

Mendocino County Employees' Retirement Association

**Actuarial Valuation and Review
as of June 30, 2018**

The logo for Segal Consulting is a large, blue, stylized arrow pointing to the right. It has a white star-like symbol at its tail. The text "Segal Consulting" is written in white, sans-serif font across the middle of the arrow.

★ Segal Consulting

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. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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October 25, 2018

*Board of Retirement
Mendocino County Employees' Retirement Association
625-B Kings Court
Ukiah, CA 95482-5027*

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of June 30, 2018. It summarizes the actuarial data used in the valuation, establishes the funding requirements for fiscal 2019/2020 and analyzes the preceding year's experience.

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

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in plan provisions or applicable law.

The actuarial calculations were completed under the supervision of Andy Yeung, ASA, MAAA, FCA, Enrolled Actuary. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and the expectations for the Plan.

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

Sincerely,

Segal Consulting, a Member of the Segal Group, Inc.

By:

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

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Vice President and Actuary*

JRC/hy

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SECTION 1: Valuation Summary for the Mendocino County Employees' Retirement Association

Purpose

This report has been prepared by Segal Consulting ("Segal") to present a valuation of the Mendocino County Employees' Retirement Association as of June 30, 2018. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

- The benefit provisions of the Retirement Association, as administered by the Board of Retirement;
- The characteristics of covered active members, inactive vested members, retired members and beneficiaries as of June 30, 2018, provided by the Retirement Association;
- The assets of the Plan as of June 30, 2018, provided by the Retirement Association;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc. that the Board has adopted for the June 30, 2018 valuation.

The rates calculated in this report may be adopted by the Board for the fiscal year that extends from July 1, 2019 through June 30, 2020.

One of the general goals of an actuarial valuation is to establish contributions that fully fund the Association's liabilities, and that, 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 assets, 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.

Ref: Pgs. 48, 49

The contribution requirements are determined as a percentage of payroll. The Association's employer rates provide for both normal cost and a payment or credit to amortize any unfunded or overfunded actuarial accrued liabilities. In this valuation, we have applied the Board's funding policy to amortize the outstanding balance of the Association's unfunded actuarial accrued liability (UAAL) from the June 30, 2012 valuation over a declining period, with 21 years remaining as of June 30, 2018. In addition, any new UAAL established after June 30, 2012 has been amortized over separate layers with different amortization periods depending on the source of the layer (gains and losses are amortized over 18 years, as are assumption and method changes).

SECTION 1: Valuation Summary for the Mendocino County Employees' Retirement Association

Significant Issues in Valuation Year

The following are the key findings from this actuarial valuation:

- Ref: Pgs. 20, 47*
- The results of this valuation reflect the inclusion of the cost to provide a \$1,000 post-retirement lump sum death benefit that has previously been excluded by the previous actuary and Segal in MCERA's valuations. This change was a result of an actuarial audit conducted on our June 30, 2017 valuation, as documented in our letter dated May 1, 2018. We have included a description of this plan provision in Section 4, Exhibit III of this report. The inclusion of this benefit increased the unfunded actuarial accrued liabilities by approximately \$0.5 million and the employer contributions by about 0.06% of payroll, or \$41,000 per year.
- Ref: Pgs. 22, 23*
- In the June 30, 2017 valuation, the ratio of the valuation value of assets to actuarial accrued liabilities was 69.9%. In this June 30, 2018 valuation, this funding ratio has increased to 70.4%. On a market value basis, the funded ratio increased from 71.2% to 72.5%.
- Ref: Pgs. 47 - 51*
- The Association's unfunded actuarial accrued liability (UAAL) as of June 30, 2017 was \$204.3 million. In this year's valuation, the UAAL has increased to \$212.7 million mainly due to active salary experience, offset to some degree by favorable investment experience. A reconciliation of the Association's UAAL is provided in Section 3, Exhibit I. A schedule of the current UAAL amortization amounts is provided in Section 3, Exhibit J. Note that a graphical presentation of the UAAL amortization bases and payments has been provided as a new Exhibit K in Section 3.
- Ref: Pg. 20*
- The aggregate employer rate calculated in this valuation has decreased from 34.68% of payroll to 34.27% of payroll. The reasons for the change include gains from: (a) the anticipated one-year delay in the future from implementing contribution rates developed in the June 30, 2018 valuation, (b) the higher than expected return on investments (after smoothing), and (c) amortizing the prior year's UAAL over a larger than expected projected total payroll. These gains were partially offset by losses from: (a) inclusion of the cost of the \$1,000 post-retirement lump sum death benefit, (b) higher than expected salary increases for continuing General, Safety, and Probation active members, and (c) other actuarial losses. A reconciliation of the Association's aggregate employer rate is provided in Section 2, Subsection D (see Chart 15).
- Ref: Pg. 21*
- The aggregate member rate calculated in this valuation remained unchanged at 9.65% of payroll. A reconciliation of the Association's aggregate member rate is provided in Section 2, Subsection D (see Chart 16).

The individual member rates have been updated to reflect the valuation as of June 30, 2018. These rates are provided in Appendix A of this report.

SECTION 1: Valuation Summary for the Mendocino County Employees' Retirement Association

Ref: Pg. 19

- 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.

Based on information provided by MCERA, we understand that the UAAL contributions for Fiscal Year (FY) 2017/2018 for the Mendocino County Superior Court and the Russian River Cemetery District resulted in shortfalls of \$31,588.38 and \$5,948.89, respectively. We further understand that this was due, in part, to a reduction in workforce for the Mendocino County Superior Court, and the vested termination of one of the Cemetery District's members during FY 2017/2018 which was offset somewhat by the hiring of a new District member at a lower pay. Since these shortfall amounts were not recorded on the financial statements as of June 30, 2018 as contributions receivable,¹ we suggested that MCERA inform the Superior Court and the Cemetery District of the additional contribution amounts owed during FY 2018/2019.

Ref: Pg. 5

- As indicated in Section 2, Subsection B (see Chart 7), the total unrecognized investment gain as of June 30, 2018 is \$10.4 million (note that in the previous valuation, this amount was a deferred gain of \$3.9 million). This net investment gain 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 7.00% per year on a **market value** basis, there will be investment gains on the actuarial value of assets after June 30, 2018.

The net deferred gains of \$10.4 million represent 2.0% of the market value of assets as of June 30, 2018. Unless offset by future investment losses or other unfavorable experience, the recognition of the \$10.4 million net deferred market gains 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:

- If the net deferred gains were recognized immediately, and assuming further that the balance in the Contingency Reserve would be included as valuation value of assets, the funded percentage would increase from 70.4% to 72.5%.
- If the net deferred gains were 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 decrease from 34.27% to about 32.4% of payroll.

¹ Excluding the UAAL contribution shortfall amounts for the Superior Court and the Cemetery District from the June 30, 2018 financial statements had no material impact on the UAAL contribution rates developed in this valuation.

SECTION 1: Valuation Summary for the Mendocino County Employees' Retirement Association

- The actuarial valuation report as of June 30, 2018 is based on financial information as of that date. Changes in the value of assets subsequent to that date are not reflected. Declines in asset values will increase the actuarial cost of the plan, while increases will decrease the actuarial cost of the plan.
- 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. Based on correspondence from MCERA, the data Segal requested to potentially develop said vacation cash out assumption requires further research from MCERA and is not available as of the June 30, 2018 valuation date.

Impact of Future Experience on Contribution Rates

Future contribution requirements may differ from those determined in the valuation because of:

- 1) difference between actual experience and anticipated experience;
- 2) changes in actuarial assumptions or methods;
- 3) changes in statutory provisions; and
- 4) difference between the contribution rates determined by the valuation and those adopted by the Board.

New Actuarial Standard of Practice on Risk Assessment

The Actuarial Standards Board approved a new Actuarial Standard of Practice No. 51 (ASOP 51) regarding risk assessment. ASOP 51 will be effective with MCERA's June 30, 2019 actuarial valuation. ASOP 51 requires actuaries to identify risks that "may reasonably be anticipated to significantly affect the plan's future financial condition". Investment risk, asset/liability mismatch risk, interest rate risk, longevity and other demographic risks and contribution risk are also cited as examples in ASOP 51. The standard does not require the actuary to evaluate the likelihood 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 assessment can be qualitative or quantitative (e.g., based on numerical demonstrations). The actuary may use non-numerical methods for assessing risks that might take the form of commentary about potential adverse experience and the likely effect on future results. While the standard does not require that every valuation include a quantitative risk assessment, the actuary may recommend that a more detailed risk assessment be performed. When making that decision, the actuary will take into account such factors as the Plan's design, maturity, size, funded status, asset allocation, cash flow, possible insolvency and current market conditions.

We would plan on discussing with MCERA what we would recommend be included in MCERA's risk report for the June 30, 2019 valuation.

SECTION 1: Valuation Summary for the Mendocino County Employees' Retirement Association

Summary of Key Valuation Results

	June 30, 2018		June 30, 2017	
Employer Contribution Rates:		Estimated		Estimated
	Total Rate	Annual Amount ⁽¹⁾	Total Rate	Annual Amount ⁽¹⁾
General Tier 1	34.41%	\$200,000	34.39%	\$200,000
General Tier 2/Tier 3	30.92%	9,191,000	31.46%	9,351,000
General Tier 4	27.74%	6,831,000	28.31%	6,972,000
Safety Tier 1		Not Calculated ⁽²⁾		
Safety Tier 2	62.95%	4,536,000	62.78%	4,524,000
Safety Tier 3	52.43%	1,575,000	52.47%	1,576,000
Probation Tier 1		Not Calculated ⁽²⁾		
Probation Tier 2	36.42%	676,000	35.95%	667,000
Probation Tier 3	29.50%	282,000	29.20%	279,000
All Categories Combined	34.27%	\$23,291,000	34.68%	\$23,569,000
Average Member Contribution Rates:		Estimated		Estimated
	Total Rate	Annual Amount ⁽¹⁾	Total Rate	Annual Amount ⁽¹⁾
General Tier 1 ⁽³⁾	1.34%	\$8,000	1.33%	\$8,000
General Tier 2/Tier 3	10.71%	3,183,000	10.71%	3,183,000
General Tier 4	7.58%	1,867,000	7.53%	1,854,000
Safety Tier 1		Not Calculated ⁽²⁾		
Safety Tier 2	11.05%	796,000	11.02%	794,000
Safety Tier 3	11.08%	333,000	11.36%	341,000
Probation Tier 1		Not Calculated ⁽²⁾		
Probation Tier 2	14.05%	261,000	14.07%	261,000
Probation Tier 3	11.74% ⁽⁴⁾	112,000	12.23%	117,000
All Categories Combined	9.65%	\$6,560,000	9.65%	\$6,558,000
Funded Status:				
Actuarial Accrued Liability (AAL) ⁽⁵⁾		\$717,461,993		\$679,565,362
Valuation Value of Assets (VVA) ⁽⁶⁾		504,803,711		475,224,924
Market Value of Assets (MVA)		520,429,961		484,026,717
Funded Percentage on VVA Basis		70.4%		69.9%
Funded Percentage on MVA Basis		72.5%		71.2%
Unfunded Actuarial Accrued Liability (UAAL) on VVA Basis		\$212,658,282		\$204,340,438
Unfunded Actuarial Accrued Liability (UAAL) on MVA Basis		197,032,032		195,538,645
Key Economic Assumptions:				
Interest Rate		7.00%		7.00%
Inflation Rate		3.00%		3.00%
Across-the-Board Salary Increase		0.50%		0.50%

⁽¹⁾ Based on June 30, 2018 projected annual compensation.

⁽²⁾ There were no Safety Tier 1 or Probation Tier 1 active members reported for the June 30, 2018 and June 30, 2017 valuations.

⁽³⁾ The majority of General Tier 1 members are exempt from employee contributions (i.e., they have a 0.00% member contribution rate). These exempt members have the effect of generating a low average member contribution rate for the entire group.

⁽⁴⁾ The decrease in the Probation Tier 3 average member contribution rate from 12.23% in the prior valuation to 11.74% in the June 30, 2018 valuation is mainly due to a decrease in the average entry age by about one year for this group.

⁽⁵⁾ Does not include an additional liability held for the Contingency Reserve.

⁽⁶⁾ Excludes Contingency Reserve.

SECTION 1: Valuation Summary for the Mendocino County Employees' Retirement Association

Summary of Key Valuation Demographic and Financial Data

	June 30, 2018	June 30, 2017	Change from Prior Year
Active Members:			
Number of Members	1,162	1,123	3.5%
Average Age	46.5	46.7	-0.2
Average Service	8.8	9.1	-0.3
Projected Total Compensation ⁽¹⁾	\$67,955,820	\$62,335,605	9.0%
Average Projected Compensation	\$58,482	\$55,508	5.4%
Retired Members and Beneficiaries:			
Number of Members:			
Service Retired	1,161	1,135	2.3%
Disability Retired	176	174	1.1%
Beneficiaries	153	153	0.0%
Total	1,490	1,462	1.9%
Average Age	69.3	69.1	0.2
Average Monthly Benefit	\$1,919	\$1,846	4.0%
Vested Terminated Members:			
Number of Vested Terminated Members ⁽²⁾	497	479	3.8%
Average Age	46.4	46.7	-0.3
Summary of Financial Data:			
Market Value of Assets	\$520,429,961	\$484,026,717	7.5%
Return on Market Value of Assets ⁽³⁾	9.44%	15.80%	N/A
Actuarial Value of Assets	\$510,023,422	\$480,079,636	6.2%
Return on Actuarial Value of Assets	8.16%	8.51%	N/A
Valuation Value of Assets	\$504,803,711	\$475,224,924	6.2%
Return on Valuation Value of Assets	8.17%	8.46%	N/A

⁽¹⁾ For June 30, 2017, projected total compensation represents the annualized biweekly pay rate plus other annual pensionable pay as of the measurement date, projected to account for expected salary increases for the following fiscal year based on the actuarial assumptions. For June 30, 2018, projected total compensation represents the annualized actual pensionable compensation earned during the 2017/2018 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 vested terminated members due a refund of member contributions.

⁽³⁾ 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. The rates of return determined by the investment consultant were 9.48% as of June 30, 2018 and 15.89% as of June 30, 2017.

SECTION 1: Valuation Summary for the Mendocino County Employees' Retirement Association

Important Information about Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare an actuarial valuation, Segal 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** This valuation is based on the market value of assets as of the valuation date, as provided by the Association. The Association uses an “actuarial value of assets” that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.
- **Actuarial assumptions** In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, termination, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan’s assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.

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

- The valuation is prepared at the request of the Board to assist the sponsors of the Fund in preparing items related to the pension plan in their financial reports. Segal is not responsible for the use or misuse of its report, particularly by any other party.

SECTION 1: Valuation Summary for the Mendocino County Employees' Retirement Association

- An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.
- If the 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 Board should look to their other advisors for expertise in these areas.

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

SECTION 2: Valuation Results for the Mendocino County Employees' Retirement Association

A. MEMBER DATA

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

A historical perspective of how the member population has changed over the past ten valuations can be seen in this chart.

CHART 1

Member Population: 2009– 2018⁽¹⁾

Year Ended June 30	Active Members	Vested Terminated Members ⁽²⁾	Retired Members and Beneficiaries	Ratio of Non-Actives to Actives
2009	1,369	412	1,008	1.04
2010	1,254	395	1,083	1.18
2011	1,129	389	1,129	1.34
2012	1,069	356	1,217	1.47
2013	1,072	345	1,287	1.52
2014	1,081	394	1,328	1.59
2015	1,107	414	1,379	1.62
2016	1,123	428	1,416	1.64
2017	1,123	479	1,462	1.73
2018	1,162	497	1,490	1.71

⁽¹⁾ Information prior to 2011 has been extracted from the previous actuary's past valuation reports.

⁽²⁾ Includes pending withdrawals and pending disabilities prior to 2011. For years ended June 30, 2011 and later, vested terminated members include terminated members due a refund of member contributions.

SECTION 2: Valuation Results for the Mendocino County Employees' Retirement Association

Active Members

Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 1,162 active members with an average age of 46.5 years, average years of service of 8.8, and average compensation of \$58,482. The 1,123 active members in the prior valuation had an average age of 46.7 years, average service of 9.1 years, and average compensation of \$55,508.

Inactive Members

In this year's valuation, there were 497 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their member contributions versus 479 in the prior valuation.

These graphs show a distribution of active members by age and by years of service.

