Merced County Employees' Retirement Association

Actuarial Valuation as of June 30, 2013

Produced by Cheiron

April 1, 2014

Classic Values, Innovative Advice

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LETTER OF TRANSMITTAL

April 1, 2014

Retirement Board of Merced
County Employees' Retirement Association
3199 M Street
Merced, CA 95348

Dear Members of the Board:

At your request, we have conducted an actuarial valuation of the Merced County Employees' Retirement Association (MCERA, the Fund, the Plan) as of June 30, 2013. This report contains information on the Plan's assets and liabilities. This report also discloses employer contribution levels and required disclosures under the Governmental Accounting Standards Board Statement Nos. 25 and 27. Your attention is called to the Foreword in which we refer to the general approach employed in the preparation of this report.

The purpose of this report is to present the results of the annual actuarial valuation of MCERA. This report is for the use of the Retirement Board of MCERA and its auditors in preparing financial reports in accordance with applicable law and accounting requirements. Any other user of this report is not an intended user and is considered a third party.

Cheiron's report was prepared solely for the Retirement Board of MCERA for the purposes described herein, except that the plan auditor may rely on this report solely for the purpose of completing an audit related to the matters herein. It is not intended to benefit any third party, and Cheiron assumes no duty or liability to any such party.

To the best of our knowledge, this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

Sincerely,
Cheiron

Graham A. Schmidt, ASA, MAAA
Consulting Actuary

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Associate Actuary

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FOREWORD

Cheiron has performed the actuarial valuation of the Merced County Employees' Retirement Association as of June 30, 2013. The valuation is organized as follows:

- In Section I, the **Executive Summary,** we describe the purpose of an actuarial valuation, summarize the key results found in this valuation and disclose important trends.

- The **Main Body** of the report presents details on the Plan's

    - Section II - Assets
    - Section III - Liabilities
    - Section IV- Contributions
    - Section V- Required Accounting Disclosures (GASB)

- In the **Appendices** we conclude our report with detailed information describing plan membership (Appendix A), actuarial assumptions and methods employed in the valuation (Appendix B), a summary of pertinent plan provisions (Appendix C), tables containing member contribution rates (Appendix D), and a glossary of key actuarial terms (Appendix E).

The results of this report rely on future plan experience conforming to the underlying assumptions and methods outlined in this report. To the extent that the actual plan experience deviates from the underlying assumptions and methods, or there are any changes in plan provisions or applicable laws, the results would vary accordingly.

In preparing our report, we relied without audit, on information supplied by the MCERA staff. This information includes, but is not limited to, plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice #23.

SECTION I
EXECUTIVE SUMMARY

The primary purpose of the actuarial valuation and this report is to measure, describe, and identify the following as of the valuation date:

- The financial condition of the Plan,
- Past and expected trends in the financial progress of the Plan,
- Employer and employee contribution rates for Fiscal Year 2015; and
- Information required by the Governmental Accounting Standards Board (GASB).

In the balance of this Executive Summary we present (A) the basis upon which this year's valuation was completed, (B) the key findings of this valuation including a summary of all key financial results, (C) an examination of the historical trends, and (D) the projected financial outlook for the Plan.

A. Valuation Basis

This valuation determines the employer contributions for the fiscal year ending June 30, 2015. The Plan's funding policy is to collect contributions from the employers and employees equal to the sum of:

- The normal cost under the Entry Age Normal Cost Method,
- Amortization of the unfunded actuarial liability, and
- The Plan's expected administrative expenses.

The unfunded actuarial liability is amortized by annual payments. The payments are determined so that they will be a level percentage of pay, assuming payroll increases of 3.00% per year. The UAL as of June 30, 2013 is amortized over a closed period of 16 years.

Experience studies are performed every three years. This valuation was performed on the basis of the economic and demographic assumptions and methods that were determined in the Actuarial Experience Study dated March 6, 2014. A summary of the assumptions and methods used in the current valuation is shown in Appendix B.

This valuation was prepared based on the plan provisions shown in Appendix C. Two new tiers were included in this valuation for both general and safety groups: Tier 3 and Tier 4, which includes new members hired on or after January 1, 2013 under the California Public Employees' Pension Reform Act of 2013 (PEPRA).

The employee contribution rates have changed as a result of the revisions to the economic and demographic assumptions. The complete employee rate tables are shown in Appendix D.

Due to the merger of EFI and Cheiron, the June 30, 2013 actuarial valuation was prepared using Cheiron's valuation system. We replicated the results of the June 30, 2012 actuarial valuation prior to performing the June 30, 2013 actuarial valuation.

B. Key Findings of this Valuation

The following discussion summarizes the key results of the June 30, 2013 valuation and how they compare to the results from the June 30, 2012 valuation.

1. Summary of Key Valuation Results

Table I-1 summarizes the key results of the valuation with respect to assets, liabilities and contributions.

Table I-1

Merced County Employees' Retirement Association
Summary of Key Valuation Results
(in millions)

Valuation Date **Fiscal Year End**	**June 30, 2013** **2015**	**June 30, 2012** **2014**
Actuarial Liability	$ 1,065.3	$ 975.6
Actuarial Value of Assets	547.3	528.7
Unfunded Actuarial Liability (actuarial value)	$ 518.0	$ 446.9
Funded Ratio (actuarial value)	51.4%	54.2%
Net Employer Contribution Rate*	50.09%	44.10%

* Prior to reflecting phase-in of experience study impact over two years.

More discussion of the factors that affected these results can be found in the remainder of this section, but some key points are as follows:

- The employer contribution rate, prior to reflecting a two-year phase-in of the 2013 experience study cost impact, increased from 44.10% to 50.09%, largely due to the continued recognition of the 2008 investment losses and the changes in demographic assumptions (primarily mortality rates).

- The unfunded actuarial liability (UAL) is the excess of the Plan's actuarial liability over the actuarial value of assets. The Plan's UAL increased from $446.9 to $518.0 million as a result of the same factors affecting the contribution rate.

- The funded ratio is the ratio of the Plan's actuarial value of assets to the actuarial liability. The Plan's funded ratio decreased from 54.2% to 51.4%. However, as noted in Table I-4, the funded ratio on a market value of assets basis increased.

SECTION I
EXECUTIVE SUMMARY

2. Phased Employer Contribution Rate

Table I-2 shows the phased contribution rate for Fiscal Year 2015, reflecting the Board's decision to recognize the cost impact of the 2013 experience study over two years. This phase-in of rate increases is consistent with practices described by the California Actuarial Advisory Panel (CAAP), as well as other actuarial organizations.

Table I-2
Development of Phased Employer Contribution Rate

Fiscal Year End	Full Contribution Rate	Phased Contribution Rate
2015	50.09%	47.64%
Projected 2016	49.49%	49.49%
Projected 2017	48.66%	48.88%

As shown in Table I-6, the net impact of the experience study (including the change in employee contribution rates) was to increase the calculated employer contribution rate by 4.90% of payroll, so the phased contribution rate for Fiscal Year 2015 is 4.90% / 2 = 2.45% lower than the calculated 50.09% rate, or 47.64%. The phased contribution rates for each Tier are shown in Table IV-2.

In Fiscal Year 2016, the rate is projected to be the same as what it would have been without a phase-in; however, the rates for subsequent years are projected to be slightly higher due to the delayed implementation of the full rate.

3. Plan Membership

Table I-3 summarizes Plan membership as of June 30, 2013 and June 30, 2012. More detailed membership statistics are shown in Appendix A.

Table I-3
Membership Total

Item	June 30, 2013	June 30, 2012	% Change
Actives	1,899	1,901	-0.1%
Deferred Members	618	594	4.0%
Retired Members	2,050	1,996	2.7%
Total Members	4,567	4,491	1.7%
Active Member Payroll	$ 115,983,186	$ 109,851,371	5.6%
Average Pay per Active	61,076	57,786	5.7%

Some key points are as follows:

- Total Plan membership increased by 1.7%, driven by the increase in deferred and retired members. The active membership count decreased slightly.

- The 2013 pay figures reflect the annualized rate as of June 30, plus expected increases for the upcoming year. The 2012 pay figures are based only on the annualized rate as of June 30.

SECTION I
EXECUTIVE SUMMARY

4. Assets and Liabilities

Table I-4 summarizes the assets, liabilities and funded ratios as of the June 30, 2013 and June 30, 2012 valuations.

Table I-4
Assets & Liabilities
(in millions)

Item	June 30, 2013	June 30, 2012	% Change
Actuarial Liability			
Actives	$ 333.6	$ 308.1	8.3%
Deferred Members	37.6	35.2	6.9%
Retired Members	694.1	632.3	9.8%
Total Actuarial Liability	$ 1,065.3	$ 975.6	9.2%
Market Value Assets	$ 563.0	$ 505.1	11.5%
Actuarial Value Assets	547.3	528.7	3.5%
Unfunded Actuarial Liability (market value)	$ 502.3	$ 470.5	6.8%
Unfunded Actuarial Liability (actuarial value)	518.0	446.9	15.9%
Funded Ratio - Market Value	52.9%	51.8%	1.1%
Funded Ratio - Actuarial Value	51.4%	54.2%	-2.8%

Table I-4 indicates that because the actuarial liability increased by 9.2% but the actuarial value of assets increased by only 3.5%, the funded ratio decreased from 54.2% as of June 30, 2012 to 51.4% as of June 30, 2013. However, on a market value basis the funded ratio actually increased, from 51.8% to 52.9%.

The Plan employs a commonly used actuarial smoothing method that dampens market volatility, so the return on actuarial value (3.82%) was less than the return on market value (11.80%), due to the deferral of current year gains and the recognition of the last portion of losses from FY 2008-2009.

Section II provides additional information explaining the development of the actuarial value of assets.

5. Components of UAL Change between June 30, 2012 and June 30, 2013

Table I-5 is a detailed reconciliation of the components that affected the UAL between June 30, 2012 and June 30, 2013.

Table I-5
Change in Unfunded Actuarial Liability

	Experience		**in millions**
1.	Unfunded actuarial liability, 6/30/2012	$	446.9
2.	Expected change in unfunded actuarial liability	$	(3.1)
3.	Unfunded increase due to change in software		16.7
4.	Unfunded increase due to investment loss		20.7
5.	Unfunded increase due to contributions less than expected (including impact of 12-month rate delay)		2.9
6.	Unfunded increase due to liability loss		4.2
7.	Unfunded increase due to assumption changes		29.7
8.	Total change in unfunded actuarial liability	$	71.2
9.	Unfunded actuarial liability, 6/30/2013	$	518.0

The Plan's UAL increased from $446.9 million as of June 30, 2012 to $518.0 million as of June 30, 2013. As shown above, the three largest contributing factors were the change in actuarial assumptions, the continued recognition of the 2008 investment losses, and the change in software associated with the transition from EFI to Cheiron. Demographic experience caused a small increase in the UAL ($4.2 million), and contributions less than expected increased the UAL by $2.9 million.

SECTION I
EXECUTIVE SUMMARY

6. Employer Contribution Reconciliation

Table I-6 is a detailed reconciliation between the Fiscal Year 2014 and Fiscal Year 2015 employer contribution rates, in total and by component.

Table I-6
Employer Contribution Reconciliation

Item	Total	Normal Cost	Amortization	Admin Expense
FYE 2014 Net Employer Contribution Rate	44.10%	10.04%	34.06%	0.00%
Change due to software change	-0.54%	-0.10%	-0.44%	0.00%
Change due to asset loss	1.52%	0.00%	1.52%	0.00%
Change due to contributions less than expected				
(including impact of 12-month rate delay)	0.21%	0.00%	0.21%	0.00%
Change due to demographic experience	0.09%	-0.22%	0.31%	0.00%
Change due to effect of payroll on amortization	-0.19%	0.00%	-0.19%	0.00%
Change due to demographic assumptions	4.42%	0.61%	3.81%	0.00%
Change due to economic assumptions	0.18%	-1.35%	0.46%	1.07%
Change due to change in employee contribution rate	0.30%	0.42%	0.03%	-0.15%
Total change	5.99%	-0.64%	5.71%	0.92%
FYE 2015 Net Employer Contribution Rate*	50.09%	9.40%	39.77%	0.92%

* Prior to reflecting phase-in of experience study impact over two years.

The employer contribution rate increased from 44.10% for Fiscal Year 2014 to 50.09% for Fiscal Year 2015, prior to reflecting the phase-in of the experience study cost impact over two years:

- The change in software associated with the transition from EFI to Cheiron reduced the employer contribution rate by 0.54% of payroll. The results of the June 30, 2012 valuation were replicated prior to completing the June 30, 2013 valuation. Both systems produced very similar results, with the actuarial liability differing by approximately 1.7% as of June 30, 2012.

- The continued recognition of the 2008 investment losses increased the employer contribution rate by 1.52% of payroll, with the actuarial value of assets returning only 3.82%. However, since the 2013 market value of assets return was greater than the 7.75% assumed (11.80%), this 1.52% increase is less than the 2.4% increase that was expected. Further, the 2008 loss has now been fully reflected in the actuarial value of assets and the market value of assets is now higher than the actuarial value, meaning there are gains that have not yet been recognized. All else held constant, this will result in reductions to future contribution rates.

SECTION I
EXECUTIVE SUMMARY

- Contributions less than expected increased the employer contribution rate by 0.21% of pay, due to the 12-month delay in implementation of the actuarially determined contribution rates, which can cause losses when contribution rates are increasing.

- Demographic experience increased the employer contribution rate by 0.09% of pay, with the demographic experience of the Plan – rates of retirement, death, disability and termination – close to that predicted by the actuarial assumptions in aggregate.

