Mendocino County Employees' Retirement Association

Actuarial Valuation and Review

As of June 30, 2020

This report has been prepared at the request of the Board of Retirement to assist in administering the Fund. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Retirement and may only be provided to other parties in its entirety, unless expressly authorized by Segal. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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October 26, 2020

Board of Retirement
Mendocino County Employees' Retirement Association
625-B Kings Court
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Dear Board Members:

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

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

The actuarial calculations were directed 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 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 Association.

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

Sincerely,

Segal

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

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

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Section 1: Actuarial Valuation Summary

Purpose and Basis

This report was prepared by Segal to present a valuation of the Mendocino County Employees' Retirement Association ("the Plan") as of June 30, 2020. The valuation was performed to determine whether the assets and contribution rates are sufficient to provide the prescribed benefits. The measurements shown in this actuarial valuation may not be applicable for other purposes. In particular, the measures herein are not necessarily appropriate for assessing the sufficiency of 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 Retirement;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of June 30, 2020, provided by the Retirement Association;
- The assets of the Plan as of June 30, 2020, provided by the Retirement Association;
- Economic assumptions regarding future salary increases and investment earnings;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc. that the Board has adopted for the June 30, 2020 valuation; and
- The funding policy adopted by the Board of Retirement.

One of the general goals of an actuarial valuation is to establish contributions which fully fund the Association'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 Association's liabilities and future contribution requirements. Our calculations are based upon member data and financial information provided to us by the

Association's staff. 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 Association'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.[1] Details of the funding policy are provided in *Section 4, Exhibit I* on page 85.

A schedule of current amortization balances and payments may be found in *Section 3, Exhibit I* on pages 71-72. A graphical projection of the Unfunded Actuarial Accrued Liability (UAAL) amortization balances and payments has been included in *Section 3, Exhibit J* on pages 73-74.

The rates calculated in this report may be adopted by the Board for the fiscal year that extends from July 1, 2021 through June 30, 2022.

[1] A "Statement of Actuarial Funding Policy" was adopted by the Board on April 17, 2013. Subsequently, an "Actuarial Practices and Funding Policy" was adopted by the Board on April 19, 2017, which superseded the Statement of Actuarial Funding Policy. The Board amended the Actuarial Practices and Funding Policy on February 21, 2018.

Valuation Highlights

Pgs. 37-38 1. In the June 30, 2019 valuation, the ratio of the valuation value of assets to actuarial accrued liabilities was 70.6%. In this June 30, 2020 valuation, this funding ratio has decreased to 69.3%. On a market value basis, the funded ratio decreased from 71.3% to 67.8%.

Pg. 79 2. The results of this valuation reflect changes in the actuarial assumptions as recommended by Segal and adopted by the Board for the June 30, 2020 valuation. These changes were documented in our Actuarial Experience Study report dated June 11, 2020 and are also outlined in *Section 4, Exhibit I* of this report. These assumption changes resulted in an increase in the aggregate employer rate of 2.71% of compensation and an increase in the aggregate member rate of 0.93% of compensation. Of the various assumption changes, the most significant cost impact is from the change in the merit and promotion salary increase assumption and the mortality assumption. There is also an impact from the investment return assumption change (from 7.00% to 6.75%) but that impact is almost entirely offset by the impact from the inflation assumption change (from 3.00% to 2.75%).

Pgs. 29, 71-74 3. The Association's unfunded actuarial accrued liability (UAAL) as of June 30, 2019 was $219.7 million. In this year's valuation, the UAAL has increased to $244.1 million mainly due to assumption changes, higher than expected active salary increases, unfavorable investment experience, and other experience losses. A reconciliation of the Association's UAAL is provided in *Section 2, Exhibit E*. A schedule of the current UAAL amortization amounts is provided in *Section 3, Exhibit I*. Note that a graphical presentation of the UAAL amortization bases and payments has been provided as *Exhibit J in Section 3*.

Pg. 31 4. The aggregate employer rate calculated in this valuation has increased from 34.21% of payroll to 37.65% of payroll. The reasons for the change include losses from: (a) changes in actuarial assumptions, (b) higher than expected salary increases for continuing General, Safety, and Probation active members, (c) the lower than expected return on investments (after smoothing), and (d) other experience losses. These losses were partially offset by gains from amortizing the prior year's UAAL over a larger than expected projected total payroll. A reconciliation of the Association's aggregate employer rate is provided in Section 2, Subsection F

Pg. 32 5. The aggregate member rate calculated in this valuation has increased from 9.28% of payroll to 10.25% of payroll. A reconciliation of the Association's aggregate member rate is provided in Section 2, Subsection F.

Pgs. 102-112 The individual member rates have been updated to reflect the valuation as of June 30, 2020. These rates are provided in *Section 4, Exhibit III* of this report.

6. Under the Board's funding policy, in addition to the UAAL contribution rate, a dollar amortization amount equal to the UAAL contribution rate times the covered payroll (as estimated in the actuarial valuation that establishes such UAAL contribution rate) will be calculated for each employer. The final UAAL payment by each employer will be equal to the greater of the UAAL contribution rate times the actual covered payroll or the above dollar amortization amount.

Pg. 20 7. As indicated in Section 2, Subsection B, the total unrecognized investment loss as of June 30, 2020 is $17.7 million (note that in the previous valuation, this amount was a deferred gain of $35,392[1]). This net investment loss will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years. This implies that if the Association earns the assumed net rate of investment return of 6.75% per year on a **market value** basis, there will be investment losses on the actuarial value of assets after June 30, 2020.

The net deferred loss of $17.7 million represents 3.3% of the market value of assets as of June 30, 2020. Unless offset by future investment gains or other favorable experience, the $17.7 million net deferred market loss is expected to have an impact on the Association's future funded percentage and contribution rate requirements. This potential impact may be illustrated as follows.

a. If the net deferred loss was recognized immediately, and assuming further that the balance in the Contingency Reserve would be included as valuation value of assets, the funded percentage would decrease from 69.3% to 67.8%.

   For comparison purposes, if the deferred gain in the June 30, 2019 valuation and the Contingency Reserve had been recognized immediately in the June 30, 2019 valuation, the funded percentage would have increased from 70.6% to 71.3%.

b. If the net deferred loss was recognized immediately, and assuming further that the balance in the Contingency Reserve would be included as valuation value of assets, the aggregate employer rate would increase from 37.65% to about 39.0% of payroll.

   For comparison purposes, if the net deferred gain in the June 30, 2019 valuation and the Contingency Reserve had been recognized immediately in the June 30, 2019 valuation, the aggregate employer contribution rate would have decreased from 34.56% of payroll to about 34.0% of payroll.

8. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2020. Due to the COVID-19 pandemic, market conditions have changed significantly during 2020. The Plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the Plan Year. While it is impossible to determine how the pandemic will continue to affect market conditions prior to next year's valuation, Segal is available to prepare projections of potential outcomes upon request.

9. We have been exploring with MCERA the feasibility of collecting historical vacation cash out data in order to determine whether an assumption to anticipate conversion of relatively higher amounts of vacation cash outs immediately before retirement is warranted for inclusion in our future valuations. Should the requested information be available from MCERA, Segal anticipates including a detailed review of the historical vacation cash out data to develop such an assumption in the next Actuarial Experience Study, scheduled for completion prior to the June 30, 2023 valuation.

10. On July 30, 2020, the California Supreme Court issued a decision in the case of Alameda County Deputy Sheriff's Association et al. v. Alameda County Employees' Retirement Association and Board of Retirement of ACERA. That decision may affect the benefits paid by MCERA to its members and the contributions received by MCERA from its members. However, it should be noted that on the date of

[1] Based on action taken by the Board on November 6, 2019, the total deferred investment gain of $35,392 through June 30, 2019 has been recognized in four level amounts, with three years of recognition remaining after the June 30, 2020 valuation.

this valuation as of June 30, 2020, neither the assets provided by MCERA nor the liabilities we calculated using the membership data provided by MCERA reflect the financial impact of that decision on MCERA.

Pg. 21 11. The allocation of the valuation value of assets between basic and cost-of-living (COL) as of June 30, 2020 is provided in Section 2, Subsection B, and is developed based on the reserves identified as either basic or COL (at book value as of June 30, 2020) as reported by MCERA. As of June 30, 2020, the proportion of the VVA by basic/COL was 52.3%/47.7%, while as of June 30, 2019, the proportion was 54.0%/46.0%, and as of June 30, 2018, was 56.3%/43.7%. The increase in the COL portion of the VVA has led to a reduction in the cost-of-living adjustment (COLA) portion of the total employer contribution rates over the last several years (as noted in footnote (3) on page 35). While this change in proportion does not impact the total basic plus COLA employer contribution rates, Segal still suggests that MCERA review the underlying reasons for the change in the proportion between basic and COL. We are available to assist MCERA in this review if requested.

Pg. 41 12. 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 MCERA are asset/liability mismatch risk, investment risk, and longevity risk. The standard also requires an actuary to consider if there is any ongoing contribution risk to the plan, however it does not require the actuary to evaluate the particular ability or willingness of contributing entities to make contributions when due, nor does it require the actuary to assess the likelihood or consequences of future changes in applicable law.

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

Since the actuarial valuation results are dependent on a fixed set of assumptions and data as of a specific date, there is risk that emerging results may differ, perhaps significantly, as actual experience is fluid and will not exactly track current assumptions. This potential divergence may have a significant impact on the future financial condition of the plan. Following the completion of the triennial experience study recommending assumptions for the June 30, 2020 valuation, we prepared a stand-alone Risk Assessment report dated July 7, 2020 by using membership and financial information as provided in the actuarial valuation as of June 30, 2019. That report includes various projections (both deterministic and stochastic) of future results under different investment return scenarios together with the assumptions adopted for the June 30, 2020 valuation. It is our understanding that the Board may direct Segal to update that report after the next triennial experience study recommending assumptions for the June 30, 2023 valuation. In the interim, we have included a brief discussion of key risks that may affect the Association in Section 2, Subsection J. Again, for a more detailed assessment of the risks tailored to specific interests or concerns of the Board, please refer to our Risk Assessment report dated July 7, 2020.

Summary of Key Valuation Results

		June 30, 2020		June 30, 2019	
		Total Rate	Estimated Annual Dollar Amount[1]	Total Rate	Estimated Annual Dollar Amount[1]
Employer Contribution Rates: (payable at the end of each pay period)	• General Tier 1	39.12%	$172,000	35.28%	$155,000
	• General Tier 2/Tier 3	34.99%	9,784,000	31.76%	8,881,000
	• General Tier 4	31.48%	10,301,000	28.63%	9,369,000
	• Safety Tier 1		Not Calculated[2]		
	• Safety Tier 2	67.11%	4,391,000	60.51%	3,959,000
	• Safety Tier 3	57.13%	2,640,000	50.06%	2,314,000
	• Probation Tier 1		Not Calculated[2]		
	• Probation Tier 2	37.49%	621,000	38.92%	645,000
	• Probation Tier 3	32.46%	445,000	32.56%	446,000
	All Categories Combined	**37.65%**	**$28,354,000**	**34.21%**	**$25,769,000**
Average Member Contribution Rates:	• General Tier 1[3]	1.81%	$8,000	1.67%	$7,000
	• General Tier 2/Tier 3	11.50%	3,216,000	10.46%	2,925,000
	• General Tier 4	8.37%	2,739,000	7.46%	2,441,000
	• Safety Tier 1		Not Calculated[2]		
	• Safety Tier 2	12.06%	789,000	11.18%	731,000
	• Safety Tier 3	11.91%	550,000	10.98%	507,000
	• Probation Tier 1		Not Calculated[2]		
	• Probation Tier 2	14.61%	242,000	13.62%	226,000
	• Probation Tier 3	12.88%	176,000	11.30%	155,000
	All Categories Combined	**10.25%**	**$7,720,000**	**9.28%**	**$6,992,000**

[1] Based on June 30, 2020 projected compensation.
[2] There were no Safety Tier 1 or Probation Tier 1 active members reported for the June 30, 2020 and June 30, 2019 valuations.
[3] The majority of General Tier 1 members are exempt from employee contributions (i.e., they have a 0.00% member contribution rate because they have 30 or more years of service). These exempt members have the effect of generating a low average member contribution rate for the entire group.

Summary of Key Valuation Results (continued)

		June 30, 2020	June 30, 2019
Actuarial Accrued Liability as of June 30:	• Retired members and beneficiaries	$519,948,058	$496,602,273
	• Inactive vested members	38,686,928	34,999,464
	• Active members	236,763,194	215,463,637
	• Total Actuarial Accrued Liability[1]	795,398,180	747,065,374
	• Normal Cost for plan year beginning June 30	16,306,000	14,263,000
Assets as of June 30:	• Market Value of Assets (MVA)	$538,989,213	$532,727,019
	• Actuarial Value of Assets (AVA)	556,717,438	532,691,627
	• AVA as a percentage of MVA	103.3%	100.0%
	• Valuation Value of Assets (VVA)[2]	$551,332,136	$527,367,477
Funded status as of June 30:	• Unfunded Actuarial Accrued Liability on MVA basis	$256,408,967	$214,338,355
	• Funded percentage on MVA basis	67.8%	71.3%
	• Unfunded Actuarial Accrued Liability on VVA basis	$244,066,044	$219,697,897
	• Funded percentage on VVA basis	69.3%	70.6%
Key assumptions:	• Net investment return	6.75%	7.00%
	• Price inflation	2.75%	3.00%
	• Payroll growth	3.25%	3.50%

[1] Does not include an additional liability held for the Contingency Reserve.
[2] Excludes Contingency Reserve.

Summary of Key Valuation Results (continued)

		June 30, 2020	June 30, 2019	Change From Prior Year
Demographic data as of June 30:	**Active Members:**			
	• Number of members	1,140	1,151	-1.0%
	• Average age	46.2	45.9	0.3
	• Average service	8.7	8.6	0.1
	• Total projected compensation[1]	$75,316,869	$71,124,175	5.9%
	• Average projected compensation	$66,067	$61,793	6.9%
	Retired Members and Beneficiaries:			
	• Number of members:			
	– Service retired	1,248	1,218	2.5%
	– Disability retired	179	178	0.6%
	– Beneficiaries	160	156	2.6%
	– Total	1,587	1,552	2.3%
	• Average age	70.0	69.5	0.5
	• Average monthly benefit	$2,047	$1,979	3.4%
	Inactive Vested Members:			
	• Number of members[2]	546	515	6.0%
	• Average Age	46.0	46.5	-0.5
	Total Members:	3,273	3,218	1.7%

[1] For June 30, 2020 (June 30, 2019), total projected compensation represents the annualized actual pensionable compensation earned during the 2019/2020 (2018/2019) fiscal year, but limited to the annualized biweekly pay rate plus other annual pensionable pay as of the measurement date, and projected to account for expected salary increases for the following fiscal year based on the actuarial assumptions.

[2] Includes 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 the Association. 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 Association. The Association 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, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan's assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results that does not mean that the previous assumptions were unreasonable.

Section 1: Actuarial Valuation Summary

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

The actuarial valuation is prepared at the request of the Board. 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 the Association is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Association 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 Retirement Association, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Retirement Association.

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 - E*.

Member Population: 2011 – 2020

Year Ended June 30	Active Members	Inactive Vested Members[1]	Retired Members and Beneficiaries	Total Non-Actives	Ratio of Non-Actives to Actives	Ratio of Retired Members and Beneficiaries to Actives
2011	1,129	389	1,129	1,518	1.34	1.00
2012	1,069	356	1,217	1,573	1.47	1.14
2013	1,072	345	1,287	1,632	1.52	1.20
2014	1,081	394	1,328	1,722	1.59	1.23
2015	1,107	414	1,379	1,793	1.62	1.25
2016	1,123	428	1,416	1,844	1.64	1.26
2017	1,123	479	1,462	1,941	1.73	1.30
2018	1,162	497	1,490	1,987	1.71	1.28
2019	1,151	515	1,552	2,067	1.80	1.35
2020	1,140	546	1,587	2,133	1.87	1.39

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

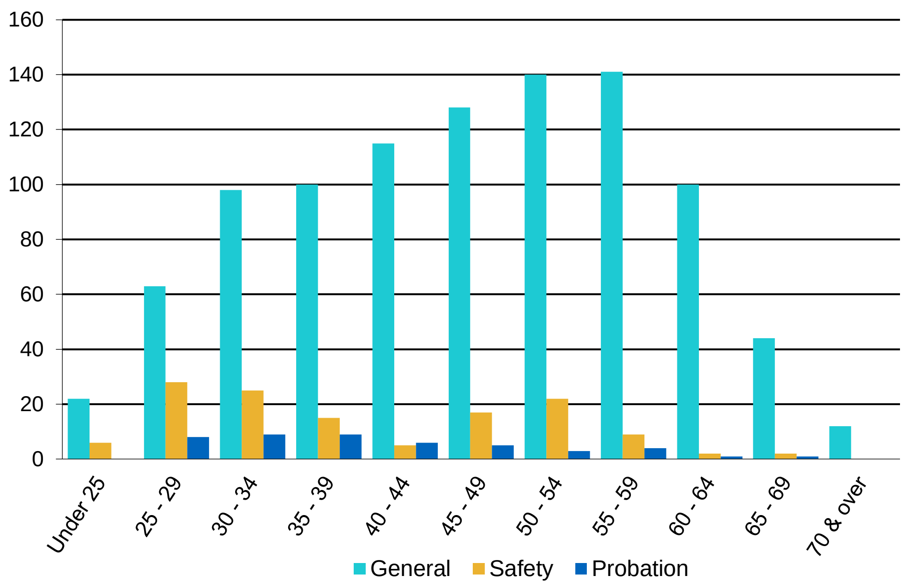
Active Members

Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 1,140 active members with an average age of 46.2, average years of service of 8.7 years and average compensation of $66,067. The 1,151 active members in the prior valuation had an average age of 45.9, average service of 8.6 years and average compensation of $61,793.

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

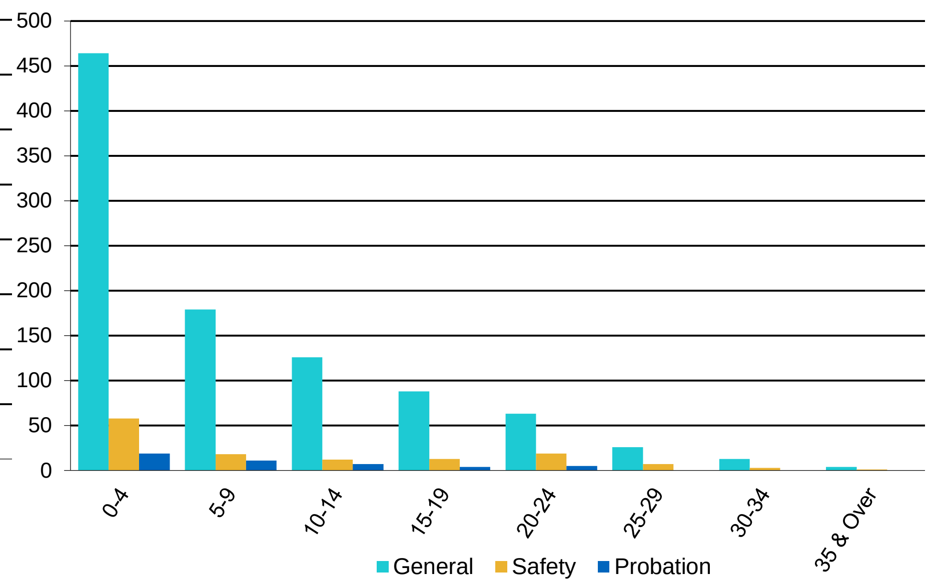
Distribution of Active Members as of June 30, 2020

Actives by Age



Average age	46.2
Prior year average age	45.9
Difference	0.3

Actives by Years of Service



Average years of service	8.7
Prior year average years of service	8.6
Difference	0.1

Inactive Members

In this year's valuation, there were 546 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their member contributions versus 515 in the prior valuation.

