City of Los Angeles Fire and Police Pension Plan

Actuarial Valuation and Review of Retirement and Other Postemployment Benefits (OPEB)

As of June 30, 2021

This report has been prepared at the request of the Board of Commissioners 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 Commissioners and may only be provided to other parties in its entirety, unless expressly authorized by Segal. The measurements shown in this actuarial valuation may not be applicable for other purposes.

Segal

Segal

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November 10, 2021

Board of Fire and Police Pension Commissioners
City of Los Angeles Fire and Police Pension Plan
701 East 3rd Street, Suite 200
Los Angeles, CA 90013

Dear Board Members:

Enclosed please find the June 30, 2021 actuarial valuations for the retirement and the health programs.

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

- Exhibit A - Summary of significant results for the two programs.
- Exhibit B - History of computed contribution rates for the two programs.

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

Sincerely,

Segal

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

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

EK/jl

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City of Los Angeles Fire and Police Pension Plan
Summary of Significant Valuation Results

			June 30, 2021	June 30, 2020	Percent Change
1.	**Total Membership**				
	a.	Current Active Members (includes DROP members)	12,823	13,486	-4.92%
	b.	Current Vested Former Members[1]	633	575	10.09%
	c.	Current Retirees, Beneficiaries, and Dependents	13,527	13,291	1.78%
2.	**Valuation Salary**				
	a.	Total Projected Annual Payroll	$1,684,784,966	$1,670,245,276	0.87%
	b.	Average Projected Monthly Salary	10,949	10,321	6.08%
3.	**Benefits to Current Retirees and Beneficiaries[2]**				
	a.	Total Annual Benefits	$1,058,547,252	$1,018,439,364	3.94%
	b.	Average Monthly Benefit Amount	6,521	6,386	2.11%
4.	**Total Plan Assets[3]**				
	a.	Actuarial Value	$26,145,074,797	$24,321,274,165	7.50%
	b.	Market Value	30,750,617,516	23,540,380,835	30.63%
5.	**Unfunded Actuarial Accrued Liability (UAAL)**				
	a.	Retirement Benefits	$771,918,578	$1,620,592,579	-52.37%
	b.	Health Subsidy Benefits	1,337,448,034	1,495,306,555	-10.56%

[1] The June 30, 2021 valuation includes 574 terminated members due only a refund of member contributions. The June 30, 2020 valuation included 513 such members.
[2] Includes July COLA.
[3] Includes all assets for Retirement and Health Subsidy Benefits.

City of Los Angeles Fire and Police Pension Plan
Summary of Significant Valuation Results

		FY 2022-2023[1]		FY 2021-2022		Change	
		Beginning of Year	July 15	Beginning of Year	July 15	Beginning of Year	July 15
6.	**Budget Items**						
	a. Retirement Benefits						
	1) Normal Cost as a Percent of Pay	20.21%	20.27%	20.12%	20.19%	0.09%	0.08%
	2) Amortization of UAAL	8.53%	8.55%	12.15%	12.18%	-3.62%	-3.63%
	3) Allocated amount for administrative expenses	1.25%	1.25%	1.25%	1.25%	0.00%	0.00%
	4) **Total Retirement Contribution**	29.99%	30.07%	33.52%	33.62%	-3.53%	-3.55%
	b. Health Subsidy Contribution						
	1) Normal Cost as a Percent of Pay	4.73%	4.75%	4.85%	4.86%	-0.12%	-0.11%
	2) Amortization of UAAL	6.73%	6.74%	7.14%	7.16%	-0.41%	-0.42%
	3) Allocated amount for administrative expenses	0.11%	0.11%	0.11%	0.11%	0.00%	0.00%
	4) **Total Health Subsidy Contribution**	11.57%	11.60%	12.10%	12.13%	-0.53%	-0.53%
	c. **Total Contribution (a. + b.)**	41.56%	41.67%	45.62%	45.75%	-4.06%	-4.08%

[1] Alternative contribution payment date for FY 2022-2023:

	Retirement	Health	Total
End of Pay Period	31.02%	11.97%	42.99%

City of Los Angeles Fire and Police Pension Plan
Summary of Significant Valuation Results

			June 30, 2021	June 30, 2020	Change
7.	**Funded Ratio (Based on Valuation Value of Assets)**				
	a.	Retirement Benefits	96.8%	93.2%	3.6%
	b.	Health Subsidy Benefits	64.7%	59.7%	5.0%
	c.	Total	92.5%	88.6%	3.9%
8.	**Funded Ratio (Based on Market Value of Assets)**				
	a.	Retirement Benefits	113.9%	90.2%	23.7%
	b.	Health Subsidy Benefits	76.1%	57.8%	18.3%
	c.	Total	108.8%	85.8%	23.0%

City of Los Angeles Fire and Police Pension Plan
Computed Contribution Rates[1] – Historical Comparison

Valuation Date	Retirement	Health	Total	Valuation Payroll ($ in '000s)
June 30, 2012[2]	34.72%	10.84%[3]	45.56%	$1,341,914
June 30, 2013	36.54%	11.30%	47.84%	1,367,237
June 30, 2014	35.28%	11.13%	46.41%	1,402,715
June 30, 2015	32.61%	11.83%	44.44%	1,405,171
June 30, 2016	31.85%	12.31%	44.16%	1,400,808
June 30, 2017	34.07%	12.66%	46.73%	1,475,539
June 30, 2018	34.37%	12.82%	47.19%	1,546,043
June 30, 2019	34.09%	12.51%	46.60%	1,583,808
June 30, 2020	33.61%	12.08%	45.69%	1,670,245
June 30, 2021	30.07%	11.60%	41.67%	1,684,785

[1] All contributions provided in this Exhibit B are assumed to be made on July 15.
[2] Before reflecting phase-in policy.
[3] After reflecting updated Tier 6 contribution rate as provided in Segal's letter dated February 27, 2013.

City of Los Angeles Fire and Police Pension Plan

Actuarial Valuation and Review

As of June 30, 2021

This report has been prepared at the request of the Board of Commissioners 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 Commissioners and may only be provided to other parties in its entirety, unless expressly authorized by Segal. The measurements shown in this actuarial valuation may not be applicable for other purposes.

Segal

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November 10, 2021

Board of Fire and Police Pension Commissioners
City of Los Angeles Fire and Police Pension Plan
701 East 3rd Street, Suite 200
Los Angeles, CA 90013

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of June 30, 2021. It summarizes the actuarial data used in the valuation, analyzes the preceding year's experience, and establishes the funding requirements for fiscal year 2022-2023.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Plan. The census information and financial information on which our calculations were based was prepared by Los Angeles Fire & Police Pensions (LAFPP). 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, EA, MAAA, FCA Senior Vice President and Actuary	Andy Yeung, ASA, EA, MAAA, FCA Vice President and Actuary

ST/jl

Table of Contents

Section 1: Actuarial Valuation Summary

Purpose and Basis

This report was prepared by Segal to present a valuation of the City of Los Angeles Fire and Police Pension Plan ("the Plan") as of June 30, 2021. 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 Commissioners;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of June 30, 2021, provided by LAFPP;
- The assets of the Plan as of June 30, 2021, provided by LAFPP;
- Economic assumptions regarding future salary increases and investment earnings;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc. and
- The funding policy adopted by the Board of Commissioners.

One of the general goals of an actuarial valuation is to establish contributions which fully fund the Plan's liabilities, and which, as a percentage of payroll, remain as level as possible for each generation of active members. Annual actuarial valuations measure the progress toward this goal, as well as test the adequacy of the contribution rates.

In preparing this valuation, we have employed generally accepted actuarial methods and assumptions to evaluate the Plan's liabilities and future contribution requirements. Our calculations are based upon member data and financial information provided to us by LAFPP. This information has not been audited by us, but it has been reviewed and found to be consistent, both internally and with prior year's information.

The contribution requirements are determined as a percentage of payroll. The employer contribution rates provided in this report have been developed assuming that they will be made by the City at either: (1) the beginning of the fiscal year, (2) on July 15, or (3) throughout the year (i.e., the City will pay contributions at the end of every pay period). The Plan's employer rates provide for both Normal Cost and a contribution to amortize any Unfunded or Overfunded Actuarial Accrued Liabilities. In this valuation, we have applied the funding policy adopted by the Board on September 6, 2012, and most recently amended on September 20, 2018. Details of the funding policy are provided in *Section 4, Exhibit 1* on page 98. As directed by the Board at its meeting on September 15, 2021, we will prepare an analysis before the June 30, 2022 valuation so that the Board can consider amortizing the Plan's Unfunded Actuarial Accrued Liability (UAAL) only by source (instead of the current practice of by source and by tier). The Board might also consider shortening the amortization period for Tier 1 at that time.

A schedule of current amortization balances and payments may be found in *Section 3, Exhibit G* on pages 73 to 84. A graphical projection of the UAAL amortization balances and payments has been included in *Section 3, Exhibit H* on pages 85 and 86.

The rates calculated in this report may be adopted by the Board for the fiscal year that extends from July 1, 2022 through June 30, 2023.

Valuation Highlights

Pg. 28

1. The Unfunded Actuarial Accrued Liability (UAAL) decreased from $1,621 million to $772 million. The decrease in the UAAL is primarily the results of: higher than expected return on the Valuation Value of Assets (after smoothing), lower than expected COLA increases for retirees and beneficiaries, and other experience gains, partially offset by higher than expected salary increases for continuing active members and by actual employer contributions less than expected[1]. A complete reconciliation of the Plan's UAAL is provided in *Section 2, Subsection E*. A schedule of the current UAAL amortization amounts is provided in *Section 3, Exhibit G* and a graphical projection of the UAAL balance and payments is shown in *Section 3, Exhibit H*.

Pgs. 73-86

Pg. 43

2. The funded ratio (the ratio of the Valuation Value of Assets to Actuarial Accrued Liability) is 96.8%, compared to the prior year funded ratio of 93.2%. (These are the funded ratios for the Plan; however, the funded ratios for the City excluding Harbor Port Police and Airport Police Officers are the same.) This ratio is one measure of funding status, and its history is a measure of funding progress. The funded ratio measured on a market value basis is 113.9%, compared to 90.2% as of the prior valuation date. These measurements are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligation or the need for, or the amount of, future contributions. A history of the funded ratio for the Plan is provided in *Section 2, Subsection G*.

Pg. 30

3. The aggregate beginning-of-year employer rate calculated in this valuation has decreased from 33.52% of payroll to 29.99% of payroll. Using a projected annual payroll of $1.685 billion as of June 30, 2021, there would be a decrease in the beginning-of-year contributions from $565 million to $505 million. The decrease was primarily due to: higher than expected return on the Valuation Value of Assets (after smoothing), lower than expected COLA increases for retirees and beneficiaries, the net loss layer from the June 30, 2006 valuation being fully amortized, and other experience gains, partially offset by higher than expected salary increases for continuing active members, amortizing the prior year's UAAL over a smaller than expected projected total payroll and loss due to actual employer contributions less than expected. A complete reconciliation of the aggregate employer contribution is provided in *Section 2, Subsection F*.

4. LAFPP has three membership categories: Fire and Police ("City"), Harbor Port Police and Airport Police. LAFPP tracks contributions and benefit payments separately for the three membership categories and reports them to Segal. Segal then uses those amounts in developing separate Valuation Value of Assets and UAAL contribution rates for each of the three membership categories. Following established practice, upon the completion of the June 30, 2020 valuation, Segal identified 2 members who had transferred between the three membership categories during the period July 1, 2019 to June 30, 2020. LAFPP is expected to report benefit payments for these 2 members based on their most recent membership category immediately before their retirement. Consistent with that practice,

[1] The actual employer contributions were less than expected due to actual covered payroll for 2020-2021 lower than the payroll projected in the June 30, 2020 valuation. This is somewhat offset by the scheduled one-year lag in implementing the lower contribution rates for City members calculated in the June 30, 2020 valuation for Fiscal Year 2022.

we have reflected in this valuation a transfer of assets accumulated in the prior membership category to the new membership category (about $178 thousand primarily from Fire and Police to Airport Police).

Pgs. 23-25, 28, 30

5. The market value of assets earned a return of about 32.4% for the July 1, 2020 to June 30, 2021 plan year. The Valuation Value of Assets earned a return of about 9.5% for the July 1, 2020 to June 30, 2021 plan year due to the deferral of most of the current year investment gain and the recognition of prior investment gains and losses. This resulted in an actuarial gain of $542.2 million when measured against the assumed rate of return of 7.00% for 2020-2021. This actuarial investment gain decreased the aggregate required contribution by 2.21% of payroll. As part of the review of the assumed long-term rate of return on investments and other assumptions in the next experience study, we would examine the low fixed income interest rate environment, and evolving expectations of future investment returns for various asset classes. This will allow us to assist the Board as they continue to monitor anticipated investment returns relative to the assumed long-term rate of return on investments of 7.00%.

Pgs. 22, 28

6. The net actuarial gain from investment and employer contribution experience is $523.5 million, or 2.1% of Actuarial Accrued Liability. The net experience gain from sources other than investment and employer contribution experience was 0.9% of the Actuarial Accrued Liability. This gain was primarily due to lower than expected cost-of-living adjustment (COLA) increases for retirees and beneficiaries, offset to some extent by higher than expected individual salary increases for continuing active members.

Pg. 20

7. As indicated in *Section 2, Subsection B* of this report, the total net unrecognized investment gain as of June 30, 2021 is $4.606 billion for the assets for Retirement and Health Subsidy Benefits. This investment gain will be recognized in the determination of the Actuarial Value of Assets for funding purposes in the next few years. For comparison purposes, the total net unrecognized investment loss as of June 30, 2020 was $780.9 million.

   The net unrecognized investment gains represent about 15.0% of the Market Value of Assets. Unless offset by future investment losses or other unfavorable experience, the recognition of the $4.606 billion market gains is expected to have an impact on the Plan's future funded ratio and the aggregate employer contributions. This potential impact may be illustrated as follows:

   a. If the net deferred gains for the Retirement Plan were recognized immediately in the Valuation Value of Assets, the funded percentage would increase from 96.8% to 113.9%.

      For comparison purposes, if all the net deferred losses for the Retirement Plan in the June 30, 2020 valuation had been recognized immediately in the June 30, 2020 valuation, the funded percentage would have decreased from 93.2% to 90.2%.

   b. If the net deferred gains for the Retirement Plan were recognized immediately in the Valuation Value of Assets, the aggregate beginning-of-year employer contribution rate would decrease from 29.99% of payroll to 11.38%[1] of payroll.

[1] The employer's total rate of 11.38% has been calculated by adjusting the employer's normal cost rate and explicit administrative expense developed in this report by 30-year amortization of the actuarial surplus and picking up of 1% of the employee's contribution rate for members in Tier 5.

For comparison purposes, if all the net deferred losses for the Retirement Plan in the June 30, 2020 valuation had been recognized immediately in the June 30, 2020 valuation, the aggregate beginning-of-year employer contribution rate would have increased from 33.52% of payroll to 36.44% of payroll.

8. The City has implemented a Retirement Incentive Pay (RIP) program to allow sworn employees retiring or entering DROP to include deferred salary increases as part of their pension benefit calculation or to apply them toward their accrued leave payout at retirement. Under the RIP such deferred salary increases are treated like a pensionable bonus equivalent to the base wage increase that the unions agreed to defer for a period of time as previously scheduled. We understand that about 300 employees have chosen to participate in the RIP but the majority of those were still active as of June 30, 2021. Any associated change in payroll and/or liability when those members enter DROP or retire will be reflected in a future valuation.

9. The actuarial valuation report as of June 30, 2021 is based on financial and demographic information as of that date. Changes 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.

Pg. 47

10. 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 LAFPP 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.

    Because 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. Following the completion of the June 30, 2020 valuation, we prepared a stand-alone Risk Assessment report dated February 18, 2021 by using membership and financial information as provided in the actuarial valuation as of June 30, 2020. That report includes various projections of future results under different investment return scenarios together with the assumptions adopted for the June 30, 2020 valuation.

Section 1: Actuarial Valuation Summary

The stand-alone risk assessment report associated with this June 30, 2021 valuation, including the quantitative analyses recommended by Segal in consultation with LAFPP, will be available in the first quarter of 2022. In the interim, we have included a brief discussion of key risks that may affect the Plan in *Section 2, Subsection J*.

11. Segal strongly recommends an actuarial funding method that targets 100% funding of the actuarial accrued liability. Generally, this implies payments that are ultimately at least enough to cover normal cost, interest on the unfunded actuarial accrued liability and the principal balance. The funding policy adopted by the Board meets this standard.
12. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2021. Due to the COVID-19 pandemic, market conditions have changed significantly since the onset of the Public Health Emergency. The Plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the Plan Year. Moreover, this actuarial valuation does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after June 30, 2021. While it is impossible to determine how the pandemic will affect market conditions and other demographic experience of the Plan in future valuations, Segal is available to prepare projections of potential outcomes upon request.
13. This report constitutes an actuarial valuation for the purpose of determining the actuarially determined contribution under the Plan's funding policy and measuring the progress of that funding policy. The Net Pension Liability (NPL) and Pension Expense under Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68, for inclusion in the plan and employer's financial statements as of June 30, 2021, will be provided separately. The accounting disclosures will utilize different methodologies from those employed in the funding valuation, as required by the GASB. However, the actuarially determined contribution in this valuation is expected to be used as the actuarially determined contribution (ADC) for GASB financial reporting

Summary of Key Valuation Results

		June 30, 2021	June 30, 2020
Employer Contribution Rates:[1]	At the beginning of year	29.99%	33.52%
	On July 15	30.07%	33.62%
	At the end of each biweekly pay period	31.02%	34.68%
Actuarial Accrued Liability as of June 30:	Retired members and beneficiaries	$13,655,976,623	$13,135,651,607
	Inactive vested members[2]	59,209,242	55,821,286
	Active members not currently in DROP	7,865,724,380	7,678,891,383
	Active members currently in DROP[3]	2,880,357,129	2,856,950,742
	Total Actuarial Accrued Liability	$24,461,267,374	$23,727,315,018
	Normal Cost for plan year beginning June 30[4]	$503,368,042	$503,126,597
Assets as of June 30:	Market Value of Retirement Assets	$27,862,307,134	$21,396,932,648
	Valuation Value of Retirement Assets (VVA)	23,689,348,796	22,106,722,439
	VVA as a percentage of Market Value of Retirement Assets	85.0%	103.3%
Funded status as of June 30:	Unfunded Actuarial Accrued Liability on Market Value of Retirement Assets basis	$(3,401,039,760)	$2,330,382,370
	Funded percentage on MVA basis	113.9%	90.2%
	Unfunded Actuarial Accrued Liability on Valuation Value of Retirement Assets basis	$771,918,578	$1,620,592,579
	Funded percentage on VVA basis[5]	96.8%	93.2%
Key assumptions	Net investment return	7.00%	7.00%
	Price Inflation	2.75%	2.75%
	Payroll growth	3.25%	3.25%

1 Recommended employer contribution rate is shown as a percent of pay and there is a 12-month delay until the rate is effective. Rates as of June 30, 2020 are recalculated to reflect payroll of active members enrolled in the various tiers as of June 30, 2021. There is a change in the total aggregate rate determined in the June 30, 2020 valuation calculated using the 2020 projected payroll by tier compared to the total aggregate rate recalculated above using the 2021 projected payroll by tier as a result of new members entering Tier 6 and active members leaving the other Tiers.

2 Includes inactive members due a refund of member contributions.

3 Includes $370,857,105 and $353,643,961 attributable to the value of the DROP account balances as of June 30, 2021 and June 30, 2020, respectively.

4 Normal Cost as of June 30, 2020 is recalculated to reflect payroll of active members enrolled in the various tiers as of June 30, 2021, as described above.

5 The funded ratios on VVA basis excluding Harbor Port Police and Airport Police Officers are 96.8% and 93.2% as of June 30, 2021 and June 30, 2020, respectively.

Summary of Key Valuation Results (continued)

		June 30, 2021	June 30, 2020	Change From Prior Year
Demographic data as of June 30:	**Active Members:**			
	Number of members[1]	12,823	13,486	-4.9%
	Average age	42.7	42.2	0.5
	Average years of service	15.7	15.2	0.5
	Total projected compensation	$1,684,784,966	$1,670,245,276	0.9%
	Average projected compensation	$131,388	$123,850	6.1%
	Retired Members and Beneficiaries:			
	Number of members:			
	• Service retired	9,338	9,049	3.2%
	• Disability retired	1,706	1,767	-3.5%
	• Beneficiaries	2,483	2,475	0.3%
	– Total	13,527	13,291	1.8%
	Average age	71.4	71.5	-0.1
	Average monthly benefit	$6,521	$6,386	2.1%
	Inactive Vested Members:			
	Number of members[2]	633	575	10.1%
	Average Age[3]	48.7	48.2	0.5
	Total Members:	26,983	27,352	-1.3%

[1] Includes DROP members.

[2] Includes 59 members as of June 30, 2021 and 62 members as of June 30, 2020 with a vested right to a deferred or immediate vested benefit. The rest of the inactive members are due a refund of member contributions.

[3] Excludes inactive members due a refund of member 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. Even where they appear precise, outside factors may change how they operate. 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 LAFPP. 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 Plan. The Plan uses a “Valuation 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, 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 Plan. 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 LAFPP 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. LAFPP 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 10, 2021

This is to certify that Segal has conducted an actuarial valuation of the City of Los Angeles Fire and Police Pension Plan retirement program as of June 30, 2021, 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 as of June 30, 2020. 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 summarized in *Section 4, Exhibit 2* and on participant and financial data provided by LAFPP. Segal did not audit LAFPP's financial statements, but we conducted an examination of the participant data for reasonableness and we concluded that it was reasonable and consistent with the prior year's data.

The actuarial computations made are for funding plan benefits. Accordingly, additional determinations may 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 Annual Financial Report. A listing of the supporting schedules Segal prepared for inclusion in the financial section as Supplementary Information required by GASB is provided below:

- Schedule of Net Pension Liability
- Schedule of Changes in Net Pension Liability and Related Ratios
- Schedule of Contribution History

LAFPP's 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 meets the qualifications to provide the actuarial opinion herein.

Andy Yeung

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

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: 2012 – 2021

Year Ended June 30	Active Members[1]	DROP Members	Inactive Vested Members[2]	Retired Members and Beneficiaries	Total Non-Actives	Ratio of Non-Actives to Actives	Ratio of Retired Members and Beneficiaries to Actives
2012	13,396	1,193	62	12,380	12,442	0.93	0.92
2013	13,224	1,191	133	12,432	12,565	0.95	0.94
2014	13,097	1,277	131	12,502	12,633	0.96	0.95
2015	13,068	1,359	112	12,593	12,705	0.97	0.96
2016	13,050	1,243	128	12,819	12,947	0.99	0.98
2017	13,327	1,303	374	12,836	13,210	0.99	0.96
2018	13,442	1,442	534	12,890	13,424	1.00	0.96
2019	13,535	1,665	523	13,097	13,620	1.01	0.97
2020	13,486	1,478	575	13,291	13,866	1.03	0.99
2021	12,823	1,484	633	13,527	14,160	1.10	1.05

[1] Includes DROP members provided in the next column.

[2] Includes inactive members due a refund of member contributions (beginning with the June 30, 2013 valuation). Counts shown for June 30, 2017 and June 30, 2018 include 179 and 110 inactive members, respectively, due a refund of member contributions that were not included in the membership data provided for the prior valuations.

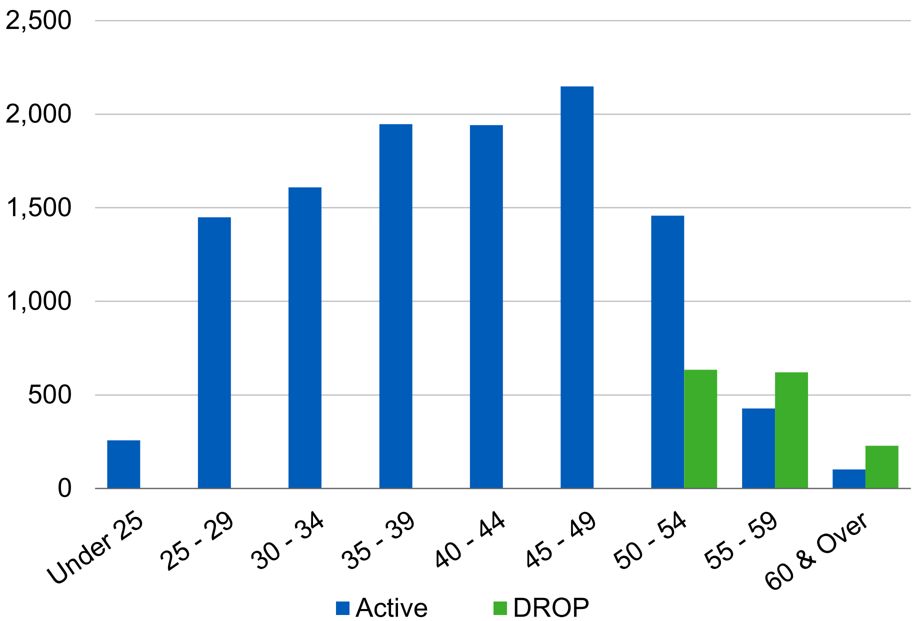
Active Members (Including DROP Members)

Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 12,823 active members with an average age of 42.7, average years of service of 15.7 years and average compensation of $131,388. The 13,486 active members in the prior valuation had an average age of 42.2, average service of 15.2 years and average compensation of $123,850.

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

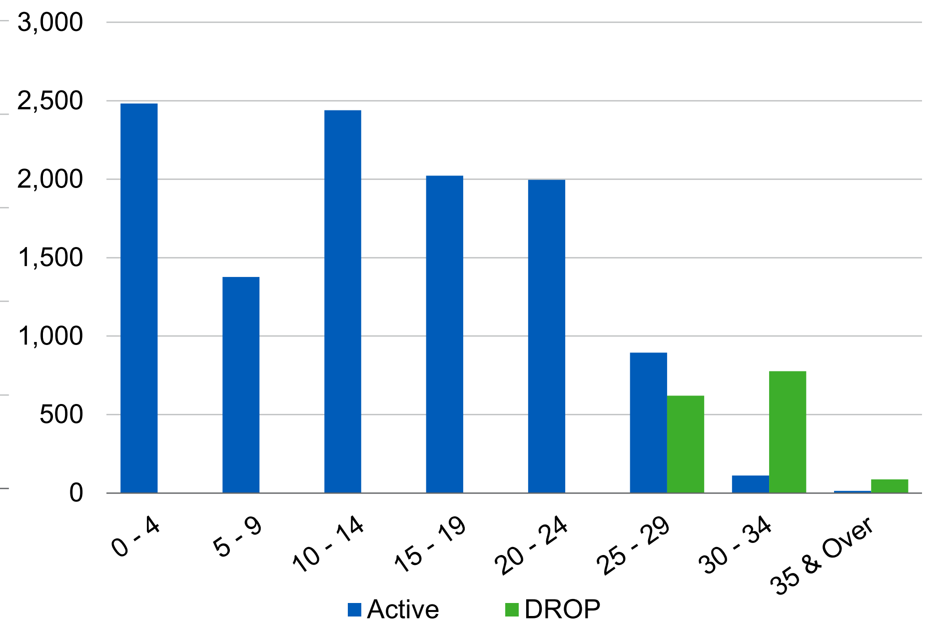
Distribution of Active Members (Including DROP Members) as of June 30, 2021

Actives by Age



Average age	42.7
Prior year average age	42.2
Difference	0.5

Actives by Years of Service



Average years of service	15.7
Prior year average years of service	15.2
Difference	0.5

Inactive Members

In this year's valuation, there were 59 members with a vested right to a deferred or immediate vested benefit versus 62 in the prior valuation. In addition, there were 574 members entitled to a return of their member contributions versus 513 in the prior valuation.

Retired Members and Beneficiaries

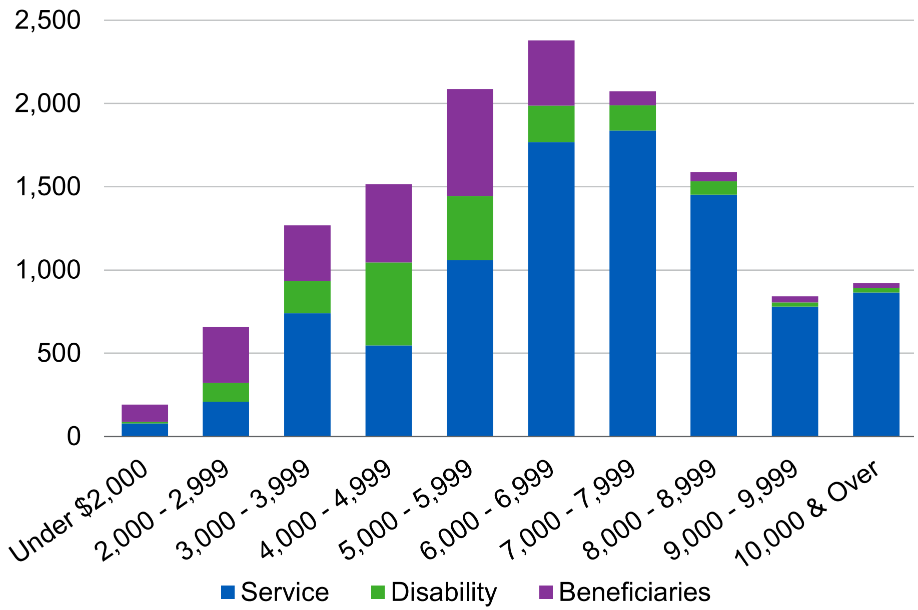
As of June 30, 2021, 11,044 retired members and 2,483 beneficiaries were receiving total monthly benefits of $88,212,271. For comparison, in the previous valuation, there were 10,816 retired members and 2,475 beneficiaries receiving monthly benefits of $84,869,947.

The monthly benefits provided have been adjusted for the COLA granted effective for the month of July.

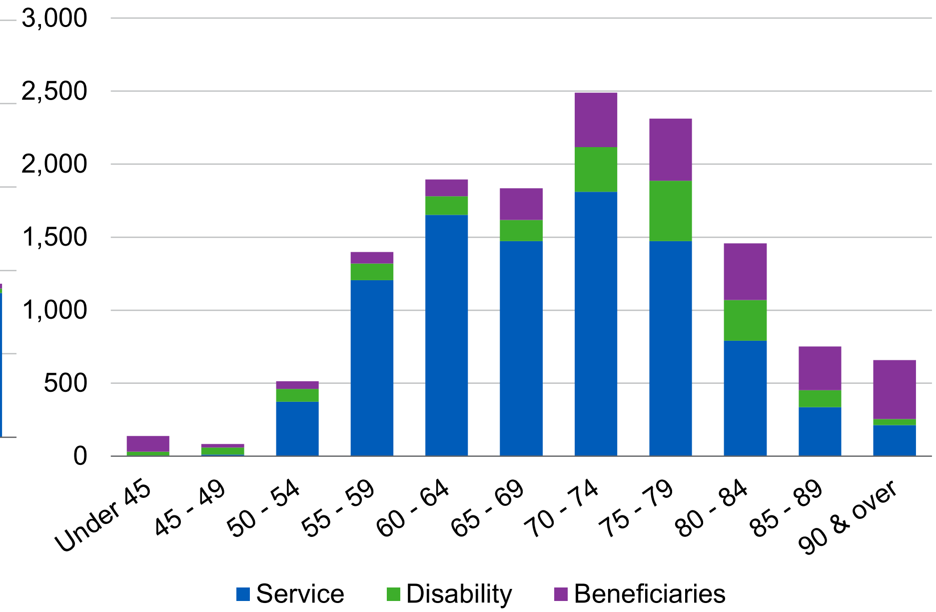
As of June 30, 2021, the average monthly benefit for retired members and beneficiaries is $6,521, compared to $6,386 in the previous valuation. The average age for retired members and beneficiaries is 71.4 in the current valuation, compared with 71.5 in the prior valuation.

Distribution of Retired Members and Beneficiaries as of June 30, 2021

Retired Members and Beneficiaries by Type and Monthly Amount (Includes July 1 COLA)



Retired Members and Beneficiaries by Type and Age (Includes July 1 COLA)



Historical Plan Population

The chart below demonstrates the changes 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: 2012 – 2021

	Active Members[1]			Retired Members and Beneficiaries		
Year Ended June 30	Count	Average Age	Average Service	Count	Average Age	Average Monthly Amount
2012	13,396	41.5	14.5	12,380	70.4	$5,011
2013	13,224	41.9	15.0	12,432	70.7	5,170
2014	13,097	42.4	15.4	12,502	70.8	5,247
2015	13,068	42.5	15.5	12,593	71.0	5,309
2016	13,050	42.3	15.3	12,819	71.0	5,500
2017	13,327	42.3	15.3	12,836	71.2	5,686
2018	13,442	42.3	15.3	12,890	71.3	5,925
2019	13,535	42.2	15.2	13,097	71.5	6,135
2020	13,486	42.2	15.2	13,291	71.5	6,386
2021	12,823	42.7	15.7	13,527	71.4	6,521

[1] Includes DROP members.

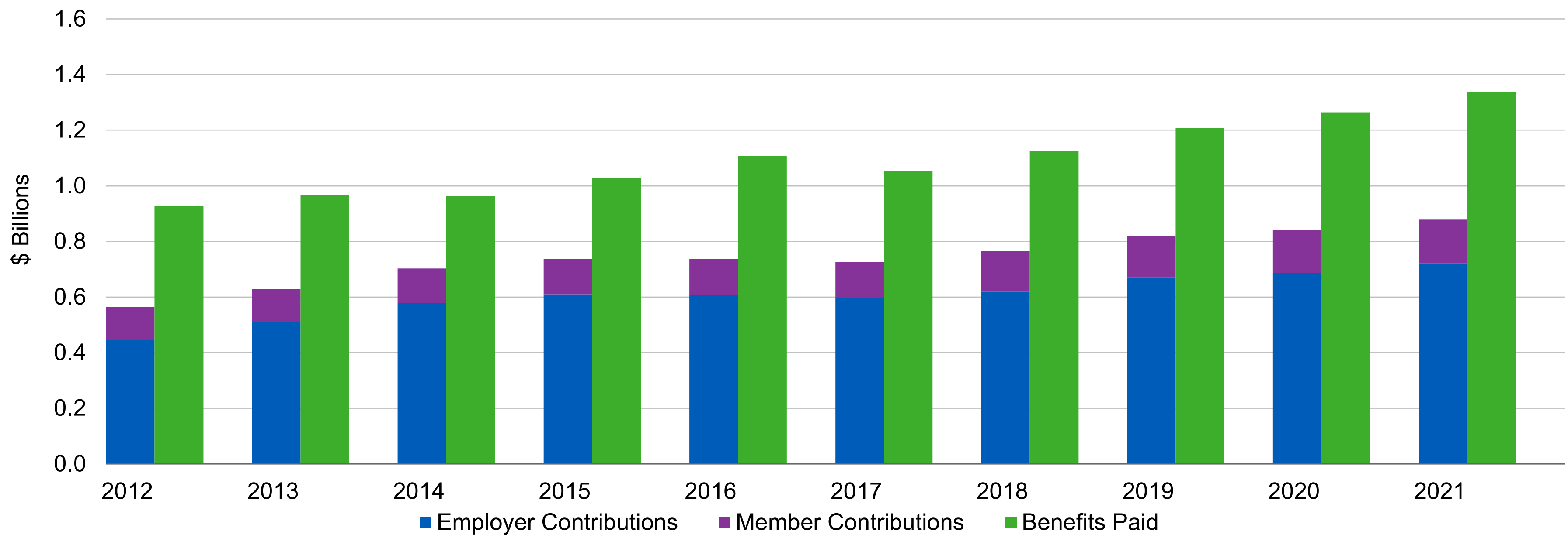
B. Financial Information

Retirement plan funding anticipates that, over the long term, both contributions (less administrative expenses) and investment earnings (less investment fees) 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 Commissioners 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 valuation 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, 2012 – 2021



Note: Contributions and benefits paid are shown for both the Retirement and Health Subsidy Benefits plans. Starting in 2015, employer contributions are shown net of the administrative expenses.

Determination of Actuarial Value of Assets for Year Ended June 30, 2021

		Expected Return	Actual Return[1]	Investment Gain/(Loss)	Portion Deferred	Unrecognized Amount
1	**Market Value of Assets (for Retirement and Health Subsidy Benefits)**					**$30,750,617,516**
2	Calculation of unrecognized return[1]					
a.	Year ended June 30, 2015	$1,382,456,639	$739,009,040	$(643,447,599)	0/7	$0
b.	Year ended June 30, 2016	1,413,037,722	172,083,839	(1,240,953,883)	1/7	(177,279,126)
c.	Year ended June 30, 2017	1,399,514,735	2,449,549,638	1,050,034,903	2/7	300,009,972
d.	Year ended June 30, 2018	1,506,111,379	2,058,910,553	552,799,174	3/7	236,913,932
e.	Year ended June 30, 2019	1,630,021,712	1,329,326,557	(300,695,155)	4/7	(171,825,803)
f.	Year ended June 30, 2020	1,697,466,038	664,345,444	(1,033,120,594)	5/7	(737,943,281)
g.	Year ended June 30, 2021	1,655,593,892	7,670,538,754	6,014,944,862	6/7	5,155,667,025
h.	Total unrecognized return[2]					$4,605,542,719
3	**Preliminary Actuarial Value of Assets 1 – 2h**					**$26,145,074,797**
4	Adjustment to be within 40% corridor					0
5	**Final Actuarial Value of Assets 3 + 4**					**$26,145,074,797**
6	Actuarial Value of Assets as a percentage of Market Value of Assets					85.0%
7	Market Value of Retirement Assets					$27,862,307,134
8	**Valuation Value of Retirement Assets 5 ÷ 1 x 7**					**$23,689,348,796**

[1] Total return minus expected return on a market value basis. Effective with the calculation for period ended June 30, 2015, both actual and expected returns on market value have been adjusted to exclude administrative expense paid during the plan year.

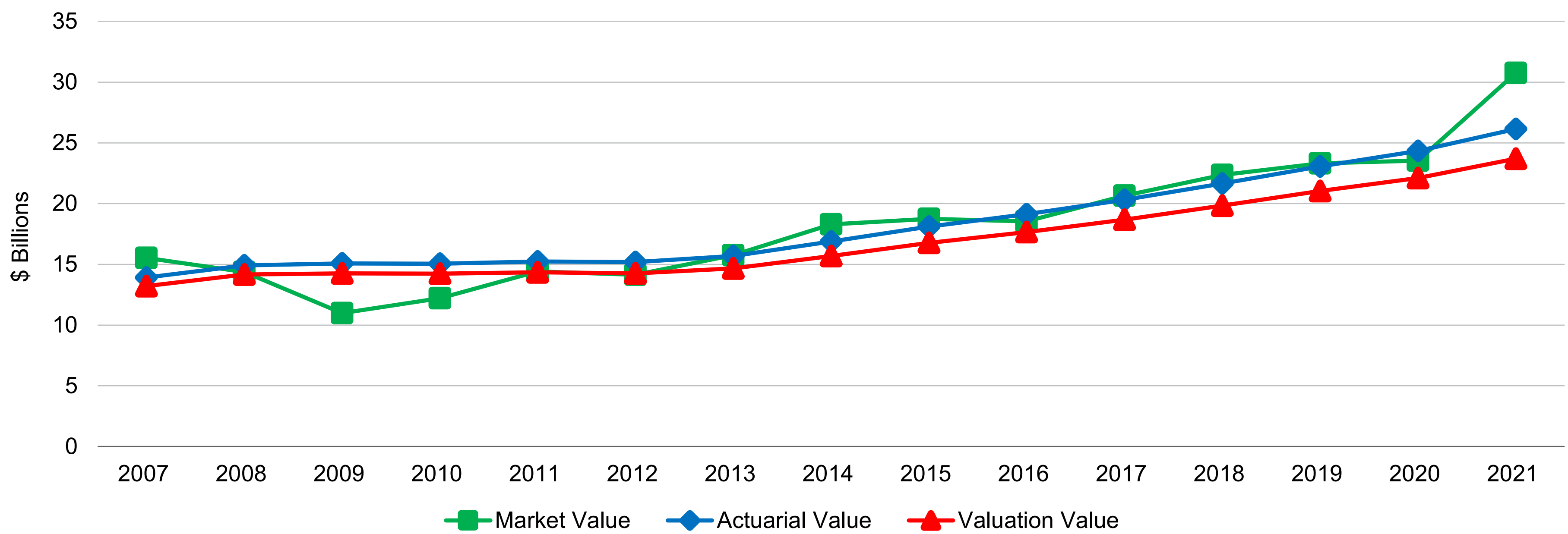
[2] Deferred return as of June 30, 2021 recognized in each of the next six years (for Retirement and Health Subsidy Benefits):

a. Amount recognized on June 30, 2022	$720,429,901
b. Amount recognized on June 30, 2023	897,709,027
c. Amount recognized on June 30, 2024	747,704,040
d. Amount recognized on June 30, 2025	668,732,731
e. Amount recognized on June 30, 2026	711,689,180
f. Amount recognized on June 30, 2027	859,277,840
g. Total unrecognized return as of June 30, 2021	$4,605,542,719

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 multiplying the total Actuarial Value of Assets by the ratio of Market Value of Retirement Assets to the market value of both retirement and health assets, 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[1], Actuarial Value[1], and Valuation Value[2] of Assets as of June 30, 2007 – 2021



[1] Includes all assets for Retirement and Health Subsidy Benefits.
[2] Assets for Retirement only.