- Payroll greater than expected reduced the employer contribution rate by 0.19% of pay, since it results in the Plan's unfunded actuarial liability being amortized over a greater than expected payroll base.

- An experience analysis of economic and demographic assumptions was performed, covering the period July 1, 2010 to June 30, 2013. A statement of current assumptions is shown in Appendix B. A full description of the rationale for the revised assumptions can be found in the Experience Analysis dated March 6, 2014.

  - The net cost impact of the revised assumptions, including the change to employee rates, was 4.90% of payroll, of which approximately 4% was attributable to changing the mortality rates to be based on the RP-2000 Combined Healthy Generational Tables, projected using Scale BB (the actual tables used reflect a static projection to 2027 due to the administrative issues associated with implementing fully generational tables). There were minor changes to the other demographic assumptions, which increased the employer contribution rate by approximately 0.40% of payroll.

  - The net changes to the economic assumptions increased the employer contribution rate by 0.18% of payroll. The assumed inflation rate was reduced from 3.75% to 3.00% and the assumed COLA for Tier 1 members was reduced from 2.70% to 2.60%, both of which lowered costs. The assumed real rate of return was increased from 4.00% to 4.75%, so the nominal assumed return of 7.75% was unchanged.

    The addition of a separate cost component for administrative expenses increased the employer contribution rate by 1.07% of payroll (before allocating a portion to employees). Previously, the cost of administrative expenses was implicit in the Plan's discount rate, with the rate assumed to be net of administrative expenses. However, for this valuation the Board adopted an explicit assumption of $1.25 million per year, with the discount rate no longer assumed to be net of administrative expenses. This change will allow the Plan to use the same assumed discount rate for funding and disclosure purposes once the new Government Accounting Standards Board (GASB) Statements No. 67 and 68 are implemented.

We have recommended that the administrative expense assumption of $1.25 million per year be allocated to the employer and employees based on their share of the overall contributions. As of June 30, 2013, this results in a net contribution rate of 0.92% of payroll for the employer.

- Finally, the employee contribution rates decreased by 0.30% on average as a result of the revised economic and demographic assumptions, leading to a corresponding increase in the employer contribution rate. The decrease in rates was caused by the reduction in the inflation assumption from 3.75% to 3.00%, partially offset by the change in mortality tables and the allocation of a portion of the administrative expense assumption. A description of the methodology used to calculate the employee contribution rates, as well as complete rate tables, can be found in Appendix D.

7. Plan Risk

Table I-7
Asset to Payroll Ratio as of June 30, 2013

Active Member Payroll	$	115,983,186
Assets (Market Value)		563,020,073
Ratio of Assets to Payroll		4.85
Ratio with 100% Funding		9.18

One of the most important measures of a plan's risk is the ratio of plan assets to payroll. The table above shows MCERA's assets as a percentage of active member payroll. This ratio indicates the sensitivity of the Plan to the returns earned on Plan assets. We note in the table that assets currently are nearly 5 times covered payroll for the Plan; as funding improves and the Plan reaches 100% funding, the ratio of assets to payroll will increase to over 9 times payroll, perhaps higher depending on the Plan's future demographic makeup.

To appreciate the impact of the ratio of assets to payroll on contributions rates, consider the situation for a new plan with almost no assets. Even if the assets suffer a bad year of investment returns, the impact on the contribution rate is nil, because the assets are so small.

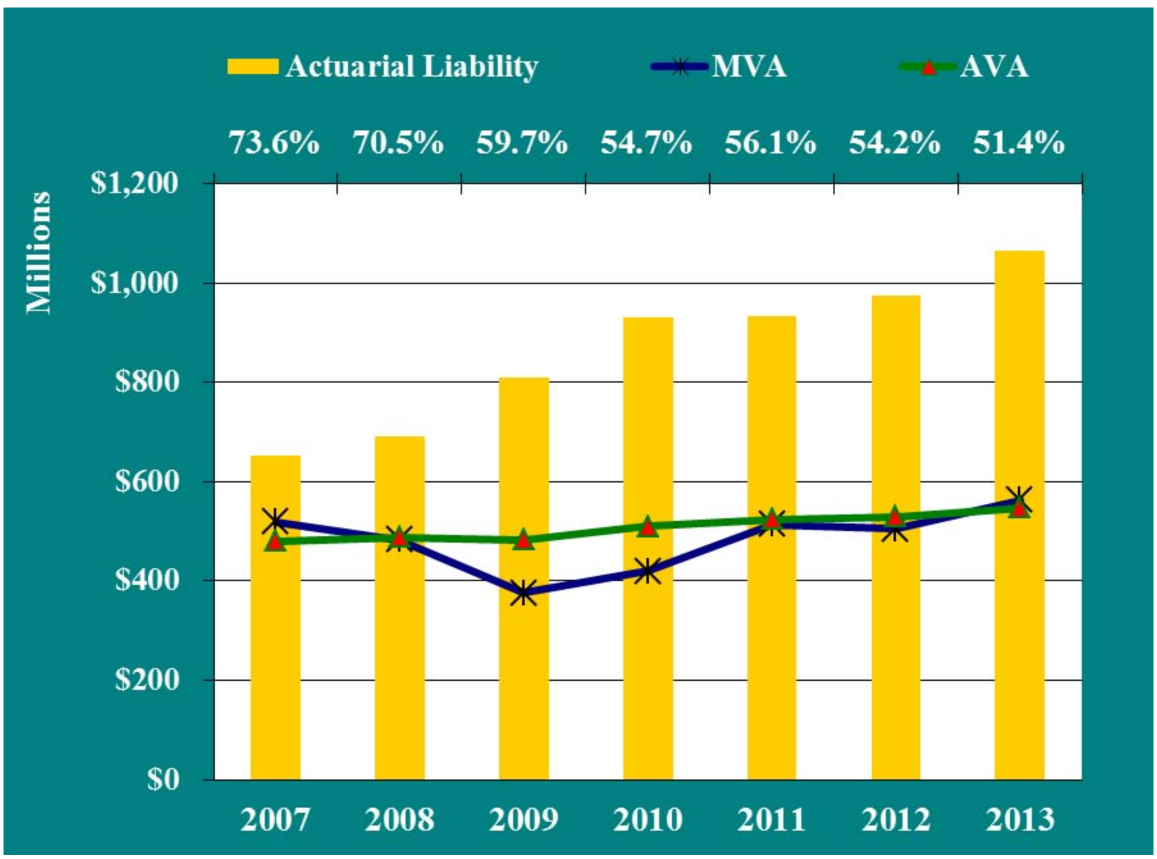
On the other hand, consider the situation for MCERA. Suppose MCERA's assets lose 10% of their value in a year. Since they were assumed to earn 7.75%, there is an actuarial loss of 17.75% of plan assets. Based on the current ratio of assets to payroll (485%), that means the loss in assets is about 86% of active payroll (485% of the 17.75% loss). There is only one source of funding to make up for this loss: the employers. Consequently, barring future offsetting investment gains, the employers must make up the asset loss in future contributions. In this example of a one year loss of 10%, this shortfall will eventually require an additional amortization payment in the vicinity of 7.7% of payroll if amortized over 16 years.

C. Historical Trends

Despite the fact that for most retirement plans the greatest attention is given to the current valuation results and in particular the size of the current unfunded actuarial liability and the employer contribution, it is important to remember that each valuation is merely a snapshot in the long-term progress of a pension fund. It is more important to judge a current year's valuation result relative to historical trends, as well as trends expected into the future.

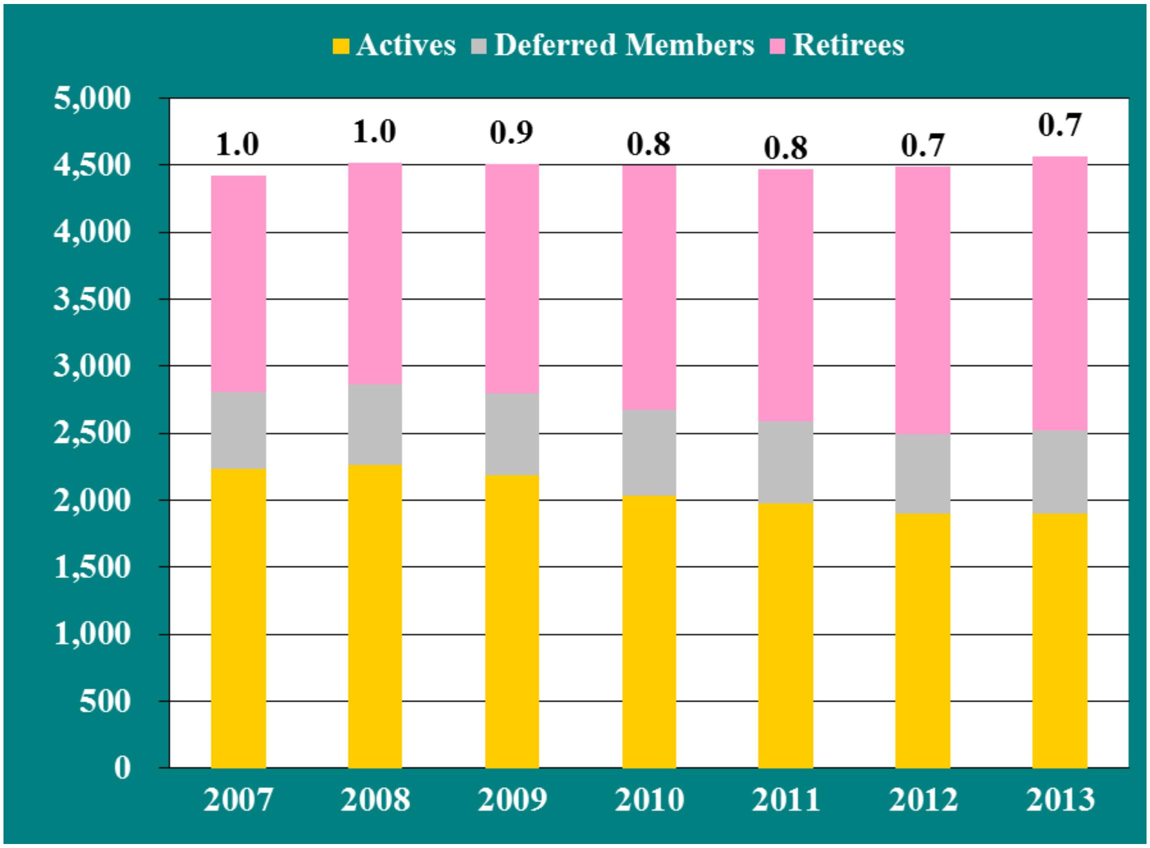
<u>Assets and Liabilities</u>

The chart below compares the Market Value of Assets (MVA) and Actuarial Value of Assets (AVA) to the Actuarial Liabilities. The percentage shown at the top of each bar is the ratio of the Actuarial Value of Assets to the Actuarial Liability (the funded ratio). The funded ratio has declined from 73.6% in 2007 to 51.4% as of June 30, 2013.



The extraordinary asset loss of 2008 has adversely affected the funded ratio over the last five years. The 2013 funded ratio was further decreased by changes in the demographic assumptions following the July 1, 2010 – June 30, 2013 experience analysis.

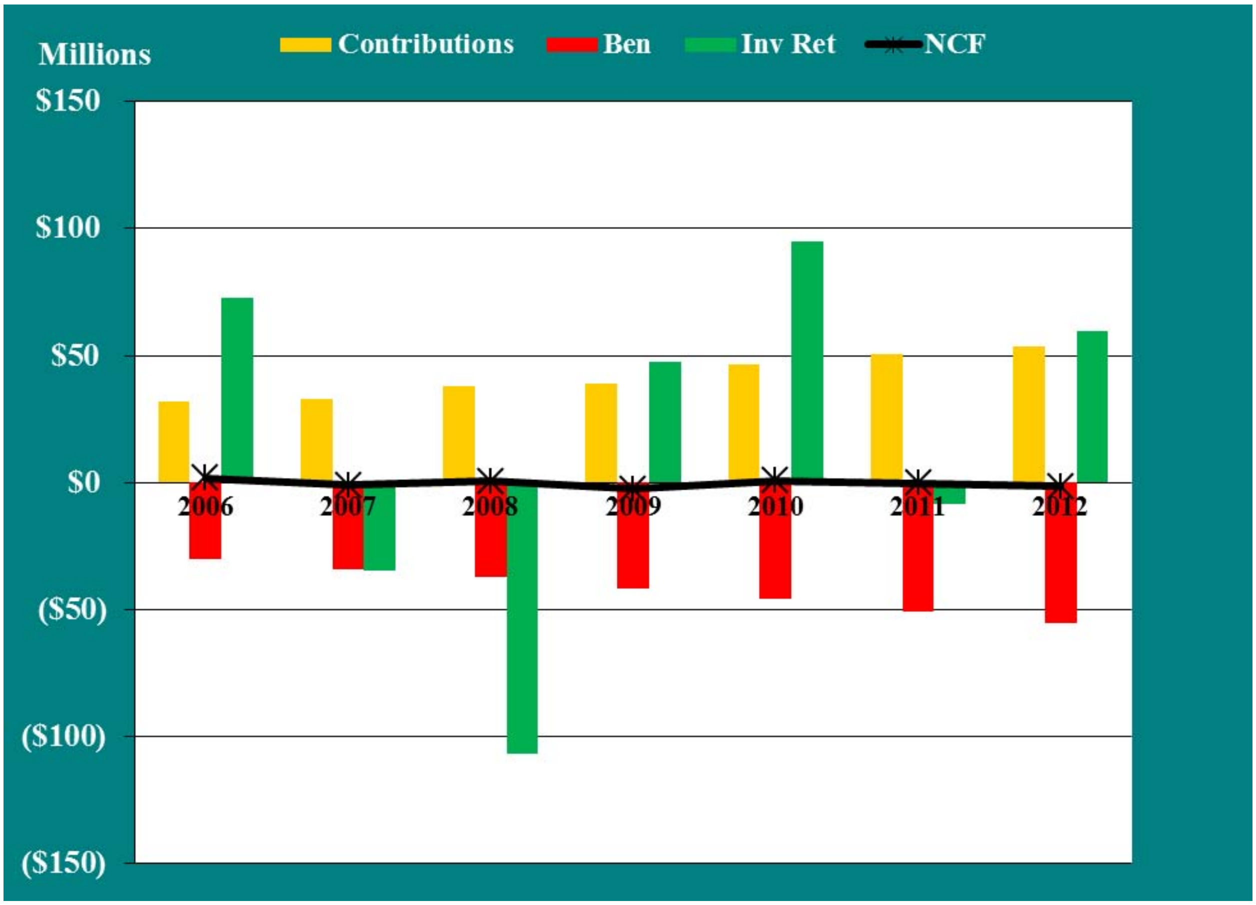
Participant Trends



The chart above provides a measure for Plan maturity by comparing the ratio of active members to inactive members (retirees and deferred members). These ratios are given at the top of each bar. The active-to-inactive ratio has decreased from 2007 to 2013, indicating the ongoing maturation of the Plan. While this is neither good nor bad in itself, it does have implications for the risk profile of the Plan, as discussed under Table I-7 earlier in this section.

