in our opinion, the assumptions used in this valuation and described in Exhibit II are reasonably related to the experience of and the expectations for the Plan. The actuarial projections are based on these assumptions and the plan of benefits as summarized in Exhibits II and III.

Sincerely,

Segal

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

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

JAC/jl

Table of Contents

Section 1: Actuarial Valuation Summary

Purpose

This report presents the results of our actuarial valuation of the City of Los Angeles Employees' Retirement System OPEB plan as of June 30, 2020 for funding purposes. The results of the valuation for financial reporting purposes consistent with GASB Statement No. 74 are provided in a separate report.

Highlights of the Valuation

- The recommended contribution rate has decreased from 4.49% of payroll to 4.29% of payroll while the recommended contribution amount has increased from $100.0 million to $104.9 million, assuming contributions are received by LACERS on July 15. The main reasons for the decline in the contribution rate were: (i) 2020/2021 premium and subsidy levels lower than expected from favorable premium renewal experience, (ii) total projected payroll larger than expected and (iii) repeal of the excise tax on high cost health plans ("Cadillac Tax"), offset to some degree by (iv) reflecting assumptions based on the triennial experience study, (v) updated trend assumption for projecting medical premiums after 2020/2021, and (vi) an investment loss (after smoothing). A complete reconciliation of the change in the recommended contribution rate is provided in Exhibit H. Rates are shown separately for Tier 1 and Tier 3 in Section 2D.
- The ratio of the actuarial value of assets to actuarial accrued liabilities increased from 84.36% to 85.60%. On a market value of assets basis, the funded ratio decreased from 84.34% to 81.78%. The unfunded actuarial accrued liability decreased from $521.6 million to $502.1 million. A complete reconciliation of the System's unfunded actuarial accrued liability is provided in Section 2B.
- As noted above, the GAS 74 report with a measurement date of June 30, 2020 for financial reporting purposes for the Plan is provided as a separate report.
- The GAS 75 report with a measurement date of June 30, 2020 for financial reporting purposes for the employer (with a reporting date of June 30, 2021) will be provided in the next few months.
- The actuarial valuation report as of June 30, 2020 is based on financial information as of that date. Changes in the value of assets subsequent to that date are not reflected. Declines in asset values will increase the actuarial cost of the Plan, while increases will decrease the actuarial cost of the Plan.

Section 1: Actuarial Valuation Summary

- As in prior years, the employer contribution rates provided in this report have been developed assuming they will be received by LACERS on any of the following dates:
  - The beginning of the fiscal year, or
  - On July 15, 2021, or
  - Throughout the year (i.e., LACERS will receive contributions at the end of every pay period).
- As noted above this actuarial valuation is based on plan assets as of June 30, 2020. Due to the COVID-19 pandemic, market conditions have varied significantly during 2020. 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. While it is impossible to determine how the pandemic will continue to affect market conditions, health care costs, and other demographic experience of the Plan prior to next year's valuation, Segal is available to prepare projections of potential outcomes upon request.

Summary of Valuation Results

	June 30, 2020	June 30, 2019
Actuarial Accrued Liability (AAL)	$3,486,530,510	$3,334,298,549
Actuarial Value of Assets	2,984,423,687	2,812,661,894
Unfunded Actuarial Accrued Liability	502,106,823	521,636,655
Funded Ratio on Actuarial Value Basis	85.60%	84.36%
Market Value of Assets	2,851,204,652	$2,812,097,867
Funded Ratio on Market Value Basis	81.78%	84.34%
Actuarially Determined Contribution (ADC)		
Normal cost (beginning of year)	$84,817,265	$76,422,769
Amortization of the unfunded actuarial accrued liability	19,814,702	23,236,922
Total Actuarially Determined Contribution (beginning of year)	**$104,631,967**	**$99,659,691**
Total Actuarially Determined Contribution (July 15)	**$104,923,300**	**$99,950,758**
Total Actuarially Determined Contribution (end of each pay period)	**$108,232,148**	**$103,209,147**
Total projected compensation[1]	$2,445,016,587	$2,225,412,831
ADC as a percentage of pay (there is a 12-month delay until the rate is effective)[2]		
Beginning of year	4.28%	4.47%
July 15	4.29%	4.49%
End of each pay period	4.43%	4.64%
Total Participants[3]	50,730	49,367

[1] Reflects amount calculated in the pension valuation.
[2] A breakdown of the ADC by tier is provided in Section 2D.
[3] Includes 142 pensioners and beneficiaries as of June 30, 2020 and 146 pensioners and beneficiaries as of June 30, 2019 entitled but not yet eligible for health benefits.

Important Information about Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of an OPEB 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 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 LACERS. 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 LACERS.
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 health care plan trend and enrollment. 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 LACERS. 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 LACERS 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. LACERS 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 LACERS, it is not a fiduciary in its capacity as actuaries and consultants with respect to LACERS.

Actuarial Certification

November 3, 2020

This is to certify that Segal has conducted an actuarial valuation of certain benefit obligations of Los Angeles City Employees' Retirement System's other postemployment benefit programs as of June 30, 2020, in accordance with generally accepted actuarial principles and practices. In particular, it is our understanding that the assumptions and methods used for funding purposes meet the parameters set by the Actuarial Standards of Practice (ASOPs). Actuarial valuations are performed annually for this other postemployment benefit program with the last valuation completed as of June 30, 2019.

The actuarial valuation is based on the plan of benefits verified by LACERS and on participant, premium, claims and financial data provided by LACERS. Segal did not audit LACERS' financial statements, but conducted an examination of all participant data for reasonableness and we concluded that it was reasonable and consistent with the prior year's data.

One of the general goals of an actuarial valuation is to establish contributions that fully fund the System's liabilities, and that, as a percentage of payroll, remain as level as possible for each generation of active members. Both the Normal Cost and the Actuarial Accrued Liability are determined under the Entry Age cost method.

The actuarial computations made are for funding plan benefits. Accordingly, additional determinations will be needed for other purposes, such as satisfying financial accounting requirements under Governmental Accounting Standards Board (GASB) Statements No. 74 and judging benefit security at termination of the plan.

Segal prepared all of the supporting schedules for the Actuarial Section of the Comprehensive Annual Financial Report (CAFR) and certain supporting schedules in the Financial Section, based on the results of the June 30, 2020 actuarial valuation. A listing of the supporting schedules Segal prepared for inclusion in the Financial Section, and in the Actuarial Section, is provided below:

Financial Section

1. Schedule of Net OPEB Liability*
2. Schedule of Changes in Net OPEB Liability and Related Ratios*
3. Schedule of Contribution History*

Section 1: Actuarial Valuation Summary

Actuarial Section

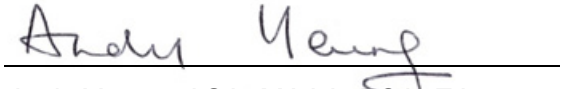
4. Summary of Significant Valuation Results
5. Active Member Valuation Data
6. Retirees and Beneficiaries Added to and Removed from Retiree Payroll
7. Schedule of Funded Liabilities by Type
8. Schedule of Funding Progress
9. Actuarial Analysis of Financial Experience
10. Actuarial Balance Sheet
11. Schedule of Changes in Net OPEB Liability and Related Ratios*

* Source: Segal's GASB Statement No. 74 valuation report as of June 30, 2020.

LACERS' staff prepared other trend data schedules in the Statistical Section based on information supplied in Segal's valuation report.

To the best of our knowledge, this report is complete and accurate and in our opinion presents the plan's current funding information. The signing actuaries are members of the American Academy of Actuaries and collectively are qualified to render the actuarial opinion contained herein.

Thomas Bergman, ASA, MAAA, EA
Retiree Health Actuary



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

Paul Sadro, ASA, MAAA
Senior Actuary

Section 2: Actuarial Valuation Results

A. Actuarial Present Value of Total Projected Benefits (APB) and Actuarial Balance Sheet

The actuarial present value of total projected benefits uses the actuarial assumptions disclosed in Section 4 to calculate the value today of all benefits expected to be paid to current actives and retired plan members. The actuarial balance sheet shows the expected breakdown of how these benefits will be financed.

	Actuarial Present Value of Total Projected Benefits (APB)	
	June 30, 2020	**June 30, 2019**
Participant Category		
Current retirees, beneficiaries, and dependents	$1,677,722,536	$1,600,130,890
Current active members	2,483,454,887	2,315,499,364
Terminated members entitled but not yet eligible	70,327,305	65,887,248
Total	**$4,231,504,728**	**$3,981,517,502**

	Actuarial Balance Sheet	
	June 30, 2020	**June 30, 2019**
Assets		
1. Actuarial value of assets	$2,984,423,687	$2,812,661,894
2. Present value of future normal costs	744,974,218	647,218,953
3. Unfunded actuarial accrued liability	502,106,823	521,636,655
4. Present value of current and future assets	**$4,231,504,728**	**$3,981,517,502**
Liabilities		
5. Actuarial present value of total projected benefits	$4,231,504,728	$3,981,517,502

B. Actuarial Accrued Liability (AAL) and Unfunded AAL (UAAL)

The actuarial accrued liability shows that portion of the APB allocated to periods prior to the valuation date by the actuarial cost method. The chart below shows the portion of the liability for active and inactive members, and reconciles the unfunded actuarial accrued liability from last year to this year.

	June 30, 2020	June 30, 2019
Participant Category		
Current retirees, beneficiaries, and dependents	$1,677,722,536	$1,600,130,890
Current active members	1,738,480,669	1,668,280,411
Terminated members entitled but not yet eligible	70,327,305	65,887,248
Total actuarial accrued liability	**$3,486,530,510**	**$3,334,298,549**
Unfunded Actuarial Accrued Liability		
Total actuarial accrued liability	$3,486,530,510	$3,334,298,549
Actuarial value of assets	2,984,423,687	2,812,661,894
Unfunded actuarial accrued liability	**$502,106,823**	**$521,636,655**
Development of Unfunded Actuarial Accrued Liability for the Year Ended June 30, 2020		
1. Unfunded actuarial accrued liability as of June 30, 2019		**$521,636,655**
2. Employer normal cost as of June 30, 2019		76,422,769
3. Expected employer contributions during 2019/2020 fiscal year		-99,659,691
4. Interest		36,133,979
5. Expected unfunded actuarial accrued liability as of June 30, 2020 (1 + 2 + 3 + 4)		$534,533,712
6. Change due to investment loss, after smoothing		20,258,878
7. Change due to actual contributions more than expected		-13,042,556
8. Change due to miscellaneous demographic gains and losses		8,576,854
9. Change due to repeal of excise tax on certain high-cost health plans (“Cadillac Tax”)		-37,656,237
10. Change due to reflecting assumptions based on the triennial experience study		95,917,476
11. Change due to updated 2020/2021 premium and subsidy levels		-144,296,543
12. Change due to updated trend assumption to project future medical premiums after 2020/2021		37,815,239
13. Unfunded actuarial accrued liability as of June 30, 2019 (5 + 6 + 7 + 8 + 9 + 10 + 11 + 12)		**$502,106,823**

C. Table of Amortization Bases

Amortization payments may be calculated as level dollar amounts or as amounts designed to remain level as a percent of a growing payroll base. Los Angeles City Employees' Retirement System has elected to amortize the unfunded actuarial accrued liability using the following rules: The costs associated with the 2009 ERIP have been amortized over 15 years beginning with the June 30, 2009 valuation date. The unfunded actuarial accrued liability as of June 30, 2012 is amortized over a fixed period of 30 years beginning July 1, 2012. Assumption changes resulting from the triennial experience study will be amortized over 20 years. Health trend and premium assumption changes, plan changes, and gains and losses will be amortized over 15 years.

Type	Date Established	Initial Balance	Initial Period	Outstanding Balance	Years Remaining	Annual Payment[1]
Plan Amendment (2009 ERIP)	06/30/2009	$54,735,645	15	$26,777,114	4	$7,056,656
Combined Base[2]	06/30/2012	597,984,614	30	667,716,407	22	43,031,454
Experience Loss	06/30/2013	16,206,142	15	12,567,172	8	1,773,886
Change in Assumptions	06/30/2014	135,287,549	20	129,633,489	14	11,556,241
Experience Gain	06/30/2014	-101,972,860	15	-83,997,017	9	-10,719,026
Experience Gain	06/30/2015	-193,346,818	15	-167,498,392	10	-19,563,868
Plan Change	06/30/2015	17,466,894	15	15,131,753	10	1,767,394
Experience Gain	06/30/2016	-21,878,470	15	-19,736,021	11	-2,130,960
Change in Assumptions	06/30/2017	121,183,087	20	119,768,163	17	9,230,591
Experience Gain	06/30/2017	-109,999,503	15	-102,479,665	12	-10,312,964
Change in Assumptions	06/30/2018	109,882,560	20	109,340,241	18	8,087,058
Experience Gain	06/30/2018	-59,754,629	15	-57,316,938	13	-5,413,020
Experience Gain	06/30/2019	-117,505,679	15	-115,372,594	14	-10,284,947
Change in Assumptions	06/30/2020	95,917,476	20	95,917,476	20	6,590,334
Experience Gain	06/30/2020	-128,344,365	15	-128,344,365	15	-10,854,127
Total				**$502,106,823**		**$19,814,702**

[1] Level percentage of payroll.

[2] On October 23, 2012, the Board elected to combine all amortization bases as of June 30, 2012, except for the base associated with the 2009 ERIP, which remains on its original schedule. In addition, the Board adopted an initial amortization period of 30 years for the combined bases as of June 30, 2012.