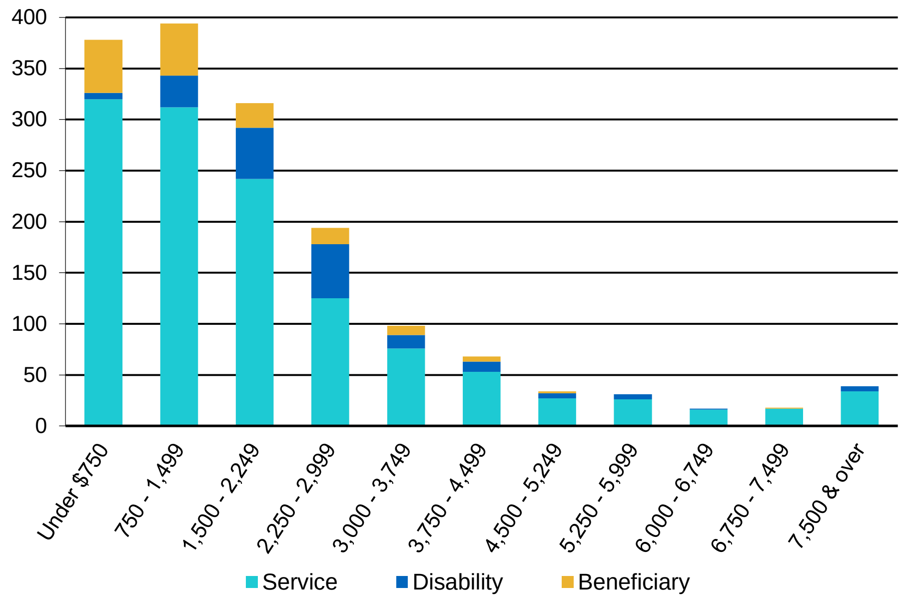
Retired Members and Beneficiaries

As of June 30, 2020, 1,427 retired members and 160 beneficiaries were receiving total monthly benefits of $3,248,492. For comparison, in the previous valuation, there were 1,396 retired members and 156 beneficiaries receiving monthly benefits of $3,071,976.

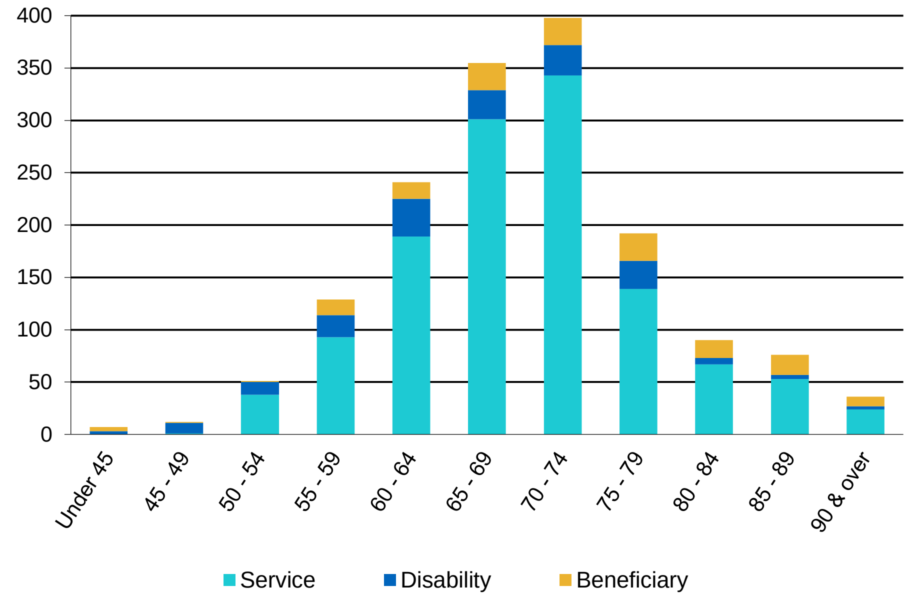
As of June 30, 2020, the average monthly benefit for retired members and beneficiaries is $2,047, compared to $1,979 in the previous valuation. The average age for retired members and beneficiaries is 70.0 in the current valuation, compared with 69.5 in the prior valuation.

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

Retired Members and Beneficiaries
by Type and Monthly Amount



Retired Members and Beneficiaries
by Type and Age



Historical Plan Population

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

Member Data Statistics: 2011 – 2020

	Active Members			Retired Members and Beneficiaries		
Year Ended June 30	Count	Average Age	Average Service	Count	Average Age	Average Monthly Amount
2011	1,129	49.0	10.3	1,129	67.9	$1,572
2012	1,069	48.7	10.6	1,217	68.1	1,610
2013	1,072	48.2	10.2	1,287	68.1	1,661
2014	1,081	47.3	9.8	1,328	68.3	1,708
2015	1,107	47.2	9.4	1,379	68.6	1,768
2016	1,123	47.0	9.1	1,416	68.8	1,822
2017	1,123	46.7	9.1	1,462	69.1	1,846
2018	1,162	46.5	8.8	1,490	69.3	1,919
2019	1,151	45.9	8.6	1,552	69.5	1,979
2020	1,140	46.2	8.7	1,587	70.0	2,047

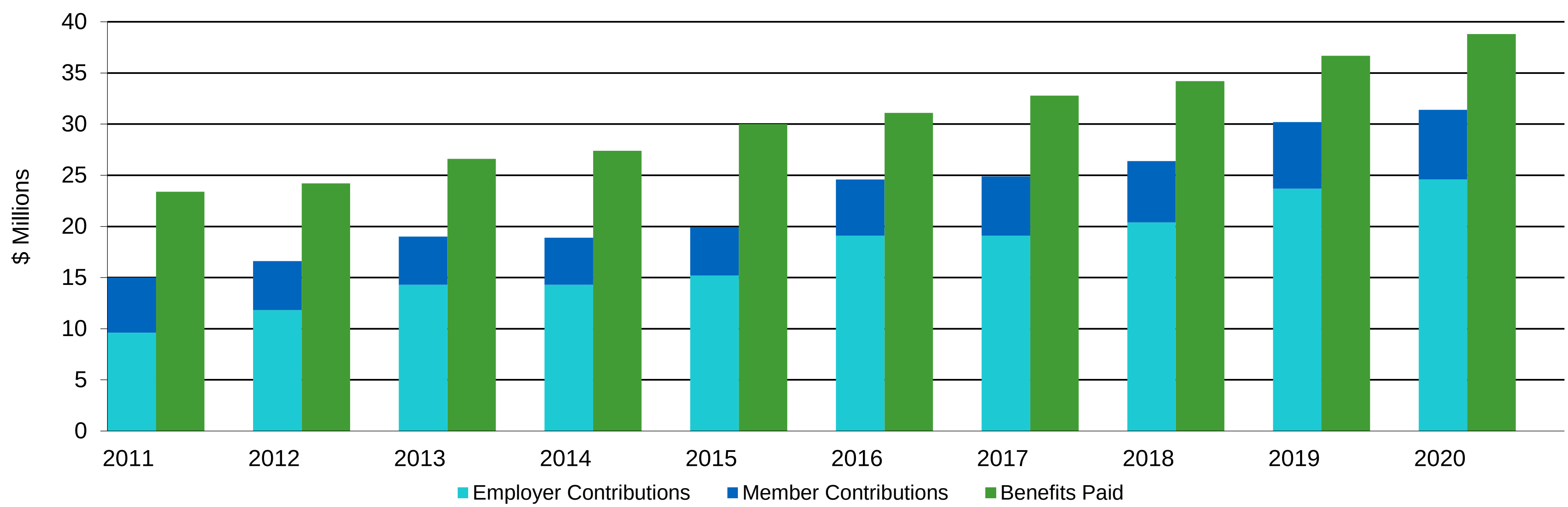
B. Financial Information

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

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

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

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



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

		Actual Return	Expected Return[1]	Investment Gain/(Loss)	Percent Deferred	Deferred Return
1	**Market Value of Assets**					**$538,989,213**
2	Calculation of deferred return					
a)	Year ended June 30, 2016	$(10,352,325)	$31,932,904	$(42,285,229)		
b)	Year ended June 30, 2017	66,669,864	30,583,939	36,085,925		
c)	Year ended June 30, 2018	45,271,985	33,571,464	11,700,521		
d)	Year ended June 30, 2019	19,959,119	36,161,925	(16,202,806)	75%	26,544[1]
e)	Year ended June 30, 2020	14,798,654	36,992,115	(22,193,461)	80%	(17,754,769)
f)	Total deferred return[2]					$(17,728,225)
3	**Preliminary Actuarial Value of Assets (1) - (2f)**					**556,717,438**
4	Adjustment to be within 25% corridor					0
5	**Final Actuarial Value of Assets 3 + 4**					**$556,717,438**
6	Actuarial Value of Assets as a percentage of Market Value of Assets 5 ÷ 1					103.3%
7	Non-valuation reserves and designations:					
	Contingency Reserve					$5,385,302
8	**Final Valuation Value of Assets[3] (5) – (7)**					**$551,332,136**

[1] Based on action taken by the Board on November 6, 2019, the total deferred investment gain of $35,392 through June 30, 2019 has been recognized in four level amounts, with three years of recognition remaining after the June 30, 2020 valuation.

[2] Deferred return as of June 30, 2020 to be recognized in each of the next four years:

(a)	Amount recognized on June 30, 2021	$(4,429,844)
(b)	Amount recognized on June 30, 2022	(4,429,844)
(c)	Amount recognized on June 30, 2023	(4,429,844)
(d)	Amount recognized on June 30, 2024	(4,438,693)
(e)	Total unrecognized return as of June 30, 2020	$(17,728,225)

[3] Note that the valuation value of assets for each of the General, Safety, and Probation membership groups has generally been calculated in proportion to the book value reserves maintained by MCERA for those three membership groups. The allocation of the valuation value of assets between the three membership groups is provided in the chart on the next page.

Section 2: Actuarial Valuation Results

The allocation of the valuation value of assets as of June 30, 2020 by membership group was determined as follows:

Allocation of the Valuation Value of Assets as of June 30, 2020

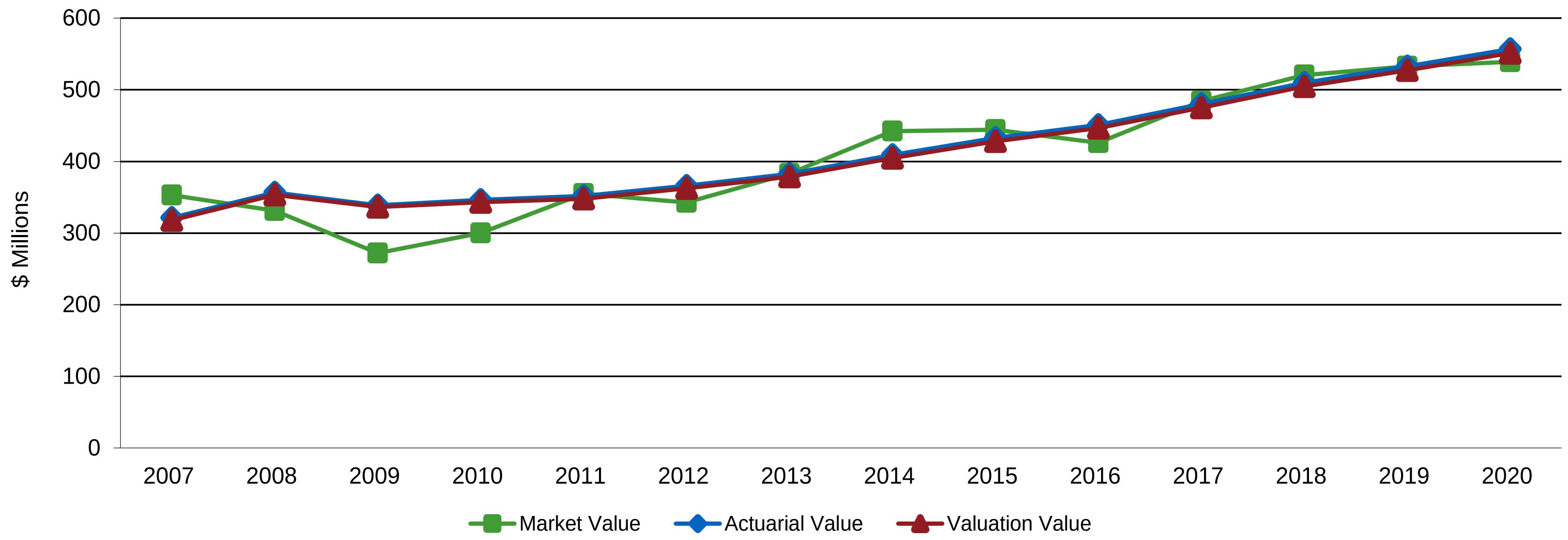
	Account ID	General	Safety	Probation	Total
BASIC					
Reserves at Book Value (Provided by MCERA)					
Employee Contributions with Interest[1]	4000, 4001 & 4002	$46,039,157	$6,406,615	$2,784,335	$55,230,107
County Advance Reserve (Basic)	4501, 4502, 4503, 4510, 4511, 4512, 4513, 4520, 4521, & 4522	-142,064,170	-45,483,690	-4,558,150	-192,106,010
Retirees Annuity Reserve	4110, 4111, 4120, 4121, 4122, 4123, 4130, 4131, & 4132	100,737,454	26,827,540	1,203,461	128,768,455
Retirees Current Service Reserve	4210, 4211, 4220, 4221, 4222, 4223, 4230, 4231, & 4232	184,601,441	68,251,264	12,580,865	265,433,570
Survivors Death Benefit Reserve	4311, 4320, 4322, 4330, & 4331	-17,299,009	-4,141,294	-206,673	-21,646,977
Subtotal		$172,014,872	$51,860,435	$11,803,838	$235,679,145
Valuation Value of Assets (VVA; Calculated by Segal) [2]		$210,456,194	$63,450,036	$14,441,721	$288,347,951
COL					
Reserves at Book Value (Provided by MCERA)					
Employee Contributions with Interest[1]	4003 & 4004	$12,851,378	$3,687,920	$1,177,502	$17,716,800
County Advance Reserve (COLA)	4514, 4515, & 4523	5,768,775	2,252,712	741,358	8,762,845
Retirees COLA Reserve	4410, 4411, 4420, 4421, 4422, 4423, 4430, 4431, & 4432	133,812,241	44,832,417	9,823,948	188,468,605
Subtotal		$152,432,394	$50,773,048	$11,742,808	$214,948,250
Valuation Value of Assets (Calculated by Segal) [3]		$186,497,489	$62,119,644	$14,367,052	$262,984,185
TOTAL					
Reserves at Book Value (Provided by MCERA)		$324,447,266	$102,633,484	$23,546,645	$450,627,395
Valuation Value of Assets (Calculated by Segal)		396,953,683	125,569,680	28,808,773	551,332,136

(1) Breakdown of total amount is allocated by Segal based on proportion of member contribution account balances of active and inactive vested members included in the valuation.
(2) The total basic VVA is allocated by Segal based on the proportion of total basic reserves to total basic and COL reserves provided by MCERA. The breakdown of the basic VVA between groups is allocated based on the subtotal basic reserves.
(3) The total COL VVA is allocated by Segal based on the proportion of total COL reserves to total basic and COL reserves provided by MCERA. The breakdown of the COL VVA between groups is allocated based on the subtotal COL reserves.

Note: Results may be slightly off due to rounding.

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 Valuation Value of Assets is the actuarial value, excluding any non-valuation reserves. The Valuation Value of Assets is significant because the Plan's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the Unfunded Actuarial Accrued Liability is an important element in determining the contribution requirement.

Market Value, Actuarial Value, and Valuation Value of Assets as of June 30, 2007 – 2020



C. Actuarial Experience

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

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

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

The total loss is $10.8 million, which includes $4.1 million from investment losses, and $6.7 million in losses from all other sources. The net experience variation from individual sources other than investments was 0.84% of the Actuarial Accrued Liability. A discussion of the major components of the actuarial experience is on the following pages.

Actuarial Experience for Year Ended June 30, 2020

1	Net loss from investments[1]	$(4,115,828)
2	Net loss from other experience[2]	(6,675,946)
3	**Net experience loss: 1 + 2**	**$(10,791,774)**

[1] Details on next page.
[2] See 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 2.80% for the year ended June 30, 2020.

For valuation purposes, the assumed rate of return on the Valuation Value of Assets was 7.00% for the June 30, 2019 valuation. The actual rate of return on a valuation basis for the 2019/2020 plan year was 6.21%. Since the actual return for the year was less than the assumed return, the Plan experienced an actuarial loss during the year ended June 30, 2020 with regard to its investments.

Investment Experience for Year Ended June 30, 2020

		Market Value	Actuarial Value	Valuation Value
1	Net investment income	$14,798,654	$32,562,271	$32,501,119
2	Average value of assets	528,458,789	528,423,397	523,099,247
3	Rate of return: **1 ÷ 2**	2.80%	6.16%	6.21%
4	Assumed rate of return	7.00%	7.00%	7.00%
5	Expected investment income: **2 x 4**	$36,992,115	$36,989,638	$36,616,947
6	**Actuarial gain/(loss): 1 - 5**	**$(22,193,461)**	**$(4,427,367)**	**$(4,115,828)**

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 and valuation basis compared to the actual market value investment return for the last ten years, including averages over select time periods.

Investment Return – Market Value, Actuarial Value and Valuation Value: 2011 – 2020

	Market Value Investment Return[1]		Actuarial Value Investment Return		Valuation Value Investment Return	
Year Ended June 30	**Amount**	**Percent**	**Amount**	**Percent**	**Amount**	**Percent**
2011	$64,075,101	21.68%	$14,809,915	4.33%	$11,895,661	3.50%
2012	-4,078,489	-1.16%	22,205,173	6.38%	22,982,960	6.69%
2013	48,890,492	14.44%	25,124,178	6.95%	24,720,166	6.90%
2014	68,494,950	18.10%	36,055,066	9.54%	35,462,137	9.48%
2015	13,201,309	3.02%	34,687,586	8.59%	34,665,488	8.68%
2016	-10,352,325	-2.35%	25,892,595	6.04%	26,071,363	6.14%
2017	66,669,864	15.80%	38,015,912	8.51%	37,432,810	8.46%
2018	45,271,985	9.44%	38,812,527	8.16%	38,447,528	8.17%
2019	19,959,119	3.86%	30,330,266	5.99%	30,225,827	6.03%
2020	14,798,654	2.80%	32,562,271	6.16%	32,501,119	6.21%
Most recent five-year average return		**5.73%**		**6.97%**		**7.00%**
Most recent ten-year average return		**8.27%**		**7.05%**		**7.01%**

Note: Each year's yield is weighted by the average asset value in that year.

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

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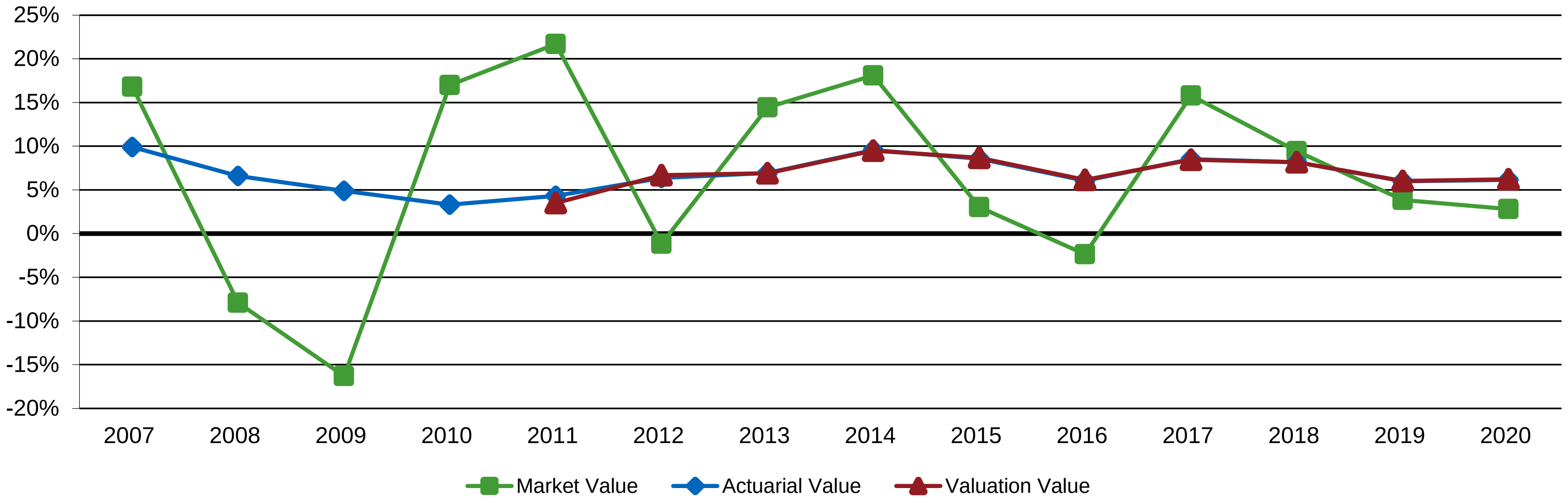
Section 2: Actuarial Valuation Results

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, Actuarial and Valuation Rates of Return for Years Ended June 30, 2007 – 2020



Contributions

Contributions for the year ended June 30, 2020, when adjusted for timing, totaled $32.5 million, compared to the projected amount of $32.3 million (also adjusted for timing). This resulted in a gain of $0.2 million for the year, which is included in the non-investment experience.

Non-Investment Experience

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

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

The net loss from this other experience for the year ended June 30, 2020 amounted to $6.7 million, which is 0.84% of the Actuarial Accrued Liability. This loss was mainly due to higher than expected individual salary increases for actives. See Subsection E for a detailed development of the Unfunded Actuarial Accrued Liability.