CHART 2

Distribution of Active Members by Age as of June 30, 2018

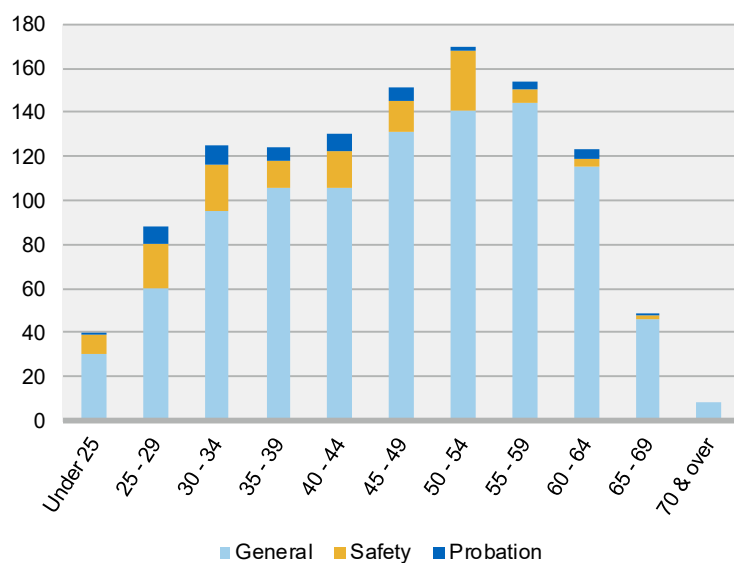
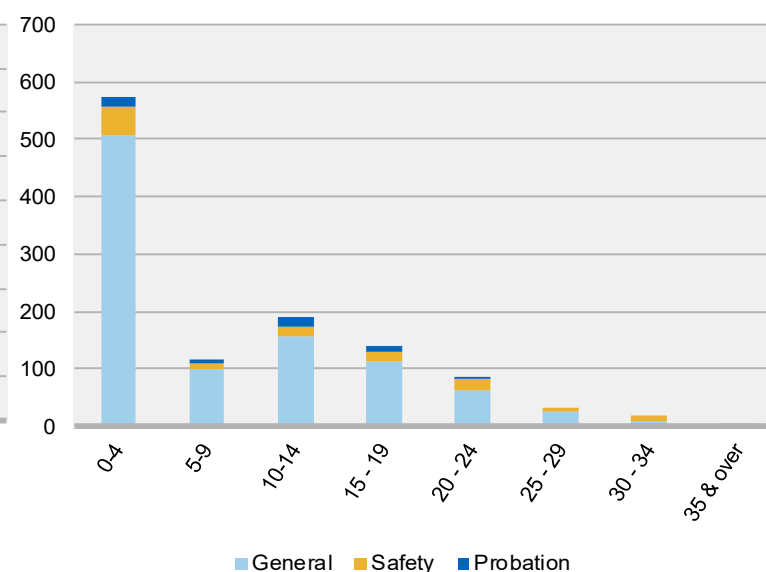


CHART 3

Distribution of Active Members by Years of Service as of June 30, 2018



SECTION 2: Valuation Results for the Mendocino County Employees' Retirement Association

Retired Members and Beneficiaries

As of June 30, 2018, 1,337 retired members and 153 beneficiaries were receiving total monthly benefits of \$2,859,061. For comparison, in the previous valuation, there were 1,309 retired members and 153 beneficiaries receiving monthly benefits of \$2,698,186.

These graphs show a distribution of the current retired members based on their monthly amount and age, by type of pension.

CHART 4

Distribution of Retired Members (Excl. Beneficiaries) by Type and by Monthly Amount as of June 30, 2018

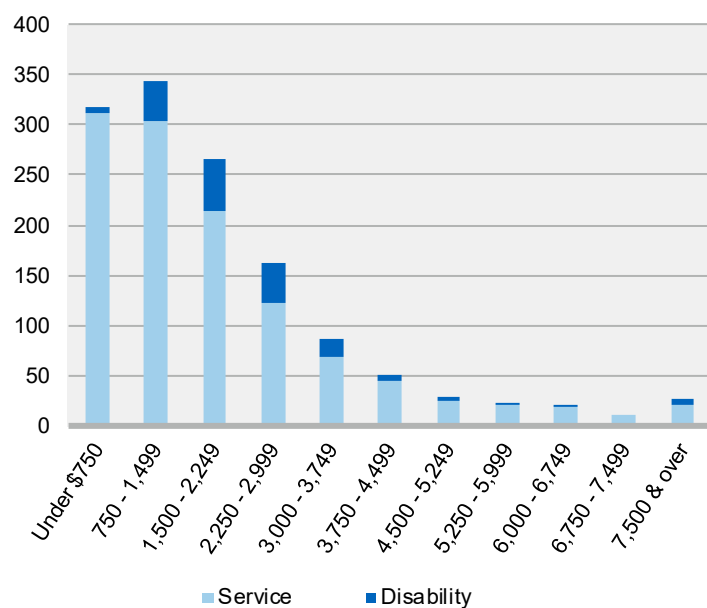
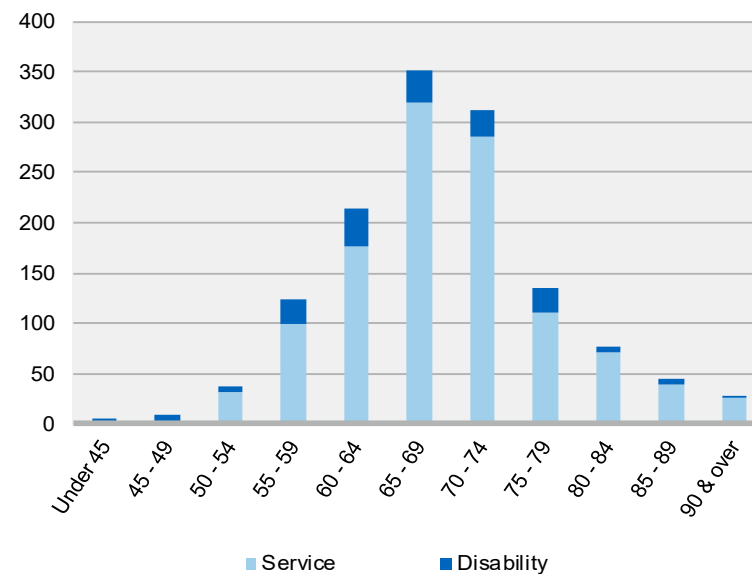


CHART 5

Distribution of Retired Members (Excl. Beneficiaries) by Type and by Age as of June 30, 2018



SECTION 2: Valuation Results for the Mendocino County Employees' Retirement Association

B. FINANCIAL INFORMATION

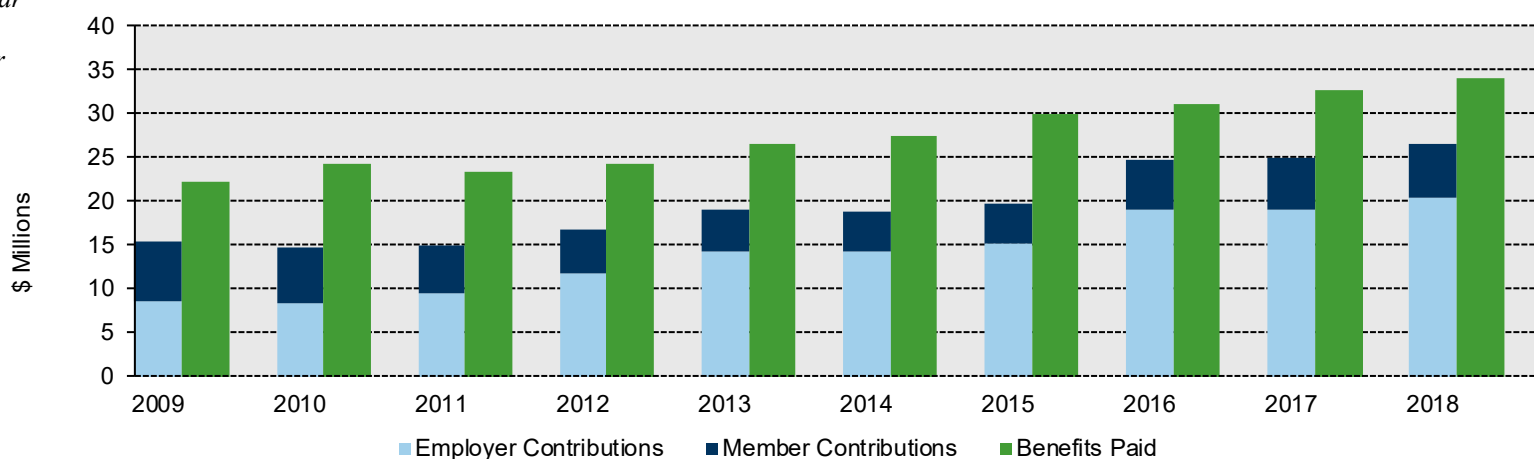
Retirement plan funding anticipates that, over the long term, both contributions and net investment earnings (less investment fees and administrative expenses) will be needed to cover benefit payments. Retirement plan assets change as a result of the net impact of these income and expense components.

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

The chart depicts the components of changes in the actuarial value of assets over the last ten years. Note: The first bar represents increases in assets during each year while the second bar details the decreases.

CHART 6

**Comparison of Contributions with Benefits
for Years Ended June 30, 2009 through 2018**



SECTION 2: Valuation Results for the Mendocino County Employees' Retirement Association

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board of Retirement has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable. The amount of the

adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

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

CHART 7

Determination of Actuarial Value of Assets for Year Ended June 30, 2018

1. Market value of assets:					\$520,429,961
2. Calculation of deferred return:	Actual Market <u>Return (net)</u>	Expected Market <u>Return (net)</u>	Investment <u>Gain / (Loss)</u>	Deferred <u>Factor</u>	Deferred <u>Return</u>
(a) Year ended June 30, 2014	\$68,494,950	\$29,334,150	\$39,160,800	0%	\$0
(b) Year ended June 30, 2015	13,201,309	31,658,013	(18,456,704)	20%	(3,691,341)
(c) Year ended June 30, 2016	(10,352,325)	31,932,904	(42,285,229)	40%	(16,914,092)
(d) Year ended June 30, 2017	66,669,864	30,583,939	36,085,925	60%	21,651,555
(e) Year ended June 30, 2018	45,271,985	33,571,464	11,700,521	80%	<u>9,360,417</u>
(f) Total unrecognized return*					\$10,406,539
3. Preliminary actuarial value of assets: (1) - (2f)					\$510,023,422
4. Adjustment to be within 25% corridor of market value					\$0
5. Final actuarial value of assets: (3) + (4)					\$510,023,422
6. Actuarial value as a percentage of market value: (5) ÷ (1)					98.0%
7. Non-valuation reserves:					
Contingency reserve					\$5,219,711
8. Valuation value of assets**: (5) - (7)					\$504,803,711

* The amount of deferred return that will be recognized in each subsequent valuation is as follows (note: amounts may not total exactly due to rounding):

6/30/2019	\$(2,591,098)
6/30/2020	1,100,243
6/30/2021	9,557,289
6/30/2022	<u>2,340,104</u>
Total	\$10,406,539

** 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 Chart 8 on the next page.

SECTION 2: Valuation Results for the Mendocino County Employees' Retirement Association

The allocation of the valuation value of assets as of June 30, 2018 by membership group was determined as follows:

CHART 8

Allocation of the Valuation Value of Assets as of June 30, 2018

	<u>Account ID</u>	<u>General</u>	<u>Safety</u>	<u>Probation</u>	<u>Total</u>
BASIC					
<u>Reserves at Book Value (Provided by MCERA)</u>					
Employee Contributions with Interest ⁽¹⁾	4000, 4001 & 4002	\$41,994,481	\$5,332,852	\$2,609,999	\$49,937,332
County Advance Reserve (Basic)	4501, 4502, 4503, 4510, 4511, 4512, 4513, 4520, 4521, & 4522	-101,839,798	-24,645,359	-3,108,753	-129,593,910
Retirees Annuity Reserve	4110, 4111, 4120, 4121, 4122, 4123, 4130, & 4131	94,351,712	24,485,081	1,222,163	120,058,956
Retirees Current Service Reserve	4210, 4211, 4220, 4221, 4222, 4223, 4230, & 4231	150,637,114	49,586,522	10,815,434	211,039,070
Survivors Death Benefit Reserve	4311, 4320, 4322, 4330, & 4331	<u>-13,858,749</u>	<u>-3,679,945</u>	<u>-130,271</u>	<u>-17,668,965</u>
Subtotal		\$171,284,760	\$51,079,151	\$11,408,572	\$233,772,483
<i>Actuarial Value of Assets (AVA; Calculated by Segal) ⁽²⁾</i>		\$208,164,512	\$62,077,131	\$13,864,980	\$284,106,623
COL					
<u>Reserves at Book Value (Provided by MCERA)</u>					
Employee Contributions with Interest ⁽¹⁾	4003 & 4004	\$12,690,372	\$3,869,001	\$1,224,793	\$17,784,166
County Advance Reserve (COLA)	4514, 4515, & 4523	3,652,327	1,210,436	131,006	4,993,769
Retirees COLA Reserve	4410, 4411, 4420, 4421, 4422, 4423, 4430, & 4431	<u>116,574,613</u>	<u>33,897,516</u>	<u>8,346,921</u>	<u>158,819,050</u>
Subtotal		\$132,917,312	\$38,976,953	\$9,702,720	\$181,596,985
<i>Actuarial Value of Assets (Calculated by Segal) ⁽³⁾</i>		\$161,536,072	\$47,369,179	\$11,791,837	\$220,697,088
TOTAL					
<i>Reserves at Book Value (Provided by MCERA)</i>		\$304,202,072	\$90,056,104	\$21,111,292	\$415,369,468
<i>Actuarial Value of Assets (Calculated by Segal)</i>		369,700,584	109,446,310	25,656,817	504,803,711

⁽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 AVA 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 AVA between groups is allocated based on the subtotal basic reserves.

⁽³⁾ The total COL AVA 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 AVA between groups is allocated based on the subtotal COL reserves.

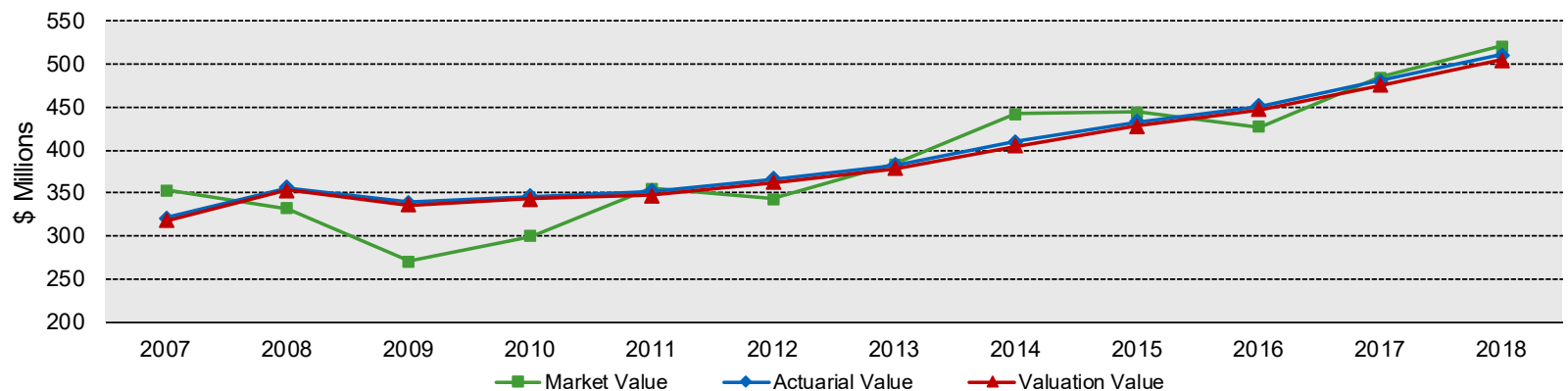
SECTION 2: Valuation Results for the Mendocino County Employees' Retirement Association

The market value, actuarial value, and valuation value of assets are representations of MCERA's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets, but with less volatility. The valuation value of assets is the actuarial value, excluding any non-valuation reserves. The valuation asset value is significant because MCERA'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.

This chart shows the change in market value, actuarial value and valuation value over the past twelve years.

CHART 9

Market Value, Actuarial Value and Valuation Value of Assets as of June 30, 2007 – 2018



SECTION 2: Valuation Results for the Mendocino County Employees' Retirement Association

C. ACTUARIAL EXPERIENCE

To calculate the required 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 contribution requirement will decrease from the previous year. On the other hand, the contribution requirement 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.

The total experience loss was \$9.1 million, a net gain of \$5.5 million from investments and a loss of \$14.6 million from all other sources, including \$0.5 million in UAAL for the inclusion of the cost to provide a \$1,000 post-retirement lump sum death benefit. The net experience variation from individual sources other than investments was 2.0% of the actuarial accrued liability. A discussion of the major components of the actuarial experience is on the following pages.

This chart provides a summary of the actuarial experience during the past year.