D. Determination of Actuarially Determined Contribution (ADC)

The Actuarially Determined Contribution (ADC) is the amount calculated to determine the annual cost of the OPEB plan for funding purposes on an accrual basis. The calculation consists of adding the Normal Cost of the plan to an amortization payment. Both are determined as of the start of the funding period and adjusted as if the annual cost were to be received throughout the fiscal year or on July 15th.

Tier 1

		Determined as of			
		June 30, 2020		June 30, 2019	
		Amount	Percentage of Compensation	Amount	Percentage of Compensation
1.	Normal cost	$64,567,930	3.35%	$61,834,858	3.29%
2.	Amortization of the unfunded actuarial accrued liability[1]	15,609,958	0.81%	19,604,197	1.04%
3.	**Total Actuarially Determined Contribution (beginning of year)**	**$80,177,888**	**4.16%**	**$81,439,055**	**4.33%**
4.	Total Projected Compensation[2]	$1,926,176,122		$1,877,504,719	
5.	Adjustment for timing (July 15)	$223,244	0.01%	$237,851	0.02%
6.	**Total Actuarially Determined Contribution (July 15)**	**$80,401,132**	**4.17%**	**$81,676,906**	**4.35%**
7.	Adjustment for timing (end of pay period)	$2,758,764	0.15%	$2,900,514	0.16%
8.	**Total Actuarially Determined Contribution (end of pay period)**	**$82,936,652**	**4.31%**	**$84,339,569**	**4.49%**

[1] In developing the UAAL contribution rate, we have combined the UAAL for Tier 1 and Tier 3 and amortized that total UAAL over the total payroll for Tier 1 and Tier 3

[2] Reflects amount calculated in the pension valuation.

Section 2: Valuation Results

Tier 3

	Determined as of			
	June 30, 2020		June 30, 2019	
	Amount	Percentage of Compensation	Amount	Percentage of Compensation
1. Normal cost	$20,249,335	3.90%	$14,587,911	4.19%
2. Amortization of the unfunded actuarial accrued liability[1,2]	4,204,744	0.81%	3,632,725	1.04%
3. Total Actuarially Determined Contribution (beginning of year)	**$24,454,079**	**4.71%**	**$18,220,636**	**5.23%**
4. Total Projected Compensation[3]	$518,840,465		$347,908,112	
5. Adjustment for timing (July 15)	$68,089	0.02%	$53,216	0.02%
6. Total Actuarially Determined Contribution (July 15)	**$24,522,168**	**4.73%**	**$18,273,852**	**5.25%**
7. Adjustment for timing (end of pay period)	$841,417	0.17%	$648,942	0.19%
8. Total Actuarially Determined Contribution (end of pay period)	**$25,295,496**	**4.88%**	**$18,869,578**	**5.42%**

[1] In developing the UAAL contribution rate, we have combined the UAAL for Tier 1 and Tier 3 and amortized that total UAAL over the total payroll for Tier 1 and Tier 3.

[2] For purposes of Government Service Buybacks for Tier 3, the cost of the purchase is based, in part, on the "City Contribution Rate," pursuant to the Administrative Code. As Tier 3 has no UAAL as of June 30, 2020, the City's normal cost rate of 3.90% (beginning of year) is used for purposes of these buybacks.

[3] Reflects amount calculated in the pension valuation.

Section 2: Valuation Results

Total Plan

		Determined as of			
		June 30, 2020		June 30, 2019	
		Amount	Percentage of Compensation	Amount	Percentage of Compensation
1.	Normal cost	$84,817,265	3.47%	$76,422,769	3.43%
2.	Amortization of the unfunded actuarial accrued liability	19,814,702	0.81%	23,236,922	1.04%
3.	**Total Actuarially Determined Contribution (beginning of year)**	**$104,631,967**	**4.28%**	**$99,659,691**	**4.47%**
4.	Total Projected Compensation[1]	$2,445,016,587		$2,225,412,831	
5.	Adjustment for timing (July 15)	$291,333	0.01%	$291,067	0.02%
6.	**Total Actuarially Determined Contribution (July 15)**	**$104,923,300**	**4.29%**	**$99,950,758**	**4.49%**
7.	Adjustment for timing (end of pay period)	$3,600,181	0.15%	$3,549,456	0.17%
8.	**Total Actuarially Determined Contribution (end of pay period)**	**$108,232,148**	**4.43%**	**$103,209,147**	**4.64%**

[1] Reflects amount calculated in the pension valuation.

E. Schedule of Employer Contributions

Fiscal Year Ended June 30	Actuarially Determined Contributions[1]	Actual Contributions[1]	Percentage Contributed
2015	$100,466,945	$100,466,945	100.00%
2016	105,983,112	105,983,112	100.00%
2017	97,457,455	97,457,455	100.00%
2018	100,909,010	100,909,010	100.00%
2019	107,926,949	107,926,949	100.00%
2020	112,136,429	112,136,429	100.00%

The schedule of employer contributions compares actual contributions to the Actuarially Determined Contributions.

[1] Prior to plan year ending June 30, 2018, this amount was the Annual Required Contribution (ARC).

F. Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll[1] (c)	UAAL as a Percentage of Covered Payroll [(b) - (a) / (c)]
06/30/2015	$2,108,924,651	$2,646,989,367	$538,064,716	79.67%	$1,907,664,598	28.21%
06/30/2016	2,248,753,480	2,793,688,955	544,935,475	80.49%	1,968,702,630	27.68%
06/30/2017	2,438,458,132	3,005,806,234	567,348,102	81.12%	2,062,316,129	27.51%
06/30/2018	2,628,843,511	3,256,827,847	627,984,336	80.72%	2,177,687,102	28.84%
06/30/2019	2,812,661,894	3,334,298,549	521,636,655	84.36%	2,225,412,831	23.44%
06/30/2020	2,984,423,687	3,486,530,510	502,106,823	85.60%	2,445,016,587	20.54%

This schedule of funding progress presents multi-year trend information about whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liability for benefits.

[1] Reflects amount calculated in the pension valuation.

G. Volatility Ratios for Years Ended June 30, 2011 – 2020

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

For LACERS, the current AVR is about 1.17. This means that a 1% asset gain/(loss) (relative to the assumed investment return) translates to about 1.17% of one-year's payroll. Since LACERS amortizes actuarial gains and losses over a period of 15 years, there would be a 0.1% of payroll decrease/(increase) in the determined contribution for each 1% asset gain/(loss).

The Liability Volatility Ratio (LVR), which is equal to the Actuarial Accrued Liability divided by payroll, provides an indication of the longer-term potential for contribution volatility for any given level of investment volatility. This is because, over an extended period of time, the plan's assets should track the plan's liabilities. For example, if a plan is 50% funded on a market value basis, the liability volatility ratio would be double the asset volatility ratio and the plan sponsor should expect contribution volatility to increase over time as the plan becomes better funded.

The LVR also indicates how volatile contributions will be in response to changes in the Actuarial Accrued Liability due to actual experience or to changes in actuarial assumptions.

For LACERS, the current LVR is about 1.43. This is about 22% higher than the AVR. Therefore, we would expect that contribution volatility will increase over the long-term.

Year Ended June 30	Asset Volatility Ratio	Liability Volatility Ratio
2011	0.80	1.07
2012	0.82	1.26
2013	0.93	1.31
2014	1.10	1.40
2015	1.12	1.39
2016	1.08	1.42
2017	1.18	1.46
2018	1.23	1.50
2019	1.26	1.50
2020	1.17	1.43

H. Member Population: 2011 – 2020

The Actuarial Valuation and Review considers the number and demographic characteristics of covered members, including active members, inactive non-vested members (entitled to a refund of member contributions), inactive vested members, retired members and beneficiaries.

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

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

Year Ended June 30	Active Members	Inactive Vested Members	Retired Members and Beneficiaries[1]*	Total Non-Actives	Ratio of Non-Actives to Actives	Ratio of Retired Members and Beneficiaries to Actives
2011	25,449	813	13,436	14,249	0.56	0.53
2012	24,917	858	13,431	14,289	0.57	0.54
2013	24,441	861	13,592	14,453	0.59	0.56
2014	24,009	955	13,686	14,641	0.61	0.57
2015	23,895	1,032	14,012	15,044	0.63	0.59
2016	24,446	1,119	14,313	15,432	0.63	0.59
2017	25,457	1,280	14,652	15,932	0.63	0.58
2018	26,042	1,401	15,144	16,545	0.64	0.58
2019	26,632	1,474	15,791	17,265	0.65	0.59
2020	27,490	1,526	16,107	17,633	0.64	0.59

[1] Excludes retirees and surviving spouses not yet enrolled in retiree health benefits.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage

Total Plan

Category	Year Ended June 30 2020	2019	Change From Prior Year
Active members in valuation:			
• Number	27,490	26,632	3.2%
• Average age	46.8	47.0	-0.2
• Average service	12.9	13.2	-0.3
• Total projected compensation	$2,445,016,587	$2,225,412,831	9.9%
Inactive members:			
• Number	1,526	1,474	3.5%
• Average age	50.8	50.9	-0.1
Retirees:[1]			
• Number of non-disabled	13,965	13,609	2.6%
• Number of disabled	335	334	0.3%
• Total number of retirees	14,300	13,943	2.6%
• Average age of retirees	72.0	71.9	0.1
• Number of spouses	5,465	5,324	2.6%
• Average age of spouses	68.7	68.5	0.2
Surviving Spouses:[1]			
• Number in pay status	1,807	1,848	-2.2%
• Average age	79.7	79.6	0.1

[1] Excludes retirees and surviving spouses not receiving health benefits.

Section 3: Valuation Details

Tier 1

Category[1]	Year Ended June 30 2020	2019	Change From Prior Year
Active members in valuation:			
• Number	20,101	21,226	-5.3%
• Average age	50.2	49.6	0.6
• Average service	16.9	16.2	0.7
• Total projected compensation	$1,926,176,122	$1,877,504,719	2.6%
Inactive members:			
• Number	1,515	1,466	3.3%
• Average age	50.8	51.0	-0.2
Retirees:[2]			
• Number of non-disabled	13,965	13,609	2.6%
• Number of disabled	335	334	0.3%
• Total number of retirees	14,300	13,943	2.6%
• Average age of retirees	72.0	71.9	0.1
• Number of spouses	5,465	5,324	2.6%
• Average age of spouses	68.7	68.5	0.2
Surviving Spouses:[2]			
• Number in pay status	1,807	1,848	-2.2%
• Average age	79.7	79.6	0.1

[1] Includes the following number of Airport Peace Officers eligible for enhanced retirement benefits:

	June 30, 2020	June 30, 2019
Active Members	416	433
Inactive Members	14	17
Retired Members	52	43

[2] Excludes retirees and surviving spouses not receiving health benefits.

Section 3: Valuation Details

Tier 3

Category	Year Ended June 30 2020	2019	Change From Prior Year
Active members in valuation:			
• Number	7,389	5,406	36.7%
• Average age	37.4	37.0	0.4
• Average service	2.0	1.6	0.4
• Total projected compensation	$518,840,465	$347,908,112	49.1%
Inactive members:			
• Number	11	8	37.5%
• Average age	45.9	46.7	-0.8
Retirees:[1]			
• Number of non-disabled	N/A	N/A	N/A
• Number of disabled	N/A	N/A	N/A
• Total number of retirees	N/A	N/A	N/A
• Average age of retirees	N/A	N/A	N/A
• Number of spouses	N/A	N/A	N/A
• Average age of spouses	N/A	N/A	N/A
Surviving Spouses:			
• Number in pay status	N/A	N/A	N/A
• Average age	N/A	N/A	N/A

[1] Excludes retirees and surviving spouses not receiving health benefits.

Exhibit B: Reconciliation of Retiree Health Participant Data with Pension Participant Data

Category	Year Ended June 30 2020	2019
Active		
• Pension valuation	27,490	26,632
• Health valuation	27,490	26,632
Retirees		
• Pension valuation	15,525	15,165
• Retirees with no subsidy due to service or decision not to enroll	-1,540	-1,540
• Deferred retirees eligible for future health benefits	-20	-16
• Health valuation	13,965	13,609
Disableds		
• Pension valuation	884	888
• Disabled with no subsidy due to service or decision not to enroll	-498	-500
• Deferred disableds eligible for future health benefits	-51	-54
• Health valuation	335	334
Surviving Spouses		
• Pension valuation	4,014	3,981
• Surviving spouses with no subsidy due to service or decision not to enroll	-2,136	-2,057
• Deferred surviving spouses eligible for future health benefits	-71	-76
• Health valuation	1,807	1,848
Inactive Vested		
• Pension valuation	9,207	8,588
• Inactive vesteds with less than 10 years of service	-7,681	-7,114
• Health valuation	1,526	1,474

Exhibit C: Retirees and Beneficiaries Added to and Removed from Health Benefits

Year Ended 6/30	No. of New Retirees/ Beneficiaries	Annual Allowances Added[1]	No. of Retirees/ Beneficiaries Removed	Annual Allowances Removed	No. of Retirees/ Beneficiaries at 6/30	Annual Allowances at 6/30	Percent Increase in Annual Allowances	Average Annual Allowance
2015	860	$10,844,333	534	$3,174,045	14,012	$112,629,520	7.3	$8,038
2016	837	2,185,058	536	3,102,492	14,313	111,712,086	-0.8	7,805
2017	913	13,706,185	574	3,316,380	14,652	122,101,891	9.3	8,333
2018	1,104	17,413,241	612	3,649,382	15,144	135,865,750	11.3	8,972
2019	1,195	12,323,187	548	3,780,696	15,791	144,408,241	6.3	9,145
2020	967	7,878,817	651	3,979,061	16,107	148,307,997	2.7	9,208

[1] Also reflects changes in subsidies for continuing retirees and beneficiaries.