D. Other Changes in the Actuarial Accrued Liability

The Actuarial Accrued Liability as of June 30, 2020 is $795.4 million, an increase of $48.3 million, or 6.5%, from the Actuarial Accrued Liability as of the prior valuation date. The liability is expected to grow each year with Normal Cost and interest, and to decline due to benefit payments made. Additional fluctuations can occur due to actual experience that differs from expected (as discussed in the previous subsection).

Actuarial Assumptions

The assumption changes reflected in this report were based on the July 1, 2016 through June 30, 2019 Actuarial Experience Study report dated June 11, 2020.

- These changes increased the Actuarial Accrued Liability by 2.02% and increased the Normal Cost by 9.86%.
- The assumption changes include changes to inflation, investment return, merit and promotion salary increases, retirement from active employment, retirement age for deferred vested members, percentage of deferred vested members expected to be covered by a reciprocal employer, percentage of members with an eligible spouse or domestic partner, pre-retirement mortality, healthy life post-retirement mortality, disabled life post-retirement mortality, beneficiary mortality, termination, disability incidence (service and non-service connected), and unused sick leave.

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

Plan Provisions

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

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

E. Development of Unfunded Actuarial Accrued Liability

Development for Year Ended June 30, 2020

1	**Unfunded actuarial accrued liability at beginning of year**		**$219,697,897**
2	Normal cost at middle of year		14,263,000
3	Expected employer and member contributions		(31,271,621)
4	Interest		14,843,207
5	Expected unfunded actuarial accrued liability at end of year		$217,532,483
6	Changes due to:		
	a) Investment return less than expected (after asset smoothing)	$4,115,828	
	b) Individual salary increases higher than expected for continuing General, Safety, and Probation active members	5,831,612	
	c) Loss due to one-year delay in implementing employer contribution rates in the June 30, 2019 valuation[1]	313,426	
	d) Other experience losses[2]	530,908	
	e) Assumption changes	15,741,787	
	Total changes		$26,533,561
7	**Unfunded actuarial accrued liability at end of year**		**$244,066,044**

Note: The sum of items 6b through 6d equals the “Net loss from other experience” shown in *Section 2, Subsection C.*

[1] The increase in employer contribution rate attributable to this loss was included in the employer rate determined in the June 30, 2019 valuation.

[2] This is primarily due to a change in the method we use to calculate continuance benefits for future beneficiaries of retired members who elected the Social Security Level Income Option.

F. Recommended Contribution

The recommended contribution is equal to the employer Normal Cost payment and a payment on the Unfunded Actuarial Accrued Liability. As of June 30, 2020, the average recommended employer contribution is 37.65% of compensation.

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

The contribution requirement as of June 30, 2020 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

		2020		2019	
		Amount	**% of Projected Compensation**	**Amount**	**% of Projected Compensation**
1	Total Normal Cost	$16,306,000	21.65%	$14,263,000	20.05%
2	Expected member Normal Cost contributions	7,720,000	10.25%	6,715,000	9.44%
3	Employer Normal Cost: 1 - 2	$8,586,000	11.40%	$7,548,000	10.61%
4	Actuarial Accrued Liability	795,398,180		747,065,374	
5	Valuation Value of Assets	551,332,136		527,367,477	
6	Unfunded Actuarial Accrued Liability: 4 - 5	$244,066,044		$219,697,897	
7	Payment on Unfunded Actuarial Accrued Liability	$19,768,000[1]	26.25%	$17,031,000	23.95%
8	Total average recommended employer contribution: 3 + 7	$28,354,000	37.65%	$24,579,000	34.56%
9	Projected compensation	$75,316,869		$71,124,175	

Note: Contributions are assumed to be paid at the end of each pay period.

[1] Based on the total annual payment in *Section 3, Exhibit* I plus an amount associated with the anticipated contribution rate impact resulting from the 12-month lag between the date of the valuation and the date of the contribution rate implementation.

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 from June 30, 2019 to June 30, 2020

	Contribution Rate	Estimated Annual Dollar Amount[1]
Average Recommended Employer Contribution as of June 30, 2019	**34.21%**	**$25,769,000**
• Effect of change in membership demographics	0.01%	$8,000
• Effect of anticipated one-year delay in implementing the higher aggregate employer contribution rate developed in the June 30, 2020 valuation until fiscal year 2021/2022	0.05%	38,000
• Effect of investment return less than expected	0.41%	309,000
• Effect of individual salary increases higher than expected for continuing General, Safety, and Probation active members	0.58%	437,000
• Effect of amortizing prior year's UAAL over a larger than expected projected total payroll	(0.40)%	(301,000)
• Effect of other experience losses[2]	0.08%	53,000
• Effect of assumption changes	2.71%	2,041,000
Total change	3.44%	$2,585,000
Average Recommended Employer Contribution as of June 30, 2020	**37.65%**	**$28,354,000**

[1] Based on June 30, 2020 projected compensation.
[2] This is primarily due to a change in the method we use to calculate continuance benefits for future beneficiaries of retired members who elected the Social Security Level Income Option.

Reconciliation of Average Recommended Member Contribution Rate

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

Reconciliation from June 30, 2019 to June 30, 2020

	Contribution Rate	Estimated Annual Dollar Amount[1]
Average Recommended Member Contribution as of June 30, 2019	**9.28%**	**$6,992,000**
• Effect of changes in member demographics	0.04%	$28,000
• Effect of assumption changes	0.93%	700,000
Total changes	0.97%	$728,000
Average Recommended Member Contribution as of June 30, 2020	**10.25%**	**$7,720,000**

[1] Based on June 30, 2020 projected compensation.

Recommended Employer Contribution Rate

	June 30, 2020 Actuarial Valuation				June 30, 2019 Actuarial Valuation			
	Basic Rate	COLA Rate	Total Rate	Estimated Annual Dollar Amount[1] (in $000's)	Basic Rate	COLA Rate	Total Rate	Estimated Annual Dollar Amount[1] (in $000's)
General Tier 1 Members								
Normal Cost	12.32%	3.69%	16.01%	$70	10.64%	3.47%	14.11%	$62
UAAL	21.80%	1.31%	23.11%	102	19.35%	1.82%	21.17%	93
Total Contribution	**34.12%**	**5.00%**	**39.12%**	**$172**	**29.99%**	**5.29%**	**35.28%**	**$155**
General Tier 2 / Tier 3 Members								
Normal Cost	9.17%	2.71%	11.88%	$3,322	7.96%	2.63%	10.59%	$2,961
UAAL	21.80%	1.31%	23.11%	6,462	19.35%	1.82%	21.17%	5,920
Total Contribution	**30.97%**	**4.02%**	**34.99%**	**$9,784**	**27.31%**	**4.45%**	**31.76%**	**$8,881**
General Tier 4 Members								
Normal Cost	8.37%	0.00%	8.37%	$2,739	7.46%	0.00%	7.46%	$2,441
UAAL	21.80%	1.31%	23.11%	7,562	19.35%	1.82%	21.17%	6,928
Total Contribution	**30.17%**	**1.31%**	**31.48%**	**$10,301**	**26.81%**	**1.82%**	**28.63%**	**$9,369**
Safety Tier 1 Members								
Normal Cost				Not Calculated[2]				
UAAL								
Total Contribution								
Safety Tier 2 Members								
Normal Cost	15.47%	6.42%	21.89%	$1,432	14.91%	6.52%	21.43%	$1,402
UAAL	39.31%	5.91%	45.22%	2,959	30.36%	8.72%	39.08%	2,557
Total Contribution	**54.78%**	**12.33%**	**67.11%**	**$4,391**	**45.27%**	**15.24%**	**60.51%**	**$3,959**

Recommended Employer Contribution Rate (continued)

	June 30, 2020 Actuarial Valuation				June 30, 2019 Actuarial Valuation			
	Basic Rate	COLA Rate	Total Rate	Estimated Annual Dollar Amount[1] (in $000's)	Basic Rate	COLA Rate	Total Rate	Estimated Annual Dollar Amount[1] (in $000's)
Safety Tier 3 Members								
Normal Cost	11.91%	0.00%	11.91%	$550	10.98%	0.00%	10.98%	$507
UAAL	39.31%	5.91%	45.22%	2,090	30.36%	8.72%	39.08%	1,807
Total Contribution	**51.22%**	**5.91%**	**57.13%**	**$2,640**	**41.34%**	**8.72%**	**50.06%**	**$2,314**
Probation Tier 1 Members								
Normal Cost				Not Calculated[2]				
UAAL								
Total Contribution								
Probation Tier 2 Members								
Normal Cost	13.31%	4.60%	17.91%	$297	12.95%	4.71%	17.66%	$293
UAAL	23.09%	-3.51%[3]	19.58%[4]	324	24.20%	-2.94%	21.26%	352
Total Contribution	**36.40%**	**1.09%**	**37.49%**	**$621**	**37.15%**	**1.77%**	**38.92%**	**$645**
Probation Tier 3 Members								
Normal Cost	12.88%	0.00%	12.88%	$176	11.30%	0.00%	11.30%	$155
UAAL	23.09%	-3.51%[3]	19.58%[4]	269	24.20%	-2.94%	21.26%	291
Total Contribution	**35.97%**	**-3.51%**	**32.46%**	**$445**	**35.50%**	**-2.94%**	**32.56%**	**$446**

Recommended Employer Contribution Rate (continued)

	June 30, 2020 Actuarial Valuation				June 30, 2019 Actuarial Valuation			
	Basic Rate	COLA Rate	Total Rate	Estimated Annual Dollar Amount[1] (in $000's)	Basic Rate	COLA Rate	Total Rate	Estimated Annual Dollar Amount[1] (in $000's)
All Members Combined								
Normal Cost	9.71%	1.69%	11.40%	$8,586	8.72%	1.66%	10.38%	$7,821
UAAL	24.45%	1.80%	26.25%	19,768	21.17%	2.66%	23.83%	17,948
Total Contribution	**34.16%**	**3.49%**	**37.65%**	**$28,354**	**29.89%**	**4.32%**	**34.21%**	**$25,769**

Note: A breakdown of the employer minimum dollar contribution to amortize the UAAL by membership group (General/Safety/Probation) and employer (County of Mendocino/Mendocino County Superior Court/Russian River Cemetery District) is provided on the next page.

1 Amounts are based on the following June 30, 2020 projected annual compensation:

General Tier 1	$439,337
General Tier 2 / Tier 3	27,963,557
General Tier 4	32,723,153
Safety Tier 1	0
Safety Tier 2	6,542,549
Safety Tier 3	4,621,464
Probation Tier 1	0
Probation Tier 2	1,656,958
Probation Tier 3	1,369,851
Total	$75,316,869

2 There were no Safety Tier 1 or Probation Tier 1 active members reported for the June 30, 2020 valuation.

3 As noted in our report from the June 30, 2019 valuation, the negative COLA UAAL rate for the Probation group is an anomaly based on the reserve allocation method historically used by MCERA. Note, however, that the breakdown between basic and COLA portions does not affect the total employer rate payable for this group.

4 There is a reduction in the UAAL rate for Probation primarily as a result of the 14.3% actual increase in active payroll versus a 3.5% expected increase between the 2020 and 2019 valuations.

Recommended Minimum Dollar Employer Contribution to Amortize the UAAL

	June 30, 2020 Estimated UAAL Annual Amounts[1] (in $000's)		
	Basic	**COLA**	**Total**
General Members			
County	$12,547	$753	$13,300
Courts	731	44	775
Cemetery District	48	3	51
Total	**$13,326**	**$800**	**$14,126**
Safety Members			
County	$4,389	$660	$5,049
Total	**$4,389**	**$660**	**$5,049**
Probation Members			
County	$699	-$106	$593
Total	**$699**	**-$106**	**$593**
All Members Combined			
County	$17,635	$1,307	$18,942
Courts	731	44	775
Cemetery District	48	3	51
Total	**$18,414**	**$1,354**	**$19,768**

[1] Amounts are based on the following June 30, 2020 projected annual compensation:

General County	$57,551,790
General Courts	3,352,860
General Cemetery District	221,397
Safety County	11,164,013
Probation County	3,026,809
Total	$75,316,869

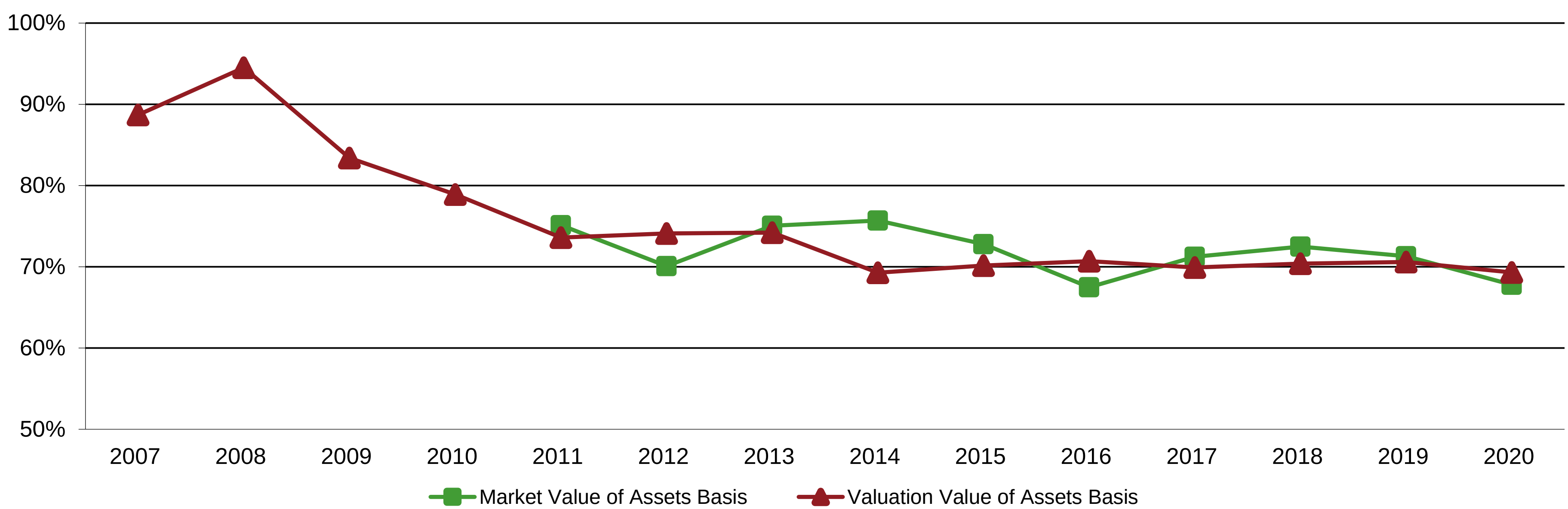
G. Funded Status

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 Value or Valuation Value of Assets is used.

Funded Ratio for Years Ended June 30, 2007 – 2020



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

Actuarial Valuation Date as of June 30	Valuation Value of Assets[1] (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (%) (a) / (b)	Projected Covered Payroll[2] (c)	UAAL as a Percentage of Projected Covered Payroll (%) [(b) - (a)] / (c)
2011	$347,731,607	$472,644,283	$124,912,676	73.6%	$64,143,765	194.7%
2012	362,487,345	489,014,364	126,527,019	74.1	56,596,088	223.6
2013	378,777,024	510,461,279	131,684,255	74.2	56,463,983	233.2
2014	404,855,842	584,428,884	179,573,042	69.3	55,876,248	321.4
2015	428,228,929	610,381,849	182,152,920	70.2	58,106,396	313.5
2016	446,773,272	632,057,539	185,284,267	70.7	61,214,954	302.7
2017	475,224,924	679,565,362	204,340,438	69.9	62,335,605	327.8
2018	504,803,711	717,461,993	212,658,282	70.4	67,955,820	312.9
2019	527,367,477	747,065,374	219,697,897	70.6	71,124,175	308.9
2020	551,332,136	795,398,180	244,066,044	69.3	75,316,869	324.1

[1] Excludes assets for non-valuation reserves.
[2] Payroll includes a projection for expected salary increases during the year following the valuation date under the actuarial assumptions used in the valuation

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 for Year Ended June 30, 2020

	Basic	COLA	Total
Actuarial present value of future benefits			
• Present value of benefits for retired members and beneficiaries	$302,288,416	$217,659,642	$519,948,058
• Present value of benefits for inactive vested members	29,366,668	9,320,260	38,686,928
• Present value of benefits for active members	261,326,288	67,505,342	328,831,630
Total actuarial present value of future benefits	**$592,981,372**	**$294,485,244**	**$887,466,616**
Current and future assets			
• Total Valuation Value of Assets	$288,347,951	$262,984,185	$551,332,136
• Present value of future contributions by members	36,921,392	5,182,703	42,104,095
• Present value of future employer contributions for:			
• Entry age normal cost	43,424,471	6,539,870	49,964,341
• Unfunded actuarial accrued liability	224,287,558	19,778,486	244,066,044
Total of current and future assets	**$592,981,372**	**$294,485,244**	**$887,466,616**

I. Volatility Ratios

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

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

The current AVR is about 7.2. This means that a 1% asset gain or loss (relative to the assumed investment return) translates to about 7.2% of one-year's payroll. Since actuarial gains and losses are amortized over 18 years, there would be a 0.5% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss).

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

The LVR also indicates how volatile contributions will be in response to changes in the Actuarial Accrued Liability due to actual experience or to changes in actuarial assumptions. The current total plan LVR is about 10.6, but is 9.4 for General, 16.6 for Safety, and 12.1 for Probation. This means that assumption changes will have the greatest impact on employer contribution rates for Safety, followed by Probation and then General.

Volatility Ratios for Years Ended June 30, 2011 – 2020

Year Ended	Asset Volatility Ratio				Liability Volatility Ratio			
June 30	General	Safety	Probation	Total	General	Safety	Probation	Total
2011	5.0	8.7	5.9	5.5	6.7	11.6	7.7	7.4
2012	5.6	8.7	5.6	6.1	8.1	12.3	7.8	8.6
2013	6.3	9.6	6.4	6.8	8.4	12.9	7.8	9.0
2014	7.4	10.6	7.9	7.9	9.7	14.6	9.6	10.5
2015	7.1	10.4	8.2	7.6	9.6	15.2	10.3	10.5
2016	6.4	9.8	7.8	7.0	9.4	15.4	10.5	10.3
2017	7.1	10.9	8.4	7.8	9.9	16.2	10.7	10.9
2018	6.9	11.1	9.4	7.7	9.5	16.1	11.6	10.6
2019	6.7	10.9	10.3	7.5	9.4	15.6	13.0	10.5
2020	6.3	11.0	9.3	7.2	9.4	16.6	12.1	10.6

J. Risk Assessment

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

This report does not contain a detailed analysis of the potential range of future measurements, but does include a concise discussion of some of the primary risks that may affect the Plan's future financial condition. Following the completion of the triennial experience study recommending assumptions for the June 30, 2020 valuation, we prepared a stand-alone Risk Assessment report dated July 7, 2020 by using membership and financial information as provided in the actuarial valuation as of June 30, 2019. That report includes various projections (both deterministic and stochastic) of future results under different investment return scenarios together with the assumptions adopted for the June 30, 2020 valuation. It is our understanding that the Board may direct Segal to update that report after the next triennial experience study recommending assumptions for the June 30, 2023 valuation.

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 40, a

1% asset gain or loss (relative to the assumed investment return) translates to about 7.2% of one-year's payroll. Since actuarial gains and losses are amortized over 18 years, there would be a 0.5% 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 -2.35% to a high of 21.68%.

- 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, 2020 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, and will likely vary in significance for different groups (for example, disability assumptions are typically more significant for Safety groups).

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

Evaluation of Historical Trends

Past experience can help demonstrate the sensitivity of key results to the Plan's actual experience.

- Over the past ten years, the funded percentage on the Valuation Value of Assets basis has decreased from 73.6% to 69.3%. This is primarily due to changes in the actuarial assumptions. For a more detailed history see *Section 2, Subsection G, Funded Status* starting on page 37.
- The average geometric investment return on the Valuation Value of Assets over the last 10 years was 7.01%. This includes a high of a 9.48% return and a low of 3.50%. The average over the last 5 years was 7.00%. For more details see the Investment Return table in *Section 2, Subsection B* on page 25.

- The primary source of new UAAL was the strengthening of assumptions through multiple assumption changes. For example, the assumption change in 2020 changed the discount rate from 7.00% to 6.75% and updated mortality tables, adding $16 million in unfunded liability. The assumption change in 2017 changed the discount rate from 7.25% to 7.00% and updated mortality tables, adding $28 million in unfunded liability. The assumption change in 2014 changed the discount rate from 7.75% to 7.25%, adding $57 million in unfunded liability. For more details on the unfunded liability changes see *Section 3, Exhibit I, Table of Amortization Bases* starting on page 71.
- The plan's funding policy effectively deals with these unfunded liabilities over time. This can be seen most clearly in *Section 3, Exhibit J, Projection of UAAL Balances and Payments* provided on pages 73 and 74.