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 no changes in actuarial assumptions reflected in this valuation.

The total gain is $746.1 million, which includes $542.2 million from investment gains, a loss of $18.7 million from employer contribution experience and $222.6 million in gains from all other sources. The net experience variation from individual sources other than investments and employer contributions was 0.9% 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, 2021

1	Net gain from investments[1]	$(542,174,093)
2	Net loss from employer contribution experience[2]	18,689,987
3	Net gain from other experience[3]	(222,578,913)
4	**Net experience gain: 1 + 2 + 3**	**$(746,063,019)**

[1] Details on next page.

[2] The actual employer contributions were less than expected due to actual covered payroll for 2020-2021 lower than the payroll projected in the June 30, 2020 valuation. This is somewhat offset by the scheduled one-year lag in implementing the lower contribution rates for City members calculated in the June 30, 2020 valuation for Fiscal Year 2022.

[3] See *Section 2, Subsection E* for further details. Does not include the effect of plan or assumption changes, 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 the Plan's investment policy. The rate of return on the Market Value of Assets was 32.43% for the year ended June 30, 2021.

For valuation purposes, the assumed rate of return on the Actuarial Value of Assets was 7.00% for the June 30, 2020 valuation. The actual rate of return on an actuarial basis for the 2020-2021 Plan Year was 9.35%. Because the actual return for the year was more than the assumed return, the Plan experienced an actuarial gain during the year ended June 30, 2021 with regard to its investments.

Investment Experience for Year Ended June 30, 2021

		Market Value[1]	Actuarial Value[1]	Valuation Value[2]
1	Net investment income	$7,670,538,754	$2,284,102,705	$2,089,356,623
2	Average value of assets	23,651,341,318	24,432,234,648	22,102,607,565
3	Rate of return: **1 ÷ 2**	32.43%	9.35%	9.45%
4	Assumed rate of return	7.00%	7.00%	7.00%
5	Expected investment income: **2 x 4**	$1,655,593,892	$1,710,256,425	$1,547,182,530
6	**Actuarial gain/(loss): 1 - 5**	**$6,014,944,862**	**$573,846,280**	**$542,174,093**

[1] Includes all assets for Retirement and Health Subsidy Benefits.
[2] Assets for Retirement Only.

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 the last ten years, including averages over select time periods.

Investment Return – Market Value[1] and Actuarial Value[1]: 2012 – 2021

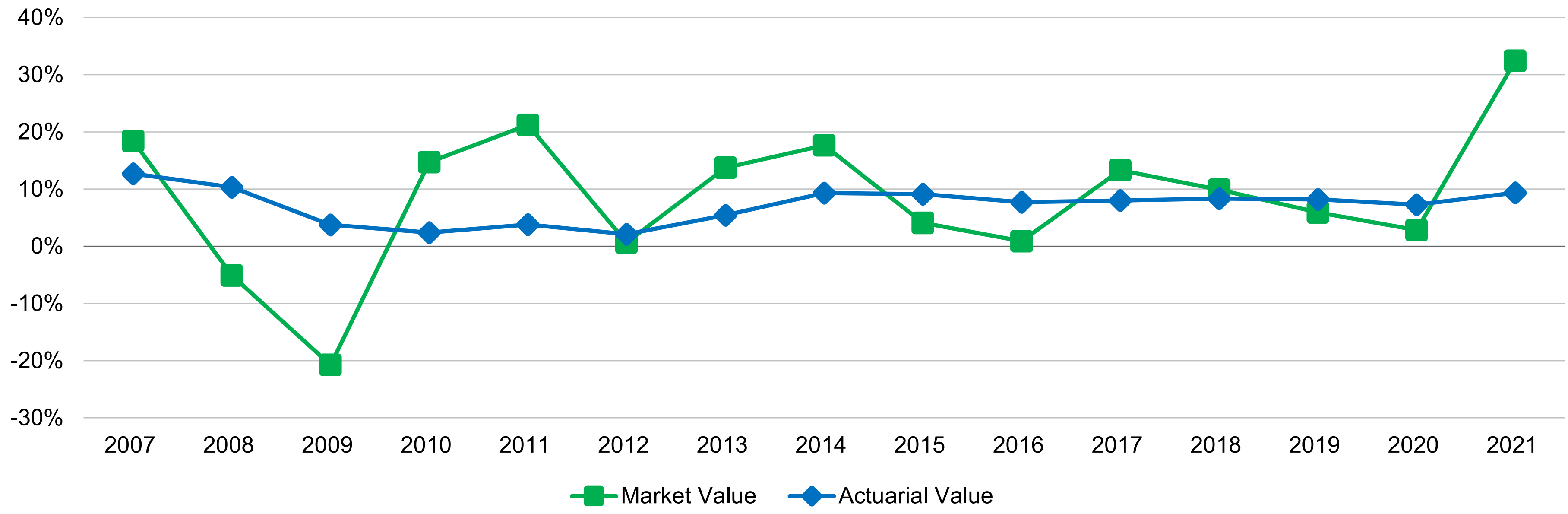
	Market Value Investment Return		Actuarial Value Investment Return	
Year Ended June 30	**Amount**	**Percent**	**Amount**	**Percent**
2012	$93,546,777	0.65%	$320,400,668	2.10%
2013	1,952,254,466	13.75%	827,790,619	5.43%
2014	2,802,796,015	17.65%	1,468,399,449	9.29%
2015	739,009,040	4.01%	1,527,957,644	8.98%
2016	172,083,839	0.91%	1,381,259,601	7.58%
2017	2,449,549,638	13.13%	1,517,741,599	7.89%
2018	2,058,910,553	9.91%	1,703,309,555	8.34%
2019	1,329,326,557	5.91%	1,784,263,436	8.19%
2020	664,345,444	2.84%	1,691,242,540	7.30%
2021	7,670,538,754	32.43%	2,284,102,705	9.35%
Most recent five-year geometric average return		**12.39%**		**8.21%**
Most recent ten-year geometric average return		**9.75%**		**7.42%**

[1] Includes all assets for Retirement and Health Subsidy Benefits.

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[1] and Actuarial[1] Rates of Return for Years Ended June 30, 2007 – 2021



[1] Includes all assets for Retirement and Health Subsidy Benefits.

Contributions

Employer contributions for the year ended June 30, 2021 totaled $543.8 million, compared to the projected amount of $559.8 million. This resulted in a loss of $18.7 million for the year, when adjusted for timing.

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),
- cost-of-living adjustments (COLAs) higher or lower than anticipated, and
- administrative expenses different than assumed.

The net gain from this other experience for the year ended June 30, 2021 amounted to $222.6 million, which is 0.9% of the Actuarial Accrued Liability. This gain was mainly due to lower than expected COLA increases for retirees and beneficiaries. See *Section 2, Subsection E* for a detailed development of the Unfunded Actuarial Accrued Liability.

D. Other Changes in the Actuarial Accrued Liability

Actuarial Assumptions and Methods

There were no changes in actuarial assumptions or methods since the prior valuation.

Details on actuarial assumptions and methods are provided in *Section 4, Exhibit 1*.

Plan Provisions

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

A summary of plan provisions is provided in *Section 4, Exhibit 2*.

E. Development of Unfunded Actuarial Accrued Liability

Development of Unfunded Actuarial Accrued Liability for Year Ended June 30, 2021

1	**Unfunded Actuarial Accrued Liability at beginning of year**		**$1,620,592,579**
2	Total Normal Cost at beginning of year		$499,314,951
3	Expected administrative expenses at beginning of year		20,829,463
4	Expected employer and member contributions at beginning of year		(722,062,603)
5	Interest		99,307,207
6	Expected Unfunded Actuarial Accrued Liability at end of year		$1,517,981,597
7	Changes due to:		
	a. Investment return greater than expected (after “smoothing”)	$(542,174,093)	
	b. Actual employer contributions less than expected[1]	18,689,987	
	c. Individual salary increases higher than expected	87,876,839	
	d. COLA increases lower than expected	(263,953,448)	
	e. Administrative expenses less than expected	(167,191)	
	f. Other experience gain[2]	(46,335,113)	
	Total changes		$(746,063,019)
8	**Unfunded Actuarial Accrued Liability at end of year**		**$771,918,578**

Note: The sum of items 7c through 7f equals the “Net gain from other experience” shown in *Section 2, Subsection C.*

[1] The actual employer contributions were less than expected due to actual covered payroll for 2020-2021 lower than the payroll projected in the June 30, 2020 valuation. This is somewhat offset by the scheduled one-year lag in implementing the lower contribution rates for City members calculated in the June 30, 2020 valuation for Fiscal Year 2022.

[2] Other differences in actual versus expected experience including (but not limited to) retirement, mortality, disability and termination experience.

F. Recommended Contribution

The recommended contribution is equal to the employer Normal Cost payment, a payment on the Unfunded Actuarial Accrued Liability and payment for administrative expenses. As of June 30, 2021, the average recommended employer contribution is 29.99% of compensation if paid at the beginning of the year. The calculated employer normal cost is 20.21% of payroll, and the explicit contribution rate for administrative expense is 1.25% of payroll. The remaining contribution of 8.53% of payroll will amortize the Unfunded Actuarial Accrued Liability over an equivalent single amortization period of about 5.8 years.

The Board sets the funding policy used to calculate the recommended contribution based on layered amortization periods. See *Section 4, Exhibit 1* for further details on the funding policy.

The contribution requirement as of June 30, 2021 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.

Average Recommended Employer Contribution for Year Ended June 30

		2021		2020	
		Amount	**% of Projected Compensation**	**Amount**	**% of Projected Compensation**
1	Total Normal Cost	$503,368,042	29.88%	$499,314,951	29.89%
2	Expected member contributions, discounted to beginning of year	(162,900,016)	(9.67%)	(162,258,951)	(9.71%)
3	Employer Normal Cost: 1 + 2	$340,468,026	20.21%	$337,056,000	20.18%
4	Actuarial Accrued Liability	24,461,267,374		23,727,315,018	
5	Valuation Value of Assets	23,689,348,796		22,106,722,439	
6	Unfunded Actuarial Accrued Liability: 4 – 5	$771,918,578		$1,620,592,579	
7	Payment on Unfunded Actuarial Accrued Liability	143,743,954	8.53%	201,918,189	12.09%
8	Payment for administrative expenses	21,010,787	1.25%	20,829,463	1.25%
9	Projected compensation	1,684,784,966		1,670,245,276	
10	**Total average recommended employer contribution: 3 + 7 + 8**	**$505,222,767**	**29.99%**	**$559,803,652**	**33.52%**
11	**Total average recommended contribution, payable July 15**	**$506,649,055**	**30.07%**	**$561,384,027**	**33.61%**
12	**Total average recommended contribution, payable biweekly**	**$522,606,493**	**31.02%**	**$579,065,400**	**34.67%**

Note: Contributions are assumed to be paid at the beginning of the year, unless otherwise noted.

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 from June 30, 2020 to June 30, 2021

		Contribution Rate	Estimated Annual Dollar Amount[1]
1	**Average Recommended Employer Contribution as of June 30, 2020**	**33.52%**	**$564,820,630**
2	Effect of investment return greater than expected (after "smoothing")	(2.21%)	(37,233,748)
3	Effect of actual contributions less than expected[2]	0.08%	1,347,828
4	Effect of individual salary increases higher than expected	0.36%	6,065,226
5	Effect of COLA increases lower than expected	(1.08%)	(18,195,678)
6	Effect of amortizing prior year's UAAL over a smaller than expected projected total payroll	0.29%	4,885,876
7	Effect of net loss layer from the June 30, 2006 valuation being fully amortized	(0.77%)	(12,972,844)
8	Effect of other gains[3]	(0.20%)	(3,494,523)
9	Total change	(3.53%)	$(59,597,863)
10	**Average Recommended Employer Contribution as of June 30, 2021**	**29.99%**	**$505,222,767**

Note: Contributions are assumed to be paid at the beginning of the year, unless otherwise noted.

1 Based on June 30, 2021 projected compensation.

2 The actual employer contributions were less than expected due to actual covered payroll for 2020-2021 lower than the payroll projected in the June 30, 2020 valuation. This is somewhat offset by the scheduled one-year lag in implementing the lower contribution rates for City members calculated in the June 30, 2020 valuation for Fiscal Year 2022.

3 Other differences in actual versus expected experience including (but not limited to) retirement, mortality, disability and termination experience.

Recommended Employer Contribution Rate

	Tier 1 Members	June 30, 2021 Actuarial Valuation Amount	June 30, 2021 Actuarial Valuation % of Projected Compensation	June 30, 2020 Actuarial Valuation Amount	June 30, 2020 Actuarial Valuation % of Projected Compensation
1	Total Normal Cost	$0	N/A	$0	N/A
2	Expected member contributions, discounted to beginning of year	0	N/A	0	N/A
3	Employer Normal Cost: 1 + 2	$0	N/A	$0	N/A
4	Actuarial Accrued Liability	60,804,157		66,516,857	
5	Valuation Value of Assets	(77,444,098)		(76,664,745)	
6	Unfunded Actuarial Accrued Liability: 4 – 5	$138,248,255		$143,181,602	
7	Payment on Unfunded Actuarial Accrued Liability	13,677,229	N/A	13,705,984	N/A
8	Payment for administrative expenses	0	N/A	0	N/A
9	Projected compensation	0		0	
10	**Total recommended employer contribution: 3 + 7 + 8**	**$13,677,229**	**N/A**	**$13,705,984**	**N/A**
11	**Total recommended contribution, payable July 15**	**$13,715,841**	**N/A**	**$13,744,677**	**N/A**
12	**Total recommended contribution, payable biweekly**	**$14,147,836**	**N/A**	**$14,177,580**	**N/A**

Note: Contributions are assumed to be paid at the beginning of the year, unless otherwise noted.

Recommended Employer Contribution Rate (continued)

	Tier 2 Members	June 30, 2021 Actuarial Valuation Amount	June 30, 2021 Actuarial Valuation % of Projected Compensation	June 30, 2020 Actuarial Valuation Amount[1]	June 30, 2020 Actuarial Valuation % of Projected Compensation
1	Total Normal Cost	$188,666	25.66%	$188,835	25.69%
2	Expected member contributions, discounted to beginning of year	(8,190)	(1.11%)	(8,306)	(1.13%)
3	Employer Normal Cost: 1 + 2	$180,476	24.55%	$180,529	24.56%
4	Actuarial Accrued Liability	4,501,763,795		4,737,650,164	
5	Valuation Value of Assets	5,206,448,495		5,182,477,830	
6	Unfunded Actuarial Accrued Liability:[2] 4 – 5	$(704,684,700)		$(444,827,666)	
7	Payment on Unfunded Actuarial Accrued Liability[3]	(11,084,062)	(0.67%)	4,147,672	0.25%
8	Payment for administrative expenses	9,167	1.25%	9,188	1.25%
9	Projected compensation	735,053		N/A	
10	**Total recommended employer contribution: 3 + 7 + 8**	**$(10,894,419)**	**N/A**	**$4,337,389**	**N/A**
11	**Total recommended contribution, payable July 15**	**$(10,925,175)**	**N/A**	**$4,349,634**	**N/A**
12	**Total recommended contribution, payable biweekly**	**$(11,269,275)**	**N/A**	**$4,486,630**	**N/A**

Note: Contributions are assumed to be paid at the beginning of the year, unless otherwise noted.

1 Amounts are revised to reflect payroll as of June 30, 2021.

2 Even though the total UAAL for Tier 2 is negative, we have not applied the surplus amortization provisions of the LAFPP funding policy because the Plan as a whole does not have an actuarial surplus.

3 UAAL rate is calculated using the City's total payroll of $1,659,068,804.

Recommended Employer Contribution Rate (continued)

	Tier 3 Members	June 30, 2021 Actuarial Valuation Amount	June 30, 2021 Actuarial Valuation % of Projected Compensation	June 30, 2020 Actuarial Valuation Amount[1]	June 30, 2020 Actuarial Valuation % of Projected Compensation
1	Total Normal Cost	$20,619,353	26.56%	$20,697,244	26.66%
2	Expected member contributions, discounted to beginning of year	(6,081,031)	(7.83%)	(6,024,404)	(7.76%)
3	Employer Normal Cost: 1 + 2	$14,538,322	18.73%	$14,672,840	18.90%
4	Actuarial Accrued Liability	1,423,996,319		1,371,993,670	
5	Valuation Value of Assets	1,469,527,472		1,371,928,330	
6	Unfunded Actuarial Accrued Liability:[2] 4 – 5	$(45,531,153)		$65,340	
7	Payment on Unfunded Actuarial Accrued Liability[3]	(7,925,928)	(0.48%)	(2,156,789)	(0.13%)
8	Payment for administrative expenses	968,167	1.25%	970,426	1.25%
9	Projected compensation	77,634,075		N/A	
10	**Total recommended employer contribution: 3 + 7 + 8**	**$7,580,561**	**N/A**	**$13,486,477**	**N/A**
11	**Total recommended contribution, payable July 15**	**$7,601,962**	**N/A**	**$13,524,551**	**N/A**
12	**Total recommended contribution, payable biweekly**	**$7,841,393**	**N/A**	**$13,950,520**	**N/A**

Note: Contributions are assumed to be paid at the beginning of the year, unless otherwise noted.

[1] Amounts are revised to reflect payroll as of June 30, 2021.

[2] Even though the total UAAL for Tier 3 is negative, we have not applied the surplus amortization provisions of the LAFPP funding policy because the Plan as a whole does not have an actuarial surplus.

[3] UAAL rate is calculated using the City's total payroll of $1,659,068,804.

Recommended Employer Contribution Rate (continued)

	Tier 4 Members	June 30, 2021 Actuarial Valuation Amount	June 30, 2021 Actuarial Valuation % of Projected Compensation	June 30, 2020 Actuarial Valuation Amount[1]	June 30, 2020 Actuarial Valuation % of Projected Compensation
1	Total Normal Cost	$7,811,266	27.65%	$7,796,725	27.60%
2	Expected member contributions, discounted to beginning of year	(2,133,344)	(7.55%)	(2,000,029)	(7.08%)
3	Employer Normal Cost: 1 + 2	$5,677,922	20.10%	$5,796,696	20.52%
4	Actuarial Accrued Liability	661,641,588		651,424,057	
5	Valuation Value of Assets	624,040,200		584,878,921	
6	Unfunded Actuarial Accrued Liability: 4 – 5	$37,601,388		$66,545,136	
7	Payment on Unfunded Actuarial Accrued Liability[2]	3,437,231	0.21%	6,138,555	0.37%
8	Payment for administrative expenses	352,291	1.25%	353,113	1.25%
9	Projected compensation	28,249,003		N/A	
10	**Total recommended employer contribution: 3 + 7 + 8**	**$9,467,444**	**N/A**	**$12,288,364**	**N/A**
11	**Total recommended contribution, payable July 15**	**$9,494,171**	**N/A**	**$12,323,055**	**N/A**
12	**Total recommended contribution, payable biweekly**	**$9,793,200**	**N/A**	**$12,711,183**	**N/A**

Note: Contributions are assumed to be paid at the beginning of the year, unless otherwise noted.

[1] Amounts are revised to reflect payroll as of June 30, 2021.
[2] UAAL rate is calculated using the City's total payroll of $1,659,068,804.

Recommended Employer Contribution Rate (continued)

	Tier 5 Members – City[1]	June 30, 2021 Actuarial Valuation Amount	June 30, 2021 Actuarial Valuation % of Projected Compensation	June 30, 2020 Actuarial Valuation Amount[2]	June 30, 2020 Actuarial Valuation % of Projected Compensation
1	Total Normal Cost	$355,284,979	30.71%	$355,151,203	30.70%
2	Expected member contributions, discounted to beginning of year	(109,922,990)	(9.50%)	(111,288,423)	(9.62%)
3	Employer Normal Cost: 1 + 2	$245,361,989	21.21%	$243,862,780	21.08%
4	Actuarial Accrued Liability[3]	17,697,053,492		16,792,605,776	
5	Valuation Value of Assets[3]	16,353,184,964		14,946,770,729	
6	Unfunded Actuarial Accrued Liability:[3] 4 – 5	$1,343,868,528		$1,845,835,047	
7	Payment on Unfunded Actuarial Accrued Liability[4]	107,803,027	9.32%	135,235,100	11.69%
8	Payment for administrative expenses	14,426,891	1.25%	14,460,554	1.25%
9	Projected compensation	1,156,844,309		N/A	
10	**Total recommended employer contribution: 3 + 7 + 8**	**$367,591,907**	**31.78%**	**$393,558,434**	**34.02%**
11	**Total recommended contribution, payable July 15**	**$368,629,651**	**31.87%**	**$394,669,484**	**34.12%**
12	**Total recommended contribution, payable biweekly**	**$380,240,025**	**32.87%**	**$407,100,010**	**35.19%**

Note: Contributions are assumed to be paid at the beginning of the year, unless otherwise noted.

1 Excludes Harbor Port Police.

2 Amounts are revised to reflect payroll as of June 30, 2021.

3 For Tiers 5 and 6, the Unfunded Actuarial Accrued Liability is amortized as a percent of combined payroll for these tiers from the respective employer (i.e., City). As of June 30, 2021, the combined payroll is $1,552,450,673. Amounts shown for the Actuarial Accrued Liability, Valuation Value of Assets, and the Unfunded Actuarial Accrued Liability include both Tier 5 and Tier 6 (without Harbor Port Police and Airport Police).

4 The total payment on Unfunded Actuarial Accrued Liability for Tiers 5 and 6 (without Harbor Port Police and Airport Police) combined is $144,668,458 as of June 30, 2021 and $181,481,484 as of June 30, 2020.

Recommended Employer Contribution Rate (continued)

	Tier 6 Members – City[1]	June 30, 2021 Actuarial Valuation Amount	June 30, 2021 Actuarial Valuation % of Projected Compensation	June 30, 2020 Actuarial Valuation Amount[2]	June 30, 2020 Actuarial Valuation % of Projected Compensation
1	Total Normal Cost	$111,744,154	28.24%	$111,600,555	28.21%
2	Expected member contributions, discounted to beginning of year	(42,069,182)	(10.63%)	(42,052,956)	(10.63%)
3	Employer Normal Cost: 1 + 2	$69,674,972	17.61%	$69,547,599	17.58%
4	Actuarial Accrued Liability[3]	17,697,053,492		16,792,605,776	
5	Valuation Value of Assets[3]	16,353,184,964		14,946,770,729	
6	Unfunded Actuarial Accrued Liability:[3] 4 – 5	$1,343,868,528		$1,845,835,047	
7	Payment on Unfunded Actuarial Accrued Liability[4]	36,865,431	9.32%	46,246,384	11.69%
8	Payment for administrative expenses	4,933,568	1.25%	4,945,080	1.25%
9	Projected compensation	395,606,364		N/A	
10	**Total recommended employer contribution: 3 + 7 + 8**	**$111,473,971**	**28.18%**	**$120,739,063**	**30.52%**
11	**Total recommended contribution, payable July 15**	**$111,788,672**	**28.26%**	**$121,079,920**	**30.61%**
12	**Total recommended contribution, payable biweekly**	**$115,309,572**	**29.15%**	**$124,893,458**	**31.57%**

Note: Contributions are assumed to be paid at the beginning of the year, unless otherwise noted.

1 Excludes Harbor Port Police and Airport Police.

2 Amounts are revised to reflect payroll as of June 30, 2021.

3 For Tiers 5 and 6, the Unfunded Actuarial Accrued Liability is amortized as a percent of combined payroll for these tiers from the respective employer (i.e., City). As of June 30, 2021, the combined payroll is $1,552,450,673. Amounts shown for the Actuarial Accrued Liability, Valuation Value of Assets, and the Unfunded Actuarial Accrued Liability include both Tier 5 and Tier 6 (without Harbor Port Police and Airport Police).

4 The total payment on Unfunded Actuarial Accrued Liability for Tiers 5 and 6 (without Harbor Port Police and Airport Police) combined is $144,668,458 as of June 30, 2021 and $181,481,484 as of June 30, 2020.

Recommended Employer Contribution Rate (continued)

	All Tiers Combined – City[1]	June 30, 2021 Actuarial Valuation Amount	June 30, 2021 Actuarial Valuation % of Projected Compensation	June 30, 2020 Actuarial Valuation Amount[2]	June 30, 2020 Actuarial Valuation % of Projected Compensation
1	Total Normal Cost	$495,648,418	29.87%	$495,434,562	29.87%
2	Expected member contributions, discounted to beginning of year	(160,214,737)	(9.66%)	(161,374,118)	(9.73%)
3	Employer Normal Cost: 1 + 2	$335,433,681	20.21%	$334,060,444	20.14%
4	Actuarial Accrued Liability	24,345,259,351		23,620,190,524	
5	Valuation Value of Assets	23,575,757,033		22,009,391,065	
6	Unfunded Actuarial Accrued Liability: 4 – 5	$769,502,318		$1,610,799,459	
7	Payment on Unfunded Actuarial Accrued Liability	142,772,928	8.61%	203,316,906	12.25%
8	Payment for administrative expenses	20,690,084	1.25%	20,738,361	1.25%
9	Projected compensation	1,659,068,804		N/A	
10	**Total recommended employer contribution: 3 + 7 + 8**	**$498,896,693**	**30.07%**	**$558,115,711**	**33.64%**
11	**Total recommended contribution, payable July 15**	**$500,305,122**	**30.16%**	**$559,691,320**	**33.74%**
12	**Total recommended contribution, payable biweekly**	**$516,062,751**	**31.11%**	**$577,319,380**	**34.80%**

Note: Contributions are assumed to be paid at the beginning of the year, unless otherwise noted.

[1] Excludes Harbor Port Police and Airport Police.

[2] Amounts are recalculated to reflect payroll of active members enrolled in the different tiers as of June 30, 2021. There is a change in the total aggregate rate determined in the June 30, 2020 valuation calculated using the 2020 projected payroll by tier compared to the total aggregate rate recalculated above using the 2021 projected payroll by tier as a result of new members entering Tier 6 and active members leaving the other Tiers. This shows that even if the contribution rate for each tier were to remain unchanged, the aggregate rate (which is the weighted average of the rates by tier) would change over time as the proportion of non-Tier 6 payroll decreases and the proportion of Tier 6 payroll increases. In our June 30, 2020 valuation report, the aggregate rate for All Tiers Combined – City is 33.63% (payable July 1) based on June 30, 2020 projected payroll (20.18% Normal Cost, 12.20% for payment on UAAL, and 1.25% for administrative expenses). Because the Tier 6 Normal Cost contribution rate is lower than the non-Tier 6 Normal Cost contribution rates and the proportion of Tier 6 payroll as of June 30, 2021 has increased, the aggregate employer Norrmal Cost decreased to 20.14% (payable July 1). However, because the UAAL for Tiers 2 through 4 are paid as a percentage of total payroll and the proportion of Tier 6 payroll as of June 30, 2021 has increased, the aggregate UAAL rate increased to 12.25% (payable July 1). The net result is that the total aggregate rate increased slightly to 33.64% (payable July 1) using the June 30, 2021 projected payroll.

Recommended Employer Contribution Rate (continued)

	Tier 5 Members – Harbor Port Police	June 30, 2021 Actuarial Valuation Amount	June 30, 2021 Actuarial Valuation % of Projected Compensation	June 30, 2020 Actuarial Valuation Amount[1]	June 30, 2020 Actuarial Valuation % of Projected Compensation
1	Total Normal Cost	$4,254,217	31.79%	$4,253,268	31.79%
2	Expected member contributions, discounted to beginning of year	(1,373,360)	(10.26%)	(1,374,051)	(10.27%)
3	Employer Normal Cost: **1 + 2**	$2,880,857	21.53%	$2,879,217	21.52%
4	Actuarial Accrued Liability[2]	103,248,388		96,927,276	
5	Valuation Value of Assets[2]	101,626,016		88,869,379	
6	Unfunded Actuarial Accrued Liability:[2] **4 – 5**	$1,622,372		$8,057,897	
7	Payment on Unfunded Actuarial Accrued Liability[3]	713,402	5.33%	988,728	7.39%
8	Payment for administrative expenses	166,851	1.25%	167,241	1.25%
9	Projected compensation	13,379,265		N/A	
10	**Total recommended employer contribution: 3 + 7 + 8**	**$3,761,110**	**28.11%**	**$4,035,186**	**30.16%**
11	**Total recommended contribution, payable July 15**	**$3,771,728**	**28.19%**	**$4,046,578**	**30.25%**
12	**Total recommended contribution, payable biweekly**	**$3,890,522**	**29.08%**	**$4,174,029**	**31.20%**

Note: Contributions are assumed to be paid at the beginning of the year, unless otherwise noted.

[1] Amounts are revised to reflect payroll as of June 30, 2021.

[2] For Tiers 5 and 6, the Unfunded Actuarial Accrued Liability is amortized as a percent of combined payroll for these tiers from the respective employer (i.e., Harbor Port Police). As of June 30, 2021, the combined payroll is $16,961,475. Amounts shown for the Actuarial Accrued Liability, Valuation Value of Assets, and the Unfunded Actuarial Accrued Liability include both Harbor Port Police Tier 2, Tier 5 and Tier 6. (A Tier 2 Police member transferred to Harbor Port Police prior to exiting DROP).

[3] The total payment on Unfunded Actuarial Accrued Liability for Harbor Port Police Tiers 5 and 6 combined is $904,411 as of June 30, 2021 and $1,253,453 as of June 30, 2020.

Recommended Employer Contribution Rate (continued)

	Tier 6 Members – Harbor Port Police	June 30, 2021 Actuarial Valuation Amount	June 30, 2021 Actuarial Valuation % of Projected Compensation	June 30, 2020 Actuarial Valuation Amount[1]	June 30, 2020 Actuarial Valuation % of Projected Compensation
1	Total Normal Cost	$983,740	27.46%	$980,451	27.37%
2	Expected member contributions, discounted to beginning of year	(380,936)	(10.63%)	(380,789)	(10.63%)
3	Employer Normal Cost: **1 + 2**	$602,804	16.83%	$599,662	16.74%
4	Actuarial Accrued Liability[2]	103,248,388		96,927,276	
5	Valuation Value of Assets[2]	101,626,016		88,869,379	
6	Unfunded Actuarial Accrued Liability:[2] **4 – 5**	$1,622,372		$8,057,897	
7	Payment on Unfunded Actuarial Accrued Liability[3]	191,009	5.33%	264,725	7.39%
8	Payment for administrative expenses	44,673	1.25%	44,778	1.25%
9	Projected compensation	3,582,210		N/A	
10	**Total recommended employer contribution: 3 + 7 + 8**	**$838,486**	**23.41%**	**$909,165**	**25.38%**
11	**Total recommended contribution, payable July 15**	**$840,853**	**23.47%**	**$911,732**	**25.45%**
12	**Total recommended contribution, payable biweekly**	**$867,337**	**24.21%**	**$940,448**	**26.25%**

Note: Contributions are assumed to be paid at the beginning of the year, unless otherwise noted.

1 Amounts are revised to reflect payroll as of June 30, 2021.

2 For Tiers 5 and 6, the Unfunded Actuarial Accrued Liability is amortized as a percent of combined payroll for these tiers from the respective employer (i.e., Harbor Port Police). As of June 30, 2021, the combined payroll is $16,961,475. Amounts shown for the Actuarial Accrued Liability, Valuation Value of Assets, and the Unfunded Actuarial Accrued Liability include both Harbor Port Police Tier 2, Tier 5 and Tier 6.

3 The total payment on Unfunded Actuarial Accrued Liability for Harbor Port Police Tiers 5 and 6 combined is $904,411 as of June 30, 2021 and $1,253,453 as of June 30, 2020.

Recommended Employer Contribution Rate (continued)

	All Tiers Combined – Harbor Port Police	June 30, 2021 Actuarial Valuation Amount	June 30, 2021 Actuarial Valuation % of Projected Compensation	June 30, 2020 Actuarial Valuation Amount[1]	June 30, 2020 Actuarial Valuation % of Projected Compensation
1	Total Normal Cost	$5,237,957	30.88%	$5,233,719	30.86%
2	Expected member contributions, discounted to beginning of year	(1,754,296)	(10.34%)	(1,754,840)	(10.35%)
3	Employer Normal Cost: 1 + 2	$3,483,661	20.54%	$3,478,879	20.51%
4	Actuarial Accrued Liability	103,248,388		96,927,276	
5	Valuation Value of Assets	101,626,016		88,869,379	
6	Unfunded Actuarial Accrued Liability: 4 – 5	$1,622,372		$8,057,897	
7	Payment on Unfunded Actuarial Accrued Liability	904,411	5.33%	1,253,453	7.39%
8	Payment for administrative expenses	211,524	1.25%	212,019	1.25%
9	Projected compensation	16,961,475		N/A	
10	**Total recommended employer contribution: 3 + 7 + 8**	**$4,599,596**	**27.12%**	**$4,944,351**	**29.15%**
11	**Total recommended contribution, payable July 15**	**$4,612,581**	**27.19%**	**$4,958,310**	**29.23%**
12	**Total recommended contribution, payable biweekly**	**$4,757,859**	**28.05%**	**$5,114,476**	**30.15%**

Note: Contributions are assumed to be paid at the beginning of the year, unless otherwise noted.

[1] Amounts are recalculated to reflect payroll of active members enrolled in the different tiers as of June 30, 2021. There is a change in the total aggregate rate determined in the June 30, 2020 valuation calculated using the 2020 projected payroll by tier compared to the total aggregate rate recalculated above using the 2021 projected payroll by tier as a result of new members entering Tier 6 and active members leaving Tier 5. This shows that even if the contribution rate for each tier were to remain unchanged, the aggregate rate (which is the weighted average of the rates by tier) would change over time as the proportion of Tier 5 payroll decreases and the proportion of Tier 6 payroll increases. In our June 30, 2020 valuation report, the aggregate rate for All Tiers Combined – Harbor Port Police is 29.20% (payable July 1) based on June 30, 2020 projected payroll. Because the Tier 6 contribution rate is lower than the Tier 5 contribution rate and the proportion of Tier 6 payroll as of June 30, 2021 has increased, the total aggregate rate decreased slightly to 29.15% (payable July 1) using the June 30, 2021 projected payroll.

Recommended Employer Contribution Rate (continued)

	Tier 6 Members – Airport Police	June 30, 2021 Actuarial Valuation Amount	June 30, 2021 Actuarial Valuation % of Projected Compensation	June 30, 2020 Actuarial Valuation Amount[1]	June 30, 2020 Actuarial Valuation % of Projected Compensation
1	Total Normal Cost	$2,481,667	28.34%	$2,458,316	28.08%
2	Expected member contributions, discounted to beginning of year	(930,983)	(10.63%)	(930,623)	(10.63%)
3	Employer Normal Cost: 1 + 2	$1,550,684	17.71%	$1,527,693	17.45%
4	Actuarial Accrued Liability	12,759,635		10,197,218	
5	Valuation Value of Assets	11,965,747		8,461,995	
6	Unfunded Actuarial Accrued Liability: 4 – 5	$793,888		$1,735,223	
7	Payment on Unfunded Actuarial Accrued Liability	66,615	0.76%	123,441	1.41%
8	Payment for administrative expenses	109,179	1.25%	109,434	1.25%
9	Projected compensation	8,754,687		N/A	
10	**Total recommended employer contribution: 3 + 7 + 8**	**$1,726,478**	**19.72%**	**$1,760,568**	**20.11%**
11	**Total recommended contribution, payable July 15**	**$1,731,352**	**19.78%**	**$1,765,538**	**20.16%**
12	**Total recommended contribution, payable biweekly**	**$1,785,883**	**20.40%**	**$1,821,146**	**20.80%**

Note: Contributions are assumed to be paid at the beginning of the year, unless otherwise noted.

[1] Amounts are revised to reflect payroll as of June 30, 2021.

Recommended Employer Contribution Rate (continued)

	All Tiers Combined	June 30, 2021 Actuarial Valuation Amount	June 30, 2021 Actuarial Valuation % of Projected Compensation	June 30, 2020 Actuarial Valuation Amount[1]	June 30, 2020 Actuarial Valuation % of Projected Compensation
1	Total Normal Cost	$503,368,042	29.88%	$503,126,597	29.86%
2	Expected member contributions, discounted to beginning of year	(162,900,016)	(9.67%)	(164,059,581)	(9.74%)
3	Employer Normal Cost: 1 + 2	$340,468,026	20.21%	$339,067,016	20.12%
4	Actuarial Accrued Liability	24,461,267,374		23,727,315,018	
5	Valuation Value of Assets	23,689,348,796		22,106,722,439	
6	Unfunded Actuarial Accrued Liability: 4 – 5	$771,918,578		$1,620,592,579	
7	Payment on Unfunded Actuarial Accrued Liability	143,743,954	8.53%	204,693,800	12.15%
8	Payment for administrative expenses	21,010,787	1.25%	21,059,814	1.25%
9	Projected compensation	1,684,784,966		N/A	
10	**Total recommended employer contribution: 3 + 7 + 8**	**$505,222,767**	**29.99%**	**$564,820,630**	**33.52%**
11	**Total recommended contribution, payable July 15**	**$506,649,055**	**30.07%**	**$566,415,168**	**33.62%**
12	**Total recommended contribution, payable biweekly**	**$522,606,493**	**31.02%**	**$584,255,003**	**34.68%**

Note: Contributions are assumed to be paid at the beginning of the year, unless otherwise noted.

[1] Amounts are recalculated to reflect payroll of active members enrolled in the different tiers as of June 30, 2021. There is a change in the total aggregate rate determined in the June 30, 2020 valuation calculated using the 2020 projected payroll by tier compared to the total aggregate rate recalculated above using the 2021 projected payroll by tier as a result of new members entering Tier 6 and active members leaving the other Tiers. This shows that even if the contribution rate for each tier were to remain unchanged, the aggregate rate (which is the weighted average of the rates by tier) would change over time as the proportion of non-Tier 6 payroll decreases and the proportion of Tier 6 payroll increases. In our June 30, 2020 valuation report, the aggregate rate for All Tiers Combined is 33.52% (payable July 1) based on June 30, 2020 projected payroll (20.18% Normal Cost, 12.09% for payment on UAAL, and 1.25% for administrative expenses). Because the Tier 6 Normal Cost contribution rate is lower than the non-Tier 6 Normal Cost contribution rates and the proportion of Tier 6 payroll as of June 30, 2021 has increased, the aggregate employer Norrmal Cost decreased to 20.12% (payable July 1). However, because the UAAL for Tiers 2 through 4 are paid as a percentage of total payroll and the proportion of Tier 6 payroll as of June 30, 2021 has increased, the aggregate UAAL rate increased to 12.15% (payable July 1). The net result is that the total aggregate rate has remained at 33.52% (payable July 1) using the June 30, 2021 projected payroll.

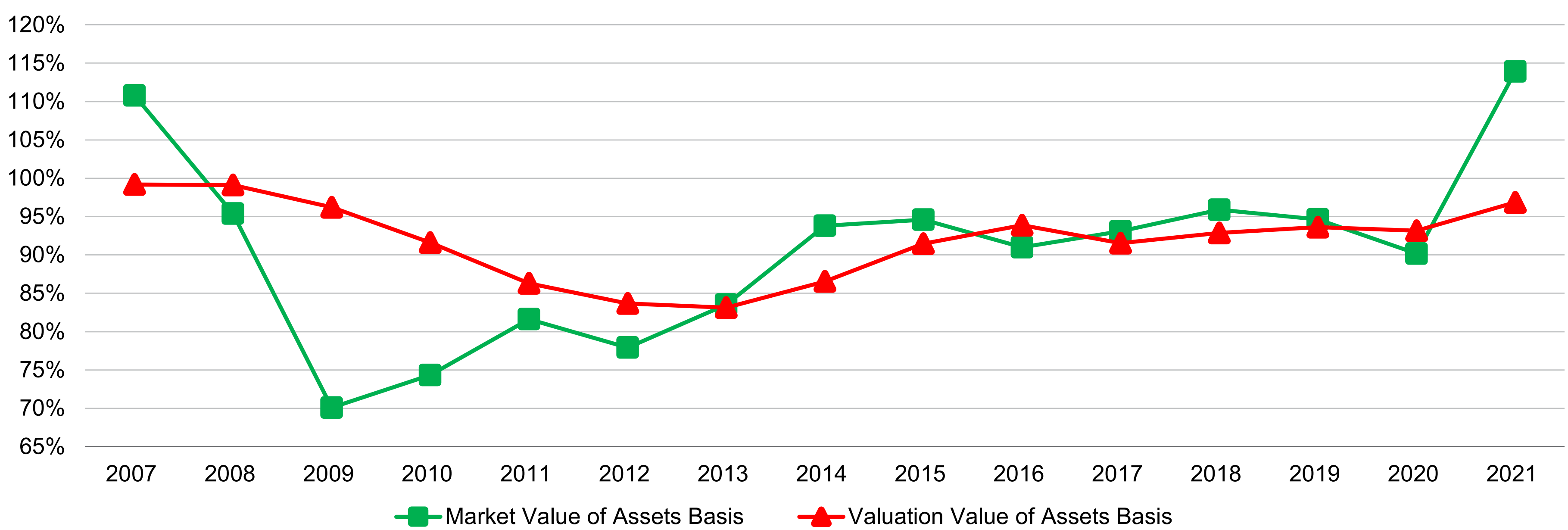
G. Funded Status

A commonly reported piece of information regarding the Plan's financial status is the funded ratio. These ratios compare the Market 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 or Valuation Value of Assets is used.