Exhibit D: Cash Flow Projections

The ADC generally exceeds the current pay-as-you-go ("paygo") cost of an OPEB plan. Over time the paygo cost will tend to grow and may even eventually exceed the ADC in a well-funded plan. The following table projects the paygo cost as the projected payment over the next ten years.

	Projected Number of Retirees[1]			Projected Benefit Payments		
Year Ending June 30	Current	Future	Total	Current	Future	Total
2021	21,572	1,891	23,463	$140,083,260	$13,834,128	$153,917,388
2022	21,125	3,078	24,203	138,414,039	24,760,553	163,174,592
2023	20,461	4,210	24,671	138,711,649	36,675,483	175,387,132
2024	19,783	5,312	25,095	138,928,874	49,123,217	188,052,091
2025	19,106	6,358	25,464	138,333,452	61,973,407	200,306,859
2026	18,420	7,356	25,776	137,320,678	74,857,127	212,177,805
2027	17,729	8,315	26,044	135,753,202	87,750,805	223,504,007
2028	17,034	9,261	26,295	133,914,156	100,575,857	234,490,013
2029	16,338	10,178	26,516	132,233,652	113,002,600	245,236,252
2030	15,638	11,076	26,714	130,611,838	125,484,570	256,096,408

[1] Includes spouses of retirees, but excludes those not receiving a subsidy from LACERS.

Exhibit E: Summary Statement of Income and Expenses on a Market Value Basis for Retirement, Health, Family Death, and Larger Annuity Benefits

	Year Ended June 30, 2020		Year Ended June 30, 2019	
Net assets at market value at the beginning of the year		**$17,707,909,933**		**$16,989,616,344**
Contribution income:				
• Employer contributions	$665,358,602		$586,753,902	
• Member contributions	263,935,650		240,357,396	
Net contribution income		$929,294,252		$827,111,298
Investment income:				
• Interest, dividends and other income	$404,725,040		$416,415,425	
• Asset appreciation	50,201,536		637,092,495	
• Less investment and administrative fees	-116,063,829		-107,917,081	
Net investment income		$338,862,747		$945,590,839
Total income available for benefits		**$1,268,156,999**		**$1,772,702,137**
Less benefit payments:				
• Service retirement and disability benefits[1]	-$1,100,410,396		-$1,042,725,029	
• Member refunds	-12,332,170		-11,683,519	
Net benefit payments		-$1,112,742,566		-$1,054,408,548
Change in net assets at market value		$155,414,433		$718,293,589
Net assets at market value at the end of the year		**$17,863,324,366**		**$17,707,909,933**

Note: Results may be slightly off due to rounding.

[1] Includes offsets related to self funded dental insurance premiums and health insurance premium reserve.

Exhibit F: Summary Statement of Plan Assets for Retirement, Health, Family Death, and Larger Annuity Benefits

	June 30, 2020	June 30, 2019
Cash equivalents	$665,047,501	$440,455,108
Accounts receivable:		
• Accrued investment income	$60,957,885	$62,832,172
• Proceeds from sales of investments	73,531,756	234,349,252
• Other	18,773,983	15,324,165
Total accounts receivable	$153,263,624	$312,505,589
Investments:		
• Fixed income	$4,457,096,025	$4,359,360,084
• Equities	9,527,332,330	9,912,472,407
• Real estate and alternative investment	2,991,513,495	2,801,074,174
• Derivative instruments	2,124,127	-796,982
• Other	552,844,013	918,104,377
Total investments at market value	$17,530,909,990	$17,990,214,060
Capital Assets	42,358,528	8,788,596
Total assets	$18,391,579,643	$18,751,963,353
Accounts payable:		
• Accounts payable and accrued expenses	-$65,278,228	-$54,418,516
• Accrued investment expenses	-12,118,451	-9,664,366
• Purchases of investments	-125,595,619	-274,435,536
• Securities lending collateral	-325,262,979	-705,535,002
Total accounts payable	-$528,255,277	-$1,044,053,420
Net assets at market value	**$17,863,324,366**	**$17,707,909,933**
Net assets at actuarial value	**$18,697,966,253**	**$17,711,461,636**
Net assets at valuation value (health benefits)	**$2,984,423,687**	**$2,812,661,894**

Note: Results may be slightly off due to rounding.

Exhibit G: Determination of Actuarial Value of Assets as of June 30, 2020

1	**Market Value of Assets**					**$17,863,324,366**
		Actual Return	**Expected Return**	**Investment Gain/(Loss)**	**Portion Not Recognized**	**Unrecognized Amount**
2	Calculation of unrecognized return[1]					
a)	Year ended June 30, 2020	$338,862,747	$1,299,282,781	-$960,420,034	6/7	-$834,641,887
b)	Year ended June 30, 2019	945,590,839	1,242,978,109	-297,387,270	5/7	-212,419,479
c)	Year ended June 30, 2018	1,498,100,177	1,148,631,872	349,468,305	4/7	199,696,174
d)	Year ended June 30, 2017	1,834,657,728	1,063,688,256	770,969,472		
e)	Year ended June 30, 2016	7,190,895	1,072,214,464	-1,065,023,569	See footnote 2 below	
f)	Year ended June 30, 2015	348,113,908	1,055,874,448	-707,760,540		
g)	Year ended June 30, 2014	2,180,005,303	933,719,722	1,246,285,581		
h)	Combined net deferred loss as of June 30, 2013			-81,571,421	3/6	1,298,590
i)	Total unrecognized return					-$834,641,887
3	**Preliminary Actuarial Value of Assets (1) - (2i)**					**18,697,966,253**
4	Adjustment to be within 40% corridor					0
5	**Final Actuarial Value of Assets 3 + 4**					**$18,697,966,253**
6	Actuarial Value of Assets as a percentage of Market Value of Assets 5 ÷ 1					104.7%
7	Market value of health assets					2,851,204,652
8	**Valuation value of health assets 5 ÷ 1 x 7**					**$2,984,423,687**
9	Deferred return recognized in each of the next 6 years:					
a)	Amount recognized on 6/30/2021					-$129,329,851
b)	Amount recognized on 6/30/2022					-129,329,851
c)	Amount recognized on 6/30/2023					-129,329,851
d)	Amount recognized on 6/30/2024					-129,762,714
e)	Amount recognized on 6/30/2025					-179,686,758
f)	Amount recognized on 6/30/2026					-137,202,862
g)	Subtotal (may not total exactly due to rounding)					-$834,641,887

[1] Total return minus expected return on a market value basis.

[2] Based on action taken by the Board on July 24, 2018, the net unrecognized gain as of June 30, 2017 (i.e., $2,597,179) has been divided into six level amounts, with three years of gains remaining to be recognized after June 30, 2020.

Exhibit H: Reconciliation of Recommended Contribution Rate

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

Reconciliation of Recommended Contribution from June 30, 2019 to June 30, 2020

	Contribution Rate
Recommended Contribution as of June 30, 2019[1]	4.49%
Change due to investment loss, after smoothing	0.07
Change due to miscellaneous demographic gains and losses	0.02
Change due to reflecting assumptions based on the triennial experience study	0.62
Change due to repeal of excise tax on certain high-cost health plans ("Cadillac Tax")	-0.22
Change due to updated 2020/2021 premium and subsidy levels	-0.64
Change due to updated trend assumption to project future medical premiums after 2020/2021	0.18
Change in UAAL rate from larger than expected projected total payroll	-0.23
Recommended Contribution as of June 30, 2020[1]	4.29%

[1] If received on July 15.

Exhibit I: Member Benefit Coverage Information for OPEB

	Aggregate Actuarial Accrued Liabilities For				Portion of Accrued Liabilities Covered by Reported Assets		
	1	2	3		1	2	3
Valuation Date	Terminated Members	Retirees, Beneficiaries, & Dependents	Active Members	Valuation Value of Retiree Health Assets	Terminated Members	Retirees, Beneficiaries, & Dependents	Active Members
06/30/2015	$42,943,089	$1,210,066,527	$1,393,979,751	$2,108,924,651	100	100	61
06/30/2016	50,413,399	1,275,604,225	1,467,671,331	2,248,753,480	100	100	63
06/30/2017	62,252,306	1,379,356,850	1,564,197,078	2,438,458,132	100	100	64
06/30/2018	67,137,848	1,497,370,105	1,692,319,894	2,628,843,511	100	100	63
06/30/2019	65,887,248	1,600,130,890	1,668,280,411	2,812,661,894	100	100	69
06/30/2020	70,327,305	1,677,722,536	1,738,480,669	2,984,423,687	100	100	71

Section 4: Actuarial Valuation Basis

Exhibit I: Summary of Supplementary Information

Valuation date	June 30, 2020
Actuarial cost method	Entry Age Cost Method, level percent of salary.
Amortization method	Level percent of payroll – assuming a 3.25% increase in total covered payroll.
Amortization period	**Multiple Layers:**
Asset valuation method	Market value of assets less unrecognized returns in each of the last seven years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a seven-year period. The actuarial value of assets cannot be less than 60% or greater than 140% of the market value of assets.

2009 ERIP	15 years
2012 Combined Base	30 years
Actuarial Experience	15 years
Change in non-health related assumptions	20 years
Change in health related assumptions	15 years
Future ERIP	5 years
AVA in excess of AAL	30 years
Plan Amendment	15 years

Section 4: Actuarial Valuation Basis

Actuarial assumptions		
Investment rate of return	7.00%	
Inflation rate	2.75%	
Real across-the-board salary increase	0.50%	
Projected salary increases	Ranges from 9.95% to 4.25% based on years of service, including inflation	
Medical, dental, Medicare Part B trend rates	See table on page 41.	
Plan participants	**June 30, 2020**	**June 30, 2019**
Current retirees, beneficiaries, and dependents receiving benefits	21,572	21,115
Current active participants	27,490	26,632
Terminated participants entitled but not yet eligible	1,526	1,474
Pensioners and beneficiaries entitled but not yet eligible for health benefits	142	146
Total	**50,730**	**49,367**

Exhibit II: Actuarial Assumptions and Actuarial Cost Method

Rationale for Assumptions	The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the July 1, 2016 through June 30, 2019 Actuarial Experience Study dated June 17, 2020 and retiree health assumptions letter dated September 15, 2020. Unless otherwise noted, all actuarial assumptions and methods shown below apply to both Tier 1 and Tier 3 members. These assumptions have been adopted by the Board.
Economic Assumptions	
Net Investment Return	7.00%, net of administrative and investment expenses.
Payroll Growth:	Inflation of 2.75% per year plus real "across the board" salary increases of 0.50% per year, used to amortize the UAAL as a level percentage of payroll.

Section 4: Actuarial Valuation Basis

Salary Increase

Inflation: 2.75%; plus additional 0.50% "across the board" salary increases (other than inflation); plus the following merit and promotional increases:

Merit and Promotion Increases

Service	Rate (%)
Less than 1	6.70
1 – 2	6.50
2 – 3	5.80
3 – 4	4.00
4 – 5	3.00
5 – 6	2.20
6 – 7	2.00
7 – 8	1.80
8 – 9	1.60
9 – 10	1.40
10 & Over	1.00

Demographic Assumptions

Post-Retirement Mortality Rates

Healthy Members

- Pub-2010 General Healthy Retiree Headcount-Weighted Above-Median Mortality Tables with rates increased by 10% for males, projected generationally with the two-dimensional mortality improvement scale MP-2019.

Disabled Members

- Pub-2010 Non-Safety Disabled Retiree Headcount-Weighted Mortality Tables with rates increased by 10% for males and decreased by 5% for females, projected generationally with the two-dimensional mortality improvement scale MP-2019.

Beneficiaries

- Pub-2010 Contingent Survivor Headcount-Weighted Above-Median Mortality Tables with rates increased by 10% for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2019.

The Pub-2010 mortality tables and adjustments as shown above reasonably reflect the mortality experience as of the measurement date. These mortality tables were adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

Section 4: Actuarial Valuation Basis

Pre-Retirement Mortality Rates

- Pub-2010 General Employee Headcount-Weighted Above-Median Mortality Tables with rates increased by 10%, projected generationally with the two-dimensional mortality improvement scale MP-2019.

	Rate (%)	
Age	**Male**	**Female**
20	0.04	0.01
25	0.03	0.01
30	0.04	0.02
35	0.05	0.03
40	0.07	0.04
45	0.10	0.06
50	0.15	0.09
55	0.22	0.13
60	0.32	0.19
65	0.46	0.30

Generational projections beyond the base year (2010) are not reflected in the above mortality rates.

For Tier 1 Enhanced, 100% of pre-retirement death benefits are assumed to be service-connected.

Section 4: Actuarial Valuation Basis

Disability Incidence

Disability Incidence	
Age	**Rate (%)**
25	0.01
30	0.02
35	0.04
40	0.06
45	0.12
50	0.16
55	0.18
60	0.18
65	0.22

Section 4: Actuarial Valuation Basis

Termination

Less Than Five Years of Service

Years of Service	Rate (%)
Less than 1	11.50
1 – 2	10.00
2 – 3	8.50
3 – 4	7.75
4 – 5	7.00

Five or More Years of Service

Age	Rate (%)
25	7.00
30	6.70
35	5.30
40	3.75
45	3.10
50	3.00
55	3.00
60	3.00

No termination is assumed after a member is eligible for retirement (as long as a retirement rate is present).