Maturity Measures

In the last 10 years the ratio of members in pay status to active participants has increased from 1.00 to 1.39. An increased ratio indicates that the plan has grown in maturity over time. This is to be expected, but is also informative for understanding plan sensitivity to particular risks. For more details see *Section 2, Subsection A, Member Data* on page 15.

As pension plans mature, the cash needed to fulfill benefit obligations will increase over time. Therefore, cash flow projections and analysis should be performed to assure that the Plan's asset allocation is aligned to meet emerging pension liabilities. For the prior year benefits paid were $7 million more than contributions received. Plans with high levels of negative cash flows may have a need for a larger allocation to income generating assets, which can create a drag on investment return. However, this plan currently has relatively low levels of negative cash flows. For more details on historical cash flows see the Comparison of Contributions with Benefits in *Section 2, Subsection B, Financial Information* on page 19.

A further discussion of plan maturity measures and how they relate to changes in assets and liabilities is included in *Section 2, Subsection I, Volatility Ratios* starting on page 40.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage

Total Plan

Category	Year Ended June 30 2020	Year Ended June 30 2019	Change From Prior Year
Active members in valuation:			
• Number	1,140	1,151	-1.0%
• Average age	46.2	45.9	0.3
• Average years of service	8.7	8.6	0.1
• Total projected compensation	$75,316,869	$71,124,175	5.9%
• Average projected compensation	$66,067	$61,793	6.9%
• Account balances	$56,979,773	$55,478,407	2.7%
• Total active vested members	599	581	3.1%
Inactive vested members:			
• Number	546	515	6.0%
• Average Age	46.0	46.5	-0.5
Retired members:			
• Number in pay status	1,248	1,218	2.5%
• Average age	70.1	69.6	0.5
• Average monthly benefit	$2,044	$1,978	3.3%
Disabled members:			
• Number in pay status	179	178	0.6%
• Average age	66.5	66.2	0.3
• Average monthly benefit	$2,603	$2,514	3.5%
Beneficiaries:			
• Number in pay status	160	156	2.6%
• Average age	72.9	72.1	0.8
• Average monthly benefit	$1,449	$1,383	4.8%

Exhibit A: Table of Plan Coverage (continued)

General Tier 1

Category	Year Ended June 30 2020	Year Ended June 30 2019	Change From Prior Year
Active members in valuation:			
• Number	4	4	0.0%
• Average age	63.3	62.3	1.0
• Average years of service	33.7	32.7	1.0
• Total projected compensation	$439,337	$428,416	2.5%
• Average projected compensation	$109,834	$107,104	2.5%
• Account balances	$1,068,558	$1,035,863	3.2%
• Total active vested members	4	4	0.0%
Inactive vested members:			
• Number	1	1	0.0%
• Average Age	52.0	51.0	1.0
Retired members:			
• Number in pay status	276	285	-3.2%
• Average age	76.8	76.2	0.6
• Average monthly benefit	$2,937	$2,812	4.4%
Disabled members:			
• Number in pay status	26	27	-3.7%
• Average age	74.9	73.6	1.3
• Average monthly benefit	$2,241	$2,147	4.4%
Beneficiaries:			
• Number in pay status	61	63	-3.2%
• Average age	79.4	78.5	0.9
• Average monthly benefit	$1,570	$1,520	3.3%

Exhibit A: Table of Plan Coverage (continued)

General Tiers 2 and 3

Category	Year Ended June 30 2020	Year Ended June 30 2019	Change From Prior Year
Active members in valuation:			
• Number	388	419	-7.4%
• Average age	53.3	52.9	0.4
• Average years of service	15.9	15.3	0.6
• Total projected compensation	$27,963,557	$28,334,357	-1.3%
• Average projected compensation	$72,071	$67,624	6.6%
• Account balances	$37,360,468	$37,416,860	-0.2%
• Total active vested members	367	395	-7.1%
Inactive vested members:			
• Number	263	273	-3.7%
• Average Age	50.1	49.7	0.4
Retired members:			
• Number in pay status	810	780	3.8%
• Average age	68.7	68.1	0.6
• Average monthly benefit	$1,531	$1,479	3.5%
Disabled members:			
• Number in pay status	85	84	1.2%
• Average age	65.0	64.3	0.7
• Average monthly benefit	$1,864	$1,798	3.7%
Beneficiaries:			
• Number in pay status	62	55	12.7%
• Average age	68.9	67.4	1.5
• Average monthly benefit	$1,113	$1,020	9.1%

Exhibit A: Table of Plan Coverage (continued)

General Tier 4

Category	Year Ended June 30: 2020	Year Ended June 30: 2019	Change From Prior Year
Active members in valuation:			
• Number	571	548	4.2%
• Average age	43.2	42.2	1.0
• Average years of service	3.1	2.6	0.5
• Total projected compensation	$32,723,153	$28,698,807	14.0%
• Average projected compensation	$57,308	$52,370	9.4%
• Account balances	$6,736,517	$5,172,034	30.2%
• Total active vested members	128	75	70.7%
Inactive vested members:			
• Number	210	177	18.6%
• Average Age	43.1	43.9	-0.8
Retired members:			
• Number in pay status	11	7	57.1%
• Average age	65.8	65.6	0.2
• Average monthly benefit	$572	$618	-7.4%
Disabled members:			
• Number in pay status	1	N/A	N/A
• Average age	52.3	N/A	N/A
• Average monthly benefit	$896	N/A	N/A
Beneficiaries:			
• Number in pay status	N/A	N/A	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit	N/A	N/A	N/A

Exhibit A: Table of Plan Coverage (continued)

Safety Tiers 1 and 2

Category	Year Ended June 30		Change From Prior Year
	2020	2019	
Active members in valuation:			
• Number	62	72	-13.9%
• Average age	48.3	48.1	0.2
• Average years of service	19.6	18.8	0.8
• Total projected compensation	$6,542,549	$7,029,932	-6.9%
• Average projected compensation	$105,525	$97,638	8.1%
• Account balances	$7,398,710	$7,850,114	-5.8%
• Total active vested members	61	69	-11.6%
Inactive vested members:			
• Number	32	31	3.2%
• Average Age	44.6	44.0	0.6
Retired members:			
• Number in pay status	106	103	2.9%
• Average age	65.2	65.0	0.2
• Average monthly benefit	$3,459	$3,174	9.0%
Disabled members:			
• Number in pay status	62	63	-1.6%
• Average age	66.2	66.2	0.0
• Average monthly benefit	$3,813	$3,641	4.7%
Beneficiaries:			
• Number in pay status	34	35	-2.9%
• Average age	68.5	67.9	0.6
• Average monthly benefit	$1,847	$1,709	8.1%

Exhibit A: Table of Plan Coverage (continued)

Safety Tier 3

Category	Year Ended June 30: 2020	2019	Change From Prior Year
Active members in valuation:			
• Number	69	65	6.2%
• Average age	32.4	31.6	0.8
• Average years of service	3.1	2.8	0.3
• Total projected compensation	$4,621,464	$3,983,809	16.0%
• Average projected compensation	$66,978	$61,289	9.3%
• Account balances	$1,390,216	$1,133,161	22.7%
• Total active vested members	12	11	9.1%
Inactive vested members:			
• Number	17	11	54.5%
• Average Age	32.2	32.6	-0.4
Retired members:			
• Number in pay status	1	N/A	N/A
• Average age	56.7	N/A	N/A
• Average monthly benefit	$888	N/A	N/A
Disabled members:			
• Number in pay status	1	N/A	N/A
• Average age	38.2	N/A	N/A
• Average monthly benefit	$2,566	N/A	N/A
Beneficiaries:			
• Number in pay status	N/A	N/A	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit	N/A	N/A	N/A

Exhibit A: Table of Plan Coverage (continued)

Probation Tiers 1 and 2

Category	Year Ended June 30 2020	Year Ended June 30 2019	Change From Prior Year
Active members in valuation:			
• Number	21	22	-4.5%
• Average age	46.6	46.5	0.1
• Average years of service	15.2	14.7	0.5
• Total projected compensation	$1,656,958	$1,614,320	2.6%
• Average projected compensation	$78,903	$73,378	7.5%
• Account balances	$2,659,810	$2,570,565	3.5%
• Total active vested members	21	22	-4.5%
Inactive vested members:			
• Number	15	17	-11.8%
• Average Age	42.1	40.8	1.3
Retired members:			
• Number in pay status	44	43	2.3%
• Average age	66.3	65.5	0.8
• Average monthly benefit	$2,876	$2,843	1.2%
Disabled members:			
• Number in pay status	4	4	0.0%
• Average age	58.3	57.3	1.0
• Average monthly benefit	$2,337	$2,269	3.0%
Beneficiaries:			
• Number in pay status	3	3	0.0%
• Average age	72.4	71.4	1.0
• Average monthly benefit	$1,403	$1,362	3.0%

Exhibit A: Table of Plan Coverage (continued)

Probation Tier 3

Category	Year Ended June 30 2020	Year Ended June 30 2019	Change From Prior Year
Active members in valuation:			
• Number	25	21	19.0%
• Average age	34.9	33.4	1.5
• Average years of service	2.9	3.0	-0.1
• Total projected compensation	$1,369,851	$1,034,534	32.4%
• Average projected compensation	$54,794	$49,264	11.2%
• Account balances	$365,495	$299,810	21.9%
• Total active vested members	6	5	20.0%
Inactive vested members:			
• Number	8	5	60.0%
• Average Age	31.7	30.0	1.7
Retired members:			
• Number in pay status	N/A	N/A	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit	N/A	N/A	N/A
Disabled members:			
• Number in pay status	N/A	N/A	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit	N/A	N/A	N/A
Beneficiaries:			
• Number in pay status	N/A	N/A	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit	N/A	N/A	N/A

Exhibit B: Members in Active Service as of June 30, 2020 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	28	28	- -	- -	- -	- -	- -	- -	- -	- -
	$46,947	$46,947	- -	- -	- -	- -	- -	- -	- -	- -
25 – 29	99	88	11	- -	- -	- -	- -	- -	- -	- -
	54,199	53,226	$61,987	- -	- -	- -	- -	- -	- -	- -
30 – 34	132	90	33	8	1	- -	- -	- -	- -	- -
	58,301	54,712	64,761	$73,697	$44,954	- -	- -	- -	- -	- -
35 – 39	124	66	34	21	2	1	- -	- -	- -	- -
	65,064	58,139	69,239	79,293	68,215	$75,015	- -	- -	- -	- -
40 – 44	126	66	25	14	14	7	- -	- -	- -	- -
	64,954	56,679	60,474	82,945	81,038	90,827	- -	- -	- -	- -
45 – 49	150	59	30	18	22	18	3	- -	- -	- -
	67,999	54,328	65,334	82,937	82,619	84,966	$64,855	- -	- -	- -
50 – 54	165	56	21	22	21	25	16	4	- -	- -
	71,931	61,699	72,468	63,430	69,194	88,602	94,713	$78,144	- -	- -
55 – 59	154	43	30	25	24	20	5	4	3	- -
	71,243	66,648	65,684	64,212	75,002	78,643	85,059	83,748	$132,196	- -
60 – 64	103	32	13	20	14	14	4	6	- -	- -
	71,129	64,509	69,398	70,115	74,436	81,248	64,178	86,876	- -	- -
65 – 69	47	10	10	13	6	- -	4	2	2	- -
	73,404	68,286	72,327	69,205	71,154	- -	74,597	88,996	120,454	- -
70 & over	12	3	1	4	1	2	1	- -	- -	- -
	72,722	80,438	71,963	78,014	37,639	63,205	83,275	- -	- -	- -
Total	**1,140**	**541**	**208**	**145**	**105**	**87**	**33**	**16**	**5**	**- -**
	$66,067	**$57,330**	**$66,513**	**$72,577**	**$75,175**	**$83,816**	**$84,050**	**$84,176**	**$127,499**	**- -**

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

General Tier 1

		Years of Service								
Age	**Total**	**0 – 4**	**5 – 9**	**10 – 14**	**15 – 19**	**20 – 24**	**25 – 29**	**30 – 34**	**35 – 39**	**40 & over**
Under 25	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
25 – 29	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
30 – 34	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
35 – 39	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
40 – 44	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
45 – 49	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
50 – 54	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
55 – 59	1	- -	- -	- -	- -	- -	- -	- -	1	- -
	$141,887	- -	- -	- -	- -	- -	- -	- -	$141,887	- -
60 – 64	1	- -	- -	- -	1	- -	- -	- -	- -	- -
	56,543	- -	- -	- -	$56,543	- -	- -	- -	- -	- -
65 – 69	2	- -	- -	- -	- -	- -	- -	- -	2	- -
	120,454	- -	- -	- -	- -	- -	- -	- -	120,454	- -
70 & over	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Total	**4**	**- -**	**- -**	**- -**	**1**	**- -**	**- -**	**- -**	**3**	**- -**
	$109,834	**- -**	**- -**	**- -**	**$56,543**	**- -**	**- -**	**- -**	**$127,598**	**- -**

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

General Tiers 2 and 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	15	3	5	6	1	- -	- -	- -	- -	- -
	$62,106	$54,257	$66,723	$65,041	$44,954	- -	- -	- -	- -	- -
35 – 39	27	3	8	13	2	1	- -	- -	- -	- -
	70,753	70,143	69,451	71,757	68,215	$75,015	- -	- -	- -	- -
40 – 44	36	2	7	12	10	5	- -	- -	- -	- -
	75,349	70,525	56,593	82,692	77,294	82,022	- -	- -	- -	- -
45 – 49	51	3	3	16	16	10	3	- -	- -	- -
	72,696	59,517	72,686	78,555	76,104	64,177	$64,855	- -	- -	- -
50 – 54	79	3	11	20	17	14	10	4	- -	- -
	72,055	113,016	78,640	60,850	64,043	82,303	71,771	$78,144	- -	- -
55 – 59	83	4	9	24	21	17	4	3	1	- -
	70,316	79,900	66,797	62,637	70,867	75,593	81,638	73,020	$93,266	- -
60 – 64	59	2	3	18	13	14	4	5	- -	- -
	75,780	50,098	97,139	70,485	75,813	81,248	64,178	86,182	- -	- -
65 – 69	29	1	4	13	6	- -	4	1	- -	- -
	71,403	65,316	76,451	69,205	71,154	- -	74,597	74,587	- -	- -
70 & over	9	- -	1	4	1	2	1	- -	- -	- -
	70,149	- -	71,963	78,014	37,639	63,205	83,275	- -	- -	- -
Total	**388**	**21**	**51**	**126**	**87**	**63**	**26**	**13**	**1**	**- -**
	$72,071	**$72,236**	**$71,350**	**$69,627**	**$71,253**	**$76,637**	**$72,200**	**$79,779**	**$93,266**	**- -**

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

General 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	22	22	- -	- -	- -	- -	- -	- -	- -	- -
	$44,030	$44,030	- -	- -	- -	- -	- -	- -	- -	- -
25 – 29	63	56	7	- -	- -	- -	- -	- -	- -	- -
	50,580	50,171	$53,858	- -	- -	- -	- -	- -	- -	- -
30 – 34	83	66	17	- -	- -	- -	- -	- -	- -	- -
	52,990	51,527	58,669	- -	- -	- -	- -	- -	- -	- -
35 – 39	73	53	20	- -	- -	- -	- -	- -	- -	- -
	58,718	55,842	66,339	- -	- -	- -	- -	- -	- -	- -
40 – 44	79	63	16	- -	- -	- -	- -	- -	- -	- -
	57,605	56,346	62,561	- -	- -	- -	- -	- -	- -	- -
45 – 49	77	54	23	- -	- -	- -	- -	- -	- -	- -
	55,923	53,352	61,961	- -	- -	- -	- -	- -	- -	- -
50 – 54	61	51	10	- -	- -	- -	- -	- -	- -	- -
	59,317	58,070	65,679	- -	- -	- -	- -	- -	- -	- -
55 – 59	57	37	20	- -	- -	- -	- -	- -	- -	- -
	65,073	65,811	63,709	- -	- -	- -	- -	- -	- -	- -
60 – 64	40	30	10	- -	- -	- -	- -	- -	- -	- -
	64,371	65,470	61,076	- -	- -	- -	- -	- -	- -	- -
65 – 69	13	8	5	- -	- -	- -	- -	- -	- -	- -
	67,907	66,616	69,973	- -	- -	- -	- -	- -	- -	- -
70 & over	3	3	- -	- -	- -	- -	- -	- -	- -	- -
	80,438	80,438	- -	- -	- -	- -	- -	- -	- -	- -
Total	**571**	**443**	**128**	**- -**	**- -**	**- -**	**- -**	**- -**	**- -**	**- -**
	$57,308	**$55,766**	**$62,647**	**- -**	**- -**	**- -**	**- -**	**- -**	**- -**	**- -**

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

Safety Tiers 1 and 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	6	1	3	2	- -	- -	- -	- -	- -	- -
	$92,987	$86,356	$90,744	$99,667	- -	- -	- -	- -	- -	- -
35 – 39	6	- -	2	4	- -	- -	- -	- -	- -	- -
	94,339	- -	92,588	95,214	- -	- -	- -	- -	- -	- -
40 – 44	5	- -	- -	1	2	2	- -	- -	- -	- -
	98,388	- -	- -	71,255	$97,504	$112,839	- -	- -	- -	- -
45 – 49	14	- -	1	2	5	6	- -	- -	- -	- -
	112,564	- -	121,290	117,991	103,264	117,051	- -	- -	- -	- -
50 – 54	20	- -	- -	1	4	9	6	- -	- -	- -
	107,851	- -	- -	80,454	91,086	101,614	$132,950	- -	- -	- -
55 – 59	8	- -	- -	1	2	2	1	1	1	- -
	116,514	- -	- -	102,013	118,523	108,469	98,747	$115,935	$161,435	- -
60 – 64	2	- -	- -	1	- -	- -	- -	1	- -	- -
	79,108	- -	- -	67,869	- -	- -	- -	90,347	- -	- -
65 – 69	1	- -	- -	- -	- -	- -	- -	1	- -	- -
	103,406	- -	- -	- -	- -	- -	- -	103,406	- -	- -
70 & over	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Total	**62**	**1**	**6**	**12**	**13**	**19**	**7**	**3**	**1**	**- -**
	$105,525	**$86,356**	**$96,450**	**$94,814**	**$100,978**	**$108,392**	**$128,064**	**$103,229**	**$161,435**	**- -**

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

Safety 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	6	6	- -	- -	- -	- -	- -	- -	- -	- -
	$57,643	$57,643	- -	- -	- -	- -	- -	- -	- -	- -
25 – 29	28	25	3	- -	- -	- -	- -	- -	- -	- -
	63,057	60,891	$81,107	- -	- -	- -	- -	- -	- -	- -
30 – 34	19	15	4	- -	- -	- -	- -	- -	- -	- -
	68,224	67,181	72,134	- -	- -	- -	- -	- -	- -	- -
35 – 39	9	6	3	- -	- -	- -	- -	- -	- -	- -
	72,754	70,643	76,975	- -	- -	- -	- -	- -	- -	- -
40 – 44	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
45 – 49	3	2	1	- -	- -	- -	- -	- -	- -	- -
	74,890	72,887	78,896	- -	- -	- -	- -	- -	- -	- -
50 – 54	2	2	- -	- -	- -	- -	- -	- -	- -	- -
	77,263	77,263	- -	- -	- -	- -	- -	- -	- -	- -
55 – 59	1	- -	1	- -	- -	- -	- -	- -	- -	- -
	95,154	- -	95,154	- -	- -	- -	- -	- -	- -	- -
60 – 64	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
65 – 69	1	1	- -	- -	- -	- -	- -	- -	- -	- -
	84,615	84,615	- -	- -	- -	- -	- -	- -	- -	- -
70 & over	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Total	**69**	**57**	**12**	**- -**	**- -**	**- -**	**- -**	**- -**	**- -**	**- -**
	$66,978	**$64,643**	**$78,069**	**- -**	**- -**	**- -**	**- -**	**- -**	**- -**	**- -**

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

Probation Tiers 1 and 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	1	- -	1	- -	- -	- -	- -	- -	- -	- -
	$65,513	- -	$65,513	- -	- -	- -	- -	- -	- -	- -
35 – 39	4	- -	- -	4	- -	- -	- -	- -	- -	- -
	87,864	- -	- -	$87,864	- -	- -	- -	- -	- -	- -
40 – 44	5	- -	2	1	2	- -	- -	- -	- -	- -
	75,796	- -	57,362	97,670	$83,295	- -	- -	- -	- -	- -
45 – 49	4	- -	1	- -	1	2	- -	- -	- -	- -
	83,940	- -	66,822	- -	83,635	$92,651	- -	- -	- -	- -
50 – 54	3	- -	- -	1	- -	2	- -	- -	- -	- -
	82,099	- -	- -	98,016	- -	74,140	- -	- -	- -	- -
55 – 59	2	- -	- -	- -	1	1	- -	- -	- -	- -
	72,818	- -	- -	- -	74,793	70,843	- -	- -	- -	- -
60 – 64	1	- -	- -	1	- -	- -	- -	- -	- -	- -
	65,710	- -	- -	65,710	- -	- -	- -	- -	- -	- -
65 – 69	1	- -	1	- -	- -	- -	- -	- -	- -	- -
	67,609	- -	67,609	- -	- -	- -	- -	- -	- -	- -
70 & over	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Total	**21**	**- -**	**5**	**7**	**4**	**5**	**- -**	**- -**	**- -**	**- -**
	$78,903	**- -**	**$62,933**	**$87,550**	**$81,255**	**$80,885**	**- -**	**- -**	**- -**	**- -**