Funded Ratio on a Market Value[1] and Valuation Value[1] Basis for Years Ended June 30, 2007 – 2021



[1] Assets for Retirement Only.

Schedule of Funding Progress for Years Ended June 30, 2012 – 2021 ($ in '000s)

Actuarial Valuation Date as of June 30	Valuation Value of Assets[1] (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)
2012	$14,251,913	$17,030,833	$2,778,920	83.7%	$1,341,914	207.1%
2013	14,657,713	17,632,425	2,974,712	83.1	1,367,237	217.6
2014	15,678,480	18,114,229	2,435,749	86.6	1,402,715	173.6
2015	16,770,060	18,337,507	1,567,447	91.5	1,405,171	111.5
2016	17,645,338	18,798,510	1,153,172	93.9	1,400,808	82.3
2017	18,679,221	20,411,024	1,731,803	91.5	1,475,539	117.4
2018	19,840,070	21,364,804	1,524,734	92.9	1,546,043	98.6
2019	21,037,711	22,474,125	1,436,414	93.6	1,583,808	90.7
2020	22,106,722	23,727,315	1,620,593	93.2	1,670,245	97.0
2021	23,689,349	24,461,267	771,918	96.8	1,684,785	45.8

[1] Assets for Retirement Only.

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[1]

	Year Ended	
	June 30, 2021	**June 30, 2020**
Actuarial Present Value of Future Benefits		
• Present value of benefits for retired members and beneficiaries	$13,655,976,623	$13,135,651,607
• Present value of benefits for inactive vested members	59,209,242	55,821,286
• Present value of benefits for active members not currently in DROP	13,010,290,281	12,882,944,320
• Present value of benefits for active members currently in DROP	3,021,135,943	2,991,440,978
Total Actuarial Present Value of Future Benefits	**$29,746,612,089**	**$29,065,858,191**
Current and future assets		
• Total Valuation Value of Assets	$23,689,348,796	$22,106,722,439
• Present value of future contributions by members	1,702,749,862	1,719,607,538
• Present value of future employer contributions for:		
– Entry age normal cost	3,582,594,853	3,618,935,635
– Unfunded Actuarial Accrued Liability	771,918,578	1,620,592,579
Total of current and future assets	**$29,746,612,089**	**$29,065,858,191**

[1] Assets for Retirement Only

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 because it is based on the current level of assets.

The current AVR is about 16.5. This means that a 1% asset gain or loss (relative to the assumed investment return) translates to about 16.5% of one-year's payroll. Because actuarial gains and losses are amortized over 20 years, there would be a 1.1% 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 14.5. This is about 12% lower than the AVR. Therefore, we would expect that contribution volatility will decrease over the long term.

Volatility Ratios for Years Ended June 30, 2012 – 2021

Year Ended June 30	Asset Volatility Ratio	Liability Volatility Ratio
2012	9.9	12.7
2013	10.8	12.9
2014	12.1	12.9
2015	12.3	13.1
2016	12.2	13.4
2017	12.9	13.8
2018	13.2	13.8
2019	13.4	14.2
2020	12.8	14.2
2021	16.5	14.5

J. Risk Assessment

Because 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.

Following the completion of the June 30, 2020 valuation, we prepared a stand-alone risk assessment report dated February 18, 2021 by using membership and financial information as provided in the actuarial valuation as of June 30, 2020. That report includes various projections of future results under different investment return scenarios together with the assumptions adopted for the June 30, 2020 valuation. A copy of the stand-alone risk assessment report associated with this June 30, 2021 valuation, including the additional analyses recommended by Segal in consultation with LAFPP, will be available in the first quarter of 2022. While this section does not contain a detailed analysis of the potential range of future measurements, it does include a concise discussion of some of the primary risks that may affect the Plan's future financial condition.

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 measures:

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 condition of the Plan, 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 46, a

1% asset gain or loss (relative to the assumed investment return) translates to about 16.5% of one-year's payroll. Because actuarial gains and losses are amortized over 20 years, there would be a 1.1% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss).

The year-by-year market value rate of return over the last 10 years has ranged from a low of 0.65% to a high of 32.43%.

- 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 the June 30, 2019 valuation, the Board has adopted benefit weighted mortality tables with the 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.

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 of Commissioners' 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 has increased from 83.7% to 96.8%. This is primarily due to employer contributions made to amortize the UAAL (i.e., amortizing each gain/loss layer of UAAL over 20 years) and average investment returns over recent years higher than the assumption on a smoothed basis. For a more detailed history see *Section 2, Subsection G, Funded Status* starting on page 43.
- The geometric average investment return on the Actuarial Value of Assets over the last 10 years was 7.42%. This includes a high of 9.35% return and a low of 2.10%. The average over the last 5 years was 8.21%. For more details see the *Investment Return* table in *Section 2, Subsection C* on page 24.

- Beyond investment losses, the primary source of new UAAL was the strengthening of assumptions through multiple assumption changes. For example, the assumption changes in 2017 changed the discount rate from 7.50% to 7.25% (as well as various other changes) adding $761 million in unfunded liability. The mortality assumption change in 2019 updated mortality tables, adding $322 million in unfunded liability. The assumption changes in 2020 changed the discount rate from 7.25% to 7.00% (as well as various other changes) adding $141 million in unfunded liability. For more details on unfunded liability changes see *Section 3, Exhibit G, Table of Amortization Bases* starting on page 73. A graphical representation of historical changes in UAAL by source will be included in the stand-alone risk assessment report.
- The plan's funding policy effectively deals with these unfunded liabilities over time. This can be seen most clearly in *Section 3, Exhibit H, Projection of UAAL Balances and Payments* provided on pages 85 and 86.

Maturity Measures

In the last 10 years the ratio of members in pay status to active participants has increased from 0.92 to 1.05. An increased ratio indicates that the plan has grown in maturity over time. This is to be expected, but is also informative to 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, benefit and administrative expenses paid were $460 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, the plan currently has a relatively low level of negative cash flow. For more details on historical cash flows see the *Comparison of Contributions Made with Benefits* in *Section 2, Subsection B* 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 46.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage

Total Plan

Category	Year Ended June 30: 2021	Year Ended June 30: 2020	Change From Prior Year
Active Members:			
Number	12,823	13,486	-4.9%
Average age	42.7	42.2	0.5
Average years of service	15.7	15.2	0.5
Total projected compensation	$1,684,784,966	$1,670,245,276	0.9%
Average projected compensation	$131,388	$123,850	6.1%
Account balances	$2,159,987,334	$2,138,965,288	1.0%
Total active vested members	4,503	4,604	-2.2%
Inactive Vested Members:			
Number[1]	633	575	10.1%
Average Age[2]	48.7	48.2	0.5
Average monthly benefit at age 50[2]	$3,897	$3,618	7.7%
Retired Members:			
Number in pay status	9,338	9,049	3.2%
Average age at retirement	52.2	52.1	0.1
Average age	69.9	70.0	-0.1
Average monthly benefit (includes July COLA)	$7,171	$7,028	2.0%
Disabled Members:			
Number in pay status	1,706	1,767	-3.5%
Average age at retirement	43.5	43.7	-0.2
Average age	72.6	72.3	0.3
Average monthly benefit (includes July COLA)	$5,360	$5,316	0.8%
Beneficiaries:			
Number in pay status	2,483	2,475	0.3%
Average age	76.1	76.5	-0.4
Average monthly benefit (includes July COLA)	$4,875	$4,801	1.5%

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

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

Exhibit A: Table of Plan Coverage (continued)

Tier 1

Category	Year Ended June 30 2021	Year Ended June 30 2020	Change From Prior Year
Active Members:			
Number	0	0	N/A
Average age	N/A	N/A	N/A
Average years of service	N/A	N/A	N/A
Total projected compensation	N/A	N/A	N/A
Average projected compensation	N/A	N/A	N/A
Account balances	N/A	N/A	N/A
Total active vested members	N/A	N/A	N/A
Inactive Vested Members:			
Number	0	0	N/A
Average Age	N/A	N/A	N/A
Average monthly benefit at age 50	N/A	N/A	N/A
Retired Members:			
Number in pay status	33	37	-10.8%
Average age at retirement	47.6	47.4	0.2
Average age	85.7	85.4	0.3
Average monthly benefit (includes July COLA)	$2,987	$2,931	1.9%
Disabled Members:			
Number in pay status	32	35	-8.6%
Average age at retirement	35.5	35.6	-0.1
Average age	85.1	84.3	0.8
Average monthly benefit (includes July COLA)	$3,807	$3,741	1.8%
Beneficiaries:			
Number in pay status	147	164	-10.4%
Average age	84.4	84.4	0.0
Average monthly benefit (includes July COLA)	$3,161	$3,073	2.9%

Exhibit A: Table of Plan Coverage (continued)

Tier 2

Category	Year Ended June 30 2021	Year Ended June 30 2020	Change From Prior Year
Active Members:			
Number	5	5	0.0%
Average age	64.5	63.5	1.0
Average years of service	42.5	41.5	1.0
Total projected compensation	$735,053	$694,453	5.8%
Average projected compensation	$147,011	$138,891	5.8%
Account balances	$1,498,632	$1,458,225	2.8%
Total active vested members	5	5	0.0%
Inactive Vested Members:			
Number	0	0	N/A
Average Age	N/A	N/A	N/A
Average monthly benefit at age 50	N/A	N/A	N/A
Retired Members:			
Number in pay status[1]	3,516	3,695	-4.8%
Average age at retirement	50.2	50.2	0.0
Average age	78.1	77.5	0.6
Average monthly benefit (includes July COLA)	$5,967	$5,893	1.3%
Disabled Members:			
Number in pay status	1,199	1,270	-5.6%
Average age at retirement	44.5	44.6	-0.1
Average age	77.9	77.3	0.6
Average monthly benefit (includes July COLA)	$5,663	$5,610	0.9%
Beneficiaries:			
Number in pay status	1,849	1,880	-1.6%
Average age	80.6	80.4	0.2
Average monthly benefit (includes July COLA)	$4,983	$4,915	1.4%

[1] Excludes 1 Tier 2 Harbor Port Police Retiree. This member is included in the "Tier 5 – Harbor Port Police" membership category as this member was a Tier 2 Police who exited DROP after transferring to Harbor Port Police and this member's Actuarial Accrued Liability and assets are included with Harbor Port Police Tier 5.

Exhibit A: Table of Plan Coverage (continued)

Tier 3

Category	Year Ended June 30 2021	Year Ended June 30 2020	Change From Prior Year
Active Members:			
Number	542	615	-11.9%
Average age	53.1	52.6	0.5
Average years of service	26.4	25.6	0.8
Total projected compensation	$77,634,075	$83,867,723	-7.4%
Average projected compensation	$143,236	$136,370	5.0%
Account balances	$141,944,032	$152,215,944	-6.7%
Total active vested members	542	615	-11.9%
Inactive Vested Members:			
Number[1]	38	47	-19.1%
Average Age[2]	49.3	48.7	0.6
Average monthly benefit at age 50[2]	$3,108	$2,888	7.6%
Retired Members:			
Number in pay status	493	426	15.7%
Average age at retirement	53.4	53.2	0.2
Average age	61.3	61.3	0.0
Average monthly benefit (includes July COLA)	$4,558	$4,270	6.7%
Disabled Members:			
Number in pay status	254	253	0.4%
Average age at retirement	40.1	40.1	0.0
Average age	61.5	60.7	0.8
Average monthly benefit (includes July COLA)	$4,134	$4,076	1.4%
Beneficiaries:			
Number in pay status	96	97	-1.0%
Average age	58.6	56.9	1.7
Average monthly benefit (includes July COLA)	$3,660	$3,573	2.4%

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

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

Exhibit A: Table of Plan Coverage (continued)

Tier 4

Category	Year Ended June 30 2021	Year Ended June 30 2020	Change From Prior Year
Active Members:			
Number	198	222	-10.8%
Average age	49.0	48.6	0.4
Average years of service	23.5	23.3	0.2
Total projected compensation	$28,249,003	$30,378,771	-7.0%
Average projected compensation	$142,672	$136,841	4.3%
Account balances	$44,634,273	$48,919,291	-8.8%
Total active vested members	168	151	11.3%
Inactive Vested Members:			
Number	0	0	N/A
Average Age	N/A	N/A	N/A
Average monthly benefit at age 50	N/A	N/A	N/A
Retired Members:			
Number in pay status	308	288	6.9%
Average age at retirement	47.7	47.4	0.3
Average age	58.8	58.2	0.6
Average monthly benefit (includes July COLA)	$5,926	$5,774	2.6%
Disabled Members:			
Number in pay status	48	49	-2.0%
Average age at retirement	42.6	42.6	0.0
Average age	58.0	57.0	1.0
Average monthly benefit (includes July COLA)	$5,223	$5,188	0.7%
Beneficiaries:			
Number in pay status	9	9	0.0%
Average age	55.3	50.2	5.1
Average monthly benefit (includes July COLA)	$4,454	$4,126	7.9%

Exhibit A: Table of Plan Coverage (continued)

Tier 5 – City[1]

Category	Year Ended June 30 2021	Year Ended June 30 2020	Change From Prior Year
Active Members:			
Number	8,132	8,618	-5.6%
Average age	47.1	46.6	0.5
Average years of service	20.2	19.6	0.6
Total projected compensation	$1,156,844,309	$1,163,296,110	-0.6%
Average projected compensation	$142,258	$134,984	5.4%
Account balances	$1,794,936,813	$1,798,164,936	-0.2%
Total active vested members	3,775	3,821	-1.2%
Inactive Vested Members:			
Number[2]	242	253	-4.3%
Average Age[3]	47.9	47.4	0.5
Average monthly benefit at age 50[3]	$4,770	$4,628	3.1%
Retired Members:			
Number in pay status	4,972	4,589	8.3%
Average age at retirement	53.9	53.9	0.0
Average age	65.5	65.3	0.2
Average monthly benefit (includes July COLA)	$8,385	$8,306	1.0%
Disabled Members:			
Number in pay status	169	157	7.6%
Average age at retirement	43.8	43.7	0.1
Average age	54.0	53.6	0.4
Average monthly benefit (includes July COLA)	$5,394	$5,335	1.1%
Beneficiaries:			
Number in pay status	378	321	17.8%
Average age	56.5	56.9	-0.4
Average monthly benefit (includes July COLA)	$5,335	$5,423	-1.6%

1 Excludes Harbor Port Police.
2 Includes inactive members due a refund of member contributions.
3 Excludes inactive members due a refund of member contributions.

Exhibit A: Table of Plan Coverage (continued)

Tier 6 – City[1]

Category	Year Ended June 30 2021	Year Ended June 30 2020	Change From Prior Year
Active Members:			
Number	3,729	3,800	-1.9%
Average age	31.3	30.3	1.0
Average years of service	4.3	3.3	1.0
Total projected compensation	$395,606,364	$366,109,654	8.1%
Average projected compensation	$106,089	$96,345	10.1%
Account balances	$153,748,778	$117,389,853	31.0%
Total active vested members	0	1	-100.0%
Inactive Vested Members:			
Number[2]	335	260	28.8%
Average Age[3]	N/A	N/A	N/A
Average monthly benefit at age 50[3]	N/A	N/A	N/A
Retired Members:			
Number in pay status	1	0	N/A
Average age at retirement	50.0	N/A	N/A
Average age	50.4	N/A	N/A
Average monthly benefit (includes July COLA)	$4,586	N/A	N/A
Disabled Members:			
Number in pay status	0	0	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	2	1	100.0%
Average age	32.5	33.5	1.0
Average monthly benefit (includes July COLA)	$7,117	$7,230	-1.6%

[1] Excludes Harbor Port Police and Airport Police.

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

[3] Excludes inactive members due a refund of member contributions.

Exhibit A: Table of Plan Coverage (continued)

Tier 5 – Harbor Port Police

Category	Year Ended June 30 2021	Year Ended June 30 2020	Change From Prior Year
Active Members:			
Number	95	97	-2.1%
Average age	44.3	43.6	0.7
Average years of service	15.1	14.2	0.9
Total projected compensation	$13,379,265	$13,561,483	-1.3%
Average projected compensation	$140,834	$139,809	0.7%
Account balances	$16,448,897	$15,111,739	8.8%
Total active vested members	10	8	25.0%
Inactive Vested Members:			
Number[1]	3	3	0.0%
Average Age[2]	N/A	N/A	N/A
Average monthly benefit at age 50[2]	N/A	N/A	N/A
Retired Members:			
Number in pay status[3]	15	14	7.1%
Average age at retirement	54.7	54.4	0.3
Average age	64.6	64.0	0.6
Average monthly benefit (includes July COLA)	$7,910	$8,068	-2.0%
Disabled Members:			
Number in pay status	4	3	33.3%
Average age at retirement	43.1	40.1	3.0
Average age	53.8	52.2	1.6
Average monthly benefit (includes July COLA)	$4,955	$5,019	-1.3%
Beneficiaries:			
Number in pay status	2	3	-33.3%
Average age	19.4	28.0	-8.6
Average monthly benefit (includes July COLA)	$1,996	$1,837	8.7%

1 Includes inactive members due a refund of member contributions.

2 Excludes inactive members due a refund of member contributions.

3 Includes 1 Tier 2 Harbor Port Police retiree. This member is included in the "Tier 5 – Harbor Port Police" membership category as this member was a Tier 2 Police who exited DROP after transferring to Harbor Port Police and this member's Actuarial Accrued Liability and assets are included with Harbor Port Police Tier 5.

Exhibit A: Table of Plan Coverage (continued)

Tier 6 – Harbor Port Police

Category	Year Ended June 30 2021	Year Ended June 30 2020	Change From Prior Year
Active Members:			
Number	29	29	0.0%
Average age	34.8	33.8	1.0
Average years of service	4.3	3.3	1.0
Total projected compensation	$3,582,210	$3,391,088	5.6%
Average projected compensation	$123,524	$116,934	5.6%
Account balances	$1,424,425	$1,061,094	34.2%
Total active vested members	0	0	N/A
Inactive Vested Members:			
Number[1]	6	6	0.0%
Average Age[2]	N/A	N/A	N/A
Average monthly benefit at age 50[2]	N/A	N/A	N/A
Retired Members:			
Number in pay status	0	0	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
Disabled Members:			
Number in pay status	0	0	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	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit (includes July COLA)	N/A	N/A	N/A

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

Exhibit A: Table of Plan Coverage (continued)

Tier 6 – Airport Police

Category	Year Ended June 30 2021	Year Ended June 30 2020	Change From Prior Year
Active Members:			
Number	93	100	-7.0%
Average age	33.0	32.1	0.9
Average years of service[1]	4.3	3.2	1.1
Total projected compensation	$8,754,687	$8,945,994	-2.1%
Average projected compensation	$94,136	$89,460	5.2%
Account balances[1]	$5,351,484	$4,644,205	15.2%
Total active vested members	3	3	0.0%
Inactive Vested Members:			
Number[2]	9	6	50.0%
Average Age[3]	N/A	N/A	N/A
Average monthly benefit at age 50[3]	N/A	N/A	N/A
Retired Members:			
Number in pay status	0	0	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
Disabled Members:			
Number in pay status	0	0	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	0	0	N/A
Average age	N/A	N/A	N/A
Average monthly benefit (includes July COLA)	N/A	N/A	N/A

[1] Includes all prior service transferred from Los Angeles City Employees' Retirement System (LACERS) even though some of that service may not have been fully purchased by the member as of the valuation date. The associated purchase cost is also included in the account balances.

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

[3] Excludes inactive members due a refund of member contributions.

Exhibit B: Members in Active Service as of June 30, 2021 by Age, Years of Service, and Average Projected Compensation

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	257	257	—	—	—	—	—	—	—	—
	$86,204	$86,204	—	—	—	—	—	—	—	—
25 – 29	1,449	1,194	255	—	—	—	—	—	—	—
	$100,489	$97,285	$115,489	—	—	—	—	—	—	—
30 – 34	1,609	712	694	203	—	—	—	—	—	—
	$112,702	$101,967	$119,134	$128,363	—	—	—	—	—	—
35 – 39	1,947	233	310	1,182	222	—	—	—	—	—
	$127,663	$105,091	$120,999	$131,506	$140,203	—	—	—	—	—
40 – 44	1,942	65	83	658	924	212	—	—	—	—
	$135,998	$103,033	$121,287	$131,223	$140,215	$148,307	—	—	—	—
45 – 49	2,150	12	23	268	547	965	334	1	—	—
	$142,208	$108,404	$122,209	$130,124	$138,126	$145,624	$151,314	$140,661	—	—
50 – 54	2,091	7	9	100	256	618	807	293	1	—
	$147,191	$120,789	$124,378	$128,247	$137,078	$144,075	$151,502	$158,454	$166,613	—
55 – 59	1,048	—	3	26	64	156	303	459	37	—
	$151,830	—	$125,927	$127,490	$136,852	$141,590	$148,662	$158,766	$180,018	—
60 – 64	291	1	1	3	8	36	64	125	43	10
	$153,422	$82,765	$290,000	$126,467	$139,074	$140,724	$144,424	$157,599	$166,430	$161,545
65 – 69	35	1	—	—	1	9	7	8	6	3
	$145,523	$224,009	—	—	$115,876	$134,958	$132,817	$151,041	$149,470	$167,980
70 & over	4	—	—	—	—	—	1	2	—	1
	$159,018	—	—	—	—	—	$153,341	$164,696	—	$153,341
Total	**12,823**	**2,482**	**1,378**	**2,440**	**2,022**	**1,996**	**1,516**	**888**	**87**	**14**
	$131,388	**$98,529**	**$119,233**	**$130,834**	**$139,128**	**$144,978**	**$150,509**	**$158,422**	**$171,041**	**$162,338**

Exhibit B: Members in Active Service as of June 30, 2021 by Age, Years of Service, and Average Projected Compensation (continued)

Tier 2

		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	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
30 – 34	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
35 – 39	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
40 – 44	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
45 – 49	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
50 – 54	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
55 – 59	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
60 – 64	4	—	—	—	—	—	—	—	—	4
	$144,358	—	—	—	—	—	—	—	—	$144,358
65 – 69	1	—	—	—	—	—	—	—	—	1
	$157,620	—	—	—	—	—	—	—	—	$157,620
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	**5**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**5**
	$147,011	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**$147,011**

Exhibit B: Members in Active Service as of June 30, 2021 by Age, Years of Service, and Average Projected Compensation (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	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
30 – 34	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
35 – 39	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
40 – 44	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
45 – 49	150	—	—	—	—	81	69	—	—	—
	$143,700	—	—	—	—	$144,357	$142,929	—	—	—
50 – 54	239	—	—	—	—	67	149	23	—	—
	$144,487	—	—	—	—	$141,518	$145,334	$147,651	—	—
55 – 59	117	—	—	1	1	19	50	46	—	—
	$140,697	—	—	$114,177	$120,338	$138,755	$140,804	$142,403	—	—
60 – 64	28	—	—	—	—	5	11	11	1	—
	$143,504	—	—	—	—	$142,792	$152,754	$134,796	$141,111	—
65 – 69	7	—	—	—	—	4	3	—	—	—
	$131,115	—	—	—	—	$129,798	$132,871	—	—	—
70 & over	1	—	—	—	—	—	—	1	—	—
	$149,116	—	—	—	—	—	—	$149,116	—	—
Total	**542**	**—**	**—**	**1**	**1**	**176**	**282**	**81**	**1**	**—**
	$143,236	**—**	**—**	**$114,177**	**$120,338**	**$142,296**	**$144,099**	**$142,943**	**$141,111**	**—**

Exhibit B: Members in Active Service as of June 30, 2021 by Age, Years of Service, and Average Projected Compensation (continued)

Tier 4

		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	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
30 – 34	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
35 – 39	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
40 – 44	38	—	—	—	12	26	—	—	—	—
	$142,673	—	—	—	$141,943	$143,009	—	—	—	—
45 – 49	91	—	—	—	12	75	4	—	—	—
	$140,140	—	—	—	$137,998	$140,386	$141,961	—	—	—
50 – 54	41	—	—	—	4	18	4	15	—	—
	$146,326	—	—	—	$123,722	$132,122	$137,635	$171,717	—	—
55 – 59	20	—	—	—	1	7	—	10	2	—
	$147,142	—	—	—	$142,421	$142,235	—	$153,598	$134,398	—
60 – 64	8	—	—	—	1	2	—	1	4	—
	$141,563	—	—	—	$143,042	$131,027	—	$177,214	$137,548	—
65 – 69	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	**198**	**—**	**—**	**—**	**30**	**128**	**8**	**26**	**6**	**—**
	$142,672	**—**	**—**	**—**	**$137,988**	**$139,711**	**$139,798**	**$164,959**	**$136,498**	**—**

Exhibit B: Members in Active Service as of June 30, 2021 by Age, Years of Service, and Average Projected Compensation (continued)

Tier 5 – City[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	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
30 – 34	207	—	11	196	—	—	—	—	—	—
	$128,290	—	$121,775	$128,656	—	—	—	—	—	—
35 – 39	1,400	—	21	1,157	222	—	—	—	—	—
	$132,713	—	$124,042	$131,434	$140,203	—	—	—	—	—
40 – 44	1,717	—	6	621	905	185	—	—	—	—
	$137,852	—	$128,241	$131,249	$140,119	$149,235	—	—	—	—
45 – 49	1,850	1	1	252	527	808	261	—	—	—
	$142,743	$131,907	$127,959	$130,128	$138,023	$146,257	$153,674	—	—	—
50 – 54	1,779	—	1	96	244	529	653	255	1	—
	$147,786	—	$127,959	$127,789	$136,925	$144,740	$153,011	$158,648	$166,613	—
55 – 59	902	—	—	24	60	128	252	403	35	—
	$153,282	—	—	$124,842	$135,702	$141,576	$150,086	$160,762	$182,624	—
60 – 64	248	1	—	3	7	28	52	113	38	6
	$154,316	$82,765	—	$126,467	$138,507	$139,691	$142,006	$159,645	$170,137	$173,003
65 – 69	26	—	—	—	1	5	4	8	6	2
	$145,918	—	—	—	$115,876	$139,085	$132,776	$151,041	$149,470	$173,161
70 & over	3	—	—	—	—	—	1	1	—	1
	$162,319	—	—	—	—	—	$153,341	$180,277	—	$153,341
Total	**8,132**	**2**	**40**	**2,349**	**1,966**	**1,683**	**1,223**	**780**	**80**	**9**
	$142,258	**$107,336**	**$124,244**	**$130,790**	**$139,017**	**$145,621**	**$152,016**	**$159,835**	**$174,006**	**$170,853**

[1] Excludes Harbor Port Police.

Exhibit B: Members in Active Service as of June 30, 2021 by Age, Years of Service, and Average Projected Compensation (continued)

Tier 6 – City[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	250	250	—	—	—	—	—	—	—	—
	$86,325	$86,325	—	—	—	—	—	—	—	—
25 – 29	1,409	1,163	246	—	—	—	—	—	—	—
	$100,604	$97,420	$115,655	—	—	—	—	—	—	—
30 – 34	1,358	683	672	3	—	—	—	—	—	—
	$110,829	$102,537	$119,212	$121,044	—	—	—	—	—	—
35 – 39	508	219	283	6	—	—	—	—	—	—
	$114,513	$105,873	$120,980	$124,869	—	—	—	—	—	—
40 – 44	141	61	76	4	—	—	—	—	—	—
	$113,792	$104,061	$120,710	$130,755	—	—	—	—	—	—
45 – 49	41	11	22	5	3	—	—	—	—	—
	$118,337	$106,267	$121,947	$123,805	$127,009	—	—	—	—	—
50 – 54	19	5	8	1	5	—	—	—	—	—
	$122,145	$101,421	$123,930	$123,864	$139,669	—	—	—	—	—
55 – 59	3	—	3	—	—	—	—	—	—	—
	$125,927	—	$125,927	—	—	—	—	—	—	—
60 – 64	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
65 – 69	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	**3,729**	**2,392**	**1,310**	**19**	**8**	**—**	**—**	**—**	**—**	**—**
	$106,089	**$98,714**	**$119,103**	**$125,171**	**$134,922**	**—**	**—**	**—**	**—**	**—**

[1] Excludes Harbor Port Police and Airport Police.

Exhibit B: Members in Active Service as of June 30, 2021 by Age, Years of Service, and Average Projected Compensation (continued)

Tier 5 – Harbor Port Police

		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	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
30 – 34	3	—	—	3	—	—	—	—	—	—
	$121,934	—	—	$121,934	—	—	—	—	—	—
35 – 39	19	—	—	19	—	—	—	—	—	—
	$137,990	—	—	$137,990	—	—	—	—	—	—
40 – 44	40	—	—	32	7	1	—	—	—	—
	$133,822	—	—	$130,989	$149,557	$114,333	—	—	—	—
45 – 49	16	—	—	11	4	1	—	—	—	—
	$137,245	—	—	$132,905	$151,140	$129,409	—	—	—	—
50 – 54	9	—	—	3	3	3	—	—	—	—
	$156,713	—	—	$144,375	$163,047	$162,719	—	—	—	—
55 – 59	6	—	—	1	2	2	1	—	—	—
	$179,201	—	—	$204,359	$176,848	$167,163	$182,826	—	—	—
60 – 64	2	—	—	—	—	1	1	—	—	—
	$178,603	—	—	—	—	$178,689	$178,517	—	—	—
65 – 69	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	**95**	**—**	**—**	**69**	**16**	**8**	**2**	**—**	**—**	**—**
	$140,834	**—**	**—**	**$134,474**	**$155,894**	**$155,614**	**$180,672**	**—**	**—**	**—**

Exhibit B: Members in Active Service as of June 30, 2021 by Age, Years of Service, and Average Projected Compensation (continued)

Tier 6 – Harbor Port Police

		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	1	1	—	—	—	—	—	—	—	—
	$110,903	$110,903	—	—	—	—	—	—	—	—
25 – 29	9	7	2	—	—	—	—	—	—	—
	$111,261	$108,908	$119,497	—	—	—	—	—	—	—
30 – 34	10	6	4	—	—	—	—	—	—	—
	$104,563	$95,130	$118,713	—	—	—	—	—	—	—
35 – 39	5	4	1	—	—	—	—	—	—	—
	$112,161	$106,928	$133,093	—	—	—	—	—	—	—
40 – 44	1	—	1	—	—	—	—	—	—	—
	$123,445	—	$123,445	—	—	—	—	—	—	—
45 – 49	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
50 – 54	1	1	—	—	—	—	—	—	—	—
	$226,069	$226,069	—	—	—	—	—	—	—	—
55 – 59	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
60 – 64	1	—	1	—	—	—	—	—	—	—
	$290,000	—	$290,000	—	—	—	—	—	—	—
65 – 69	1	1	—	—	—	—	—	—	—	—
	$224,009	$224,009	—	—	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	**29**	**20**	**9**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
	$123,524	**$116,091**	**$140,043**	**—**	**—**	**—**	**—**	**—**	**—**	**—**

Exhibit B: Members in Active Service as of June 30, 2021 by Age, Years of Service, and Average Projected Compensation (continued)

Tier 6 – Airport Police

		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	6	6	—	—	—	—	—	—	—	—
	$77,059	$77,059	—	—	—	—	—	—	—	—
25 – 29	31	24	7	—	—	—	—	—	—	—
	$92,121	$87,341	$108,510	—	—	—	—	—	—	—
30 – 34	31	23	7	1	—	—	—	—	—	—
	$92,384	$86,830	$107,794	$112,256	—	—	—	—	—	—
35 – 39	15	10	5	—	—	—	—	—	—	—
	$93,777	$87,222	$106,888	—	—	—	—	—	—	—
40 – 44	5	4	—	1	—	—	—	—	—	—
	$94,786	$87,360	—	$124,490	—	—	—	—	—	—
45 – 49	2	—	—	—	1	—	—	1	—	—
	$158,018	—	—	—	$175,376	—	—	$140,661	—	—
50 – 54	3	1	—	—	—	1	1	—	—	—
	$125,345	$112,347	—	—	—	$122,893	$140,796	—	—	—
55 – 59	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
60 – 64	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
65 – 69	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	**93**	**68**	**19**	**2**	**1**	**1**	**1**	**1**	**—**	**—**
	$94,136	**$86,612**	**$107,819**	**$118,373**	**$175,376**	**$122,893**	**$140,796**	**$140,661**	**—**	**—**

Note: Includes all prior service transferred from Los Angeles City Employees' Retirement System (LACERS) even though some of that service may not have been fully purchased by the member as of the valuation date.

Exhibit C: Reconciliation of Member Data

	Active Members[1]	Inactive Vested Members[2]	Retired Members	Disabled Members	Beneficiaries	Total
Number as of June 30, 2020	**13,486**	**575**	**9,049**	**1,767**	**2,475**	**27,352**
• New members	101	0	0	0	199	300
• Terminations – with vested rights	(140)	140	0	0	0	0
• Contribution refunds	(80)	(56)	0	0	0	(136)
• Retirements	(516)	(16)	532	0	0	0
• New disabilities	(13)	(2)	0	15	0	0
• Return to work	4	(4)	0	0	0	0
• Died with or without beneficiary	(18)	(4)	(243)	(76)	(170)	(511)
• Certain period expired	0	0	0	0	(21)	(21)
• Data adjustments	(1)	0	0	0	0	(1)
Number as of June 30, 2021	**12,823**	**633**	**9,338**	**1,706**	**2,483**	**26,983**

[1] Includes DROP members.

[2] Includes 513 and 574 inactive members due a refund of member contributions as of June 30, 2020 and June 30, 2021, respectively.

Exhibit D: Summary Statement of Income and Expenses on a Market Value Basis

All Assets for Retirement and Health Subsidy Benefits

	Year Ended June 30, 2021		Year Ended June 30, 2020	
Net assets at market value at the beginning of the year		**$23,540,380,835**		**$23,299,916,660**
Contribution income:				
• Employer contributions	$744,243,315		$709,851,573	
• Member contributions	157,785,911		153,786,863	
Net contribution income		*$902,029,226*		*$863,638,436*
Investment income:				
• Interest, dividends and other income	$2,893,868,813		$1,003,092,058	
• Recognition of capital appreciation	4,916,568,735		(226,511,541)	
• Less investment fees	(139,898,794)		(112,235,073)	
Net investment income		*$7,670,538,754*		*$664,345,444*
Total income available for benefits		**$8,572,567,980**		**$1,527,983,880**
Less benefit payments:		*$(1,338,818,015)*		*$(1,264,851,830)*
Less administrative expenses:		*(23,513,284)*		*(22,667,875)*
Change in net assets at market value		**$7,210,236,681**		**$240,464,175**
Net assets at market value at the end of the year		**$30,750,617,516**		**$23,540,380,835**

Note: Results may not total due to rounding.

Exhibit E: Summary Statement of Plan Assets

All Assets for Retirement and Health Subsidy Benefits

	Year Ended June 30, 2021		Year Ended June 30, 2020	
Cash equivalents		*$7,106,405*		*$2,046,114*
Accounts receivable:				
• Accrued interest and dividends	$85,962,345		$76,687,172	
• Contributions	5,163,342		9,804,546	
• Due from brokers	114,609,776		328,833,612	
Total accounts receivable		*$205,735,463*		*$415,325,330*
Investments:				
• Equities	$19,694,260,300		$14,476,163,422	
• Fixed income investments	9,601,138,484		8,016,698,265	
• Real estate	1,642,239,198		1,464,742,187	
Total investments at market value		*$30,937,637,982*		*$23,957,603,874*
Total assets		**$31,150,479,850**		**$24,374,975,318**
Accounts payable:				
• Accounts payable and benefits in process	$(38,200,845)		$(36,613,502)	
• Due to brokers	(143,712,643)		(603,610,968)	
• Mortgage payable	(217,948,846)		(194,370,013)	
Total accounts payable		**$(399,862,334)**		**$(834,594,483)**
Net assets at market value		**$30,750,617,516**		**$23,540,380,835**
Net assets at actuarial value		**$26,145,074,797**		**$24,321,274,165**
Net assets at valuation value[1]		**$23,689,348,796**		**$22,106,722,439**

Note: Results may not total due to rounding.

[1] Assets for Retirement Only.

Exhibit F: Development of the Fund through June 30, 2021

All Assets for Retirement and Health Subsidy Benefits

Year Ended June 30	Employer Contributions	Member Contributions	Administrative Expenses	Net Investment Return[1]	Benefit Payments	Market Value of Assets at Year-End	Actuarial Value of Assets at Year-End	Actuarial Value as a Percent of Market Value
2012	$444,565,284	$120,099,124	-	$93,546,777	$926,349,506	$14,132,070,728	$15,179,275,167	107.4%
2013	508,387,283	121,777,655	-	1,952,254,466	966,118,502	15,748,371,630	15,671,112,222	99.5%
2014	578,805,107	124,394,889	-	2,802,796,015	963,356,954	18,291,010,687	16,879,354,713	92.3%
2015	628,808,763	126,770,882	$19,178,885	739,009,040	1,029,319,785	18,737,100,702	18,114,393,332	96.7%
2016	628,700,812	129,733,559	20,897,310	172,083,839	1,107,041,622	18,539,679,980	19,126,148,372	103.2%
2017	619,479,274	128,900,736	22,563,327	2,449,549,638	1,052,639,705	20,662,406,596	20,317,066,949	98.3%
2018	639,945,905	146,282,682	21,654,037	2,058,910,553	1,125,521,496	22,360,370,203	21,659,429,558	96.9%
2019	692,897,316	147,752,497	22,099,870	1,329,326,557	1,208,330,043	23,299,916,660	23,053,912,894	98.9%
2020	709,851,573	153,786,863	22,667,875	664,345,444	1,264,851,830	23,540,380,835	24,321,274,165	103.3%
2021	744,243,315	157,785,911	23,513,284	7,670,538,754	1,338,818,015	30,750,617,516	26,145,074,797	85.0%

[1] Net of investment fees and administrative expenses prior to 2015. Starting in 2015, administrative expenses are shown separately.

Exhibit G: Table of Amortization Bases

Tier 1

Type	Date Established	Initial Amount	Initial Period	Outstanding Balance	Years Remaining	Annual Payment[1]
Unfunded Actuarial Accrued Liability[2]	June 30, 2021	$138,248,255	16	$138,248,255	16	$13,677,229
Subtotal				**$138,248,255**		**$13,677,229**

Note: Results may not total due to rounding.

1 Level dollar amortization payable as of the beginning of the year.

2 The Tier 1 UAAL was $143,181,602 as of June 30, 2020. The change in Tier 1 UAAL includes an experience gain of $290,656.

Exhibit G: Table of Amortization Bases (continued)

Tier 2

Type	Date Established	Initial Amount	Initial Period	Outstanding Balance	Years Remaining	Annual Payment[1]
Unfunded Actuarial Accrued Liability	June 30, 2008	$(632,245,519)	29	$(700,147,955)	16	$(56,417,742)
Experience Loss	June 30, 2009	53,442,825	15	20,582,283	3	7,106,926
Experience Loss	June 30, 2010	210,742,926	15	102,032,923	4	26,889,053
Assumption Change	June 30, 2010	1,450,331	27	1,540,978	16	124,172
Experience Loss	June 30, 2011	203,104,597	15	116,017,039	5	24,887,806
Assumption Change	June 30, 2011	344,553,091	26	359,552,038	16	28,972,611
Experience Loss	June 30, 2012	238,453,071	20	211,224,591	11	22,806,582
Experience Loss	June 30, 2013	73,947,281	20	67,488,951	12	6,791,700
Experience Gain	June 30, 2014	(212,930,921)	20	(198,852,429)	13	(18,779,653)
Assumption Change	June 30, 2014	(65,152,628)	25	(67,168,002)	18	(4,967,901)
Experience Gain	June 30, 2015	(288,914,220)	20	(275,127,560)	14	(24,526,382)
Experience Gain	June 30, 2016	(82,781,971)	20	(79,981,918)	15	(6,764,098)
Experience Gain	June 30, 2017	(51,873,536)	20	(50,628,789)	16	(4,079,655)
Assumption Change	June 30, 2017	218,182,660	20	212,947,191	16	17,159,230
Experience Gain	June 30, 2018	(48,125,276)	20	(47,450,077)	17	(3,657,001)
Experience Gain	June 30, 2019	(81,664,819)	20	(81,068,171)	18	(5,995,990)
Plan Amendment	June 30, 2019	(5,128)	15	(4,907)	13	(463)
Assumption Change	June 30, 2019	(51,969,943)	20	(51,590,248)	18	(3,815,734)
Experience Gain	June 30, 2020	(21,109,316)	20	(21,035,054)	19	(1,497,524)
Assumption Change	June 30, 2020	1,227,788	20	1,223,469	19	87,101
Experience Gain	June 30, 2021	(224,239,050)	20	(224,239,050)	20	(15,407,100)
Subtotal[2]				**$(704,684,700)**		**$(11,084,062)**

Note: Results may not total due to rounding.

[1] Level percentage of payroll amortization payable as of the beginning of the year.

[2] Even though the total UAAL for Tier 2 is negative, we have not applied the surplus amortization provisions of the LAFPP funding policy because the Plan as a whole does not have an actuarial surplus.