Cash Flows

The chart below shows the Plan's cash flow (contribution less benefit payments). This is a critical measure, as it reflects the ability to have funds available to meet benefit payments without having to make difficult investment decisions, especially during volatile markets.



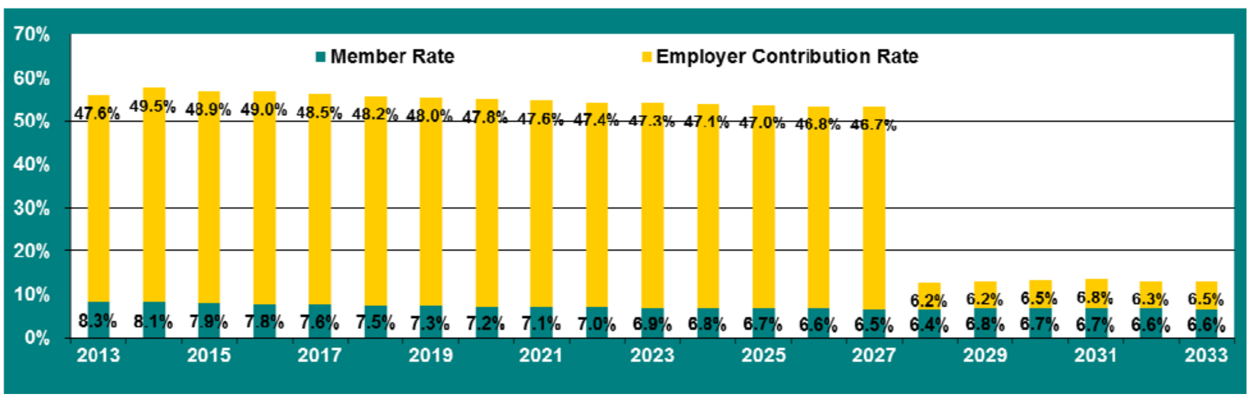
In the chart above, the contributions, benefit payments and investment returns are shown as bars and the Plan's net cash flow (NCF) is shown as a black line. The NCF, which is equal to contributions less benefit payments, has been close to zero for the entire period shown. A negative cash flow magnifies the losses during a market decline hindering the Plan in its ability to absorb market fluctuations. The implications of a plan in negative cash flow are that the impact of market fluctuations can be more severe: As assets are being depleted to pay benefits in down markets, there is less principal available to be reinvested during favorable return periods.

D. Future Expected Financial Trends

The analysis of projected financial trends is perhaps the most important component of this valuation. In this Section, we present our assessment of the implications of the June 30, 2013 valuation results in terms of benefit security (assets over liabilities). All the projections in this section are based on the current interest rate assumption of 7.75%. We have assumed future salary increases of 3.00% per year.

The following graph shows the expected employer and member contribution rates based on actually achieving the 7.75% assumption each year for the next 20 years, which is clearly impossible.

Projection of Employer and Member Contributions, 7.75% return each year



The graph above, which reflects the phase-in of the experience study cost impact over two years, shows employer contributions peaking at 49.5% in the June 30, 2014 valuation (for Fiscal Year 2016), decreasing slightly in the subsequent years, and then dropping off significantly in 2028 once the amortization of the unfunded actuarial liability is complete.

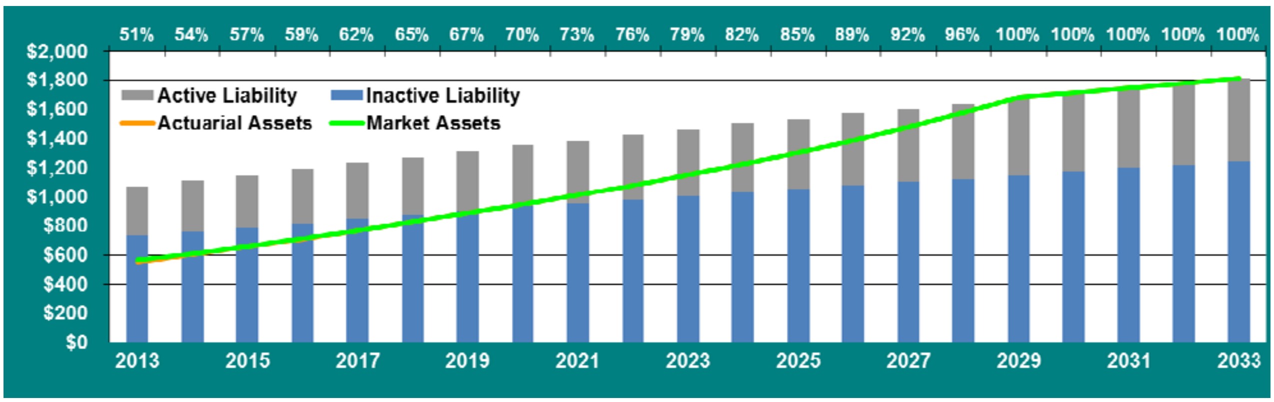
Note that the graph above does not forecast any actuarial gains or losses. Even relatively modest losses relative to the 7.75% assumed return could push the employer contribution rate over 50% in the next few years.

SECTION I
EXECUTIVE SUMMARY

Asset and Liability Projections:

The following graph shows the projection of assets and liabilities assuming that assets will earn the 7.75% assumption each year during the projection period.

Projection of Assets and Liabilities, 7.75% return each year



The graph shows that the projected funded status increases over the next 20 years to 100%, assuming the actuarial assumption is achieved. However, as above, it is the actual return on Plan assets that will determine the future funded status and contribution rates.

The liabilities have been divided into those associated with the active employees and the inactive members (members in pay status or eligible to receive a deferred benefit). If the Plan's asset level drops below the liabilities for the inactive members, it indicates that no Plan assets have been set aside to fund future benefits for current active participants.

The Plan's funding policy states that if the inactive funded ratio (the ratio of actuarial value of assets to the inactive liabilities) is less than 100% for three consecutive years, then in the third year, the amortization period may be decreased by the Board in order to achieve a projected inactive funded ratio of 100% within 8 years. In the June 30, 2013 valuation the inactive funded ratio was again below 100%; however, as can be seen from the graph, by 2021 the actuarial value of assets is projected to exceed the inactive actuarial liability (blue bar), so consideration of an adjustment is not required at this time.

SECTION II
ASSETS

Pension Plan assets play a key role in the financial operation of the Plan and in the decisions the Board may make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact benefit levels, employer contributions, and the ultimate security of participants' benefits.

In this section, we present detailed information on Plan assets including:

- **Disclosure** of Plan assets as of June 30, 2012 and June 30, 2013;
- Statement of the **changes** in market values during the year;
- Development of the **Actuarial Value of Assets**, and
- Historical **investment performance.**

In prior valuations, a distinction was made between actuarial assets and valuation assets, with the latter reduced for non-valuation reserves, such as the Contingency Reserve. Since there are no such reserves as of June 30, 2013, the two asset values are equal, and throughout this report we have used the term actuarial value of assets exclusively, except to show the history of returns on the valuation assets in Table II-4.

Disclosure

There are two types of asset values disclosed in the valuation, the market value of assets and the actuarial value of assets. The market value represents "snap-shot" or "cash-out" values which provide the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the marketplace. As a result, market values are usually not as suitable for long-range planning as are the actuarial value of assets which reflect smoothing of annual investment returns.

Table II-1 on the next page discloses and compares each asset value as of June 30, 2012 and June 30, 2013.

SECTION II
ASSETS

Table II-1
Statement of Assets at Market Value

Assets		**June 30, 2013**		**June 30, 2012**
Cash and Short-Term Investments:				
Cash invested with Merced County Treasurer	$	2,344,805	$	1,159,932
Cash invested with BNY Mellon		10,123,758		8,920,447
Other cash and cash equivalents with BNY Mellon		5,475,149		6,960,218
Securities lending collateral		8,859,257		8,147,698
Total Cash and Short-Term Investments	$	26,802,969	$	25,188,295
Receivables:				
Bond interest	$	1,386,081	$	1,401,923
Dividends		283,220		289,399
Contributions		2,227,202		2,072,500
Securities sold		1,047,035		2,237,982
Other		4,008		16,034
Total Receivables	$	4,947,546	$	6,017,838
Investments at Market Value:				
U.S. government and agency obligations	$	67,201,713	$	65,234,069
Domestic fixed income		82,944,970		81,128,495
Common stocks (domestic)		40,861,971		60,514,754
Common stocks (index funds)		142,050,349		83,161,093
Common stocks (international)		143,111,618		130,298,562
Real estate		39,258,498		36,004,799
Alternative investments		24,940,316		27,276,452
Total Investments at Market Value	$	540,369,435	$	483,618,224
Other Assets:				
Prepaid expense	$	7,863	$	2,614
Capital assets, net of accumulated depreciation of $71,835 and $70,509 respectively		1,614,596		1,242,758
Total Assets		573,742,409		516,069,729
Liabilities				
Accounts payable	$	558,755	$	498,795
Securities lending obligation		8,859,257		8,147,698
Securities purchased		1,279,439		2,257,264
Unclaimed contributions		24,885		33,373
Total Liabilities		10,722,336		10,937,130
Market Value of Assets	**$**	**563,020,073**	**$**	**505,132,599**

SECTION II
ASSETS

Changes in Market Value

The components of asset change are:

- Contributions (employer and employee)
- Benefit payments
- Expenses (investment and administrative)
- Investment income (realized and unrealized)

Table II-2 on the next page shows the components of change in the market value of assets during 2012 and 2013.

SECTION II
ASSETS

Table II-2
Changes in Market Values

Additions		**Fiscal Year ending June 30, 2013**		**Fiscal Year ending June 30, 2012**
Contributions:				
Employer	$	43,783,663	$	40,262,881
Plan members		9,927,749		10,416,301
Total Contributions	$	53,711,412	$	50,679,182
Investment Income/(Loss) from Investment Activities:				
Net appreciation/(depreciation) in fair value of investments	$	52,053,576	$	(16,743,755)
Investment income		11,324,520		11,746,737
Other revenue		44,398		15,783
Less investment expenses		(2,471,537)		(2,177,833)
Total Investment Income/(Loss) from Investment Activities	$	60,950,957	$	(7,159,068)
Securities Lending Income:				
Securities lending income	$	20,866	$	30,172
Securities lending rebates		111,576		89,620
Total Securities Lending Income	$	132,442	$	119,792
Total Investment Income/(Loss)	$	61,083,399	$	(7,039,276)
Total Additions		114,794,811		43,639,906
Deductions				
Benefits paid	$	54,257,547	$	49,839,653
Refunds of contributions		1,082,050		1,051,526
Administrative expense		1,496,338		1,180,083
Actuarial expense		71,402		63,312
401(h) distribution to County		0		733,590
Total Deductions		56,907,337		52,868,164
Net Increase/(Decrease)	$	57,887,474	$	(9,228,258)
Market Value of Assets, Beginning of Year		505,132,599		514,360,857
Market Value of Assets, End of Year	**$**	**563,020,073**	**$**	**505,132,599**

SECTION II
ASSETS

Actuarial Value of Assets (AVA)

The actuarial value of assets represents a "smoothed" value developed by the actuary to reduce the volatile results which could develop due to short-term fluctuations in the market value of assets. For this Plan, the actuarial value of assets each year is equal to 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 market return and the expected return on Market Value, and is recognized over a five-year period. However, in no event will the actuarial value of assets be less than 70% or more than 130% of market value on the valuation date. The following table shows the development of the actuarial asset value.