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

Probation 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	8	7	1	- -	- -	- -	- -	- -	- -	- -
	$51,696	$50,292	$61,527	- -	- -	- -	- -	- -	- -	- -
30 – 34	8	5	3	- -	- -	- -	- -	- -	- -	- -
	55,786	53,290	59,945	- -	- -	- -	- -	- -	- -	- -
35 – 39	5	4	1	- -	- -	- -	- -	- -	- -	- -
	59,779	60,816	55,629	- -	- -	- -	- -	- -	- -	- -
40 – 44	1	1	- -	- -	- -	- -	- -	- -	- -	- -
	49,959	49,959	- -	- -	- -	- -	- -	- -	- -	- -
45 – 49	1	- -	1	- -	- -	- -	- -	- -	- -	- -
	49,861	- -	49,861	- -	- -	- -	- -	- -	- -	- -
50 – 54	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
55 – 59	2	2	- -	- -	- -	- -	- -	- -	- -	- -
	55,641	55,641	- -	- -	- -	- -	- -	- -	- -	- -
60 – 64	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
65 – 69	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
70 & over	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Total	**25**	**19**	**6**	**- -**	**- -**	**- -**	**- -**	**- -**	**- -**	**- -**
	$54,794	**$53,842**	**$57,809**	**- -**	**- -**	**- -**	**- -**	**- -**	**- -**	**- -**

Exhibit C: Schedule of Average Benefit Payment Amounts

	Number of Years Since Retirement						
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & Over
Valuation date: 6/30/2012							
Average monthly benefit of retirees	$1,841	$1,752	$1,420	$1,462	$1,640	$1,336	$1,356
Number of retirees	382	277	132	99	85	62	38
Average monthly benefit of beneficiaries	$1,167	$1,230	$806	$1,385	$1,324	$1,150	$975
Number of beneficiaries	44	42	19	14	8	8	7
Valuation date: 6/30/2013							
Average monthly benefit of retirees	$1,874	$1,870	$1,391	$1,480	$1,706	$1,377	$1,458
Number of retirees	407	300	148	106	86	52	44
Average monthly benefit of beneficiaries	$1,207	$1,236	$882	$1,248	$1,442	$1,177	$871
Number of beneficiaries	46	38	19	20	7	8	6
Valuation date: 6/30/2014							
Average monthly benefit of retirees	$1,928	$1,916	$1,433	$1,575	$1,668	$1,517	$1,481
Number of retirees	411	318	155	112	90	50	48
Average monthly benefit of beneficiaries	$1,265	$1,228	$1,064	$954	$1,786	$1,300	$699
Number of beneficiaries	41	39	22	19	8	9	6
Valuation date: 6/30/2015							
Average monthly benefit of retirees	$1,986	$2,006	$1,587	$1,570	$1,753	$1,457	$1,610
Number of retirees	391	329	200	110	94	51	52
Average monthly benefit of beneficiaries	$1,308	$1,208	$1,184	$961	$1,654	$1,226	$1,091
Number of beneficiaries	46	40	23	16	12	8	7

Exhibit C: Schedule of Average Benefit Payment Amounts (continued)

	Number of Years Since Retirement						
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & Over
Valuation date: 6/30/2016							
Average monthly benefit of retirees	$1,987	$2,057	$1,831	$1,596	$1,553	$1,742	$1,711
Number of retirees	388	337	222	118	92	53	52
Average monthly benefit of beneficiaries	$1,484	$1,181	$1,134	$843	$1,484	$1,576	$1,136
Number of beneficiaries	50	41	23	14	11	8	7
Valuation date: 6/30/2017							
Average monthly benefit of retirees	$1,986	$2,057	$1,942	$1,603	$1,468	$1,787	$1,670
Number of retirees	368	366	256	117	81	61	60
Average monthly benefit of beneficiaries	$1,461	$1,300	$1,236	$917	$1,381	$1,534	$1,280
Number of beneficiaries	46	39	28	13	12	7	8
Valuation date: 6/30/2018							
Average monthly benefit of retirees	$2,065	$2,115	$2,111	$1,560	$1,510	$1,866	$1,766
Number of retirees	333	392	284	127	81	62	58
Average monthly benefit of beneficiaries	$1,344	$1,445	$1,330	$875	$1,342	$1,708	$1,224
Number of beneficiaries	47	38	27	13	14	6	8
Valuation date: 6/30/2019							
Average monthly benefit of retirees	$2,096	$2,213	$2,172	$1,615	$1,697	$1,826	$1,825
Number of retirees	352	387	298	139	88	74	58
Average monthly benefit of beneficiaries	$1,293	$1,571	$1,381	$1,058	$1,186	$1,978	$1,478
Number of beneficiaries	50	37	29	12	14	6	8

Exhibit C: Schedule of Average Benefit Payment Amounts (continued)

	Number of Years Since Retirement						
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & Over
Valuation date: 6/30/2020							
Average monthly benefit of retirees	$2,161	$2,264	$2,293	$1,810	$1,731	$1,905	$1,759
Number of retirees	333	383	303	182	89	76	61
Average monthly benefit of beneficiaries	$1,485	$1,530	$1,335	$1,263	$1,232	$1,749	$1,524
Number of beneficiaries	52	38	30	12	11	8	9

Exhibit D: Average Annual Benefit of Retired Members and Beneficiaries by Age, Years in Retirement as of June 30, 2020

Total Plan

		Years in Retirement						
Age	**Total**	**0 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25 - 29**	**30 & over**
Under 45	7	4	2	1	- -	- -	- -	- -
	$21,302	$24,347	$25,357	$1,017	- -	- -	- -	- -
45 - 49	12	4	5	2	1	- -	- -	- -
	28,644	26,867	31,589	23,715	$30,887	- -	- -	- -
50 - 54	51	44	3	3	- -	- -	1	- -
	23,071	22,747	17,604	33,876	- -	- -	$21,310	- -
55 - 59	129	67	45	10	2	2	3	- -
	24,311	28,664	19,789	14,624	21,829	$31,307	24,217	- -
60 - 64	241	81	92	54	7	1	4	2
	22,258	23,245	25,638	16,286	16,696	17,050	20,445	$13,715
65 - 69	355	109	113	81	38	6	5	3
	27,138	29,208	30,026	27,489	12,608	25,788	24,256	25,208
70 - 74	398	53	119	111	75	28	9	3
	25,971	17,815	27,661	33,288	21,279	17,257	26,983	27,847
75 - 79	192	10	27	49	43	32	16	15
	24,238	16,897	23,298	25,547	28,109	23,552	15,693	26,028
80 - 84	90	7	10	15	20	17	12	9
	21,950	20,047	18,254	23,527	27,865	20,126	19,651	18,272
85 & over	112	6	5	7	8	14	34	38
	19,756	19,076	18,980	16,307	12,673	14,157	25,840	18,711
Total	**1,587**	**385**	**421**	**333**	**194**	**100**	**84**	**70**
	$24,563	**$24,833**	**$26,370**	**$26,475**	**$21,308**	**$20,116**	**$22,683**	**$20,750**

Exhibit D: Average Annual Benefit of Retired Members and Beneficiaries by Age, Years in Retirement as of June 30, 2020 (continued)

General

		Years in Retirement						
Age	**Total**	**0 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25 - 29**	**30 & over**
Under 45	3	2	- -	1	- -	- -	- -	- -
	$9,652	$13,970	- -	$1,017	- -	- -	- -	- -
45 - 49	3	2	1	- -	- -	- -	- -	- -
	21,923	21,097	$23,574	- -	- -	- -	- -	- -
50 - 54	26	22	2	1	- -	- -	1	- -
	17,265	17,282	11,102	25,182	- -	- -	$21,310	- -
55 - 59	89	44	32	9	2	- -	2	- -
	16,299	17,833	13,893	14,693	$21,829	- -	22,761	- -
60 - 64	203	72	75	44	6	- -	4	2
	17,782	21,858	16,914	12,706	16,541	- -	20,445	$13,715
65 - 69	315	99	108	64	36	4	3	1
	25,239	28,668	29,951	19,446	11,670	$29,081	22,571	28,721
70 - 74	350	51	112	100	62	19	5	1
	24,550	17,256	27,574	32,106	16,502	12,337	26,689	22,649
75 - 79	158	9	26	45	35	23	14	6
	22,518	13,947	23,403	24,324	27,523	19,395	13,730	21,278
80 - 84	81	5	10	12	20	17	11	6
	19,529	14,730	18,254	12,430	27,865	20,126	19,635	10,178
85 & over	104	6	5	6	7	14	31	35
	19,054	19,076	18,980	17,242	11,710	14,157	24,761	17,745
Total	**1,332**	**312**	**371**	**282**	**168**	**77**	**71**	**51**
	$21,973	**$21,925**	**$24,172**	**$23,120**	**$18,981**	**$17,366**	**$21,487**	**$17,424**

Exhibit D: Average Annual Benefit of Retired Members and Beneficiaries by Age, Years in Retirement as of June 30, 2020 (continued)

Safety

		Years in Retirement						
Age	**Total**	**0 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25 - 29**	**30 & over**
Under 45	4	2	2	- -	- -	- -	- -	- -
	$30,040	$34,724	$25,357	- -	- -	- -	- -	- -
45 - 49	8	2	4	2	- -	- -	- -	- -
	30,884	32,637	33,592	$23,715	- -	- -	- -	- -
50 - 54	22	20	1	1	- -	- -	- -	- -
	29,978	29,175	30,608	45,413	- -	- -	- -	- -
55 - 59	37	20	13	1	- -	2	1	- -
	42,818	51,729	34,302	14,004	- -	$31,307	$27,128	- -
60 - 64	24	4	12	6	1	1	- -	- -
	53,234	52,909	64,648	42,587	$17,620	17,050	- -	- -
65 - 69	27	7	2	11	1	2	2	2
	48,654	34,073	23,402	77,045	41,977	19,202	26,783	$23,451
70 - 74	34	1	3	6	9	9	4	2
	34,792	46,477	38,921	54,662	30,292	27,644	27,351	30,446
75 - 79	31	1	- -	4	6	9	2	9
	32,985	43,452	- -	39,311	32,108	34,174	29,434	29,194
80 - 84	9	2	- -	3	- -	- -	1	3
	43,737	33,338	- -	67,913	- -	- -	19,835	34,460
85 & over	8	- -	- -	1	1	- -	3	3
	28,877	- -	- -	10,694	19,412	- -	36,988	29,983
Total	**204**	**59**	**37**	**35**	**18**	**23**	**13**	**19**
	$39,374	**$39,992**	**$43,270**	**$54,557**	**$30,238**	**$29,323**	**$29,213**	**$29,677**

Exhibit D: Average Annual Benefit of Retired Members and Beneficiaries by Age, Years in Retirement as of June 30, 2020 (continued)

Probation

		Years in Retirement						
Age	**Total**	**0 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25 - 29**	**30 & over**
Under 45	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -
45 - 49	1	- -	- -	- -	1	- -	- -	- -
	$30,887	- -	- -	- -	$30,887	- -	- -	- -
50 - 54	3	2	- -	1	- -	- -	- -	- -
	22,739	$18,592	- -	$31,034	- -	- -	- -	- -
55 - 59	3	3	- -	- -	- -	- -	- -	- -
	33,744	33,744	- -	- -	- -	- -	- -	- -
60 - 64	14	5	5	4	- -	- -	- -	- -
	34,046	19,481	$62,871	16,221	- -	- -	- -	- -
65 - 69	13	3	3	6	1	- -	- -	- -
	28,458	35,677	37,119	22,426	17,006	- -	- -	- -
70 - 74	14	1	4	5	4	- -	- -	- -
	40,058	17,629	21,649	31,282	75,044	- -	- -	- -
75 - 79	3	- -	1	- -	2	- -	- -	- -
	24,452	- -	20,588	- -	26,384	- -	- -	- -
80 - 84	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -
85 & over	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -
Total	**51**	**14**	**13**	**16**	**8**	**- -**	**- -**	**- -**
	$32,963	**$25,748**	**$40,992**	**$24,180**	**$50,104**	**- -**	**- -**	**- -**

Exhibit E: Reconciliation of Member Data

	Active Members	Inactive Vested Members	Retired Members	Disabled Members	Beneficiaries	Total
Number as of June 30, 2019	**1,151**	**515**	**1,218**	**178**	**156**	**3,218**
• New members	134	0	0	0	12	146
• Terminations – with vested rights	-71	71	0	0	0	0
• Contribution refunds	-39	-32	0	0	0	-71
• Retirements	-41	-12	53	0	0	0
• New disabilities	-3	0	-3	6	0	0
• Return to work	11	-10	-1	0	0	0
• Died with or without beneficiary	-2	0	-20	-5	-5	-32
• Data adjustments	0	14[1]	1	0	-3	12
Number as of June 30, 2020	**1,140**	**546**	**1,248**	**179**	**160**	**3,273**

[1] Includes 13 members who were hired and terminated employment after June 30, 2019.

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

	Year Ended June 30, 2020		Year Ended June 30, 2019	
Net assets at market value at the beginning of the year		**$532,727,019**		**$520,429,961**
Contribution income:				
• Employer contributions	$24,647,132		$23,702,064	
• Member contributions	6,820,687		6,544,192	
Net contribution income		*$31,467,819*		*$30,246,256*
Investment income:				
• Interest, dividends and other income	$8,304,318		$7,764,206	
• Asset appreciation	7,473,055		13,100,919	
• Less investment expenses	(978,719)		(906,006)	
Net investment income		*$14,798,654*		*$19,959,119*
Total income available for benefits		**$46,266,473**		**$50,205,375**
Less benefit payments:				
• Benefit payments and refunds	$(38,777,787)		$(36,674,901)	
• Administrative expenses	(1,226,492)		(1,233,416)	
Net benefit payments		*$(40,004,279)*		*$(37,908,317)*
Change in net assets at market value		**$6,262,194**		**$12,297,058**
Net assets at market value at the end of the year		**$538,989,213**		**$532,727,019**

Note: Results may be slightly off due to rounding.

Exhibit G: Summary Statement of Plan Assets

	June 30, 2020		June 30, 2019	
Cash equivalents		$221,220		$277,833
Accounts receivable:				
• Member contributions	$298,142		$231,239	
• Employer contributions	1,217,318		861,411	
• Other	239,419		120,458	
Total accounts receivable		*$1,754,879*		*$1,213,108*
Investments:				
• Fixed income	$114,218,831		$111,668,799	
• Equities	361,878,551		360,478,736	
• Real estate and real estate partnerships	62,156,842		60,129,415	
Total investments at market value		*$538,254,224*		*$532,276,950*
Equipment		317,533		396,916
Total assets		$540,547,856		$534,164,807
Accounts payable:				
• Accounts payable	$(325,490)		$(232,059)	
• Accrued expenses and other liabilities	(1,233,153)		(1,205,731)	
Total accounts payable		$(1,558,643)		$(1,437,790)
Net assets at market value		**$538,989,213**		**$532,727,019**
Net assets at actuarial value		**$556,717,438**		**$532,691,627**
Net assets at valuation value		**$551,332,136**		**$527,367,477**

Note: Results may be slightly off due to rounding.

Exhibit H: Development of the Fund through June 30, 2020

Year Ended June 30	Employer Contributions	Member Contributions	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
2011	$9,553,955	$5,446,964	$63,435,337	$23,436,295	$355,042,523	$351,940,733	99.1%
2012	11,811,076	4,840,275	(4,776,952)	24,180,110	342,736,812	365,918,684	106.8%
2013	14,260,473	4,712,593	48,060,493	26,573,554	383,196,817	382,612,375	99.8%
2014	14,324,752	4,575,895	67,564,513	27,353,529	442,308,448	409,284,122	92.5%
2015	15,164,044	4,651,960	12,142,037	30,049,133	444,217,356	432,679,307	97.4%
2016	19,129,191	5,544,925	(11,494,818)	31,058,643	426,338,011	451,044,882	105.8%
2017	19,116,426	5,753,907	65,583,775	32,765,402	484,026,717	480,079,636	99.2%
2018	20,430,644	5,996,462	44,129,810	34,153,672	520,429,961	510,023,422	98.0%
2019	23,702,064	6,544,192	18,725,703	36,674,901	532,727,019	532,691,627	100.0%
2020	24,647,132	6,820,687	13,572,162	38,777,787	538,989,213	556,717,438	103.3%

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

Exhibit I: Table of Amortization Bases

Type	Date Established	Initial Amount	Initial Period	Outstanding Balance	Years Remaining	Annual Payment
General						
Combined base	June 30, 2012	$96,509,955	27	$102,311,599	19	$7,406,629
Experience loss	June 30, 2013	1,308,206	18	1,146,714	11	126,884
Experience gain	June 30, 2014	(10,922,004)	18	(9,878,647)	12	(1,017,740)
Change in assumptions/methods	June 30, 2014	41,158,191	18	37,226,434	12	3,835,224
Experience gain	June 30, 2015	(2,476,999)	18	(2,303,490)	13	(222,485)
Experience loss	June 30, 2016	1,249,423	18	1,187,674	14	108,175
Experience gain	June 30, 2017	(6,932,729)	18	(6,702,514)	15	(578,576)
Change in assumptions	June 30, 2017	21,071,591	18	20,371,865	15	1,758,545
Experience loss	June 30, 2018	5,742,836	18	5,635,653	16	463,080
Experience loss	June 30, 2019	8,521,818	18	8,456,179	17	663,951
Experience loss	June 30, 2020	8,846,883	18	8,846,883	18	665,990
Change in assumptions	June 30, 2020	10,455,368	18	10,455,368	18	787,076
Subtotal				**$176,753,718**		**$13,996,753**
Safety						
Combined base	June 30, 2012	$24,941,466	27	$26,440,808	19	$1,914,126
Experience loss	June 30, 2013	2,713,369	18	2,378,417	11	263,171
Experience gain	June 30, 2014	(489,900)	18	(443,101)	12	(45,650)
Change in assumptions/methods	June 30, 2014	13,983,439	18	12,647,630	12	1,303,012
Experience loss	June 30, 2015	4,163,162	18	3,871,542	13	373,937
Experience loss	June 30, 2016	1,209,820	18	1,150,029	14	104,746
Experience gain	June 30, 2017	(1,978,056)	18	(1,912,370)	15	(165,080)
Change in assumptions	June 30, 2017	5,932,121	18	5,735,132	15	495,069
Experience loss	June 30, 2018	3,402,016	18	3,338,522	16	274,326
Experience gain	June 30, 2019	(612,075)	18	(607,360)	17	(47,688)
Experience loss	June 30, 2020	2,322,959	18	2,322,959	18	174,871
Change in assumptions	June 30, 2020	4,684,408	18	4,684,408	18	352,640
Subtotal				**$59,606,616**		**$4,997,480**

Exhibit I: Table of Amortization Bases (continued)

Type	Date Established	Initial Amount	Initial Period	Outstanding Balance	Years Remaining	Annual Payment
Probation						
Combined base	June 30, 2012	$5,075,598	27	$5,380,714	19	$389,525
Experience gain	June 30, 2013	(964,299)	18	(845,262)	11	(93,528)
Experience gain	June 30, 2014	(834,449)	18	(754,735)	12	(77,756)
Change in assumptions/methods	June 30, 2014	3,045,283	18	2,754,373	12	283,767
Experience gain	June 30, 2015	(194,174)	18	(180,574)	13	(17,441)
Experience gain	June 30, 2016	(39,275)	18	(37,333)	14	(3,400)
Experience gain	June 30, 2017	(535,517)	18	(517,734)	15	(44,692)
Change in assumptions	June 30, 2017	1,217,274	18	1,176,852	15	101,588
Experience gain	June 30, 2018	(50,151)	18	(49,215)	16	(4,044)
Experience loss	June 30, 2019	558,987	18	554,681	17	43,552
Experience gain	June 30, 2020	(378,068)	18	(378,068)	18	(28,461)
Change in assumptions	June 30, 2020	602,011	18	602,011	18	45,319
Subtotal				**$7,705,710**		**$594,429**
Total						
Combined base	June 30, 2012	$126,527,019	27	$134,133,121	19	$9,710,280
Experience loss	June 30, 2013	3,057,276	18	2,679,869	11	296,527
Experience gain	June 30, 2014	(12,246,353)	18	(11,076,483)	12	(1,141,146)
Change in assumptions/methods	June 30, 2014	58,186,913	18	52,628,437	12	5,422,003
Experience loss	June 30, 2015	1,491,989	18	1,387,478	13	134,011
Experience loss	June 30, 2016	2,419,968	18	2,300,370	14	209,521
Experience gain	June 30, 2017	(9,446,302)	18	(9,132,618)	15	(788,348)
Change in assumptions	June 30, 2017	28,220,986	18	27,283,849	15	2,355,202
Experience loss	June 30, 2018	9,094,701	18	8,924,960	16	733,362
Experience loss	June 30, 2019	8,468,730	18	8,403,500	17	659,815
Experience loss	June 30, 2020	10,791,774	18	10,791,774	18	812,400
Change in assumptions	June 30, 2020	15,741,787	18	15,741,787	18	1,185,035
Total				**$244,066,044**		**$19,588,662**