Exhibit G: Table of Amortization Bases (continued)

Tier 3

Type	Date Established	Initial Amount[1]	Initial Period[1]	Outstanding Balance	Years Remaining	Annual Payment[2]
Assumption Change	June 30, 1992	$2,454,735	17	$353,265	1	$353,265
Assumption Change	June 30, 1995	(20,329,471)	20	(9,900,914)	4	(2,609,219)
Plan Amendment	June 30, 1996	2,832,341	21	1,639,616	5	351,728
Asset Method Change	June 30, 1996	(18,309,076)	21	(10,598,959)	5	(2,273,673)
Plan Amendment	June 30, 1998	5,510,715	23	4,065,193	7	644,702
Assumption Change	June 30, 1998	9,268,417	23	6,837,205	7	1,084,318
Plan Amendment	June 30, 2000	949,873	25	826,290	9	105,445
Assumption Change	June 30, 2001	(29,148,684)	26	(27,048,467)	10	(3,159,270)
Assumption Change	June 30, 2004	(8,698,728)	29	(9,364,935)	13	(884,426)
Assumption Change	June 30, 2005	27,253,819	30	30,498,354	14	2,718,791
Experience Loss	June 30, 2006	16,400,257	15	0	0	0
Assumption Change	June 30, 2006	29,340,123	30	32,996,848	15	2,790,555
Experience Gain	June 30, 2007	(20,934,587)	21	(14,997,429)	7	(2,378,455)
Assumption Change	June 30, 2007	(5,027,630)	30	(5,693,563)	16	(458,786)
Experience Gain	June 30, 2008	(18,292,189)	17	(8,769,130)	4	(2,310,956)
Assumption Change	June 30, 2008	8,034,472	30	9,127,110	17	703,431
Experience Loss	June 30, 2009	10,158,177	15	3,912,190	3	1,350,853
Experience Loss	June 30, 2010	2,144,522	15	1,038,289	4	273,623
Assumption Change	June 30, 2010	25,997,606	30	29,430,545	19	2,095,215

Note: Results may not total due to rounding.

[1] The initial amount and initial period for bases established on or before June 30, 2005 are values shown as of June 30, 2005 (i.e., the year before Segal was appointed as the actuary starting with the June 30, 2006 valuation).

[2] Level percentage of payroll amortization payable as of the beginning of the year.

Exhibit G: Table of Amortization Bases (continued)

Tier 3 (continued)

Type	Date Established	Initial Amount	Initial Period	Outstanding Balance	Years Remaining	Annual Payment[1]
Plan Amendment[2]	June 30, 2011	$(18,044)	30	$(20,322)	20	$(1,396)
Experience Loss	June 30, 2011	1,095,451	15	625,741	5	134,233
Assumption Change	June 30, 2011	25,593,931	30	28,825,112	20	1,980,527
Experience Loss	June 30, 2012	10,983,184	20	9,729,035	11	1,050,474
Experience Loss	June 30, 2013	6,011,719	20	5,486,674	12	552,147
Experience Gain	June 30, 2014	(15,610,972)	20	(14,578,812)	13	(1,376,825)
Assumption Change	June 30, 2014	(3,528,915)	25	(3,638,075)	18	(269,080)
Experience Gain	June 30, 2015	(46,361,062)	20	(44,148,764)	14	(3,935,663)
Experience Gain	June 30, 2016	(18,410,183)	20	(17,787,469)	15	(1,504,292)
Experience Loss	June 30, 2017	4,575,201	20	4,465,416	16	359,822
Assumption Change	June 30, 2017	39,171,149	20	38,231,205	16	3,080,661
Experience Gain	June 30, 2018	(31,108,341)	20	(30,671,890)	17	(2,363,898)
Experience Gain	June 30, 2019	(42,402,037)	20	(42,092,245)	18	(3,113,240)
Plan Amendment	June 30, 2019	(3,858,774)	15	(3,692,546)	13	(348,725)
Assumption Change	June 30, 2019	25,127,463	20	24,943,880	18	1,844,907
Experience Loss	June 30, 2020	8,604,340	20	8,574,071	19	610,404
Assumption Change	June 30, 2020	3,728,454	20	3,715,337	19	264,502
Experience Gain	June 30, 2021	(47,849,008)	20	(47,849,008)	20	(3,287,627)
Subtotal[3]				**$(45,531,153)**		**$(7,925,928)**

Note: Results may not total due to rounding.

[1] Level percentage of payroll amortization payable as of the beginning of the year.

[2] Gain due to new retirees from non-DROP status and new DROP members during July 1, 2011 – July 14, 2011.

[3] Even though the total UAAL for Tier 3 is negative, we have not applied the surplus amortization provisions of the LAFPP funding policy because the Plan as a whole does not have an actuarial surplus.

Exhibit G: Table of Amortization Bases (continued)

Tier 4

Type	Date Established	Initial Amount[1]	Initial Period[1]	Outstanding Balance	Years Remaining	Annual Payment[2]
Assumption Change	June 30, 1992	$962,115	17	$138,459	1	$138,459
Assumption Change	June 30, 1995	(7,967,987)	20	(3,880,590)	4	(1,022,664)
Plan Amendment	June 30, 1996	1,110,115	21	642,638	5	137,858
Asset Method Change	June 30, 1996	(7,176,108)	21	(4,154,185)	5	(891,150)
Plan Amendment	June 30, 1998	2,159,884	23	1,593,323	7	252,686
Assumption Change	June 30, 1998	3,632,689	23	2,679,794	7	424,991
Plan Amendment	June 30, 2000	370,129	25	321,975	9	41,088
Assumption Change	June 30, 2001	(4,878,745)	26	(4,527,223)	10	(528,781)
Assumption Change	June 30, 2004	(5,220,974)	29	(5,620,834)	13	(530,832)
Assumption Change	June 30, 2005	14,033,320	30	15,703,971	14	1,399,938
Experience Loss	June 30, 2006	6,063,600	15	0	0	0
Assumption Change	June 30, 2006	14,561,746	30	16,376,608	15	1,384,975
Experience Gain	June 30, 2007	(8,926,309)	21	(6,394,762)	7	(1,014,151)
Assumption Change	June 30, 2007	(3,015,790)	30	(3,415,245)	16	(275,200)
Experience Gain	June 30, 2008	(4,429,445)	17	(2,123,441)	4	(559,597)
Assumption Change	June 30, 2008	10,599,393	30	12,040,843	17	927,994
Experience Loss	June 30, 2009	11,924,683	15	4,592,519	3	1,585,766
Experience Loss	June 30, 2010	4,794,050	15	2,321,080	4	611,681
Assumption Change	June 30, 2010	12,948,180	30	14,657,964	19	1,043,527

Note: Results may not total due to rounding.

[1] The initial amount and initial period for bases established on or before June 30, 2005 are values shown as of June 30, 2005 (i.e., the year before Segal was appointed as the actuary starting with the June 30, 2006 valuation).

[2] Level percentage of payroll amortization payable as of the beginning of the year.

Exhibit G: Table of Amortization Bases (continued)

Tier 4 (continued)

Type	Date Established	Initial Amount	Initial Period	Outstanding Balance	Years Remaining	Annual Payment[1]
Plan Amendment[2]	June 30, 2011	$1,483,135	30	$1,670,379	20	$114,769
Experience Loss	June 30, 2011	5,867,945	15	3,351,878	5	719,040
Assumption Change	June 30, 2011	12,753,767	30	14,363,905	20	986,921
Experience Loss	June 30, 2012	9,377,426	20	8,306,637	11	896,894
Experience Loss	June 30, 2013	6,625,380	20	6,046,738	12	608,509
Experience Gain	June 30, 2014	(11,060,872)	20	(10,329,552)	13	(975,524)
Assumption Change	June 30, 2014	9,988,189	25	10,297,154	18	761,601
Experience Gain	June 30, 2015	(16,640,244)	20	(15,846,190)	14	(1,412,616)
Experience Gain	June 30, 2016	(3,718,134)	20	(3,592,370)	15	(303,808)
Experience Gain	June 30, 2017	(2,332,922)	20	(2,276,942)	16	(183,475)
Assumption Change	June 30, 2017	20,682,003	20	20,185,722	16	1,626,560
Experience Gain	June 30, 2018	(6,347,869)	20	(6,258,809)	17	(482,369)
Experience Gain	June 30, 2019	(17,836,793)	20	(17,706,477)	18	(1,309,612)
Plan Amendment	June 30, 2019	(676,805)	15	(647,649)	13	(61,164)
Assumption Change	June 30, 2019	12,577,879	20	12,485,983	18	923,492
Experience Loss	June 30, 2020	2,554,447	20	2,545,460	19	181,216
Assumption Change	June 30, 2020	1,216,796	20	1,212,515	19	86,321
Experience Gain	June 30, 2021	(27,159,887)	20	(27,159,887)	20	(1,866,112)
Subtotal				**$37,601,388**		**$3,437,231**

Note: Results may not total due to rounding.

[1] Level percentage of payroll amortization payable as of the beginning of the year.
[2] Gain due to new retirees from non-DROP status and new DROP members during July 1, 2011 – July 14, 2011.

Exhibit G: Table of Amortization Bases (continued)

Tier 5 & Tier 6 – City[1]

Type	Date Established	Initial Amount[2]	Initial Period[2]	Outstanding Balance	Years Remaining	Annual Payment[3]
Original Base	June 30, 2002	$(157,564,364)	27	$(154,638,633)	11	$(16,696,819)
Assumption Change	June 30, 2004	(242,147,820)	29	(260,693,104)	13	(24,619,896)
Assumption Change	June 30, 2005	421,011,169	30	471,132,055	14	41,999,300
Experience Loss	June 30, 2006	64,026,458	15	0	0	0
Assumption Change	June 30, 2006	291,388,037	30	327,704,379	15	27,714,072
Experience Gain	June 30, 2007	(200,979,530)	21	(143,980,683)	7	(22,834,023)
Assumption Change	June 30, 2007	(71,262,522)	30	(80,701,594)	16	(6,502,914)
Experience Gain	June 30, 2008	(79,435,149)	17	(38,080,578)	4	(10,035,493)
Assumption Change	June 30, 2008	312,669,142	30	355,190,101	17	27,374,676
Experience Loss	June 30, 2009	357,256,711	15	137,589,258	3	47,508,658
Experience Loss	June 30, 2010	207,594,800	15	100,508,730	4	26,487,378
Assumption Change	June 30, 2010	277,673,454	30	314,339,747	19	22,378,426
Plan Amendment[4]	June 30, 2011	5,693,576	30	6,412,381	20	440,584
Experience Loss	June 30, 2011	125,215,079	15	71,525,131	5	15,343,467
Assumption Change	June 30, 2011	244,615,700	30	275,497,953	20	18,929,016
Experience Loss	June 30, 2012	248,617,082	20	220,227,996	11	23,778,708
Experience Loss	June 30, 2013	115,390,840	20	105,312,958	12	10,598,090
Experience Gain	June 30, 2014	(246,417,577)	20	(230,125,029)	13	(21,733,042)
Assumption Change	June 30, 2014	35,896,722	25	37,007,119	18	2,737,132

Note: Results may not total due to rounding.

1 Excludes Harbor Port Police and Airport Police.
2 The initial amount and initial period for bases established on or before June 30, 2005 are values shown as of June 30, 2005 (i.e., the year before Segal was appointed as the actuary starting with the June 30, 2006 valuation).
3 Level percentage of payroll amortization payable as of the beginning of the year.
4 Gain due to new retirees from non-DROP status and new DROP members during July 1, 2011 – July 14, 2011.

Exhibit G: Table of Amortization Bases (continued)

Tier 5 & Tier 6 – City[1] (continued)

Type	Date Established	Initial Amount	Initial Period	Outstanding Balance	Years Remaining	Annual Payment[2]
Experience Gain	June 30, 2015	$(458,582,182)	20	$(436,699,159)	14	$(38,929,763)
Experience Gain	June 30, 2016	(228,076,007)	20	(220,361,466)	15	(18,636,045)
Experience Gain	June 30, 2017	(34,033,779)	20	(33,217,110)	16	(2,676,626)
Assumption Change	June 30, 2017	481,534,488	20	469,979,680	16	37,870,842
Experience Gain	June 30, 2018	(24,297,763)	20	(23,956,865)	17	(1,846,367)
Experience Gain	June 30, 2019	(85,236,777)	20	(84,614,032)	18	(6,258,250)
Plan Amendment	June 30, 2019	(45,830,239)	15	(43,855,969)	13	(4,141,764)
Assumption Change	June 30, 2019	334,438,436	20	331,995,009	18	24,555,120
Experience Loss	June 30, 2020	177,884,908	20	177,259,117	19	12,619,403
Assumption Change	June 30, 2020	133,518,202	20	133,048,491	19	9,471,967
Experience Gain	June 30, 2021	(439,937,354)	20	(439,937,354)	20	(30,227,379)
Subtotal				**$1,343,868,528**		**$144,668,458**

Note: Results may not total due to rounding.

[1] Excludes Harbor Port Police and Airport Police.

[2] Level percentage of payroll amortization payable as of the beginning of the year.

Exhibit G: Table of Amortization Bases (continued)

Tier 5 & Tier 6 – Harbor Port Police

Type	Date Established	Initial Amount	Initial Period	Outstanding Balance	Years Remaining	Annual Payment[1]
Experience Gain	June 30, 2008	$(169,104)	17	$(81,067)	4	$(21,364)
Assumption Change	June 30, 2008	126,433	30	143,626	17	11,069
Experience Loss	June 30, 2009	6,588,231	15	2,537,308	3	876,115
Experience Loss	June 30, 2010	1,742,728	15	843,756	4	222,358
Assumption Change	June 30, 2010	1,043,633	30	1,181,444	19	84,109
Plan Amendment[2]	June 30, 2011	41,208	30	46,411	20	3,189
Experience Gain	June 30, 2011	(447,574)	15	(255,661)	5	(54,844)
Assumption Change	June 30, 2011	734,993	30	827,786	20	56,876
Experience Loss	June 30, 2012	1,311,840	20	1,162,043	11	125,469
Experience Loss	June 30, 2013	1,253,385	20	1,143,919	12	115,117
Experience Gain	June 30, 2014	(2,336,763)	20	(2,182,261)	13	(206,093)
Assumption Change	June 30, 2014	(476,026)	25	(490,751)	18	(36,297)
Experience Gain	June 30, 2015	(2,306,059)	20	(2,196,017)	14	(195,765)
Experience Gain	June 30, 2016	(1,753,214)	20	(1,693,912)	15	(143,255)
Experience Loss	June 30, 2017	104,388	20	101,883	16	8,210
Assumption Change	June 30, 2017	1,547,341	20	1,510,212	16	121,692
Experience Gain	June 30, 2018	(735,107)	20	(724,794)	17	(55,860)
Experience Gain	June 30, 2019	(1,396,129)	20	(1,385,929)	18	(102,507)
Plan Amendment	June 30, 2019	(240,874)	15	(230,498)	13	(21,768)
Assumption Change	June 30, 2019	2,449,545	20	2,431,648	18	179,850
Experience Loss	June 30, 2020	3,121,812	20	3,110,829	19	221,466
Assumption Change	June 30, 2020	1,486,982	20	1,481,751	19	105,489
Experience Gain	June 30, 2021	(5,659,354)	20	(5,659,354)	20	(388,845)
Subtotal				**$1,622,372**		**$904,411**

Note: Results may not total due to rounding.

[1] Level percentage of payroll amortization payable as of the beginning of the year.

[2] Gain due to new retirees from non-DROP status and new DROP members during July 1, 2011 – July 14, 2011.

Exhibit G: Table of Amortization Bases (continued)

Tier 6 – Airport Police

Type	Date Established	Initial Amount	Initial Period	Outstanding Balance	Years Remaining	Annual Payment[1]
Experience Loss	June 30, 2018	$1,377,441	20	$1,358,116	17	$104,671
Experience Gain	June 30, 2019	(135,237)	20	(134,249)	18	(9,929)
Plan Amendment	June 30, 2019	(31,136)	15	(29,795)	13	(2,814)
Assumption Change	June 30, 2019	317,443	20	315,123	18	23,307
Experience Loss	June 30, 2020	155,500	20	154,954	19	11,031
Assumption Change	June 30, 2020	57,652	20	57,449	19	4,090
Experience Gain	June 30, 2021	(927,710)	20	(927,710)	20	(63,741)
Subtotal				**$793,888**		**$66,615**

Note: Results may not total due to rounding.

[1] Level percentage of payroll amortization payable as of the beginning of the year.

Exhibit G: Table of Amortization Bases (continued)

All Tiers Combined

Type	Date Established	Initial Amount[1]	Initial Period[1]	Outstanding Balance	Years Remaining	Annual Payment[2]
Assumption Change	June 30, 1992	$3,416,850	17	$491,724	1	$491,724
Assumption Change	June 30, 1995	(28,297,458)	20	(13,781,504)	4	(3,631,883)
Plan Amendment	June 30, 1996	3,942,456	21	2,282,254	5	489,586
Asset Method Change	June 30, 1996	(25,485,184)	21	(14,753,144)	5	(3,164,823)
Plan Amendment	June 30, 1998	7,670,599	23	5,658,516	7	897,388
Assumption Change	June 30, 1998	12,901,106	23	9,516,999	7	1,509,309
Plan Amendment	June 30, 2000	1,320,002	25	1,148,265	9	146,533
Assumption Change	June 30, 2001	(34,027,429)	26	(31,575,690)	10	(3,688,051)
Tiers 5 and 6 Original Base[3]	June 30, 2002	(157,564,364)	27	(154,638,633)	11	(16,696,819)
Assumption Change	June 30, 2004	(256,067,522)	29	(275,678,873)	13	(26,035,154)
Assumption Change	June 30, 2005	462,298,308	30	517,334,380	14	46,118,029
Experience Loss	June 30, 2006	86,490,315	15	0	0	0
Assumption Change	June 30, 2006	335,289,906	30	377,077,835	15	31,889,602
Experience Gain	June 30, 2007	(230,840,426)	21	(165,372,874)	7	(26,226,629)
Assumption Change	June 30, 2007	(79,305,942)	30	(89,810,402)	16	(7,236,900)
Tier 2 2008 UAAL	June 30, 2008	(632,245,519)	29	(700,147,955)	16	(56,417,742)
Experience Gain	June 30, 2008	(102,325,887)	17	(49,054,216)	4	(12,927,410)
Assumption Change	June 30, 2008	331,429,440	30	376,501,680	17	29,017,170
Experience Loss	June 30, 2009	439,370,627	15	169,213,558	3	58,428,318
Experience Loss	June 30, 2010	427,019,026	15	206,744,778	4	54,484,093
Assumption Change	June 30, 2010	1,450,331	27	1,540,978	16	124,172
Assumption Change	June 30, 2010	317,662,873	30	359,609,700	19	25,601,277

Note: Results may not total due to rounding.

[1] The initial amount and initial period for bases established on or before June 30, 2005 are values shown as of June 30, 2005 (i.e., the year before Segal was appointed as the actuary starting with the June 30, 2006 valuation).

[2] Level percentage of payroll amortization payable as of the beginning of the year.

[3] Tier 5 & Tier 6 without Harbor Port Police and Airport Police.

Exhibit G: Table of Amortization Bases (continued)

All Tiers Combined (continued)

Type	Date Established	Initial Amount	Initial Period	Outstanding Balance	Years Remaining	Annual Payment[1]
Experience Loss	June 30, 2011	$334,835,498	15	$191,264,128	5	$41,029,702
Plan Amendment[2]	June 30, 2011	7,199,875	30	8,108,849	20	557,146
Assumption Change	June 30, 2011	344,553,091	26	359,552,038	16	28,972,611
Assumption Change	June 30, 2011	283,698,391	30	319,514,756	20	21,953,340
Experience Loss	June 30, 2012	508,742,603	20	450,650,302	11	48,658,127
Experience Loss	June 30, 2013	203,228,605	20	185,479,240	12	18,665,563
Experience Gain	June 30, 2014	(488,357,105)	20	(456,068,083)	13	(43,071,137)
Assumption Change	June 30, 2014	(23,272,658)	25	(23,992,555)	18	(1,774,545)
Experience Gain	June 30, 2015	(812,803,767)	20	(774,017,690)	14	(69,000,189)
Experience Gain	June 30, 2016	(334,739,509)	20	(323,417,135)	15	(27,351,498)
Experience Gain	June 30, 2017	(83,560,648)	20	(81,555,542)	16	(6,571,724)
Assumption Change	June 30, 2017	761,117,641	20	742,854,010	16	59,858,985
Experience Gain	June 30, 2018	(109,236,915)	20	(107,704,319)	17	(8,300,824)
Experience Gain	June 30, 2019	(228,671,792)	20	(227,001,103)	18	(16,789,528)
Plan Amendment	June 30, 2019	(50,642,956)	15	(48,461,364)	13	(4,576,698)
Assumption Change	June 30, 2019	322,940,823	20	320,581,395	18	23,710,942
Experience Loss	June 30, 2020	171,211,691	20	170,609,377	19	12,145,996
Assumption Change	June 30, 2020	141,235,874	20	140,739,012	19	10,019,470
Tier 1 UAAL[3]	June 30, 2021	138,248,255	16	138,248,255	16	13,677,229
Experience Gain	June 30, 2021	(745,772,363)	20	(745,772,363)	20	(51,240,804)
Grand Total				**$771,918,578**		**$143,743,954**

Note: Results may not total due to rounding.

[1] Level percentage of payroll amortization payable as of the beginning of the year, except for Tier 1 UAAL which is expressed as a level dollar amortization payable as of the beginning of the year.

[2] Gain due to new retirees from non-DROP status and new DROP members during July 1, 2011 – July 14, 2011.

[3] The Tier 1 UAAL was $143,181,602 as of June 30, 2020. The change in Tier 1 UAAL includes an experience gain of $290,656.

Exhibit H: Projection of UAAL Balances and Payments

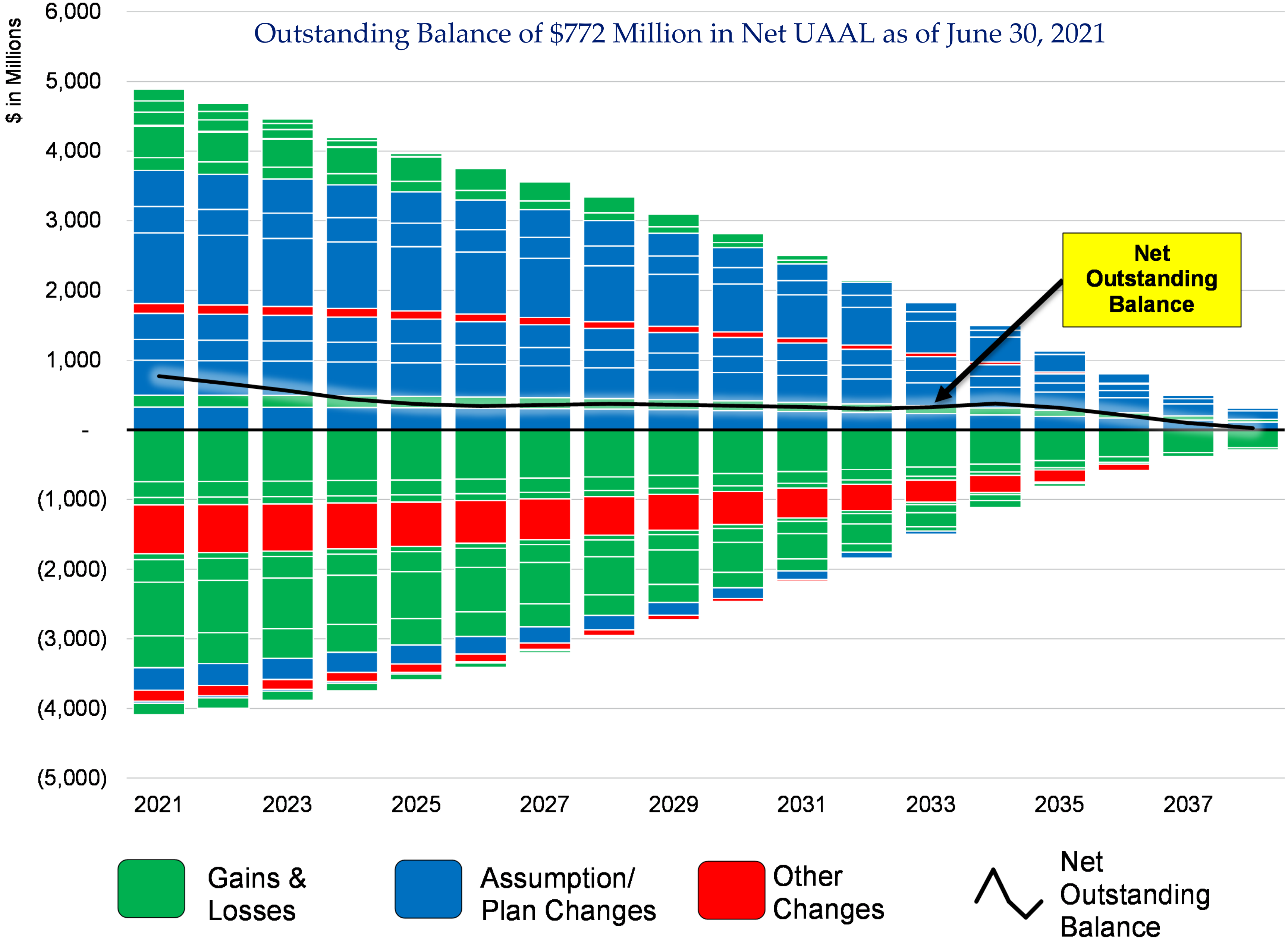
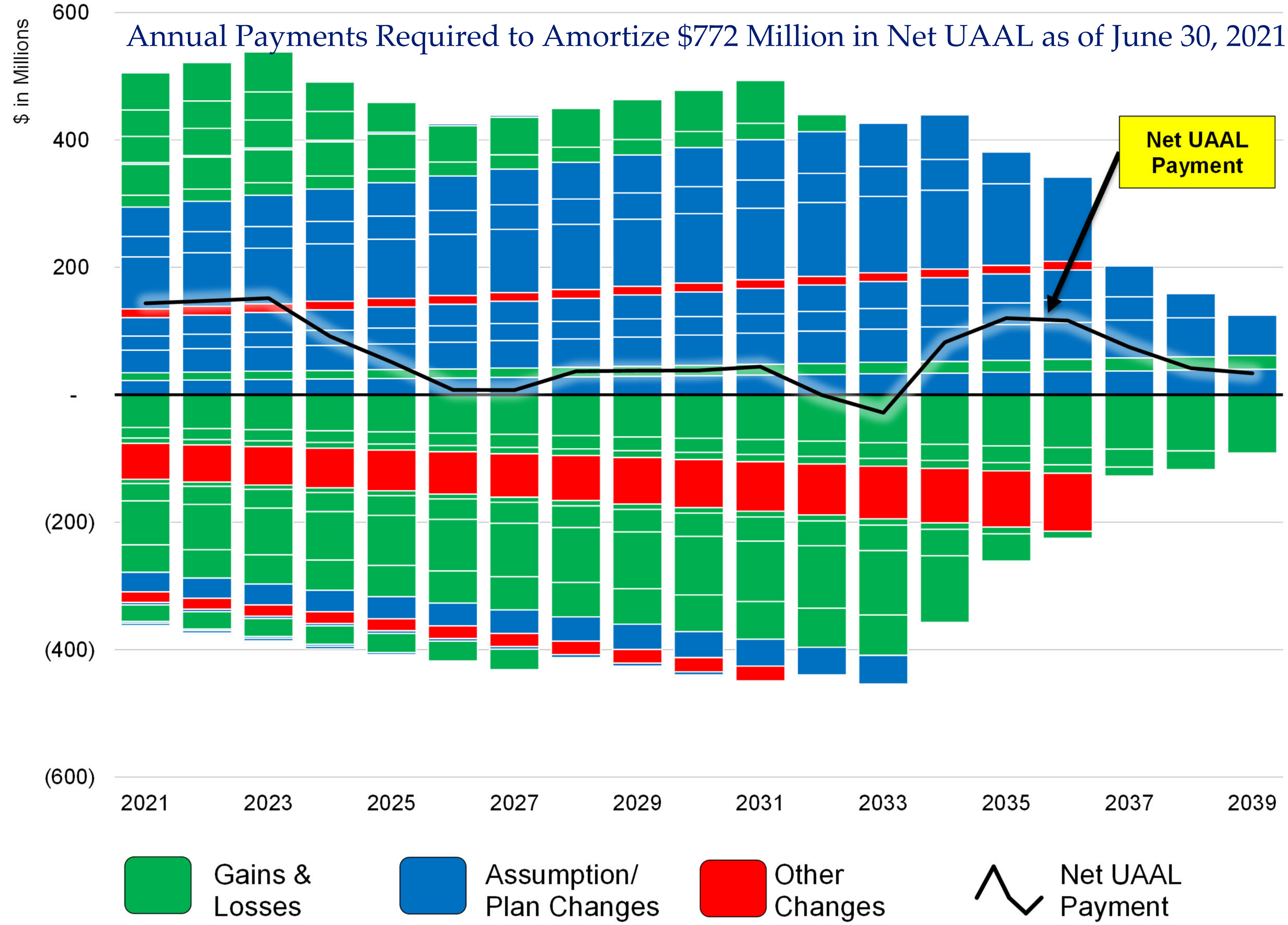


Exhibit H: Projection of UAAL Balances and Payments (continued)



Note: Based on the current UAAL of $772 million, the net annual UAAL payments are projected to decrease after the 2023 valuation to the 2027 valuation and then increase for a few years before the net UAAL payments become negative (i.e., annual UAAL credits). We will work with LAFPP to address this non-level pattern of UAAL payments if this pattern continues after the deferred investment gains are recognized in the next few valuations.

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. Actuarial gains will shorten the time required for funding of the actuarial balance sheet deficiency while actuarial losses will lengthen the funding period.
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, termination, 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 Plan'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 Actuarially Determined Contribution.
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 Plan.
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 Unfunded Actuarial Accrued Liability. 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 Unfunded Actuarial Accrued Liability. 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 off the Unfunded Actuarial Accrued Liability.

Section 3: Supplemental Information

Assumptions or Actuarial Assumptions:	The estimates upon 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 rate or probability of death at a given age for employees and pensioners; Retirement rates - the rate or probability of retirement at a given age or service; Disability rates - the rate or probability of disability retirement at a given age; Termination rates - the rate or probability 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, real wage growth and merit and promotion increases.
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 20 years, it is 19 years at the end of one year, 18 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 Plan 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 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.

Normal Cost:	The portion of the Actuarial Present Value of Future Benefits allocated to a valuation year by the Actuarial Cost Method. Any payment with respect to an Unfunded Actuarial Accrued Liability is not part of the Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions, Normal Cost refers to the total of member 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 each future year in determining the Amortization Period.
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 or an Overfunded Actuarial Accrued Liability.
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 portion of the Actuarial Value of Assets that is allocated for retirement benefits.

Section 4: Actuarial Valuation Basis

Exhibit 1: 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 report dated May 13, 2020 and the Mortality Experience Study During the Period July 1, 2010 through June 30, 2019. Unless otherwise noted, all actuarial assumptions and methods shown below apply to all tiers. These assumptions were adopted by the Board.

Economic Assumptions

Net Investment Return:	7.00%; net of investment expenses. Based on the Actuarial Experience Study referenced above, expected investment expenses represent about 0.40% of the Actuarial Value of Assets.
Administrative Expenses:	Out of the total 1.40% of payroll in assumed administrative expenses, 1.29% of payroll payable biweekly is allocated to the Retirement Plan. This is equal to 1.25% of payroll payable at beginning of the year.
Interest Crediting Rate on Member Account:	3.00%[1]
Consumer Price Index (CPI) and Cost of Living Adjustments (COLA):	CPI Increase of 2.75% per year. Retiree COLA increases of 2.75% per year for Tiers 1 through 6. For Tier 5 and Tier 6 members who have COLA banks, we assume they receive 3.0% COLA increases until their COLA banks are exhausted and 2.75% thereafter.
Payroll Growth:	Inflation of 2.75% per year plus “across the board” real salary increases of 0.50% per year, used to amortize the Unfunded Actuarial Accrued Liability 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.

[1] The above rate is only used for valuation purposes. The actual interest crediting rate on member account is determined by the Board every 6 months and is based on earned investment income as defined under the Board’s operating policies and procedures.

Section 4: Actuarial Valuation Basis

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:

Years of Service	Rate (%)
Less than 1	9.00
1 – 2	7.50
2 – 3	6.50
3 – 4	5.50
4 – 5	4.00
5 – 6	2.60
6 – 7	2.20
7 – 8	2.00
8 – 9	2.00
9 – 10	2.00
10 – 11	1.90
11 – 12	1.80
12 – 13	1.70
13 – 14	1.60
14 – 15	1.50
15 – 16	1.40
16 – 17	1.30
17 – 18	1.20
18 – 19	1.20
19 – 20	1.10
20 – 25	1.00
25 & Over	0.90

Increases are assumed to occur beginning of the year for future salary increases.

We annualized biweekly pay (by multiplying by 365 and dividing by 14), supplied by LAFPP.

Demographic Assumptions

Post-Retirement Mortality Rates:

Healthy[1]

- Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table multiplied by 105% for males and 100% for females, projected generationally with the two-dimensional mortality improvement scale MP-2019.

Disabled

- Pub-2010 Safety Disabled Retiree Amount-Weighted Mortality Table projected generationally with the two dimensional mortality improvement scale MP-2019.

Beneficiary[2]

- Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table multiplied by 105%, 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.

[1] The Pub-2010 Healthy Retiree Amount-Weighted Above-Median Mortality Tables only have rates for ages 45 and later for the Safety table. To develop the post-retirement mortality rates for ages 36 through 44 for Safety members, we have smoothed the difference between the rates at age 35 from the Pub-2010 Safety Employee Amount-Weighted Above-Median Mortality Tables and the rates at age 45 from the Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality tables. To develop the post-retirement mortality rates before age 36 for the Safety table, we have used the Pub-2010 Safety Employee Amount-Weighted Above-Median Mortality Tables rates. This methodology for developing an extended annuitant mortality table is similar to the method used by the IRS to develop the base mortality table for determining minimum funding standards for single-employer defined benefit pension plans under Section 430. While Section 430 is not applicable to LAFPP, we believe this is a reasonable method for developing annuitant mortality rates at earlier ages.

[2] The Pub-2010 Healthy Retiree Amount-Weighted Above-Median Mortality Tables only have rates for ages 50 and later for the General table. To develop the post-retirement mortality rates for ages 41 through 49 for General members, we have smoothed the difference between the rates at age 40 from the Pub-2010 General Employee Amount-Weighted Above-Median Mortality Tables and the rates at age 50 from the Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality tables. To develop the post-retirement mortality rates before age 41 for the General table, we have used the Pub-2010 General Employee Amount-Weighted Above-Median Mortality Tables rates. This methodology for developing an extended annuitant mortality table is similar to the method used by the IRS to develop the base mortality table for determining minimum funding standards for single-employer defined benefit pension plans under Section 430. While Section 430 is not applicable to LAFPP, we believe this is a reasonable method for developing annuitant mortality rates at earlier ages.

Pre-Retirement Mortality Rates:

- Pub-2010 Safety Employee Amount-Weighted Above-Median Mortality Table, projected generationally with the two-dimensional mortality improvement scale MP-2019.

	Rate (%)[1]	
Age	**Male**	**Female**
20	0.04	0.02
25	0.03	0.02
30	0.04	0.02
35	0.04	0.03
40	0.05	0.04
45	0.07	0.06
50	0.10	0.08
55	0.15	0.11
60	0.23	0.15

All pre-retirement deaths are assumed to be service connected.

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

Disability Incidence:

	Rate (%)	
Age	**Fire**	**Police**
25	0.01	0.02
30	0.02	0.04
35	0.06	0.07
40	0.09	0.16
45	0.13	0.23
50	0.18	0.31
55	0.68	0.44
60	1.00	0.65
65	0.40	0.30
70	0.00	0.00

80% of disabilities are assumed to be service connected disabilities. The other 20% are assumed to be non-service connected disabilities.

Disability rates are not applied to members eligible to enter the DROP.

Termination:

Less Than Five Years of Service

	Rate (%)	
Years of Service	**Fire**	**Police**
Less than 1	7.00	8.50
1 – 2	2.00	3.25
2 – 3	1.00	3.25
3 – 4	0.75	3.00
4 – 5	0.50	2.00

Five or More Years of Service

	Rate (%)	
Age	**Fire**	**Police**
20	0.60	1.80
25	0.60	1.80
30	0.51	1.59
35	0.33	1.09
40	0.25	0.73
45	0.16	0.59
50	0.07	0.43
55	0.02	0.35
60	0.00	0.14

No termination is assumed after a member is eligible for retirement. This includes all active members currently in Tier 2. Members in Tiers 3, 5 and 6 who are not eligible to receive a deferred vested retirement benefit are assumed to receive a refund of member contributions.

Retirement Rates:

	Rate (%)					
	Fire			Police		
Age	Tiers 2 & 4	Tiers 3 & 5	Tier 6	Tiers 2 & 4	Tiers 3 & 5	Tier 6
41	1.00	0.00	0.00	10.00	0.00	0.00
42	1.00	0.00	0.00	10.00	0.00	0.00
43	1.00	0.00	0.00	10.00	0.00	0.00
44	1.00	0.00	0.00	10.00	0.00	0.00
45	1.00	0.00	0.00	10.00	0.00	0.00
46	1.00	0.00	0.00	7.00	0.00	0.00
47	1.00	0.00	0.00	7.00	0.00	0.00
48	2.00	0.00	0.00	5.00	0.00	0.00
49	2.00	0.00	0.00	5.00	0.00	0.00
50	3.00	1.00	2.00	10.00	8.00	6.00
51	5.00	1.00	2.00	10.00	4.00	5.00
52	8.00	1.00	2.00	12.00	4.00	5.00
53	10.00	1.00	2.00	20.00	5.00	5.00
54	20.00	6.00	5.00	30.00	12.00	15.00
55	20.00	14.00	10.00	35.00	20.00	20.00
56	20.00	15.00	12.00	30.00	20.00	20.00
57	20.00	16.00	15.00	30.00	20.00	20.00
58	20.00	20.00	18.00	30.00	20.00	20.00
59	20.00	22.00	20.00	30.00	20.00	20.00
60	25.00	25.00	25.00	30.00	25.00	25.00
61	25.00	27.00	27.00	30.00	25.00	25.00
62	25.00	33.00	30.00	30.00	25.00	25.00
63	25.00	35.00	35.00	30.00	25.00	25.00
64	30.00	40.00	40.00	40.00	35.00	35.00
65	50.00	50.00	50.00	50.00	50.00	50.00
66	50.00	50.00	50.00	50.00	50.00	50.00
67	50.00	50.00	50.00	50.00	50.00	50.00
68	50.00	50.00	50.00	50.00	50.00	50.00
69	50.00	50.00	50.00	50.00	50.00	50.00
70 & Over	100.00	100.00	100.00	100.00	100.00	100.00

DROP Program:	DROP participants are considered active members until they leave DROP and begin receiving retirement benefits. Members are assumed to remain in the DROP for 5 years. For current DROP participants, we have rounded up the number of years they have been in DROP for purposes of determining the number of years they are expected to remain in the DROP as of the valuation date. For members who enter DROP on or after February 1, 2019, it is assumed they will have DROP payments suspended for an average of 4.5 months (or 0.9 months for each remaining year in DROP for current DROP members) due to the minimum hours per month needed for participation. For active members who are not in the DROP as of the valuation date and are expected to retire with a service retirement benefit, we assume 95% will have elected DROP prior to retirement if they will have also satisfied the requirements for participating in the DROP for 5 years (starting on or after the valuation date).
Retirement Age for Deferred Vested Members:	50
Benefit for Inactive Non-Vested Members:	Immediate refund of member contributions.
Future Benefit Accruals:	1.0 year of service 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.
Definition of Active Members:	First day of biweekly payroll following employment for new department employees or immediately following transfer from other city department.
Form of Payment:	All active and inactive members are assumed to elect the unmodified option at retirement.
Percent Married:	For all active and inactive members, 85% of male members and 55% of female members are assumed to be married 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.
Service Connected Disability Benefits:	(see table below)
Non-Service Connected Disability Benefits:	45% of Final Average Salary.

Service Connected Disability Benefits:

Years of Service	Benefit
Less than 20	55% of Final Average Salary
20 – 30	60% of Final Average Salary
More than 30	75% of Final Average Salary

Actuarial Funding Policy

Actuarial Cost Method:	Entry Age Actuarial Cost Method. Entry Age is the age on the valuation date minus years of service. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are based on costs allocated as a level percentage of compensation, with Normal Cost determined as if the current benefit formula for each individual has always been in effect.
Actuarial Value of Assets:	Market Value of Assets (MVA) less unrecognized returns. Unrecognized returns are equal to the difference between the actual market return and the expected return on the market value, and are 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 Actuarial Value of Assets that is allocated for retirement benefits.
Funding Policy:	The City of Los Angeles makes contributions equal to the Normal Cost adjusted by an amount to amortize any Surplus or Unfunded Actuarial Accrued Liability (UAAL). Both the Normal Cost and the Actuarial Accrued Liability are determined under the Entry Age Cost Method on an individual basis. Any Surplus is amortized over an open (non-decreasing) thirty-year period. Any changes in UAAL due to actuarial gains or losses are amortized over separate twenty-year periods as a level percentage of payroll. Any changes in UAAL from plan amendments are amortized over separate fifteen-year periods as a level percentage of payroll. Any changes in UAAL from plan assumption changes are amortized over separate twenty-year periods as a level percentage of payroll. For Tier 1, the UAAL is amortized using level dollar amortization ending on June 30, 2037. For Tiers 2, 3 and 4, the UAAL is amortized using level percent of payroll as a percent of total valuation payroll from the respective employer (i.e., the City). For Tiers 5 and 6, the UAAL is amortized using level percent of payroll as a percent of combined payroll for these tiers from the respective employer (i.e., City, Harbor Department or Airport Department).