CHART 10

Actuarial Experience for Year Ended June 30, 2018

1. Net gain/(loss) from investments ⁽¹⁾	\$5,492,189
2. Net gain/(loss) from other experience ⁽²⁾	<u>(14,586,890)</u>
3. Net experience gain/(loss): (1) + (2)	\$(9,094,701)

⁽¹⁾ Details in Chart 11.

⁽²⁾ See Section 3, Exhibit I.

SECTION 2: Valuation Results for the Mendocino County Employees' Retirement Association

Investment Rate of Return

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 MCERA's investment policy. For valuation purposes, the assumed rate of return on the valuation value of assets was 7.00% for the June 30, 2017 valuation. The actual rate of return on a valuation basis for the 2018 plan year was 8.17%.

Since the actual return for the year was more than the assumed return, MCERA experienced an actuarial gain during the year ended June 30, 2018 with regard to its investments.

This chart shows the gain/(loss) due to investment experience.

CHART 11

Investment Experience for Year Ended June 30, 2018 Valuation Value, Actuarial Value, and Market Value of Assets

	Valuation Value	Actuarial Value	Market Value
1. Actual return	\$38,447,528	\$38,812,527	\$45,271,985
2. Average value of assets	\$470,790,554	\$475,645,266	\$479,592,347
3. Actual rate of return: (1) ÷ (2)	8.17%	8.16%	9.44%
4. Assumed rate of return	7.00%	7.00%	7.00%
5. Expected return: (2) x (4)	\$32,955,339	\$33,295,169	\$33,571,464
6. Actuarial gain/(loss): (1) – (5)	<u>\$5,492,189</u>	<u>\$5,517,358</u>	<u>\$11,700,521</u>

SECTION 2: Valuation Results for the Mendocino County Employees' Retirement Association

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 a valuation, actuarial, and market value basis for the last ten years.

Based on the assumptions adopted by the Board on April 19, 2017, we have continued to use the assumed long-term rate of return of 7.00% for the June 30, 2018 valuation.

CHART 12

Investment Return – Valuation Value, Actuarial Value and Market Value: 2009 – 2018*

Year Ended June 30	Valuation Value Investment Return		Actuarial Value Investment Return		Market Value Investment Return**	
	Amount	Percent	Amount	Percent	Amount	Percent
2009	N/A	N/A	N/A	4.90%	\$(53,511,078)	(16.30)%
2010	N/A	N/A	N/A	3.30%	44,658,046	17.00%
2011	\$11,895,661	3.50%	\$14,809,915	4.33%	64,075,101	21.68%
2012	22,982,960	6.69%	22,205,173	6.38%	(4,078,489)	(1.16)%
2013	24,720,166	6.90%	25,124,178	6.95%	48,890,492	14.44%
2014	35,462,137	9.48%	36,055,066	9.54%	68,494,950	18.10%
2015	34,665,488	8.68%	34,687,586	8.59%	13,201,309	3.02%
2016	26,071,363	6.14%	25,892,595	6.04%	(10,352,325)	(2.35)%
2017	37,432,810	8.46%	38,015,912	8.51%	66,669,864	15.80%
2018	38,447,528	8.17%	38,812,527	8.16%	45,271,985	9.44%
Five-Year Average Return		8.18%		8.16%		8.53%
Ten-Year Average Return		N/A		6.65%		7.33%

* Information prior to 2011 has been extracted from the previous actuary's past valuation reports.

** 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.

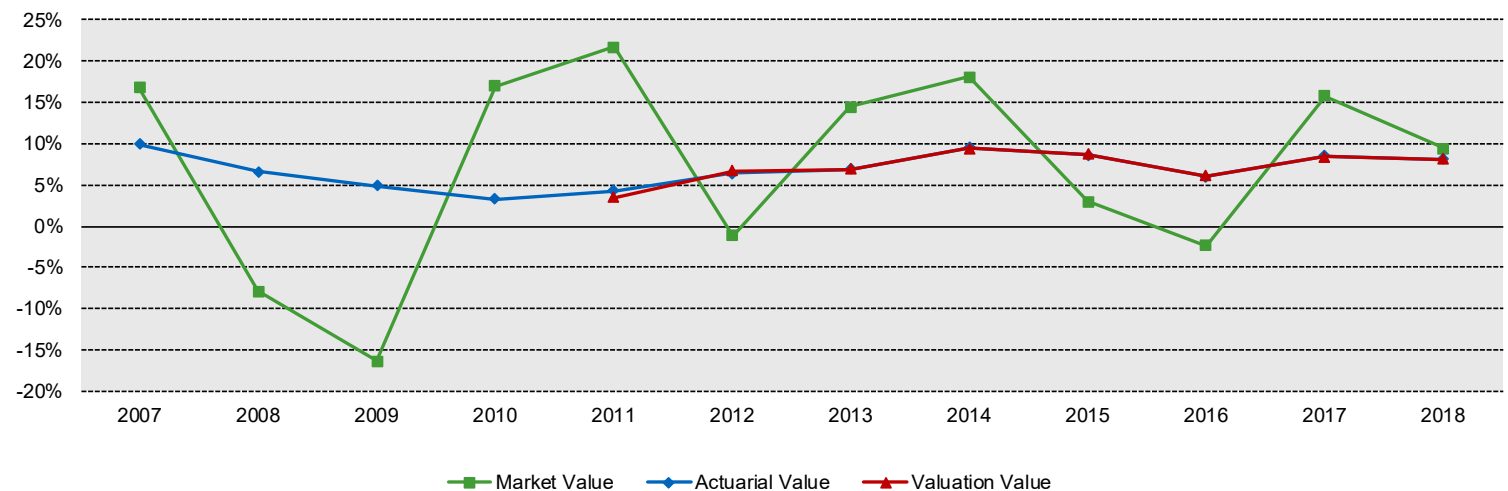
SECTION 2: Valuation Results for the Mendocino County Employees' Retirement Association

Subsection B described the actuarial asset valuation method that gradually takes into account fluctuations in the market value rate of return. The effect of this is to stabilize the actuarial rate of return, which contributes to leveling pension plan costs.

This chart illustrates how this leveling effect has actually worked over the years 2007 - 2018.

CHART 13

Market, Actuarial and Valuation Value Rates of Return for Years Ended June 30, 2007 – 2018



SECTION 2: Valuation Results for the Mendocino County Employees' Retirement Association

Other 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:

- actual turnover among the participants,
- retirement experience (earlier or later than expected),
- mortality (more or fewer deaths than expected),

- the number of disability retirements, and
- salary increases different than assumed.

The net loss from this other experience for the year ended June 30, 2018 amounted to \$14.6 million which is 2.0% of the actuarial accrued liability. See Exhibit I for a detailed development of the Unfunded Actuarial Accrued Liability.

SECTION 2: Valuation Results for the Mendocino County Employees' Retirement Association

D. EMPLOYER AND MEMBER CONTRIBUTIONS

Employer contributions consist of two components:

Normal Cost

The annual contribution rate that, if paid annually from a member's first year of membership through the year of retirement, would accumulate to the amount necessary to fully fund the member's retirement-related benefits. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution rate is 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 3.50% (i.e., 3.00% inflation plus 0.50% across-the-board salary increase).

Prior to July 1, 2012, the total UAAL was being amortized on a 30-year decreasing period, with 27 years remaining as of June 30, 2012 (and 21 years remaining as of June 30, 2018). 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.

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

SECTION 2: Valuation Results for the Mendocino County Employees' Retirement Association

UAAL contribution amounts will be equal to the greater of the UAAL contribution rates developed in Section 2, Chart 14A of this valuation times the actual fiscal year 2019/2020 payroll, or the estimated UAAL annual contribution amounts provided in Section 2, Chart 14B of this valuation. To facilitate the calculation of the minimum UAAL dollar contribution amount, we have provided in Chart 14B 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, 2018 for the fiscal year 2019/2020. This adjustment is reflected in the UAAL portion of the June 30, 2018 employer rates.

The recommended employer contribution rates are provided on Chart 14A. The minimum amounts required from each employer to amortize their UAAL are provided in Chart 14B.

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

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*General Tier 4,
Safety Tier 3, and
Probation Tier 3*

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.

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 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 are provided in Appendix A.

SECTION 2: Valuation Results for the Mendocino County Employees' Retirement Association

CHART 14A

Recommended Employer Contribution Rates (Estimated Annual Amounts in \$000's)

	June 30, 2018						June 30, 2017	
	BASIC		COLA		TOTAL		BASIC AND COLA COMBINED	
	<u>Rate</u>	<u>Estimated Annual Amount⁽¹⁾</u>	<u>Rate</u>	<u>Estimated Annual Amount⁽¹⁾</u>	<u>Rate</u>	<u>Estimated Annual Amount⁽¹⁾</u>	<u>Rate</u>	<u>Estimated Annual Amount⁽¹⁾</u>
General Tier 1 Members								
Normal Cost	10.73%	\$62	3.52%	\$21	14.25%	\$83	13.61%	\$79
UAAL	<u>17.42%</u>	<u>102</u>	<u>2.74%</u>	<u>15</u>	<u>20.16%</u>	<u>117</u>	<u>20.78%</u>	<u>121</u>
Total Contribution	28.15%	\$164	6.26%	\$36	34.41%	\$200	34.39%	\$200
General Tier 2 / Tier 3 Members								
Normal Cost	8.09%	\$2,405	2.67%	\$793	10.76%	\$3,198	10.68%	\$3,175
UAAL	<u>17.42%</u>	<u>5,178</u>	<u>2.74%</u>	<u>815</u>	<u>20.16%</u>	<u>5,993</u>	<u>20.78%</u>	<u>6,176</u>
Total Contribution	25.51%	\$7,583	5.41%	\$1,608	30.92%	\$9,191	31.46%	\$9,351
General Tier 4 Members								
Normal Cost	7.58%	\$1,867	0.00%	\$0	7.58%	\$1,867	7.53%	\$1,854
UAAL	<u>17.42%</u>	<u>4,290</u>	<u>2.74%</u>	<u>674</u>	<u>20.16%</u>	<u>4,964</u>	<u>20.78%</u>	<u>5,118</u>
Total Contribution	25.00%	\$6,157	2.74%	\$674	27.74%	\$6,831	28.31%	\$6,972
Safety Tier 1 Members								
Normal Cost								
UAAL								
Total Contribution								
Safety Tier 2 Members								
Normal Cost	15.02%	\$1,082	6.58%	\$474	21.60%	\$1,556	21.67%	\$1,561
UAAL	<u>29.61%</u>	<u>2,134</u>	<u>11.74%</u>	<u>846</u>	<u>41.35%</u>	<u>2,980</u>	<u>41.11%</u>	<u>2,963</u>
Total Contribution	44.63%	\$3,216	18.32%	\$1,320	62.95%	\$4,536	62.78%	\$4,524

* There were no Safety Tier 1 active members reported for the June 30, 2018 valuation.

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CHART 14A

Recommended Employer Contribution Rates (Estimated Annual Amounts in \$000's) – continued

	June 30, 2018						June 30, 2017	
	BASIC		COLA		TOTAL		BASIC AND COLA COMBINED	
	<u>Rate</u>	<u>Estimated Annual Amount⁽¹⁾</u>	<u>Rate</u>	<u>Estimated Annual Amount⁽¹⁾</u>	<u>Rate</u>	<u>Estimated Annual Amount⁽¹⁾</u>	<u>Rate</u>	<u>Estimated Annual Amount⁽¹⁾</u>
Safety Tier 3 Members								
Normal Cost	11.08%	\$333	0.00%	\$0	11.08%	\$333	11.36%	\$341
UAAL	<u>29.61%</u>	<u>890</u>	<u>11.74%</u>	<u>352</u>	<u>41.35%</u>	<u>1,242</u>	<u>41.11%</u>	<u>1,235</u>
Total Contribution	40.69%	\$1,223	11.74%	\$352	52.43%	\$1,575	52.47%	\$1,576
Probation Tier 1 Members								
Normal Cost								
UAAL					Not Calculated*			
Total Contribution								
Probation Tier 2 Members								
Normal Cost	13.81%	\$256	4.85%	\$90	18.66%	\$346	18.98%	\$352
UAAL	<u>18.82%</u>	<u>350</u>	<u>(1.06)%**</u>	<u>(20)</u>	<u>17.76%</u>	<u>330</u>	<u>16.97%</u>	<u>315</u>
Total Contribution	32.63%	\$606	3.79%	\$70	36.42%	\$676	35.95%	\$667
Probation Tier 3 Members								
Normal Cost	11.74%	\$112	0.00%	\$0	11.74%***	\$112	12.23%	\$117
UAAL	<u>18.82%</u>	<u>180</u>	<u>(1.06)%**</u>	<u>(10)</u>	<u>17.76%</u>	<u>170</u>	<u>16.97%</u>	<u>162</u>
Total Contribution	30.56%	\$292	(1.06)%**	\$(10)	29.50%	\$282	29.20%	\$279

* There were no Probation Tier 1 active members reported for the June 30, 2018 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.

*** The decrease in the Probation Tier 3 average member contribution rate from 12.23% in the prior valuation to 11.74% in the June 30, 2018 valuation is mainly due to a decrease in the average entry age by about one year for this group.

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CHART 14A

Recommended Employer Contribution Rates (Estimated Annual Amounts in \$000's) – continued

	June 30, 2018						June 30, 2017	
	BASIC		COLA		TOTAL		BASIC AND COLA COMBINED	
	<u>Rate</u>	<u>Estimated Annual Amount⁽¹⁾</u>	<u>Rate</u>	<u>Estimated Annual Amount⁽¹⁾</u>	<u>Rate</u>	<u>Estimated Annual Amount⁽¹⁾</u>	<u>Rate</u>	<u>Estimated Annual Amount⁽¹⁾</u>
All Members Combined								
Normal Cost	9.00%	\$6,117	2.03%	\$1,378	11.03%	\$7,495	11.01%	\$7,479
UAAL	<u>19.31%</u>	<u>13,124</u>	<u>3.93%</u>	<u>2,672</u>	<u>23.24%</u>	<u>15,796</u>	<u>23.67%</u>	<u>16,090</u>
Total Contribution	28.31%	\$19,241	5.96%	\$4,050	34.27%	\$23,291	34.68%	\$23,569

(1) Amounts are based on the following June 30, 2018 projected annual compensation:

General Tier 1	\$581,818
General Tier 2 / Tier 3	29,724,088
General Tier 4	24,626,352
Safety Tier 1	0
Safety Tier 2	7,205,516
Safety Tier 3	3,004,546
Probation Tier 1	0
Probation Tier 2	1,856,491
Probation Tier 3	<u>957,009</u>
Total	\$67,955,820

Note that 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.

SECTION 2: Valuation Results for the Mendocino County Employees' Retirement Association

CHART 14B

Recommended Minimum Dollar Employer Contribution To Amortize the UAAL (Estimated Annual Amounts in \$000's)

	June 30, 2018		
	Estimated UAAL Annual Amount ⁽¹⁾		
	BASIC	COLA	TOTAL
General Members			
County	\$9,045	\$1,421	\$10,466
Courts	489	77	566
Cemetery District	<u>36</u>	<u>6</u>	<u>42</u>
Total	\$9,570	\$1,504	\$11,074
Safety Members			
County	<u>\$3,024</u>	<u>\$1,198</u>	<u>\$4,222</u>
Total	\$3,024	\$1,198	\$4,222
Probation Members			
County	<u>\$530</u>	<u>-\$30</u>	<u>\$500</u>
Total	\$530	-\$30	\$500
All Members Combined			
County	\$12,599	\$2,589	\$15,188
Courts	489	77	566
Cemetery District	<u>36</u>	<u>6</u>	<u>42</u>
Total	\$13,124	\$2,672	\$15,796

⁽¹⁾ Amounts are based on the following June 30, 2018 projected annual compensation:

General County	\$51,917,072
General Courts	2,807,995
General Cemetery District	207,191
Safety County	10,210,062
Probation County	<u>2,813,500</u>
Total	\$67,955,820

SECTION 2: Valuation Results for the Mendocino County Employees' Retirement Association

The employer contribution rates as of June 30, 2018 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the Actuarial Valuation. They include all changes affecting future costs, adopted benefit changes, actuarial gains and losses and changes in the actuarial assumptions.

Reconciliation of Recommended Employer Contribution

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

The chart reconciles the employer contribution from the prior valuation to the amount determined in this valuation.