Exhibit J: Projection of UAAL Balances and Payments

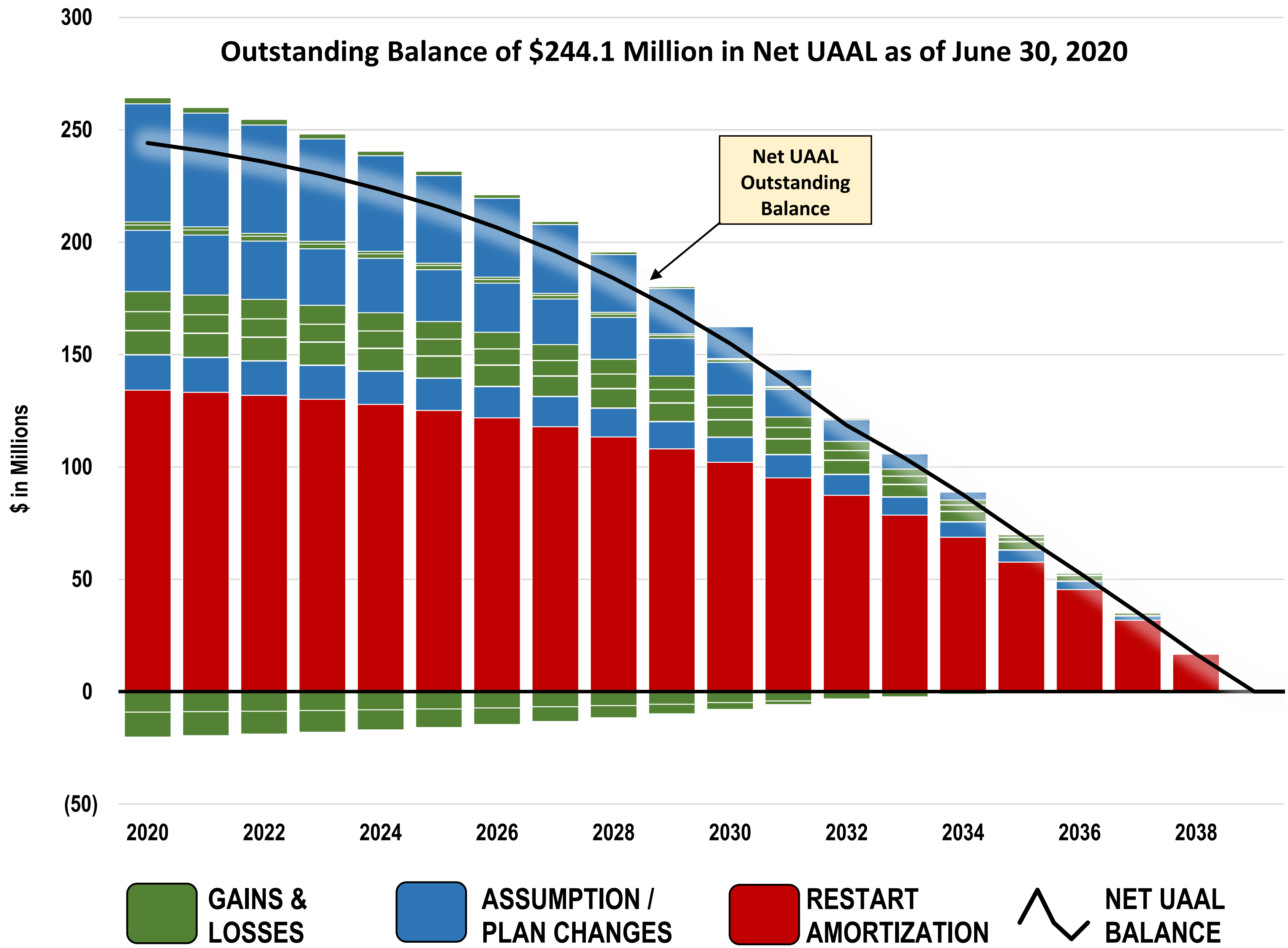


Exhibit J: Projection of UAAL Balances and Payments (continued)

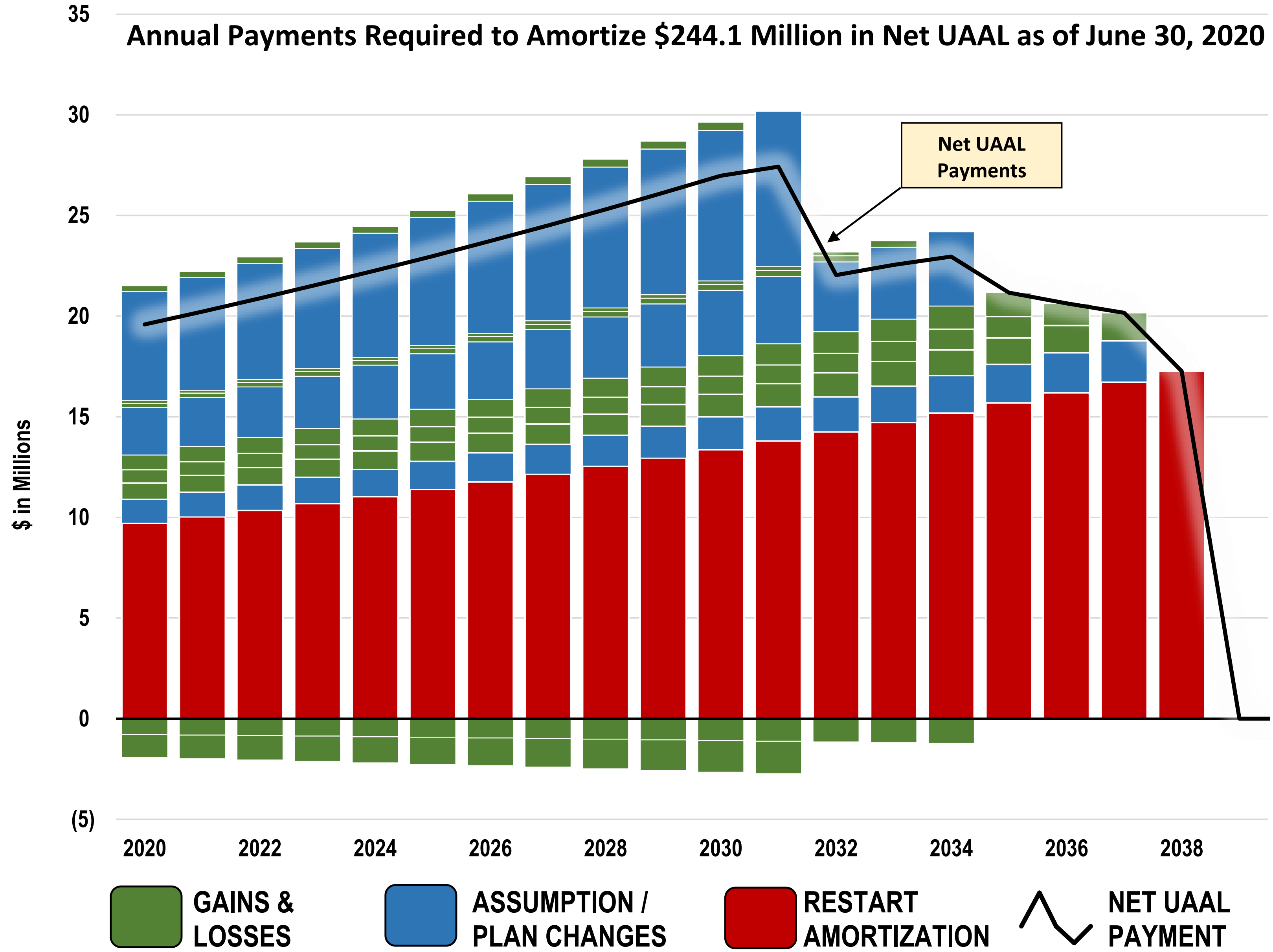


Exhibit K: Definition of Pension Terms

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:	Actuarial Present 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. 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 actuarial liabilities that are larger than projected.
Actuarially Equivalent:	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial Present Value (APV):	The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. Each such amount or series of amounts is: Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.) Multiplied by the probability of the occurrence of an event (such as survival, death, disability, withdrawal, etc.) on which the payment is conditioned, and Discounted according to an assumed rate (or rates) of return to reflect the time value of money.

Section 3: Supplemental Information

Actuarial Present Value of Future Plan Benefits:	The Actuarial Present Value of benefit amounts expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age, anticipated future compensation, and future service credits. The Actuarial Present Value of Future Plan Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
Actuarial Valuation:	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB, such as the Actuarially Determined Contribution 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 law.
Actuarially Determined Contribution (ADC):	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Plan's funding policy. The ADC consists of the Employer Normal Cost and the Amortization Payment.
Amortization Method:	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the 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 intended to pay off the Unfunded Actuarial Accrued Liability.

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; Withdrawal 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 Fund that may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.
Funded Ratio:	The ratio of the Valuation Value of Assets (VVA) to the Actuarial Accrued Liability (AAL). Plans sometimes also 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 Actuarial Value of Assets reduced by the value of non-valuation reserves.

Section 4: Actuarial Valuation Basis

Exhibit I: Actuarial Assumptions and Methods

Rationale for Assumptions:	The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the July 1, 2016 through June 30, 2019 Actuarial Experience Study report dated June 11, 2020. Unless otherwise noted, all actuarial assumptions and methods shown below apply to all membership groups (i.e., General, Safety, and Probation) and tiers. These assumptions were adopted by the Board.
Economic Assumptions	
Net Investment Return:	6.75%; net of administrative and investment expenses. Based on the Actuarial Experience Study referenced above, expected administrative and investment expenses represent about 0.40% of the Market Value of Assets.
Employee Contribution Crediting Rate:	6.75%, compounded semi-annually.
Consumer Price Index:	Increase of 2.75% per year. Retiree COLA increases due to CPI are subject to a 2.75% maximum change per year for General Tiers 1, 2, and 3, Safety Tiers 1 and 2, and Probation Tiers 1 and 2 (for non-CalPEPRA members with a sufficient COLA bank, withdrawals from the bank can be made to increase the retiree COLA up to 3% per year). No COLA increases for General Tier 4, Safety Tier 3, and Probation Tier 3.
Payroll Growth:	Inflation of 2.75% per year plus real “across the board” 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.
Increase in Section 7522.10 Compensation Limit:	Increase of 2.75% per year from the valuation date.

Salary Increases:

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

Merit and Promotion Increases

	Rate (%)	
Years of Service	**General**	**Safety and Probation**
Less than 1	5.00	5.00
1 – 2	4.50	4.25
2 – 3	4.00	3.75
3 – 4	3.25	3.25
4 – 5	2.75	2.50
5 – 6	2.25	2.00
6 – 7	2.00	1.75
7 – 8	1.75	1.25
8 – 9	1.25	1.00
9 – 10	1.00	1.00
10 & Over	1.00	1.00

Demographic Assumptions:

Post-Retirement Mortality Rates:

Healthy

- **General Members:** Pub-2010 General Healthy Retiree Amount-Weighted Mortality Tables (separate tables for males and females) with rates decreased by 5% for males and increased by 5% for females, projected generationally with the two-dimensional mortality improvement scale MP-2019
- **Safety and Probation Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019

Disabled

- **General Members:** Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Tables (separate tables for males and females) with rates decreased by 5%, projected generationally with the two-dimensional mortality improvement scale MP-2019
- **Safety and Probation Members:** Pub-2010 Safety Disabled Retiree Amount-Weighted Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019

Post-Retirement Mortality Rates (continued):

Beneficiaries

- **All Beneficiaries:** Pub-2010 Contingent Survivor Amount-Weighted Mortality Tables (separate tables for males and females) with rates increased by 5%, projected generationally with the two-dimensional mortality improvement scale MP-2019

Pre-Retirement Mortality Rates:

- **General Members:** Pub-2010 General Employee Amount-Weighted Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019
- **Safety and Probation Members:** Pub-2010 Safety Employee Amount-Weighted Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019

	Rate (%)			
	General		Safety and Probation	
Age	Male	Female	Male	Female
25	0.03	0.01	0.04	0.02
30	0.04	0.02	0.04	0.03
35	0.05	0.02	0.05	0.04
40	0.07	0.04	0.06	0.05
45	0.10	0.06	0.08	0.07
50	0.15	0.08	0.12	0.09
55	0.22	0.12	0.18	0.12
60	0.32	0.19	0.26	0.17
65	0.47	0.30	0.41	0.23
70	0.70	0.49	0.77	0.45

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

All General pre-retirement deaths are assumed to be non-service connected deaths. All Safety and Probation pre-retirement deaths are assumed to be service connected deaths.

Mortality Rates for Member Contributions:

- **General Members:** Pub-2010 General Healthy Retiree Amount-Weighted Mortality Tables (separate tables for males and females) with rates decreased by 5% for males and increased by 5% for females, projected 30 years (from 2010) with the two-dimensional mortality improvement scale MP-2019, weighted 30% male and 70% female
- **Safety and Probation Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Mortality Tables (separate tables for males and females), projected 30 years (from 2010) with the two-dimensional mortality improvement scale MP-2019, weighted 80% male and 20% female.

Disability Incidence:

	Rate (%)		
Age	**General**	**Safety**	**Probation**
20	0.01	0.10	0.10
25	0.01	0.13	0.13
30	0.01	0.18	0.18
35	0.02	0.98	0.98
40	0.13	1.68	1.68
45	0.29	1.80	1.80
50	0.44	2.37	2.37
55	0.50	2.75	2.75
60	0.56	0.00	0.00
65	0.63	0.00	0.00

50% of General disabilities are assumed to be service connected disabilities. The other 50% are assumed to be non-service connected disabilities.

90% of Safety and Probation disabilities are assumed to be service connected disabilities. The other 10% are assumed to be non-service connected disabilities.

Termination:

Less Than Five Years of Service

Years of Service	Rate (%) General	Rate (%) Safety	Rate (%) Probation
Less than 1	24.00	14.00	14.00
1 – 2	16.00	13.00	13.00
2 – 3	14.00	12.00	12.00
3 – 4	12.00	10.00	10.00
4 – 5	11.00	8.00	8.00

85% of all terminated members with less than 5 years of service are assumed to choose a refund of contributions. The other 15% are assumed to choose a deferred vested benefit. No termination is assumed after a member is eligible for retirement (as long as a retirement rate is present).

Five or More Years of Service

Age	Rate (%) General	Rate (%) Safety	Rate (%) Probation
20	8.00	7.00	7.00
25	8.00	7.00	7.00
30	8.00	6.40	6.40
35	8.00	6.00	6.00
40	8.00	4.80	4.80
45	6.80	3.40	3.40
50	6.00	1.80	1.80
55	6.00	0.40	0.40
60	5.40	0.00	0.00
65	4.40	0.00	0.00

25% of all terminated members with 5 or more years of service are assumed to choose a refund of contributions. The other 75% are assumed to choose a deferred vested benefit. No termination is assumed after a member is eligible for retirement (as long as a retirement rate is present).

Retirement Rates:

	Rate (%)					
Age	**General Tiers 1, 2, & 3**	**General Tier 4**	**Safety Tiers 1 & 2**	**Safety Tier 3**	**Probation Tiers 1 & 2**	**Probation Tier 3**
50	5.00	0.00	8.00	3.00	5.00	4.00
51	5.00	0.00	8.00	3.00	5.00	4.00
52	5.00	6.00	8.00	3.00	5.00	4.00
53	5.00	3.00	8.00	3.00	5.00	4.00
54	5.00	3.00	8.00	3.00	5.00	4.00
55	10.00	5.00	10.00	4.00	23.00	13.00
56	10.00	5.00	15.00	10.00	23.00	24.00
57	10.00	5.00	20.00	12.00	23.00	24.00
58	10.00	5.00	25.00	15.00	23.00	24.00
59	10.00	5.00	30.00	30.00	23.00	24.00
60	12.00	6.00	100.00	100.00	100.00	100.00
61	15.00	9.00	100.00	100.00	100.00	100.00
62	25.00	12.00	100.00	100.00	100.00	100.00
63	20.00	14.00	100.00	100.00	100.00	100.00
64	20.00	12.00	100.00	100.00	100.00	100.00
65	45.00	32.00	100.00	100.00	100.00	100.00
66	45.00	32.00	100.00	100.00	100.00	100.00
67	45.00	32.00	100.00	100.00	100.00	100.00
68	45.00	32.00	100.00	100.00	100.00	100.00
69	45.00	32.00	100.00	100.00	100.00	100.00
70 & Over	100.00	100.00	100.00	100.00	100.00	100.00

The retirement rates only apply to members that are eligible to retire at the age shown.

Retirement Age and Benefit for Deferred Vested Members:

For current and future deferred vested members, retirement age assumptions are as follows:

General Retirement Age: 60

Safety and Probation Retirement Age: 54

Deferred vested members who terminate with less than five years of service and are not vested are assumed to retire at age 70 if they decide to leave their contributions on deposit.

65% of future deferred vested members are assumed to continue to work for a reciprocal employer. For reciprocals, 4.25% compensation increases are assumed per annum.

Future Benefit Accruals:

1.0 year of service per year of employment, plus 0.017 years of additional service to anticipate conversion of unused sick leave for each year of employment, for members expected to retire directly from active employment and to receive a service retirement benefit.

Section 4: Actuarial Valuation Basis

Unknown Data for Members:	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.
Inclusion of Deferred Vested Members:	All deferred vested members are included in the valuation.
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, 70% of male members and 50% 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 2 years younger than the member and female members are assumed to have a male spouse who is 2 years older than the member.
Actuarial Funding Policy	
Actuarial Cost Method:	Entry Age Cost Method. 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, as if the current benefit formula for each individual has always been in effect (i.e., "replacement life within a tier").
Actuarial Value of Assets:	Market Value of Assets (MVA) less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the valuation value and is recognized over a five-year period. The Actuarial Value of Assets (AVA) is limited by a 25% corridor; the AVA cannot be less than 75% of MVA, nor greater than 125% of MVA.
Valuation Value of Assets:	The Actuarial Value of Assets reduced by the value of the non-valuation reserves.
Amortization Policy:	Prior to July 1, 2012, the total UAAL was amortized on a 30-year decreasing period, with 27 years remaining as of June 30, 2012 (and 19 years remaining as of June 30, 2020). On or after July 1, 2012, any new UAAL resulting from plan amendments are amortized over separate decreasing 15-year periods; early retirement incentive programs (ERIPs) are amortized over separate decreasing 5-year periods; assumption and method changes are amortized over separate decreasing 18-year periods; and experience gains/losses are also amortized over separate decreasing 18-year periods.

Other Actuarial Methods	
Employer Contributions:	Employer contributions consist of two components: *Normal Cost* The annual contribution rate that, if paid annually from a member's first year of membership through the year of retirement, would accumulate to the amount necessary to fully fund the member's retirement-related benefits. Accumulation includes annual crediting of interest at the assumed investment earnings rate. The contribution rate is expressed as a level percentage of the member's compensation. *Contribution to the Unfunded Actuarial Accrued Liability (UAAL)* The annual contribution rate that, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment earnings rate. The contribution (or rate credit in the case of a negative UAAL) is calculated to remain as a level percentage of future active member payroll (including payroll for new members as they enter the Association) assuming a constant number of active members. In order to remain as a level percentage of payroll, amortization payments (credits) are scheduled to increase at the annual rate of 3.25% (i.e., 2.75% inflation plus 0.50% across-the-board salary increase). The amortization policy is described on the previous page. Also, under the Board's funding policy adopted on April 17, 2013, in addition to the UAAL contribution rate, an amortization amount equal to the UAAL contribution rate times the covered payroll (as estimated in the actuarial valuation that establishes such UAAL contribution rate) will be calculated for each employer. The final UAAL payment by each employer will be equal to the UAAL contribution rate times the actual covered payroll or the above amortization amount, if greater. This means that UAAL contribution amounts will be equal to the greater of the UAAL contribution rates developed in Section 2, Subsection F of this valuation times the actual fiscal year 2021/2022 payroll, or the estimated UAAL annual contribution amounts also provided in Section 2, Subsection F of this valuation. To facilitate the calculation of the minimum UAAL dollar contribution amount, we have provided in Section 2, Subsection F a breakdown of the estimated UAAL annual contribution amounts by employer (i.e., County of Mendocino, Mendocino County Superior Court, and Russian River Cemetery District). On June 19, 2013 the Board adopted an additional change to the actuarial funding policy to anticipate the contribution rate impact that would result from the lag between the date of the actuarial valuation and the date of the contribution rate implementation. In general, the contribution rates determined in an actuarial valuation will apply to the fiscal year beginning 12 months after the valuation date. In compliance with the change in the funding policy, the employer contribution rates developed in this valuation have been adjusted to anticipate the delay in implementing the change in the employer contribution rates determined as of June 30, 2020 for the fiscal year 2021/2022. This adjustment is reflected in the UAAL portion of the June 30, 2020 employer rates. The recommended employer contributions are provided in Section 2, Subsection F. The minimum amounts required from each employer to amortize their UAAL are also provided in Section 2, Subsection F.