Other Actuarial Methods

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 participants could be taxed on their vested benefits and the IRS may seek to tax the income earned on the plan's assets. In particular, Section 415(b) of the IRC limits the maximum annual benefit payable at the Normal Retirement Age to a dollar limit of $160,000 indexed for inflation. That limit is $230,000 for 2020 and 2021. 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.

Changes in Actuarial Assumptions and Methods

There have been no changes in actuarial assumptions or methods since the prior valuation.

Exhibit 2: Summary of Plan Provisions

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

For Tiers 1 through 4 and Tier 6, the section codes are from the Los Angeles Charter. For Tier 5 and the DROP program, the section codes are from the Los Angeles Administrative Code.

Plan Year:	July 1 through June 30
Census Date:	June 30
Membership Eligibility:	LAFPP provides service retirement, disability, death and survivor benefits to eligible sworn members of the Los Angeles Fire, Police, Harbor and Airport Departments (effective January 7, 2018, eligible Airport Police Officers are allowed to join Tier 6). Sworn employees become members upon graduation from the Police Academy or Fire Drill Tower. There are currently six tiers applicable to members of the LAFPP.
Tier 1	Members hired on or before January 28, 1967.
Tier 2	Members hired from January 29, 1967 through December 7, 1980, and those Tier 1 members who transferred to Tier 2 during the enrollment period of January 29, 1967 to January 29, 1968.
Tier 3	Members hired from December 8, 1980 through June 30, 1997 and those Tier 4 members hired during the period of July 1, 1997 through December 31, 1997 who elected to transfer to Tier 3 by the enrollment deadline of June 30, 1998.
Tier 4	Members hired from July 1, 1997 through December 31, 2001 and those Tier 3 members who elected to transfer to Tier 4 by the enrollment deadline of June 30, 1998.
Tier 5	Members hired from January 1, 2002 through June 30, 2011 and those active members of Tiers 2, 3, or 4 who elected to transfer to Tier 5 during the enrollment period of January 2, 2002 through December 31, 2002.
Tier 6	Members hired on or after July 1, 2011.

Salary Base for Benefits:	
Normal Pension Base	
Tier 1 & Tier 2 (§1302, §1406)	Final monthly salary rate
Final Average Salary	
Tier 3, Tier 4 & Tier 5 (§1502, §1602, §4.2002)	Highest monthly average salary actually received during any 12 consecutive months of service
Tier 6 (§1702)	Highest monthly average salary actually received during any 24 consecutive months of service
Compensation Limit:	For members with membership dates on or after July 1, 1996, salary is limited to Internal Revenue Code Section 401(a)(17). This limit is $290,000 for Plan year beginning July 1, 2021. The limit is indexed for inflation on an annual basis.
Service:	Years of service are generally based on a member's employment during a period of time for which deductions are made from their compensation.
Service Retirement Eligibility:	
Tier 1, Tier 2 & Tier 4 (§1304, §1408, §1604)	Any age and 20 years of service.
Tier 3 (§1504)	Age 50 and 10 years of service.
Tier 5 & Tier 6 (§4.2004, §1704)	Age 50 and 20 years of service.

Service Retirement Benefit:	
Tier 1 (§1304)	40% at 20 years of service, plus 2% for each additional year up to 25 years of service, plus 1 ⅔% for each additional year between 25 and 35 years of service. Maximum of 66 ⅔% for 35 or more years of service.
Tier 2 (§1408)	40% at 20 years of service, plus 2% for each additional year up to 25 years of service. 55% at 25 years of service, plus 3% for each additional year between 25 and 30 years of service. Maximum of 70% for 30 or more years of service.
Tier 3 & Tier 4 (§1504, §1604)	2% per year of service up to 20 years of service, plus 3% for each additional year of service up to 30 years of service. Maximum of 70% for 30 or more years of service.
Tier 5 (§4.2004)	50% at 20 years of service, plus 3% for each additional year (except 4% at 30 years of service). Maximum of 90% for 33 or more years of service.
Tier 6 (§1704)	40% at 20 years of service, plus 3% per year for years 21 through 25, 4% per year for years 26 through 30, and 5% per year for years 31 through 33. Maximum of 90% for 33 or more years of service.
Deferred Retirement Option Plan (DROP) (§4.2100 - 4.2109):	
Eligibility	
Tier 2 & Tier 4	Any age and 25 years of service
Tier 3, Tier 5 & Tier 6	Age 50 and 25 years of service
Benefit under DROP	DROP benefits (calculated using age, service, and salary at the commencement date of participation in DROP) will be credited to a DROP account monthly, with interest at 5% annually. Members may participate in DROP for up to five years. For members who enter the DROP on or after February 1, 2019, their participation in DROP will be suspended for any calendar month in which they do not spend at least 112 hours on active duty status. If participation is suspended, the member is eligible to participate in DROP for a maximum of 30 additional months beyond the original participation period. Members are required to make normal member contributions. DROP benefits receive annual COLA while in DROP (limited to 3% for all Tiers).

Service Connected Disability:	
Eligibility	No age or service requirement.
Benefit	
Tier 1 & Tier 2 (§1310, §1412)	50% to 90% of Normal Pension Base depending on severity of disability, with a minimum of Member's service pension percentage rate.
Tier 3, Tier 4, Tier 5 & Tier 6 (§1506, §1606, §4.2006, §1706)	30% to 90% of Final Average Salary depending on severity of disability with a minimum of 2% of Final Average Salary per year of service.
Non-Service Connected Disability:	
Eligibility	Any age and 5 years of service.
Benefit	
Tier 1 & Tier 2 (§1312, §1412)	40% of highest monthly salary as of Member's retirement for basic rank of Police Officer III or Firefighter III, and the highest length of service pay.
Tier 3, Tier 4, Tier 5 & Tier 6 (§1506, §1606, §4.2006, §1706)	30% to 50% of Final Average Salary depending on severity of disability.
Basic Death Benefit:	
Tier 3, Tier 4, Tier 5 & Tier 6	If Member has at least one year of service, in addition to return of contributions, a Qualified Survivor receives the Member's one-year average monthly salary times years of completed service (not to exceed 6 years).

Death Before Retirement – Eligible for Service Retirement on Account of Years of Service:	
Eligibility	
Tier 1, Tier 2, Tier 4, Tier 5 & Tier 6 (§1304, §1408, §1604, §4.2004, §1704)	Any age and 20 years of service
Tier 3 (§1504)	Any age and 10 years of service
Benefit	
Tier 1 (§1314, §1316)	100% of Member's accrued service retirement Member would have received, not to exceed 50% of Normal Pension Base.
Tier 2 (§1414)	100% of Member's accrued service retirement Member would have received, not to exceed 55% of Normal Pension Base.
Tier 3 & Tier 4 (§1508, §1608)	80% of service retirement Member would have received, not to exceed 40% of the Member's Final Average Salary.
Tier 5 (§4.2008, §4.2008.5)	For former Tier 2, 100% of Member's accrued service retirement Member would have received, not to exceed 55% of Normal Pension Base. For members who are not former Tier 2, 40% of the Member's Final Average Salary.
Tier 6 (§1708)	50% of the Member's Final Average Salary.

Death Before Retirement – Service Connected Death:	
Eligibility	No age or service requirement.
Benefit	
Tier 1 (§1314)	50% of Member's Normal Pension Base.
Tier 2 (§1414)	50% of the Member's Normal Pension Base, or 55% of the Member's Normal Pension Base if Member had at least 25 years of service at the date of death.
Tier 3 & Tier 4 (§1508, §1608)	75% of the Member's Final Average Salary.
Tier 5 (§4.2008, §4.2008.5)	For former Tier 2, 75% of the Member's Normal Pension Base payable to a Qualified Surviving Spouse or Qualified Surviving Domestic Partner. For members who are not former Tier 2, 75% of the Member's Final Average Salary payable to a Qualified Surviving Spouse or Qualified Surviving Domestic Partner.
Tier 6 (§1708)	80% of the Member's Final Average Salary.
Death Before Retirement – Non-Service Connected Death:	
Eligibility	5 years of service.
Benefit	
Tier 1 & Tier 2 (§1316, §1414)	40% of highest monthly salary as of Member's death for basic rank of Police Officer III or Firefighter III, and the highest length of service pay.
Tier 3 & Tier 4 (§1508, §1608)	30% of the Member's Final Average Salary; 40% of Final Average Salary while eligible for a service pension based on years of service (10+ for Tier 3, 20+ for Tier 4).
Tier 5 (§4.2008, §4.2008.5)	For former Tier 2, 40% of highest monthly salary as of Member's death for basic rank of Police Officer III or Firefighter III, and the highest length of service pay. For members who are not former Tier 2, 30% of the Member's Final Average Salary; 40% of Final Average Salary while eligible for a service pension based on years of service (20+).
Tier 6 (§1708)	50% of the Member's Final Average Salary.

Death After Retirement – Service Retirement:	
Benefit	
Tier 1 (§1314, §1316)	Same percentage of the Member's Normal Pension Base to a maximum of 50%.
Tier 2 (§1414)	Same percentage of the Member's Normal Pension Base to a maximum of 55%.
Tier 3 & Tier 4 (§1508, §1608)	60% of the pension received by the deceased Member.
Tier 5 (§4.2008, §4.2008.5)	For former Tier 2, same percentage of the Member's Normal Pension Base to a maximum of 55%. For members who are not former Tier 2, 60% of the pension received by the deceased Member.
Tier 6 (§1708)	70% of the pension received by the deceased Member.
Death After Retirement – Service Connected Disability:	
Benefit	
Tier 1 (§1314)	50% of Member's Normal Pension Base.
Tier 2 (§1414)	50% of the Member's Normal Pension Base or 55% of the Member's Normal Pension Base if Member had at least 25 years of service at the date of death.
Tier 3 & Tier 4 (§1508, §1608)	If death occurs within three years of the Member's effective date of pension and is due to service-connected cause(s), then the Qualified Surviving Spouse or Qualified Surviving Domestic Partner shall receive 75% of the Final Average Salary. Otherwise, 60% of the pension received by the deceased Member.
Tier 5 (§4.2008, §4.2008.5)	For former Tier 2, 50% of the Member's Normal Pension Base or 55% of the Member's Normal Pension Base if Member had at least 25 years of service at the date of death. For members who are not former Tier 2, if death occurs within three years of the Member's effective date of pension and is due to service-connected cause(s), then the Qualified Surviving Spouse or Qualified Surviving Domestic Partner shall receive 75% of the Final Average Salary. Otherwise, 60% of the pension received by the deceased Member.
Tier 6 (§1708)	If death occurs within three years of the Member's effective date of pension and is due to service-connected cause(s), then the Qualified Surviving Spouse or Qualified Surviving Domestic Partner shall receive 80% of the Final Average Salary. Otherwise, 80% of the pension received by the deceased Member.

Death After Retirement – Non-Service Connected Disability:	
Benefit	
Tier 1 & Tier 2 (§1316, §1414)	40% of highest monthly salary as of Member's death for basic rank of Police Officer III or Firefighter III, and the highest length of service pay.
Tier 3 & Tier 4 (§1508, §1608)	60% of the pension received by the deceased Member.
Tier 5 (§4.2008, §4.2008.5)	If former Tier 2 member, 40% of highest monthly salary as of Member's death for basic rank of Police Officer III or Firefighter III, and the highest length of service pay. For members who are not former Tier 2, 60% of the pension received by the deceased Member.
Tier 6 (§1708)	70% of the pension received by the deceased Member.
Deferred Pension Option:	
Eligibility	
Tier 3 (§1504)	10 years of service. Receive service pension at age 50.
Tier 5, Tier 6 (§4.2004, §1704)	20 years of service. Receive service pension at age 50.
Benefit	Member is entitled to receive a service pension using Tier 3 retirement formula.
Cost-of-Living Adjustment (COLA):	
Tier 1 & Tier 2 (§1328, §1422)	Commencing July 1 based on changes to Los Angeles area consumer price index.
Tier 3 & Tier 4 (§1516, §1616)	Commencing July 1 based on changes to Los Angeles area consumer price index to a maximum of 3% per year. COLA is prorated in the first year of retirement.
Tier 5 & Tier 6 (§4.2016, §1716)	Commencing July 1 based on changes to Los Angeles area consumer price index to a maximum of 3% per year, excess banked. COLA is prorated in the first year of retirement.

Member Normal Contributions:	Members are exempt from making contributions if their continuous service exceeds 30 years for Tiers 1 through 4, and 33 years for Tier 5 and Tier 6. Members not in Tier 6 may pay a 2% contribution on their base salary retroactive to August 15, 2011 for a period of 25 years or until retired from the Plan to avoid a freeze on their retiree health subsidy.
Tier 1 (§1324)	Normal contribution rate of 6%.
Tier 2 (§1420)	Normal contribution rate of 6% plus half of the cost of the cost of living benefit to a maximum of 1%.
Tier 3 (§1514)	Normal contribution rate of 8%.
Tier 4 (§1614)	Normal contribution rate of 8%.
Tier 5 (§4.2014)	Normal contribution rate of 9% with the City of Los Angeles paying 1% provided that the Plan is at least 100% actuarially funded for pension benefits.
Tier 6 (§1714)	Normal contribution rate of 9%, plus 2% additional contributions to support funding of retiree health benefits. The additional 2% contributions shall not be required for members with more than 25 years of service. Normal contribution rate for Airport Police who transferred from Los Angeles City Employees' Retirement System (LACERS) is 11% until June 30, 2026. Thereafter, contribution rate is 10% for transferred Airport Police with more than 25 years of service.
Changes in Plan Provisions:	There have been no changes in Plan provisions since the prior valuation.

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

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City of Los Angeles Fire and Police Pension Plan

Actuarial Valuation and Review of Other Postemployment Benefits (OPEB)

As of June 30, 2021

Segal

180 Howard Street, Suite 1100
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November 10, 2021

Board of Fire and Police Pension Commissioners
City of Los Angeles Fire and Police Pension Plan
701 East 3rd Street, Suite 200
Los Angeles, CA 90013

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review of Other Postemployment Benefits (OPEB) as of June 30, 2021. The report summarizes the actuarial data used in the valuation, establishes the Actuarially Determined Contribution (ADC) for the coming year, and analyzes the preceding year's experience. The census information and financial information on which our calculations were based was prepared by Los Angeles Fire and Police Pensions (LAFPP). That assistance is gratefully acknowledged. The actuarial calculations were completed under the supervision of Andy Yeung, ASA, MAAA, FCA, Enrolled Actuary. The health care trend and other related medical assumptions have been reviewed by Melissa Krumholz, FSA, MAAA.

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 Section 4, Exhibit 2 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 Section 4, Exhibit 3.

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 retiree health benefits offered by the City of Los Angeles Fire and Police Pension Plan as of June 30, 2021. The results of the valuation for financial reporting purposes consistent with Governmental Accounting Standards (GAS) Board Statement No. 74 are provided in a separate report.

Highlights of the Valuation

- The recommended contribution rate has decreased from 12.10% of payroll ($203.9 million) to 11.57% of payroll ($194.9 million), assuming contributions are made by the City at the beginning of the fiscal year. A reconciliation of the employer's rate, if made at the beginning of the fiscal year, is provided in Section 2, Subsection E.
- On a valuation value of asset basis, the funded ratio has increased from 59.7% to 64.7% in this valuation. On a market value of asset basis, the funded ratio has increased from 57.8% to 76.1%. The unfunded actuarial accrued liability (UAAL) has decreased from $1.495 billion to $1.337 billion. A reconciliation of the change in the UAAL is provided in Section 2, Subsection B.
- The primary reason for the decrease in the recommended contribution rate and the increase in the funded ratio since the prior valuation is that, on average, health premiums and subsidies for 2021/2022 were lower than projected in the prior valuation. This was due in part to the Board's action to increase the maximum non-Medicare subsidy by 2.00%, which is lower than the 4.75% assumed in the prior valuation. The plan also experienced a higher than expected return on the Valuation Value of Assets (after smoothing). These experience gains were offset somewhat by the updated trend assumption.
- LAFPP has three membership categories: Fire and Police ("City"), Harbor Port Police and Airport Police. LAFPP tracks contributions and benefit payments separately for the three membership categories and reports them to Segal. Segal then uses those amounts in developing separate Valuation Value of Assets and UAAL contribution rates for each of the three membership categories. Following established practice, upon the completion of the June 30, 2020 valuation, Segal identified 2 members who had transferred between the three membership categories during the period July 1, 2019 to June 30, 2020. LAFPP is expected to report benefit payments for these 2 members based on their most recent membership category immediately before their retirement. Consistent with that practice, we have reflected in this valuation a transfer of assets accumulated in the prior membership category to the new membership category (about $178 thousand primarily from Fire and Police to Airport Police).
- The funding method used to develop the Actuarially Determined Contribution (ADC) is the Entry Age method, with the Normal Cost developed as a level percent of payroll. With the exception of the UAAL for Tier 1 (which is amortized as a level dollar amount), the contribution to amortize the UAAL is developed as a level percent of payroll.

Section 1: Actuarial Valuation Summary

- As directed by the Board at its meeting on September 15, 2021, we will prepare an analysis before the June 30, 2022 valuation so that the Board can consider amortizing the Plan's Unfunded Actuarial Accrued Liability (UAAL) only by source (instead of the current practice of amortizing by source and by tier).
- As indicated in Section 3, Exhibit H of this report, the total unrecognized investment gain as of June 30, 2021 is $4.606 billion for the assets for Retirement and Health Subsidy Benefits. This investment gain will be recognized in the determination of the Actuarial Value of Assets for funding purposes in the next few years. For comparison purposes, the total unrecognized investment loss as of June 30, 2020 was $780.9 million.

  The unrecognized investment gains of $4.606 billion represent 15% of the market value of assets as of June 30, 2021. Unless offset by future investment losses, or other favorable experience, the recognition of the $4.606 billion market gains is expected to have an impact on the Health Plan's future funded percentage and contribution rate requirements. This potential impact may be illustrated as follows:
  - If the deferred gains were recognized immediately in the valuation value of assets, the funded percentage would increase from 64.7% to 76.1%. For comparison purposes, if the deferred losses in the June 30, 2020 valuation had been recognized immediately in the June 30, 2020 valuation, the funded percentage in that valuation would have been decreased from 59.7% to 57.8%.
  - If the deferred gains were recognized immediately in the valuation value of assets, the aggregate employer rate (payable beginning of the fiscal year) would decrease from 11.57% to 9.81% of payroll. For comparison purposes, if the deferred losses in the June 30, 2020 valuation had been recognized immediately in the June 30, 2020 valuation, the aggregate employer rate (payable beginning of the fiscal year) would have increased from 12.10% to 12.39% of payroll.
- The City has implemented a Retirement Incentive Pay (RIP) program to allow sworn employees retiring or entering DROP to include deferred salary increases as part of their pension benefit calculation or to apply them toward their accrued leave payout at retirement. Under the RIP such deferred salary increases are treated like a pensionable bonus equivalent to the base wage increase that the unions agreed to defer for a period of time as previously scheduled. We understand that about 300 employees have chosen to participate in the RIP but the majority of those were still active as of June 30, 2021. Any associated change in payroll and/or liability when those members enter DROP or retire will be reflected in a future valuation.
- The actuarial valuation report as of June 30, 2021 is based on financial and demographic information as of that date. Changes subsequent to that date are not reflected and may impact the actuarial cost of the Plan.
- The employer contribution rates provided in this report have been developed assuming that they will be made by the City either (1) throughout the year (i.e. the City will pay contributions at the end of every pay period), (2) on July 15 or (3) the beginning of the year.
- As noted above, the GAS 74 report with a measurement date of June 30, 2021 for financial reporting purposes for the Plan is provided as a separate report.

Section 1: Actuarial Valuation Summary

- The GAS 75 report with a measurement date of June 30, 2021 for financial reporting purposes for the employer (with a reporting date of June 30, 2022) will be provided in the first or second quarter of next year.
- As noted above this actuarial valuation is based on plan assets as of June 30, 2021. Due to the COVID-19 pandemic, market conditions have changed significantly since the onset of the Public Health Emergency. The Plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the Plan Year. Also, this valuation does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after June 30, 2021. While it is impossible to determine how the pandemic will continue to affect market conditions prior to next year's valuation, Segal is available to prepare projections of potential outcomes upon request.

Summary of Valuation Results

		June 30, 2021	June 30, 2020
Actuarially Determined Contribution (ADC)[1]	At the beginning of year	11.57%	12.10%
	On July 15	11.60%	12.13%
	At the end of each biweekly pay period	11.97%	12.52%
Actuarial Accrued Liability as of June 30:	Retired members and beneficiaries	$2,063,360,153	$2,010,050,484
	Inactive vested members	152,574,403	133,285,663
	Active members	1,577,239,479	1,566,522,134
	Total Actuarial Accrued Liability	3,793,174,035	3,709,858,281
	Normal Cost for plan year beginning June 30[2]	79,824,865	81,808,857
Assets as of June 30:	Market Value of OPEB Assets	$2,888,310,382	$2,143,448,187
	Valuation Value of OPEB Assets (VVA)	2,455,726,001	2,214,551,726
	VVA as a percentage of Market Value of OPEB Assets	85.0%	103.3%
Funded status as of June 30:	Unfunded Actuarial Accrued Liability on Market Value of Retirement Assets basis	904,863,653	$1,566,410,094
	Funded percentage on MVA basis	76.14%	57.78%
	Unfunded Actuarial Accrued Liability on Valuation Value of Retirement Assets basis	1,337,448,034	$1,495,306,555
	Funded percentage on VVA basis[3]	64.74%	59.69%
Key assumptions	Net investment return	7.00%	7.00%
	Price Inflation	2.75%	2.75%
	Payroll growth	3.25%	3.25%
Demographic Data as of June 30:	Number of retired members and beneficiaries	11,439	11,289
	Number of inactive members eligible for deferred benefits	948	875
	Number of active members	12,823	13,486
	Projected compensation	$1,684,784,966	$1,670,245,276

[1] Rates as of June 30, 2020 are recalculated to reflect payroll of active members enrolled in the various tiers as of June 30, 2021. There is a change in the total aggregate rate determined in the June 30, 2020 valuation calculated using the 2020 projected payroll by tier compared to that total aggregate rate recalculated above using the 2021 projected payroll by tier as a result of new members entering Tier 6 and active members leaving the other Tiers.

[2] Normal Cost as of June 30, 2020 is recalculated to reflect payroll of active members enrolled in the various tiers as of June 30, 2021, as described above

[3] The funded ratios on VVA basis excluding Harbor Port Police and Airport Police Officers are 64.6% and 59.6% as of June 30, 2021 and June 30, 2020, respectively.

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 LAFPP. 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 LAFPP.
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.

Section 1: Actuarial Valuation Summary

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. Our per capita cost assumptions are based on proprietary modeling software as well as models that were developed by others. These models generate demographic factors that are used in our valuation software. Our Health Technical Services Unit, comprised of actuaries and programmers, is responsible for the initial development and maintenance of our health models. They are also responsible for testing models that we purchase from other vendors for reasonableness. The client team inputs the demographic data, enrollments, plan provisions and assumptions into these models and reviews the results for reasonableness, under the supervision of the responsible actuary.

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 LAFPP. 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 LAFPP 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. LAFPP should look to their other advisors for expertise in these areas.
- Sections of this report include actuarial results that are not rounded, but that does not imply precision.
- Critical events for a plan include, but are not limited to, decisions about changes in benefits and contributions. The basis for such decisions needs to consider many factors such as the risk of changes in plan enrollment, emerging claims experience, health care trend, and investment losses, not just the current valuation results.
- While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.

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

Actuarial Certification

November 10, 2021

This is to certify that Segal has conducted an actuarial valuation of certain benefit obligations of the City of Los Angeles Fire and Police Pension Plan's other postemployment benefit (OPEB) program as of June 30, 2021, in accordance with generally accepted actuarial principles and practices.

The actuarial valuation is based on the plan of benefits verified by LAFPP and reliance on participant, premium, claims and expense data provided by LAFPP. Segal has not audited the data provided. The accuracy and comprehensiveness of the data is the responsibility of those supplying the data. Segal, however, has reviewed the data for reasonableness and consistency.

One of the general goals of an actuarial valuation is to establish contributions that fully fund the OPEB Plan'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 Statements No. 74 and judging benefit security at termination of the plan.

To the best of our knowledge, this report is complete and accurate and in our opinion presents the information necessary to fund the Plan with respect to the benefit obligations addressed. The signing actuaries are members of the Society of Actuaries, the American Academy of Actuaries, and other professional actuarial organizations and collectively meet their "General Qualification Standards for Statements of Actuarial Opinions" to render the actuarial opinion contained herein.

Andy Yeung

Melissa A. Krumholz

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

Melissa A. Krumholz, FSA, MAAA
Senior Health Consultant

Section 2: Actuarial Valuation Results

A. Actuarial Present Value of Total Projected Benefits 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	
	June 30, 2021	**June 30, 2020**
Participant Category		
Current retirees, beneficiaries, and dependents	$2,063,360,153	$2,010,050,484
Current active members	2,483,432,392	2,493,940,077
Terminated members entitled but not yet eligible and retirees and beneficiaries with deferred health benefits	152,574,403	133,285,663
Total	**$4,699,366,948**	**$4,637,276,224**

	Actuarial Balance Sheet	
	June 30, 2021	**June 30, 2020**
Assets		
1. Valuation value of assets	$2,455,726,001	$2,214,551,726
2. Present value of future normal costs	906,192,913	927,417,943
3. Unfunded actuarial accrued liability	1,337,448,034	1,495,306,555
4. Present value of current and future assets	**$4,699,366,948**	**$4,637,276,224**
Liabilities		
5. Actuarial present value of total projected benefits	**$4,699,366,948**	**$4,637,276,224**

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

The actuarial accrued liability shows that portion of the actuarial present value of total projected benefits 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, 2021	June 30, 2020
Participant Category		
Current retirees, beneficiaries, and dependents	$2,063,360,153	$2,010,050,484
Current active members	1,577,239,479	1,566,522,134
Terminated members entitled but not yet eligible and retirees and beneficiaries with deferred health benefits	152,574,403	133,285,663
Total actuarial accrued liability	**$3,793,174,035**	**$3,709,858,281**
Valuation value of assets	2,455,726,001	2,214,551,726
Unfunded actuarial accrued liability	**$1,337,448,034**	**$1,495,306,555**
Development of Unfunded Actuarial Accrued Liability for the Year Ended June 30, 2021		
1. Unfunded actuarial accrued liability at beginning of year		**$1,495,306,555**
2. Normal cost and allocated administrative expenses from prior valuation		82,393,679
3. Expected employer contributions during 2020/2021fiscal year		201,202,725
4. Interest on prior year UAAL, normal cost and contributions		96,354,826
5. Expected unfunded actuarial accrued liability (1 + 2 – 3 + 4)		**$1,472,852,335**
6. Change due to investment experience (after smoothing)		-31,672,187
7. Change due to actual contributions less than expected		1,436,347
8. Change due to updated 2021/2022 premium and subsidy levels[1]		-268,466,464
9. Change due to updated future trend assumptions for medical costs		154,810,015
10. Change due to miscellaneous demographic experience		8,487,988
11. Unfunded actuarial accrued liability as of June 30, 2021		**$1,337,448,034**

[1] The decrease in UAAL due to the non-Medicare subsidy increasing by 2.00% instead of the assumed 4.75% was $7,388,462.

C. Table of Amortization Bases

Amortization payments are calculated as level dollar amounts for Tier 1 and as amounts designed to remain level as a percent of a growing payroll base for all other tiers. The Board of the City of Los Angeles Fire and Police Pension Plan has elected to amortize the unfunded actuarial accrued liability using the following amortization periods:

Type of Base	Amortization Period (Closed)
Actuarial gains or losses	20
Assumption or method changes from Triennial Experience Study	20
Retiree health assumption changes[1]	20
Plan amendments	15
ERIPs	5
Actuarial surplus	30

[1] Retiree health assumption changes are included with experience gains and losses in the funding valuation.

Tier 1

Type[1]	Date Established	Initial Balance	Initial Period	Outstanding Balance	Years Remaining	Annual Payment[2]
Combined Base	06/30/2011[3]	$26,295,692	25	$20,782,131	15	$2,132,492
Experience Gain	06/30/2012	-3,862,723	20	-2,764,034	11	-344,489
Experience Loss	06/30/2013	568,696	20	430,063	12	50,604
Experience Gain	06/30/2014	-116,336	20	-92,371	13	-10,329
Assumption Change	06/30/2014	-170,349	25	-147,841	18	-13,736
Experience Gain	06/30/2015	-350,770	20	-290,997	14	-31,097
Experience Gain	06/30/2016	-1,578,952	20	-1,362,210	15	-139,779
Assumption Change	06/30/2017	967,229	20	864,281	16	85,505
Experience Gain	06/30/2017	-1,175,982	20	-1,050,815	16	-103,960
Experience Gain	06/30/2018	-980,558	20	-904,902	17	-86,621
Assumption Change	06/30/2019	-485,797	20	-461,579	18	-42,885
Experience Gain	06/30/2019	-1,435,708	20	-1,364,134	18	-126,740
Assumption Change	06/30/2020	145,819	20	142,262	19	12,864
Experience Gain	06/30/2020	-919,453	20	-897,025	19	-81,112
Experience Gain	06/30/2021	-576,229	20	-576,229	20	-50,834
Total				**$12,306,600**		**$1,249,883**

[1] Experience gain and loss layers include changes in retiree health assumptions.
[2] Level dollar amortization
[3] Prior to the June 30, 2012 valuation, separate amortization layers were not maintained.

Section 2: Actuarial Valuation Results

Tier 2

Type[1]	Date Established	Initial Balance	Initial Period	Outstanding Balance	Years Remaining	Annual Payment[2]
Combined Base	06/30/2011[3]	$892,673,992	25	$909,105,032	15	$76,883,325
Experience Gain	06/30/2012	-78,975,844	20	-69,957,752	11	-7,553,558
Experience Loss	06/30/2013	11,740,672	20	10,715,277	12	1,078,324
Experience Gain	06/30/2014	-19,495,604	20	-18,206,600	13	-1,719,434
Assumption Change	06/30/2014	9,333,499	25	9,622,213	18	711,681
Experience Loss	06/30/2015	34,495,425	20	32,849,342	14	2,928,371
Experience Gain	06/30/2016	-26,904,116	20	-25,994,100	15	-2,198,330
Assumption Change	06/30/2017	65,323,379	20	63,755,893	16	5,137,433
Experience Gain	06/30/2017	-42,827,148	20	-41,799,477	16	-3,368,191
Experience Loss	06/30/2018	17,399,406	20	17,155,292	17	1,322,167
Assumption Change	06/30/2019	-24,391,246	20	-24,213,042	18	-1,790,853
Experience Gain	06/30/2019	-60,756,692	20	-60,312,800	18	-4,460,874
Assumption change	06/30/2020	15,952,055	20	15,895,936	19	1,131,661
Experience Gain	06/30/2020	-43,864,391	20	-43,710,078	19	-3,111,801
Experience Gain	06/30/2021	-42,735,005	20	-42,735,005	20	-2,936,253
Total				**$732,170,131**		**$62,053,668**

[1] Experience gain and loss layers include changes in retiree health assumptions.
[2] Level percentage of payroll amortization
[3] Prior to the June 30, 2012 valuation, separate amortization layers were not maintained.

Tier 3

Type[1]	Date Established	Initial Balance	Initial Period	Outstanding Balance	Years Remaining	Annual Payment[2]
Combined Base	06/30/2011[3]	$68,153,341	25	$69,407,808	15	$5,869,842
Experience Gain	06/30/2012	-4,428,062	20	-3,922,431	11	-423,517
Experience Loss	06/30/2013	13,070,888	20	11,929,316	12	1,200,498
Experience Gain	06/30/2014	-7,497,023	20	-7,001,337	13	-661,207
Assumption Change	06/30/2014	2,693,968	25	2,777,298	18	205,415
Experience Gain	06/30/2015	-1,747,416	20	-1,664,031	14	-148,341
Experience Loss	06/30/2016	2,480,551	20	2,396,647	15	202,685
Assumption Change	06/30/2017	11,598,633	20	11,320,314	16	912,188
Experience Gain	06/30/2017	-10,568,753	20	-10,315,148	16	-831,192
Experience Loss	06/30/2018	2,430,745	20	2,396,642	17	184,710
Assumption Change	06/30/2019	6,680,084	20	6,631,280	18	490,465
Experience Gain	06/30/2019	-16,170,110	20	-16,051,971	18	-1,187,241
Assumption Change	06/30/2020	10,073,172	20	10,037,735	19	714,605
Experience Gain	06/30/2020	-14,235,840	20	-14,185,759	19	-1,009,910
Experience Gain	06/30/2021	-13,734,602	20	-13,734,602	20	-943,682
Total				**$50,021,761**		**4,575,318**

[1] Experience gain and loss layers include changes in retiree health assumptions.
[2] Level percentage of payroll amortization
[3] Prior to the June 30, 2012 valuation, separate amortization layers were not maintained.

Tier 4

Type[1]	Date Established	Initial Balance	Initial Period	Outstanding Balance	Years Remaining	Annual Payment[2]
Combined Base	06/30/2011[3]	$49,380,711	25	$50,289,639	15	$4,253,012
Experience Gain	06/30/2012	-3,240,833	20	-2,870,769	11	-309,966
Experience Loss	06/30/2013	1,622,876	20	1,481,138	12	149,053
Experience Gain	06/30/2014	-6,372,636	20	-5,951,293	13	-562,041
Assumption Change	06/30/2014	4,070,034	25	4,195,933	18	310,341
Experience Gain	06/30/2015	-3,458,772	20	-3,293,723	14	-293,621
Experience Loss	06/30/2016	2,516,035	20	2,430,932	15	205,585
Assumption Change	06/30/2017	6,027,503	20	5,882,867	16	474,040
Experience Gain	06/30/2017	-4,896,151	20	-4,778,665	16	-385,064
Experience Loss	06/30/2018	1,422,225	20	1,402,271	17	108,074
Assumption Change	06/30/2019	3,344,627	20	3,320,191	18	245,569
Experience Gain	06/30/2019	-7,119,541	20	-7,067,525	18	-522,731
Assumption Change	06/30/2020	4,618,974	20	4,602,725	19	327,676
Experience Gain	06/30/2020	-7,849,466	20	-7,821,852	19	-556,852
Experience Gain	06/30/2021	-8,396,382	20	-8,396,382	20	-576,902
Total				**$33,425,487**		**$2,866,173**

1 Experience gain and loss layers include changes in retiree health assumptions.
2 Level percentage of payroll amortization
3 Prior to the June 30, 2012 valuation, separate amortization layers were not maintained.

Tiers 5 and 6 (without Harbor Port Police)

Type[1]	Date Established	Initial Balance	Initial Period	Outstanding Balance	Years Remaining	Annual Payment[2]
Combined Base	06/30/2011[3]	$635,657,540	25	$647,357,797	15	$54,747,271
Experience Gain	06/30/2012	-36,520,953	20	-32,350,698	11	-3,493,006
Experience Gain	06/30/2013	-195,938	20	-178,825	12	-17,996
Experience Gain	06/30/2014	-85,025,359	20	-79,403,685	13	-7,498,896
Assumption Change	06/30/2014	45,164,286	25	46,561,355	18	3,443,786
Experience Gain	06/30/2015	-5,944,485	20	-5,660,820	14	-504,637
Experience Gain	06/30/2016	-6,139,038	20	-5,931,388	15	-501,620
Assumption Change	06/30/2017	128,177,438	20	125,101,719	16	10,080,664
Experience Gain	06/30/2017	-72,934,341	20	-71,184,223	16	-5,736,006
Experience Loss	06/30/2018	26,485,437	20	26,113,848	17	2,012,607
Assumption Change	06/30/2019	67,742,714	20	67,247,783	18	4,973,802
Experience Gain	06/30/2019	-113,760,430	20	-112,929,289	18	-8,352,512
Assumption Change	06/30/2020	89,652,854	20	89,337,459	19	6,360,098
Experience Gain	06/30/2020	-117,618,807	20	-117,205,029	19	-8,344,042
Experience Gain	06/30/2021	-68,917,936	20	-68,917,936	20	-4,735,239
Total				**$507,958,068**		**$42,434,274**

1 Experience gain and loss layers include changes in retiree health assumptions.
2 Level percentage of payroll amortization
3 Prior to the June 30, 2012 valuation, separate amortization layers were not maintained.

Harbor Port Police (Tiers 5 and 6)

Type[1]	Date Established	Initial Balance	Initial Period	Outstanding Balance	Years Remaining	Annual Payment[2]
Combined Base	06/30/2011[3]	$2,555,060	25	$2,602,089	15	$220,060
Experience Gain	06/30/2012	-481,777	20	-426,763	11	-46,079
Experience Gain	06/30/2013	-71,817	20	-65,545	12	-6,596
Experience Gain	06/30/2014	-232,604	20	-217,225	13	-20,515
Assumption Change	06/30/2014	296,216	25	305,378	18	22,586
Experience Gain	06/30/2015	-64,131	20	-61,071	14	-5,444
Experience Loss	06/30/2016	181,052	20	174,927	15	14,794
Assumption Change	06/30/2017	873,251	20	852,298	16	68,678
Experience Gain	06/30/2017	-786,387	20	-767,517	16	-61,846
Experience Loss	06/30/2018	30,735	20	30,303	17	2,335
Assumption Change	06/30/2019	711,636	20	706,436	18	52,250
Experience Gain	06/30/2019	-255,031	20	-253,168	18	-18,725
Assumption Change	06/30/2020	616,238	20	614,070	19	43,717
Experience Gain	06/30/2020	-1,450,842	20	-1,445,738	19	-102,925
Experience Gain	06/30/2021	-966,115	20	-966,115	20	-66,380
Total				**$1,082,359**		**$95,910**

[1] Experience gain and loss layers include changes in retiree health assumptions.
[2] Level percentage of payroll amortization
[3] Prior to the June 30, 2012 valuation, separate amortization layers were not maintained.

Section 2: Actuarial Valuation Results

Airport Police Tier 6

Type[1]	Date Established	Initial Balance	Initial Period	Outstanding Balance	Years Remaining	Annual Payment[2]
Experience Loss	06/30/2018	$661,802	20	$652,516	17	$50,290
Assumption Change	06/30/2019	102,223	20	101,476	18	7,505
Experience Gain	06/30/2019	-202,123	20	-200,646	18	-14,840
Assumption Change	06/30/2020	3,738	20	3,725	19	265
Experience Loss	06/30/2020	4,606	20	4,590	19	327
Experience Gain	06/30/2021	-78,033	20	-78,033	20	-5,362
Total				**$483,628**		**$38,185**

[1] Experience gain and loss layers include changes in retiree health assumptions.
[2] Level percentage of payroll amortization

Section 2: Actuarial Valuation Results

All Tiers Combined

Type[1]	Date Established	Initial Balance	Initial Period	Outstanding Balance	Years Remaining	Annual Payment[2]
Combined Base	06/30/2011[3]	$1,648,420,644	25	$1,678,762,365	15	$141,973,510
Combined Base Tier 1	06/30/2011[3]	26,295,692	25	20,782,131	15	2,132,492
Experience Gain	06/30/2012	-123,647,469	20	-109,528,413	11	-11,826,126
Experience Gain Tier 1	06/30/2012	-3,862,723	20	-2,764,034	11	-344,489
Experience Loss	06/30/2013	26,166,681	20	23,881,361	12	2,403,283
Experience Loss Tier 1	06/30/2013	568,696	20	430,063	12	50,604
Experience Gain	06/30/2014	-118,623,226	20	-110,780,140	13	-10,462,093
Assumption Change	06/30/2014	61,558,003	25	63,462,177	18	4,693,809
Experience Gain Tier 1	06/30/2014	-116,336	20	-92,371	13	-10,329
Assumption Change Tier 1	06/30/2014	-170,349	25	-147,841	18	-13,736
Experience Loss	06/30/2015	23,280,621	20	22,169,697	14	1,976,328
Experience Gain Tier 1	06/30/2015	-350,770	20	-290,997	14	-31,097
Experience Gain	06/30/2016	-27,865,516	20	-26,922,982	15	-2,276,886
Experience Gain Tier 1	06/30/2016	-1,578,952	20	-1,362,210	15	-139,779
Assumption Change	06/30/2017	212,000,204	20	206,913,091	16	16,673,003
Experience Gain	06/30/2017	-132,012,780	20	-128,845,030	16	-10,382,299
Assumption Change Tier 1	06/30/2017	967,229	20	864,281	16	85,505
Experience Gain Tier 1	06/30/2017	-1,175,982	20	-1,050,815	16	-103,960
Experience Loss	06/30/2018	48,430,350	20	47,750,872	17	3,680,183
Experience Gain Tier 1	06/30/2018	-980,558	20	-904,902	17	-86,621
Assumption Change	06/30/2019	54,190,038	20	53,794,124	18	3,978,738
Experience Gain	06/30/2019	-198,263,927	20	-196,815,399	18	-14,556,923
Assumption Change Tier 1	06/30/2019	-485,797	20	-461,579	18	-42,885
Experience Gain Tier 1	06/30/2019	-1,435,708	20	-1,364,134	18	-126,740

[1] Experience gain and loss layers include changes in retiree health assumptions.
[2] Level percentage of payroll amortization, except for Tier 1 is expressed as a level dollar amortization.
[3] Prior to the June 30, 2012 valuation, separate amortization layers were not maintained.