CHART 15

Reconciliation of Recommended Employer Contribution from June 30, 2017 to June 30, 2018

	Contribution Rate	Estimated Amount ⁽¹⁾
Recommended Contribution Rate as of June 30, 2017	34.68%	\$23,569,000
Effect of actuarial experience during fiscal year 2018:		
1. Effect of inclusion of the cost to provide a \$1,000 post-retirement lump sum death benefit	0.06%	41,000
2. Effect of anticipated one-year delay in implementing the lower aggregate employer contribution rate developed in the June 30, 2018 valuation until fiscal year 2019/2020	(0.03)%	(20,000)
3. Effect of investment gain	(0.61)%	(415,000)
4. Effect of higher than expected salary increases for continuing General, Safety, and Probation active members	1.31%	890,000
5. Effect of amortizing prior year's UAAL over a larger than expected projected total payroll	(1.18)%	(802,000)
6. Effect of other experience losses and changes in membership demographics	0.04%	28,000
Subtotal	(0.41)%	\$(278,000)
Recommended Contribution Rate as of June 30, 2018	34.27%	\$23,291,000

⁽¹⁾ Based on June 30, 2018 projected compensation.

SECTION 2: Valuation Results for the Mendocino County Employees' Retirement Association

The member contribution rates as of June 30, 2018 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the Actuarial Valuation. They include all changes affecting future costs, adopted benefit changes, actuarial gains and losses and changes in the actuarial assumptions.

Reconciliation of Recommended Member Contribution Rate

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

The chart reconciles the member contribution from the prior valuation to the amount determined in this valuation.

CHART 16
Reconciliation of Recommended Member Contribution from June 30, 2017 to June 30, 2018

	Contribution Rate	Estimated Amount ⁽¹⁾
Average Contribution Rate as of June 30, 2017	9.65%	\$6,558,000
Effect of actuarial experience during fiscal year 2018:		
1. Effect of changes in membership demographics	0.00% ⁽²⁾	\$2,000
Subtotal	0.00%	\$2,000
Average Contribution Rate as of June 30, 2018	9.65%	\$6,560,000

⁽¹⁾ Based on June 30, 2018 projected compensation.

⁽²⁾ Less than 0.01%.

SECTION 2: Valuation Results for the Mendocino County Employees' Retirement Association

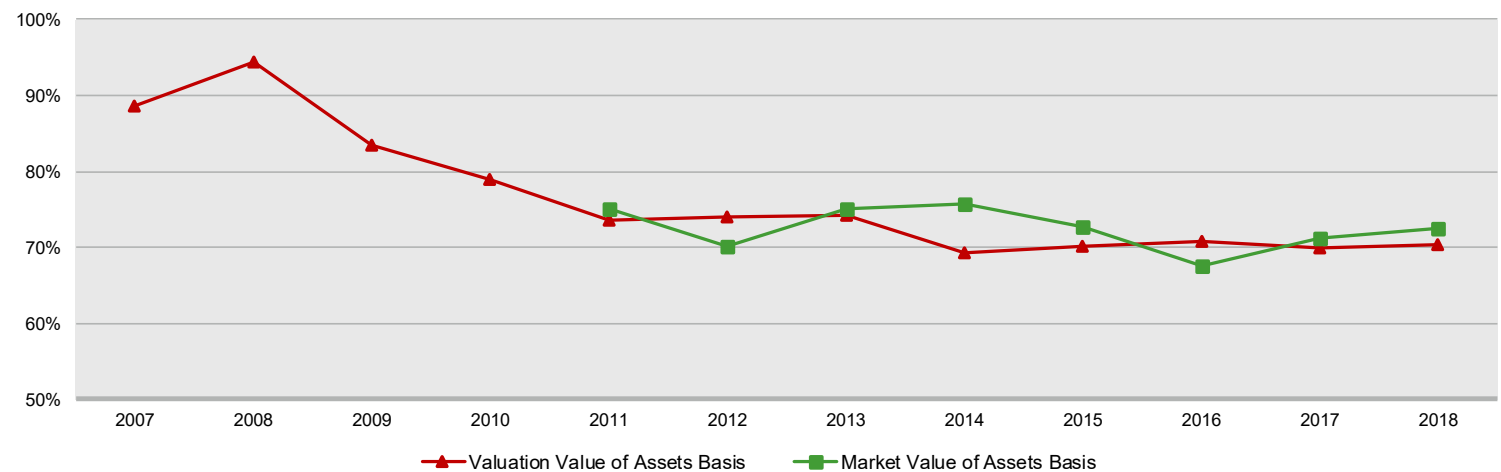
E. FUNDED RATIO

A critical piece of information regarding the Plan's financial status is the funded ratio. This ratio compares the actuarial value of assets to the actuarial accrued liabilities of the Plan as calculated. High ratios indicate a well-funded plan with assets sufficient to cover the plan's actuarial accrued liabilities. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other factors. The chart below depicts a history of the funded ratios for this plan.

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 setting the Plan's benefit obligations. As the chart below shows, the measures are different depending on whether the valuation value or market value of assets is used.

CHART 17

Funded Ratio for Plan Years Ending June 30, 2007 – 2018



SECTION 2: Valuation Results for the Mendocino County Employees' Retirement Association

CHART 18

Schedule of Funding Progress⁽¹⁾

Actuarial Valuation Date	Valuation Value of Assets ⁽²⁾ (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded/ (Overfunded) AAL (UAAL) (b) - (a)	Funded Ratio (%) (a) / (b)	Covered Payroll ⁽³⁾ (c)	UAAL as a Percentage of Covered Payroll (%) [(b) - (a)] / (c)
6/30/2009	\$336,262,500	\$403,195,980	\$66,933,480	83.4%	\$72,235,097	92.7%
6/30/2010	343,201,920	434,986,533	91,784,613	78.9	69,004,002	133.0
6/30/2011	347,731,607	472,644,283	124,912,676	73.6	64,143,765	194.7
6/30/2012	362,487,345	489,014,364	126,527,019	74.1	56,596,088	223.6
6/30/2013	378,777,024	510,461,279	131,684,255	74.2	56,463,983	233.2
6/30/2014	404,855,842	584,428,884	179,573,042	69.3	55,876,248	321.4
6/30/2015	428,228,929	610,381,849	182,152,920	70.2	58,106,396	313.5
6/30/2016	446,773,272	632,057,539	185,284,267	70.7	61,214,954	302.7
6/30/2017	475,224,924	679,565,362	204,340,438	69.9	62,335,605	327.8
6/30/2018	504,803,711	717,461,993	212,658,282	70.4	67,955,820	312.9

⁽¹⁾ Information prior to 2011 has been extracted from the previous actuary's past valuation reports.

⁽²⁾ Excludes assets for non-valuation reserves.

⁽³⁾ Beginning 6/30/2011, payroll includes a projection for expected salary increases during the year following the valuation date under the actuarial assumptions used in the valuation.

SECTION 2: Valuation Results for the Mendocino County Employees' Retirement Association

F. VOLATILITY RATIO

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 measure since it is based on the current level of assets.

For MCERA, the current AVR is about 7.7. This means that a 1% asset gain/(loss) (relative to the assumed investment return) translates to about 7.7% of one-year's payroll. Since MCERA amortizes actuarial gains and losses over an 18-year period, there would be a 0.6% 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. For example, if a plan is 50% funded on a market value basis, the liability volatility ratio would be double the asset volatility ratio and the plan sponsor should expect contribution volatility to increase over time as the plan becomes better funded.

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

For MCERA, the current LVR is about 10.6. This is about 38% higher than the AVR. Therefore, we would expect that contribution volatility will increase over the long-term.

This chart shows how the asset and liability volatility ratios have varied over time.

CHART 19

Volatility Ratios for Years Ended June 30, 2010 – 2018*

Year Ended June 30	Asset Volatility Ratios				Liability Volatility Ratios			
	General	Safety	Probation	Total	General	Safety	Probation	Total
2010	4.1	5.8	5.3	4.3	5.7	10.0	6.1	6.3
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

* Information for year ended June 30, 2010 has been derived based on information from the previous actuary's past valuation report.

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT A

Table of Plan Coverage

i. General Tier 1

	Year Ended June 30		Change From Prior Year
Category	2018	2017	
Active members in valuation			
Number	7	11	-36.4%
Average age	61.2	61.4	-0.2
Average service	32.6	34.7	-2.1
Projected total compensation	\$581,818	\$849,465	-31.5%
Projected average compensation	\$83,117	\$77,224	7.6%
Member account balances	\$1,479,069	\$2,536,427	-41.7%
Total active vested members	7	11	-36.4%
Vested terminated members			
Number	2	3	-33.3%
Average age	56.2	57.3	-1.1
Retired members			
Number in pay status	288	301	-4.3%
Average age	75.7	75.6	0.1
Average monthly benefit	\$2,689	\$2,489	8.0%
Disabled members			
Number in pay status	28	31	-9.7%
Average age	73.4	72.9	0.5
Average monthly benefit	\$2,099	\$1,993	5.3%
Beneficiaries			
Number in pay status	67	74	-9.5%
Average age	79.2	79.9	-0.7
Average monthly benefit	\$1,443	\$1,331	8.4%

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT A

Table of Plan Coverage

ii. General Tiers 2 and 3

Category	Year Ended June 30		Change From Prior Year
	2018	2017	
Active members in valuation			
Number	468	503	-7.0%
Average age	52.7	51.8	0.9
Average service	14.6	13.8	0.8
Projected total compensation	\$29,724,088	\$29,350,751	1.3%
Projected average compensation	\$63,513	\$58,351	8.8%
Member account balances	\$37,555,431	\$36,702,580	2.3%
Total active vested members	441	460	-4.1%
Vested terminated members			
Number	282	287	-1.7%
Average age	49.6	49.5	0.1
Retired members			
Number in pay status	741	712	4.1%
Average age	67.7	67.0	0.7
Average monthly benefit	\$1,414	\$1,365	3.6%
Disabled members			
Number in pay status	83	81	2.5%
Average age	63.4	63.2	0.2
Average monthly benefit	\$1,751	\$1,655	5.8%
Beneficiaries			
Number in pay status	48	41	17.1%
Average age	66.9	66.4	0.5
Average monthly benefit	\$926	\$960	-3.5%

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT A

Table of Plan Coverage

iii. General Tier 4

	Year Ended June 30		Change From Prior Year
Category	2018	2017	
Active members in valuation			
Number	507	425	19.3%
Average age	42.5	42.5	0.0
Average service	2.3	1.9	0.4
Projected total compensation	\$24,626,352	\$19,829,507	24.2%
Projected average compensation	\$48,573	\$46,658	4.1%
Member account balances	\$3,771,670	\$2,504,277	50.6%
Total active vested members	28	1*	2700.0%
Vested terminated members			
Number	150	124	21.0%
Average age	43.1	43.3	-0.2
Retired members			
Number in pay status	1	N/A	N/A
Average age	76.8	N/A	N/A
Average monthly benefit	\$774	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

* Member purchased additional years of service.

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT A

Table of Plan Coverage

iv. Safety Tiers 1 and 2

	Year Ended June 30		Change From Prior Year
Category	2018	2017	
Active members in valuation			
Number	79	86	-8.1%
Average age	47.6	47.1	0.5
Average service	18.2	17.5	0.7
Projected total compensation	\$7,205,516	\$6,958,313	3.6%
Projected average compensation	\$91,209	\$80,911	12.7%
Member account balances	\$7,532,544	\$7,356,000	2.4%
Total active vested members	77	83	-7.2%
Vested terminated members			
Number	34	39	-12.8%
Average age	44.1	44.4	-0.3
Retired members			
Number in pay status	94	89	5.6%
Average age	65.3	65.7	-0.4
Average monthly benefit	\$3,113	\$2,961	5.1%
Disabled members			
Number in pay status	62	59	5.1%
Average age	65.6	65.3	0.3
Average monthly benefit	\$3,518	\$3,506	0.3%
Beneficiaries			
Number in pay status	36	36	0.0%
Average age	67.0	67.3	-0.3
Average monthly benefit	\$1,691	\$1,724	-1.9%

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT A

Table of Plan Coverage

v. Safety Tier 3

	Year Ended June 30		Change From Prior Year
Category	2018	2017	
Active members in valuation			
Number	52	44	18.2%
Average age	31.2	31.4	-0.2
Average service	2.4	2.1	0.3
Projected total compensation	\$3,004,546	\$2,441,798	23.0%
Projected average compensation	\$57,780	\$55,495	4.1%
Member account balances	\$733,742	\$510,065	43.9%
Total active vested members	4	0	N/A
Vested terminated members			
Number	10	9	11.1%
Average age	32.5	28.9	3.6
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

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association**EXHIBIT A****Table of Plan Coverage****vi. Probation Tiers 1 and 2**

Category	Year Ended June 30		Change From Prior Year
	2018	2017	
Active members in valuation			
Number	29	34	-14.7%
Average age	47.3	46.3	1.0
Average service	13.3	12.4	0.9
Projected total compensation	\$1,856,491	\$1,944,083	-4.5%
Projected average compensation	\$64,017	\$57,179	12.0%
Member account balances	\$2,880,053	\$2,963,385	-2.8%
Total active vested members	29	32	-9.4%
Vested terminated members			
Number	15	14	7.1%
Average age	39.2	39.4	-0.2
Retired members			
Number in pay status	37	33	12.1%
Average age	64.9	65.0	-0.1
Average monthly benefit	\$2,993	\$3,113	-3.9%
Disabled members			
Number in pay status	3	3	0.0%
Average age	58.8	57.8	1.0
Average monthly benefit	\$2,124	\$2,063	3.0%
Beneficiaries			
Number in pay status	2	2	0.0%
Average age	73.4	72.4	1.0
Average monthly benefit	\$1,084	\$1,053	2.9%

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT A

Table of Plan Coverage

vii. Probation Tier 3

	Year Ended June 30		Change From Prior Year
Category	2018	2017	
Active members in valuation			
Number	20	20	0.0%
Average age	33.7	33.8	-0.1
Average service	2.4	1.6	0.8
Projected total compensation	\$957,009	\$961,688	-0.5%
Projected average compensation	\$47,850	\$48,084	-0.5%
Member account balances	\$201,710	\$125,872	60.3%
Total active vested members	2	0	N/A
Vested terminated members			
Number	4	3	33.3%
Average age	29.0	28.3	0.7
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

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT B

**Members in Active Service and Projected Average Compensation
By Age, Years of Service as of June 30, 2018**

i. General Tier 1

Age	Total	Years of Service							
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35 & over
Under 25	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
25 - 29	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
30 - 34	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
35 - 39	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
40 - 44	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
45 - 49	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
50 - 54	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
55 - 59	2	--	--	--	--	--	1	--	1
	\$84,621	--	--	--	--	--	\$46,066	--	\$123,176
60 - 64	4	--	--	--	1	--	--	--	3
	79,411	--	--	--	\$49,936	--	--	--	89,236
65 - 69	1	--	--	--	--	--	--	--	1
	94,932	--	--	--	--	--	--	--	94,932
70 & over	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
Total	7	--	--	--	1	--	1	--	5
	\$83,117	--	--	--	\$49,936	--	\$46,066	--	\$97,163

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT B

**Members in Active Service and Projected Average Compensation
By Age, Years of Service as of June 30, 2018**

ii. General Tiers 2 and 3

Age	Years of Service								
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35 & over
Under 25	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
25 - 29	1	--	1	--	--	--	--	--	--
	\$51,447	--	\$51,447	--	--	--	--	--	--
30 - 34	19	4	6	9	--	--	--	--	--
	55,628	\$51,103	53,785	\$58,868	--	--	--	--	--
35 - 39	34	1	11	16	4	2	--	--	--
	62,806	58,480	59,395	65,232	\$65,891	\$58,151	--	--	--
40 - 44	53	3	9	19	17	5	--	--	--
	65,521	58,234	57,328	71,347	64,943	64,468	--	--	--
45 - 49	69	5	9	20	20	11	4	--	--
	64,219	89,538	67,297	59,803	61,993	58,154	\$75,527	--	--
50 - 54	88	7	10	23	22	16	8	2	--
	60,243	63,705	58,587	57,721	62,522	58,519	62,631	\$64,565	--
55 - 59	82	4	11	23	21	15	4	4	--
	67,908	74,600	65,851	57,068	77,207	68,611	53,650	92,018	--
60 - 64	81	1	11	27	21	9	9	3	--
	63,607	55,911	69,541	59,337	62,331	65,203	66,516	78,264	--
65 - 69	34	2	5	14	7	4	1	1	--
	62,933	65,872	70,977	56,929	69,123	52,259	72,045	91,138	--
70 & over	7	--	1	4	1	1	--	--	--
	59,268	--	62,607	58,234	44,611	74,721	--	--	--
Total	468	27	74	155	113	63	26	10	--
	\$63,513	\$67,306	\$62,727	\$60,628	\$65,856	\$62,133	\$64,940	\$82,313	--

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT B

**Members in Active Service and Projected Average Compensation
By Age, Years of Service as of June 30, 2018**

iii. General Tier 4

Age	Total	Years of Service							
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35 & over
Under 25	30	29	1	--	--	--	--	--	--
	\$38,982	\$39,066	\$36,568	--	--	--	--	--	--
25 - 29	59	59	--	--	--	--	--	--	--
	43,278	43,278	--	--	--	--	--	--	--
30 - 34	76	72	4	--	--	--	--	--	--
	47,018	47,196	43,808	--	--	--	--	--	--
35 - 39	72	70	2	--	--	--	--	--	--
	47,706	47,598	51,469	--	--	--	--	--	--
40 - 44	53	49	4	--	--	--	--	--	--
	49,173	49,489	45,296	--	--	--	--	--	--
45 - 49	62	58	4	--	--	--	--	--	--
	50,215	49,677	58,019	--	--	--	--	--	--
50 - 54	53	47	6	--	--	--	--	--	--
	51,510	52,368	44,792	--	--	--	--	--	--
55 - 59	60	57	3	--	--	--	--	--	--
	55,214	54,930	60,603	--	--	--	--	--	--
60 - 64	30	27	2	1*	--	--	--	--	--
	47,206	47,036	54,095	\$38,020	--	--	--	--	--
65 - 69	11	10	1	--	--	--	--	--	--
	59,654	61,561	40,588	--	--	--	--	--	--
70 & over	1	1	--	--	--	--	--	--	--
	60,639	60,639	--	--	--	--	--	--	--
Total	507	479	27	1	--	--	--	--	--
	\$48,573	\$48,562	\$49,161	\$38,020	--	--	--	--	--

* Member purchased additional years of service.