Section 4: Actuarial Valuation Basis

Retirement Rates

	Rate (%)					
	Tier 1		Tier 1 Enhanced		Tier 3	
Age	Non-55/30	55/30	Non-55/30	55/30	Non-55/30	55/30
50	5.0	0.0	7.0	0.0	5.0	0.0
51	3.0	0.0	5.0	0.0	3.0	0.0
52	3.0	0.0	5.0	0.0	3.0	0.0
53	3.0	0.0	5.0	0.0	3.0	0.0
54	18.0	0.0	20.0	0.0	17.0	0.0
55	6.0	27.0	8.0	30.0	0.0[1]	26.0
56	6.0	18.0	8.0	22.0	0.0[1]	17.0
57	6.0	18.0	8.0	22.0	0.0[1]	17.0
58	6.0	18.0	8.0	22.0	0.0[1]	17.0
59	6.0	18.0	8.0	22.0	0.0[1]	17.0
60	7.0	18.0	9.0	22.0	6.0	17.0
61	7.0	18.0	9.0	22.0	6.0	17.0
62	7.0	18.0	9.0	22.0	6.0	17.0
63	7.0	18.0	9.0	22.0	6.0	17.0
64	7.0	18.0	9.0	22.0	6.0	17.0
65	14.0	21.0	16.0	26.0	13.0	20.0
66	14.0	21.0	16.0	26.0	13.0	20.0
67	14.0	21.0	16.0	26.0	13.0	20.0
68	14.0	21.0	16.0	26.0	13.0	20.0
69	14.0	21.0	16.0	26.0	13.0	20.0
70 & Over	100.0	100.0	100.0	100.0	100.0	100.0

[1] Not eligible to retire under the provisions of the Tier 3 plan at these ages with less than 30 years of service. If a member has at least 30 years of service at these ages, they would be subject to the “55/30” rates.

Section 4: Actuarial Valuation Basis

Retirement Age and Benefit for Inactive Vested Members	Assume retiree health benefit will be paid at the later of age 59 or the current attained age.
Future Benefit Accruals	1.0 year of service credit per year.
Service	Employment service is used for eligibility determination purposes. Benefit service is used for benefit calculation purposes.
Future Benefit Accruals	1.0 year of service credit per year.
Unknown Data for Members	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.
Actuarial Funding Policy	
Actuarial Cost Method	Entry Age Cost Method, level percent of salary. Entry age is calculated as age on the valuation date minus years of employment service. Both the normal cost and the actuarial accrued liability are calculated on an individual basis.
Actuarial Value of Assets	The market value of assets less unrecognized returns in each of the last seven years. Unrecognized return is equal to the difference between the actual and expected returns on a market value basis and is recognized over a seven-year period. The actuarial value of assets cannot be less than 60% or greater than 140% of the market value of assets.
Valuation Value of Assets	The portion of the total actuarial value of assets allocated for retiree health benefits, based on a prorated share of market value.
Amortization Policy	The amortization method for the UAAL is a level percent of payroll, assuming annual increases in total covered payroll equal to inflation plus across the board increases (other than inflation). Changes in the UAAL due to actuarial gains/losses are amortized over separate 15-year periods. Changes in the UAAL due to assumption or method changes are amortized over separate 20-year periods. Plan changes, including the 2009 ERIP, are amortized over separate 15-year periods. Future ERIPs will be amortized over 5 years. Any actuarial surplus is amortized over 30 years. All the bases on or before June 30, 2012, except those arising from the 2009 ERIP, were combined and amortized over 30 years effective June 30, 2012.

Section 4: Actuarial Valuation Basis

Retiree Health Assumptions

Per Capita Cost Development

The assumed costs on a composite basis are the future costs of providing postemployment health care benefits at each age. To determine the assumed costs on a composite basis, historical premiums are reviewed and adjusted for increases in the cost of health care services.

Per Capita Cost Development - Maximum Dental Subsidy

Carrier	Election Percent (%)	Monthly 2020-2021 Fiscal Year Subsidy
Delta Dental PPO	79.9	$44.60
DeltaCare USA	20.1	14.38

Per Capita Cost Development - Medicare Part B Premium Subsidy

	Single Monthly Premium
Actual monthly premium for calendar year 2020	$144.60
Projected monthly premium for calendar year 2021	153.30
Projected average monthly premium for plan year 2020/2021	148.95

LACERS will not reimburse Medicare Part B premiums for Spouse/Domestic Partners, unless they are LACERS retired Members with Medicare Parts A and B enrolled as a dependent in a LACERS medical plan. This valuation does not reflect Medicare Part B reimbursement for any spouse/domestic partners enrolled in Medicare Parts A and B.

For retirees age 65 and over on the valuation date, we valued the Medicare Part B premium subsidy as reported in the data. For current and future retirees under age 65, we will assume 100% of those electing a medical subsidy will be eligible for the Medicare Part B premium subsidy.

Section 4: Actuarial Valuation Basis

Per Capita Cost Development – Medical Subsidy	Tier members 1 not subject to medical subsidy cap and all Tier 3 members.

Participant Under Age 65 or Not Eligible for Medicare A&B

2020-2021 Fiscal Year		Single Party			Married/With Domestic Partner			Eligible Survivor		
Carrier	Observed and Assumed Election Rate (%)	Monthly Premium*	Maximum Subsidy	Subsidy	Monthly Premium*	Maximum Subsidy	Subsidy	Monthly Premium*	Maximum Subsidy	Subsidy
Kaiser HMO	61.5	$853.39	$1,790.80	$853.39	$1,706.78	$1,790.80	$1,706.78	$853.39	$853.39	$853.39
Anthem Blue Cross PPO	21.6	1,275.68	1,790.80	1,275.68	2,546.32	1,790.80	1,790.80	1,275.68	853.39	853.39
Anthem Blue Cross HMO	16.9	1,054.59	1,790.80	1,054.59	2,104.14	1,790.80	1,790.80	1,054.59	853.39	853.39

** With the exception of Kaiser, the amounts above reflect the inclusion of the vision insurance plan premium.*

Participant Eligible for Medicare A&B

2020-2021 Fiscal Year		Single Party			Married/With Domestic Partner			Eligible Survivor		
Carrier	Observed and Assumed Election Rate (%)	Monthly Premium*	Maximum Subsidy	Subsidy	Monthly Premium*	Maximum Subsidy	Subsidy	Monthly Premium*	Maximum Subsidy	Subsidy
Kaiser Senior Advantage HMO	57.1	$262.47	$262.47	$262.47	$524.94	$524.94	$524.94	$262.47	$262.47	$262.47
Anthem Blue Cross Medicare Supplement	31.8	557.75	557.75	557.75	1,110.46	1,072.87	1,072.87	557.75	557.75	557.75
UHC Medicare Advantage Plan	11.1	278.98	278.98	278.98	552.93	552.93	552.93	278.98	278.98	278.98

* *With the exception of Kaiser, the amounts above reflect the inclusion of the vision insurance plan premium.*

** *Rates for CA plan.*

Per Capita Cost Development – Medical Subsidy	Tier 1 Subject to Retiree Medical Subsidy Cap

Tier 1 members who are subject to the retiree medical subsidy cap will have monthly health insurance subsidy maximums capped at the levels in effect at July 1, 2011, as shown in the table below. We understand that no active members are subject to the cap but that some inactive members may be subject to the cap.

Retiree Plan	Single Party	Married/With Domestic Partner	Eligible Survivor
Under 65 – All Plans	$1,190.00	$1,190.00	$593.62
Over 65			
Kaiser Senior Advantage	$203.27	$406.54	$203.27
Anthem Blue Cross Medicare Supplement	478.43	478.43*	478.43
UHC Medicare Adv. HMO	219.09	433.93	219.09

*The reason the subsidy is only at the single-party amount is that there is no excess subsidy to cover a dependent.

Per Capita Cost Development – Medical Subsidy	Adjustments to per-capita costs (as shown on page 39-40) based on age, gender, and status, are as follows:

	Retiree		Spouse	
Age	**Male**	**Female**	**Male**	**Female**
55	0.9003	0.9295	0.7085	0.8025
60	1.0692	1.0019	0.9485	0.9308
64	1.2266	1.0628	1.1974	1.0476
65	0.9182	0.7805	0.9182	0.7805
70	1.0642	0.8411	1.0642	0.8411
75	1.1468	0.9053	1.1468	0.9053
80+	1.2350	0.9760	1.2350	0.9760

Section 4: Actuarial Valuation Basis

Health Care Cost Subsidy Trend Rates	Trend is to be applied to premium for shown fiscal year to calculate next fiscal year's projected premium. First Fiscal Year is July 1, 2020 through June 30, 2021.

	Rate (%)					
Plan	**Anthem Blue Cross PPO,** Under Age 65	**Anthem Blue Cross Medicare Supplement**	**Kaiser HMO,** Under Age 65	**Kaiser Senior Advantage**	**Anthem Blue Cross HMO,** Under 65	**UHC Medical HMO**
Trend to be applied to 2020-2021 Fiscal Year premium	3.71	4.45	3.37	3.12	4.85	3.12

The fiscal year trend rates are based on the following calendar year trend rates:

	Approximate Trend Rate (%)			Trend Applied to Calculate Following Year Premium Rate (%)	
Fiscal Year	**Non-Medicare**	**Medicare**	**Calendar Year**	**Non-Medicare**	**Medicare**
2021-2022	6.62	6.12	2021	6.75*	6.25*
2022-2023	6.37	5.87	2022	6.50	6.00
2023-2024	6.12	5.62	2023	6.25	5.75
2024-2025	5.87	5.37	2024	6.00	5.50
2025-2026	5.62	5.12	2025	5.75	5.25
2026-2027	5.37	4.87	2026	5.50	5.00
2027-2028	5.12	4.62	2027	5.25	4.75
2028-2029	4.87	4.50	2028	5.00	4.50
2029-2030	4.62	4.50	2029	4.75	4.50
2030 and later	4.50	4.50	2030	4.50	4.50

Dental Premium Trend	4.00% for all years
Medicare Part B Premium Trend	4.50% for all years.

**For example, the 6.75% assumption when applied to the 2021 non-Medicare medical premiums would provide the projected 2022 non-Medicare medical premiums. This trend would also be applied to the maximum medical subsidy, based on the non-Medicare Kaiser premium.*

Alternative actuarial models exist to project future medical trend assumptions and one of those is called the Getzen Model. To apply that model in studying the medical trend assumptions, there are some other hypothetical assumptions that need to be made (such as real per capita GDP growth, excess medical cost growth, and capacity constraints on health costs with respect to GDP) before that model can be applied.

Section 4: Actuarial Valuation Basis

<table>
<tr><td>Spouse/Domestic Partner Coverage</td><td>For all active and inactive members, 60% of male participants and 35% of female participants who receive a retiree health subsidy are assumed to be married or have a qualified domestic partner and elect dependent coverage. Of these covered spouses/domestic partners, 100% are assumed to continue coverage if the retiree predeceases the spouse/domestic partner.

Male retirees are assumed to be 4 years older than their female spouses/domestic partners. Female retirees are assumed to be 2 years younger than their male spouses/domestic partners.</td></tr>
<tr><td>Participation</td><td>Retiree Medical and Dental Coverage Election:

<table><tr><th>Service Range (Years)</th><th>Percent Covered[1] (%)</th></tr><tr><td>10 – 14</td><td>60</td></tr><tr><td>15 – 19</td><td>80</td></tr><tr><td>20 – 24</td><td>90</td></tr><tr><td>25 and over</td><td>95</td></tr></table>
[1]For deferred vested members, we assume an election percent of 50% of these rates.</td></tr>
<tr><td>Health Care Reform</td><td>In both the funding valuation and the GASB Statements No. 74 and 75 actuarial valuations for financial reporting purposes as of June 30, 2019, we included the impact of the projected excise tax on certain high cost medical plans (“Cadillac Tax”) beginning in 2022 as prescribed by the Affordable Care Act (ACA) and related statutes.

Subsequent to the June 30, 2019 valuations, the excise tax was repealed. The excise tax is no longer reflected beginning with the June 30, 2020 valuations for funding and financial reporting purposes.</td></tr>
<tr><td>Administrative Expenses</td><td>No administrative expenses were valued separately from the premium costs.</td></tr>
<tr><td>Plan Design</td><td>Development of plan liabilities was based on the substantive plan of benefits in effect as described in Exhibit III.</td></tr>
<tr><td>Assumption Changes Since Prior Valuation</td><td>Starting premium costs and first year trends were updated to reflect 2021 calendar year premium data.

Reflect updated trends to project future medical costs after 2020/2021.

The excise tax on high costs health plans (“Cadillac Tax”) was removed to reflect the recent repeal effective as of December 20, 2019.

Economic and demographic assumptions have been updated based on the July 1, 2016 through June 30, 2019 Actuarial Experience Study.</td></tr>
</table>

Exhibit III: Summary of Plan

This exhibit summarizes the major benefit provisions as included in the valuation. To the best of our knowledge, the summary represents the substantive plans as of the measurement date. It is not intended to be, nor should it be interpreted as, a complete statement of all benefit provisions.

Membership Eligibility:	
Tier 1 (§4.1002(a))	All employees who became members of the System before July 1, 2013, and certain employees who became members of the System on or after July 1, 2013. In addition, pursuant to Ordinance No. 184134, all Tier 2 employees who became members of the System between July 1, 2013 and February 21, 2016 were transferred to Tier 1 effective February 21, 2016.
Tier 3 (§4.1080.2(a))	All employees who became members of the System on or after February 21, 2016, except as provided otherwise in Section 4.1080.2(b) of the Los Angeles Administrative Code.
Benefit Eligibility:	
Tier 1 (§4.1111(a)) and Tier 3 (§4.1126(a))	Retired age 55 or older with at least 10 years of service (including deferred vested members who terminate employment and receive a retirement benefit from LACERS), or if retirement date is between October 2, 1996, and September 30, 1999 at age 50 or older with at least 30 years of service. Benefits are also payable to spouses, domestic partners, or other qualified dependents while the retiree is alive. Please note that the health subsidy is not payable to a disabled retiree before the member reaches age 55.