Member Contributions:	*General Tiers 1, 2, and 3, Safety Tiers 1 and 2, and Probation Tiers 1 and 2* Articles 6 and 6.8 of the 1937 Act define the methodology to be used in the calculation of member basic contribution rates for General Tier 1-3 members and for Safety and Probation Tier 1-2 members, respectively. The basic contribution rate is determined so that the accumulation of a member's basic contributions made in a given year until a certain age will be sufficient to fund an annuity at that age that is equal to 1/100 of Final Average Salary. That age is 60 for General members and 50 for Safety and Probation members. It is assumed that contributions are made annually at the same rate, starting at entry age. In addition to the basic contributions, members pay one-half of the total normal cost necessary to fund cost-of-living benefits. Following practices established by the Association's previous actuary prior to the June 30, 2011 valuation, we have also included a 1.63% of pay offset to the Safety member rates, which is picked up by the County. No other subsidies have been reflected in the member contribution rates. *General Tier 4, Safety Tier 3, and Probation Tier 3* Pursuant to Section 7522.30(a) of the Government Code, General Tier 4, Safety Tier 3, and Probation Tier 3 members are required to contribute at least 50% of the Normal Cost rate. In addition, there are certain additional requirements that would have to be met such as requiring the new employees to pay the contribution rate of "similarly situated employees", if it is greater. (reference: Section 7522.30(c)). We further understand that different rules may have to be applied for collectively bargained employees, non-represented, managerial or other supervisory employees (reference: Section 7522.30(e)). In preparing the Normal Cost rates in this report, we have assumed that exactly 50% of the Normal Cost would be paid by the new members and we have taken into account in this valuation only the requirements of Section 7522.30(c), but not the requirements of Section 7522.30(e). Accumulation for all members includes semi-annual crediting of interest at the assumed investment earnings rate. The member contribution rates for all members are provided in *Section 4, Exhibit III.*

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. 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 for members in non-CalPEPRA tiers in excess of the limits may be paid through a qualified governmental excess plan that meets the requirements of Section 415(m). Legal Counsel's review and interpretation of the law and regulations should be sought on any questions in this regard. Contribution rates determined in this valuation have not been reduced for the Section 415 limitations. Actual limitations will result in gains as they occur.
Justification for Change in Actuarial Assumptions:	The following assumptions have been changed since the prior valuation. Rationale for these changes are presented in the July 1, 2016 through June 30, 2019 Actuarial Experience Study:
<u>*Economic Assumptions:*</u>	
Net Investment Return:	7.00%; net of administrative and investment expenses.
Employee Contribution Crediting Rate:	7.00%, compounded semi-annually.
Consumer Price Index:	Increase of 3.00% per year. Retiree COLA increases due to CPI are subject to a 3% maximum change per year for General Tiers 1, 2, and 3, Safety Tiers 1 and 2, and Probation Tiers 1 and 2 (no COLA increases for General Tier 4, Safety Tier 3, and Probation Tier 3).
Payroll Growth:	Inflation of 3.00% per year plus real "across the board" salary increases of 0.50% per year, used to amortize the Unfunded Actuarial Accrued Liability as a level percentage of payroll.
Increase in Internal Revenue Code Section 401(a)(17) Compensation Limit:	Increase of 3.00% per year from the valuation date.
Increase in Section 7522.10 Compensation Limit:	Increase of 3.00% per year from the valuation date.

Salary Increases:

The annual rate of compensation increase includes: inflation at 3.00%, plus “across the board” salary increases of 0.50% per year, plus the following merit and promotion increases:

Merit and Promotion Increases

	Rate (%)	
Years of Service	**General**	**Safety and Probation**
Less than 1	5.00	5.00
1 – 2	3.75	3.75
2 – 3	3.50	3.00
3 – 4	2.75	2.25
4 – 5	2.25	1.00
5 – 6	1.75	0.75
6 – 7	1.50	0.75
7 – 8	1.25	0.75
8 – 9	1.00	0.75
9 – 10	0.75	0.75
10 & Over	0.50	0.50

Demographic Assumptions:

Post-Retirement Mortality Rates:

Healthy

- **All Members and All Beneficiaries:** Headcount-Weighted RP-2014 (RPH-2014) Healthy Annuitant Mortality Tables, set back one year for males and set forward one year females, projected 20 years with the two-dimensional mortality improvement Scale MP-2016.

Disabled

- **All Members:** Headcount-Weighted RP-2014 (RPH-2014) Healthy Annuitant Mortality Tables, set forward four years for males and set forward six years for females, projected 20 years with the two-dimensional mortality improvement Scale MP-2016.

Pre-Retirement Mortality Rates:	• **General, Safety and Probation Members:** Headcount-Weighted RP-2014 (RPH-2014) Employee Mortality Tables, set back one year for males and set forward one year for females, projected 20 years with the two-dimensional mortality improvement Scale MP-2016.

	Rate (%)			
	General		**Safety and Probation**	
Age	**Male**	**Female**	**Male**	**Female**
25	0.05	0.02	0.05	0.02
30	0.05	0.02	0.05	0.02
35	0.05	0.03	0.05	0.03
40	0.07	0.05	0.07	0.05
45	0.09	0.08	0.09	0.08
50	0.15	0.13	0.15	0.13
55	0.25	0.19	0.25	0.19
60	0.42	0.28	0.42	0.28
65	0.75	0.42	0.75	0.42

All General pre-retirement deaths are assumed to be non-service connected deaths. All Safety and Probation pre-retirement deaths are assumed to be service connected deaths.

Mortality Rates for Member Contributions:	• **General Members:** Headcount-Weighted RP-2014 (RPH-2014) Healthy Annuitant Mortality Tables, set back one year for males and set forward one year for females, projected 20 years with the two-dimensional mortality improvement Scale MP-2016, weighted 30% male and 70% female. • **Safety and Probation Members:** Headcount-Weighted RP-2014 (RPH-2014) Healthy Annuitant Mortality Tables, set back one year for males and set forward one year for females, projected 20 years with the two-dimensional mortality improvement Scale MP-2016, weighted 80% male and 20% female.

Disability Incidence:

	Rate (%)		
Age	**General**	**Safety**	**Probation**
20	0.01	0.10	0.10
25	0.01	0.13	0.13
30	0.01	0.18	0.18
35	0.02	0.98	0.98
40	0.13	1.65	1.65
45	0.35	1.75	1.75
50	0.51	2.35	2.35
55	0.58	2.75	2.75
60	0.60	0.00	0.00
65	0.63	0.00	0.00

35% of General disabilities are assumed to be service connected disabilities. The other 65% are assumed to be non-service connected disabilities.

95% of Safety and Probation disabilities are assumed to be service connected disabilities. The other 5% are assumed to be non-service connected disabilities.

Termination:

Less Than Five Years of Service

Years of Service	Rate (%) General	Rate (%) Safety	Rate (%) Probation
Less than 1	22.00	16.00	16.00
1 – 2	16.00	13.00	13.00
2 – 3	14.00	10.00	10.00
3 – 4	13.00	9.00	9.00
4 – 5	12.00	8.00	8.00

85% of all terminated members with less than 5 years of service are assumed to choose a refund of contributions. The other 15% are assumed to choose a deferred vested benefit. No termination is assumed after a member is eligible for retirement (as long as a retirement rate is present).

Five or More Years of Service

Age	Rate (%) General	Rate (%) Safety	Rate (%) Probation
20	7.50	7.40	7.40
25	7.50	6.40	6.40
30	7.50	5.40	5.40
35	7.50	4.40	4.40
40	7.50	3.40	3.40
45	7.50	2.70	2.70
50	7.50	2.20	2.20
55	6.90	0.80	0.80
60	5.90	0.00	0.00
65	4.90	0.00	0.00

25% of all terminated members with 5 or more years of service are assumed to choose a refund of contributions. The other 75% are assumed to choose a deferred vested benefit. No termination is assumed after a member is eligible for retirement (as long as a retirement rate is present).

Retirement Rates:	See table below.

Age	General Tiers 1, 2, & 3	General Tier 4	Safety Tiers 1 & 2	Safety Tier 3	Probation Tiers 1 & 2	Probation Tier 3
	Rate (%)					
50	6.00	0.00	8.00	3.00	5.00	4.00
51	6.00	0.00	8.00	3.00	5.00	4.00
52	6.00	6.00	8.00	3.00	5.00	4.00
53	6.00	3.00	8.00	3.00	5.00	4.00
54	6.00	3.00	8.00	3.00	5.00	4.00
55	11.00	5.00	9.00	4.00	20.00	11.00
56	11.00	5.00	9.00	6.00	20.00	21.00
57	11.00	5.00	10.00	7.00	20.00	21.00
58	11.00	5.00	20.00	9.00	20.00	21.00
59	11.00	5.00	30.00	30.00	20.00	21.00
60	12.00	6.00	100.00	100.00	100.00	100.00
61	16.00	9.00	100.00	100.00	100.00	100.00
62	30.00	12.00	100.00	100.00	100.00	100.00
63	20.00	14.00	100.00	100.00	100.00	100.00
64	20.00	12.00	100.00	100.00	100.00	100.00
65	45.00	32.00	100.00	100.00	100.00	100.00
66	45.00	32.00	100.00	100.00	100.00	100.00
67	45.00	32.00	100.00	100.00	100.00	100.00
68	45.00	32.00	100.00	100.00	100.00	100.00
69	45.00	32.00	100.00	100.00	100.00	100.00
70 & Over	100.00	100.00	100.00	100.00	100.00	100.00

The retirement rates only apply to members that are eligible to retire at the age shown.

Retirement Age and Benefit for Deferred Vested Members:

For current and future deferred vested members, retirement age assumptions are as follows:

General Retirement Age: 60

Safety and Probation Retirement Age: 55

Deferred vested members who terminate with less than five years of service and are not vested are assumed to retire at age 70 if they decide to leave their contributions on deposit.

60% of future deferred vested members are assumed to continue to work for a reciprocal employer. For reciprocals, 4.00% compensation increases are assumed per annum.

Future Benefit Accruals:

1.0 year of service per year of employment, plus 0.018 years of additional service to anticipate conversion of unused sick leave for each year of employment, for members expected to retire directly from active employment and to receive a service retirement benefit.

Percent Married:

For all active and inactive members, 75% of male members and 50% of female members are assumed to be married at pre-retirement death or retirement.

Section 4: Actuarial Valuation Basis

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.

Exhibit II: Summary of Plan Provisions

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

Plan Year:	July 1 through June 30
Membership Eligibility:	Membership with MCERA usually begins with the first day of the pay period following the date of entrance into service.
General Tier 1	All General members appointed to a permanent position of four-fifths time, or more, in service of the County of Mendocino or in the service of a participating District, who were hired prior to July 1, 1984.
General Tier 2	General Tier 2 has been replaced by General Tier 3.
General Tier 3	All General members appointed to a permanent position of four-fifths time, or more, in service of the County of Mendocino or in the service of a participating District, who were hired on or after July 1, 1984 and prior to January 1, 2013.
General Tier 4	All General members appointed to a permanent position of four-fifths time, or more, in service of the County of Mendocino or in the service of a participating District, who were hired on or after January 1, 2013.
Safety Tier 1	All employees appointed to a position in active law enforcement who were hired prior to June 1, 1982.
Safety Tier 2	All employees appointed to a position in active law enforcement who were hired on or after June 1, 1982 and prior to January 1, 2013.
Safety Tier 3	All employees appointed to a position in active law enforcement who were hired on or after January 1, 2013.
Probation Tier 1	All employees appointed to positions with specific job classifications within the Departments of Probation, Juvenile Hall, and Social Services who were hired prior to July 1, 1984.
Probation Tier 2	All employees appointed to positions with specific job classifications within the Departments of Probation, Juvenile Hall, and Social Services who were hired on or after July 1, 1984 and prior to January 1, 2013.
Probation Tier 3	All employees appointed to positions with specific job classifications within the Departments of Probation, Juvenile Hall, and Social Services who were hired on or after January 1, 2013.

Final Compensation for Benefit Determination:	
General Tier 1, Safety Tier 1, and Probation Tier 1	Highest consecutive twelve months of compensation earnable (§31462.1) (FAS1).
General Tiers 2 and 3, Safety Tier 2, and Probation Tier 2	Highest consecutive thirty-six months of compensation earnable (§31462) (FAS3).
General Tier 4, Safety Tier 3, and Probation Tier 3	Highest consecutive thirty-six months of pensionable compensation (§7522.10(c), §7522.32, §7522.34) (FAS3).
Compensation Limit:	
General Tiers 1, 2, and 3, Safety Tiers 1 and 2, and Probation Tiers 1 and 2	For members with membership dates on or after July 1, 1996, compensation earnable is limited by Internal Revenue Code Section 401(a)(17). The limit for 2020 is $285,000. The limit is indexed for inflation on an annual basis.
General Tier 4, Safety Tier 3, and Probation Tier 3	Pensionable compensation is limited to $126,291 for 2020 for an employer that is enrolled in Social Security. For an employer that is not enrolled in Social Security, the maximum amount for 2020 is 120% of $126,291, or $151,549. (reference: Section 7522.10) These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2020. (reference: Section 7522.10(d))
Service:	Years of service (Yrs) is based on the number of pay periods in which contributions are received (1 year of service equals 26 biweekly pay periods).
Service Retirement Eligibility:	
General Tiers 1, 2, and 3	Age 50 with 5 years of service and 10 years of membership, or age 70, or after 30 years of service regardless of age (§31672).
General Tier 4	Age 52 with 5 years of service, or age 70 (§7522.20(a)).
Safety and Probation Tiers 1 and 2	Age 50 with 5 years of service and 10 years of membership, or age 70, or after 20 years of service regardless of age (§31663.25).
Safety and Probation Tier 3	Age 50 with 5 years of service, or age 70 (§7522.25(d)).

Benefit Formula:

	Retirement Age	Benefit Formula
*General Tier 1 (§31676.12)**	**Retirement Age**	**Benefit Formula**
	50	(1.34% x FAS1 – 1/3 x 1.34% x \$350 x 12) x Yrs
	55	(1.77% x FAS1 – 1/3 x 1.77% x \$350 x 12) x Yrs
	60	(2.34% x FAS1 – 1/3 x 2.34% x \$350 x 12) x Yrs
	62 and over	(2.62% x FAS1 – 1/3 x 2.62% x \$350 x 12) x Yrs
*General Tier 2 and General Tier 3 (§31676.12)**	**Retirement Age**	**Benefit Formula**
	50	(1.34% x FAS3 – 1/3 x 1.34% x \$350 x 12) x Yrs
	55	(1.77% x FAS3 – 1/3 x 1.77% x \$350 x 12) x Yrs
	60	(2.34% x FAS3 – 1/3 x 2.34% x \$350 x 12) x Yrs
	62 and over	(2.62% x FAS3 – 1/3 x 2.62% x \$350 x 12) x Yrs

* *For members in Bargaining Groups 01 and 101 who have service prior to October 1, 2003 and who have not purchased this service to be covered under Section 31676.12, their prior service will be covered under Section 31676.11 for Tier 1 and Tier 2 and Section 31676.1 for Tier 3. For all other Bargaining Groups, the prior service date is January 1, 2002 (instead of October 1, 2003).*

	Retirement Age	Benefit Formula
General Tier 4 (§7522.20(a))	**Retirement Age**	**Benefit Formula**
	52	1.00% x FAS3 x Yrs
	55	1.30% x FAS3 x Yrs
	60	1.80% x FAS3 x Yrs
	62	2.00% x FAS3 x Yrs
	65	2.30% x FAS3 x Yrs
	67 and over	2.50% x FAS3 x Yrs
Safety Tier 1 (§31664.2)	**Retirement Age**	**Benefit Formula**
	50	(2.29% x FAS1 – 1/3 x 2.29% x \$350 x 12) x Yrs
	55 and over	(3.00% x FAS1 – 1/3 x 3.00% x \$350 x 12) x Yrs
Safety Tier 2 (§31664.2)	**Retirement Age**	**Benefit Formula**
	50	(2.29% x FAS3 – 1/3 x 2.29% x \$350 x 12) x Yrs
	55 and over	(3.00% x FAS3 – 1/3 x 3.00% x \$350 x 12) x Yrs

Benefit Formula: (continued)		
Safety Tier 3 (§7522.25(d))	**Retirement Age**	**Benefit Formula**
	50	2.00% x FAS3 x Yrs
	55	2.50% x FAS3 x Yrs
	57 and over	2.70% x FAS3 x Yrs
Probation Tier 1 (§31664)	**Retirement Age**	**Benefit Formula**
	50	(2.00% x FAS1 – 1/3 x 2.00% x $350 x 12) x Yrs
	55 and over	(2.62% x FAS1 – 1/3 x 2.62% x $350 x 12) x Yrs
Probation Tier 2 (§31664)	**Retirement Age**	**Benefit Formula**
	50	(2.00% x FAS3 – 1/3 x 2.00% x $350 x 12) x Yrs
	55 and over	(2.62% x FAS3 – 1/3 x 2.62% x $350 x 12) x Yrs
Probation Tier 3 (§7522.25(d))	**Retirement Age**	**Benefit Formula**
	50	2.00% x FAS3 x Yrs
	55	2.50% x FAS3 x Yrs
	57 and over	2.70% x FAS3 x Yrs

Maximum Benefit:	
General Tiers 1, 2, and 3, Safety Tiers 1 and 2, and Probation Tiers 1 and 2	100% of Highest Average Compensation (§31676.12, §31664.2, and §31664).
General Tier 4, Safety Tier 3, and Probation Tier 3	None (§7522.20(a) and §7522.25(d)).
Non-Service Connected Disability:	
All Members	
Eligibility	Five years of service (§31720).
Benefit Formula	1.8% of Final Compensation per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 62 for General members and to age 55 for Safety and Probation members, but the total benefit cannot be more than one-third of Final Compensation (§31727.1 and §31727.2).

Service Connected Disability:	
All Members	
Eligibility	No age or service requirements (§31720).
Benefit Formula	50% of the Final Compensation or 100% of Service Retirement benefit, if greater (§31727.4).
Pre-Retirement Death:	
All Members	
Eligibility	None.
Basic Lump Sum Benefit	Refund of employee contributions with interest, plus one month's compensation for each year of service, to a maximum of six month's compensation (§31781).
Service Connected Death	50% of Final Compensation or 100% of Service Retirement benefit, if greater, payable to spouse* or minor children (§31787). * *In this summary, the continuance benefit payable to the spouse is also available to the eligible domestic partner.*
Vested Members	
Eligibility	Five years of service.
Basic Benefit	60% of the greater of Service or Non-Service Connected Disability Retirement benefit payable to surviving eligible spouse (§31765.1, §31781.1), in lieu of the basic lump sum benefit above.
Service Connected Death	50% of Final Compensation or 100% of Service Retirement benefit, if greater, payable to spouse or minor children (§31787).
Death After Retirement:	
All Members	
Lump Sum Death Benefit	$1,000 lump sum death benefit paid to the estate or designated beneficiary (§31789, §31789.13).
Service Retirement or Non-Service Connected Disability Retirement	Unless another option was selected at retirement, 60% of member's unmodified allowance continues to eligible spouse (§31760.1).* An eligible spouse is a surviving spouse who was married to the member at least one year prior to the date of retirement (§31760.1).
Service Connected Disability Retirement	Unless another option was selected at retirement, 100% of member's allowance continued to eligible spouse (§31786). * *100% of the COLA benefit is continued to the survivor upon the member's death for a member who retired prior to September 17, 2014 for service or non-service connected disability and chose the unmodified option at retirement.*

Withdrawal Benefits:	
Less than Five Years of Service	Refund of accumulated employee contributions with interest (§31628).
Five or More Years of Service	If contributions left on deposit, entitled to earned benefits commencing at any time after eligible to retire (§31700).
Post-retirement Cost-of-Living Benefits:	
General Tiers 1, 2, and 3, Safety Tiers 1 and 2, and Probation Tiers 1 and 2	Annual adjustment based on Consumer Price Index to a maximum of 3% per year; excess “banked” (§31870.1).
General Tier 4, Safety Tier 3, and Probation Tier 3	None.
Member Contributions:	Please refer to Section 4, Exhibit III for specific rates.
General Tier 1	
Basic	Entry-age based rates that provide for an annuity at age 60 equal to 1/100 of FAS1 (§31621.2).
Cost-of-Living	Entry-age based rates that provide for one-half of future Cost-of-Living costs.
General Tier 2 and General Tier 3	
Basic	Entry-age based rates that provide for an annuity at age 60 equal to 1/100 of FAS3 (§31621.2).
Cost-of-Living	Entry-age based rates that provide for one-half of future Cost-of-Living costs.
General Tier 4	50% of the total Normal Cost rate.
Safety Tier 1 and Probation Tier 1	
Basic	Entry-age based rates that provide for an annuity at age 50 equal to 1/100 of FAS1 (§31639.25).
Cost-of-Living	Entry-age based rates that provide for one-half of future Cost-of-Living costs. Safety Tier 1 Cost-of-Living member rates are offset by 1.63% of pay, which is picked up by the County.
Safety Tier 2 and Probation Tier 2	
Basic	Entry-age based rates that provide for an annuity at age 50 equal to 1/100 of FAS3 (§31639.25).
Cost-of-Living	Entry-age based rates that provide for one-half of future Cost-of-Living costs. Safety Tier 2 Cost-of-Living member rates are offset by 1.63% of pay, which is picked up by the County.
Safety Tier 3 and Probation Tier 3	50% of the total Normal Cost rate.