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT B

**Members in Active Service and Projected Average Compensation
By Age, Years of Service as of June 30, 2018**

iv. Safety Tiers 1 and 2

Age	Years of Service							
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30 & over
Under 25	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
25 - 29	2	1	1	--	--	--	--	--
	\$67,386	\$73,032	\$61,739	--	--	--	--	--
30 - 34	5	--	2	3	--	--	--	--
	78,458	--	76,170	\$79,983	--	--	--	--
35 - 39	8	1	1	6	--	--	--	--
	80,834	84,978	75,999	80,950	--	--	--	--
40 - 44	15	--	1	3	5	6	--	--
	94,559	--	83,626	82,223	\$91,254	\$105,304	--	--
45 - 49	14	--	--	2	6	5	1	--
	86,652	--	--	78,671	83,057	88,737	\$113,763	--
50 - 54	24	--	1	2	4	9	3	5
	100,044	--	92,714	86,844	87,114	96,739	116,451	\$113,241
55 - 59	5	--	--	1	1	1	1	1
	106,472	--	--	101,907	81,818	97,986	100,903	149,747
60 - 64	4	--	--	2	--	--	--	2
	81,158	--	--	72,805	--	--	--	89,511
65 - 69	2	--	--	--	1	--	1	--
	71,101	--	--	--	74,428	--	67,774	--
70 & over	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
Total	79	2	6	19	17	21	6	8
	\$91,209	\$79,005	\$77,736	\$81,624	\$85,842	\$97,340	\$105,299	\$111,872

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT B

**Members in Active Service and Projected Average Compensation
By Age, Years of Service as of June 30, 2018**

v. Safety Tier 3

Age	Years of Service							
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30 & over
Under 25	9	9	--	--	--	--	--	--
	\$53,936	\$53,936	--	--	--	--	--	--
25 - 29	18	18	--	--	--	--	--	--
	55,462	55,462	--	--	--	--	--	--
30 - 34	16	13	3	--	--	--	--	--
	56,915	56,015	\$60,812	--	--	--	--	--
35 - 39	4	4	--	--	--	--	--	--
	59,699	59,699	--	--	--	--	--	--
40 - 44	1	1	--	--	--	--	--	--
	62,610	62,610	--	--	--	--	--	--
45 - 49	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
50 - 54	3	3	--	--	--	--	--	--
	74,328	74,328	--	--	--	--	--	--
55 - 59	1	--	1	--	--	--	--	--
	85,782	--	85,782	--	--	--	--	--
60 - 64	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
65 - 69	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
70 & over	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
Total	52	48	4	--	--	--	--	--
	\$57,780	\$57,007	\$67,055	--	--	--	--	--

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT B

**Members in Active Service and Projected Average Compensation
By Age, Years of Service as of June 30, 2018**

vi. Probation Tiers 1 and 2

Age	Total	Years of Service						
		0-4	5-9	10-14	15-19	20-24	25-29	30 & over
Under 25	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
25 - 29	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
30 - 34	4	--	1	3	--	--	--	--
	\$62,167	--	\$55,779	\$64,296	--	--	--	--
35 - 39	5	--	1	3	1	--	--	--
	61,868	--	50,849	63,323	\$68,522	--	--	--
40 - 44	5	--	--	3	2	--	--	--
	64,954	--	--	58,853	74,105	--	--	--
45 - 49	5	--	1	1	3	--	--	--
	69,239	--	56,095	71,270	72,943	--	--	--
50 - 54	1	--	--	--	1	--	--	--
	64,309	--	--	--	64,309	--	--	--
55 - 59	4	--	--	1	3	--	--	--
	64,195	--	--	59,623	65,719	--	--	--
60 - 64	4	--	1	2	--	1	--	--
	61,858	--	61,786	68,718	--	\$48,210	--	--
65 - 69	1	--	--	1	--	--	--	--
	59,000	--	--	59,000	--	--	--	--
70 & over	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
Total	29	--	4	14	10	1	--	--
	\$64,017	--	\$56,127	\$63,339	\$69,703	\$48,210	--	--

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT B

**Members in Active Service and Projected Average Compensation
By Age, Years of Service as of June 30, 2018**

vii. Probation Tier 3

Age	Total	Years of Service						
		0-4	5-9	10-14	15-19	20-24	25-29	30 & over
Under 25	1	1	--	--	--	--	--	--
	\$53,483	\$53,483	--	--	--	--	--	--
25 - 29	8	7	1	--	--	--	--	--
	47,519	47,194	\$49,787	--	--	--	--	--
30 - 34	5	4	1	--	--	--	--	--
	50,279	50,618	48,925	--	--	--	--	--
35 - 39	1	1	--	--	--	--	--	--
	46,781	46,781	--	--	--	--	--	--
40 - 44	3	3	--	--	--	--	--	--
	46,549	46,549	--	--	--	--	--	--
45 - 49	1	1	--	--	--	--	--	--
	40,383	40,383	--	--	--	--	--	--
50 - 54	1	1	--	--	--	--	--	--
	45,172	45,172	--	--	--	--	--	--
55 - 59	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
60 - 64	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
65 - 69	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
70 & over	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
Total	20	18	2	--	--	--	--	--
	\$47,850	\$47,683	\$49,356	--	--	--	--	--

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

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
<i>Valuation date: 6/30/2012</i>							
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
<i>Valuation date: 6/30/2013</i>							
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
<i>Valuation date: 6/30/2014</i>							
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
<i>Valuation date: 6/30/2015</i>							
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
<i>Valuation date: 6/30/2016</i>							
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
<i>Valuation date: 6/30/2017</i>							
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
<i>Valuation date: 6/30/2018</i>							
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

Note: Final Average Salary is not available.

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT D

**Average Annual Benefit of Retired Members and Beneficiaries
By Age, Years in Retirement as of June 30, 2018**

i. General

Age	Years in Retirement							
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30 & over
Under 45	3	2	--	1	--	--	--	--
	\$8,520	\$12,286	--	\$988	--	--	--	--
45 - 49	3	1	1	1	--	--	--	--
	20,352	15,097	\$22,221	23,737	--	--	--	--
50 - 54	23	19	3	--	--	1	--	--
	14,208	13,431	17,175	--	--	\$20,087	--	--
55 - 59	112	49	47	9	2	3	1	1
	15,875	17,673	13,306	16,363	\$19,554	19,964	\$23,336	\$16,989
60 - 64	207	80	73	48	3	1	2	--
	18,842	23,367	17,015	14,249	19,767	19,006	13,314	--
65 - 69	349	111	117	82	29	5	3	2
	23,822	24,331	30,189	18,898	9,577	25,547	23,124	28,346
70 - 74	271	36	97	84	33	13	4	4
	21,747	20,493	23,711	25,795	12,394	7,927	24,408	19,783
75 - 79	116	5	28	27	26	18	10	2
	23,126	10,377	24,034	30,575	25,391	15,802	14,723	20,196
80 - 84	77	5	8	5	20	15	16	8
	16,482	14,940	17,315	14,073	19,222	17,191	16,700	9,504
85 & over	95	6	7	6	4	18	23	31
	18,601	19,203	15,480	18,076	9,365	12,942	26,827	17,664
Total	1,256	314	381	263	117	74	59	48
	\$20,715	\$21,371	\$22,817	\$21,204	\$15,959	\$14,933	\$21,160	\$17,017

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT D

**Average Annual Benefit of Retired Members and Beneficiaries
By Age, Years in Retirement as of June 30, 2018**

ii. Safety

Age	Years in Retirement							
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30 & over
Under 45	6	4	1	1	--	--	--	--
	\$28,386	\$26,364	\$33,831	\$31,032	--	--	--	--
45 - 49	8	5	1	2	--	--	--	--
	25,060	22,949	42,806	21,463	--	--	--	--
50 - 54	19	18	--	--	--	1	--	--
	20,037	19,730	--	--	--	\$25,571	--	--
55 - 59	28	12	13	1	1	1	--	--
	44,758	55,636	37,268	42,083	\$28,236	30,784	--	--
60 - 64	24	8	8	6	1	1	--	--
	50,678	51,795	74,641	26,967	16,071	26,915	--	--
65 - 69	30	5	3	10	3	6	1	2
	40,232	36,392	35,666	67,198	13,386	23,258	\$22,106	\$22,105
70 - 74	38	1	4	9	14	3	3	4
	33,179	33,577	24,252	38,441	33,463	32,868	28,687	32,778
75 - 79	23	--	--	3	3	6	3	8
	31,113	--	--	57,975	18,724	28,211	31,025	27,896
80 - 84	9	1	--	3	--	1	2	2
	31,149	25,384	--	24,363	--	36,136	30,767	42,100
85 & over	7	--	1	1	1	2	--	2
	24,968	--	10,080	18,298	37,465	30,879	--	23,587
Total	192	54	31	36	23	21	9	18
	\$35,727	\$35,153	\$44,269	\$43,364	\$28,113	\$28,028	\$29,197	\$29,437

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT D

**Average Annual Benefit of Retired Members and Beneficiaries
By Age, Years in Retirement as of June 30, 2018**

iii. Probation

Age	Total	Years in Retirement						
		0-4	5-9	10-14	15-19	20-24	25-29	30 & over
Under 45	1	--	--	1	--	--	--	--
	\$29,114	--	--	\$29,114	--	--	--	--
45 - 49	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
50 - 54	2	2	--	--	--	--	--	--
	19,462	\$19,462	--	--	--	--	--	--
55 - 59	9	4	5	--	--	--	--	--
	28,873	32,300	\$26,132	--	--	--	--	--
60 - 64	9	2	6	1	--	--	--	--
	40,273	43,304	43,304	16,030	--	--	--	--
65 - 69	10	3	4	3	--	--	--	--
	30,409	42,395	18,517	34,278	--	--	--	--
70 - 74	9	--	3	6	--	--	--	--
	43,464	--	25,865	52,264	--	--	--	--
75 - 79	2	1	--	1	--	--	--	--
	22,878	19,406	--	26,350	--	--	--	--
80 - 84	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
85 & over	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
Total	42	12	18	12	--	--	--	--
	\$34,080	\$33,444	\$30,119	\$40,659	--	--	--	--

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT E

Reconciliation of Member Data – June 30, 2017 to June 30, 2018

	Active Members	Vested Terminated Members	Pensioners	Disableds	Beneficiaries	Total
Number as of June 30, 2017	1,123	479	1,135	174	153	3,064
New members	167	0	0	0	13	180
Terminations – with vested rights	-62	62	0	0	0	0
Contributions refunds	-33	-26	0	0	0	-59
Retirements	-35	-20	55	0	0	0
New disabilities	-4	0	-2	6	0	0
Return to work	8	-8	0	0	0	0
Died with or without beneficiary	-2	-3	-27	-4	-13	-49
Data adjustments	0	13*	0	0	0	13
Number as of June 30, 2018	1,162	497	1,161	176	153	3,149

* Includes 11 members who were hired and terminated employment after June 30, 2017.

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association**EXHIBIT F****Summary Statement of Income and Expenses - Actuarial Value Basis**

	Year Ended June 30,	
	2018	2017
Contribution Income:		
Employer Contributions	\$20,430,644	\$19,116,426
Employee Contributions	<u>5,996,462</u>	<u>5,753,907</u>
Contribution Income	\$26,427,106	\$24,870,333
Investment Income:		
Interest, Dividends and Other Income	\$6,676,154	\$7,629,145
Adjustment Toward Market Value	33,061,214	31,004,680
Less Investment Expenses	<u>(924,841)</u>	<u>(617,913)</u>
Net Investment Income	<u>\$38,812,527</u>	<u>\$38,015,912</u>
Total Income Available for Benefits	\$65,239,633	\$62,886,245
Less Benefit Payments:		
Benefit Payments and Refunds	\$(34,153,672)	\$(32,765,402)
Administrative Expenses	<u>(1,142,175)</u>	<u>(1,086,089)</u>
Net Benefit Payments	\$(35,295,847)	\$(33,851,491)
Change in Reserve for Future Benefits	\$29,943,786	\$29,034,754

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT G

Summary Statement of Assets

ASSETS	Year Ended June 30,	
	2018	2017
Cash and Cash Equivalents	\$1,990,220	\$1,681,842
Accounts Receivable:		
Employer Contributions	\$747,689	\$722,286
Member Contributions	214,942	210,269
Other	<u>173,288</u>	<u>148,758</u>
Total Accounts Receivable	\$1,135,919	\$1,081,313
Equipment	476,299	555,682
Investments:		
Fixed Income	\$103,773,892	\$103,647,530
Equities	358,124,373	331,752,041
Real Estate and Real Estate Partnerships	<u>56,470,400</u>	<u>46,752,751</u>
Total Investments at Market Value	<u>\$518,368,665</u>	<u>\$482,152,322</u>
Total Assets	\$521,971,103	\$485,471,159
Less Liabilities:		
Accounts Payable	\$(286,177)	\$(125,944)
Accrued Expenses and Other Liabilities	<u>(1,254,965)</u>	<u>(1,318,498)</u>
Total Liabilities	\$(1,541,142)	\$(1,444,442)
NET ASSETS		
Net Assets at Market Value	<u>\$520,429,961</u>	<u>\$484,026,717</u>
Net Assets at Actuarial Value	<u>\$510,023,422</u>	<u>\$480,079,636</u>
Net Assets at Valuation Value	<u>\$504,803,711</u>	<u>\$475,224,924</u>

Note: Results may not total properly due to rounding.

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT H

Actuarial Balance Sheet

An overview of the Plan's funding is given by an Actuarial Balance Sheet. In this approach, we first determine the amount and timing of all future payments that will be made by the Plan for current participants. We then discount these payments at the valuation interest rate to the date of the valuation, thereby determining their present value. We refer to this present value as the "liability" of the Plan.

Second, we determine how this liability will be met. These actuarial "assets" 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.

Actuarial Balance Sheet

Assets	<u>Basic</u>	<u>COLA</u>	<u>Total</u>
1. Total valuation assets	\$284,106,623	\$220,697,088	\$504,803,711
2. Present value of future contributions by members	30,186,212	5,257,928	35,444,140
3. Present value of future employer contributions for:			
a. entry age normal cost	31,865,516	6,837,126	38,702,642
b. unfunded actuarial accrued liability	172,704,114	39,954,168	212,658,282
4. Total current and future assets	\$518,862,465	\$272,746,310	\$791,608,775
Liabilities			
5. Present value of benefits already granted to present retirees and beneficiaries	\$273,770,020	\$196,908,211	\$470,678,231
6. Present value of benefits to be granted to present non-retired members	245,092,445	75,838,099	320,930,544
7. Total liabilities	\$518,862,465	\$272,746,310	\$791,608,775

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT I

Development of Unfunded Actuarial Accrued Liability as of June 30, 2018

1. Unfunded actuarial accrued liability at beginning of year:	\$204,340,438
2. Total normal cost at middle of year	13,110,000
3. Expected employer and member contributions	(27,729,540)
4. Interest (whole year on (1) plus half year on (2) + (3))	<u>13,842,683</u>
5. Expected unfunded actuarial accrued liability at end of year	\$203,563,581
6. Actuarial (gain)/loss due to all changes:*	
a. Gain from higher than expected investment return as recognized on June 30, 2018	\$(5,492,189)
b. Loss from higher than expected salary increases for continuing General, Safety, and Probation active members**	11,791,217
c. Loss due to one-year delay in implementing employer contribution rates in June 30, 2017 valuation (with interest to end of year)***	2,034,681
d. Loss due to inclusion of \$1,000 post-retirement lump sum death benefit	549,080
e. Other net experience losses	<u>211,912</u>
f. Subtotal	\$9,094,701
7. Actual unfunded actuarial accrued liability at end of year (5) + (6f)	\$212,658,282

* The "net gain/(loss) from other experience" of \$14,586,890 from Chart 10 is equal to the sum of items 6b, 6c, 6d, and 6e.