Section 4: Actuarial Valuation Basis

Medical Subsidy for Members Not Subject to Cap:

Under Age 65 or Over Age 65 Without Medicare Part A

Tier 1 (§4.1111(d)) and Tier 3 (§4.1126(c))

The System will pay 4% of the maximum health subsidy (limited to actual premium) for each year of Service Credit, up to 100% of the maximum health subsidy. As of July 1, 2020, the maximum health subsidy is $1,790.80 per month, remaining unchanged in calendar year 2021. This amount includes coverage of dependent premium costs.

Over Age 65 and Enrolled in Both Medicare Parts A and B

Tier 1 (§4.1111(e)) and Tier 3 (§4.1126(d))

For retirees, a maximum health subsidy shall be paid in the amount of the single-party monthly premium of the approved Medicare supplemental or coordinated plan in which the retiree is enrolled, subject to the following vesting schedule:

Completed Years of Service	Vested Percentage
1-14	75%
15-19	90%
20+	100%

Subsidy Cap for Tier 1:

(§4.1111(b))

As of the June 30, 2011 valuation, the retiree health benefits program was changed to cap the medical subsidy for non-retired members who do not contribute an additional 4.00% or 4.50% of employee contributions to the Pension Plan.

The capped subsidy is different for Medicare and non-Medicare retirees.

The cap applies to the medical subsidy limits at the 2011 calendar year level.

The cap does not apply to the dental subsidy or the Medicare Part B premium reimbursement.

Dependents:

Tier 1 (§4.1111(e)(4)) and Tier 3 (§4.1126(d)(4))

The System will pay 4% of the maximum dental subsidy (limited to actual premium) for each year of Service Credit, up to 100% of the maximum dental subsidy. As of July 1, 2020, the maximum dental subsidy is $44.60 per month; remaining unchanged in calendar year 2021.

There is no subsidy available to dental plan dependents or surviving spouses/domestic partners. There is also no reimbursement for dental plans not sponsored by the System.

Section 4: Actuarial Valuation Basis

Medicare Part B Reimbursement for Members:	
Tier 1 (§4.1113) and Tier 3 (§4.1128)	If a Retiree is covered by both Medicare Parts A and B, and enrolled in a LACERS' medical plan or participates in the LACERS Retiree Medical Premium Reimbursement Program, LACERS will reimburse the retiree the basic Medicare Part B premium.
Surviving Spouse Medical Subsidy:	
Tier 1 (§4.1115) and Tier 3 (§4.1129.1)	The surviving spouse or domestic partner will be entitled to a health subsidy based on the member's years of service and the surviving dependent's eligibility for Medicare.
Under Age 65 or Over Age 65 Without Medicare Part A	The maximum health subsidy available for survivors is the lowest cost plan available (currently Kaiser) single-party premium ($853.39 per month as of July 1, 2020, remaining unchanged in calendar year 2021).
Over Age 65 and Enrolled in Both Medicare Parts A and B	For survivors, a maximum health subsidy limited to the single-party monthly premium of the plan in which the survivor is enrolled, is provided subject to the following vesting schedule:

Completed Years of Service	Vested Percentage
1-14	75%
15-19	90%
20+	100%

Changes in Plan Provisions:	None.

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

Exhibit IV: Definitions of Terms

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

Assumptions or Actuarial Assumptions	The estimates on which the cost of the Plan is calculated including: **Investment return** — the rate of investment yield that the Plan will earn over the long-term future; **Mortality rates** — the death rates of employees and pensioners; life expectancy is based on these rates; **Retirement rates** — the rate or probability of retirement at a given age; **Turnover rates** — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.
Actuarial Present Value of Total Projected Benefits (APB)	Present value of all future benefit payments for current retirees and active employees taking into account assumptions about demographics, turnover, mortality, disability, retirement, health care trends, and other actuarial assumptions.
Normal Cost	The amount of contributions required to fund the benefit allocated to the current year of service.
Actuarial Accrued Liability for Actives	The equivalent of the accumulated normal costs allocated to the years before the valuation date.
Actuarial Accrued Liability for Retirees	The single sum value of lifetime benefits to existing retirees. This sum takes account of life expectancies appropriate to the ages of the retirees and of the interest which the sum is expected to earn before it is entirely paid out in benefits.
Actuarial Value of Assets (AVA)	The value of assets used by the actuary in the valution. These may be at market value or some other method used to smooth variations in market value from one valuation to the next.
Funded Ratio	The ratio AVA/AAL.
Unfunded Actuarial Accrued Liability (UAAL):	The extent to which the actuarial accrued liability of the Plan exceeds the assets of the Plan. There is a wide range of approaches to paying off the unfunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time.
Amortization of the Unfunded Actuarial Accrued Liability	Payments made over a period of years equal in value to the Plan's unfunded actuarial accrued liability.
Investment Return (discount rate)	The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next. If the plan is funded on a pay-as-you-go basis, the discount rate is tied to the expected rate of return on day-to-day employer funds.

Section 4: Actuarial Valuation Basis

Covered Payroll	Annual reported salaries for all active participants on the valuation date.
ADC as a Percentage of Covered Payroll	The ratio of the actuarially determined contribution to covered payroll.
Health Care Cost Trend Rates	The annual rate of increase in net claims costs per individual benefiting from the Plan.
Actuarially Determined Contribution (ADC)	The ADC is equal to the sum of the normal cost and the amortization of the unfunded actuarial accrued liability.
Employer Contributions	An employer has contributed to an OPEB plan if the employer has (a) provided benefits directly to retired plan members or their beneficiaries, (b) paid insurance premiums to insure the payment of benefits, or (c) irrevocably transferred assets to a qualifying trust, or equivalent arrangement, in which plan assets are dedicated to providing benefits to retirees and their beneficiaries in accordance with the terms of the plan and are legally protected from creditors of the employer(s) or plan administrator

5661652v7/05806.003

Los Angeles City Employees' Retirement System

Governmental Accounting Standards Board Statement 67 (GAS 67) Actuarial Valuation

As of June 30, 2020

This report has been prepared at the request of the Board of Administration 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 Administration 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.

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November 3, 2020

Board of Administration
Los Angeles City Employees' Retirement System
202 W. 1st Street, Suite 500
Los Angeles, CA 90012-4401

Dear Board Members:

We are pleased to submit this Governmental Accounting Standards (GAS) 67 Actuarial Valuation as of June 30, 2020. 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 LACERS in preparing items related to the retirement plan in their financial report. The census and financial information on which our calculations were based was prepared by LACERS. 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, 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 System.

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

Sincerely,

Segal

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

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

Table of Contents

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 67 (GAS 67) as June 30, 2020. This valuation is based on:

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

General observations on GAS 67 actuarial valuation

1. 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 still develop and adopt funding policies under current practices.
2. When measuring pension liability, GASB uses the same actuarial cost method (Entry Age) and the same type of discount rate (expected return on assets) as LACERS uses for funding. This means that the Total Pension Liability (TPL) measure for financial reporting shown in this report is determined on the same basis as LACERS' Actuarial Accrued Liability (AAL) measure for funding. We note that the same is 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 the same as the Unfunded 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 calculated on an actuarial value of assets basis in the funding valuation that reflects investment gains and losses over a seven-year period.
4. The NPLs measured as of June 30, 2020 and 2019 have been determined from the actuarial valuations as of June 30, 2020 and June 30, 2019, respectively.

Highlights of the valuation

1. The NPL increased from $5.98 billion as of June 30, 2019 to $7.59 billion as of June 30, 2020 mainly due to (a) the return on the market value of retirement plan assets of 2.05%[1] during 2019/2020 that was less than the assumption of 7.25% used in the June 30, 2019 valuation (that loss was about $0.78 billion), (b) changes in the actuarial assumptions (that increase was about $0.53 billion), and (c) higher than expected salary increases for continuing active members (that loss was about $0.31 billion). Changes in these values during the last two fiscal years ending June 30, 2019 and June 30, 2020 can be found in *Section 2, Schedule of Changes in Net Pension Liability* on page 18.
2. The discount rates used to determine the TPLs and NPLs as of June 30, 2020 and 2019 were 7.00% and 7.25%, respectively, following the same assumption used by the System in the pension funding valuations as of the same dates. The detailed calculations used in the derivation of the discount rate of 7.00% used in the calculation of the TPL and NPL as of June 30, 2020 can be found in *Section 3, Appendix A*. Various other information that is required to be disclosed can be found throughout *Section 2*.
3. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2020. Due to the COVID-19 pandemic, market conditions have changed significantly during 2020. 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. While it is impossible to determine how the pandemic will continue to affect market conditions prior to next year's valuation, Segal is available to prepare projections of potential outcomes upon request.

[1] Net of investment expenses only.

Summary of key valuation results[1]

Measurement Date		June 30, 2020	June 30, 2019
Disclosure elements:	• Service cost[2]	$374,967,243	$370,409,073
	• Total Pension Liability	22,527,195,295	20,793,421,143
	• Plan's Fiduciary Net Position	14,932,404,300	14,815,592,841
	• Net Pension Liability	7,594,790,995	5,977,828,302
Schedule of contributions:	• Actuarially determined contributions	$553,118,173	$478,716,953
	• Actual contributions	553,118,173	478,716,953
	• Contribution deficiency / (excess)	0	0
Demographic data:	• Number of retired members and beneficiaries	20,423	20,034
	• Number of inactive vested members[3]	9,207	8,588
	• Number of active members	27,490	26,632
Key assumptions:	• Investment rate of return	7.00%	7.25%
	• Inflation rate	2.75%	3.00%
	• Projected salary increases[4]	Ranges from 9.95% to 4.25%, based on years of service	Ranges from 10.00% to 3.90%, based on years of service

1 The assets and liabilities throughout this report are for the Retirement Plan only, and exclude amounts for the Health, Family Death Benefit and Larger Annuity Plans.

2 The service cost is based on the previous year's valuation, meaning the June 30, 2020 and 2019 measurement date values are based on the valuations as of June 30, 2019 and June 30, 2018, respectively. Both service costs have been calculated using the actuarial assumptions shown in the June 30, 2019 measurement date column, as there had been no changes in the actuarial assumptions between the June 30, 2018 and June 30, 2019 valuations.

3 Includes terminated members due a refund of employee contributions.

4 Includes inflation at 2.75% (3.00% for June 30, 2019 measurement date) plus real across the board salary increase of 0.50%, plus merit and promotion 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 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 summary included 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 valuation date, as provided by the System. The System uses an "actuarial value of assets" that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining contribution requirements.
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 actuarial 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 has no discretionary authority with respect to the management or assets of LACERS, it is not a fiduciary in its capacity as actuaries and consultants with respect to LACERS.

Section 2: GAS 67 Information

General information about the pension plan

Plan Description

Plan administration. The Los Angeles City Employees' Retirement System (LACERS) was established by City Charter in 1937. LACERS is a single employer public employee retirement system whose main function is to provide retirement benefits to the civilian employees of the City of Los Angeles.

Under the provisions of the City Charter, the Board of Administration (the "Board") has the responsibility and authority to administer the Plan and to invest its assets. The Board members serve as trustees and must act in the exclusive interest of the Plan's members and beneficiaries. The Board has seven members: four members, one of whom shall be a retired member of the system, shall be appointed by the Mayor subject to the approval of the Council; two members shall be active employee members of the system elected by the active employee members; one shall be a retired member of the system elected by the retired members of the system.

Plan membership. At June 30, 2020, pension plan membership consisted of the following:

Retired members or beneficiaries currently receiving benefits	20,423
Inactive vested members entitled to but not yet receiving benefits[1]	9,207
Active members	27,490
Total	57,120

[1] Includes terminated members due a refund of employee contributions.

Benefits provided. LACERS provides service retirement, disability, death and survivor benefits to eligible retirees and beneficiaries. Employees of the City become members of LACERS on the first day of employment in a position with the City in which the employee is not excluded from membership. Members employed prior to July 1, 2013 are designated as Tier 1. All Tier 1 Airport Peace Officers (including certain fire fighters) appointed to their positions before January 7, 2018 who elected to remain at LACERS after January 6, 2018, and who paid their mandatory additional contribution of $5,700 to LACERS before January 8, 2019, or prior to their retirement date, whichever was earlier, are designated as Tier 1 Enhanced. Those employed on or after February 21, 2016 are designated as Tier 3 (unless a specific exception applies to the employee, providing a right to Tier 1 status).

Tier 1 and Tier 1 Enhanced members are eligible to retire for service with a normal retirement benefit once they attain the age of 70, or the age of 60 with 10 or more years of continuous City service, or the age of 55 with 30 or more years of City service. Tier 3 members are eligible to retire for service with a normal retirement benefit at 1.50% of final average monthly compensation per year of

service credit once they attain the age of 60 with 10 years of service (but with less than 30 years of service), including 5 years of continuous City service, or at 2.00% of final average monthly compensation per year of service credit once they attain the age of 60 with 30 years of service, including 5 years of continuous City service.

Tier 1 and 3 members are eligible to retire for disability once they have 5 or more years of continuous service. Tier 1 Enhanced members are eligible to retire for service-connected disability without a service requirement, and once they have 5 or more years of continuous service for a nonservice-connected disability.