All Tiers Combined

Type[1]	Date Established	Initial Balance	Initial Period	Outstanding Balance	Years Remaining	Annual Payment[2]
Assumption Change	06/30/2020	120,917,031	20	120,491,650	19	8,578,022
Experience Gain	06/30/2020	-185,014,740	20	-184,363,866	19	-13,125,203
Assumption Change Tier 1	06/30/2020	145,819	20	142,262	19	12,864
Experience Gain Tier 1	06/30/2020	-919,453	20	-897,025	19	-81,112
Experience Gain	06/30/2021	-134,828,073	20	-134,828,073	20	-9,263,818
Experience Gain Tier 1	06/30/2021	-576,229	20	-576,229	20	-50,834
Total				**$1,337,448,034**		**$113,313,411**

[1] Experience gain and loss layers include changes in retiree health assumptions.
[2] Level percentage of payroll amortization, except for Tier 1 is expressed as a level dollar amortization.

D. Development of Actuarially Determined Contribution (ADC)

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 and a payment for administrative expenses separately for each Tier. They are determined as of the start of the period and adjusted as if the annual cost were to be contributed throughout the fiscal year or on July 15th.

	Description	Determined as of June 30			
		2021		2020	
		Amount	Percentage of Compensation	Amount[1]	Percentage of Compensation
1.	Normal cost	$79,824,865	4.73%	$81,808,857	4.85%
2.	Amortization of the unfunded actuarial accrued liability	113,313,411	6.73%	120,253,281	7.14%
3.	Allocated amount for administrative expenses	1,791,617	0.11%	1,791,617	0.11%
4.	**Total actuarially determined contribution at beginning of year**	**$194,929,893**	**11.57%**	**$203,853,755**	**12.10%**
5.	Adjustment for timing (payable July 15)	550,304	0.03%	575,497	0.03%
6.	**Total actuarially determined contribution (payable July 15)**	**$195,480,197**	**11.60%**	**$204,429,252**	**12.13%**
7.	Adjustment for timing (payable throughout the year)	6,707,156	0.40%	7,014,209	0.42%
8.	**Total actuarially determined contribution (payable throughout the year)**	**$201,637,049**	**11.97%**	**$210,867,964**	**12.52%**
9.	Projected Compensation	$1,684,784,966		N/A	

[1] Amounts are revised to reflect payroll as of June 30, 2021.

E. Reconciliation of Recommended Contribution from June 30, 2020 to June 30, 2021[1]

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

1. Recommended Contribution as of June 30, 2020	**12.05%**
2. Effect of amortizing prior year's UAAL over a smaller than expected projected compensation	0.17%
3. Change due to investment gain (after smoothing)	-0.13%
4. Change due to updated 2021/2022 premium and subsidy levels[2]	-1.41%
5. Change due to updated future trend assumptions for medical costs	0.89%
6. Total change	-0.48%
7. Recommended Contribution as of June 30, 2021	**11.57%**

[1] Based on contributions at beginning of year.
[2] Decrease in contribution rate due to non-Medicare subsidy increasing by 2.00% instead of assumed 4.75% was 0.05%.

F. Schedule of Employer Contributions

Fiscal Year Ended June 30	Actuarially Determined Contributions[1]	Actual Contributions[1]	Percentage Contributed
2016	$150,315,374	$150,315,374	100.00%
2017	165,170,422	165,170,422	100.00%
2018	178,462,244[2]	178,462,244[2]	100.00%
2019	188,019,917	188,019,917	100.00%
2020	193,213,520	193,213,520	100.00%
2021	200,424,568	200,424,568	100.00%

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.

G. Schedule of Funding Progress

(Amounts in $1,000s)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b) - (a) / (c)]
06/30/2016	$1,480,810	$3,079,670	$1,598,860	48.08%	$1,400,808	114.14%
06/30/2017	1,637,846	3,322,746	1,684,900	49.29%	1,475,539	114.19%
06/30/2018	1,819,359	3,547,777	1,728,417	51.28%	1,546,043	111.80%
06/30/2019	2,016,202	3,590,023	1,573,821	56.16%	1,583,808	99.37%
06/30/2020	2,214,552	3,709,858	1,495,307	59.69%	1,670,245	89.53%
06/30/2021	2,455,726	3,793,174	1,337,448	64.74%	1,684,785	79.38%

1 Payable as of July 15.
2 Excludes $517,068 transferred from LACERS for the Airport Police members who elected to join LAFPP Tier 6.

Section 3: Supplemental Information

Exhibit A: Summary of Participant Data

Retiree Health Actuarial Valuation

	June 30, 2021	June 30, 2020
Retired Members		
Number of non-disabled retirees	8,592	8,381
Number of disabled retirees	1,158	1,215
Total Number of Retirees	9,750	9,596
Average age of retirees	71.3	71.4
Number of spouses/domestic partners of retirees receiving subsidy	6,470	6,365
Average age of spouses/domestic partners of retirees receiving subsidy	67.9	67.9
Beneficiaries		
Number	1,689	1,693
Average age	80.2	80.3
Active Members in Valuation		
Number	12,823	13,486
Average age	42.7	42.2
Average years of service	15.7	15.2
Vested Terminated Members		
Number		
• Eligible for deferred pension and health benefits	59	62
• Retirees and beneficiaries not in pay status but eligible for deferred health benefits	889	813
Total Number of Vested Terminated Members	948	875
Average age	50.9	51.6

Summary of Participant Data (continued)

Pension Actuarial Valuation

	June 30, 2021	June 30, 2020
Retired Members		
Number of non-disabled retirees	9,338	9,049
Number of disabled retirees	1,706	1,767
Total Number of Retirees	11,044	10,816
Average age of retirees	70.3	70.4
Beneficiaries		
Number	2,483	2,475
Average age	76.1	76.5
Active Members in Valuation		
Number	12,823	13,486
Average age	42.7	42.2
Average years of service	15.7	15.2
Vested Terminated Members[1]		
Number	59	62
Average age	48.7	48.2

[1] Excludes 574 in 2021 and 513 in 2020 of terminated members not eligible for retiree health benefit due to service or due only a refund of member contributions.

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

	June 30, 2021	June 30, 2020
Retired Members		
Pension valuation	9,338	9,049
Retirees with no subsidy due to service or decision not to enroll	-194	-176
Deferred retirees eligible for future health benefits	-552	-492
Health valuation	**8,592**	**8,381**
Disabled Members		
Pension valuation	1,706	1,767
Disableds with no subsidy due to service or decision not to enroll	-411	-415
Deferred disableds eligible for future health benefits	-137	-137
Health valuation	**1,158**	**1,215**
Beneficiaries		
Pension valuation	2,483	2,475
Surviving spouses with no subsidy due to service or decision not to enroll	-594	-598
Deferred surviving spouses eligible for future health benefits	-200	-184
Health valuation	**1,689**	**1,693**
Active Members		
Pension valuation	12,823	13,486
Health valuation	12,823	13,486
Vested Terminated Members		
Pension valuation[1]	59	62
Retirees eligible for deferred health benefits	+552	+492
Disableds eligible for deferred health benefits	+137	+137
Beneficiaries eligible for deferred health benefits	+200	+184
Health valuation	**948**	**875**

[1] Excludes 574 in 2021 and 513 in 2020 terminated members not eligible for retiree health benefit due to service or due only a refund of member contributions.

Exhibit C: Recommended Employer Contribution Rates

	Tier 1 Members	June 30, 2021		June 30, 2020	
		Amount	**% of Payroll**	**Amount**	**% of Payroll**
1.	Employer normal cost	$0	N/A	$0	N/A
2.	Actuarial accrued liability	7,989,855		8,905,208	
3.	Valuation value of assets	-4,316,745		-4,435,536	
4.	Unfunded actuarial accrued liability	12,306,600		13,340,744	
5.	Amortization of unfunded accrued liability	1,249,883	N/A	1,300,717	N/A
6.	Allocated amount for admin expenses, calculated with payroll in 10	0		0	
7.	**Total recommended contribution, July 1**	**$1,249,883**	**N/A**	**$1,300,717**	**N/A**
8.	**Total recommended contribution, July 15**	**$1,253,412**	**N/A**	**$1,304,389**	**N/A**
9.	**Total recommended contribution, biweekly**	**$1,292,889**	**N/A**	**$1,345,472**	**N/A**
10.	Projected compensation used for developing normal cost rate	N/A		N/A	

	Tier 2 Members	June 30, 2021		June 30, 2020	
		Amount	**% of Payroll**	**Amount**[1]	**% of Payroll**
1.	Employer normal cost	$23,732	3.23%	$26,094	3.55%
2.	Actuarial accrued liability	738,909,510		795,717,694	
3.	Valuation value of assets	6,739,379		8,563,052	
4.	Unfunded actuarial accrued liability	732,170,131		787,154,642	
5.	Amortization of unfunded accrued liability[2]	62,053,668	3.74%	63,542,335	3.83%
6.	Allocated amount for admin expenses, calculated with payroll in 10	782	0.11%	782	0.11%
7.	**Total recommended contribution, July 1**	**$62,078,182**	**N/A**	**$63,569,211**	**N/A**
8.	**Total recommended contribution, July 15**	**$62,253,434**	**N/A**	**$63,748,672**	**N/A**
9.	**Total recommended contribution, biweekly**	**$64,214,171**	**N/A**	**$65,756,503**	**N/A**
10.	Projected compensation used for developing normal cost rate	$735,053		N/A	

[1] Amounts are revised to reflect payroll as of June 30, 2021.

[2] UAAL rate is calculated using the City's total payroll of $1,659,068,804.

Section 3: Valuation Details

Tier 3 Members		June 30, 2021 Amount	June 30, 2021 % of Payroll	June 30, 2020 Amount[1]	June 30, 2020 % of Payroll
1.	Employer normal cost	$3,418,216	4.40%	$3,563,404	4.59%
2.	Actuarial accrued liability	251,132,296		245,661,030	
3.	Valuation value of assets	201,110,535		180,730,364	
4.	Unfunded actuarial accrued liability	50,021,761		64,930,666	
5.	Amortization of unfunded accrued liability[2]	4,575,318	0.28%	5,474,927	0.33%
6.	Allocated amount for admin expenses, calculated with payroll in 10	82,557	0.11%	82,557	0.11%
7.	**Total recommended contribution, July 1**	**$8,076,091**	**N/A**	**$9,120,888**	**N/A**
8.	**Total recommended contribution, July 15**	**$8,098,891**	**N/A**	**$9,146,637**	**N/A**
9.	**Total recommended contribution, biweekly**	**$8,353,973**	**N/A**	**$9,434,720**	**N/A**
10.	Projected compensation used for developing normal cost rate	$77,634,075		N/A	

Tier 4 Members		June 30, 2021 Amount	June 30, 2021 % of Payroll	June 30, 2020 Amount[1]	June 30, 2020 % of Payroll
1.	Employer normal cost	$1,250,643	4.43%	$1,276,855	4.52%
2.	Actuarial accrued liability	119,820,867		120,802,847	
3.	Valuation value of assets	86,395,380		78,382,290	
4.	Unfunded actuarial accrued liability	33,425,487		42,420,557	
5.	Amortization of unfunded accrued liability[2]	2,866,173	0.17%	3,318,138	0.20%
6.	Allocated amount for admin expenses, calculated with payroll in 10	30,040	0.11%	30,040	0.11%
7.	**Total recommended contribution, July 1**	**$4,146,856**	**N/A**	**$4,625,033**	**N/A**
8.	**Total recommended contribution, July 15**	**$4,158,563**	**N/A**	**$4,638,090**	**N/A**
9.	**Total recommended contribution, biweekly**	**$4,289,541**	**N/A**	**$4,784,171**	**N/A**
10.	Projected compensation used for developing normal cost rate	$28,249,003		N/A	

[1] Amounts are revised to reflect payroll as of June 30, 2021.
[2] UAAL rate is calculated using the City's total payroll of $1,659,068,804.

Tier 5 (without Harbor Port Police and Airport Police)	June 30, 2021 Amount	June 30, 2021 % of Payroll	June 30, 2020 Amount[1]	June 30, 2020 % of Payroll
1. Employer normal cost	$48,035,577	4.15%	$49,165,883	4.25%
2. Actuarial accrued liability	(Tiers 5 and 6 are combined. See table on the next page)		(Tiers 5 and 6 are combined. See table on the next page)	
3. Valuation value of assets				
4. Unfunded actuarial accrued liability				
5. Amortization of unfunded accrued liability	$31,634,220	2.73%	$34,589,645	2.99%
6. Allocated amount for admin expenses, calculated with payroll in 10	1,230,200	0.11%	1,230,200	0.11%
7. Total recommended contribution, July 1	**$80,899,997**	**6.99%**	**$84,985,728**	**7.35%**
8. Total recommended contribution, July 15	**$81,128,385**	**7.01%**	**$85,225,650**	**7.37%**
9. Total recommended contribution, biweekly	**$83,683,608**	**7.23%**	**$87,909,921**	**7.60%**
10. Projected compensation used for developing normal cost rate	$1,156,844,309		N/A	

Tier 6 (without Harbor Port Police and Airport Police)	June 30, 2021 Amount	June 30, 2021 % of Payroll	June 30, 2020 Amount[1]	June 30, 2020 % of Payroll
1. Employer normal cost	$25,493,294	6.44%	$26,189,141	6.62%
2. Actuarial accrued liability	(Tiers 5 and 6 are combined. See table on the next page)		(Tiers 5 and 6 are combined. See table on the next page)	
3. Valuation value of assets				
4. Unfunded actuarial accrued liability				
5. Amortization of unfunded accrued liability	$10,800,054	2.73%	$11,828,630	2.99%
6. Allocated amount for admin expenses, calculated with payroll in 10	420,692	0.11%	420,692	0.11%
7. Total recommended contribution, July 1	**$36,714,040**	**9.28%**	**$38,438,463**	**9.72%**
8. Total recommended contribution, July 15	**$36,817,687**	**9.31%**	**$38,546,978**	**9.74%**
9. Total recommended contribution, biweekly	**$37,977,298**	**9.60%**	**$39,761,056**	**10.05%**
10. Projected compensation used for developing normal cost rate	$395,606,364		N/A	

[1] Amounts are revised to reflect payroll as of June 30, 2021.

Combined Tiers 5 and 6 UAAL Contribution Rate Calculations for the City	June 30, 2021				June 30, 2020	
			Combined Tiers 5 and 6		Combined Tiers 5 and 6	
	Tier 5	Tier 6	Amount	% of Payroll	Amount	% of Payroll
2. Actuarial accrued liability	$2,542,046,802	$112,144,390	$2,654,191,192		$2,519,761,107	
3. Valuation value of assets			2,146,233,124		1,934,939,896	
4. Unfunded actuarial accrued liability			507,958,068		584,821,211	
5. Amortization of unfunded accrued liability			42,434,274	2.73%	46,418,275	2.99%
Projected compensation used for developing combined UAAL rate	1,156,844,309	395,606,364	1,552,450,673		N/A	

All Tiers Combined (without Harbor Port Police and Airport Police)	June 30, 2021		June 30, 2020	
	Amount	% of Payroll	Amount[1]	% of Payroll
1. Employer normal cost	$78,221,462	4.71%	$80,221,377	4.83%
2. Actuarial accrued liability	3,772,043,720		3,690,847,886	
3. Valuation value of assets	2,436,161,673		2,198,180,066	
4. Unfunded actuarial accrued liability	1,335,882,047		1,492,667,820	
5. Amortization of unfunded accrued liability	113,179,316	6.82%	120,054,392	7.24%
6. Allocated amount for admin expenses, calculated with payroll in 10	1,764,271	0.11%	1,764,271	0.11%
7. Total recommended contribution, payable July 1	**$193,165,049**	**11.64%**	**$202,040,040**	**12.18%**
8. Total recommended contribution, payable July 15	**$193,710,371**	**11.68%**	**$202,610,417**	**12.21%**
9. Total recommended contribution, payable biweekly	**$199,811,480**	**12.04%**	**$208,991,843**	**12.60%**
10. Projected compensation used for developing normal cost rate	$1,659,068,804		N/A	

[1] Amounts are recalculated to reflect payroll of active members enrolled in the different tiers as of June 30, 2021. There is a change in the total aggregate rate determined in the June 30, 2020 valuation calculated using the 2020 projected payroll by tier compared to that recalculated above using the 2021 projected payroll by tier as a result of new members entering Tier 6 and active members leaving the other Tiers. This shows that even if the contribution rate for each tier were to remain unchanged, the aggregate rate (which is the weighted average of the rates by tier) would change over time as the proportion of non-Tier 6 payroll decreases and the proportion of Tier 6 payroll increases. In our June 30, 2020 valuation report, the aggregate rate (all Tiers combined without Harbor Port Police) is 12.12% payable July 1, based on June 30, 2020 projected payroll. The total aggregate rate is increased slightly to 12.18%, payable July 1, using the June 30, 2021 projected payroll.

Section 3: Valuation Details

Harbor Port Police Tier 5	June 30, 2021 Amount	June 30, 2021 % of Payroll	June 30, 2020 Amount[1]	June 30, 2020 % of Payroll
1. Employer normal cost	$748,813	5.60%	$737,198	5.51%
2. Actuarial accrued liability	(Tiers 5 and 6 are combined. See table on the next page)		(Tiers 5 and 6 are combined. See table on the next page)	
3. Valuation value of assets				
4. Unfunded actuarial accrued liability				
5. Amortization of unfunded accrued liability	$75,491	0.56%	$124,427	0.93%
6. Allocated amount for admin expenses, calculated with payroll in 10	14,228	0.11%	14,228	0.11%
7. Total recommended contribution, payable July 1	**$838,532**	**6.27%**	**$875,853**	**6.55%**
8. Total recommended contribution, payable July 15	**$840,899**	**6.29%**	**$879,664**	**6.57%**
9. Total recommended contribution, payable biweekly	**$867,384**	**6.48%**	**$907,327**	**6.78%**
10. Projected compensation used for developing normal cost rate	$13,379,265		N/A	

Harbor Port Police Tier 6	June 30, 2021 Amount	June 30, 2021 % of Payroll	June 30, 2020 Amount[1]	June 30, 2020 % of Payroll
1. Employer normal cost	$201,964	5.63%	$204,186	5.70%
2. Actuarial accrued liability	(Tiers 5 and 6 are combined. See table on the next page)		(Tiers 5 and 6 are combined. See table on the next page)	
3. Valuation value of assets				
4. Unfunded actuarial accrued liability				
5. Amortization of unfunded accrued liability	$20,419	0.57%	$33,315	0.93%
6. Allocated amount for admin expenses, calculated with payroll in 10	3,809	0.11%	3,809	0.11%
7. Total recommended contribution, payable July 1	**$226,192**	**6.31%**	**$241,310**	**6.74%**
8. Total recommended contribution, payable July 15	**$226,831**	**6.33%**	**$241,991**	**6.76%**
9. Total recommended contribution, payable biweekly	**$233,975**	**6.53%**	**$249,613**	**6.97%**
10. Projected compensation used for developing normal cost rate	$3,582,210		N/A	

[1] Amounts are revised to reflect payroll as of June 30, 2021.

Combined Tiers 5 and 6 UAAL Contribution Rate Calculations for Harbor Port Police	June 30, 2021				June 30, 2020	
			Combined Tiers 5 and 6		Combined Tiers 5 and 6	
	Tier 5	Tier 6	Amount	% of Payroll	Amount	% of Payroll
Actuarial accrued liability	$17,157,858	$855,000	$18,012,858		$16,686,682	
Valuation value of assets			16,930,499		14,615,039	
Unfunded actuarial accrued liability			1,082,359		2,071,643	
Amortization of unfunded accrued liability			95,910	0.57%	157,742	0.93%
Projected compensation used for developing combined UAAL rate	13,379,265	3,582,210	16,961,475		N/A	

Harbor Port Police Combined (Tiers 5 and 6)	June 30, 2021		June 30, 2020	
	Amount	% of Payroll	Amount[1]	% of Payroll
1. Employer normal cost	$950,777	5.60%	$941,384	5.55%
2. Actuarial accrued liability	18,012,858		16,686,682	
3. Valuation value of assets	16,930,499		14,615,039	
4. Unfunded actuarial accrued liability	1,082,359		2,071,643	
5. Amortization of unfunded accrued liability	95,910	0.57%	157,742	0.93%
6. Allocated amount for admin expenses, calculated with payroll in 10	18,037	0.11%	18,037	0.11%
7. Total recommended contribution, payable July 1	**$1,064,724**	**6.28%**	**$1,117,163**	**6.59%**
8. Total recommended contribution, payable July 15	**$1,067,730**	**6.30%**	**$1,121,655**	**6.61%**
9. Total recommended contribution, payable biweekly	**$1,101,359**	**6.49%**	**$1,156,940**	**6.82%**
10. Projected compensation used for developing normal cost rate	$16,961,475		N/A	

[1] Amounts are revised to reflect payroll as of June 30, 2021.

Airport Police Tier 6	June 30, 2021 Amount	June 30, 2021 % of Payroll	June 30, 2020 Amount[1]	June 30, 2020 % of Payroll
1. Employer normal cost	$652,626	7.45%	$646,096	7.38%
2. Actuarial accrued liability	3,117,457		2,323,713	
3. Valuation value of assets	2,633,829		1,756,621	
4. Unfunded actuarial accrued liability	483,628		567,092	
5. Amortization of unfunded accrued liability	38,185	0.44%	41,147	0.47%
6. Allocated amount for admin expenses, calculated with payroll in 10	9,310	0.11%	9,310	0.11%
7. Total recommended contribution, payable July 1	**$700,121**	**8.00%**	**$696,553**	**7.96%**
8. Total recommended contribution, payable July 15	**$702,098**	**8.02%**	**$698,519**	**7.98%**
9. Total recommended contribution, payable biweekly	**$724,211**	**8.27%**	**$720,520**	**8.23%**
10. Projected compensation used for developing normal cost rate	$8,754,687		N/A	

All Tiers Combined	June 30, 2021 Amount	June 30, 2021 % of Payroll	June 30, 2020 Amount[1]	June 30, 2020 % of Payroll
1. Employer normal cost	$79,824,865	4.73%	$81,808,857	4.85%
2. Actuarial accrued liability	3,793,174,035		3,709,858,281	
3. Valuation value of assets	2,455,726,001		2,214,551,726	
4. Unfunded actuarial accrued liability	1,337,448,034		1,495,306,555	
5. Amortization of unfunded accrued liability	113,313,411	6.73%	120,253,281	7.14%
6. Allocated amount for admin expenses, calculated with payroll in 10	1,791,617	0.11%	1,791,617	0.11%
7. Total recommended contribution, payable July 1	**$194,929,893**	**11.57%**	**$203,853,755**	**12.10%**
8. Total recommended contribution, payable July 15	**$195,480,197**	**11.60%**	**$204,429,252**	**12.13%**
9. Total recommended contribution, payable biweekly	**$201,637,049**	**11.97%**	**$210,867,964**	**12.52%**
10. Projected compensation used for developing normal cost rate	$1,684,784,966		N/A	

[1] Amounts are revised to reflect payroll as of June 30, 2021.

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.

Year Ending June 30	Projected Number of Retirees[1]			Projected Benefit Payments		
	Current	Future	Total	Current	Future	Total
2022	17,909	427	18,336	$147,792,582	$4,288,059	$152,080,641
2023	17,870	1,380	19,250	152,122,683	14,611,122	166,733,805
2024	17,371	2,546	19,917	154,107,370	28,913,030	183,020,400
2025	16,863	3,228	20,091	157,441,329	38,742,249	196,183,578
2026	16,350	4,310	20,660	160,409,191	54,250,696	214,659,887
2027	15,828	4,880	20,708	162,684,055	64,428,577	227,112,632
2028	15,298	5,495	20,793	164,086,555	75,715,408	239,801,963
2029	14,759	6,132	20,891	164,372,085	87,554,361	251,926,446
2030	14,212	6,751	20,963	164,507,552	99,742,271	264,249,823
2031	13,662	7,353	21,015	163,978,607	112,395,076	276,373,683

[1] Includes spouses of retirees.

Exhibit E: Summary Statement of Income and Expenses on a Market Value Basis

All Retirement and Health Subsidy Benefits

	Year Ended June 30, 2021		Year Ended June 30, 2020	
Net assets at market value at the beginning of the year		**$23,540,380,835**		**$23,299,916,660**
Contribution income				
• Employer contributions	$744,243,315		$709,851,573	
• Member contributions	157,785,911		153,786,863	
Net contribution income		*$902,029,226*		*$863,638,436*
Investment income				
• Interest, dividends and other income	$2,893,868,813		$1,003,092,058	
• Recognition of capital appreciation	4,916,568,735		(226,511,541)	
• Less investment fees	(139,898,794)		(112,235,073)	
Net investment income		*$7,670,538,754*		*$664,345,444*
Total income available for benefits		**$8,572,567,980**		**$1,527,983,880**
Less benefit payments		*$(1,338,818,015)*		*$(1,264,851,830)*
Less administrative expenses		*(23,513,284)*		*(22,667,875)*
Change in net assets at market value		**$7,210,236,681**		**$240,464,175**
Net assets at market value at the end of the year		**$30,750,617,516**		**$23,540,380,835**

Note: Results may not total due to rounding.

Exhibit F: Summary Statement of Plan Assets

All Assets for Retirement and Health Subsidy Benefits

	Year Ended June 30, 2021		Year Ended June 30, 2020	
Cash equivalents		*$7,106,405*		*$2,046,114*
Accounts receivable:				
• Accrued interest and dividends	$85,962,345		$76,687,172	
• Contributions	5,163,342		9,804,546	
• Due from brokers	114,609,776		328,833,612	
Total accounts receivable		*$205,735,463*		*$415,325,330*
Investments:				
• Equities	$19,694,260,300		$14,476,163,422	
• Fixed income investments	9,601,138,484		8,016,698,265	
• Real estate	1,642,239,198		1,464,742,187	
Total investments at market value		*$30,937,637,982*		*$23,957,603,874*
Total assets		**$31,150,479,850**		**$24,374,975,318**
Accounts payable:				
• Accounts payable and benefits in process	$(38,200,845)		$(36,613,502)	
• Due to brokers	(143,712,643)		(603,610,968)	
• Mortgage payable	(217,948,846)		(194,370,013)	
Total accounts payable		**$(399,862,334)**		**$(834,594,483)**
Net assets at market value		**$30,750,617,516**		**$23,540,380,835**
Net assets at actuarial value		**$26,145,074,797**		**$24,321,274,165**
Net assets at valuation value (health benefits)[1]		**$2,455,726,001**		**$2,214,551,726**

Note: Results may not total due to rounding.

[1] Assets for retiree health only.

Exhibit G: Development of the Fund through June 30, 2021

All assets for Retirement and Health Subsidy Benefits

Year Ended June 30	Employer Contributions	Member Contributions	Administrative Expenses	Net Investment Return[1]	Benefit Payments	Market Value of Assets at Year End	Actuarial Value of Assets at Year End	Actuarial Value as a Percent of Market Value
2012	$444,565,284	$120,099,124	—	$93,546,777	$926,349,506	$14,132,070,728	$15,179,275,167	107.4%
2013	508,387,283	121,777,655	—	1,952,254,466	966,118,502	15,748,371,630	15,671,112,222	99.5%
2014	578,805,107	124,394,889	—	2,802,796,015	963,356,954	18,291,010,687	16,879,354,713	92.3%
2015	628,808,763	126,770,882	$19,178,885	739,009,040	1,029,319,785	18,737,100,702	18,114,393,332	96.7%
2016	628,700,812	129,733,559	20,897,310	172,083,839	1,107,041,622	18,539,679,980	19,126,148,372	103.2%
2017	619,479,274	128,900,736	22,563,327	2,449,549,638	1,052,639,705	20,662,406,596	20,317,066,949	98.3%
2018	639,945,905	146,282,682	21,654,037	2,058,910,553	1,125,521,496	22,360,370,203	21,659,429,558	96.9%
2019	692,897,316	147,752,497	22,099,870	1,329,326,557	1,208,330,043	23,299,916,660	23,053,912,894	98.9%
2020	709,851,573	153,786,863	22,667,875	664,345,444	1,264,851,830	23,540,380,835	24,321,274,165	103.3%
2021	744,243,315	157,785,911	23,513,284	7,670,538,754	1,338,818,015	30,750,617,516	26,145,074,797	85.0%

[1] Net of investment fees and administrative expenses prior to 2015. Starting in 2015, administrative expenses are shown separately.

Exhibit H: Determination of Actuarial Value of Assets

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board of Commissioners 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.

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

1	**Market Value of Assets (for Retirement and Health Subsidy Benefits)**					**$30,750,617,516**
		Expected	**Actual**	**Original**	**Percent**	**Unrecognized**
2	Calculation of unrecognized return[1]	**Return**	**Return[1]**	**Amount**	**Deferred**	**Amount**
a)	Year ended June 30, 2015	$1,382,456,639	$739,009,040	$(643,447,599)	0/7	$0
b)	Year ended June 30, 2016	1,413,037,722	172,083,839	(1,240,953,883)	1/7	(177,279,126)
c)	Year ended June 30, 2017	1,399,514,735	2,449,549,638	1,050,034,903	2/7	300,009,972
d)	Year ended June 30, 2018	1,506,111,379	2,058,910,553	552,799,174	3/7	236,913,932
e)	Year ended June 30, 2019	1,630,021,712	1,329,326,557	(300,695,155)	4/7	(171,825,803)
f)	Year ended June 30, 2020	1,697,466,038	664,345,444	(1,033,120,594)	5/7	(737,943,281)
g)	Year ended June 30, 2021	1,655,593,892	7,670,538,754	6,014,944,862	6/7	5,155,667,025
h)	Total unrecognized return[2]					$4,605,542,719
3	**Preliminary Actuarial Value of Assets 1 – 2h**					**$26,145,074,797**
4	Adjustment to be within 40% corridor					0
5	**Final Actuarial Value of Assets 3 + 4**					**$26,145,074,797**
6	Actuarial Value of Assets as a percentage of Market Value of Assets					85.0%
7	Market Value of Health Assets					$2,888,310,382
8	**Valuation Value of Health Assets 5 ÷ 1 x 7**					**$2,455,726,001**

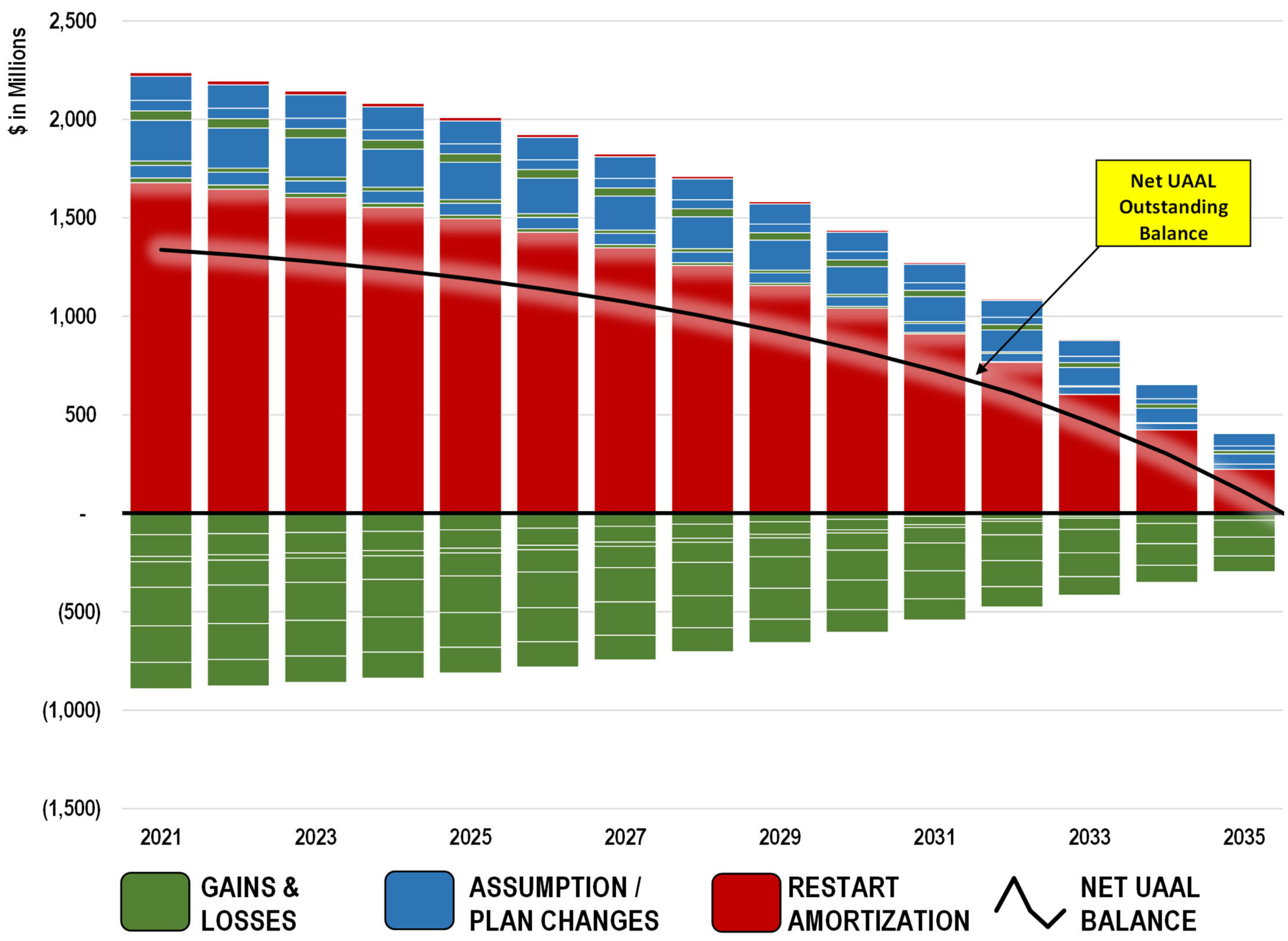
[1] Total return minus expected return on a market value basis. Effective with the calculation for period ended June 30, 2015, both actual and expected returns on market value have been adjusted to exclude administrative expense paid during the plan year.

[2] Deferred return as of June 30, 2021 recognized in each of the next six years (for Retirement and Health Subsidy Benefits):

(a) Amount recognized on June 30, 2022	$720,429,901
(b) Amount recognized on June 30, 2023	897,709,027
(c) Amount recognized on June 30, 2024	747,704,040
(d) Amount recognized on June 30, 2025	668,732,731)
(e) Amount recognized on June 30, 2026	711,689,180
(f) Amount recognized on June 30, 2027	859,277,840
(g) Total unrecognized return as of June 30, 2021	$4,605,542,719

Exhibit I: Projection of UAAL Balances and Payments

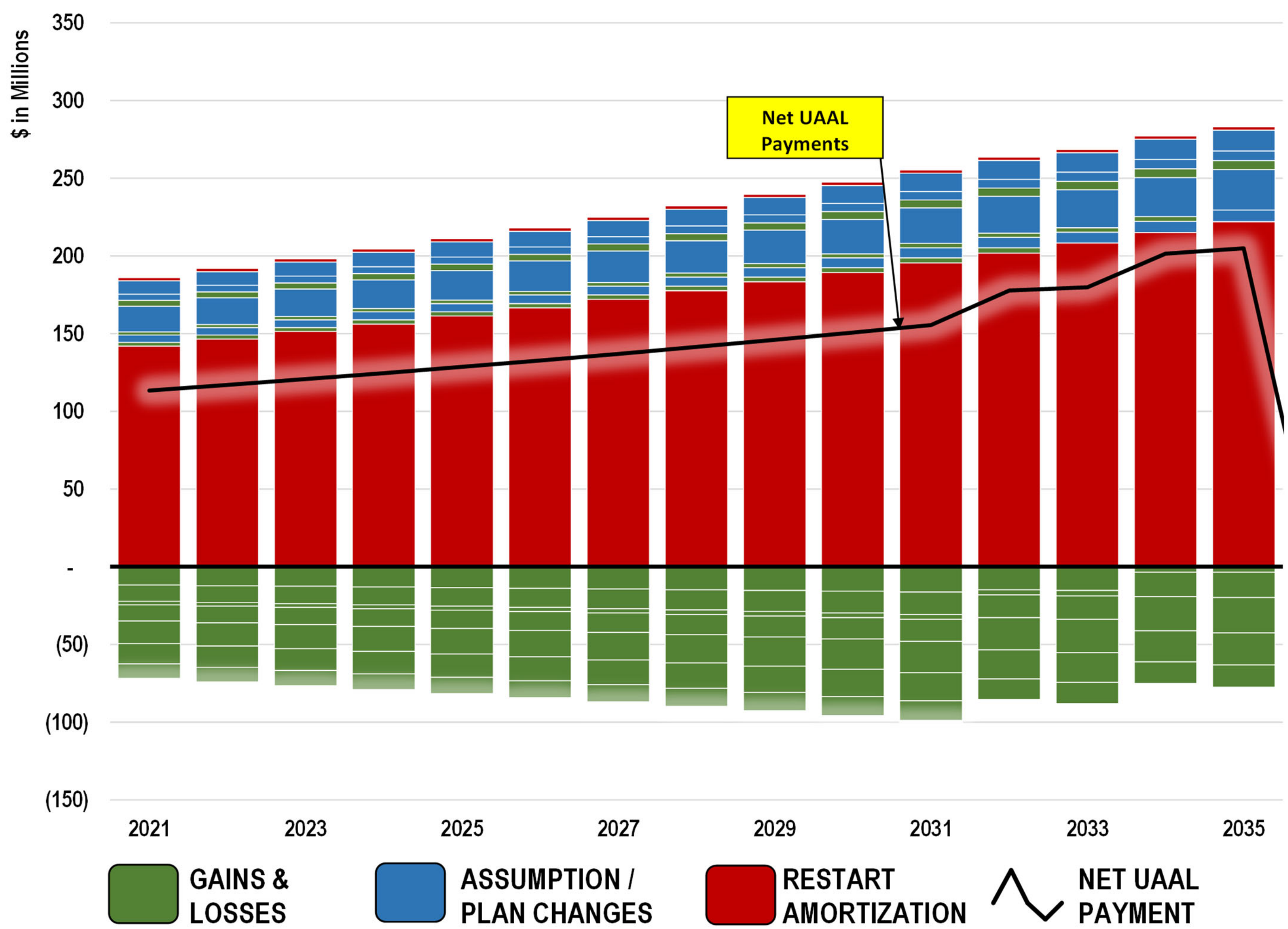
Outstanding Balance of $1,337 Million in Net UAAL as of June 30, 2021[1]



[1] Note: Experience gain and loss layers include changes in retiree health assumptions.

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

Annual Payments Required to Amortize $1,337 Million in Net UAAL as of June 30, 2021



Section 4: Actuarial Valuation Basis

Exhibit 1: Summary of Supplementary Information

Valuation date	June 30, 2021
Actuarial cost method	Entry age normal, level percent of pay
Amortization method	Closed amortization periods. On September 6, 2012, the Board adopted the following amortization policy: (see table below)
Asset valuation method	Market Value of Assets (MVA) less unrecognized returns. Unrecognized returns are equal to the difference between the actual market return and the expected return on the market value, and are 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.

Type of Base	Amortization Period (Closed)
Actuarial gains or losses	20
Assumption or method changes from Triennial Experience Study	20
Retiree health assumption changes[1]	20
Plan amendments	15
ERIPs	5
Actuarial surplus	30

[1] Retiree health assumption changes are included with experience gains and losses in the funding valuation.

Section 4: Actuarial Valuation Basis

Actuarial assumptions:		
• Investment rate of return	7.00%	
• Inflation rate	2.75%	
• Across-the-board pay increase	0.50%	
• Payroll growth	3.25%	
• Health care cost trend rate		
– Medical Non-Medicare	7.50% in 2021-2022[1], then decreasing by 0.25% for each year for twelve years until it reaches an ultimate rate of 4.50%.	
– Medical Medicare	6.50% in 2021-2022, then decreasing by 0.25% for each year for eight years until it reaches an ultimate rate of 4.50%.	
– Dental	4.00% for all years	
– Medicare Part B Premium	4.50% for all years	
• Medical Subsidy Trend	For all non-Medicare retirees, increase at lesser of 7.00% or non-Medicare medical trend.	
	For Medicare retirees with single party premium, increase with medical trend.	
	For Medicare retirees with 2-party premium less than or equal to the maximum subsidy as of July 1, 2021 (e.g. Fire Kaiser), increase with medical trend.	
	For Medicare retirees with 2-party premium greater than the maximum subsidy as of July 1, 2021 (e.g. Police Blue Cross PPO), increase with lesser of 7.00% or medical trend.	
Plan membership — Excluding retirees and beneficiaries not receiving subsidy:	**June 30, 2021**	**June 30, 2020**
Current retirees and beneficiaries	11,439	11,289
Current active participants	12,823	13,486
Terminated participants eligible for deferred pension and health benefits	59	62
Retirees and beneficiaries not in pay status but eligible for deferred health benefits	889	813
Subtotal of participants entitled but not yet enrolled in health benefits	948	875
Total	**25,210**	**25,650**

[1] For example, the 7.50% assumption, when applied to the 2021-2022 non-Medicare medical premiums, would provide the projected 2022-2023 non-Medicare medical premiums.

Exhibit 2: Actuarial Assumptions and Actuarial Cost Method

Rationale for Assumptions: The information and analysis used in selecting each assumption (with the exception of mortality 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 May 13, 2020 and retiree health assumptions letter dated September 8, 2021. The mortality assumption is shown in a separate letter detailing the July 1, 2010 through June 30, 2019 mortality experience dated December 12, 2019. Unless otherwise noted, all actuarial assumptions and methods shown below apply to all members. These assumptions have been adopted by the Board.