** In order to validate the salary losses, Segal provided MCERA a listing of continuing active members with substantial salary increases, which MCERA confirmed. In addition, MCERA had provided us with historical salary documentation that indicated for fiscal year 2017/2018 all bargaining groups enjoyed a 3% cost of living increase, a \$2,000 supplemental pay, and a longevity pay increase based on service. For example, the salary information we received last year for the SEIU Bargaining Unit was the following:

<u>Bargaining Unit</u>	<u>% Increase</u>	<u>Effective Date</u>	<u>Supplemental / Legacy</u>	<u>Longevity 10 Years</u>	<u>Longevity 15 Years</u>	<u>Longevity 20 Years</u>
SEIU	3%	07/02/2017	\$ 2,000.00	1%	1%	1%
SEIU	3%	07/01/2018	\$ 2,000.00	1%	1%	1%

*** The increase in employer contribution rate attributable to this loss was included in the employer rate determined in the 2017 valuation.

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT J

Table of Amortization Bases

Type	Date Established	Initial Years	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment*
General						
Combined Base	6/30/2012	27	\$96,509,955	\$102,483,958	21	\$6,918,592
Experience Loss	6/30/2013	18	1,308,206	1,226,421	13	118,554
Experience Gain	6/30/2014	18	(10,922,004)	(10,431,762)	14	(950,898)
Change in Assumptions/Method	6/30/2014	18	41,158,191	39,310,775	14	3,583,337
Experience Gain	6/30/2015	18	(2,476,999)	(2,406,173)	15	(207,866)
Experience Loss	6/30/2016	18	1,249,423	1,229,026	16	101,063
Experience Gain	6/30/2017	18	(6,932,729)	(6,879,330)	17	(540,522)
Change in Assumptions	6/30/2017	18	21,071,591	20,909,287	17	1,642,882
Experience Loss	6/30/2018	18	5,742,836	5,742,836	18	432,609
Total				\$151,185,038		\$11,097,751
Safety						
Combined Base	6/30/2012	27	\$24,941,466	\$26,485,352	21	\$1,788,000
Experience Loss	6/30/2013	18	2,713,369	2,543,739	13	245,895
Experience Gain	6/30/2014	18	(489,900)	(467,910)	14	(42,652)
Change in Assumptions/Method	6/30/2014	18	13,983,439	13,355,782	14	1,217,434
Experience Loss	6/30/2015	18	4,163,162	4,044,124	15	349,366
Experience Loss	6/30/2016	18	1,209,820	1,190,070	16	97,860
Experience Gain	6/30/2017	18	(1,978,056)	(1,962,820)	17	(154,222)
Change in Assumptions	6/30/2017	18	5,932,121	5,886,429	17	462,508
Experience Loss	6/30/2018	18	3,402,016	3,402,016	18	256,274
Total				\$54,476,782		\$4,220,463

* Level percentage of payroll.

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT J (continued)

Table of Amortization Bases

Type	Date Established	Initial Years	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment*
Probation						
Combined Base	6/30/2012	27	\$5,075,598	\$5,389,779	21	\$363,859
Experience Gain	6/30/2013	18	(964,299)	(904,015)	13	(87,388)
Experience Gain	6/30/2014	18	(834,449)	(796,994)	14	(72,649)
Change in Assumptions/Method	6/30/2014	18	3,045,283	2,908,593	14	265,130
Experience Gain	6/30/2015	18	(194,174)	(188,623)	15	(16,295)
Experience Gain	6/30/2016	18	(39,275)	(38,633)	16	(3,177)
Experience Gain	6/30/2017	18	(535,517)	(531,392)	17	(41,752)
Change in Assumptions	6/30/2017	18	1,217,274	1,207,898	17	94,907
Experience Gain	6/30/2018	18	(50,151)	<u>(50,151)</u>	18	<u>(3,778)</u>
Total				\$6,996,462		\$498,857
Total						
Combined Base	6/30/2012	27	\$126,527,019	\$134,359,089	21	\$9,070,451
Experience Loss	6/30/2013	18	3,057,276	2,866,145	13	277,061
Experience Gain	6/30/2014	18	(12,246,353)	(11,696,666)	14	(1,066,199)
Change in Assumptions/Method	6/30/2014	18	58,186,913	55,575,150	14	5,065,901
Experience Loss	6/30/2015	18	1,491,989	1,449,328	15	125,205
Experience Loss	6/30/2016	18	2,419,968	2,380,463	16	195,746
Experience Gain	6/30/2017	18	(9,446,302)	(9,373,542)	17	(736,496)
Change in Assumptions	6/30/2017	18	28,220,986	28,003,614	17	2,200,297
Experience Loss	6/30/2018	18	9,094,701	<u>9,094,701</u>	18	<u>685,105</u>
Total				\$212,658,282		\$15,817,071

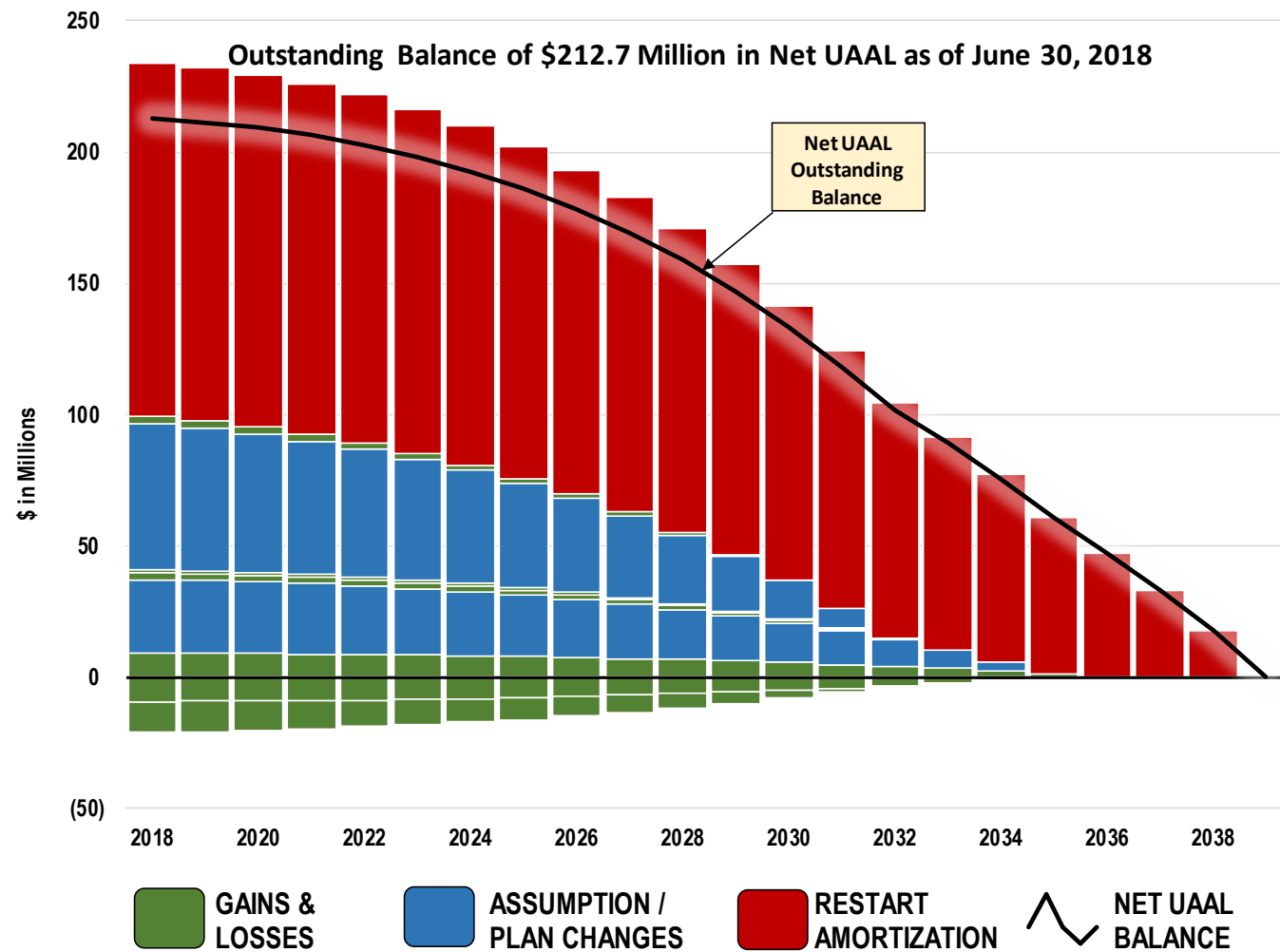
* Level percentage of payroll.

Note: The equivalent single amortization period is about 18 years.

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT K

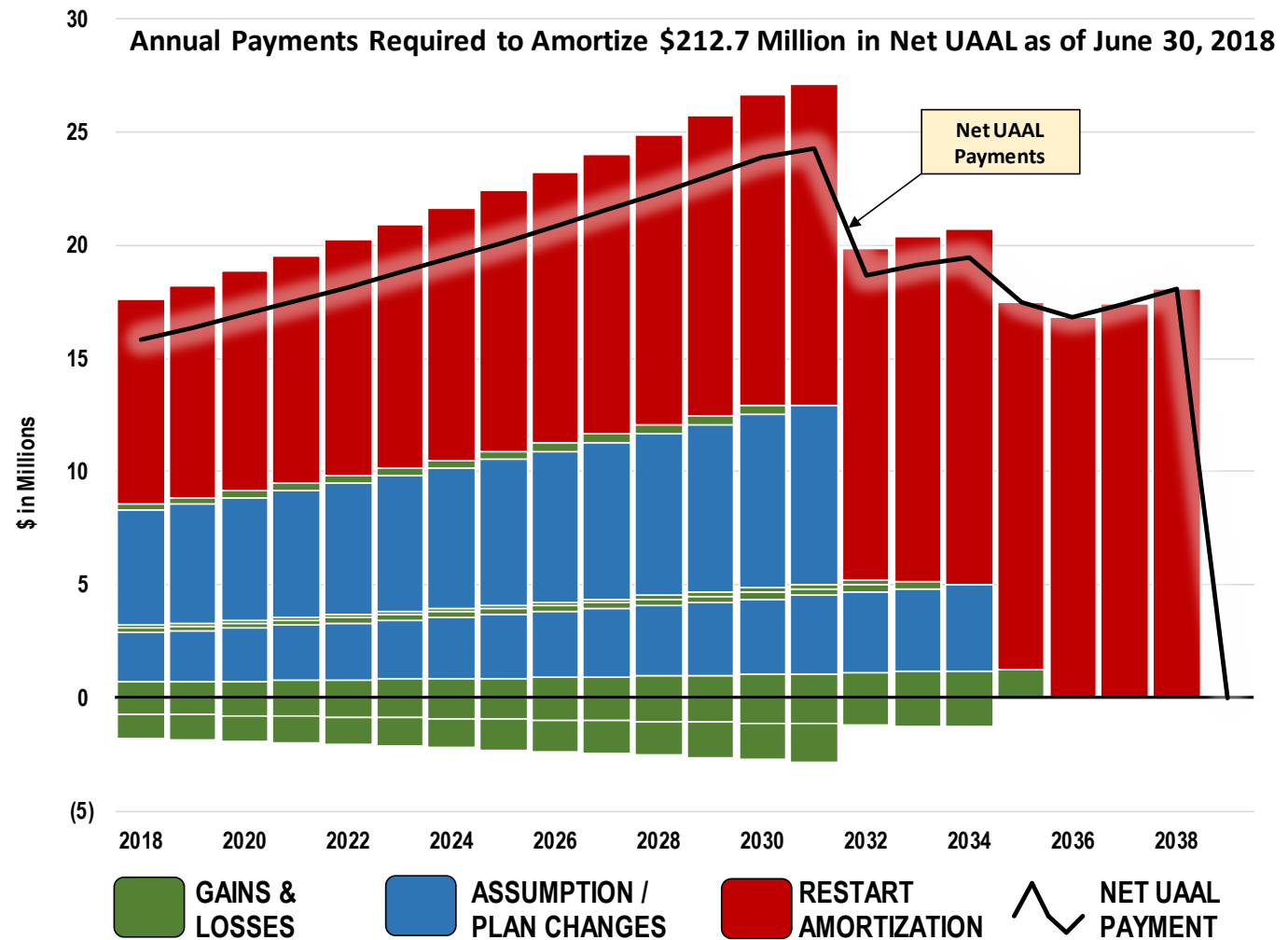
Projection of UAAL Balances and Payments (1 of 2)



SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT K

Projection of UAAL Balances and Payments (2 of 2)



SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT L

Section 415 Limitations

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 \$220,000 for 2018. Normal Retirement Age for these purposes is age 62. These are the limits in simplified terms. They must generally 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.

Contributions rates determined in this valuation have not been reduced for the Section 415 limitations. Actual limitations will result in gains as they occur.

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

EXHIBIT M

Definitions of Pension Terms

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

Assumptions or Actuarial Assumptions:

The estimates on which the cost of the Plan is calculated including:

- (a) Investment return — the rate of investment yield that the Plan will earn over the long-term future;
- (b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;
- (c) Retirement rates — the rate or probability of retirement at a given age; and
- (d) Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

Normal Cost:

The amount of contributions required to fund the level cost allocated to the current year of service.

Actuarial Accrued Liability For Actives:

The equivalent of the accumulated normal costs allocated to the years before the valuation date.

Actuarial Accrued Liability For Pensioners:

The single sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and the interest that the sum is expected to earn before it is entirely paid out in benefits.

Unfunded (Overfunded) Actuarial Accrued Liability:

The extent to which the actuarial accrued liability of the Plan exceeds (or is exceeded by) the assets of the Plan. There are many approaches to paying off the unfunded or overfunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time.

SECTION 3: Supplemental Information for the Mendocino County Employees' Retirement Association

**Amortization of the Unfunded
(Overfunded) Actuarial
Accrued Liability:**

Payments made over a period of years equal in value to the Plan's unfunded or overfunded actuarial accrued liability.

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.

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

EXHIBIT I

Summary of Actuarial Valuation Results

The valuation was made with respect to the following data supplied to us:

1. Retired members as of the valuation date (including 153 beneficiaries in pay status)	1,490
2. Members inactive during year ended June 30, 2018 with vested rights	497
3. Members active during the year ended June 30, 2018	1,162

The actuarial factors as of the valuation date are as follows:

1. Normal cost		\$14,055,000
2. Present value of future benefits		791,608,775
3. Present value of future normal costs		74,146,782
4. Actuarial accrued liability*		717,461,993
Retired members and beneficiaries	\$470,678,231	
Inactive members with vested rights	33,824,166	
Active members	212,959,596	
5. Valuation value of assets* (\$520,429,961 at market value as reported by Retirement Association)		504,803,711
6. Unfunded actuarial accrued liability		\$212,658,282

* Excludes non-pension reserves.

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

EXHIBIT I (continued)

Summary of Actuarial Valuation Results

The determination of the recommended average employer contribution is as follows:

	Dollar Amount	% of Payroll
1. Total normal cost	\$14,055,000	20.68%
2. Expected employee contributions	<u>-6,560,000</u>	<u>-9.65%</u>
3. Employer normal cost: (1) + (2)	\$7,495,000	11.03%
4. Amortization of unfunded actuarial accrued liability	<u>15,796,000*</u>	<u>23.24%</u>
5. Total recommended average employer contribution: (3) + (4)	\$23,291,000	34.27%
6. Projected compensation	\$67,955,820	

** Based on the total annual payment in Section 3, Exhibit J 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.*

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

EXHIBIT II

Actuarial Assumptions and Actuarial Cost Method

Rationale for Assumptions:

The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the July 1, 2013 through June 30, 2016 Actuarial Experience Study dated April 14, 2017. 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:

7.00% per annum.

**Employee Contribution
Crediting Rate:**

7.00% per annum.

Consumer Price Index:

Increase of 3.00% per year; retiree COLA increases due to CPI for General Tiers 1, 2, and 3, Safety Tiers 1 and 2, and Probation Tiers 1 and 2 subject to a 3% maximum change per year (no COLA increases for General Tier 4, Safety Tier 3, or Probation Tier 3).

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

Salary Increases:

Annual Rate of Compensation Increase (%)

Inflation: 3.00%; plus additional 0.50% “across the board” salary increases (other than inflation); plus the following Merit and Promotional increases based on years of service.