Table II-3
Development of Actuarial Value of Assets as of 6/30/2013
(in thousands)

	Item		Total
1.	Market Value as of 6/30/2012	$	505,133
2.	Non-Investment Cash Flow for 2012-2013		(1,628)
3.	Expected Return in 2012-2013		39,085
4.	Expected Market Value as of 6/30/2013: (1 + 2 + 3)	$	542,589
5.	Actual Return in 2012-2013		59,516
6.	Actual Return Above Expected in 2012-2013: (5 - 3)		20,431
7.	Market Value as of 6/30/2013	$	563,020
8.	Deferred Recognition of Returns Above Expected		
	a. 2012-2013 (80% of 6.)	$	16,345
	b. 2011-2012 (60% of -$48,108,996)		(28,865)
	c. 2010-2011 (40% of $62,180,059)		24,872
	d. 2009-2010 (20% of $17,024,620)		3,405
	e. Total: (8a + 8b + 8c + 8d)	$	15,756
9.	Preliminary Actuarial Value of Assets (7 - 8e)	$	547,264
10.	Corridor Limit		
	a. 70% of Market Value	$	394,114
	b. 130% of Market Value		731,926
11.	Actuarial Value after Corridor as of 6/30/2013	$	547,264
12.	Special (Non Valuation) Reserves		
	a. Contingency Reserve	$	0
	b. Total Special Reserves		0
13.	Pension Reserves at Actuarial Value (Valuation Assets): (11 - 12b)	$	547,264

SECTION II
ASSETS

Investment Performance

The following table shows the historical annual asset returns on a market value and actuarial value basis, as well in the increase in the Consumer Price Index (CPI) since 1995.

Table II-4
Net Return on Assets vs. Increase in Consumer Price Index

Year Ended June 30	Net Return at Market Value	Net Return at Actuarial Value	Net Return at Valuation Assets	Increase in Consumer Price Index*
1995		4.4%		3.0%
1996	9.8%	9.8%		2.8%
1997	16.7%	11.6%		2.3%
1998	13.9%	12.7%		1.7%
1999	10.0%	12.3%		2.0%
2000	9.1%	11.5%		3.7%
2001	-3.6%	8.6%		3.2%
2002	-5.6%	4.9%		1.1%
2003	4.6%	3.3%		2.1%
2004	12.6%	3.3%		3.3%
2005	8.7%	2.5%		2.5%
2006	7.6%	4.7%		4.3%
2007	16.3%	8.9%		2.7%
2008	-6.7%	1.2%		5.0%
2009	-22.1%	-4.9%	2.7%**	-1.4%
2010	12.7%	7.0%	6.0%	1.1%
2011	22.6%	2.6%	2.7%	3.6%
2012	-1.6%	0.6%	1.0%	1.7%
2013	11.8%	3.8%	3.8%	1.8%
15-Year Compound Average	**4.5%**	**4.6%**	**N/A**	**2.4%**
10-Year Compound Average	**5.4%**	**2.9%**	**N/A**	**2.4%**
5-Year Compound Average	**3.4%**	**1.7%**	**3.2%**	**1.3%**

SECTION III
LIABILITIES

In this section, we present detailed information on Plan liabilities including:

- **Disclosure** of Plan liabilities at June 30, 2012 and June 30, 2013, and
- Plan liabilities by **tier** as of June 30, 2013.

Disclosure

Several types of liabilities are calculated and presented in this report. Each type is distinguished by the people ultimately using the figures and the purpose for which they are using them.

- **Present Value of Future Benefits:** Used for measuring all future Plan obligations, represents the amount of money needed today to fully pay off all benefits of the Plan both earned as of the valuation date and those to be earned in the future by current plan participants, under the current Plan provisions.

- **Actuarial Liability:** Used for funding calculations and GASB disclosures, this liability is calculated taking the Present Value of Future Benefits and subtracting the present value of future Member Contributions and future Employer Normal Costs under an acceptable actuarial funding method. The method used for this Plan is called the **Entry Age Normal** (EAN) funding method.

- **Unfunded Actuarial Liability:** The excess of the Actuarial Liability over the Actuarial Value of Assets.

Table III-1 on the following page discloses each of these liabilities for the current and prior valuations. With respect to each disclosure, a subtraction of the appropriate value of Plan assets yields, for each respective type, a **net surplus** or an **unfunded actuarial liability**.

SECTION III
LIABILITIES

Table III-1
Present Value of Future Benefits and Actuarial Liability
(in thousands)

Item	June 30, 2013	June 30, 2012
Present Value of Future Benefits		
Actives	$ 469,162	$ 469,868
Deferred Members	37,603	35,169
Retirees	597,716	545,162
Disabled	57,559	53,701
Beneficiaries	38,862	33,455
Total MCERA	$ 1,200,902	$ 1,137,355
Actuarial Liability		
Total Present Value of Benefits	$ 1,200,902	$ 1,137,355
Present Value of Future Normal Costs		
Employer Portion	71,248	91,835
Employee Portion	64,356	69,913
Actuarial Liability	$ 1,065,298	$ 975,608
Actuarial Value of Assets	$ 547,264	$ 528,728
Unfunded Actuarial Liability/(Surplus)	$ 518,034	$ 446,880

SECTION III
LIABILITIES

Table III-2 discloses the liabilities of the Plan as of June 30, 2013, split by tier.

Table III-2
Liabilities by Group as of June 30, 2013
(in thousands)

	General					Safety					All
Present Value of Future Benefits	**Tier 1**	**Tier 2**	**Tier 3**	**Tier 4**	**Total**	**Tier 1**	**Tier 2**	**Tier 3**	**Tier 4**	**Total**	**Total**
Actives	$ 125,082	$ 242,166	$ 2,074	$ 2,401	$ 371,722	$ 37,307	$ 59,154	$ 198	$ 781	$ 97,440	$ 469,162
Deferred Members	15,023	15,668	2	2	30,694	4,004	2,902	2	-	6,909	37,603
Retirees	476,581	26,762	-	-	503,343	92,149	2,224	-	-	94,373	597,716
Disabled	18,199	2,613	-	-	20,813	33,514	3,232	-	-	36,746	57,559
Beneficiaries	25,669	1,194	-	-	26,864	11,894	104	-	-	11,998	38,862
Total	**$ 660,554**	**$ 288,404**	**$ 2,076**	**$ 2,402**	**$ 953,436**	**$ 178,869**	**$ 67,615**	**$ 200**	**$ 781**	**$ 247,466**	**$ 1,200,902**
Actuarial Liability											
Actives	$ 112,824	$ 156,764	$ 148	$ 21	$ 269,757	$ 32,858	$ 30,901	$ 7	$ 36	$ 63,801	$ 333,558
Deferred Members	15,023	15,668	2	2	30,694	4,004	2,902	2	-	6,909	37,603
Retirees	476,581	26,762	-	-	503,343	92,149	2,224	-	-	94,373	597,716
Disabled	18,199	2,613	-	-	20,813	33,514	3,232	-	-	36,746	57,559
Beneficiaries	25,669	1,194	-	-	26,864	11,894	104	-	-	11,998	38,862
Total	**$ 648,297**	**$ 203,001**	**$ 150**	**$ 22**	**$ 851,471**	**$ 174,420**	**$ 39,362**	**$ 9**	**$ 36**	**$ 213,827**	**$ 1,065,298**

SECTION IV
CONTRIBUTIONS

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what level (if any) of contributions is needed to properly maintain the funding status of the Plan. Typically, the actuarial process will use a funding technique that will result in a pattern of contributions that are both stable and predictable.

For this Plan, the actuarial funding method used to determine the normal cost and the unfunded actuarial liability is the **Entry Age Normal (EAN)** cost method. There are three primary components to the total contribution: the **normal cost rate** (employee and employer), the **unfunded actuarial liability rate** (UAL rate), and the **administrative expense rate**.

The normal cost rate is determined in the following steps. First, an individual normal cost rate is determined by taking the value, as of entry age into the Plan, of each member's projected future benefits. This value is then divided by the value, also at entry age, of the member's expected future salary producing a normal cost rate that should remain relatively constant over a member's career. The total normal cost is adjusted with interest to the middle of the year, to reflect the fact that the normal cost contributions are paid throughout the year as member payroll payments are made. Finally, the total normal cost rate is reduced by the member contribution rate to produce the employer normal cost rate.

The unfunded actuarial liability is the difference between the EAN actuarial liability and the actuarial value of assets. The UAL rate is based on level percentage of payroll amortization over a closed period (16 years as of June 30, 2013).

The administrative expenses are assumed to be $1.25 million per year, and we have recommended they be allocated to the employer and employees based on their respective share of the overall contributions.

The tables below present the employer contribution rates for the Plan for this valuation.

Table IV-1
Development of the Net Employer Contribution Rate as of June 30, 2013 for FYE 2015*

	June 30, 2013	June 30, 2012
1. Total Normal Cost Rate	17.58%	18.92%
2. Member Contribution Rate**	8.18%	8.87%
3. Employer Normal Cost Rate (1-2)	9.40%	10.04%
4. UAL Amortization Rate	39.77%	34.06%
5. Administrative Expense Rate	0.92%	N/A
6. Net Employer Contribution Rate (3+4+5)	50.09%	44.10%

* Prior to reflecting phase-in of experience study impact over two years.

** Not including member's share of administrative expenses

SECTION IV
CONTRIBUTIONS

Table IV-2
FYE 2015 Net Employer Contribution Rate by Group

	General Tier 1	General Tier 2	General Tier 3	General Tier 4	General Total	Safety Tier 1	Safety Tier 2	Safety Tier 3	Safety Tier 4	Safety Total	All Total
County											
1. Total Normal Cost Rate	20.15%	16.00%	10.64%	10.13%	16.33%	31.28%	22.05%	19.94%	17.39%	23.61%	17.58%
2. Member Contribution Rate*	9.91%	7.92%	5.35%	5.07%	8.08%	11.41%	8.02%	8.75%	8.70%	8.66%	8.18%
3. Employer Normal Cost Rate (1-2)	10.24%	8.08%	5.29%	5.06%	8.25%	19.87%	14.03%	11.19%	8.69%	14.95%	9.40%
4. UAL Amortization Rate	38.50%	38.50%	38.50%	38.50%	38.50%	45.98%	45.98%	45.98%	45.98%	45.98%	39.77%
5. Administrative Expense Rate	0.91%	0.87%	0.82%	0.81%	0.87%	1.23%	1.12%	1.07%	1.02%	1.14%	0.92%
6. Net Employer Contribution Rate (3+4+5)	**49.65%**	**47.45%**	**44.61%**	**44.37%**	**47.62%**	**67.08%**	**61.13%**	**58.24%**	**55.69%**	**62.07%**	**50.09%**
7. Impact of Assumption Change Phase-In	2.45%	2.45%	2.45%	2.45%	2.45%	2.45%	2.45%	2.45%	2.45%	2.45%	2.45%
8. Employer Contribution Rate with Phase-In (6-7)	**47.20%**	**45.00%**	**42.16%**	**41.92%**	**45.17%**	**64.63%**	**58.68%**	**55.79%**	**53.24%**	**59.62%**	**47.64%**
Cemetery District											
1. Total Normal Cost Rate		12.64%									
2. Member Contribution Rate*		7.05%									
3. Employer Normal Cost Rate (1-2)		5.59%									
4. UAL Amortization Rate		38.50%									
5. Administrative Expense Rate		0.82%									
6. Net Employer Contribution Rate (3+4+5)		**44.91%**									
7. Impact of Assumption Change Phase-In		2.45%									
8. Employer Contribution Rate with Phase-In (6-7)		**42.46%**									

* Not including member's share of administrative expenses

Table IV-3
Development of UAL Amortization Rates for FYE 2015

	General	Safety	Total
1. Unfunded Actuarial Liability (UAL)	$ 416,410,825	$ 101,623,500	$ 518,034,325
2. Amortization Factor	11.2305	11.2305	11.2305
3. UAL Amortization (1 divided by 2)	$ 37,078,506	$ 9,048,870	$ 46,127,376
4. Total Payroll	96,301,698	19,681,488	115,983,186
5. UAL Amortization Rate (3 divided by 4)	38.50%	45.98%	39.77%

SECTION V
ACCOUNTING STATEMENT INFORMATION

Statement No. 25 of the Governmental Accounting Standards Board (GASB 25) establishes standards for disclosure of pension information by public employee retirement systems (PERS) and governmental employers in notes to financial statements and supplementary information.

The GASB adopted Statement Nos. 67 and 68, which replace GASB Statement Nos. 25 and 27. GASB 67 is effective for periods beginning after June 15, 2013 (first effective for the fiscal year ending June 30, 2014 for the Plan) and GASB 68 is effective for fiscal years beginning after June 15, 2014 (first effective for the fiscal year ending June 30, 2015 for the Employer). The following is a brief summary of some of these changes:

- The liabilities would need to be based on the entry age normal cost method (which is the method the Plan is currently using), and the discount rate assumption might need to be reduced if projected contributions plus assets are not able to cover projected pension benefits (unlikely for MCERA, given the Plan's current funding policies).
- The market value of assets would be compared to the liabilities, instead of the smoothed actuarial value of assets, to determine the unfunded liability.
- Unfunded liabilities would be reported directly on the employer's balance sheet.
- The Annual Required Contribution (ARC) would be replaced with Pension Expense which equals: Normal Cost + Interest Cost - Expected Asset Earnings + Amortization of changes in total pension liability + smoothing of asset returns.
- Amortization periods of changes in total pension liability would vary depending upon the basis for the gain or loss. These periods would be immediate for plan changes and expected working lifetime of both active and inactive members for other total pension liability changes.

In accordance with GASB 25, we have prepared the following disclosures:

Schedule of Funding Progress

The schedule of funding progress compares the assets used for funding purposes to the comparable liabilities to determine how well the Plan is funded and how this status has changed over the past several years.

The GASB 25 Actuarial Accrued Liability is the same as the Actuarial Liability calculated for funding purposes. The GASB 25 liability is compared to the actuarial value of assets to determine the funded ratio.

Schedule of Employer Contributions

The schedule of employer contributions shows whether the employer has made contributions that are consistent with an actuarial method of funding the benefits to be provided consistent with the parameters established by GASB 25.

SECTION V
ACCOUNTING STATEMENT INFORMATION

We have also provided a *Note to Required Supplementary Information* for the financial statements.