Under the Tier 1 formula, the monthly service retirement allowance at normal retirement age is 2.16% of final average monthly compensation per year of service credit. Under the Tier 1 Enhanced formula, the monthly service retirement allowance at normal retirement age is 2.30% of final average monthly compensation per year of service credit. Reduced retirement allowances are available for early retirement for Tier 1 and Tier 1 Enhanced members reaching age 55 with 10 or more years of continuous City service, or with 30 or more years of City service at any age. The Tier 1 and Tier 1 Enhanced early retirement reduction factors, for retirement below age 60, are as follows:

Age	Factor
45	0.6250
46	0.6550
47	0.6850
48	0.7150
49	0.7450
50	0.7750
51	0.8050
52	0.8350
53	0.8650
54	0.8950
55	0.9250
56	0.9400
57	0.9550
58	0.9700
59	0.9850
60	1.0000

Section 2: GAS 67 Information

Under the Tier 3 formula, the monthly service retirement allowance at normal retirement age is 2.00% of final average monthly compensation per year of service credit. Reduced retirement allowances are available for early retirement for Tier 3 members prior to reaching age 60 with 30 years of service, including 5 years of continuous City service. The Tier 3 early retirement reduction factors, for retirement below age 60, are as follows:

Age	Factor
45	0.6250
46	0.6550
47	0.6850
48	0.7150
49	0.7450
50	0.7750
51	0.8050
52	0.8350
53	0.8650
54	0.8950
55 - 60	1.0000

Tier 3 members are eligible to retire with an enhanced retirement benefit at 2.00% of final average monthly compensation per year of service credit once they attain the age of 63 with 10 years of service (but with less than 30 years of service), including 5 years of continuous City service, or at 2.10% of final average monthly compensation per year of service credit once they attain the age of 63 with 30 years of service, including 5 years of continuous City service.

Under Tier 1 and Tier 1 Enhanced, pension benefits are calculated based on the highest average salary earned during a 12-month period (including base salary plus regularly assigned pensionable bonuses or premium pay). Under Tier 3, pension benefits are calculated based on the highest average salary earned during a 36-month period (limited to base salary and any items of compensation that are designated as pension based). The IRC Section 401(a)(17) compensation limit applies to all employees who began membership in LACERS after June 30, 1996.

For Tier 1 and Tier 1 Enhanced members, the maximum monthly retirement allowance is 100% of the final average monthly compensation. For Tier 3 members, the maximum monthly retirement allowance is 80% of the final average monthly compensation, except when the benefit is based solely on the annuity component funded by the member's contributions.

In lieu of the service retirement allowance under the Tier 1, Tier 1 Enhanced, and Tier 3 formulas ("unmodified option"), the member may choose an optional retirement allowance. The unmodified option provides the highest monthly benefit and a 50% continuance to an eligible surviving spouse or domestic partner for Tier 1, Tier 1 Enhanced, and Tier 3 members. The optional retirement allowances

require a reduction in the unmodified option amount in order to allow the member the ability to provide various benefits to a surviving spouse, domestic partner, or named beneficiary.

LACERS provides annual cost-of-living adjustments (COLAs) to all retirees. The cost-of-living adjustments are made each July 1 based on the percentage change in the average of the Consumer Price Index for the Los Angeles-Long Beach-Anaheim Area --All Items For All Urban Consumers. It is capped at 3.0% for Tier 1 and Tier 1 Enhanced, and at 2.0% for Tier 3.

The City of Los Angeles contributes to the retirement plan based upon actuarially determined contribution rates adopted by the Board of Administration. Employer contribution rates are adopted annually based upon recommendations received from LACERS' actuary after the completion of the annual actuarial valuation. The combined employer contribution rate as of June 30, 2020 was 24.36% of compensation.[2]

All members are required to make contributions to LACERS regardless of the tier in which they are included. Currently, all Tier 1 members contribute at 11.0% or 11.5% of compensation, and all Tier 1 Enhanced and Tier 3 members contribute at 11.0% of compensation.

[2] Based on the June 30, 2018 funding valuation which established funding requirements for fiscal year 2019/2020. The schedule of contributions in Section 2 of this report provides details on how this rate was calculated

Net Pension Liability

Measurement Date	June 30, 2020	June 30, 2019
Components of the Net Pension Liability		
Total Pension Liability	$22,527,195,295	$20,793,421,143
Plan's Fiduciary Net Position	-14,932,404,300	-14,815,592,841
Net Pension Liability	$7,594,790,995	$5,977,828,302
Plan's Fiduciary Net Position as a percentage of the Total Pension Liability	66.29%	71.25%

The NPL was measured as of June 30, 2020 and 2019. The Plan's Fiduciary Net Position was valued as of the measurement date, while the TPL was determined based upon the results of the 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, 2020 and 2019 are the same as those used in the LACERS funding valuations as of June 30, 2020 and 2019, respectively.

Actuarial assumptions. The TPL as of June 30, 2020 was determined by an actuarial valuation as of June 30, 2020. The actuarial assumptions used in the June 30, 2020 valuation were based on the results of an experience study for the period from July 1, 2016 through June 30, 2019. They are the same as the assumptions used in the June 30, 2020 funding actuarial valuation for LACERS. In particular, the following actuarial assumptions were applied to all periods included in the measurement:

Inflation:	2.75%
Salary increases:	Ranges from 9.95% to 4.25% based on years of service, including inflation
Investment rate of return:	7.00%, net of pension plan investment expense and including inflation
Other assumptions:	Same as those used in the June 30, 2020 actuarial valuation

Section 2: GAS 67 Information

The TPL as of June 30, 2019 was determined by an actuarial valuation as 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, 2014 through June 30, 2017 and the June 30, 2017 review of economic actuarial assumptions. They are the same as the assumptions used in the June 30, 2019 funding actuarial valuation for LACERS. In particular, the following actuarial assumptions were applied to all periods included in the measurement:

Inflation:	3.00%
Salary increases:	Ranges from 10.00% to 3.90% based on years of service, including inflation
Investment rate of return:	7.25%, net of pension plan investment expense and including inflation
Other assumptions:	Same as those used in the June 30, 2019 actuarial valuation

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 and by 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 summarized in the following table. These values were used in the derivation of the long-term expected investment rate of return assumption that was used in the actuarial valuation as of June 30, 2020. 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	15.01%	5.54%
Small/Mid Cap U.S. Equity	3.99%	6.25%
Developed International Large Cap Equity	17.01%	6.61%
Developed International Small Cap Equity	2.97%	6.90%
Emerging International Large Cap Equity	5.67%	8.74%
Emerging International Small Cap Equity	1.35%	10.63%
Core Bonds	13.75%	1.19%
High Yield Bonds	2.00%	3.14%
Bank Loans	2.00%	3.70%
TIPS	4.00%	0.86%
Emerging Market Debt (External)	2.25%	3.55%
Emerging Market Debt (Local)	2.25%	4.75%
Core Real Estate	4.20%	4.60%
Non-Core Real Estate	2.80%	5.76%
Cash	1.00%	0.03%
Commodities	1.00%	3.33%
Private Equity	14.00%	8.97%
Private Credit/Debt	3.75%	6.00%
REITS	1.00%	5.98%
Total	**100.00%**	

Section 2: GAS 67 Information

Discount rate. The discount rate used to measure the TPL was 7.00% as of June 30, 2020 and 7.25% as of June 30, 2019. 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 employee and 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'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, 2020 and June 30, 2019.

Discount rate sensitivity

Sensitivity of the Net Pension Liability to changes in the discount rate. The following presents the Net Pension Liability of LACERS as of June 30, 2020, calculated using the discount rate of 7.00%, as well as what LACERS' Net Pension Liability 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%)
Net Pension Liability as of June 30, 2020	$10,642,600,459	$7,594,790,995	$5,073,178,955

Schedule of changes in Net Pension Liability – Last two calendar years

Measurement Date	June 30, 2020	June 30, 2019
Total Pension Liability		
• Service cost[1]	$374,967,243	$370,409,073
• Interest	1,499,208,335	1,439,660,906
• Change of benefit terms	0	0
• Differences between expected and actual experience	308,183,796	-46,035,243
• Changes of assumptions	530,720,225	0
• Benefit payments, including refunds of member contributions	-979,305,447	-915,192,651
Net change in Total Pension Liability	**$1,733,774,152**	**$848,842,085**
Total Pension Liability – beginning	**20,793,421,143**	**19,944,579,058**
Total Pension Liability – ending	**$22,527,195,295**	**$20,793,421,143**
Plan's Fiduciary Net Position		
• Contributions – employer	$553,118,173	$478,716,953
• Contributions – member	259,816,657	237,087,419
• Net investment income	306,712,445	799,350,708
• Benefit payments, including refunds of member contributions	-979,305,447	-915,192,651
• Administrative expense	-23,530,369	-19,600,116
• Other	0	0
Net change in Plan's Fiduciary Net Position	**$116,811,459**	**$580,362,313**
Plan's Fiduciary Net Position – beginning	**14,815,592,841**	**14,235,230,528**
Plan's Fiduciary Net Position – ending	**$14,932,404,300**	**$14,815,592,841**
Net Pension Liability – ending	**$7,594,790,995**	**$5,977,828,302**
Plan's Fiduciary Net Position as a percentage of the Total Pension Liability	**66.29%**	**71.25%**
Covered payroll[2]	**$2,271,038,575**	**$2,108,171,088**
Net Pension Liability as percentage of covered payroll	**334.42%**	**283.56%**

1 The service cost is based on the previous year's valuation, meaning the June 30, 2020 and 2019 measurement date values are based on the valuations as of June 30, 2019 and June 30, 2018, respectively. Both service costs have been calculated using the actuarial assumptions shown in the June 30, 2019 column on page 6, as there had been no changes in the actuarial assumptions between the June 30, 2018 and June 30, 2019 valuations.

2 Covered payroll is defined as the payroll on which contributions to a pension plan are based.

Schedule of contributions – Last ten fiscal years

Year Ended June 30	Actuarially Determined Contributions	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency / (Excess)	Covered Payroll[1]	Contributions as a Percentage of Covered Payroll
2011	$303,560,953	$303,560,953	$0	$1,678,059,440	18.09%
2012	308,539,905	308,539,905	0	1,715,197,133	17.99%
2013	346,180,852	346,180,852	0	1,736,112,598	19.94%
2014	357,649,232	357,649,232	0	1,802,931,195	19.84%
2015	381,140,923	381,140,923	0	1,835,637,409	20.76%
2016	440,546,011	440,546,011	0	1,876,946,179	23.47%
2017	453,356,059	453,356,059	0	1,973,048,633	22.98%
2018	450,195,254	450,195,254	0	2,057,565,478	21.88%
2019	478,716,953	478,716,953	0	2,108,171,088	22.71%
2020	553,118,173	553,118,173	0	2,271,038,575	24.36%

[1] Covered payroll is defined as the payroll on which contributions to a pension plan are based.

See accompanying notes to this schedule on the next page.

Section 2: GAS 67 Information

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, two years prior to the end of the fiscal year in which contributions are reported
Actuarial cost method:	Entry Age Cost Method (individual basis)
Amortization method:	Level percent of payroll
Amortization period:	Multiple layers, closed amortization periods. Actuarial gains/losses are amortized over 15 years. Assumption or method changes are amortized over 20 years. Plan changes, including the 2009 ERIP, are amortized over 15 years. Future ERIPs will be amortized over 5 years. Actuarial surplus is amortized over 30 years. The existing layers on June 30, 2012, except those arising from the 2009 ERIP and the two (at that time) GASB 25/27 layers, were combined and amortized over 30 years.
Asset valuation method:	Market value of assets less unrecognized returns in each of the last seven years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a seven-year period. The actuarial value of assets cannot be less than 60% or greater than 140% of the market value of assets.

Section 2: GAS 67 Information

Actuarial assumptions:	
Valuation Date:	**June 30, 2020**
Investment rate of return:	7.00%
Inflation rate:	2.75%
Real across-the-board salary increase:	0.50%
Projected salary increases:[1]	Ranges from 9.95% to 4.25%, based on years of service
Cost of living adjustments:	2.75% for Tier 1; 2.00% for Tier 3. (Actual increases are contingent upon CPI increases with a 2.75% maximum for Tier 1 and a 2.00% maximum for Tier 3. For Tier 1 members with a sufficient COLA bank, withdrawals from the bank can be made to increase the retiree COLA up to 3% per year.)
Mortality:	Healthy: Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 10% for males, projected generationally with the two-dimensional mortality improvement scale MP-2019.
Other assumptions:	Same as those used in the June 30, 2020 funding actuarial valuation

[1] Includes inflation at 2.75% plus 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, 2020 ($ 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)
2019	$14,816	$813	$979	$24	$307	$14,932
2020	14,932	925	1,141	24	1,032	15,725
2021	15,725	945	1,168	25	1,088	16,565
2022	16,565	965	1,236	26	1,144	17,412
2023	17,412	985	1,304	28	1,202	18,268
2024	18,268	961	1,370	29	1,258	19,089
2025	19,089	986	1,433	30	1,314	19,926
2026	19,926	1,007	1,501	32	1,371	20,771
2027	20,771	1,018	1,570	33	1,427	21,613
2046	30,722	166	2,592	49	2,054	30,301
2047	30,301	157 *	2,612	48	2,023	29,821
2048	29,821	148 *	2,630	47	1,989	29,281
2049	29,281	139 *	2,648	47	1,950	28,675
2050	28,675	129 *	2,664	46	1,907	28,001
2083	2,947	22 *	589	5	184	2,559
2084	2,559	20 *	529	4	159	2,205
2085	2,205	18 *	471	4	137	1,886
2086	1,886	17 *	417	3	116	1,598
2087	1,598	15 *	366	3	98	1,343
2103	23	1 *	9	0	1	16
2104	16	1 *	7	0	1	11
2105	11	1 *	5	0	1	8
2106	8	1 *	3	0	0	6
2107	6	1 *	2	0	0	4
2108	4	0 *,**	2	0	0	3
2109	3	0 *,**	1	0	0	2
2110	2	0 *,**	1	0	0	2
2111	2	0 *,**	1	0	0	1
2112	1	0 *,**	1	0	0	1
2113	1	0 *,**	0 **	0	0	0
2114	0	0 *,**	0 **	0	0	0
2115	0	0 *,**	0 **	0	0	0
2116	0	0 *,**	0 **	0	0	0
2117	0	0 *,**	0 **	0	0	0
2118	0	0 *,**	0 **	0	0	0

* Mainly attributable to employer contributions to fund each year's annual administrative expenses.