<u>Years of Service</u>	<u>General</u>	<u>Safety and Probation</u>
0	5.00%	5.00%
1	3.75%	3.75%
2	3.50%	3.00%
3	2.75%	2.25%
4	2.25%	1.00%
5	1.75%	0.75%
6	1.50%	0.75%
7	1.25%	0.75%
8	1.00%	0.75%
9	0.75%	0.75%
10+	0.50%	0.50%

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

Demographic Assumptions:

Post-Retirement Mortality Rates

*Healthy Members and
All Beneficiaries:*

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

Disabled Members:

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

The above mortality tables contain a margin of about 20%, based on actual to expected deaths, as a provision to reflect future mortality improvement, based on a review of mortality experience as of the measurement date.

Employee Contribution Rates:

For General members: RPH-2014 (Headcount-Weighted) Healthy Annuitant Mortality Tables projected 20 years with the two-dimensional improvement Scale MP-2016, set back one year for males and set forward one year for females, weighted 30% male and 70% female.

For Safety and Probation members: RPH-2014 (Headcount-Weighted) Healthy Annuitant Mortality Tables projected 20 years with the two-dimensional improvement Scale MP-2016, set back one year for males and set forward one year for females, weighted 80% male and 20% female.

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

Termination Rates Before Retirement:

Age	Rate (%)			
	Death			
	General ⁽¹⁾		Safety and Probation ⁽²⁾	
	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

⁽¹⁾ 100% of General deaths are assumed to be non-service connected deaths.

⁽²⁾ 100% of Safety and Probation deaths are assumed to be service connected deaths.

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

Termination Rates Before Retirement (continued):

Age	Rate (%)		
	Disability		
	General ⁽¹⁾	Safety ⁽²⁾	Probation ⁽²⁾
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

⁽¹⁾ 35% of General disabilities are assumed to be service connected disabilities. The other 65% are assumed to be non-service connected disabilities.

⁽²⁾ 95% of Safety and Probation disabilities are assumed to be service connected disabilities. The other 5% are assumed to be non-service connected disabilities.

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

Termination Rates Before Retirement (continued):

Years of Service	Rate (%)		
	Termination (Less Than 5 Years of Service) ⁽¹⁾		
	General	Safety	Probation
0	22.00	16.00	16.00
1	16.00	13.00	13.00
2	14.00	10.00	10.00
3	13.00	9.00	9.00
4	12.00	8.00	8.00

Age	Rate (%)		
	Termination (5+ Years of Service) ⁽²⁾		
	General	Safety	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

⁽¹⁾ 85% of all terminated members will choose a refund of contributions and 15% will choose a deferred vested benefit. No termination is assumed after a member is eligible for retirement.

⁽²⁾ 25% of all terminated members will choose a refund of contributions and 75% will choose a deferred vested benefit. No termination is assumed after a member is eligible for retirement.

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

Retirement Rates:

Age	Rate (%)					
	General Tiers 1, 2, & 3	General Tier 4	Safety Tiers 1 & 2	Safety Tier 3	Probation Tiers 1 & 2	Probation Tier 3
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	100.00	100.00	100.00	100.00	100.00	100.00

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

**Retirement Age and Benefit for
Deferred Vested Members:**

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

General Age:	60
Safety and Probation Age:	55

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

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

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.

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.

Percent Married:

75% of male members; 50% of female members.

Age of Spouse:

Female (or male) spouses are 2 years younger (or older) than their spouse.

Actuarial Value of Assets:

The market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual and expected returns on a market value basis and is recognized over a five-year period. The actuarial value of assets cannot be less than 75% or greater than 125% of the market value of assets.

Valuation Value of Assets:

The Actuarial Value of Assets reduced by the value of the non-valuation reserves.

Actuarial Cost Method:

Entry Age Cost Method. Entry Age is calculated as age on the valuation date minus years of service. The Normal Cost is calculated on an individual basis where the Entry Age Normal Cost for each membership tier is calculated as the sum of the individual

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

Actuarial Cost Method (continued): Normal Costs for members in the membership tier. Actuarial Accrued Liability is calculated on an individual basis and is based on costs allocated as a level percentage of compensation.

Prior to July 1, 2012, the total UAAL was being amortized on a 30-year decreasing period, with 27 years remaining as of June 30, 2012 (and 21 years remaining as of June 30, 2018). 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.

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

EXHIBIT III

Summary of Plan Provisions

This exhibit summarizes the major provisions of MCERA included in the valuation as of June 30, 2018. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Membership Eligibility:	Membership with MCERA usually begins with the first day of the pay period following the date of entrance into service.
<i>General Tier 1</i>	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.
<i>General Tier 2</i>	General Tier 2 has been replaced by General Tier 3.
<i>General Tier 3</i>	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.
<i>General Tier 4</i>	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.
<i>Safety Tier 1</i>	All employees appointed to a position in active law enforcement who were hired prior to June 1, 1982.
<i>Safety Tier 2</i>	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.
<i>Safety Tier 3</i>	All employees appointed to a position in active law enforcement who were hired on or after January 1, 2013.
<i>Probation Tier 1</i>	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.

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

Membership Eligibility (continued):

<i>Probation Tier 2</i>	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.
<i>Probation Tier 3</i>	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:

<i>General Tier 1, Safety Tier 1, and Probation Tier 1</i>	Highest consecutive twelve months of compensation earnable (§31462.1) (FAS1).
<i>General Tiers 2 and 3, Safety Tier 2, and Probation Tier 2</i>	Highest consecutive thirty-six months of compensation earnable (§31462) (FAS3).
<i>General Tier 4, Safety Tier 3, and Probation Tier 3</i>	Highest consecutive thirty-six months of pensionable compensation (§7522.10(c), §7522.32, §7522.34) (FAS3).

Service:	Years of service (Yrs).
-----------------	-------------------------

Service Retirement Eligibility:

<i>General Tiers 1, 2, and 3</i>	Age 50 with 5 years of service and 10 years of membership, or age 70 and vested, or after 30 years of service regardless of age (§31672).
<i>General Tier 4</i>	Age 52 with 5 years of service, or age 70 and vested (§7522.20(a)).
<i>Safety and Probation Tiers 1 and 2</i>	Age 50 with 5 years of service and 10 years of membership, or age 70 and vested, or after 20 years of service regardless of age (§31663.25).
<i>Safety and Probation Tier 3</i>	Age 50 with 5 years of service, or age 70 and vested (§7522.25(d)).

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

Benefit Formula:

	Retirement Age	Benefit Formula
<i>General Tier 1 (§31676.12)*</i>	50	$(1.34\% \times \text{FAS1} - 1/3 \times 1.34\% \times \$350 \times 12) \times \text{Yrs}$
	55	$(1.77\% \times \text{FAS1} - 1/3 \times 1.77\% \times \$350 \times 12) \times \text{Yrs}$
	60	$(2.34\% \times \text{FAS1} - 1/3 \times 2.34\% \times \$350 \times 12) \times \text{Yrs}$
	62 or later	$(2.62\% \times \text{FAS1} - 1/3 \times 2.62\% \times \$350 \times 12) \times \text{Yrs}$
<i>General Tier 2 and General Tier 3 (§31676.12)*</i>	50	$(1.34\% \times \text{FAS3} - 1/3 \times 1.34\% \times \$350 \times 12) \times \text{Yrs}$
	55	$(1.77\% \times \text{FAS3} - 1/3 \times 1.77\% \times \$350 \times 12) \times \text{Yrs}$
	60	$(2.34\% \times \text{FAS3} - 1/3 \times 2.34\% \times \$350 \times 12) \times \text{Yrs}$
	62 or later	$(2.62\% \times \text{FAS3} - 1/3 \times 2.62\% \times \$350 \times 12) \times \text{Yrs}$
<i>General Tier 4 (§7522.20(a))</i>	52	$1.00\% \times \text{FAS3} \times \text{Yrs}$
	55	$1.30\% \times \text{FAS3} \times \text{Yrs}$
	60	$1.80\% \times \text{FAS3} \times \text{Yrs}$
	62	$2.00\% \times \text{FAS3} \times \text{Yrs}$
	65	$2.30\% \times \text{FAS3} \times \text{Yrs}$
	67 or later	$2.50\% \times \text{FAS3} \times \text{Yrs}$

** 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 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
<i>Safety Tier 1 (§31664.2)</i>	50	$(2.29\% \times \text{FAS1} - 1/3 \times 2.29\% \times \$350 \times 12) \times \text{Yrs}$
	55 or later	$(3.00\% \times \text{FAS1} - 1/3 \times 3.00\% \times \$350 \times 12) \times \text{Yrs}$
<i>Safety Tier 2 (§31664.2)</i>	50	$(2.29\% \times \text{FAS3} - 1/3 \times 2.29\% \times \$350 \times 12) \times \text{Yrs}$
	55 or later	$(3.00\% \times \text{FAS3} - 1/3 \times 3.00\% \times \$350 \times 12) \times \text{Yrs}$

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

Benefit Formula (continued):

	Retirement Age	Benefit Formula
<i>Safety Tier 3 (§7522.25(d))</i>	50	$2.00\% \times \text{FAS3} \times \text{Yrs}$
	55	$2.50\% \times \text{FAS3} \times \text{Yrs}$
	57 or later	$2.70\% \times \text{FAS3} \times \text{Yrs}$
<i>Probation Tier 1 (§31664)</i>	50	$(2.00\% \times \text{FAS1} - 1/3 \times 2.00\% \times \$350 \times 12) \times \text{Yrs}$
	55 or later	$(2.62\% \times \text{FAS1} - 1/3 \times 2.62\% \times \$350 \times 12) \times \text{Yrs}$
<i>Probation Tier 2 (§31664)</i>	50	$(2.00\% \times \text{FAS3} - 1/3 \times 2.00\% \times \$350 \times 12) \times \text{Yrs}$
	55 or later	$(2.62\% \times \text{FAS3} - 1/3 \times 2.62\% \times \$350 \times 12) \times \text{Yrs}$
<i>Probation Tier 3 (§7522.25(d))</i>	50	$2.00\% \times \text{FAS3} \times \text{Yrs}$
	55	$2.50\% \times \text{FAS3} \times \text{Yrs}$
	57 or later	$2.70\% \times \text{FAS3} \times \text{Yrs}$

Maximum Benefit:

<i>General Tiers 1, 2, and 3, Safety Tiers 1 and 2, and Probation Tiers 1 and 2</i>	100% of Highest Average Compensation (§31676.12, §31664.2, and §31664).
<i>General Tier 4, Safety Tier 3, and Probation Tier 3</i>	None (§7522.20(a) and §7522.25(d)).

Non-Service Connected Disability:

<i>Eligibility</i>	Five years of service (§31720).
<i>Benefit Formula</i>	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 55 for Safety and Probation members, but the total benefit cannot be more than one-third of Final Compensation (§31727.1 and §31727.2).

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

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).

Death in line-of-duty

50% of Final Compensation or 100% of Service Retirement benefit, if greater, payable to spouse* or minor children (§31787).

OR

Vested Members

Eligibility

Five years of service.

Basic benefit

60% of the greater of Service Retirement 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.

Death in line-of-duty

50% of Final compensation or 100% of Service Retirement benefit, if greater, payable to spouse or minor children (§31787).

** In this summary, continuance benefit payable to spouse is also available to eligible domestic partner.*

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

Death After Retirement:

All Members

<i>Lump Sum Death Benefit</i>	\$1,000 lump sum death benefit paid to the estate or designated beneficiary (§31789, §31789.13).
<i>Service or Non-Service Connected Disability Retirement</i>	60% of member's unmodified allowance continued 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).
<i>Service Connected Disability</i>	100% of member's allowance continued to eligible spouse (§31786).

Withdrawal Benefits:

<i>Less than Five Years of Service</i>	Refund of accumulated employee contributions with interest (§31628).
<i>Five or More Years of Service</i>	If contributions left on deposit, entitled to earned benefits commencing at any time after eligible to retire (§31700).

Post-retirement

Cost-of-Living Benefits:

<i>General Tiers 1, 2, and 3, Safety Tiers 1 and 2, and Probation Tiers 1 and 2</i>	Future changes based on Consumer Price Index to a maximum of 3% per year; excess "banked" (§31870.1)
<i>General Tier 4, Safety Tier 3, and Probation Tier 3</i>	None.

Member Contributions:

General Tier 1

<i>Basic</i>	Provide for an average annuity at age 60 equal to 1/100 of FAS1 (§31621.2).
<i>Cost-of-Living</i>	Provide for one-half of future Cost-of-Living costs.

* 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.

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

Member Contributions (continued):

General Tier 2 and General Tier 3

<i>Basic</i>	Provide for an average annuity at age 60 equal to 1/100 of FAS3 (§31621.2).
<i>Cost-of-Living</i>	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

<i>Basic</i>	Provide for an average annuity at age 50 equal to 1/100 of FAS1 (§31639.25).
<i>Cost-of-Living</i>	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

<i>Basic</i>	Provide for an average annuity at age 50 equal to 1/100 of FAS3 (§31639.25).
<i>Cost-of-Living</i>	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.

Plan Amendment:

None during July 1, 2017 to June 30, 2018.

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 that both parties can be sure the proper provisions are valued.*

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association**Appendix A****Member Contribution Rates****General Tier 1 Members' Contribution Rates - Based on the June 30, 2018 Actuarial Valuation
(as a percentage of payroll)**

Entry Age	Basic Only		COLA Only		Total	
	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54
15	3.89%	5.84%	1.35%	2.02%	5.24%	7.86%
16	3.89%	5.84%	1.35%	2.02%	5.24%	7.86%
17	3.96%	5.94%	1.37%	2.06%	5.33%	8.00%
18	4.03%	6.04%	1.39%	2.09%	5.42%	8.13%
19	4.10%	6.15%	1.42%	2.13%	5.52%	8.28%
20	4.17%	6.26%	1.45%	2.17%	5.62%	8.43%
21	4.24%	6.36%	1.47%	2.20%	5.71%	8.56%
22	4.31%	6.47%	1.49%	2.24%	5.80%	8.71%
23	4.39%	6.59%	1.52%	2.28%	5.91%	8.87%
24	4.47%	6.70%	1.55%	2.32%	6.02%	9.02%
25	4.54%	6.81%	1.57%	2.36%	6.11%	9.17%
26	4.62%	6.93%	1.60%	2.40%	6.22%	9.33%
27	4.70%	7.05%	1.63%	2.44%	6.33%	9.49%
28	4.78%	7.17%	1.65%	2.48%	6.43%	9.65%
29	4.86%	7.29%	1.68%	2.52%	6.54%	9.81%
30	4.94%	7.41%	1.71%	2.56%	6.65%	9.97%
31	5.03%	7.54%	1.74%	2.61%	6.77%	10.15%
32	5.11%	7.67%	1.77%	2.65%	6.88%	10.32%
33	5.20%	7.80%	1.80%	2.70%	7.00%	10.50%
34	5.29%	7.93%	1.83%	2.74%	7.12%	10.67%
35	5.37%	8.06%	1.86%	2.79%	7.23%	10.85%
36	5.47%	8.20%	1.89%	2.84%	7.36%	11.04%
37	5.56%	8.34%	1.93%	2.89%	7.49%	11.23%
38	5.65%	8.48%	1.95%	2.93%	7.60%	11.41%
39	5.75%	8.62%	1.99%	2.98%	7.74%	11.60%

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

Appendix A

Member Contribution Rates (Continued)

General Tier 1 Members' Contribution Rates - Based on the June 30, 2018 Actuarial Valuation (continued) (as a percentage of payroll)

Entry Age	Basic Only		COLA Only		Total	
	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54
40	5.85%	8.77%	2.03%	3.04%	7.88%	11.81%
41	5.95%	8.92%	2.06%	3.09%	8.01%	12.01%
42	6.05%	9.07%	2.09%	3.14%	8.14%	12.21%
43	6.15%	9.23%	2.13%	3.19%	8.28%	12.42%
44	6.26%	9.39%	2.17%	3.25%	8.43%	12.64%
45	6.37%	9.56%	2.21%	3.31%	8.58%	12.87%
46	6.49%	9.73%	2.25%	3.37%	8.74%	13.10%
47	6.61%	9.91%	2.29%	3.43%	8.90%	13.34%
48	6.73%	10.10%	2.33%	3.50%	9.06%	13.60%
49	6.87%	10.30%	2.37%	3.56%	9.24%	13.86%
50	6.99%	10.48%	2.42%	3.63%	9.41%	14.11%
51	7.10%	10.65%	2.46%	3.69%	9.56%	14.34%
52	7.21%	10.81%	2.49%	3.74%	9.70%	14.55%
53	7.31%	10.96%	2.53%	3.79%	9.84%	14.75%
54	7.40%	11.10%	2.56%	3.84%	9.96%	14.94%
55	7.47%	11.20%	2.59%	3.88%	10.06%	15.08%
56	7.52%	11.28%	2.60%	3.90%	10.12%	15.18%
57	7.53%	11.30%	2.61%	3.91%	10.14%	15.21%
58	7.53%	11.30%	2.61%	3.91%	10.14%	15.21%
59 & Over	7.49%	11.23%	2.59%	3.89%	10.08%	15.12%