This Section also shows two schedules recommended by the Government Finance Officers' Association:

Analysis of Financial Experience

This schedule shows the history of gains or losses arising from investment and liability sources, as well as non-recurring items.

Solvency Test

The solvency test shows the portion of actuarial liabilities for active member contributions, inactive members, and the employer financed portion of the active members that are covered by the actuarial value of assets.

The Actuarial Accrued Liability under GASB 25 is determined assuming that the Plan is ongoing and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions. Liabilities are discounted at the assumed valuation interest rate of 7.75%.

Table V-1
GASB No. 25
(in thousands)

Item	June 30, 2013	June 30, 2012	% Change
GASB No. 25 Basis			
1. Actuarial Liabilities			
a. Members Currently Receiving Payments	$ 694,137	$ 632,319	9.8%
b. Deferred Members	37,603	35,169	6.9%
c. Active Members	333,558	308,120	8.3%
d. Total Actuarial Liability	$ 1,065,298	$ 975,608	9.2%
2. Actuarial Value of Assets	$ 547,264	$ 528,728	3.5%
3. Unfunded Actuarial Liability	$ 518,034	$ 446,880	15.9%
4. Ratio of Actuarial Value of Assets to Actuarial Liability (2)/(1)(e)	51.37%	54.19%	-2.8%

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-2
ANALYSIS OF FINANCIAL EXPERIENCE
Gain (or Loss) in Actuarial Liability During Years Ended June 30
Resulting from Differences Between Assumed Experience
and Actual Experience

(in thousands)

	Gain (or Loss) for Year Ending June 30					
Type of Activity	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**
Investment Income and Expenses	$ (20,749)	$ (40,054)	$ (30,955)	$ (16,151)	$ (66,987)	$ (48,840)
Combined Liability Experience	(4,199)	(11,401)	13,824	(8,100)	(23,892)	14,186
Gain (or Loss) During Year from Financial Experience	$ (24,948)	$ (51,455)	$ (17,131)	$ (24,251)	$ (90,879)	$ (34,654)
Non-Recurring Gain (or Loss) Items	(49,294)	16,069	12,918	(63,410)	-	-
Composite Gain (or Loss) During Year	$ (74,242)	$ (35,386)	$ (4,213)	$ (87,661)	$ (90,879)	$ (34,654)

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-3
SOLVENCY TEST
(dollars in thousands)

Valuation Date June 30,	(A) Active Member Contributions	(B) Retirees And Beneficiaries	(C) Remaining Active Members' Liabilities[1]	Reported Assets[2]	Portion of Actuarial Liabilities Covered by Reported Assets (A)	(B)	(C)
2013 [3]	$ 73,311	$ 694,137	$ 297,850	$ 547,264	100%	68%	0%
2012 [4]	66,407	632,319	276,882	528,728	100%	73%	0%
2011 [5]	65,723	558,483	309,711	523,980	100%	82%	0%
2010 [6]	64,917	532,695	333,220	509,561	100%	83%	0%
2009	65,126	448,231	296,324	483,145	100%	93%	0%
2008	66,865	370,764	254,623	488,347	100%	100%	20%

[1] Includes deferred members

[2] Actuarial Value of Assets

[3] Reflects revised economic and demographic assumptions

[4] Reflects revised demographic assumptions

[5] Reflects revised EAN methodology and economic assumptions

[6] Reflects revised economic and demographic assumptions

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-4
Schedule of Funding Progress
(dollars in thousands)

Actuarial Valuation Date	Actuarial Value of Assets (AVA)	Actuarial Liability (AL)	Unfunded AL (UAL)	Funded Ratio	Covered Payroll	UAL as a % of Covered Payroll
June 30, 2013	$ 547,264	$ 1,065,298	$ 518,034	51.4%	$ 115,983	446.6%
June 30, 2012	528,728	975,608	446,880	54.2%	106,581	419.3%
June 30, 2011	523,980	933,917	409,936	56.1%	111,342	368.2%
June 30, 2010	509,561	930,832	421,271	54.7%	115,384	365.1%
June 30, 2009	483,145	809,681	326,536	59.7%	114,984	284.0%
June 30, 2008	488,347	692,252	203,906	70.5%	109,253	186.6%
June 30, 2007	480,517	652,482	171,965	73.6%	100,589	171.0%
June 30, 2006	439,309	619,644	180,335	71.1%	101,137	178.3%
June 30, 2005	428,813	589,794	160,891	72.7%	97,507	165.1%
June 30, 2004	430,054	531,938	101,884	80.8%	89,516	113.8%

Table V-5
Schedule of Employer Contributions
(Dollars in Thousands)

Year Ended June, 30	Annual Required Contribution	Actual Contribution	Percentage Contributed
2013	$ 43,784	$ 43,784	100.0%
2012	40,263	40,263	100.0%
2011	36,662	36,662	100.0%
2010	29,137	29,137	100.0%
2009	27,883	27,883	100.0%
2008	23,751	23,751	100.0%
2007	23,232	23,232	100.0%
2006	14,750	14,750	100.0%
2005	8,931	8,931	100.0%
2004	7,269	7,269	100.0%

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-6
NOTES TO REQUIRED SUPPLEMENTARY INFORMATION

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows.

Valuation date	June 30, 2013
Actuarial funding method	Entry Age Normal
Amortization method	Level percentage of payroll closed
Remaining amortization period	16 years from June 30, 2013
Asset valuation method	Market gains or losses smoothed over five years; 70%/130% corridor around market value
Actuarial assumptions:	
Investment rate of return	7.75%
Projected salary increases	3.00%, plus service-based rates
Assumed inflation rate	3.00%
Cost-of-living adjustments	For Tier 1, 100% of CPI to 3% annually with banking, assumed to be 2.60% annually

APPENDIX A
MEMBERSHIP INFORMATION

Summary of Participant Data (By Group) as of June 30, 2013

	General	Safety	Total
Active Participants			
Number	1,604	295	1,899
Average Age	44.88	38.28	43.86
Average Service	10.44	10.02	10.38
Average Pay	$57,193	$63,387	$58,155
Service Retired			
Number	1,411	181	1,592
Average Age	69.28	64.84	68.78
Average Annual Total Benefit	$28,847	$38,185	$29,909
Beneficiaries			
Number	225	53	278
Average Age	74.70	67.68	73.36
Average Annual Total Benefit	$13,122	$22,623	$14,933
Duty Disabled			
Number	52	81	133
Average Age	68.71	61.01	64.02
Average Annual Total Benefit	$22,369	$30,165	$27,117
Non-Duty Disabled			
Number	45	2	47
Average Age	68.45	55.19	67.89
Average Annual Total Benefit	$14,105	$20,490	$14,377
Total Receiving Benefits			
Number	1,733	317	2,050
Average Age	69.95	64.27	69.07
Average Annual Total Benefit	$26,228	$33,422	$27,340
Terminated Vested			
Number	205	18	223
Average Age	52.06	42.27	51.27
Average Service	9.80	8.76	9.72
Transfers			
Number	213	64	277
Average Age	49.59	42.28	47.90
Average Service	16.67	15.88	16.49
Funds on Account			
Number	104	14	118
Average Age	44.61	33.02	43.24
Average Service	1.43	1.16	1.40
Total Deferred			
Number	522	96	618
Average Age	49.57	40.93	48.22
Average Service	10.94	12.40	11.16

APPENDIX A
MEMBERSHIP INFORMATION

Summary of Participant Data (General) as of June 30, 2013

	General Tier 1	General Tier 2	General Tier 3	General Tier 4	General Total
Active Participants					
Number	198	1,298	42	66	1,604
Average Age	53.42	44.46	34.39	34.26	44.88
Average Service	22.87	9.35	1.40	0.28	10.44
Average Pay	$73,282	$55,748	$47,830	$43,294	$57,193
Service Retired					
Number	1,248	163	N/A	N/A	1,411
Average Age	69.80	65.30	N/A	N/A	69.28
Average Annual Total Benefit	$30,554	$15,776	N/A	N/A	$28,847
Beneficiaries					
Number	211	14	N/A	N/A	225
Average Age	75.99	55.26	N/A	N/A	74.70
Average Annual Total Benefit	$13,479	$7,738	N/A	N/A	$13,122
Duty Disabled					
Number	44	8	N/A	N/A	52
Average Age	70.48	58.96	N/A	N/A	68.71
Average Annual Total Benefit	$22,477	$21,770	N/A	N/A	$22,369
Non-Duty Disabled					
Number	38	7	N/A	N/A	45
Average Age	69.50	62.75	N/A	N/A	68.45
Average Annual Total Benefit	$14,965	$9,436	N/A	N/A	$14,105
Total Receiving Benefits					
Number	1,541	192	N/A	N/A	1,733
Average Age	70.66	64.21	N/A	N/A	69.95
Average Annual Total Benefit	$27,601	$15,208	N/A	N/A	$26,228
Terminated Vested					
Number	93	112	N/A	N/A	205
Average Age	55.93	48.84	N/A	N/A	52.06
Average Service	10.65	9.09	N/A	N/A	9.80
Transfers					
Number	71	142	N/A	N/A	213
Average Age	54.84	46.96	N/A	N/A	49.59
Average Service	25.49	12.26	N/A	N/A	16.67
Funds on Account					
Number	7	92	2	3	104
Average Age	57.59	44.08	29.65	40.67	44.61
Average Service	1.08	1.52	0.46	0.24	1.43
Total Deferred					
Number	171	346	2	3	522
Average Age	55.55	46.80	29.65	40.67	49.57
Average Service	16.42	8.38	0.46	0.24	10.94

APPENDIX A
MEMBERSHIP INFORMATION

Summary of Participant Data (Safety) as of June 30, 2013

	Safety Tier 1	Safety Tier 2	Safety Tier 3	Safety Tier 4	Safety Total
Active Participants					
Number	44	239	2	10	295
Average Age	48.38	36.92	32.11	27.40	38.28
Average Service	21.05	8.46	0.31	0.54	10.02
Average Pay	$81,659	$60,890	$52,333	$44,868	$63,387
Service Retired					
Number	172	9	N/A	N/A	181
Average Age	65.09	60.08	N/A	N/A	64.84
Average Annual Total Benefit	$39,060	$21,460	N/A	N/A	$38,185
Beneficiaries					
Number	52	1	N/A	N/A	53
Average Age	68.17	42.34	N/A	N/A	67.68
Average Annual Total Benefit	$22,899	$8,311	N/A	N/A	$22,623
Duty Disabled					
Number	70	11	N/A	N/A	81
Average Age	62.54	51.27	N/A	N/A	61.01
Average Annual Total Benefit	$31,136	$23,986	N/A	N/A	$30,165
Non-Duty Disabled					
Number	2	N/A	N/A	N/A	2
Average Age	55.19	N/A	N/A	N/A	55.19
Average Annual Total Benefit	$20,490	N/A	N/A	N/A	$20,490
Total Receiving Benefits					
Number	296	21	N/A	N/A	317
Average Age	64.96	54.62	N/A	N/A	64.27
Average Annual Total Benefit	$34,221	$22,157	N/A	N/A	$33,422
Terminated Vested					
Number	4	14	N/A	N/A	18
Average Age	54.10	38.89	N/A	N/A	42.27
Average Service	12.30	7.75	N/A	N/A	8.76
Transfers					
Number	21	43	N/A	N/A	64
Average Age	50.60	38.21	N/A	N/A	42.28
Average Service	24.46	11.69	N/A	N/A	15.88
Funds on Account					
Number	N/A	12	2	N/A	14
Average Age	N/A	34.42	24.60	N/A	33.02
Average Service	N/A	1.28	0.39	N/A	1.16
Total Deferred					
Number	25	69	2	N/A	96
Average Age	51.16	37.69	24.60	N/A	40.93
Average Service	22.52	9.08	0.39	N/A	12.40

APPENDIX A
MEMBERSHIP INFORMATION

Change in Plan Membership: Total

	Actives	Transfers	Non-Vested Terminations	Vested Terminations	Non - Duty Disabled	Duty Disabled	Retired	Beneficiaries	Total
July 1, 2012	**1,901**	**272**	**110**	**212**	**48**	**134**	**1,544**	**270**	**4,491**
New Entrants	162	0	0	0	0	0	0	0	162
Rehires	10	(1)	(3)	(3)	0	0	0	0	3
Duty Disabilities	(3)	0	0	0	0	3	0	0	0
Non-Duty Disabilities	(1)	0	0	0	1	0	0	0	0
Retirements	(58)	(12)	0	(10)	0	0	80	0	0
Dual Service Retirements	0	0	0	0	0	0	0	0	0
Vested Terminations	(27)	(3)	0	30	0	0	0	0	0
Died, With Beneficiaries' Benefit Payable	0	0	0	0	(2)	(2)	(13)	17	0
Died, Without Beneficiary, and Other Terminations	(25)	(1)	21	0	(1)	(1)	(19)	0	(26)
Transfers	(17)	22	(1)	0	0	0	0	0	4
Beneficiary Deaths	0	0	0	0	0	0	0	(11)	(11)
Domestic Relations Orders	0	0	0	0	0	0	0	2	2
Withdrawals Paid	(43)	(2)	(9)	(6)	0	0	0	0	(60)
Data Corrections	0	2	0	0	1	(1)	0	0	2
July 1, 2013	**1,899**	**277**	**118**	**223**	**47**	**133**	**1,592**	**278**	**4,567**