Economic Assumptions

Net Investment Return	7.00%; net of investment expenses.
Payroll Growth	Inflation of 2.75% per year plus “across the board” real salary increases of 0.50% per year, used to amortize the Unfunded Actuarial Accrued Liability as a level percentage of payroll.
Administrative Expenses	Out of the total 1.40% of payroll in administrative expense, 0.11% of payroll payable biweekly is allocated to the Retiree Health Plan. This is equal to 0.11% of payroll payable at beginning of the year.

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:

Years of Service	Rate (%)
Less than 1	9.00
1–2	7.50
2–3	6.50
3–4	5.50
4–5	4.00
5–6	2.60
6–7	2.20
7–8	2.00
8–9	2.00
9–10	2.00
10–11	1.90
11–12	1.80
12–13	1.70
13–14	1.60
14–15	1.50
15–16	1.40
16–17	1.30
17–18	1.20
18–19	1.20
19–20	1.10
20–21	1.00
21–22	1.00
22–23	1.00
23–24	1.00
24–25	1.00
25 & Over	0.90

Increases are assumed to occur beginning of the year for future salary increases.

We annualized biweekly pay (by multiplying by 365 and dividing by 14), supplied by LAFPP.

Section 4: Actuarial Valuation Basis

Demographic Assumptions

Mortality Rates — Post-Retirement	
Healthy[1]	Pub-2010 Safety Healthy Retiree Headcount-Weighted Above-Median Mortality Table multiplied by 105% for males and 100% for females, projected generationally with two-dimensional Scale MP-2019.
Disabled	Pub-2010 Safety Disabled Retiree Headcount-Weighted Mortality Table, projected generationally with two-dimensional Scale MP-2019.
Beneficiary[2]	Pub-2010 General Healthy Retiree Headcount-Weighted Above-Median Mortality Table multiplied by 105%, projected generationally with two-dimensional Scale MP-2019.

The Pub-2010 mortality tables and adjustments as shown above 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.

1 The Pub-2010 Healthy Retiree Headcount-Weighted Above-Median Mortality Tables only have rates for ages 45 and later for the Safety table. To develop the post-retirement mortality rates for ages 36 through 44 for Safety members, we have smoothed the difference between the rates at age 35 from the Pub-2010 Employee Headcount-Weighted Above-Median Mortality Tables and the rates at age 45 from the Pub-2010 Healthy Retiree Headcount-Weighted Above-Median Mortality tables. To develop the post-retirement mortality rates before age 36 for the Safety table, we have used the Pub-2010 Employee Headcount-Weighted Above-Median Mortality Tables rates. This methodology for developing an extended annuitant mortality table is similar to the method used by the IRS to develop the base mortality table for determining minimum funding standards for single-employer defined benefit pension plans under Section 430. While Section 430 is not applicable to LAFPP, we believe this is a reasonable method for developing annuitant mortality rates at earlier ages.

2 The Pub-2010 Healthy Retiree Headcount-Weighted Above-Median Mortality Tables only have rates for ages 50 and later for the General table. To develop the post-retirement mortality rates for ages 41 through 49 for General members, we have smoothed the difference between the rates at age 40 from the Pub-2010 General Employee Headcount-Weighted Above-Median Mortality Tables and the rates at age 50 from the Pub-2010 General Healthy Retiree Headcount-Weighted Above-Median Mortality tables. To develop the post-retirement mortality rates before age 41 for the General table, we have used the Pub-2010 General Employee Headcount-Weighted Above-Median Mortality Tables rates. This methodology for developing an extended annuitant mortality table is similar to the method used by the IRS to develop the base mortality table for determining minimum funding standards for single-employer defined benefit pension plans under Section 430. While Section 430 is not applicable to LAFPP, we believe this is a reasonable method for developing annuitant mortality rates at earlier ages.

Mortality Rates — Pre-Retirement	Pub-2010 Safety Employee Headcount-Weighted Above-Median Mortality Table, projected generationally with two-dimensional Scale MP-2019.

	Rate (%)	
Age	**Male**	**Female**
20	0.04	0.02
25	0.03	0.02
30	0.04	0.02
35	0.04	0.03
40	0.05	0.04
45	0.07	0.06
50	0.11	0.08
55	0.15	0.11
60	0.24	0.16

All pre-retirement deaths are assumed to be service connected.

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

Disability Incidence

	Rate (%)	
Age	**Fire**	**Police**
25	0.01	0.02
30	0.02	0.04
35	0.06	0.07
40	0.09	0.16
45	0.13	0.23
50	0.18	0.31
55	0.68	0.44
60	1.00	0.65
65	0.40	0.30
70	0.00	0.00

Termination

Less Than 5 Years of Service Rate (%)[1]

Years of Service	Fire	Police
Less than 1	7.00	8.50
1 – 2	2.00	3.25
2 – 3	1.00	3.25
3 – 4	0.75	3.00
4 – 5	0.50	2.00

Five or More Years of Service[1] Rate (%)

Age	Fire	Police
20	0.60	1.80
25	0.60	1.80
30	0.51	1.59
35	0.33	1.09
40	0.25	0.73
45	0.16	0.59
50	0.07	0.43
55	0.02	0.35
60	0.00	0.14

[1] No termination is assumed after a member is eligible for retirement. This includes all active members currently in Tier 2. Members in Tiers 3, 5 and 6 who are not eligible to receive a deferred vested retirement benefit are assumed to receive refund of member contributions.

Retirement Rates

	Rate (%)					
	Fire			Police		
Age	Tiers 2 & 4	Tiers 3 & 5	Tier 6	Tiers 2 & 4	Tiers 3 &5	Tier 6
41	1.00	0.00	0.00	10.00	0.00	0.00
42	1.00	0.00	0.00	10.00	0.00	0.00
43	1.00	0.00	0.00	10.00	0.00	0.00
44	1.00	0.00	0.00	10.00	0.00	0.00
45	1.00	0.00	0.00	10.00	0.00	0.00
46	1.00	0.00	0.00	7.00	0.00	0.00
47	1.00	0.00	0.00	7.00	0.00	0.00
48	2.00	0.00	0.00	5.00	0.00	0.00
49	2.00	0.00	0.00	5.00	0.00	0.00
50	3.00	1.00	2.00	10.00	8.00	6.00
51	5.00	1.00	2.00	10.00	4.00	5.00
52	8.00	1.00	2.00	12.00	4.00	5.00
53	10.00	1.00	2.00	20.00	5.00	5.00
54	20.00	6.00	5.00	30.00	12.00	15.00
55	20.00	14.00	10.00	35.00	20.00	20.00
56	20.00	15.00	12.00	30.00	20.00	20.00
57	20.00	16.00	15.00	30.00	20.00	20.00
58	20.00	20.00	18.00	30.00	20.00	20.00
59	20.00	22.00	20.00	30.00	20.00	20.00
60	25.00	25.00	25.00	30.00	25.00	25.00
61	25.00	27.00	27.00	30.00	25.00	25.00
62	25.00	33.00	30.00	30.00	25.00	25.00
63	25.00	35.00	35.00	30.00	25.00	25.00
64	30.00	40.00	40.00	40.00	35.00	35.00
65	50.00	50.00	50.00	50.00	50.00	50.00
66	50.00	50.00	50.00	50.00	50.00	50.00
67	50.00	50.00	50.00	50.00	50.00	50.00
68	50.00	50.00	50.00	50.00	50.00	50.00
69	50.00	50.00	50.00	50.00	50.00	50.00
70 & Over	100.00	100.00	100.00	100.00	100.00	100.00

Section 4: Actuarial Valuation Basis

DROP Program	DROP participants are considered active members until they leave DROP and begin receiving retirement benefits. Members are assumed to remain in the DROP for 5 years. For current DROP participants, we have rounded up the number of years they have been in DROP for purposes of determining the number of years they are expected to remain in the DROP as of the valuation date. For members who enter DROP on or after February 1, 2019, it is assumed they will have DROP payments suspended for an average of 4.5 months (or 0.9 months for each remaining year in DROP for current DROP members) due to the minimum hours per month needed for participation.
Unknown Data for Members	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.
Definition of Active Members	First day of biweekly payroll following employment for new department employees or immediately following transfer from other city department.
Future Benefit Accruals	1.0 year of service per year.
Actuarial Funding Policy	
Actuarial Value of Assets	Market Value of Assets (MVA) less unrecognized returns. Unrecognized returns are equal to the difference between the actual market return and the expected return on the market value, and are 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 Actuarial Value of Assets that is allocated for retiree health benefits.
Actuarial Cost Method	Entry Age Actuarial Cost Method. Entry Age is the current age minus Service Credit. Actuarial Accrued Liability is calculated on an individual basis and is based on costs allocated as a level percentage of compensation. Normal Cost and amortization of unfunded are computed as a percent of pay and applied to actual payroll.
Entry Age Actuarial	Entry Age is the age on the valuation date minus years of service. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are based on costs allocated as a level percentage of compensation, with Normal Cost determined as if the current benefit formula for each individual has always been in effect.

Funding Policy	The City of Los Angeles makes contributions equal to the Normal Cost adjusted by amounts to amortize any Surplus or Unfunded Actuarial Accrued Liability (UAAL). Both the Normal Cost and the Actuarial Accrued Liability are determined under the Entry Age cost method. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis. The Board has adopted the following amortization policy:

Type of Base	Amortization Period (Closed)
Actuarial gains or losses	20
Assumption or method changes from Triennial Experience Study	20
Retiree health assumption changes[1]	20
Plan amendments	15
ERIPs	5
Actuarial surplus	30

[1] Retiree health assumption changes are included with experience gains and losses in the funding valuation.

Retiree Health Assumptions

Data	Detailed census data and financial data for postemployment benefits were provided by the City of Los Angeles Fire and Police Pension Plan.
Age and Gender of Spouse	For all non-retired 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 3 years older than the member.
Participation	

Service Range (Years)	(a) Participation for Future Retirees Under 65	(b) Participation for Future Retirees Over 65	Participation Upon Attaining Age 65 for Current Retirees aged 55-64 Without Subsidy [(b-a)/(1-a)]
10–14	45%	80%	63.64%
15–19	65	85	57.14
20–24	80	85	25.00
25 and over	95	95	0.00

Medicare Coverage	100% of future retirees are assumed to elect Medicare Parts A & B.
Dental Coverage	85% of future retirees are assumed to elect dental coverage.

Spousal Coverage	Of future retirees receiving a medical subsidy 75% are assumed to elect coverage for married and surviving spouses or domestic partners. For those retired on valuation date with a subsidy, spousal coverage is based on census data.
Child Coverage	Some non-Medicare retirees will cover children in addition to their spouse and draw the maximum monthly subsidy ($1,958.82). We assumed that current retirees will cover, if indicated in the data, their children for an additional 2 years. For future retirees, we assumed that 25% will cover children for 4 years, or until when the retiree attains age 65, if earlier.
Implicit Subsidy	• **Plans Other Than Fire Kaiser**: No implicit subsidy exists since retiree medical premiums are underwritten separately from active premiums. • **Fire Kaiser:** Based on information provided by the health consultant retained by Los Angeles Firemen's Relief Association (LAFRA), we understand that retirees under age 65 enrolled in the Fire Kaiser Medical Plan are presently underwritten with the actives enrolled in that plan. A table of the blended (i.e., active/retiree combined) and unblended (i.e., early retiree only) monthly premium rates are shown below:

Monthly Premium July 1, 2021

Tier	Active/Retiree Combined	Early Retiree Only
Member Only	$838.10	$1,017.42
Member + 1	1,647.74	2,006.38
Family	2,076.88	2,530.50

The implicit subsidy is the difference between the retiree-only premium and the active/retiree combined premium (shown in the table on page 54). LAFPP has made a decision to include the implicit subsidy in the employer's contribution rate starting with the June 30, 2019 funding valuation. (Note that while the contribution rate will be increased to reflect the prefunding of the implicit subsidy, the Plan is not going to reimburse the City as that implicit subsidy is paid by the employer.)

Per capita cost development — not subject to retiree medical freeze

Retirees Under Age 65: Future retirees under age 65 are assumed, upon retirement, to elect carriers in the percentages with corresponding premiums and subsidies as noted in the table below. Current retirees and current eligible survivors under age 65 are assumed to continue to cover themselves (and their spouse or domestic partner). We assume that some non-Medicare retirees will cover children in addition to their spouse and draw the maximum monthly subsidy ($1,958.82) shown in the below table. We will assume that current retirees will cover, if indicated in the data, their children for an additional 2 years. For future retirees, we will assume that 25% will cover children for 4 years, or until when the retiree attains age 65, if earlier.

2021–2022 Fiscal Year:		Single Party			Married/With Domestic Partner			Eligible Survivor		
Carrier	**Assumed Election Percent**	**Monthly Premium**	**Maximum Subsidy**	**Subsidy**	**Monthly Premium**	**Maximum Subsidy**	**Subsidy**	**Monthly Premium**	**Maximum Subsidy**	**Subsidy**
Fire										
Fire Medical	85	$1,055.33	$1,958.82	**$1,055.33**	$1,709.36	$1,958.82	**$1,709.36**	$1,055.33	$853.39	**$853.39**
Fire Kaiser	10	838.10	1,958.82	**838.10**	1,647.74	1,958.82	**1,647.74**	838.10	853.39	**838.10**
UFLAC Select HMO	2.5	1,011.11	1,958.82	**1,011.11**	1,787.71	1,958.82	**1,787.71**	1,105.39	853.39	**853.39**
UFLAC HDHP	2.5	1,013.58	1,958.82	**1,013.58**	1,120.55	1,958.82	**1,120.55**	1,039.40	853.39	**853.39**
Police										
Blue Cross PPO	60	$957.56	$1,958.82	**$957.56**	$1,910.70	$1,958.82	**$1,910.70**	$957.56	$853.39	**$853.39**
Blue Cross HMO	15	837.56	1,958.82	**837.56**	1,675.70	1,958.82	**1,675.70**	837.56	853.39	**837.56**
Police Kaiser	25	714.80	1,958.82	**714.80**	1,394.44	1,958.82	**1,394.44**	714.80	853.39	**714.80**

Members who are subject to the retiree medical subsidy freeze have monthly health insurance subsidy maximums fixed at the level in effect on July 1, 2011, as shown on page 56.

For the valuation of current retirees, subsidies valued are based on actual medical election provided in the data reported for the Health Plan.

Per capita cost development – not subject to retiree medical freeze

Retirees Age 65 and Older: Future retirees and current retirees under age 65 are assumed, upon reaching age 65, to elect carriers in the percentages with corresponding premiums and subsidies as noted in the table below. Current retirees and current eligible survivors over age 65 are assumed to continue to cover themselves (and their spouse or domestic partner). Due to low number of current retirees over age 65 who have covered children and the short duration of child-related subsidy payments, we assumed that for retirees over age 65 all children will age out.

2021–2022 Fiscal Year:		Single Party			Married/With Domestic Partner			Eligible Survivor		
Carrier	Assumed Election Percent	Monthly Premium	Maximum Subsidy	Subsidy	Monthly Premium	Maximum Subsidy	Subsidy	Monthly Premium	Maximum Subsidy	Subsidy
Fire										
Fire Medical	85	$700.09	$564.92	**$564.92**	$998.88	$863.71	**$863.71**	$700.09	$564.92	**$564.92**
Fire Kaiser	15	264.05	564.92	**264.05**	499.64	499.64	**499.64**	264.05	564.92	**264.05**
UFLAC Advantage HMO	0	377.80	564.92	**377.80**	1,004.06	1,004.06	**1,004.06**	377.80	564.92	**377.80**
UFLAC Advantage PPO	0	515.31	564.92	**515.31**	1,004.06	1,004.06	**1,004.06**	515.31	564.92	**515.31**
Police										
Blue Cross PPO	75	$590.56	$564.92	**$564.92**	$1,176.70	$1,151.06	**$1,151.06**	$590.56	$564.92	**$564.92**
Blue Cross HMO	10	624.06	564.92	**564.92**	1,248.70	1,189.56	**1,189.56**	624.06	564.92	**564.92**
Police Kaiser	15	215.18	564.92	**215.18**	402.04	402.04	**402.04**	215.18	564.92	**215.18**

Members who are subject to the retiree medical subsidy freeze have monthly health insurance subsidy maximums fixed at the level in effect on July 1, 2011, as shown on page 56.

For the valuation of current retirees, subsidies valued are based on actual medical election provided in the data reported for the Health Plan.

Note that the above premiums in tables on page 54 and 55 do not apply to a small number of retirees receiving a Health Insurance Premium Reimbursement (HIPR) subsidy for health insurance premiums paid to a non-Board approved, state-regulated health plan.

Per capita cost development — subject to retiree medical subsidy freeze

	Single Party	Married/With Domestic Partner	Eligible Survivor
Under 65 — All Plans	$1,097.41	$1,097.41	$595.60
Over 65			
Fire Medical	$480.41	$702.25	$480.41
Fire Kaiser	264.05[1]	499.64	264.05[1]
UFLAC Advantage HMO	377.80[1]	746.85	377.80[1]
UFLAC Advantage PPO	480.41	920.73	480.41
Police Blue Cross PPO	480.41	805.26	480.41
Police Blue Cross HMO	480.41	835.76	480.41
Police Kaiser	215.18[1]	402.04	215.18[1]

[1] Future single-party subsidy levels limited to $480.41.

Adjustment of per capita medical costs for age, gender and spouse status[1]

Applied to Per Capita Costs on page 54 for 2021–2022

	Retiree		Spouse	
Age	**Male**	**Female**	**Male**	**Female**
55	0.9219	0.9518	0.7255	0.8218
60	1.0948	1.0259	0.9713	0.9531
64	1.2560	1.0883	1.2261	1.0727

Applied to Per Capita Costs on page 55 for 2021–2022

	Retiree		Spouse	
Age	**Male**	**Female**	**Male**	**Female**
65	0.9030	0.7675	0.9030	0.7675
70	1.0465	0.8271	1.0465	0.8271
75	1.1278	0.8903	1.1278	0.8903
80+	1.2145	0.9598	1.2145	0.9598

Per capita cost development — dental plan

Maximum Dental Subsidy: Because almost all current retirees enrolled in a dental plan are paying a premium in excess of the maximum subsidy, we assumed that 100% of future retirees with dental coverage will receive the maximum subsidy.

Monthly Subsidy for 2021–2022 Fiscal Year
$44.60

[1] We also apply the adjustment for age, gender, and spouse status to non-frozen Medicare subsidies because they are based on LACERS medical premiums and, therefore, would be affected by demographic factors.

Per capita cost development — Medicare Part B premium reimbursement

The Plan will reimburse monthly Medicare Part B premiums before means testing:

Monthly Premium	Single
Actual premium for calendar year 2021	$148.50
Projected premium for calendar year 2022 *	155.18
Projected average monthly premium for plan year 2021–2022	151.84

**Based on calendar year 2021 premium adjusted to 2022 by the assumed trend rate of 4.50%.*

For retirees over age 65 on the valuation date, we assumed all retirees will revert to the standard premium (shown above) in the following calendar year (2022). For current retirees under age 65 and future retirees, we assumed 100% of those electing a medical subsidy will be eligible for the Medicare Part B premium subsidy.

Section 4: Actuarial Valuation Basis

Health care premium cost trend rates

Trend is to be applied to premium for the fiscal year shown to calculate the next fiscal year's projected premium.[1]

The fiscal year trend rates are the following:

	Trend Rates (%) Applied to Calculate Following Year Premium	
Fiscal Year	**Non-Medicare[2]**	**Medicare[3]**
2021–2022	7.50	6.50
2022-2023	7.25	6.25
2023–2024	7.00	6.00
2024–2025	6.75	5.75
2025–2026	6.50	5.50
2026–2027	6.25	5.25
2027–2028	6.00	5.00
2028–2029	5.75	4.75
2029–2030	5.50	4.50
2030-2031	5.25	4.50
2031-2032	5.00	4.50
2032-2033	4.75	4.50
2033 and later	4.50	4.50

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

[1] For example, the 7.50% assumption for fiscal year 2021-2022, when applied to the 2021-2022 non-Medicare medical premiums, would provide the projected 2022-2023 non-Medicare medical premiums.

[2] For members not subject to the subsidy freeze, the maximum non-Medicare health subsidy for 2022-2023 would be calculated by multiplying the maximum non-Medicare health subsidy for 2021-2022 by the 2021-2022 fiscal year trend assumption of 7.00% (lesser of 7.00% or non-Medicare medical trend of 7.50%).

[3] For members not subject to the subsidy freeze, we assume that the maximum Medicare health subsidy amount will increase by the minimum of 7.00% and the non-Medicare medical trend since the 2-party Medicare subsidy is limited by the excess of the non-Medicare subsidy over the non-Medicare premiums and the spouse portion of Medicare premiums. Therefore, the maximum Medicare health subsidy for 2022-2023 would be calculated by multiplying the maximum health subsidy for 2021-2022 by the 2021-2022 fiscal year trend assumption of 7.00% (lesser of 7.00% or non-Medicare medical trend of 7.50%).

Section 4: Actuarial Valuation Basis

Expected Annual Subsidy Increase	For employees not subject to freeze, we assume that the Board's health subsidy amount will increase with the minimum of 7.00% and the non-Medicare medical trend.
Health Care Reform	This valuation does not reflect the potential impact of any future changes due to prior or pending legislations.
Plan Design	Development of plan liabilities was based on the substantive plan of benefits in effect as described in Section 4, Exhibit 3.
Changes in Assumptions	Premiums and maximum subsidies were updated. Per capita costs were updated based on more recent data. Trend assumptions to project future medical costs were updated.

Exhibit 3: 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.

Subsidy for members not eligible for Medicare A & B

Eligibility	Retired Members who retired with 10 or more years of service. Benefits commence no earlier than age 55. Members who retired prior to July 1, 1998 are subject to an eligibility requirement of age 60 with 10 or more years of service. Subsidy is paid only to Members on service or disability retirements. Surviving spouses and surviving domestic partners are eligible for health benefits upon the Member's date of death if the Member had attained age 55 prior to death. Otherwise, health benefits for survivors shall commence on the date that the Member would have reached age 55. Basic subsidy is paid until age 65, or after age 65 if Member is not covered by Medicare Parts A and B.
Amount of Subsidy	4% per year of service, to a maximum of 100%, times Maximum Subsidy, subject to a maximum of the actual premium paid to the Board's approved health carrier.
Maximum Subsidy	As of July 1, 2021, maximum is $1,958.82 per month. For surviving spouse or domestic partner, the maximum subsidy is $853.39 per month.
Increase in Subsidy	For employees not subject to freeze, the Board's health subsidy amount may increase at lesser of 7% or medical trend as shown in Section 4, Exhibit 2 - Healthcare Premium Cost Trend Rates.
Dependent Portion	Difference between basic subsidy maximum amount and single-party premium.

Subsidy for members eligible for Medicare A & B

Eligibility	Retired Members over age 65 with 10 or more years of service who participate in Medicare Parts A & B.
Amount of Subsidy to Participant:	For retirees, health subsidy is provided subject to the following vesting schedule: **Completed Years of Service** / **Vested Percentage** 10–14: 75% 15–19: 90% 20+: 100% Surviving spouses or surviving domestic partners are eligible for benefits upon the death of the Member.
Maximum Subsidy	As of July 1, 2021, the single coverage maximum subsidy for retirees and surviving spouse or domestic partner is $564.92. The multi-person coverage maximum subsidy is $1,189.56 and depends on the carrier elected. The Board's health subsidy amount may: • For Medicare retirees with single party premium, increase with medical trend as shown in Section 4, Exhibit II - Healthcare Premium Cost Trend Rates. • For Medicare retirees with 2-party premium less than or equal to the maximum subsidy as of July 1, 2021 (e.g., Fire Kaiser), increase with medical trend as shown in Section 4, Exhibit 2 - Healthcare Premium Cost Trend Rates, and • For Medicare retirees with 2-party premium greater than the maximum subsidy as of July 1, 2021 (e.g., Police Blue Cross), increase with lesser of 7% or medical trend as shown in Section 4, Exhibit 2 - Healthcare Premium Cost Trend Rates.
Dependent Portion	Calculation based on Board of Fire and Police Pension Commissioners Resolution No. 9320: equal to the amount payable on behalf of the dependents of a retired member in the same plan, with the same years of service, who qualifies for an under 65 or Part B/D only subsidy, whichever is greater, providing such subsidy does not exceed the civilian retiree dependent subsidy.
Subsidy Freeze	The retiree health benefits program was changed to freeze the medical subsidy for non-retired members not enrolled in the DROP as of July 14, 2011 who did not begin to contribute an additional 2% of base salary to the Pension Plan. • The frozen subsidy is different for Medicare and non-Medicare retirees. • The freeze applies to the medical subsidy limits in effect for the 2011-2012 plan year. • The freeze does not apply to the dental subsidy or the Medicare Part B premium reimbursement.

Medicare Part B -related subsidy

Medicare Part B Premium Reimbursement	For retired Members enrolled in Medicare A & B who are eligible to receive a subsidy, the Plan provides payment of Part B premiums ($148.50 for calendar year 2021, for all eligible retirees and beneficiaries).

Dental subsidy

Eligibility	Retired Members who retired with 10 or more years of service. Benefits commence no earlier than age 55. Subsidy is paid only to Members on service or disability retirements. Surviving spouses/domestic partners are not eligible for benefits upon the death of the Member.
Amount of Subsidy	4% per year of service, to a maximum of 100%, times Maximum Subsidy, subject to a maximum of the single-party premium paid to Board approved dental carrier.
Maximum Subsidy	Lesser of monthly amount paid to active Fire and Police Members and retired City Employee Retirement System Members. As of July 1, 2021, maximum is $44.60 per month.

Retiree Contributions: To the extent the subsidies are less than the medical or dental premiums, the retiree contributes the cost difference.

Exhibit 4: 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.
Valuation Value of Assets (VVA)	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.

Section 4: Actuarial Valuation Basis

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.
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

5705804v2/07916.003

City of Los Angeles Fire and Police Pension Plan

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

As of June 30, 2021

Segal

Segal

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November 10, 2021

Board of Fire and Police Pension Commissioners
City of Los Angeles Fire and Police Pension Plan
701 East 3rd Street, Suite 200
Los Angeles, CA 90013

Dear Board Members:

We are pleased to submit this Governmental Accounting Standards (GAS) 67 Actuarial Valuation as of June 30, 2021. It contains various information that will need to be disclosed in order to comply with GAS 67.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Plan. The census and financial information on which our calculations were based was prepared by Los Angeles Fire & Police Pensions (LAFPP). 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 Plan.

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

ST/jl

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 (GAS) 67 as of June 30, 2021. This valuation is based on:

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

General Observations on GAS 67 Actuarial Valuation

1. It is important to note that GAS 67 and 68 only define pension liability and expense for financial reporting purposes, and do not apply to contribution amounts for pension funding purposes. Employers and plans should develop and adopt funding policies under current practices.
2. When measuring pension liability, Governmental Accounting Standards Board (GASB) uses the same actuarial cost method (Entry Age method) and the same type of discount rate (expected return on assets) as LAFPP uses for funding. Note that, with regard to the actuarial cost method, the GASB rules use a version of the Entry Age method where the Total Pension Liability (TPL) must be fully accrued by the time a member either enters the DROP or is expected to elect the DROP. This is in contrast to the version of the Entry Age method used for funding, where the Actuarial Accrued Liability (AAL) is not fully accrued until members retire from employment after participation in the DROP. Under GASB, actives who are expected to enroll in the DROP in the future would report an annual Service Cost that is higher than the Normal Cost used for funding, while members already in the DROP would report no Service Cost even though their Normal Cost continues to accrue.

As the service retirement rates we use in the funding valuation have been developed based on the later date of exit from the DROP, we have adjusted those rates in this valuation so that they are based on the earlier date of first participation in the DROP. Those rates are provided in *Section 3, Appendix C*.

3. The Net Pension Liability (NPL) is equal to the difference between the TPL and the Plan Fiduciary Net Position. The Plan Fiduciary Net Position is equal to the market value of assets and therefore, the NPL measure is very similar to an Unfunded Actuarial Accrued Liability (UAAL) calculated on a market value basis. The NPL reflects all investment gains and losses as of the measurement date. This is different from the UAAL on an actuarial value of assets basis in the funding valuation that reflects investment gains and losses over a seven-year period.

Highlights of the Valuation

1. The NPL was measured as of June 30, 2021 and June 30, 2020. The Plan Fiduciary Net Position was valued as of the measurement dates and the TPL was determined based upon rolling forward the TPL from actuarial valuations as of June 30, 2020 and June 30, 2019, respectively. In addition, changes in actuarial assumptions or plan provisions that occurred between the valuation date and the measurement date have been reflected, if any.
2. The NPL decreased from $2.573 billion as of June 30, 2020 to $(2.702) billion (a surplus of assets over liability) as of June 30, 2021 mainly due to the gain from a return on the market value of assets of 32.59%[1] during 2020/2021 that was more than the assumption of 7.00% used in the June 30, 2020 valuation (a gain of about $5.47 billion). Changes in these values during the last two fiscal years ending June 30, 2020 and June 30, 2021 can be found in *Section 2, Schedule of Changes in Net Pension Liability* on page 18.
3. The discount rate used to measure the TPL and NPL as of June 30, 2021 and June 30, 2020 was 7.00%. The detailed calculations used in the derivation of the discount rate of 7.00% as of June 30, 2021 can be found in *Section 3, Appendix A*. Various other information that is required to be disclosed can be found throughout *Section 2*.
4. The City has implemented a Retirement Incentive Pay (RIP) program to allow sworn employees retiring or entering DROP to include deferred salary increases as part of their pension benefit calculation or to apply them toward their accrued leave payout at retirement. Under the RIP such deferred salary increases are treated like a pensionable bonus equivalent to the base wage increase that the unions agreed to defer for a period of time as previously scheduled. We understand that about 300 employees have chosen to participate in the RIP but the majority of those were still active as of June 30, 2021. Any associated change in payroll and/or liability when those members enter DROP or retire will be reflected in a future valuation.

[1] This was the rate of return for the Retirement Plan only and excluded the rate of return for the Health Plan.

Section 1: Actuarial Valuation Summary

5. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2021. Due to the COVID-19 pandemic, market conditions have changed significantly since the onset of the Public Health Emergency. The Plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the Plan Year. Moreover, this actuarial valuation is based on Plan data as of June 30, 2020 and it does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after June 30, 2020. While it is impossible to determine how the pandemic will affect market conditions and other demographic experience of the Plan in future valuations, Segal is available to prepare projections of potential outcomes upon request.

Summary of Key Valuation Results

Measurement Date		June 30, 2021	June 30, 2020
Disclosure Elements for Plan Year Ending June 30:	Service Cost[1]	$455,362,446	$410,559,219
	Total Pension Liability (TPL)	25,160,777,262	23,969,714,355
	Plan Fiduciary Net Position	27,862,307,134	21,396,932,648
	Net Pension Liability (NPL)	(2,701,529,872)	2,572,781,707
	Plan Fiduciary Net Position as a percentage of the TPL	110.74%	89.27%
Schedule of Contributions for Plan Year Ending June 30:	Actuarially determined contributions	$543,818,747	$516,638,053
	Actual contributions	543,818,747	516,638,053
	Contribution deficiency/(excess)	0	0
Demographic Data for Plan Year Ending June 30:[2]	Number of retired members and beneficiaries	13,527	13,291
	Number of inactive vested members[3]	633	575
	Number of DROP members	1,484	1,478
	Number of active members	11,339	12,008
Key Assumptions as of June 30:	Investment rate of return	7.00%	7.00%
	Inflation rate	2.75%	2.75%
	Projected salary increases[4]	Ranges from 4.15% to 12.25% based on years of service	Ranges from 4.15% to 12.25% based on years of service

[1] Excludes administrative expense load. The service cost is based on the previous year's assumptions, meaning the June 30, 2021 and June 30, 2020 values are based on the assumptions as of June 30, 2020 and June 30, 2019, respectively. The actuarial assumptions used to determine the service cost in the June 30, 2019 valuation were as follows:

Investment rate of return:	7.25%
Inflation rate:	3.00%
Projected salary increases:	Ranges from 4.30% to 12.00% based on years of service. Includes inflation at 3.00% plus real across-the-board salary increases of 0.50% plus merit and promotion increases

[2] Data as of June 30, 2020 is used in the measurement of the TPL as of June 30, 2021.

[3] Includes inactive members due only a refund of member contributions.

[4] For June 30, 2021 and June 30, 2020, includes inflation at 2.75% plus real across-the-board salary increases 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. Even when they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan description in this report (as well as the plan summary included in our funding valuation report) to confirm that Segal has correctly interpreted the plan of benefits.
Participant Data	An actuarial valuation for a plan is based on data provided to the actuary by LAFPP. 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 LAFPP.
Actuarial Assumptions	In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, termination, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan's assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.
Models	Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.

Section 1: Actuarial Valuation Summary

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

The valuation is prepared at the request of LAFPP. 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 LAFPP 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. LAFPP 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 LAFPP, it is not a fiduciary in its capacity as actuaries and consultants with respect to LAFPP.

Section 2: GAS 67 Information

General Information About the Pension Plan

Plan Description

Plan administration. The City of Los Angeles Fire and Police Plan (LAFPP) was established by the City of Los Angeles in 1899. LAFPP is a single employer public employee retirement system whose main function is to provide retirement benefits to the safety members employed by the City of Los Angeles. It should be noted that there are three member categories in LAFPP: (1) the Harbor Port Police (an enterprise fund), (2) the Airport Department (an enterprise fund) and (3) the other members associated with the City's Fire and Police Departments.

The Fire and Police Pension Plan is administered by a Board of Commissioners composed of five commissioners who are appointed by the Mayor, two commissioners elected by Police Members of the Plan and two commissioners elected by Fire Members of the Plan. Under provisions of the City Charter, the City Administrative Code and the State Constitution, the Board has the responsibility to administer the Plan.

Plan membership. At June 30, 2021, pension plan membership consisted of the following:

Retired members or beneficiaries currently receiving benefits	13,527
Inactive vested members entitled to but not yet receiving benefits[1]	633
DROP members	1,484
Active members	11,339
Total	**26,983**

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

Benefits provided. LAFPP provides service retirement, disability, death and survivor benefits to eligible sworn members of the Los Angeles Fire and Police Departments, Harbor Port Police and Airport Department. Sworn employees become members upon graduation from the Police Academy or Fire Drill Tower.

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

There are currently six tiers applicable to members of the LAFPP. Tier 1 includes members hired on or before January 28, 1967. Tier 2 includes members hired from January 29, 1967 through December 7, 1980, and those Tier 1 members who transferred to Tier 2 during the enrollment period of January 29, 1967 to January 29, 1968. Tier 3 includes members hired from December 8, 1980 through June 30, 1997 and those Tier 4 members hired during the period of July 1, 1997 through December 31, 1997 who elected to transfer to Tier 3 by the enrollment deadline of June 30, 1998. Tier 4 includes members hired from July 1, 1997 through December 31, 2001 and those Tier 3 members who elected to transfer to Tier 4 by the enrollment deadline of June 30, 1998. Tier 5 includes members hired from January 1, 2002 through June 30, 2011 and those active members of Tiers 2, 3, or 4 who elected to transfer to Tier 5 during the enrollment period of January 2, 2002 through December 31, 2002. Tier 6 was established for all firefighters and police officers hired on or after July 1, 2011.

Tier 1, Tier 2, and Tier 4 members are eligible to retire once they attain 20 years of service. Tier 3 members are eligible to retire once they reach age 50 and have attained 10 or more years of service. Tier 5 and Tier 6 members are eligible to retire once they reach age 50 and have attained 20 or more years of service.

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

The Tier 1 Service Retirement benefit is calculated pursuant to the provisions of Section 1304 of the Los Angeles Charter. The monthly allowance for a member with between 20 to 25 years of service who retires from active status is equal to 40% of the average monthly rate of salary assigned to the ranks or positions held by the member during the three years immediately preceding the date of his/her retirement plus 2% of the average rate of salary for each year of service in excess of 20 years. The monthly allowance for a member with between 25 to 34 years of service who retires from active status is equal to 50% of the average monthly rate of salary assigned to the ranks or positions held by the member during the three years immediately preceding the date of his/her retirement plus 1 2/3% of the average rate of salary for each year of service in excess of 25 years. The monthly allowance for a member with 35 or more years of service who retires from active status is equal to 66 2/3% of the average monthly rate of salary assigned to the ranks or positions held by the member during the three years immediately preceding the date of his/her retirement.

The Tier 2 Service Retirement benefit is calculated pursuant to the provisions of Section 1408 of the Los Angeles Charter. The monthly allowance for a member with less than 25 years of service who retires from active status is equal to 2% of Normal Pension Base per year of service. The monthly allowance for a member with 25 or more years of service who retires from active status is equal to 55% of Normal Pension Base plus 3% of Normal Pension Base for each year of service in excess of 25 years, with a maximum of 70% of Normal Pension Base.

The Tier 3 Service Retirement benefit is calculated pursuant to the provisions of Section 1504 of the Los Angeles Charter. The monthly allowance for a member with less than 20 years of service who retires from active status is equal to 2% of Final Average

Salary per year of service. The monthly allowance for a member with 20 or more years of service who retires from active status is equal to 40% of Final Average Salary plus 3% of Final Average Salary for each year of service in excess of 20 years, with a maximum of 70% of Final Average Salary.

The Tier 4 Service Retirement benefit is calculated pursuant to the provisions of Section 1604 of the Los Angeles Charter. The monthly allowance for a member who retires from active status is equal to 40% of Final Average Salary plus 3% per year of service over 20 years, with a maximum of 70% of Final Average Salary.

The Tier 5 Service Retirement benefit is calculated pursuant to the provisions of Section 4.2004 of the Los Angeles Administrative Code. The monthly allowance for a member who retires from active status is equal to 50% of Final Average Salary plus 3% per year of service over 20, except for the 30th year, where 4% is provided, with a maximum of 90% of Final Average Salary.

The Tier 6 Service Retirement benefit is calculated pursuant to the provisions of Section 1704 of the Los Angeles Charter. The monthly allowance for a member who retires from active status is equal to 40% of Final Average Salary, plus 3% of Final Average Salary per year of service from 21 through 25 years, 4% of Final Average Salary per year of service from 26 through 30 years, and 5% of Final Average Salary per year of service over 30 years, with a maximum of 90% of Final Average Salary.

Under Tier 1, pension benefits are calculated based on the average monthly rate of salary assigned to the ranks or positions held by the member during the three years immediately preceding the date of his/her retirement. Under Tier 2, pension benefits are calculated based on the Normal Pension Base, the final monthly salary rate. Under Tiers 3 – 6, pension benefits are calculated based on the Final Average Salary. Under Tiers 3 – 5, the Final Average Salary is the highest monthly average salary actually received during any 12 consecutive months of service. Under Tier 6 the Final Average Salary is the highest monthly average salary actually received during any 24 consecutive months of service.

LAFPP provides annual cost-of-living adjustments (COLAs) to retirees. The cost-of-living adjustments are made each July 1 and vary by Tier. Under Tier 1 and Tier 2, the COLA is 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. Under Tier 3 and Tier 4, the COLA is the same as under Tier 1 and Tier 2 but is capped at 3%, with a prorated COLA in the first year of retirement. Under Tier 5 and Tier 6, the COLA is the same as under Tier 3 and Tier 4, with the excess of the COLA over 3% banked for future use when the COLA is under 3%.

The City of Los Angeles contributes to the retirement plan based upon actuarially determined contribution rates adopted by the Board of Commissioners based upon recommendations received from LAFPP’s actuary after the completion of the annual actuarial valuation. The average employer contribution rate for fiscal year 2020 – 2021 (based on the June 30, 2019 valuation) was 33.92% of compensation.

Section 2: GAS 67 Information

All members are required to make contributions to LAFPP regardless of tier in which they are included. However, members are exempt from making contributions when their continuous service exceeds 30 years for Tiers 1 through 4, and 33 years for Tier 5 and Tier 6. The average member contribution rate for fiscal year 2020 – 2021 (based on the June 30, 2019 valuation) was 9.84% of compensation paid biweekly.

Net Pension Liability

The components of the Net Pension Liability were as follows:

Measurement Date	June 30, 2021	June 30, 2020
Total Pension Liability	$25,160,777,262	$23,969,714,355
Plan Fiduciary Net Position	27,862,307,134	21,396,932,648
Net Pension Liability	**$(2,701,529,872)**	**$2,572,781,707**
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	110.74%	89.27%

The Net Pension Liability (NPL) was measured as of June 30, 2021 and June 30, 2020. The Plan Fiduciary Net Position (plan assets) was valued as of the measurement dates and the Total Pension Liability (TPL) as of June 30, 2021 and June 30, 2020 was determined based upon rolling forward the TPL from actuarial valuations as of June 30, 2020 and June 30, 2019, respectively.

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

Actuarial assumptions. The TPLs as of June 30, 2021 and June 30, 2020 that were measured by actuarial valuations as of June 30, 2020 and June 30, 2019, respectively, used the following actuarial assumptions, which were based on the July 1, 2016 through June 30, 2019 Experience Study Report dated May 13, 2020, applied to all periods included in the measurement.