Interest: 7.00% per annum

COLA: 3.00%

Mortality: RPH-2014 (Headcount-Weighted) Healthy Annuitant Mortality Tables projected 20 years with the two-dimensional improvement Scale MP-2016, set back one year for males and set forward one year for females, weighted 30% male and 70% female

Salary Increase: Inflation (3.00%) + Across-the-Board Increases (0.50%) + Merit/Promotion (see Exhibit II)

COLA Loading Factor: 34.61%

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association**Appendix A****Member Contribution Rates (Continued)****General Tier 2 and Tier 3 Members' Contribution Rates - Based on the June 30, 2018 Actuarial Valuation
(as a percentage of payroll)**

Entry Age	Basic Only		COLA Only		Total	
	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54
15	3.75%	5.62%	1.30%	1.95%	5.05%	7.57%
16	3.75%	5.62%	1.30%	1.95%	5.05%	7.57%
17	3.81%	5.72%	1.32%	1.98%	5.13%	7.70%
18	3.88%	5.82%	1.34%	2.01%	5.22%	7.83%
19	3.95%	5.92%	1.37%	2.05%	5.32%	7.97%
20	4.01%	6.02%	1.39%	2.08%	5.40%	8.10%
21	4.08%	6.12%	1.41%	2.12%	5.49%	8.24%
22	4.15%	6.23%	1.44%	2.16%	5.59%	8.39%
23	4.23%	6.34%	1.46%	2.19%	5.69%	8.53%
24	4.29%	6.44%	1.49%	2.23%	5.78%	8.67%
25	4.37%	6.55%	1.51%	2.27%	5.88%	8.82%
26	4.45%	6.67%	1.54%	2.31%	5.99%	8.98%
27	4.52%	6.78%	1.57%	2.35%	6.09%	9.13%
28	4.60%	6.90%	1.59%	2.39%	6.19%	9.29%
29	4.67%	7.01%	1.62%	2.43%	6.29%	9.44%
30	4.75%	7.13%	1.65%	2.47%	6.40%	9.60%
31	4.83%	7.25%	1.67%	2.51%	6.50%	9.76%
32	4.92%	7.38%	1.70%	2.55%	6.62%	9.93%
33	5.00%	7.50%	1.73%	2.60%	6.73%	10.10%
34	5.09%	7.63%	1.76%	2.64%	6.85%	10.27%
35	5.17%	7.76%	1.79%	2.69%	6.96%	10.45%
36	5.26%	7.89%	1.82%	2.73%	7.08%	10.62%
37	5.35%	8.02%	1.85%	2.78%	7.20%	10.80%
38	5.44%	8.16%	1.88%	2.82%	7.32%	10.98%
39	5.53%	8.29%	1.91%	2.87%	7.44%	11.16%

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

Appendix A

Member Contribution Rates (Continued)

General Tier 2 and Tier 3 Members' Contribution Rates - Based on the June 30, 2018 Actuarial Valuation (continued) (as a percentage of payroll)

Entry Age	Basic Only		COLA Only		Total	
	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54
40	5.63%	8.44%	1.95%	2.92%	7.58%	11.36%
41	5.72%	8.58%	1.98%	2.97%	7.70%	11.55%
42	5.82%	8.73%	2.01%	3.02%	7.83%	11.75%
43	5.92%	8.88%	2.05%	3.07%	7.97%	11.95%
44	6.03%	9.04%	2.09%	3.13%	8.12%	12.17%
45	6.13%	9.20%	2.12%	3.18%	8.25%	12.38%
46	6.24%	9.36%	2.16%	3.24%	8.40%	12.60%
47	6.35%	9.53%	2.20%	3.30%	8.55%	12.83%
48	6.47%	9.71%	2.24%	3.36%	8.71%	13.07%
49	6.58%	9.87%	2.28%	3.42%	8.86%	13.29%
50	6.69%	10.03%	2.31%	3.47%	9.00%	13.50%
51	6.78%	10.17%	2.35%	3.52%	9.13%	13.69%
52	6.87%	10.30%	2.37%	3.56%	9.24%	13.86%
53	6.94%	10.41%	2.40%	3.60%	9.34%	14.01%
54	6.99%	10.49%	2.42%	3.63%	9.41%	14.12%
55	7.03%	10.54%	2.43%	3.65%	9.46%	14.19%
56	7.03%	10.55%	2.43%	3.65%	9.46%	14.20%
57	7.01%	10.51%	2.43%	3.64%	9.44%	14.15%
58	7.24%	10.86%	2.51%	3.76%	9.75%	14.62%
59 & Over	7.49%	11.23%	2.59%	3.89%	10.08%	15.12%

Interest: 7.00% per annum

COLA: 3.00%

Mortality: RPH-2014 (Headcount-Weighted) Healthy Annuitant Mortality Tables projected 20 years with the two-dimensional improvement Scale MP-2016, set back one year for males and set forward one year for females, weighted 30% male and 70% female

Salary Increase: Inflation (3.00%) + Across-the-Board Increases (0.50%) + Merit/Promotion (see Exhibit II)

COLA Loading Factor: 34.61%

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

Appendix A

Member Contribution Rates (Continued)

General Tier 4 Members' Contribution Rates - Based on the June 30, 2018 Actuarial Valuation (as a percentage of eligible payroll)*		
	Basic Only	Total
	<u>Eligible Pay</u>	<u>Eligible Pay</u>
All General Tier 4 Members	7.58%	7.58%

Interest:	7.00% per annum
COLA:	0%
Mortality:	RPH-2014 (Headcount-Weighted) Healthy Annuitant Mortality Tables projected 20 years with the two-dimensional improvement Scale MP-2016, set back one year for males and set forward one year for females, weighted 30% male and 70% female
Salary Increase:	Inflation (3.00%) + Across-the-Board Increases (0.50%) + Merit/Promotion (see Exhibit II)
COLA Loading Factor:	0%

* It is our understanding that in the determination of pension benefits under the CalPEPRA formulas, the compensation that can be taken into account for 2018 is equal to \$121,388. For an employer that is not enrolled in Social Security, the maximum amount is 120% of \$121,388, or \$145,666 (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2018. (Reference: Section 7522.10(d).)

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

Appendix A

Member Contribution Rates (Continued)

**Safety Tier 2 Members' Contribution Rates - Based on the June 30, 2018 Actuarial Valuation
(as a percentage of payroll)**

<u>Entry Age</u>	<u>Basic Only</u>		<u>COLA Only*</u>		<u>Total</u>	
	<u>First \$161.54</u>	<u>Over \$161.54</u>	<u>First \$161.54</u>	<u>Over \$161.54</u>	<u>First \$161.54</u>	<u>Over \$161.54</u>
15	4.81%	7.21%	1.24%	2.67%	6.05%	9.88%
16	4.81%	7.21%	1.24%	2.67%	6.05%	9.88%
17	4.89%	7.33%	1.29%	2.75%	6.18%	10.08%
18	4.97%	7.46%	1.34%	2.82%	6.31%	10.28%
19	5.05%	7.58%	1.38%	2.90%	6.43%	10.48%
20	5.14%	7.71%	1.44%	2.97%	6.58%	10.68%
21	5.23%	7.84%	1.49%	3.05%	6.72%	10.89%
22	5.31%	7.97%	1.54%	3.13%	6.85%	11.10%
23	5.40%	8.10%	1.59%	3.21%	6.99%	11.31%
24	5.49%	8.24%	1.65%	3.29%	7.14%	11.53%
25	5.58%	8.37%	1.70%	3.37%	7.28%	11.74%
26	5.67%	8.51%	1.75%	3.45%	7.42%	11.96%
27	5.77%	8.65%	1.81%	3.53%	7.58%	12.18%
28	5.86%	8.79%	1.87%	3.62%	7.73%	12.41%
29	5.96%	8.94%	1.93%	3.71%	7.89%	12.65%
30	6.06%	9.09%	1.99%	3.80%	8.05%	12.89%
31	6.16%	9.24%	2.05%	3.89%	8.21%	13.13%
32	6.26%	9.39%	2.11%	3.98%	8.37%	13.37%
33	6.37%	9.55%	2.17%	4.07%	8.54%	13.62%
34	6.47%	9.70%	2.23%	4.16%	8.70%	13.86%
35	6.58%	9.87%	2.30%	4.26%	8.88%	14.13%
36	6.69%	10.03%	2.36%	4.36%	9.05%	14.39%
37	6.81%	10.21%	2.44%	4.47%	9.25%	14.68%
38	6.91%	10.37%	2.50%	4.56%	9.41%	14.93%
39	7.03%	10.54%	2.57%	4.66%	9.60%	15.20%

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

Appendix A

Member Contribution Rates (Continued)

Safety Tier 2 Members' Contribution Rates - Based on the June 30, 2018 Actuarial Valuation (continued) (as a percentage of payroll)

Entry Age	Basic Only		COLA Only*		Total	
	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54
40	7.14%	10.71%	2.63%	4.76%	9.77%	15.47%
41	7.25%	10.88%	2.70%	4.87%	9.95%	15.75%
42	7.37%	11.06%	2.77%	4.97%	10.14%	16.03%
43	7.50%	11.25%	2.85%	5.09%	10.35%	16.34%
44	7.60%	11.40%	2.91%	5.18%	10.51%	16.58%
45	7.66%	11.49%	2.94%	5.23%	10.60%	16.72%
46	7.69%	11.53%	2.96%	5.25%	10.65%	16.78%
47	7.66%	11.49%	2.94%	5.23%	10.60%	16.72%
48	7.91%	11.87%	3.09%	5.46%	11.00%	17.33%
49 & over	8.18%	12.27%	3.25%	5.70%	11.43%	17.97%

Interest: 7.00% per annum

COLA: 3.00%

Mortality: RPH-2014 (Headcount-Weighted) Healthy Annuitant Mortality Tables projected 20 years with the two-dimensional improvement Scale MP-2016, set back one year for males and set forward one year for females, weighted 80% male and 20% female

Salary Increase: Inflation (3.00%) + Across-the-Board Increases (0.50%) + Merit/Promotion (see Exhibit II)

COLA Loading Factor: 59.70%

* COLA rate is offset by 1.63%, which is picked up by the County.

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

Appendix A

Member Contribution Rates (Continued)

Safety Tier 3 Members' Contribution Rates - Based on the June 30, 2018 Actuarial Valuation (as a percentage of eligible payroll)*		
	Basic Only	Total
	<u>Eligible Pay</u>	<u>Eligible Pay</u>
All Safety Tier 3 Members	11.08%	11.08%

Interest:	7.00% per annum
COLA:	0%
Mortality:	RPH-2014 (Headcount-Weighted) Healthy Annuitant Mortality Tables projected 20 years with the two-dimensional improvement Scale MP-2016, set back one year for males and set forward one year for females, weighted 80% male and 20% female
Salary Increase:	Inflation (3.00%) + Across-the-Board Increases (0.50%) + Merit/Promotion (see Exhibit II)
COLA Loading Factor:	0%

* It is our understanding that in the determination of pension benefits under the CalPEPRA formulas, the compensation that can be taken into account for 2018 is equal to \$121,388. For an employer that is not enrolled in Social Security, the maximum amount is 120% of \$121,388, or \$145,666 (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2018. (Reference: Section 7522.10(d).)

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association**Appendix A****Member Contribution Rates (Continued)****Probation Tier 2 Members' Contribution Rates - Based on the June 30, 2018 Actuarial Valuation
(as a percentage of payroll)**

<u>Entry Age</u>	<u>Basic Only</u>		<u>COLA Only</u>		<u>Total</u>	
	<u>First \$161.54</u>	<u>Over \$161.54</u>	<u>First \$161.54</u>	<u>Over \$161.54</u>	<u>First \$161.54</u>	<u>Over \$161.54</u>
15	4.81%	7.21%	2.35%	3.53%	7.16%	10.74%
16	4.81%	7.21%	2.35%	3.53%	7.16%	10.74%
17	4.89%	7.33%	2.39%	3.59%	7.28%	10.92%
18	4.97%	7.46%	2.43%	3.65%	7.40%	11.11%
19	5.05%	7.58%	2.47%	3.71%	7.52%	11.29%
20	5.14%	7.71%	2.51%	3.77%	7.65%	11.48%
21	5.23%	7.84%	2.56%	3.84%	7.79%	11.68%
22	5.31%	7.97%	2.60%	3.90%	7.91%	11.87%
23	5.40%	8.10%	2.64%	3.96%	8.04%	12.06%
24	5.49%	8.24%	2.69%	4.03%	8.18%	12.27%
25	5.58%	8.37%	2.73%	4.09%	8.31%	12.46%
26	5.67%	8.51%	2.77%	4.16%	8.44%	12.67%
27	5.77%	8.65%	2.82%	4.23%	8.59%	12.88%
28	5.86%	8.79%	2.87%	4.30%	8.73%	13.09%
29	5.96%	8.94%	2.91%	4.37%	8.87%	13.31%
30	6.06%	9.09%	2.97%	4.45%	9.03%	13.54%
31	6.16%	9.24%	3.01%	4.52%	9.17%	13.76%
32	6.26%	9.39%	3.06%	4.59%	9.32%	13.98%
33	6.37%	9.55%	3.11%	4.67%	9.48%	14.22%
34	6.47%	9.70%	3.17%	4.75%	9.64%	14.45%
35	6.58%	9.87%	3.22%	4.83%	9.80%	14.70%
36	6.69%	10.03%	3.27%	4.91%	9.96%	14.94%
37	6.81%	10.21%	3.33%	4.99%	10.14%	15.20%
38	6.91%	10.37%	3.38%	5.07%	10.29%	15.44%
39	7.03%	10.54%	3.44%	5.16%	10.47%	15.70%

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

Appendix A

Member Contribution Rates (Continued)

Probation Tier 2 Members' Contribution Rates - Based on the June 30, 2018 Actuarial Valuation (continued) (as a percentage of payroll)

Entry Age	Basic Only		COLA Only		Total	
	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54
40	7.14%	10.71%	3.49%	5.24%	10.63%	15.95%
41	7.25%	10.88%	3.55%	5.32%	10.80%	16.20%
42	7.37%	11.06%	3.61%	5.41%	10.98%	16.47%
43	7.50%	11.25%	3.67%	5.50%	11.17%	16.75%
44	7.60%	11.40%	3.72%	5.58%	11.32%	16.98%
45	7.66%	11.49%	3.75%	5.62%	11.41%	17.11%
46	7.69%	11.53%	3.76%	5.64%	11.45%	17.17%
47	7.66%	11.49%	3.75%	5.62%	11.41%	17.11%
48	7.91%	11.87%	3.87%	5.81%	11.78%	17.68%
49 & over	8.18%	12.27%	4.00%	6.00%	12.18%	18.27%

Interest: 7.00% per annum

COLA: 3.00%

Mortality: RPH-2014 (Headcount-Weighted) Healthy Annuitant Mortality Tables projected 20 years with the two-dimensional improvement Scale MP-2016, set back one year for males and set forward one year for females, weighted 80% male and 20% female

Salary Increase: Inflation (3.00%) + Across-the-Board Increases (0.50%) + Merit/Promotion (see Exhibit II)

COLA Loading Factor: 48.92%

SECTION 4: Reporting Information for the Mendocino County Employees' Retirement Association

Appendix A

Member Contribution Rates (Continued)

Probation Tier 3 Members' Contribution Rates - Based on the June 30, 2018 Actuarial Valuation (as a percentage of eligible payroll)*		
	Basic Only	Total
	<u>Eligible Pay</u>	<u>Eligible Pay</u>
All Probation Tier 3 Members	11.74%	11.74%

Interest:	7.00% per annum
COLA:	0%
Mortality:	RPH-2014 (Headcount-Weighted) Healthy Annuitant Mortality Tables projected 20 years with the two-dimensional improvement Scale MP-2016, set back one year for males and set forward one year for females, weighted 80% male and 20% female
Salary Increase:	Inflation (3.00%) + Across-the-Board Increases (0.50%) + Merit/Promotion (see Exhibit II)
COLA Loading Factor:	0%

* It is our understanding that in the determination of pension benefits under the CalPEPRA formulas, the compensation that can be taken into account for 2018 is equal to \$121,388. For an employer that is not enrolled in Social Security, the maximum amount is 120% of \$121,388, or \$145,666 (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2018. (Reference: Section 7522.10(d).)