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MEMBERSHIP INFORMATION

Change in Plan Membership: General

	Actives	Transfers	Non-Vested Terminations	Vested Terminations	Non - Duty Disabled	Duty Disabled	Retired	Beneficiaries	Total
July 1, 2012	**1,596**	**210**	**99**	**196**	**46**	**53**	**1,376**	**217**	**3,793**
New Entrants	146	0	0	0	0	0	0	0	146
Rehires	10	(1)	(3)	(3)	0	0	0	0	3
Duty Disabilities	(2)	0	0	0	0	2	0	0	0
Non-Duty Disabilities	(1)	0	0	0	1	0	0	0	0
Retirements	(46)	(10)	0	(9)	0	0	65	0	0
Dual Service Retirements	0	0	0	0	0	0	0	0	0
Vested Terminations	(24)	(3)	0	27	0	0	0	0	0
Died, With Beneficiaries' Benefit Payable	0	0	0	0	(2)	(1)	(11)	14	0
Died, Without Beneficiary, and Other Terminations	(21)	(1)	17	0	(1)	(1)	(19)	0	(26)
Transfers	(14)	18	(1)	0	0	0	0	0	3
Beneficiary Deaths	0	0	0	0	0	0	0	(9)	(9)
Domestic Relations Orders	0	0	0	0	0	0	0	2	2
Withdrawals Paid	(40)	(2)	(8)	(6)	0	0	0	0	(56)
Data Corrections	0	2	0	0	1	(1)	0	1	3
July 1, 2013	**1,604**	**213**	**104**	**205**	**45**	**52**	**1,411**	**225**	**3,859**

APPENDIX A
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Change in Plan Membership: Safety

	Actives	Transfers	Non-Vested Terminations	Vested Terminations	Non - Duty Disabled	Duty Disabled	Retired	Beneficiaries	Total
July 1, 2012	**305**	**62**	**11**	**16**	**2**	**81**	**168**	**53**	**698**
New Entrants	16	0	0	0	0	0	0	0	16
Rehires	0	0	0	0	0	0	0	0	0
Duty Disabilities	(1)	0	0	0	0	1	0	0	0
Non-Duty Disabilities	0	0	0	0	0	0	0	0	0
Retirements	(12)	(2)	0	(1)	0	0	15	0	0
Dual Service Retirements	0	0	0	0	0	0	0	0	0
Vested Terminations	(3)	0	0	3	0	0	0	0	0
Died, With Beneficiaries' Benefit Payable	0	0	0	0	0	(1)	(2)	3	0
Died, Without Beneficiary, and Other Terminations	(4)	0	4	0	0	0	0	0	0
Transfers	(3)	4	0	0	0	0	0	0	1
Beneficiary Deaths	0	0	0	0	0	0	0	(2)	(2)
Domestic Relations Orders	0	0	0	0	0	0	0	0	0
Withdrawals Paid	(3)	0	(1)	0	0	0	0	0	(4)
Data Corrections	0	0	0	0	0	0	0	(1)	(1)
July 1, 2013	**295**	**64**	**14**	**18**	**2**	**81**	**181**	**53**	**708**

APPENDIX A
MEMBERSHIP INFORMATION

Active Member Data by Plan

Valuation at Year End	Plan Type	Member Count	Annual Payroll	Average Annual Salary	Average Salary Increase
2004	General	1,824	$77,023,000	$42,228	5.89%
	Safety	268	$12,493,000	$46,616	5.15%
	Total	**2,092**	**$89,516,000**	**$42,790**	**5.88%**
2005	General	1,892	$83,166,000	$43,957	4.09%
	Safety	295	$14,341,000	$48,614	4.29%
	Total	**2,187**	**$97,507,000**	**$44,585**	**4.19%**
2006	General	1,919	$85,864,000	$44,744	1.79%
	Safety	310	$15,274,000	$49,271	1.35%
	Total	**2,229**	**$101,138,000**	**$45,374**	**1.77%**
2007	General	1,917	$85,308,000	$44,501	-0.54%
	Safety	318	$15,281,000	$48,053	-2.47%
	Total	**2,235**	**$100,589,000**	**$45,006**	**-0.81%**
2008	General	1,921	$92,116,000	$47,952	7.75%
	Safety	339	$17,137,000	$50,552	5.20%
	Total	**2,260**	**$109,253,000**	**$48,342**	**7.41%**
2009	General	1,848	$99,266,589	$53,716	12.02%
	Safety	342	$19,363,697	$56,619	12.00%
	Total	**2,190**	**$118,630,286**	**$54,169**	**12.05%**
2010	General	1,708	$94,915,436	$55,571	3.45%
	Safety	330	$19,692,515	$59,674	5.40%
	Total	**2,038**	**$114,607,951**	**$56,236**	**3.82%**
2011	General	1,659	$94,976,978	$57,250	3.02%
	Safety	321	$19,768,859	$61,585	3.20%
	Total	**1,980**	**$114,745,837**	**$57,952**	**3.05%**
2012	General	1,596	$90,706,280	$56,834	-0.73%
	Safety	305	$19,145,091	$62,771	1.93%
	Total	**1,901**	**$109,851,371**	**$57,786**	**-0.29%**
2013	General	1,604	$91,737,348	$57,193	0.63%
	Safety	295	$18,699,145	$63,387	0.98%
	Total	**1,899**	**$110,436,493**	**$58,155**	**0.64%**

Payroll figures represent active members' annualized pay rates on June 30.

APPENDIX A
MEMBERSHIP INFORMATION

Retirants and Beneficiaries Added to and Removed from Retiree Payroll

Fiscal Year	Beginning of Year	Added During Year	Allowances Added	Removed During Year	Allowances Removed	End of Year	Annual Retirement Payroll (in 000s)	Average Allowance Percentage Increase	Average Annual Allowance
2003	1,295	N/A	N/A	N/A	N/A	1,348	20,369,000	15.25%	15,111
2004	1,348	124	2,807,000	31	396,000	1,441	22,780,000	11.84%	15,808
2005	1,441	109	2,445,000	49	450,000	1,501	24,867,000	9.16%	16,836
2006	1,477	98	2,007,000	53	785,000	1,522	27,297,000	9.77%	17,947
2007	1,521	136	4,419,000	38	560,000	1,619	31,823,000	16.58%	19,644
2008	1,620	105	2,757,000	67	902,000	1,658	34,603,000	8.74%	20,870
2009	1,658	105	3,402,523	52	812,828	1,711	37,747,525	9.09%	22,062
2010	1,711	171	6,097,956	56	981,465	1,826	43,653,374	15.65%	23,907
2011	1,826	103	2,627,234	44	781,283	1,885	46,116,686	5.64%	24,465
2012	1,885	175	6,484,652	64	960,185	1,996	52,887,845	14.68%	26,497
2013	1,996	103	3,028,612	49	855,980	2,050	56,048,022	5.98%	27,340

APPENDIX A
MEMBERSHIP INFORMATION

GENERAL

Count

Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
	Service										
Under 20	0	0	0	0	0	0	0	0	0	0	0
20 to 25	14	9	1	0	0	0	0	0	0	0	24
25 to 29	35	50	24	1	0	0	0	0	0	0	110
30 to 34	28	61	116	33	1	0	0	0	0	0	239
35 to 39	17	34	87	61	21	0	0	0	0	0	220
40 to 44	13	33	61	59	33	11	0	0	0	0	210
45 to 49	8	15	47	69	36	20	11	0	0	0	206
50 to 54	9	19	48	84	42	37	24	4	2	0	269
55 to 59	5	9	51	59	45	23	12	7	0	0	211
60 to 64	1	8	15	31	15	11	4	2	1	0	88
65 to 69	0	3	6	7	6	2	0	0	0	0	24
70 & up	0	0	0	3	0	0	0	0	0	0	3
Total	130	241	456	407	199	104	51	13	3	0	1,604

Compensation

Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
	Service										
Under 20	0	0	0	0	0	0	0	0	0	0	0
20 to 25	39,896	33,162	40,954	0	0	0	0	0	0	0	37,415
25 to 29	41,964	42,661	44,029	56,597	0	0	0	0	0	0	42,864
30 to 34	42,873	47,143	53,109	54,060	42,537	0	0	0	0	0	50,474
35 to 39	45,112	45,600	53,927	57,765	59,757	0	0	0	0	0	53,580
40 to 44	49,301	54,078	62,377	59,184	62,360	57,967	0	0	0	0	59,133
45 to 49	61,244	53,212	54,569	56,789	65,405	67,755	65,676	0	0	0	59,240
50 to 54	56,093	63,800	49,721	60,020	59,348	67,332	66,773	48,732	75,734	0	59,770
55 to 59	77,680	75,966	54,258	60,666	67,525	82,412	69,206	75,951	0	0	64,999
60 to 64	219,253	49,871	66,596	56,040	80,295	78,745	72,580	62,182	96,904	0	67,461
65 to 69	0	50,878	49,439	56,521	99,783	136,389	0	0	0	0	71,516
70 & up	0	0	0	68,777	0	0	0	0	0	0	68,777
Total	47,984	49,327	54,318	58,316	65,549	72,293	67,564	65,457	82,791	0	57,193

APPENDIX A
MEMBERSHIP INFORMATION

SAFETY

Count

	Service										
Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Under 20	0	0	0	0	0	0	0	0	0	0	0
20 to 25	4	0	0	0	0	0	0	0	0	0	4
25 to 29	6	14	22	0	0	0	0	0	0	0	42
30 to 34	1	11	54	9	0	0	0	0	0	0	75
35 to 39	1	5	31	21	2	0	0	0	0	0	60
40 to 44	0	6	7	18	11	4	0	0	0	0	46
45 to 49	0	5	2	7	15	10	3	0	0	0	42
50 to 54	0	2	2	3	4	3	2	1	0	0	17
55 to 59	0	1	1	2	0	0	1	1	0	0	6
60 to 64	0	0	1	0	1	0	0	0	0	0	2
65 to 69	0	0	1	0	0	0	0	0	0	0	1
70 & up	0	0	0	0	0	0	0	0	0	0	0
Total	12	44	121	60	33	17	6	2	0	0	295

Compensation

	Service										
Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Under 20	0	0	0	0	0	0	0	0	0	0	0
20 to 25	43,014	0	0	0	0	0	0	0	0	0	43,014
25 to 29	46,713	53,356	59,113	0	0	0	0	0	0	0	55,423
30 to 34	34,008	53,807	59,106	63,039	0	0	0	0	0	0	58,466
35 to 39	56,035	53,871	60,086	67,210	63,248	0	0	0	0	0	62,099
40 to 44	0	53,662	61,641	66,366	75,039	71,547	0	0	0	0	66,514
45 to 49	0	48,307	61,960	64,859	77,491	79,998	110,200	0	0	0	74,105
50 to 54	0	71,863	52,184	62,802	77,872	68,435	77,187	65,043	0	0	68,983
55 to 59	0	50,660	74,838	67,966	0	0	57,107	188,373	0	0	84,485
60 to 64	0	0	68,879	0	55,814	0	0	0	0	0	62,346
65 to 69	0	0	112,029	0	0	0	0	0	0	0	112,029
70 & up	0	0	0	0	0	0	0	0	0	0	0
Total	45,198	53,775	60,086	65,861	75,200	75,969	90,347	126,708	0	0	63,387

APPENDIX A
MEMBERSHIP INFORMATION

Service Retired Benefits

	General		Safety		Total	
Current Age	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit
0-24	0	$0	0	$0	0	$0
25-29	0	$0	0	$0	0	$0
30-34	0	$0	0	$0	0	$0
35-39	0	$0	0	$0	0	$0
40-44	0	$0	1	$45,610	1	$45,610
45-49	0	$0	4	$37,974	4	$37,974
50-54	35	$27,116	21	$40,097	56	$31,984
55-59	161	$33,958	29	$39,646	190	$34,826
60-64	317	$36,198	44	$40,887	361	$36,769
65-69	322	$30,212	40	$36,107	362	$30,863
70-74	231	$25,461	18	$32,460	249	$25,967
75-79	153	$21,932	11	$39,434	164	$23,106
80-84	98	$20,255	6	$34,823	104	$21,096
85-89	56	$20,016	4	$28,001	60	$20,548
90-94	31	$20,130	2	$59,588	33	$22,521
95+	7	$16,657	1	$20,731	8	$17,166
All Ages	1,411	$28,847	181	$38,185	1,592	$29,909

Duty Disabled Benefits

	General		Safety		Total	
Current Age	Number	Annual Average Benefit	Number	Annual Average Benefit	Number	Annual Average Benefit
0-24	0	$0	0	$0	0	$0
25-29	0	$0	0	$0	0	$0
30-34	0	$0	2	$19,531	2	$19,531
35-39	0	$0	2	$29,211	2	$29,211
40-44	1	$38,381	2	$39,372	3	$39,042
45-49	0	$0	5	$32,655	5	$32,655
50-54	5	$21,817	7	$37,809	12	$31,146
55-59	3	$21,855	15	$27,472	18	$26,536
60-64	12	$23,267	17	$24,078	29	$23,742
65-69	9	$21,073	18	$35,246	27	$30,521
70-74	7	$23,000	13	$29,490	20	$27,218
75-79	5	$17,075	0	$0	5	$17,075
80-84	7	$19,439	0	$0	7	$19,439
85-89	2	$43,087	0	$0	2	$43,087
90-94	1	$12,643	0	$0	1	$12,643
95+	0	$0	0	$0	0	$0
All Ages	52	$22,369	81	$30,165	133	$27,117