Inflation:	2.75%
Salary Increases:	Ranges from 4.15% to 12.25% based on years of service, including inflation.
Investment Rate of Return:	7.00%, net of pension plan investment expense, including inflation.
Mortality Tables:	See Mortality Experience Study During the Period July 1, 2010 through June 30, 2019.
Other Assumptions:	See analysis of actuarial experience during the period July 1, 2016 through June 30, 2019 and Appendix C for the service retirement rates after they have been adjusted to be based on the earlier date of first participation in the DROP.

Determination of Discount Rate and Investment Rates of Return

The long-term expected rate of return on pension plan investments was determined in 2020 using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation and deducting expected investment expenses and a risk margin. The target allocation and projected arithmetic real rates of return for each measurement class, after deducting inflation, but before reduction for 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 used in the actuarial valuations as of June 30, 2021. This information will 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	23%	5.40%
Small Cap U.S. Equity	6%	6.20%
Developed International Equity	16%	6.54%
Emerging Markets Equity	5%	8.78%
U.S. Core Fixed Income	13%	1.07%
TIPS	4%	0.62%
High Yield Bonds	3%	3.31%
Real Estate	7%	4.65%
Commodities	5%	3.05%
Cash	1%	0.01%
Unconstrained Fixed Income	2%	1.37%
Private Equity	12%	8.25%
REITS	3%	4.40%
Total	**100%**	**4.99%**

Section 2: GAS 67 Information

Discount rate. The discount rate used to measure the TPL was 7.00% as of June 30, 2021 and June 30, 2020. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rates for each tier and that employer contributions will be made at rates equal to the actuarially determined contribution rates for each tier. For this purpose, only employer contributions that are intended to fund benefits for current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the Plan Fiduciary Net Position was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the TPL as of both June 30, 2021 and June 30, 2020.

Discount Rate Sensitivity

Sensitivity of the Net Pension Liability to changes in the discount rate. The following presents the NPL of LAFPP as of June 30, 2021, calculated using the discount rate of 7.00%, as well as what LAFPP's NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (6.00%) or 1-percentage-point higher (8.00%) than the current rate:

	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Net Pension Liability as of June 30, 2021	$814,268,204	$(2,701,529,872)	$(5,555,520,445)

Schedule of Changes in Net Pension Liability

Measurement Date	June 30, 2021	June 30, 2020
Total Pension Liability		
• Service cost	$455,362,446	$410,559,219
• Interest	1,668,211,684	1,654,964,017
• Change of benefit terms	0	0
• Differences between expected and actual experience	254,451,398	(23,348,213)
• Changes of assumptions	0	48,286,287
• Benefit payments, including refunds of member contributions	(1,186,962,621)	(1,121,251,681)
• Other	0	0
Net change in Total Pension Liability	**$1,191,062,907**	**$969,209,629**
Total Pension Liability – beginning	**23,969,714,355**	**23,000,504,726**
Total Pension Liability – ending	**$25,160,777,262**	**$23,969,714,355**
Plan Fiduciary Net Position		
• Contributions – employer	$543,818,747	$516,638,053
• Contributions – member	157,785,911	153,786,863
• Net investment income	6,972,104,752	606,244,485
• Benefit payments, including refunds of member contributions	(1,186,962,621)	(1,121,251,681)
• Administrative expense	(21,372,303)	(20,685,435)
• Other	0	0
Net change in Plan Fiduciary Net Position	**$6,465,374,486**	**$134,732,285**
Plan Fiduciary Net Position – beginning	**21,396,932,648**	**21,262,200,363**
Plan Fiduciary Net Position – ending	**$27,862,307,134**	**$21,396,932,648**
Net Pension Liability – ending	**$(2,701,529,872)**	**$2,572,781,707**
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	110.74%	89.27%
Covered payroll[1]	$1,603,349,052	$1,509,613,198
Net Pension Liability as percentage of covered payroll	(168.49%)	170.43%

[1] Covered payroll represents payroll on which contributions to the pension plan are based.

Schedule of Employer Contributions

Year Ended June 30	Actuarially Determined Contributions[1]	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency / (Excess)	Covered Payroll[2]	Contributions as a Percentage of Covered Payroll[3]
2012	$321,593,433	$321,593,433	$0	$1,213,395,874	26.50%
2013	375,448,092	375,448,092	0	1,277,031,317	29.40%
2014	440,698,260	440,698,260	0	1,308,198,504	33.69%
2015	480,332,251	480,332,251	0	1,314,360,387	36.54%
2016	478,385,438	478,385,438	0	1,351,788,221	35.39%
2017	454,308,852	454,308,852	0	1,397,244,974	32.51%
2018	459,631,946 [4]	459,631,946[4]	0	1,451,995,822	31.66%
2019	504,877,399	504,877,399	0	1,487,977,884	33.93%
2020	516,638,053	516,638,053	0	1,509,613,198	34.22%
2021	543,818,747	543,818,747	0	1,603,349,052	33.92%

See accompanying notes to this schedule on the next page.

1 All “Actuarially Determined Contributions” through June 30, 2015 were determined as the “Annual Required Contribution” under GAS 25 and 27.

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

3 Contribution rate as a percentage of payroll reflects discount applied when the employer prepays its contributions. This rate has been “backed” into by dividing the actual contributions by the budgeted covered payroll.

4 Excludes $1,334,647 transferred from LACERS for the Airport Police members who elected to join LAFPP Tier 6.

Schedule of Employer Contributions (continued)

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 Actuarial Cost Method.
Amortization Method:	For Tier 1, level dollar amortization is used with the last period ending on June 30, 2037. For Tiers 2, 3 and 4, level percent of payroll amortization with multiple layers is used as a percent of total valuation payroll from the respective employer (i.e., City, Harbor Port Police or Airport Police). For Tiers 5 and 6, level percent of payroll with multiple layers is used as a percent of combined payroll for these tiers from the respective employer (i.e., City, Harbor Port Police or Airport Police).
Remaining Amortization Period:	Actuarial gains/losses are amortized over 20 years. Assumption changes are amortized over 20 years. Plan changes are amortized over 15 years.
Asset Valuation Method:	The market value of assets less unrecognized returns. Unrecognized return is equal to the difference between the actual and the expected return on a market value basis, and is recognized over a seven-year period. The actuarial value of assets is further adjusted, if necessary, to be within 40% of the market value of assets.
Actuarial Assumptions:	
Valuation Date:	**June 30, 2019 Valuation (used for establishing the ADC for the year ended June 30, 2021)**
Investment Rate of Return:	7.25%, net of investment expenses
Inflation Rate:	3.00%
Administrative Expenses:	Out of the total 1.25% of payroll in administrative expense, 1.16% of payroll payable biweekly is allocated to the Retirement Plan. This is equal to 1.12% of payroll payable at beginning of the year.
Real Across-the-Board Salary Increase:	0.50%
Projected Salary Increases:[1]	Ranges from 4.30% to 12.00% based on years of service
Cost of Living Adjustments:	3.00% of retirement income for all Tiers.
Other Assumptions	Same as those used in the June 30, 2019 funding actuarial valuation.

[1] Includes inflation at 3.00% plus across-the-board salary increases of 0.50% plus merit and promotion increases.

Section 3: Appendices

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

Year Beginning July 1,	Projected Beginning Plan Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Plan Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2020	$21,397	$702	$1,187	$21	$6,972	$27,862
2021	27,862	658	1,212	21	1,947	29,234
2022	29,234	488	1,375	20	2,024	30,351
2023	30,351	413	1,557	20	2,090	31,277
2024	31,277	360	1,426	19	2,156	32,348
2025	32,348	320	1,437	19	2,228	33,440
2026	33,440	277	1,513	19	2,298	34,483
2027	34,483	227	1,590	19	2,365	35,465
2028	35,465	219	1,669	19	2,430	36,426
2029	36,426	208	1,741	19	2,493	37,368
2041	45,555	76	2,665	12	3,086	46,040
2042	46,040	68	2,727	11	3,117	46,487
2043	46,487	63	2,781	11	3,146	46,903
2044	46,903	57	2,836	10	3,172	47,287
2045	47,287	50	2,895	9	3,196	47,630
2066	49,554	0	2,862	0 *	3,353	50,045
2067	50,045	0	2,801	0 *	3,390	50,634
2068	50,634	0	2,737	0 *	3,434	51,330
2069	51,330	0	2,669	0 *	3,485	52,147
2070	52,147	0	2,597	0	3,545	53,095
2101	242,770	0	80	0	16,991	259,680
2102	259,680	0	59	0	18,175	277,796
2103	277,796	0	42	0	19,444	297,198
2104	297,198	0	30	0	20,803	317,971
2105	317,971	0	20	0	22,257	340,208
2128	1,507,119	0	0 *	0	105,498	1,612,618
2129	1,612,618					
2129	Discounted Value: 1,082 **					

* Less than $1 million, when rounded.

** $1,612,618 million when discounted with interest at the rate of 7.00% per annum has a value of $1,082 million as of June 30, 2021. This residual fair value reflects the Plan's surplus amount (the Plan is projected to be overfunded after the deferred investment gains are recognized), offset by the amortization of the surplus over a rolling 30-year period that reduces the employer's normal cost and contributions to fund the administrative expenses for the closed group only.

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

Notes:

1. Amounts may not total exactly due to rounding.
2. Amounts shown in the year beginning July 1, 2020 are actual amounts, based on the unaudited financial statements provided by LAFPP.
3. Various years have been omitted from this table.
4. Column (a): Except for the "discounted value" shown for 2129, none of the projected beginning Plan Fiduciary Net Position amounts shown have been adjusted for the time value of money.
5. Column (b): Projected total contributions include member and employer normal cost contributions based on closed group projections (for covered active members as of June 30, 2020); plus employer contributions to the Unfunded Actuarial Accrued Liability; plus employer contributions to fund each year's annual administrative expenses, based on the Plan's funding policy. This includes a rolling 30-year amortization of surplus that reduces employer's normal cost contributions for the closed group when the Plan is projected to be overfunded after the deferred investment gains are recognized. Total contributions are assumed to occur at the beginning of the year.
6. Column (c): Projected benefit payments have been determined in accordance with paragraph 39 of GASB Statement No. 67, and are based on the closed group of active, inactive vested, retired members, and beneficiaries as of June 30, 2020. The projected benefit payments reflect the cost of living increase assumptions used in the June 30, 2021 valuation report. The projected benefit payments are assumed to occur beginning of the month, on average.
7. Column (d): Projected administrative expenses (payable at the beginning of the year) are calculated as 1.25% of projected payroll, based on the closed group of active members as of June 30, 2020. Projected administrative expenses are then adjusted to reflect the assumption that they 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 except for 2020/2021.
9. As illustrated in this Appendix, the Plan Fiduciary Net Position was projected to be available to make all projected future benefit payments for current Plan members. In other words, there is no projected "cross-over date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 7.00% per annum was applied to all periods of projected benefit payments to determine the Total Pension Liability as of June 30, 2021 shown earlier in this report, pursuant to paragraph 44 of GASB Statement No. 67.
10. This projection is based on a model developed by Segal actuaries and programmers. The model allows the client team, under the supervision of the responsible actuary, to customize and validate the entry of future expected contribution income, benefit payments and administrative expenses and review the results. The projection of Plan 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.

Active Employees:	Individuals employed at the end of the reporting or measurement period, as applicable.
Actual Contributions:	Cash contributions recognized as additions to a pension Plan Fiduciary Net Position.
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).
Closed Period:	A specific number of years that is counted from one date and declines to zero with the passage of time. For example, if the recognition period initially is five years on a closed basis, four years remain after the first year, three years after the second year, and so forth.

Contributions:	Additions to a pension Plan Fiduciary Net Position for amounts from employers, non-employer contributing entities (for example, state government contributions to a local government pension plan), or employees. Contributions can result from cash receipts by the pension plan or from recognition by the pension plan of a receivable from one of these sources.
Cost-of-Living Adjustments:	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Cost-Sharing Employer:	An employer whose employees are provided with pensions through a cost-sharing multiple-employer defined benefit pension plan.
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.
Deferred Retirement Option Program (DROP):	A program that permits an employee to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The employee continues to provide service to the employer and is paid for that service by the employer after the DROP entry date; however, the pensions that would have been paid to the employee (if the employee had retired and not entered the DROP) are credited to an individual employee account within the defined benefit pension plan until the end of the DROP period.
Defined Benefit Pension Plans:	Pension plans that are used to provide defined benefit pensions.
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 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.
Measurement Period:	The period between the prior and the current measurement dates.
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.
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:	An employer whose employees are provided with pensions through a single-employer defined benefit pension plan.
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.

Appendix C: Retirement Rates After Adjustment for DROP Participation

As the service retirement rates we use in the funding valuation have been developed based on the later date of exit from the DROP, we have adjusted those rates in this GASB valuation so that they are based on the earlier date of first participation in the DROP. Retirement rates used in our June 30, 2021 and June 30, 2020 funding valuations are shown on the next page. Please note that those rates are applicable in the GASB valuation for actives not eligible to enter the DROP. A sample of those rates used in the GASB valuation for an active eligible to enter the DROP at age 55 are as follows:

Retirement Rates for June 30, 2021 and June 30, 2020 Funding Valuations (Also applicable to actives not eligible to enter the DROP in GASB valuation)

	Fire			Police		
Age	Tiers 2 & 4	Tiers 3 & 5	Tier 6	Tiers 2 & 4	Tiers 3 & 5	Tier 6
41	1.00%	0.00%	0.00%	10.00%	0.00%	0.00%
42	1.00	0.00	0.00	10.00	0.00	0.00
43	1.00	0.00	0.00	10.00	0.00	0.00
44	1.00	0.00	0.00	10.00	0.00	0.00
45	1.00	0.00	0.00	10.00	0.00	0.00
46	1.00	0.00	0.00	7.00	0.00	0.00
47	1.00	0.00	0.00	7.00	0.00	0.00
48	2.00	0.00	0.00	5.00	0.00	0.00
49	2.00	0.00	0.00	5.00	0.00	0.00
50	3.00	1.00	2.00	10.00	8.00	6.00
51	5.00	1.00	2.00	10.00	4.00	5.00
52	8.00	1.00	2.00	12.00	4.00	5.00
53	10.00	1.00	2.00	20.00	5.00	5.00
54	20.00	6.00	5.00	30.00	12.00	15.00
55	20.00	14.00	10.00	35.00	20.00	20.00
56	20.00	15.00	12.00	30.00	20.00	20.00
57	20.00	16.00	15.00	30.00	20.00	20.00
58	20.00	20.00	18.00	30.00	20.00	20.00
59	20.00	22.00	20.00	30.00	20.00	20.00
60	25.00	25.00	25.00	30.00	25.00	25.00
61	25.00	27.00	27.00	30.00	25.00	25.00
62	25.00	33.00	30.00	30.00	25.00	25.00
63	25.00	35.00	35.00	30.00	25.00	25.00
64	30.00	40.00	40.00	40.00	35.00	35.00
65	50.00	50.00	50.00	50.00	50.00	50.00
66	50.00	50.00	50.00	50.00	50.00	50.00
67	50.00	50.00	50.00	50.00	50.00	50.00
68	50.00	50.00	50.00	50.00	50.00	50.00
69	50.00	50.00	50.00	50.00	50.00	50.00
70	100.00	100.00	100.00	100.00	100.00	100.00

Sample Retirement Rates for June 30, 2021 and June 30, 2020 GASB Valuations (For actives eligible to enter the DROP at 55)

	Fire			Police		
Age	Tiers 2 & 4	Tiers 3 & 5	Tier 6	Tiers 2 & 4	Tiers 3 & 5	Tier 6
41	1.00%	0.00%	0.00%	10.00%	0.00%	0.00%
42	1.00	0.00	0.00	10.00	0.00	0.00
43	1.00	0.00	0.00	10.00	0.00	0.00
44	1.00	0.00	0.00	10.00	0.00	0.00
45	1.00	0.00	0.00	10.00	0.00	0.00
46	1.00	0.00	0.00	7.00	0.00	0.00
47	1.00	0.00	0.00	7.00	0.00	0.00
48	2.00	0.00	0.00	5.00	0.00	0.00
49	2.00	0.00	0.00	5.00	0.00	0.00
50	3.00	1.00	2.00	10.00	8.00	6.00
51	5.00	1.00	2.00	10.00	4.00	5.00
52	8.00	1.00	2.00	12.00	4.00	5.00
53	10.00	1.00	2.00	20.00	5.00	5.00
54	20.00	6.00	5.00	30.00	12.00	15.00
55	27.78	23.10	20.49	39.45	27.78	27.78
56	29.61	26.29	24.43	36.74	29.61	29.61
57	31.86	32.01	30.48	39.48	31.86	31.86
58	34.64	39.88	38.93	43.35	34.64	34.64
59	41.68	49.90	48.66	55.04	45.29	45.29
60	45.74	45.07	45.14	45.32	45.63	45.63
61	45.18	44.61	44.68	44.87	45.07	45.07
62	44.62	44.41	44.33	44.43	44.51	44.51
63	44.07	44.14	44.14	44.00	43.96	43.96
64	43.78	44.07	44.07	44.07	43.92	43.92
65	86.20	86.20	86.20	86.20	86.20	86.20
66	2.50	2.50	2.50	2.50	2.50	2.50
67	2.50	2.50	2.50	2.50	2.50	2.50
68	2.50	2.50	2.50	2.50	2.50	2.50
69	2.50	2.50	2.50	2.50	2.50	2.50
70	100.00	100.00	100.00	100.00	100.00	100.00

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City of Los Angeles Fire and Police Pension Plan (LAFPP)

Governmental Accounting Standards Board Statement (GAS 74) Actuarial Valuation and Review of Other Postemployment Benefits (OPEB)

As of June 30, 2021

Segal

Segal

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November 10, 2021

Board of Fire and Police Pension Commissioners
City of Los Angeles Fire and Police Pension Plan
701 East 3rd Street, Suite 200
Los Angeles, CA 90013

Dear Board Members:

We are pleased to submit this Governmental Accounting Standards (GAS) 74 Actuarial Valuation as of June 30, 2021. 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 in administering the Plan. The census and financial information on which our calculations were based was prepared by Los Angeles Fire and Police Pensions (LAFPP). 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, FCA, Enrolled Actuary. The health care trend and other related medical assumptions have been reviewed by Melissa Krumholz, FSA, 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 Plan.

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

Sincerely,

Segal

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

JC/jl

Table of Contents

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, 2021. This valuation is based on:

- The benefit provisions of the OPEB plan, as administered by the Board of Commissioners;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of June 30, 2021, provided by LAFPP;
- The assets of the Plan as of June 30, 2021, provided by LAFPP;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board for the June 30, 2021 valuation; and
- Other (health and non-health) actuarial assumptions, regarding employee terminations, retirement, death, health care trend and enrollment, etc. adopted by the Board for the June 30, 2021 valuation.

General observations on GAS 74 actuarial valuation

1. It is important to note that GAS 74 and 75 only define OPEB liability and expense for financial reporting purposes, and do not apply to contribution amounts for OPEB funding purposes. Employers and plans should develop and adopt funding policies under current practices.
2. When measuring OPEB liability, GASB uses the same actuarial cost method (Entry Age) and the same type of discount rate (expected return on Plan assets) as LAFPP uses 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.
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 very similar to an 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 on an actuarial value of assets basis in the funding valuation that reflects investment gains and losses over a seven-year period.

Highlights of the valuation

1. The NOLs measured as of June 30, 2021 and 2020 have been determined from the valuations as of June 30, 2021 and 2020, respectively.
2. The NOL has decreased from $1,566 million as of June 30, 2020 to $905 million as of June 30, 2021 mainly due to:
   - Gain from a return on the market value of assets of about 30.92% during 2020/2021 that was more than the 7.00% assumption.
   - On average, health premiums and subsidies for 2021/2022 were lower than projected in the prior valuation. This was due in part to the Board's action to increase the maximum non-Medicare subsidy by 2.00%, which is lower than the 4.75% assumed in the prior valuation.

   However, the above reductions are offset to some degree by the updated trend assumption.
3. The discount rate used in the valuation for financial disclosure purposes as of June 30, 2021 is the assumed investment return on Plan assets (e.g. 7.00% for the June 30, 2021 funding valuation). 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.
4. The City has implemented a Retirement Incentive Pay (RIP) program to allow sworn employees retiring or entering DROP to include deferred salary increases as part of their pension benefit calculation or to apply them toward their accrued leave payout at retirement. Under the RIP such deferred salary increases are treated like a pensionable bonus equivalent to the base wage increase that the unions agreed to defer for a period of time as previously scheduled. We understand that about 300 employees have chosen to participate in the RIP but the majority of those were still active as of June 30, 2021. Any associated change in payroll and/or liability when those members enter DROP or retire will be reflected in a future valuation.
5. As noted above this actuarial valuation is based on plan assets as of June 30, 2021. Due to the COVID-19 pandemic, market conditions have changed significantly since the onset of the Public Health Emergency. The Plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the Plan Year. Also, this valuation does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after June 30, 2021. While it is impossible to determine how the pandemic will continue to affect market conditions 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, 2021	June 30, 2020
Disclosure Elements for Plan Year Ending June 30:	Service Cost[1]	$80,617,523	$79,394,222
	Total OPEB Liability (TOL)	3,793,174,035	3,709,858,281
	Plan Fiduciary Net Position	2,888,310,382	2,143,448,187
	Net OPEB Liability (NOL)	904,863,653	1,566,410,094
	Plan Fiduciary Net Position as a percentage of the TOL	76.14%	57.78%
Schedule of Contributions for Plan Year Ending June 30:	Actuarially determined contributions	$200,424,568	$193,213,520
	Actual contributions	200,424,568	193,213,520
	Contribution deficiency/(excess)	0	0
Demographic Data for Plan Year Ending June 30:	Number of retired members, married dependents and beneficiaries receiving a health subsidy	17,909	17,654
	Number of vested terminated members, retirees, and beneficiaries entitled to, but not yet receiving, benefits	948	875
	Number of active members	12,823	13,486
Key Assumptions as of June 30:	Discount rate	7.00%	7.00%
	Health care premium trend rates		
	Non-Medicare medical plan	7.50% then graded to ultimate 4.50% over 12 years	4.75%[2], then 6.50% then graded to ultimate 4.50% over 8 years
	Medicare medical plan	6.50% then graded to ultimate 4.50% over 8 years	4.50%[2], then 6.00% then graded to ultimate 4.50% over 6 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, 2021 and 2020 values are based on the valuations as of June 30, 2020 and June 30, 2019 respectively. The key assumptions used in the June 30, 2019 valuation are as follows:

Discount rate	7.25%
Health care premium trend rates	
Non-Medicare medical plan	8.75% then graded to ultimate 4.50% over 9 years
Medicare medical plan	8.00% then graded to ultimate 4.50% over 7 years
Dental	4.00%
Medicare Part B	4.50%

[2] The trends shown reflect reduction of 2.00% (non-Medicare) and 1.75% (Medicare) from the impact of the repeal of the Health Insurance Tax.

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 LAFPP. 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 LAFPP.
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 trend 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.

Section 1: Actuarial Valuation Summary

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. Our per capita cost assumptions are based on proprietary modeling software as well as models that were developed by others. These models generate demographic factors that are used in our valuation software. Our Health Technical Services Unit, comprised of actuaries and programmers, is responsible for the initial development and maintenance of our health models. They are also responsible for testing models that we purchase from other vendors for reasonableness. The client team inputs the demographic data, enrollments, plan provisions and assumptions into these models and reviews the results for reasonableness, under the supervision of the responsible actuary

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 LAFPP. 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 LAFPP 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. LAFPP should look to their other advisors for expertise in these areas.
Sections of this report include actuarial results that are not rounded, but that does not imply precision.
Critical events for a plan include, but are not limited to, decisions about changes in benefits and contributions. The basis for such decisions needs to consider many factors such as the risk of changes in plan enrollment, emerging claims experience, health care trend, and investment losses, not just the current valuation results.
While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.

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

Section 2: GAS 74 Information

General information about the OPEB plan

Plan Description

Plan administration. The City of Los Angeles Fire and Police Pensions (LAFPP) was established by the City of Los Angeles in 1899. LAFPP is a single employer public employee retirement system whose main function is to provide retirement benefits to the safety members employed by the City of Los Angeles. It should be noted that there are three member categories in LAFPP: (1) the Harbor Port Police (an enterprise fund), (2) the Airport Department (an enterprise fund), and (3) the other members associated with the City's Fire and Police Departments.

The Fire and Police Pension Plan is administered by a Board of Commissioners composed of five commissioners who are appointed by the Mayor, two commissioners elected by Police Members of the Plan and two commissioners elected by Fire Members of the Plan. Under provisions of the City Charter, the City Administrative Code and the State Constitution, the Board has the responsibility to administer the Plan.

Plan membership. At June 30, 2021, OPEB plan membership consisted of the following:

Retired members, married dependents and beneficiaries currently receiving benefits	17,909
Vested terminated members, retirees and beneficiaries entitled to, but not yet receiving benefits	948
Active members[1]	12,823
Total	**31,680**

Benefits provided. The LAFPP provides OPEB benefits to eligible sworn members of the Los Angeles Fire and Police Departments, Harbor Port Police and Airport Department. Sworn employees become members upon graduation from the Police Academy or Fire Drill Tower. There are currently six tiers applicable to members of the LAFPP. Tier 1 includes members hired on or before January 28, 1967. Tier 2 includes members hired from January 29, 1967 through December 7, 1980, and those Tier 1 members who transferred to Tier 2 during the enrollment period of January 29, 1967 to January 29, 1968. Tier 3 includes members hired from December 8, 1980 through June 30, 1997 and those Tier 4 members hired during the period of July 1, 1997 through December 31, 1997 who elected to transfer to Tier 3 by the enrollment deadline of June 30, 1998. Tier 4 includes members hired from July 1, 1997 through December 31, 2001 and those Tier 3 members who elected to transfer to Tier 4 by the enrollment deadline of June

[1] The 12,823 active member count includes 1,484 DROP members.

30, 1998. Tier 5 includes members hired from January 1, 2002 through June 30, 2011 and those active members of Tiers 2, 3, or 4 who elected to transfer to Tier 5 during the enrollment period of January 2, 2002 through December 31, 2002. Tier 6 was established for all firefighters and police officers hired on or after July 1, 2011. Tier 1, Tier 2, and Tier 4 members are eligible to retire once they attain 20 years of service. Tier 3 members are eligible to retire once they reach age 50 and have attained 10 or more years of service. Tier 5 and Tier 6 members are eligible to retire once they reach age 50 and have attained 20 or more years of service.

LAFPP Provides the Following Benefits to Eligible Members:

Subsidy for Members Not Eligible for Medicare A & B

Eligibility	Retired Members who retired with 10 or more years of service. Benefits commence no earlier than age 55. Members who retired prior to July 1, 1998 are subject to an eligibility requirement of age 60 with 10 or more years of service. Subsidy is paid only to Members on service or disability retirements. Surviving spouses and surviving domestic partners are eligible for health benefits upon the Member's date of death if the Member had attained age 55 prior to death. Otherwise, health benefits for survivors shall commence on the date that the Member would have reached age 55. Basic subsidy is paid until age 65, or after age 65 if Member is not covered by Medicare Parts A and B.
Amount of Subsidy	4% per year of service, to a maximum of 100%, times Maximum Subsidy, subject to a maximum of the actual premium paid to the Board's approved health carrier.
Maximum Subsidy	As of July 1, 2021, maximum is $1,958.82 per month. For surviving spouse or domestic partner, the maximum subsidy is $853.39 per month.
Increase in Subsidy	For employees not subject to freeze, the Board's health subsidy amount may increase at lesser of 7% or medical trend as shown in Section 4, Exhibit 2 - Healthcare Premium Cost Trend Rates of the OPEB funding valuation report.
Dependent Portion	Difference between basic subsidy maximum amount and single-party premium.

Section 2: GAS 74 Information

Subsidy for Members Eligible for Medicare A & B

Eligibility	Retired Members over age 65 with 10 or more years of service who participate in Medicare
Amount of Subsidy to Participant:	For retirees, health subsidy is provided subject to the following vesting schedule: **Completed Years of Service** / **Vested Percentage** 10-14: 75% 15-19: 90% 20+: 100% Surviving spouses or surviving domestic partners are eligible for benefits upon the death of the Member.
Maximum Subsidy	As of July 1, 2021, the single coverage maximum subsidy for retirees and surviving spouse or domestic partner is $564.92. The multi-person coverage maximum subsidy is $1,189.56 and depends on the carrier elected. The Board's health subsidy amount may: • For Medicare retirees with single party premium, increase with medical trend as shown in Summary of Key Valuation Results on page 6, • For Medicare retirees with 2-party premium less than or equal to the maximum subsidy as of July 1, 2021 (e.g., Fire Kaiser), increase with medical trend as shown in Summary of Key Valuation Results on page 6, and • For Medicare retirees with 2-party premium greater than the maximum subsidy as of July 1, 2021 (e.g., Police Blue Cross), increase with lesser of 7% or medical trend as shown in Summary of Key Valuation Results on page 6.
Dependent Portion:	Calculation based on Board of Fire and Police Pension Commissioners Resolution No. 9320: equal to the amount payable on behalf of the dependents of a retired member in the same plan, with the same years of service, who qualifies for an under 65 or Part B/D only subsidy, whichever is greater, providing such subsidy does not exceed the civilian retiree dependent subsidy.
Subsidy Freeze:	The retiree health benefits program was changed to freeze the medical subsidy for nonretired members not enrolled in the DROP as of July 14, 2011 who did not begin to contribute an additional 2% of base salary to the Pension Plan. • The frozen subsidy is different for Medicare and non-Medicare retirees. • The freeze applies to the medical subsidy limits in effect for the 2011-2012 plan year. • The freeze does not apply to the dental subsidy or the Medicare Part B premium reimbursement.
Implicit Subsidy:	Fire Kaiser non-Medicare retirees are charged a premium that reflects blending with active employees. The difference between the retiree-only cost and the blended premium is the implicit subsidy.

Section 2: GAS 74 Information

Medicare Part B -Related Subsidy

Medicare Part B Premium Reimbursement	For retired Members enrolled in Medicare A & B who are eligible to receive a subsidy, the Plan provides payment of Part B premiums ($148.50 for calendar year 2021, for all eligible retirees and beneficiaries).

Dental Subsidy

Eligibility	Retired Members who retired with 10 or more years of service. Benefits commence no earlier than age 55. Subsidy is paid only to Members on service or disability retirements. Surviving spouses/domestic partners are not eligible for benefits upon the death of the Member.
Amount of Subsidy	4% per year of service, to a maximum of 100%, times Maximum Subsidy, subject to a maximum of the single-party premium paid to Board approved dental carrier.
Maximum Subsidy	Lesser of monthly amount paid to active Fire and Police Members and retired City Employees' Retirement System (CERS) Members. As of July 1, 2021, maximum is $44.60 per month.

Retiree Contributions

To the extent the subsidies are less than the medical or dental premiums, the retiree contributes the cost difference.

Net OPEB Liability

Measurement Date	June 30, 2021	June 30, 2020
Total OPEB Liability	$3,793,174,035	$3,709,858,281
Plan Fiduciary Net Position	2,888,310,382	2,143,448,187
Net OPEB Liability	**$904,863,653**	**$1,566,410,094**
Plan Fiduciary Net Position as a percentage of the Total OPEB Liability	76.14%	57.78%

The Net OPEB Liability (NOL) was measured as of June 30, 2021 and 2020. The Plan's Fiduciary Net Position (plan assets) was valued as of the measurement date, while the Total OPEB Liability (TOL) was determined based upon the results of the funding actuarial valuations as of June 30, 2021 and 2020.

Plan provisions. The plan provisions used in the measurement of the TOL as of June 30, 2021 and 2020 are the same as those used in the LAFPP funding valuations as of June 30, 2021 and 2020, respectively.

Actuarial assumptions. The TOL as of June 30, 2021 and 2020 were determined by actuarial valuations as of June 30, 2021 and 2020, respectively. The actuarial assumptions were based on the results of an experience study for the period from July 1, 2016 through June 30, 2019 with the exception of the mortality assumption where the Board adopted the updated Pub-2010 mortality tables proposed in a separate letter dated December 12, 2019 and the health assumptions letter dated September 8, 2021. They are the same as the assumptions used in the June 30, 2021 funding actuarial valuation. In particular, the following actuarial assumptions were applied to all periods included in the measurement:

Inflation	2.75%
Salary increases	Ranges from 4.15% to 12.25% based on years of service, including inflation
Discount rate	7.00%, net of OPEB Plan investment expense, including inflation
Other assumptions	Same as those used in the June 30, 2021 funding actuarial valuation

Determination of discount rate and investment rates of return

The long-term expected rate of return on OPEB plan investments was determined in 2020 using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation and deducting expected investment expenses and a risk margin. The target allocation and projected arithmetic real rates of return for each measurement class, after deducting inflation, but before reduction for 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 as of June 30, 2021. This information will 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	23%	5.40%
Small Cap U.S. Equity	6%	6.20%
Developed International Equity	16%	6.54%
Emerging Markets Equity	5%	8.78%
U.S. Core Fixed Income	13%	1.07%
TIPS	4%	0.62%
High Yield Bonds	3%	3.31%
Real Estate	7%	4.65%
Commodities	5%	3.05%
Cash	1%	0.01%
Unconstrained Fixed Income	2%	1.37%
Private Equity	12%	8.25%
REITS	3%	4.40%
Total	**100%**	**4.99%**

Section 2: GAS 74 Information

Discount rate: The discount rate used to measure the TOL was 7.00% as of June 30, 2021 and June 30, 2020. 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 each tier. 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 Plan Fiduciary Net Position was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to all periods of projected benefit payments to determine the TOL as of both June 30, 2021 and June 30, 2020.

Discount rate and trend sensitivity

Sensitivity of the NOL to changes in the discount rate. The following presents the NOL of LAFPP as of June 30, 2021, calculated using the discount rate of 7.00%, as well as what LAFPP's NOL 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%)
NOL as of June 30, 2021	$1,477,432,841	$904,863,653	$442,549,325

Sensitivity of the NOL to changes in the trend rate. The following presents the NOL of LAFPP as of June 30, 2021, as well as what LAFPP's NOL 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[1]	Current Trend Rate[1]	1% Increase[1]
NOL as of June 30, 2021	$422,856,037	$904,863,653	$1,513,968,861

1 Current trend rates: 7.50%, then graded down to 4.50% over 12 years for Non-Medicare medical plan costs and 6.50% then graded down to 4.50% over 8 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.

Schedules of changes in LAFPP Net OPEB Liability – last two fiscal years

Measurement Date	June 30, 2021	June 30, 2020
Total OPEB Liability		
• Service cost[1]	$80,617,523	$79,394,222
• Interest	260,018,367	263,087,860
• Change of benefit terms	0	0
• Differences between expected and actual experience	8,191,707	(190,524,818)
• Changes of assumptions	(113,656,449)	80,297,239
• Benefit payments	(151,855,394)	(143,600,149)
• Other	0	0
Net change in Total OPEB Liability	$83,315,754	$88,654,354
Total OPEB Liability – beginning	**3,709,858,281**	**3,621,203,927**
Total OPEB Liability – ending	**$3,793,174,035**	**$3,709,858,281**
Plan Fiduciary Net Position		
• Contributions – employer	$200,424,568	$193,213,520
• Contributions – member	0	0
• Net investment income	698,434,002	58,100,959
• Benefit payments	(151,855,394)	(143,600,149)
• Administrative expense	(2,140,981)	(1,982,440)
• Other	0	0
Net change in Plan Fiduciary Net Position	**$744,862,195**	**$105,731,890**
Plan Fiduciary Net Position – beginning	**2,143,448,187**	**2,037,716,297**
Plan Fiduciary Net Position – ending	**$2,888,310,382**	**$2,143,448,187**
Net OPEB Liability – ending	**$904,863,653**	**$1,566,410,094**
Plan Fiduciary Net Position as a percentage of the Total OPEB Liability	**76.14%**	**57.78%**
Covered payroll[2]	**$1,603,349,052**	**$1,509,613,198**
Net OPEB Liability as percentage of covered payroll	**56.44%**	**103.76%**

[1] The service cost is always based on the previous year's valuation, meaning the June 30, 2021 and 2020 values are based on the valuations as of June 30, 2020 and June 30, 2019, respectively.

[2] Covered payroll represents payroll on which contributions to the OPEB plan are based.

Schedule of LAFPP's contributions – last ten fiscal years

Year Ended June 30	Actuarially Determined Contributions[1]	Contributions in Relation to the Actuarially Determined Contributions[1]	Contribution Deficiency (Excess)	Covered Payroll[2]	Contributions as a Percentage of Covered Payroll[3]
2012	$122,971,851	$122,971,851	$0	$1,213,395,874	10.13%
2013	132,939,191	132,939,191	0	1,277,031,317	10.41%
2014	138,106,847	138,106,847	0	1,308,198,504	10.56%
2015	148,476,512	148,476,512	0	1,314,360,387	11.30%
2016	150,315,374	150,315,374	0	1,351,788,221	11.12%
2017	165,170,422	165,170,422	0	1,397,244,974	11.82%
2018	178,462,244[4]	178,462,244[4]	0	1,451,995,822	12.29%
2019	188,019,917	188,019,917	0	1,487,977,884	12.64%
2020	193,213,520	193,213,520	0	1,509,613,198	12.80%
2021	200,424,568	200,424,568	0	1,603,349,052	12.50%

See accompanying notes to this schedule on the next page.

1 Payable as of July 15.

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

3 Contribution rate as a percentage of payroll reflects discount applied when the employer prepays its contributions. This rate has been “backed” into by dividing the actual contributions by the budgeted covered-employee payroll.

4 Excludes $517,068 transferred from LACERS for the Airport Police members who elected to join LAFPP Tier 6.

Notes to Schedule:

Methods and assumptions used to establish "actuarially determined contribution" (ADC) rates:

The assumptions used in establishing the ADC for the year ended June 30, 2021 were based on the June 30, 2019 funding valuation.

Valuation date:	Actuarially determined contribution rates are calculated as of June 30, two years prior to the end of the fiscal year in which contributions are reported
Actuarial cost method:	Entry Age Actuarial Cost Method
Amortization method:	For Tier 1, level dollar amortization is used with last period ending on June 30, 2037. For Tiers 2, 3 and 4, level percent of payroll amortization with multiple layers is used as a percent of total valuation payroll from the respective employer (i.e., City). For Tiers 5 and 6, level percent of payroll with multiple layers is used as a percent of combined payroll for these tiers from the respective employer (i.e., City, Harbor Department or Airport Department).
Remaining amortization period:	Actuarial gains/losses are amortized over 20 years. Assumption changes are amortized over 20 years. Plan changes are amortized over 15 years.
Asset valuation method:	The market value of assets less unrecognized returns. Unrecognized return is equal to the difference between the actual and the expected return on a market value basis, and is recognized over a seven-year period. The actuarial value of assets is further adjusted, if necessary, to be within 40% of the market value of assets.
Actuarial Assumptions:	
Valuation Date:	June 30, 2019 Valuation (used for establishing the ADC for the year ended June 30, 2021)
Investment rate of return	7.25%, net of investment expenses
Inflation rate	3.00%
Administrative Expenses:	Out of the total 1.25% of payroll in administrative expense, 0.09% of payroll payable biweekly is allocated to the OPEB Plan. This is equal to 0.09% of payroll payable at beginning of the year.
Real across-the-board salary increase	0.50%
Projected salary increases[1]	Ranges from 4.30% to 12.00% based on years of service
Other assumptions	Same as those used in the June 30, 2019 funding actuarial valuation.

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[1] Includes inflation at 3.00% 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.

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 OPEB Liability, and related actuarial present value of projected benefit payments for OPEB 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 OPEB 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.
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 OPEB plan) or to another variable (such as an increase in healthcare premiums).
Covered Payroll:	Payroll on which contributions to the OPEB plan are based.
Other Postemployment Benefits (OPEB):	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from an OPEB plan, as well as postemployment healthcare benefits, regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.
Defined Benefit OPEB Plans:	OPEB plans that are used to provide defined benefit OPEB.
Defined Benefit OPEB:	OPEB 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 OPEB 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. (OPEB that does not meet the criteria of a defined contribution OPEB is classified as a defined benefit OPEB for purposes of Statement 74.)
Defined Contribution OPEB Plans:	OPEB plans that are used to provide defined contribution OPEB.

Defined Contribution OPEB:	OPEB 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 OPEB 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 OPEB 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 OPEB Plan Fiduciary Net Position is projected (under the requirements of Statement 74) to be greater than the benefit payments that are projected to be made in that period and (b) OPEB 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 OPEB 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.
OPEB Plans:	Arrangements through which OPEB are determined, assets dedicated for OPEB are accumulated and managed and benefits are paid as they come due.
Multiple-Employer Defined Benefit OPEB Plan:	A defined benefit OPEB plan that is used to provide OPEB to the employees of more than one employer.
Cost-Sharing Multiple-Employer Defined Benefit OPEB Plan (Cost-Sharing OPEB Plan):	A multiple-employer defined benefit OPEB plan in which the OPEB obligations to the employees of more than one employer are pooled and OPEB plan assets can be used to pay the benefits of the employees of any employer that provides OPEB through the OPEB plan.
Net OPEB Liability (NOL):	The liability of employers and non-employer contributing entities to employees for benefits provided through a defined benefit OPEB plan.

Plan Members:	Individuals that are covered under the terms of an OPEB 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 OPEB 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 OPEB 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 OPEB plans; also may administer other types of employee benefit plans, retirement income 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 OPEB Plan (Single-Employer OPEB Plan):	A defined benefit OPEB plan that is used to provide OPEB 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 OPEB Liability (TOL):	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 74.

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