** Less than $1 million, when rounded.

Note that in preparing the above projections, we have not taken into consideration the one-year delay between the date of the contribution rate calculation and the implementation.

Section 3: Appendices

Notes:

(1) Amounts may not total exactly due to rounding.

(2) Amounts shown for the year beginning July 1, 2019 row are actual amounts, based on the unaudited financial statements provided by LACERS.

(3) Years 2028-2045, 2051-2082, and 2088-2102 have been omitted from this table.

(4) Column (a): 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 contributions to fund each year's annual administrative expenses reflecting a 15-year amortization schedule. 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, 2020 funding valuation report. Benefit payments are assumed to occur halfway through the year, on average. In accordance with paragraph 31.b.(1)(e) of GASB Statement No. 67, the long-term expected rate of return on Plan investments of 7.00% was applied to all periods of projected benefit payments to determine the discount rate.

(7) Column (d): Projected administrative expenses are calculated as approximately 0.16% of the projected beginning Plan's Fiduciary Net Position amount. The 0.16% portion was based on the actual fiscal year 2019 - 2020 administrative expenses as a percentage of the beginning Plan's Fiduciary Net Position amount as of July 1, 2019. 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 7.00% 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 7.00% per annum was applied to all periods of projected benefit payments to determine the Total Pension Liability as of June 30, 2020 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.

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.

Section 3: Appendices

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:	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: 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.

Section 3: Appendices

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.

Los Angeles City Employees' Retirement System

Governmental Accounting Standards (GAS) 74 Actuarial Valuation of Other Postemployment Benefits (OPEB)

As of June 30, 2020

This report has been prepared at the request of the Board of Administration 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 Administration 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.

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November 3, 2020

Board of Administration
Los Angeles City Employees' Retirement System
202 W. 1st Street, Suite 500
Los Angeles, CA 90012-4401

Dear Board Members:

We are pleased to submit this Governmental Accounting Standards (GAS) 74 Actuarial Valuation as of June 30, 2020. It contains various information that will need to be disclosed in order to comply with GAS 74.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist LACERS in preparing items related to the other postemployment benefits (OPEB) plan in their financial report. The census and financial information on which our calculations were based was prepared by LACERS. That assistance is gratefully acknowledged.

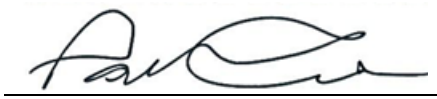
The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic 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 Thomas Bergman, ASA, MAAA, Enrolled Actuary and Andy Yeung ASA, MAAA, FCA, Enrolled Actuary. The health care trend and other related medical assumptions have been reviewed by Paul Sadro, ASA, MAAA. 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.

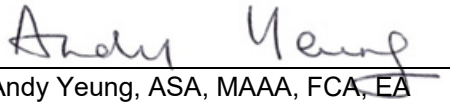
We look forward to reviewing this report with you and to answering any questions.

Sincerely,

Segal



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



Andy Yeung, ASA, MAAA, FCA, EA
Vice President and 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 for "Other Postemployment Benefits (OPEB)" plans by Statement No. 74 of the Governmental Accounting Standards Board as of June 30, 2020. This valuation is based on:

- The benefit provisions of the OPEB Plan, as administered by the Board of Administration;
- The characteristics of covered active members, inactive vested members, and retired members and surviving spouses as of June 30, 2020, provided by LACERS;
- The assets of the Plan as of June 30, 2020, provided by LACERS;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other (health and non-health) actuarial assumptions, regarding employee terminations, retirement, death, health care trend and enrollment, etc. that the Board has adopted for the June 30, 2020 valuation.

General Observations on GAS 74 Actuarial Valuation

1. The Governmental Accounting Standards Board (GASB) rules only define OPEB liability and expense for financial reporting purposes, and do not apply to contribution amounts for OPEB funding purposes. Employers and plans still develop and adopt funding policies under current practices.
2. When measuring OPEB liability, GASB uses the same actuarial cost method (Entry Age) and, for benefits that are being fully funded on an actuarial basis, the same expected return on Plan assets as used for funding. This means that the Total OPEB Liability (TOL) measure for financial reporting shown in this report is determined on the same basis as the Actuarial Accrued Liability (AAL) measure for funding. We note that the same is true for the Normal Cost component of the annual plan cost for funding and financial reporting.
3. The Net OPEB Liability (NOL) is equal to the difference between the TOL and the Plan's Fiduciary Net Position. The Plan's Fiduciary Net Position is equal to the market value of assets and therefore, the NOL measure is the same as the Unfunded Actuarial Accrued Liability (UAAL) calculated on a market value basis. The NOL reflects all investment gains and losses as of the measurement date. This is different from the UAAL calculated on an actuarial value of assets basis in the funding valuation that reflects investment gains and losses over a seven-year period.

4. The NOLs measured as of June 30, 2020 and 2019 have been determined from the actuarial valuations as of June 30, 2020 and June 30, 2019, respectively.

Highlights of the valuation

1. The NOL has increased from $522.2 million as of June 30, 2019 to $635.3 million as of June 30, 2020 mainly due to (a) an decrease of about $95.9 million from reflecting assumption changes based on the triennial experience study dated June 17, 2020 and (b) a loss of $145.9 million from the return on the market value of retiree health plan assets during 2019/2020 less than the assumption of 7.25% used in the June 30, 2019 valuation, offset to some degree by (d) favorable premium renewal experience of $144.3 million.
2. The discount rates used in the valuations for financial disclosure purposes as of June 30, 2020 and 2019 are the assumed investment returns on Plan assets (i.e. 7.00% and 7.25%, respectively, for the funding valuations as of the same dates). As contributions that are required to be made by the City to amortize the Unfunded Actuarial Accrued Liability in the funding valuation are determined on an actuarial basis, the future Actuarially Determined Contributions and current Plan assets, when projected in accordance with the method prescribed by GAS 74, are expected to be sufficient to make all benefit payments to current members.
3. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2020. Due to the COVID-19 pandemic, market conditions have varied significantly during 2020. 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. While it is impossible to determine how the pandemic will continue to affect market conditions and other demographic experience of the Plan prior to next year's valuation, Segal is available to prepare projections of potential outcomes upon request.

Summary of key valuation results

Measurement Date		June 30, 2020	June 30, 2019
Disclosure elements for plan year ending June 30:	• Service cost[1]	$76,422,769	$74,477,507
	• Total OPEB Liability	3,486,530,510	3,334,298,548
	• Plan Fiduciary Net Position	2,851,204,652	2,812,097,867
	• Net OPEB Liability	635,325,858	522,200,681
Schedule of contributions for plan year ending June 30:	• Actuarially determined contributions	$112,136,429	$107,926,949
	• Actual contributions	112,136,429	107,926,949
	• Contribution deficiency / (excess)	0	0
Demographic data for plan year ending June 30:	• Number of retired members and surviving spouses[2]	16,107	15,791
	• Number of vested terminated members	1,526	1,474
	• Retired members and surviving spouses entitled but not yet eligible for health benefits.	142	146
	• Number of active members	27,490	26,632
Key assumptions as of June 30:	• Discount rate	7.00%	7.25%
	• Health care premium trend rates		
	Non-Medicare medical plans	Actual premium increase in first year, then graded from 6.62% to ultimate 4.50% over 9 years	Actual premium increase in first year, then graded from 6.62% to ultimate 4.50% over 9 years
	Medicare medical plans	Actual premium increase in first year, then graded from 6.12% to ultimate 4.50% over 7 years	Actual premium increase in first year, then graded from 6.12% to ultimate 4.50% over 7 years
	Dental	4.00%	4.00%
	Medicare Part B	4.50%	4.50%

[1] The service cost is always based on the previous year's valuation, meaning the June 30, 2020 and 2019 values are based on the valuations as of June 30, 2019 and June 30, 2018, respectively. The key assumptions used in the June 30, 2018 valuation are as follows:

Discount rate	7.25%
Health care premium trend rates	
Non-Medicare medical plan*	Actual premium increase in first year, then graded from 6.87% to ultimate 4.50% over 10 years
Medicare medical plan*	Actual premium increase in first year, then graded from 6.37% to ultimate 4.50% over 8 years
Dental and Medicare Part B	4.00%

* The 2019-2020 trends are before reflecting additional estimated increases of 1.0% (non-Medicare) and 0.5% (Medicare) from the impact of the Health Insurance Tax (HIT).

[2] The total number of participants, including married dependents, receiving benefits is 21,572 as of June 30, 2020 and 21,115 as of June 30, 2019.

Important information about actuarial valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of an OPEB 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 provisions.
Participant data	An actuarial valuation for a plan is based on data provided to the actuary by LACERS. 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 LACERS.
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 health care trends and member enrollment in retiree health benefits. 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 LACERS. 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. LACERS 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 LACERS, it is not a fiduciary in its capacity as actuaries and consultants with respect to LACERS.

Section 2: GAS 74 Information

General information about the OPEB plan

Plan Description

Plan administration. The Los Angeles City Employees' Retirement System (LACERS) was established by City Charter in 1937. LACERS is a single employer public employee retirement system whose main function is to provide retirement benefits to the civilian employees of the City of Los Angeles.

Under the provisions of the City Charter, the Board of Administration (the "Board") has the responsibility and authority to administer the Plan and to invest its assets. The Board members serve as trustees and must act in the exclusive interest of the Plan's members and surviving spouses. The Board has seven members: four members, one of whom shall be a retired member of the System, shall be appointed by the Mayor subject to the approval of the Council; two members shall be active employee members of the System elected by the active employee members; one shall be a retired member of the System elected by the retired members of the System.

Plan membership. At June 30, 2020, OPEB plan membership consisted of the following:

Retired members or surviving spouses currently receiving benefits[1]	16,107
Vested terminated members entitled to, but not yet receiving benefits	1,526
Retired members and surviving spouses entitled but not yet eligible for health benefits	142
Active members	27,490
Total	45,265

[1] The total number of participants, including married dependents, receiving benefits is 21,572.

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Benefits provided. LACERS provides benefits to eligible retirees and beneficiaries:

Membership Eligibility:	
Tier 1 (§4.1002(a))	All employees who became members of the System before July 1, 2013, and certain employees who became members of the System on or after July 1, 2013. In addition, pursuant to Ordinance No. 184134, all Tier 2 employees who became members of the System between July 1, 2013 and February 21, 2016 were transferred to Tier 1 effective February 21, 2016.
Tier 3 (§4.1080.2(a))	All employees who became members of the System on or after February 21, 2016, except as provided otherwise in Section 4.1080.2(b) of the Los Angeles Administrative Code.
Benefit Eligibility:	
Tier 1 (§4.1111(a)) and Tier 3 (§4.1126(a))	Retired age 55 or older with at least 10 years of service (including deferred vested members who terminate employment and receive a retirement benefit from LACERS), or if retirement date is between October 2, 1996, and September 30, 1999 at age 50 or older with at least 30 years of service. Benefits are also payable to spouses, domestic partners, or other qualified dependents while the retiree is alive. Please note that the health subsidy is not payable to a disabled retiree before the member reaches age 55.
Medical Subsidy for Members Not Subject to Cap:	
Under Age 65 or Over Age 65 Without Medicare Part A	
Tier 1 (§4.1111(d)) and Tier 3 (§4.1126(c))	The System will pay 4% of the maximum health subsidy (limited to actual premium) for each year of Service Credit, up to 100% of the maximum health subsidy. As of July 1, 2020, the maximum health subsidy is $1,790.80 per month; remaining unchanged in calendar year 2021. This amount includes coverage of dependent premium costs

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Over Age 65 and Enrolled in Both Medicare Parts A and B	
Tier 1 (§4.1111(e)) and Tier 3 (§4.1126(d))	For retirees, a maximum health subsidy shall be paid in the amount of the single-party monthly premium of the approved Medicare supplemental or coordinated plan in which the retiree is enrolled, subject to the following vesting schedule:

Completed Years of Service	Vested Percentage
1-14	75%
15-19	90%
20+	100%

Subsidy Cap for Tier 1:	
(§4.1111(b))	As of the June 30, 2011 valuation, the retiree health benefits program was changed to cap the medical subsidy for non-retired members who do not contribute an additional 4% or 4.5% of employee contributions to the Pension Plan. The capped subsidy is different for Medicare and non-Medicare retirees. The cap applies to the medical subsidy limits at the 2011 calendar year level. The cap does not apply to the dental subsidy or the Medicare Part B premium reimbursement.
Dependents:	
Tier 1 (§4.1111(e)(4)) and Tier 3 (§4.1126(d)(4))	An additional amount is added for coverage of dependents which shall not exceed the amount provided to a retiree not enrolled in Medicare Parts A and B and covered by the same medical plan with the same years of service. The combined member and dependent subsidy shall not exceed the actual premium. This refers to dependents of retired members with Medicare Parts A and B. It does not apply to those without Medicare or Part B only.
Dental Subsidy for Members:	
Tier 1 (§4.1114(b)) and Tier 3 (§4.1129(b))	The System will pay 4% of the maximum dental subsidy (limited to actual premium) for each year of Service Credit, up to 100% of the maximum dental subsidy. As of July 1, 2020, the maximum dental subsidy is $44.60 per month; remaining unchanged in calendar year 2021. There is no subsidy available to spouses or domestic partners or for dependent coverage. There is also no reimbursement for dental plans not sponsored by the System.
Medicare Part B Reimbursement for Members:	
Tier 1 (§4.1113) and Tier 3 (§4.1128)	If a Retiree is covered by both Medicare Parts A and B, and enrolled in a LACERS medical plan or participates in the LACERS Retiree Medical Premium Reimbursement Program, LACERS will reimburse the retiree the basic Medicare Part B premium.