APPENDIX A
MEMBERSHIP INFORMATION

Non-Duty Disabled Benefits

	General		Safety		Total	
Current Age	**Number**	**Annual Average Benefit**	**Number**	**Annual Average Benefit**	**Number**	**Annual Average Benefit**
0-24	0	$0	0	$0	0	$0
25-20	0	$0	0	$0	0	$0
30-34	0	$0	0	$0	0	$0
35-39	0	$0	0	$0	0	$0
40-44	0	$0	1	$25,841	1	$25,841
45-49	2	$14,886	0	$0	2	$14,886
50-54	2	$17,430	0	$0	2	$17,430
55-59	5	$15,027	0	$0	5	$15,027
60-64	8	$13,394	0	$0	8	$13,394
65-69	8	$11,791	1	$15,140	9	$12,163
70-74	6	$13,037	0	$0	6	$13,037
75-79	7	$16,292	0	$0	7	$16,292
80-84	6	$16,642	0	$0	6	$16,642
85-89	1	$1,352	0	$0	1	$1,352
90-94	0	$0	0	$0	0	$0
95+	0	$0	0	$0	0	$0
All Ages	45	$14,105	2	$20,490	47	$14,377

Surviving Beneficiary Benefits (all benefit types)

	General		Safety		Total	
Current Age	**Number**	**Annual Average Benefit**	**Number**	**Annual Average Benefit**	**Number**	**Annual Average Benefit**
0-24	0	$0	0	$0	0	$0
25-29	0	$0	0	$0	0	$0
30-34	0	$0	0	$0	0	$0
35-39	1	$1,527	1	$38,671	2	$20,099
40-44	2	$5,665	2	$9,421	4	$7,543
45-49	5	$9,250	0	$0	5	$9,250
50-54	10	$11,794	4	$23,022	14	$15,002
55-59	16	$10,293	4	$21,614	20	$12,557
60-64	16	$18,581	7	$23,859	23	$20,187
65-69	22	$12,631	16	$19,085	38	$15,348
70-74	26	$16,276	6	$35,246	32	$19,833
75-79	40	$14,295	4	$15,628	44	$14,416
80-84	36	$11,614	6	$25,510	42	$13,599
85-89	33	$12,589	2	$23,748	35	$13,226
90-94	13	$8,904	1	$16,069	14	$9,416
95+	5	$18,240	0	$0	5	$0
All Ages	225	$13,122	53	$22,623	278	$14,933

APPENDIX B
STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

The assumptions and methods used in the actuarial valuation as of June 30, 2013 are:

A. Actuarial Assumptions

1. **Rate of Return**

   Assets are assumed to earn 7.75% net of investment expenses.

2. **Administrative Expenses**

   Administrative expenses are assumed to be $1.25 million for the next year, to be allocated between the employer and employees.

3. **Cost of Living**

   The cost of living as measured by the Consumer Price Index (CPI) will increase at the rate of 3.00% per year.

4. **Post Retirement COLA**

   Benefits are assumed to increase after retirement at the rate of 2.60% per year for Tier 1 members.

5. **Family Composition**

   50% of female General members, 80% of male General members and 90% of Safety members are assumed to be married at retirement. Male members are assumed to be three years older than their spouses and female members are assumed to be three years younger than their spouses.

6. **Increases in Pay**

   Wage inflation component: 3.00%
   Additional longevity and promotion component:

Years of Service	General	Safety
0-1	4.00%	5.00%
2	3.00%	5.00%
3	2.50%	3.00%
4-6	2.00%	3.00%
7-14	2.00%	2.00%
15-19	1.00%	0.50%
20+	0.00%	0.50%

APPENDIX B
STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

7. Rates of Termination

Sample rates of termination are show in the following table.

Years of Service	General Male	General Female	Safety
0	25.0%	12.0%	20.8%
5	4.8%	7.5%	4.6%
10	4.8%	3.6%	4.6%
15	4.8%	3.0%	2.5%
20	2.5%	3.0%	0.0%
25	2.5%	3.0%	0.0%
30	0.0%	0.0%	0.0%

* Termination rates do not apply once a member is eligible for retirement

There are three types of terminations: withdrawals, reciprocal transfers, and vested terminations. Rates of withdrawal apply to active Members who terminate their employment and withdraw their member contributions, forfeiting entitlement to future Plan benefits. Rates of reciprocal transfer are for members who leave their member contributions on deposit and engage in employment covered by a pension plan with a reciprocal relationship with MCERA. Finally, rates of vested termination apply to active Members who terminate their employment and leave their member contributions on deposit with the Plan.

The table below shows the percentages of total terminations falling into these categories.

	Years of Service		
General	**0 - 4**	**5 - 14**	**15+**
Withdrawals	90.0%	40.0%	10.0%
Transfers	10.0%	12.0%	10.0%
Vested Terminations	0.0%	48.0%	80.0%
Safety	**0 - 4**	**5+**	
Withdrawals	90.0%	15.0%	
Transfers	10.0%	42.5%	
Vested Terminations	0.0%	42.5%	

Vested terminated General Members are assumed to begin receiving benefits at age 59; vested terminated Safety Members are assumed to begin receiving benefits at age 53.

APPENDIX B
STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

8. Rates of Service-Connected Disability

Sample service-connected disability rates of active participants are provided in the table below.

#

	Safety	General	
Age	All	Female	Male
20	0.0000%	0.0040%	0.0027%
25	0.3625%	0.0075%	0.0053%
30	0.4190%	0.0115%	0.0133%
35	0.5063%	0.0150%	0.0240%
40	0.6375%	0.0190%	0.0320%
45	0.7815%	0.0340%	0.0480%
50	0.9940%	0.0600%	0.0640%
55	1.2625%	0.1050%	0.0800%
60	0.0000%	0.1575%	0.1120%
65	0.0000%	0.0000%	0.0000%

9. Rates of Non Service-Connected Disability

Sample non service-connected disability rates of active participants are provided in the table below. Rates are applied once members have at least five years of service.

#

	Safety	General	
Age	All	Female	Male
20	0.0000%	0.0000%	0.0000%
25	0.0200%	0.0033%	0.0267%
30	0.0300%	0.0067%	0.0533%
35	0.0400%	0.0100%	0.0533%
40	0.0600%	0.0133%	0.0867%
45	0.0900%	0.0300%	0.1267%
50	0.1200%	0.0600%	0.1600%
55	0.1600%	0.0933%	0.2133%
60	0.0000%	0.1533%	0.2800%
65	0.0000%	0.0000%	0.0000%

APPENDIX B
STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

10. Rates of Mortality for Healthy Lives

Mortality rates for active members, retirees, beneficiaries and deferred members are based on the sex distinct Retired Pensioner (RP) 2000 Combined Healthy Tables, published by the Society of Actuaries, projected to 2027 using Projection Scale BB. This is intended to approximate a generational approach.

11. Rates of Mortality for Disabled Retirees

Mortality rates for disabled members are based on the sex distinct Retired Pensioner (RP) 2000 Combined Healthy Tables, published by the Society of Actuaries, projected to 2027 using Projection Scale BB, set forward three years for males and females.

12. Rates of Retirement

Rates of retirement are based on age according to the following table.

	General Male			General Female			Safety		
	Years of Service			Years of Service				Years of Service	
Age	10 – 19	20 – 29	30+	10 – 19	20 – 29	30+	Age	10 – 19	20+
50	2.50%	5.00%	7.50%	2.50%	10.00%	10.00%	40	0.00%	3.10%
51	2.50%	5.00%	7.50%	2.50%	10.00%	10.00%	41	0.00%	3.10%
52	5.00%	10.00%	15.00%	5.00%	15.00%	20.00%	42	0.00%	3.10%
53	5.00%	10.00%	15.00%	5.00%	15.00%	20.00%	43	0.00%	3.10%
54	5.00%	10.00%	15.00%	5.00%	15.00%	20.00%	44	0.00%	3.10%
55	9.00%	18.00%	27.00%	9.00%	35.00%	35.00%	45	0.00%	7.60%
56	7.50%	15.00%	22.50%	7.50%	30.00%	35.00%	46	0.00%	7.60%
57	7.50%	15.00%	22.50%	7.50%	30.00%	35.00%	47	0.00%	7.60%
58	7.50%	15.00%	22.50%	7.50%	30.00%	35.00%	48	0.00%	7.60%
59	7.50%	15.00%	22.50%	7.50%	30.00%	35.00%	49	0.00%	7.60%
60	25.00%	25.00%	37.50%	25.00%	30.00%	35.00%	50	12.75%	32.90%
61	25.00%	25.00%	37.50%	25.00%	40.00%	45.00%	51	12.75%	32.90%
62	25.00%	25.00%	37.50%	25.00%	40.00%	45.00%	52	12.75%	32.90%
63	25.00%	25.00%	37.50%	25.00%	40.00%	45.00%	53	12.75%	32.90%
64	25.00%	25.00%	37.50%	25.00%	40.00%	45.00%	54	12.75%	32.90%
65	40.00%	40.00%	40.00%	40.00%	50.00%	50.00%	55	12.75%	32.90%
66	45.00%	45.00%	45.00%	45.00%	50.00%	50.00%	56	12.75%	32.90%
67	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	57	12.75%	32.90%
68	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	58	12.75%	32.90%
69	80.00%	80.00%	80.00%	80.00%	80.00%	80.00%	59	12.75%	32.90%
70+	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	60	100.00%	100.00%

APPENDIX B
STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

13. Final Average Compensation Load

The final average compensation (FAC) for members projected to receive a service retirement benefit has increased based on the assumption that members will have elements of pay included in their FAC which are not included in the annual pay provided to the Actuary (Ventura decision pays). The FAC for Tier 1 members has been increased by 6.92% and the FAC for Tier 2 and Tier 3 members by 2.31%.

14. Changes Since Last Valuation

The June 30, 2013 valuation results reflect a number of assumption changes that were approved by the MCERA Board based on an experience study completed by Cheiron in March 2014. These changes include:

- The investment return assumption is no longer expected to be net of administrative expenses,
- An assumption of $1.25 million per year for administrative expenses was added,
- The wage inflation assumption was lowered from 3.75% to 3.00%,
- The COLA growth assumption was lowered from 2.70% to 2.60%,
- Termination rates were decreased for both General and Safety Members,
- Reciprocity rates were decreased for General Members,
- Withdrawal rates were increased for Safety Members and increased for General Members at some service levels and decreased at others,
- Disability rates were reduced for General Members (other than female duty-related rates),
- Mortality rates were decreased, and
- Retirement rates were increased for Safety Members and female General Members.

APPENDIX B
STATEMENT OF CURRENT ACTUARIAL ASSUMPTIONS AND METHODS

B. Actuarial Methods

1. Actuarial Funding Method

The Entry Age Normal actuarial funding method was used for active employees, whereby the normal cost is computed as the level annual percentage of pay required to fund the retirement benefits between each Member's date of hire and assumed retirement. The actuarial liability is the difference between the present value of future benefits and the present value of future normal cost. The unfunded actuarial liability is the difference between the actuarial liability and the actuarial value of assets.

The unfunded actuarial liability is amortized by annual payments. The payments are determined so that they will be a level percentage of pay, assuming payroll increases of 3.00% per year. The UAL as of June 30, 2013 is being amortized over a closed period of 16 years.

2. Asset Valuation Method

For the purposes of determining the annual required contribution, we use a smoothed actuarial value of assets. The asset smoothing method dampens the volatility in asset values that could occur because of the fluctuations in market conditions. Use of an asset smoothing method is consistent with the long-term nature of the actuarial valuation process. Assets are assumed to be used exclusively for the provision of retirement benefits and expenses.

The actuarial value of assets each year is equal to 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 market return and the expected return on Market Value, and is recognized over a five-year period. In no event will the actuarial value of assets ever be less than 70% of the market value of assets nor greater than 130% of the market value of assets.

3. Changes Since Last Valuation

Effective with the June 30, 2013 valuation, the UAL as of June 30, 2013 is amortized over a closed 16-year period. An amortization approach for future gains and losses will be adopted prior to the completion of the next Actuarial Valuation (as of June 30th, 2014).

APPENDIX C
SUMMARY OF PLAN PROVISIONS

A. Definitions

Compensation: Compensation means the cash remuneration for services paid by the employer. It includes base pay and certain differential, incentive, and special pay allowances defined by the Board of Retirement. Overtime is excluded, with the exception of overtime paid under the Fair Labor Standards Act that is regular and recurring.

PEPRA: For members joining the Plan on and after January 1, 2013 (Tier 4 Members), only pensionable compensation up to the Social Security Taxable Wage Base ($113,700 for 2013) will count for computing Plan benefits and employee contributions and employer contributions for those participating in Social Security. For those not participating in Social Security, the compensation cap is 120% of the Taxable Wage Base ($136,440 for 2013.) In addition, it is possible that some sources of compensation, such as any payments deemed to be terminal or special pays, may be excluded from benefit and contribution computations for Tier 4 Members.

Credited Service: In general, Credited Service is earned for the period during which Member Contributions are paid. One year of service credit is earned for each 2,080 hours worked (not including overtime), not to exceed one year of service per year.

Temporary service for which the Member was not credited, or service for which the Member withdrew his or her Member Contributions, may be purchased by paying or repaying the Member Contributions with interest. The categories of services for which credit may be purchased are listed below:

Prior Part-Time Service: If a Member worked for an employer within the Association on a part-time or 'extra help' basis before his membership in the Retirement Association, the Member may buyback this service.

Intermittent Part-Time Service

Prior Full-Time Service: Member may buyback full-time service that may have been cashed out upon termination.

Leave of Absence (Including Absence with State Disability or Worker's Compensation): No unpaid leave of absence can be bought back except for absence due to medical reasons up to one year.

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SUMMARY OF PLAN PROVISIONS

Public Service: Members may purchase service credit for prior service in the following public agencies: Federal Civil Service, Military Service, and some public employers in California. This service is only eligible for purchase when the Board of Supervisors opens the window for purchase.

Military Time: Members who resign or obtain a leave of absence to enter the military may purchase service credit for the period of military service. Members must re-enter employment within one year of terminating military service to be eligible to purchase service.