Other Information:	All non-CalPEPRA members with 30 or more years of service are exempt from paying member contributions.
Changes in Plan Provisions:	There have been no changes in plan provisions since the last valuation.

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

Exhibit III: Member Contribution Rates

General Tier 1 Members' Contribution Rates Based on the June 30, 2020 Actuarial Valuation
(as a % of biweekly payroll)

General Tier 1						
	Basic		COLA		Total	
Entry Age	First $161.54	Over $161.54	First $161.54	Over $161.54	First $161.54	Over $161.54
15	4.62%	6.93%	1.59%	2.39%	6.21%	9.32%
16	4.62%	6.93%	1.59%	2.39%	6.21%	9.32%
17	4.68%	7.02%	1.61%	2.42%	6.29%	9.44%
18	4.75%	7.12%	1.64%	2.46%	6.39%	9.58%
19	4.82%	7.23%	1.66%	2.49%	6.48%	9.72%
20	4.89%	7.33%	1.69%	2.53%	6.58%	9.86%
21	4.95%	7.43%	1.71%	2.56%	6.66%	9.99%
22	5.02%	7.53%	1.73%	2.60%	6.75%	10.13%
23	5.09%	7.64%	1.76%	2.64%	6.85%	10.28%
24	5.17%	7.75%	1.78%	2.67%	6.95%	10.42%
25	5.24%	7.86%	1.81%	2.71%	7.05%	10.57%
26	5.31%	7.97%	1.83%	2.75%	7.14%	10.72%
27	5.39%	8.08%	1.86%	2.79%	7.25%	10.87%
28	5.46%	8.19%	1.88%	2.82%	7.34%	11.01%
29	5.53%	8.30%	1.91%	2.86%	7.44%	11.16%
30	5.61%	8.42%	1.93%	2.90%	7.54%	11.32%
31	5.69%	8.54%	1.97%	2.95%	7.66%	11.49%
32	5.77%	8.65%	1.99%	2.98%	7.76%	11.63%
33	5.85%	8.77%	2.01%	3.02%	7.86%	11.79%
34	5.93%	8.90%	2.05%	3.07%	7.98%	11.97%
35	6.01%	9.02%	2.07%	3.11%	8.08%	12.13%
36	6.10%	9.15%	2.11%	3.16%	8.21%	12.31%
37	6.18%	9.27%	2.13%	3.20%	8.31%	12.47%
38	6.27%	9.40%	2.16%	3.24%	8.43%	12.64%
39	6.36%	9.54%	2.19%	3.29%	8.55%	12.83%

Exhibit III: Member Contribution Rates (continued)

General Tier 1 Members' Contribution Rates Based on the June 30, 2020 Actuarial Valuation (as a % of biweekly payroll) (continued)

General Tier 1 (continued)

	Basic		COLA		Total	
Entry Age	**First $161.54**	**Over $161.54**	**First $161.54**	**Over $161.54**	**First $161.54**	**Over $161.54**
40	6.45%	9.67%	2.23%	3.34%	8.68%	13.01%
41	6.54%	9.81%	2.25%	3.38%	8.79%	13.19%
42	6.63%	9.95%	2.29%	3.43%	8.92%	13.38%
43	6.73%	10.09%	2.32%	3.48%	9.05%	13.57%
44	6.83%	10.24%	2.35%	3.53%	9.18%	13.77%
45	6.93%	10.39%	2.39%	3.58%	9.32%	13.97%
46	7.03%	10.55%	2.43%	3.64%	9.46%	14.19%
47	7.15%	10.72%	2.47%	3.70%	9.62%	14.42%
48	7.26%	10.89%	2.51%	3.76%	9.77%	14.65%
49	7.38%	11.07%	2.55%	3.82%	9.93%	14.89%
50	7.51%	11.26%	2.59%	3.88%	10.10%	15.14%
51	7.63%	11.44%	2.63%	3.95%	10.26%	15.39%
52	7.72%	11.58%	2.66%	3.99%	10.38%	15.57%
53	7.81%	11.71%	2.69%	4.04%	10.50%	15.75%
54	7.89%	11.83%	2.72%	4.08%	10.61%	15.91%
55	7.95%	11.92%	2.74%	4.11%	10.69%	16.03%
56	7.98%	11.97%	2.75%	4.13%	10.73%	16.10%
57	7.97%	11.96%	2.75%	4.13%	10.72%	16.09%
58	7.94%	11.91%	2.74%	4.11%	10.68%	16.02%
59 & Over	7.89%	11.83%	2.72%	4.08%	10.61%	15.91%

Interest:	6.75% per annum
COLA:	2.75%
Mortality:	See Section 4, Exhibit I
Salary Increase:	Inflation (2.75%) + Across-the-Board Increase (0.50%) + Merit/Promotion (See Section 4, Exhibit I)
COLA Loading Factor:	34.49%

Exhibit III: Member Contribution Rates (continued)

General Tier 2 and Tier 3 Members' Contribution Rates Based on the June 30, 2020 Actuarial Valuation (as a % of biweekly payroll)

General Tier 2 and 3

	Basic		COLA		Total	
Entry Age	First $161.54	Over $161.54	First $161.54	Over $161.54	First $161.54	Over $161.54
15	4.43%	6.65%	1.53%	2.29%	5.96%	8.94%
16	4.43%	6.65%	1.53%	2.29%	5.96%	8.94%
17	4.49%	6.74%	1.55%	2.32%	6.04%	9.06%
18	4.56%	6.84%	1.57%	2.36%	6.13%	9.20%
19	4.62%	6.93%	1.59%	2.39%	6.21%	9.32%
20	4.69%	7.03%	1.61%	2.42%	6.30%	9.45%
21	4.75%	7.13%	1.64%	2.46%	6.39%	9.59%
22	4.82%	7.23%	1.66%	2.49%	6.48%	9.72%
23	4.89%	7.33%	1.69%	2.53%	6.58%	9.86%
24	4.96%	7.44%	1.71%	2.57%	6.67%	10.01%
25	5.03%	7.54%	1.73%	2.60%	6.76%	10.14%
26	5.09%	7.64%	1.76%	2.64%	6.85%	10.28%
27	5.17%	7.75%	1.78%	2.67%	6.95%	10.42%
28	5.24%	7.86%	1.81%	2.71%	7.05%	10.57%
29	5.31%	7.97%	1.83%	2.75%	7.14%	10.72%
30	5.39%	8.08%	1.86%	2.79%	7.25%	10.87%
31	5.46%	8.19%	1.88%	2.82%	7.34%	11.01%
32	5.54%	8.31%	1.91%	2.87%	7.45%	11.18%
33	5.61%	8.42%	1.93%	2.90%	7.54%	11.32%
34	5.69%	8.54%	1.97%	2.95%	7.66%	11.49%
35	5.77%	8.66%	1.99%	2.99%	7.76%	11.65%
36	5.85%	8.78%	2.02%	3.03%	7.87%	11.81%
37	5.93%	8.90%	2.05%	3.07%	7.98%	11.97%
38	6.02%	9.03%	2.07%	3.11%	8.09%	12.14%
39	6.10%	9.15%	2.11%	3.16%	8.21%	12.31%

Exhibit III: Member Contribution Rates (continued)

General Tier 2 and Tier 3 Members' Contribution Rates Based on the June 30, 2020 Actuarial Valuation (as a % of biweekly payroll) (continued)

General Tier 2 and 3 (continued)

	Basic		COLA		Total	
Entry Age	**First $161.54**	**Over $161.54**	**First $161.54**	**Over $161.54**	**First $161.54**	**Over $161.54**
40	6.19%	9.28%	2.13%	3.20%	8.32%	12.48%
41	6.27%	9.41%	2.17%	3.25%	8.44%	12.66%
42	6.37%	9.55%	2.19%	3.29%	8.56%	12.84%
43	6.46%	9.69%	2.23%	3.34%	8.69%	13.03%
44	6.55%	9.83%	2.26%	3.39%	8.81%	13.22%
45	6.65%	9.98%	2.29%	3.44%	8.94%	13.42%
46	6.75%	10.13%	2.33%	3.49%	9.08%	13.62%
47	6.85%	10.28%	2.37%	3.55%	9.22%	13.83%
48	6.97%	10.45%	2.40%	3.60%	9.37%	14.05%
49	7.07%	10.61%	2.44%	3.66%	9.51%	14.27%
50	7.18%	10.77%	2.47%	3.71%	9.65%	14.48%
51	7.27%	10.90%	2.51%	3.76%	9.78%	14.66%
52	7.34%	11.01%	2.53%	3.80%	9.87%	14.81%
53	7.40%	11.10%	2.55%	3.83%	9.95%	14.93%
54	7.44%	11.16%	2.57%	3.85%	10.01%	15.01%
55	7.45%	11.18%	2.57%	3.86%	10.02%	15.04%
56	7.44%	11.16%	2.57%	3.85%	10.01%	15.01%
57	7.40%	11.10%	2.55%	3.83%	9.95%	14.93%
58	7.64%	11.46%	2.63%	3.95%	10.27%	15.41%
59 & Over	7.89%	11.83%	2.72%	4.08%	10.61%	15.91%

Interest:	6.75% per annum
COLA:	2.75%
Mortality:	See Section 4, Exhibit I
Salary Increase:	Inflation (2.75%) + Across-the-Board Increase (0.50%) + Merit/Promotion (See Section 4, Exhibit I)
COLA Loading Factor:	34.49%

Exhibit III: Member Contribution Rates (continued)

General Tier 4 Members' Contribution Rates Based on the June 30, 2020 Actuarial Valuation (as a % of eligible payroll)[1]

General Tier 4		
	Eligible Pay	
Entry Age	Basic	Total
All Ages	8.37%	8.37%

Interest:	6.75% per annum
COLA:	0%
Mortality:	See Section 4, Exhibit I
Salary Increase:	Inflation (2.75%) + Across-the-Board Increase (0.50%) + Merit/Promotion (See Section 4, Exhibit I)
COLA Loading Factor:	0%

[1] It is our understanding that in the determination of pension benefits under the CalPEPRA formulas, the compensation that can be taken into account for 2020 is equal to $126,291. (For an employer that is not enrolled in Social Security, the maximum amount is 120% of $126,291, or $151,549). (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2020. (reference: Section 7522.10(d))

Exhibit III: Member Contribution Rates (continued)

Safety Tier 2 Members' Contribution Rates Based on the June 30, 2020 Actuarial Valuation (as a % of biweekly payroll)

Safety Tier 2						
	Basic		COLA[1]		Total	
Entry Age	First $161.54	Over $161.54	First $161.54	Over $161.54	First $161.54	Over $161.54
15	5.54%	8.31%	1.40%	2.92%	6.94%	11.23%
16	5.54%	8.31%	1.40%	2.92%	6.94%	11.23%
17	5.61%	8.42%	1.44%	2.98%	7.05%	11.40%
18	5.69%	8.54%	1.48%	3.04%	7.17%	11.58%
19	5.77%	8.66%	1.53%	3.11%	7.30%	11.77%
20	5.85%	8.78%	1.57%	3.17%	7.42%	11.95%
21	5.93%	8.90%	1.61%	3.24%	7.54%	12.14%
22	6.01%	9.02%	1.66%	3.31%	7.67%	12.33%
23	6.10%	9.15%	1.71%	3.38%	7.81%	12.53%
24	6.18%	9.27%	1.75%	3.44%	7.93%	12.71%
25	6.27%	9.40%	1.80%	3.51%	8.07%	12.91%
26	6.35%	9.53%	1.84%	3.58%	8.19%	13.11%
27	6.44%	9.66%	1.89%	3.66%	8.33%	13.32%
28	6.53%	9.79%	1.94%	3.73%	8.47%	13.52%
29	6.62%	9.93%	1.99%	3.80%	8.61%	13.73%
30	6.71%	10.07%	2.04%	3.88%	8.75%	13.95%
31	6.81%	10.21%	2.10%	3.96%	8.91%	14.17%
32	6.90%	10.35%	2.15%	4.03%	9.05%	14.38%
33	7.00%	10.50%	2.20%	4.12%	9.20%	14.62%
34	7.10%	10.65%	2.26%	4.20%	9.36%	14.85%
35	7.20%	10.80%	2.31%	4.28%	9.51%	15.08%
36	7.31%	10.96%	2.37%	4.37%	9.68%	15.33%
37	7.41%	11.12%	2.42%	4.45%	9.83%	15.57%
38	7.53%	11.30%	2.49%	4.55%	10.02%	15.85%
39	7.65%	11.47%	2.56%	4.65%	10.21%	16.12%

[1] COLA rate is offset by 1.63%, which is picked up by the County.

Exhibit III: Member Contribution Rates (continued)

Safety Tier 2 Members' Contribution Rates Based on the June 30, 2020 Actuarial Valuation (as a % of biweekly payroll) (continued)

Safety Tier 2 (continued)

	Basic		COLA[1]		Total	
Entry Age	**First $161.54**	**Over $161.54**	**First $161.54**	**Over $161.54**	**First $161.54**	**Over $161.54**
40	7.77%	11.65%	2.62%	4.74%	10.39%	16.39%
41	7.88%	11.82%	2.68%	4.84%	10.56%	16.66%
42	7.97%	11.96%	2.73%	4.91%	10.70%	16.87%
43	8.05%	12.08%	2.77%	4.98%	10.82%	17.06%
44	8.10%	12.15%	2.80%	5.02%	10.90%	17.17%
45	8.13%	12.19%	2.82%	5.04%	10.95%	17.23%
46	8.12%	12.18%	2.81%	5.03%	10.93%	17.21%
47	8.08%	12.12%	2.79%	5.00%	10.87%	17.12%
48	8.34%	12.51%	2.93%	5.22%	11.27%	17.73%
49 & Over	8.61%	12.91%	3.08%	5.43%	11.69%	18.34%

Interest:	6.75% per annum
COLA:	2.75%
Mortality:	See Section 4, Exhibit I
Salary Increase:	Inflation (2.75%) + Across-the-Board Increase (0.50%) + Merit/Promotion (See Section 4, Exhibit I)
COLA Loading Factor:	54.72%

[1] COLA rate is offset by 1.63%, which is picked up by the County.

Exhibit III: Member Contribution Rates (continued)

Safety Tier 3 Members' Contribution Rates Based on the June 30, 2020 Actuarial Valuation (as a % of eligible payroll)[1]

Safety Tier 3		
	Eligible Pay	
Entry Age	**Basic**	**Total**
All Ages	11.91%	11.91%

Interest:	6.75% per annum
COLA:	0%
Mortality:	See Section 4, Exhibit I
Salary Increase:	Inflation (2.75%) + Across-the-Board Increase (0.50%) + Merit/Promotion (See Section 4, Exhibit I)
COLA Loading Factor:	0%

[1] It is our understanding that in the determination of pension benefits under the CalPEPRA formulas, the compensation that can be taken into account for 2020 is equal to $126,291. (For an employer that is not enrolled in Social Security, the maximum amount is 120% of $126,291, or $151,549). (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2020. (reference: Section 7522.10(d))

Exhibit III: Member Contribution Rates (continued)

Probation Tier 2 Members' Contribution Rates Based on the June 30, 2020 Actuarial Valuation (as a % of biweekly payroll)

Probation Tier 2						
	Basic		COLA		Total	
Entry Age	First $161.54	Over $161.54	First $161.54	Over $161.54	First $161.54	Over $161.54
15	5.54%	8.31%	2.48%	3.72%	8.02%	12.03%
16	5.54%	8.31%	2.48%	3.72%	8.02%	12.03%
17	5.61%	8.42%	2.51%	3.76%	8.12%	12.18%
18	5.69%	8.54%	2.55%	3.82%	8.24%	12.36%
19	5.77%	8.66%	2.58%	3.87%	8.35%	12.53%
20	5.85%	8.78%	2.62%	3.93%	8.47%	12.71%
21	5.93%	8.90%	2.65%	3.98%	8.58%	12.88%
22	6.01%	9.02%	2.69%	4.03%	8.70%	13.05%
23	6.10%	9.15%	2.73%	4.09%	8.83%	13.24%
24	6.18%	9.27%	2.76%	4.14%	8.94%	13.41%
25	6.27%	9.40%	2.80%	4.20%	9.07%	13.60%
26	6.35%	9.53%	2.84%	4.26%	9.19%	13.79%
27	6.44%	9.66%	2.88%	4.32%	9.32%	13.98%
28	6.53%	9.79%	2.92%	4.38%	9.45%	14.17%
29	6.62%	9.93%	2.96%	4.44%	9.58%	14.37%
30	6.71%	10.07%	3.00%	4.50%	9.71%	14.57%
31	6.81%	10.21%	3.04%	4.56%	9.85%	14.77%
32	6.90%	10.35%	3.09%	4.63%	9.99%	14.98%
33	7.00%	10.50%	3.13%	4.69%	10.13%	15.19%
34	7.10%	10.65%	3.17%	4.76%	10.27%	15.41%
35	7.20%	10.80%	3.22%	4.83%	10.42%	15.63%
36	7.31%	10.96%	3.27%	4.90%	10.58%	15.86%
37	7.41%	11.12%	3.31%	4.97%	10.72%	16.09%
38	7.53%	11.30%	3.37%	5.05%	10.90%	16.35%
39	7.65%	11.47%	3.42%	5.13%	11.07%	16.60%

Exhibit III: Member Contribution Rates (continued)

Probation Tier 2 Members' Contribution Rates Based on the June 30, 2020 Actuarial Valuation (as a % of biweekly payroll) (continued)

Probation Tier 2 (continued)

	Basic		COLA		Total	
Entry Age	**First $161.54**	**Over $161.54**	**First $161.54**	**Over $161.54**	**First $161.54**	**Over $161.54**
40	7.77%	11.65%	3.47%	5.21%	11.24%	16.86%
41	7.88%	11.82%	3.52%	5.28%	11.40%	17.10%
42	7.97%	11.96%	3.57%	5.35%	11.54%	17.31%
43	8.05%	12.08%	3.60%	5.40%	11.65%	17.48%
44	8.10%	12.15%	3.62%	5.43%	11.72%	17.58%
45	8.13%	12.19%	3.63%	5.45%	11.76%	17.64%
46	8.12%	12.18%	3.63%	5.45%	11.75%	17.63%
47	8.08%	12.12%	3.61%	5.42%	11.69%	17.54%
48	8.34%	12.51%	3.73%	5.59%	12.07%	18.10%
49 & Over	8.61%	12.91%	3.85%	5.77%	12.46%	18.68%

Interest:	6.75% per annum
COLA:	2.75%
Mortality:	See Section 4, Exhibit I
Salary Increase:	Inflation (2.75%) + Across-the-Board Increase (0.50%) + Merit/Promotion (See Section 4, Exhibit I)
COLA Loading Factor:	44.71%

Exhibit III: Member Contribution Rates (continued)

Probation Tier 3 Members' Contribution Rates Based on the June 30, 2020 Actuarial Valuation (as a % of eligible payroll)[1]

Probation Tier 3		
	Eligible Pay	
Entry Age	Basic	Total
All Ages	12.88%	12.88%

Interest:	6.75% per annum
COLA:	0%
Mortality:	See Section 4, Exhibit I
Salary Increase:	Inflation (2.75%) + Across-the-Board Increase (0.50%) + Merit/Promotion (See Section 4, Exhibit I)
COLA Loading Factor:	0%

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[1] It is our understanding that in the determination of pension benefits under the CalPEPRA formulas, the compensation that can be taken into account for 2020 is equal to $126,291. (For an employer that is not enrolled in Social Security, the maximum amount is 120% of $126,291, or $151,549). (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2020. (reference: Section 7522.10(d))