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<table>
<tr><td>Surviving Spouse Medical Subsidy:</td><td></td></tr>
<tr><td>Tier 1 (§4.1115) and
Tier 3 (§4.1129.1)</td><td>The surviving spouse or domestic partner will be entitled to a health subsidy based on the member's years of service and the surviving dependent's eligibility for Medicare.</td></tr>
<tr><td>Under Age 65 or Over Age 65
Without Medicare Part A</td><td>The maximum health subsidy available for survivors is the lowest cost plan available (currently Kaiser) single-party premium ($853.39 per month as of July 1, 2020; remaining unchanged in calendar year 2021).</td></tr>
<tr><td>Over Age 65 and Enrolled in
Both Medicare Parts A and B</td><td>For survivors, a maximum health subsidy limited to the single-party monthly premium of the plan in which the survivor is enrolled, is provided subject to the following vesting schedule:
<table>
<tr><th>Completed Years of Service</th><th>Vested Percentage</th></tr>
<tr><td>1-14</td><td>75%</td></tr>
<tr><td>15-19</td><td>90%</td></tr>
<tr><td>20+</td><td>100%</td></tr>
</table></td></tr>
</table>

Note that a new Tier 1 Enhanced Plan providing a higher retirement benefit was adopted pursuant to Ordinance No. 184853. However, other than Segal applying higher retirement rate assumptions to anticipate somewhat earlier retirement, there are no differences between the retiree health benefits paid by LACERS to those members.

Net OPEB Liability

Measurement Date	June 30, 2020	June 30, 2019
Components of the Net OPEB Liability		
Total OPEB Liability	$3,486,530,510	$3,334,298,548
Plan Fiduciary Net Position	$2,851,204,652	$2,812,097,867
Net OPEB Liability	$635,325,858	$522,200,681
Plan Fiduciary Net Position as a percentage of the Total OPEB Liability	81.78%	84.34%

The NOL was measured as of June 30, 2020 and 2019. The Plan's Fiduciary Net Position (plan assets) was valued as of the measurement date, while the TOL was determined based upon the results of the actuarial valuations as of June 30, 2020 and 2019, respectively.

Plan provisions. The plan provisions used in the measurement of the NOL as of June 30, 2020 and 2019 are the same as those used in the LACERS funding valuations as of June 30, 2020 and 2019, respectively.

Actuarial assumptions. The TOL as of June 30, 2020 was determined by an actuarial valuation as of June 30, 2020. The actuarial assumptions used in the June 30, 2020 valuation were based on the results of an experience study for the period from July 1, 2016 through June 30, 2019 dated June 17, 2020 and retiree health assumptions letter dated September 15, 2020. They are the same as the assumptions used in the June 30, 2020 funding actuarial valuation for LACERS. In particular, the following actuarial assumptions were applied to all periods included in the measurement:

Inflation	2.75%
Salary increases	Ranges from 9.95% to 4.25% based on years of service, including inflation
Investment rate of return	7.00%, net of OPEB plan investment expense and including inflation
Other assumptions	Same as those used in the June 30, 2020 funding valuation

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The TOL as of June 30, 2019 was determined by an actuarial valuation as 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, 2014 through June 30, 2017, the June 30, 2017 review of economic actuarial assumptions and retiree health assumptions letter dated September 17, 2019. They are the same as the assumptions used in the June 30, 2019 funding actuarial valuation for LACERS. In particular, the following actuarial assumptions were applied to all periods included in the measurement:

Inflation	3.00%
Salary increases	Ranges from 10.00% to 3.90% based on years of service, including inflation
Investment rate of return	7.25%, net of OPEB plan investment expense and including inflation
Other assumptions	Same as those used in the June 30, 2019 funding valuation

Determination of discount rate and investment rates of return

The long-term expected rate of return on OPEB 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 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 summarized in the following table. These values were used in the derivation of the long-term expected investment rate of return assumption that was used in the actuarial valuation as of June 30, 2020. 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	15.01%	5.54%
Small/Mid Cap U.S. Equity	3.99%	6.25%
Developed International Large Cap Equity	17.01%	6.61%
Developed International Small Cap Equity	2.97%	6.90%
Emerging International Large Cap Equity	5.67%	8.74%
Emerging International Small Cap Equity	1.35%	10.63%
Core Bonds	13.75%	1.19%
High Yield Bonds	2.00%	3.14%
Bank Loans	2.00%	3.70%
TIPS	4.00%	0.86%
Emerging Market Debt (External)	2.25%	3.55%
Emerging Market Debt (Local)	2.25%	4.75%
Core Real Estate	4.20%	4.60%
Non-Core Real Estate	2.80%	5.76%
Cash	1.00%	0.03%
Commodities	1.00%	3.33%
Private Equity	14.00%	8.97%
Private Credit/Debt	3.75%	6.00%
REITS	1.00%	5.98%
Total	**100.00%**	

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Discount rate: The discount rates used to measure the TOL were 7.00% as of June 30, 2020 and 7.25% as of June 30, 2019. The projection of cash flows used to determine the discount rate assumed 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 are not included. Based on those assumptions, the OPEB 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 OPEB plan investments was applied to all periods of projected benefit payments to determine the TOL as of both June 30, 2020 and June 30, 2019.

Discount rate and trend sensitivity

Sensitivity of the Net OPEB Liability to changes in the discount rate. The following presents the Net OPEB Liability of LACERS as of June 30, 2020, calculated using the discount rate of 7.00%, as well as what LACERS' Net OPEB Liability 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%)
Net OPEB Liability as of June 30, 2020	$1,137,842,031	$635,325,858	$225,113,382

Sensitivity of the Net OPEB Liability to changes in the healthcare cost trend rate. The following presents the Net OPEB Liability of LACERS as of June 30, 2020, calculated using the trend rate as well as what LACERS' Net OPEB Liability would be if it were calculated using a trend rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease	Current Trend Rates[3]	1% Increase
Net OPEB Liability as of June 30, 2020	$187,138,639	$635,325,858	$1,195,159,497

[3] Current trend rates: Actual premium increase in first year then 6.62% graded down to 4.50% over 9 years for Non-Medicare medical plan costs and 6.12% graded down to 4.50% over 7 years for Medicare medical plan costs. 4.00% for all years for Dental and 4.50% for all years for Medicare Part B subsidy cost.

Schedule of changes in Net OPEB Liability – Last two fiscal years

Measurement Date	June 30, 2020	June 30, 2019
Total OPEB Liability		
• Service cost[4]	$76,422,769	$74,477,507
• Interest	242,665,810	236,677,675
• Change of benefit terms	0	0
• Differences between expected and actual experience	-135,719,690	-134,052,778
• Changes of assumptions	96,076,478	33,939,702
• Benefit payments	-127,213,405	-133,571,405
Net change in Total OPEB Liability	**$152,231,962**	**$77,470,701**
Total OPEB Liability – beginning	**3,334,298,548**	**3,256,827,847**
Total OPEB Liability – ending (a)	**$3,486,530,510**	**$3,334,298,548**
Plan Fiduciary Net Position		
• Contributions – employer	$112,136,429	$107,926,949
• Contributions – employee	0	0
• Net investment income	60,898,611	166,469,503
• Benefit payments	-127,213,405	-133,571,405
• Administrative expense	-6,714,850	-5,098,795
• Other	0	0
Net change in Plan Fiduciary Net Position	**$39,106,785**	**$135,726,252**
Plan Fiduciary Net Position – beginning	**2,812,097,867**	**2,676,371,615**
Plan Fiduciary Net Position – ending (b)	**$2,851,204,652**	**$2,812,097,867**
Net OPEB Liability – ending (a) – (b)	**$635,325,858**	**$522,200,681**
Plan Fiduciary Net Position as a percentage of the Total OPEB Liability	**81.78%**	**84.34%**
Covered payroll[5]	**$2,271,038,575**	**$2,108,171,088**
Plan Net OPEB Liability as percentage of covered payroll	**27.98%**	**24.77%**

[4] The service cost is always based on the previous year's valuation, meaning the June 30, 2020 and 2019 values are based on the valuations as of June 30, 2019 and June 30, 2018, respectively.

[5] Covered payroll is defined as the payroll on which contributions to an OPEB plan are based.

Schedule of contributions – Last ten fiscal years

Year Ended June 30	Actuarially Determined Contributions	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency / (Excess)	Covered Payroll[6]	Contributions as a Percentage of Covered Payroll
2011	$107,395,804	$107,395,804	$0	$1,678,059,440	6.40%
2012	115,208,835	115,208,835	0	1,715,197,133	6.72%
2013	72,916,729	72,916,729	0	1,736,112,598	4.20%
2014	97,840,554	97,840,554	0	1,802,931,195	5.43%
2015	100,466,945	100,466,945	0	1,835,637,409	5.47%
2016	105,983,112	105,983,112	0	1,876,946,179	5.65%
2017	97,457,455	97,457,455	0	1,973,048,633	4.94%
2018	100,909,010	100,909,010	0	2,057,565,478	4.90%
2019	107,926,949	107,926,949	0	2,108,171,088	5.12%
2020	112,136,429	112,136,429	0	2,271,038,575	4.94%

See accompanying notes to this schedule on the next page.

[6] Covered payroll is defined as the payroll on which contributions to an OPEB plan are based.

Section 2: GAS 74 Information

Notes to Schedule:

Methods and assumptions used to establish "actuarially determined contribution" (ADC) 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 Cost Method (level percent of payroll)
Amortization method:	Level percent of payroll
Remaining amortization period:	Multiple layers, closed amortization periods. The costs associated with the 2009 ERIP have been amortized over 15 years beginning with the June 30, 2009 valuation date. The unfunded actuarial accrued liability as of June 30, 2012 is amortized over a fixed period of 30 years beginning July 1, 2012. Assumption changes resulting from the triennial experience study will be amortized over 20 years. Health trend and premium assumption changes, plan changes, and gains and losses will be amortized over 15 years.
Asset valuation method:	Market value of assets less unrecognized returns in each of the last seven years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a seven-year period. The actuarial value of assets cannot be less than 60% or greater than 140% of the market value of assets.
Actuarial assumptions:	
Valuation date:	June 30, 2020
Investment rate of return	7.00%
Inflation rate	2.75%
Real across-the-board salary increase	0.50%
Projected salary increases[7]	Ranges from 9.95% to 4.25%, based on years of service
Medical cost trend rates	
Non-Medicare medical plans	Actual premium increase in first year, then graded from 6.62% to ultimate 4.50% over 9 years
Medicare medical plans	Actual premium increase in first year, then graded from 6.12% to ultimate 4.50% over 7 years
Dental	4.00%
Medicare Part B	4.50%
Other assumptions:	Same as those used in the June 30, 2020 funding actuarial valuation.

[7] Includes inflation at 2.75% plus across the board salary increases of 0.50% plus merit and promotional increases

Section 3: Appendices

Appendix A: Definition of Terms

Definitions of certain terms as they are used in Statement 74. The terms may have different meanings in other contexts.

Actuarially Determined Contribution:	A target or recommended contribution to an OPEB plan for the reporting period based on the most recent measurement available.
Assumptions or Actuarial Assumptions:	The estimates on which the cost of the Plan is calculated including: a) Investment return — the rate of investment yield that the Plan will earn over the long-term future; b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates; c) Retirement rates — the rate or probability of retirement at a given age; d) Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.
Covered Employee Payroll:	The payroll of the employees that are provided OPEB benefits.
Discount Rate:	The single rate of return, that when applied to all projected benefit payments results in an actuarial present value that is the sum of the following: 1) the actuarial present value of projected benefit payments projected to be funded by plan assets using a long term rate of return, and 2) the actuarial present value of projected benefit payments that are not included in (1) using a yield or index rate for 20 year tax exempt general obligation municipal bonds with an average rating of AA/Aa or higher.
Entry Age Actuarial Cost Method:	An actuarial cost method where the present value of the projected benefits for an individual is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age.
Healthcare Cost Trend Rates:	The rate of change in per capita health costs over time.
Net OPEB Liability:	The Total OPEB Liability less the Plan Fiduciary Net Position.
Plan Fiduciary Net Position:	Market Value of Assets
Real Rate of Return:	The rate of return on an investment after removing inflation.
Service Cost:	The amount of contributions required to fund the benefit allocated to the current year of service.

Section 3: Appendices

Total OPEB Liability:	Present value of all future benefit payments for current retirees and active employees taking into account assumptions about demographics, turnover, mortality, disability, retirement, health care trends, and other actuarial assumptions.
Valuation Date:	The date at which the actuarial valuation is performed.

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