At retirement, Members have the option to convert 100% of sick leave time into retirement years of service credit. Unrepresented Management and Unit 7 will instead have some or all of their sick leave contributed to the Post Employment Health Plan.

Final Compensation: For Tier 1 Members, Final Compensation means the highest average Compensation earned during any 26 consecutive pay periods of the Member's employment. For Tier 2 and Tier 3 Members, Final Compensation means the highest average Compensation earned during any 78 consecutive pay periods of the Member's employment.

The following compensation may be included in the Final Compensation computation:

- Loyalty Bonus
- Up to 160 hours of vacation payoff
- Sick Leave sold back during 25^{th} pay period
- Vacation sold back during 25^{th} pay period (management only)

PEPRA: For Tier 4 Members, highest average Compensation will be based on the highest 36 consecutive months of the Member's employment.

General Member: Any Member who is not a Safety Member is a General Member.

Public Service: During designated periods of time authorized by the County Board of Supervisors, Members may elect to purchase Public Service for time spent while employed in another recognized public agency. The public agency must have a reciprocal agreement with the Plan or be one of several specified municipalities, counties, special districts, or State and Federal agencies. Public Service cannot be purchased if it is used for eligibility for another pension.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

The cost to purchase Public Service is twice the Member Contributions and interest applicable for the period of time purchased. Public Service is used to compute benefits, but does not count toward eligibility for benefits or vesting.

Safety Member: Any sworn Member engaged in law enforcement or as a probation officer is a Safety Member.

B. Membership

Eligibility: All full-time, and variable-shift permanent employees of Merced County and other participating employers become Members on their first date of service. Membership is mandatory; only elected officials and those entering employment at age 60 or older who are not reciprocal members of another system may choose not to participate.

PEPRA: A New Member is any Member joining the Plan for the first time on or after January 1, 2013. Employees who transfer from and are eligible for reciprocity with another public employer will not be Tier 4 Members if their service in the reciprocal system was under a pre-PEPRA tier. Employees who were Members of MCERA prior to January 1, 2013 and experienced a break in service of more than six months and then were reemployed by a *different* MCERA-participating employer on or after January 1, 2013 will be considered Tier 4 Members for all subsequent service.

Member Contributions: Each Member contributes a percentage of Compensation to the Plan through a pre-tax payroll deduction. The percentage contributed depends on the Member's age upon joining the Plan. Complete rates are shown in Appendix D.

Members covered by Social Security have their contributions reduced by one-third on the first $161.54 of biweekly Compensation. General Members who joined the Plan prior to March 7, 1973 and who have earned 30 years of Credited Service do not contribute; Safety Members do not contribute after earning 30 years of Credited Service.

PEPRA: Tier 4 Members must contribute half of the normal cost of the Plan. Contributions for these Members will be based on the Normal Cost associated with their benefits; General and Safety members will pay different rates.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

Tier 4 Members will pay a single contribution rate, not a rate based on entry age. All Tier 4 Members are expected to continue contributing after earning 30 years of service.

Interest is credited semi-annually to each Member's accumulated contributions. The crediting rate is set by the Board, and will fluctuate between zero and two percent less than the assumed rate of return (currently 7.75% - 2.00% = 5.75%), based in part on the investment earnings during that period.

C. Service Retirement:

Eligibility: Tier 1 General Members are eligible to retire at age 50 if they have earned ten years of Credited Service. Tier 1 General Members hired prior to December 31, 1978 may retire upon reaching age 65 with no service requirement.

Tier 2 and Tier 3 General Members are eligible to retire at age 55 if they have earned ten years of Credited Service or upon reaching age 70 with no service requirement.

Alternatively, all Tier 1, 2 and 3 General Members are eligible to retire at any age after having earned 30 years of Credited Service, or upon reaching age 70 with no service requirement.

Safety Members are eligible to retire at age 50 if they have earned ten years of Credited Service. Alternatively, Safety Members are eligible to retire at any age after having earned 20 years of Credited Service, or upon reaching age 70 with no service requirement. All Tier 1, 2 and 3 Safety Members hired prior to December 31, 1978 may retire upon reaching age 65 with no service requirement.

PEPRA: Tier 4 General Members are eligible to retire upon attaining age 52 and completing five or more years of service. Tier 4 Safety Members are eligible to retire upon attaining age 50 and completing five or more years of service. Tier 4 Members are eligible to retire, regardless of service, after attaining age 70.

Benefit Amount: The Service Retirement Benefit payable to the Member is equal to the Member's Final Compensation multiplied by credited service, the benefit factor from Table 1 and the age factor from Table 2 corresponding to the Member's code section. The appropriate code sections for each group are listed in Table 1. For General Members in the Merced County Cemetery

APPENDIX C
SUMMARY OF PLAN PROVISIONS

District and those in Deferred Inactive Reciprocity status prior to March 15, 2005, benefits are calculated using the formula in Government Code Section 31676.11 or 31676.1.

For Tiers 1, 2 and 3, the percentage of Final Compensation may not exceed 100%. For those members integrated with Social Security, Retirement Benefits based on the first $350 of monthly Final Average Compensation are reduced by one-third.

Table 1:

Group	Open or Closed	FAP	Max COLA	Code Section	Description	Top Retirement Factor Age	Benefit Factor
General Tier 1	Closed	1	3	31676.17	3% at 60	60	2.00%
General Tier 2	Closed	3	0	31676.17	3% at 60	60	2.00%
General Tier 2 (Cemetery)	Closed	3	0	31676.11	2% at 58 1/2	65	1.67%
General Tier 3	Closed	3	0	31676.1	2.43% at 65	65	1.67%
General Tier 4	Open	3	0	7522.20(a)	PEPRA	67	1.00%
Safety Tier 1	Closed	1	3	31664.1	3% at 50	50	3.00%
Safety Tier 2	Closed	3	0	31664.1	3% at 50	50	3.00%
Safety Tier 3	Closed	3	0	31664	2% at 50	55	2.00%
Safety Tier 4	Open	3	0	7522.25(d)	PEPRA	57	1.00%

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Table 2:

Age	General 3% @ 60 CERL: 31676.17	General 2% @ 58 1/2 CERL: 31676.11	General 2.43% @ 65 CERL: 31676.1	General PEPRA GC: 7522.20(a)	Safety 3% @ 50 CERL: 31664.1	Safety 2% @ 50 CERL: 31664	Safety PEPRA GC: 7522.25(d)
41	N/A	N/A	N/A	N/A	0.6258	0.6258	N/A
42	N/A	N/A	N/A	N/A	0.6625	0.6625	N/A
43	N/A	N/A	N/A	N/A	0.7004	0.7004	N/A
44	N/A	N/A	N/A	N/A	0.7397	0.7397	N/A
45	N/A	N/A	N/A	N/A	0.7805	0.7805	N/A
46	N/A	N/A	N/A	N/A	0.8226	0.8226	N/A
47	N/A	N/A	N/A	N/A	0.8678	0.8678	N/A
48	N/A	N/A	N/A	N/A	0.9085	0.9085	N/A
49	N/A	N/A	N/A	N/A	0.9522	0.9522	N/A
50	1.0000	0.7454	0.7091	N/A	1.0000	1.0000	2.0000
51	1.0500	0.7882	0.7457	N/A	1.0000	1.0516	2.1000
52	1.1000	0.8346	0.7816	1.0000	1.0000	1.1078	2.2000
53	1.1500	0.8850	0.8181	1.1000	1.0000	1.1692	2.3000
54	1.2000	0.9399	0.8556	1.2000	1.0000	1.2366	2.4000
55	1.2500	1.0000	0.8954	1.3000	1.0000	1.3099	2.5000
56	1.3000	1.0447	0.9382	1.4000	1.0000	1.3099	2.6000
57	1.3500	1.1048	0.9846	1.5000	1.0000	1.3099	2.7000
58	1.4000	1.1686	1.0350	1.6000	1.0000	1.3099	2.7000
59	1.4500	1.2365	1.0899	1.7000	1.0000	1.3099	2.7000
60	1.5000	1.3093	1.1500	1.8000	1.0000	1.3099	2.7000
61	1.5000	1.3608	1.1947	1.9000	1.0000	1.3099	2.7000
62	1.5000	1.4123	1.2548	2.0000	1.0000	1.3099	2.7000
63	1.5000	1.4638	1.3186	2.1000	1.0000	1.3099	2.7000
64	1.5000	1.5153	1.3865	2.2000	1.0000	1.3099	2.7000
65	1.5000	1.5668	1.4593	2.3000	1.0000	1.3099	2.7000
66	1.5000	1.5668	1.4593	2.4000	1.0000	1.3099	2.7000
67	1.5000	1.5668	1.4593	2.5000	1.0000	1.3099	2.7000

Form of Benefit: The Service Retirement Benefit will be paid monthly beginning at retirement and for the life of the Member. If the member selects the unmodified benefit form, in the event of the Member's death 60% of the benefit will continue for the life of the Member's eligible spouse, domestic partner, or to the age of majority of dependent minor children if there is no eligible spouse or domestic partner. To be eligible to receive this benefit, a surviving spouse or domestic partner must be married or state-registered at least one year prior to retirement. In the event there is no eligible surviving spouse, domestic partner, or minor children, any unpaid remainder of the Member's accumulated contributions will be paid to the Member's designated beneficiary.

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Actuarially equivalent optional benefit forms are also available.

Annually on April 1, Tier 1 benefits are increased to reflect increases in the CPI for the San Francisco Bay Area. Annual increases may not exceed 3%, but CPI increases in excess of 3% are "banked" and used for future increases when the CPI increases by less than 3%.

A lump sum benefit of $3,000 will be payable upon the death of a retired member.

D. Service-Connected Disability

Eligibility: Members are eligible for Service-Connected Disability Retirement benefits at any age if they are permanently disabled as a result of injuries or illness sustained in the line of duty.

Benefit Amount: The Service-Connected Disability Retirement Benefit payable to Members is equal to the greater of 50% of their Final Compensation or – if the Member is eligible at disability for a Service Retirement Benefit – the Service Retirement Benefit accrued on the date of disability.

Members who return to work at a different position with lower pay may receive a Supplemental Disability Allowance that, when added to their new pay, may bring the Member's total income up to the current pay for his or her position at the time of disability. The Supplemental Disability Allowance may not exceed the Service-Connected Disability Retirement benefit.

Form of Benefit: The Service-Connected Disability Retirement Benefit will be paid monthly beginning at the effective date of disability retirement and for the life of the Member; in the event of the Member's death, 100% of the benefit will continue for the life of the Member's eligible spouse, domestic partner, or to the age of majority of dependent minor children if there is no eligible spouse or domestic partner. In the event there is no eligible surviving spouse, domestic partner, or minor children, any unpaid remainder of the Member's accumulated contributions will be paid to the Member's designated beneficiary.

Actuarially equivalent optional benefit forms are also available.

Annually on April 1, Tier 1 benefits are increased to reflect increases in the CPI for the San Francisco Bay Area. Annual increases may not exceed

3%, but CPI increases in excess of 3% are "banked" and used for future increases when the CPI increases by less than 3%.

A lump sum benefit of $3,000 will be payable upon the death of a retired member.

E. Non Service-Connected Disability

Eligibility: Members are eligible for Non Service-Connected Disability Retirement benefits if they are permanently disabled at any age after earning five years of Credited Service or after becoming eligible for a deferred vested benefit.

Benefit Amount: The Non Service-Connected Disability Retirement Benefit payable to General Members is equal to the greatest of:

- 1.5% of Final Compensation at disability multiplied by years of Credited Service at disability;
- 1.5% of Final Compensation at disability multiplied by years of Credited Service projected to age 65, but not to exceed one-third of Final Compensation; or
- If the Member is eligible at disability for a Service Retirement Benefit, the Service Retirement Benefit accrued on the date of disability.

The Non Service-Connected Disability Retirement Benefit payable to Safety Members is equal to the greatest of:

- 1.8% of Final Compensation at disability multiplied by years of Credited Service at disability;
- 1.8% of Final Compensation at disability multiplied by years of Credited Service projected to age 55, but not to exceed one-third of Final Compensation; or
- If the Member is eligible at disability for a Service Retirement Benefit, the Service Retirement Benefit accrued on the date of disability.

Members who return to work at a different position with lower pay may receive a Supplemental Disability Allowance that, when added to their new pay, may bring the Member's total income up to the current pay for his or her position at the time of disability. The Supplemental Disability Allowance may not exceed the Non Service-Connected Disability Retirement benefit.

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Form of Benefit: The Non Service-Connected Disability Retirement Benefit will be paid monthly beginning at the effective date of disability retirement, and for the life of the Member; in the event of the Member's death, 60% of the benefit will continue for the life of the Member's eligible spouse, domestic partner, or to the age of majority of dependent minor children if there is no spouse. In the event there is no eligible surviving spouse, domestic partner, or minor children, any unpaid remainder of the Member's accumulated contributions will be paid to the Member's designated beneficiary.

Actuarially equivalent optional benefit forms are also available.

Annually on April 1, Tier 1 benefits are increased to reflect increases in the CPI for the San Francisco Bay Area. Annual increases may not exceed 3%, but CPI increases in excess of 3% are "banked" and used for future increases when the CPI increases by less than 3%.

A lump sum benefit of $3,000 will be payable upon the death of a retired member.

F. Service-Connected Death

Eligibility: A Member's survivors are eligible to receive Service-Connected Death benefits if the Member's death resulted from injury or illness sustained in connection with the Member's duties.

Benefit Amount: The Service-Connected Death benefit payable to an eligible surviving spouse, domestic partner, or minor children will be 50% of the Member's Final Compensation.

Furthermore, for Safety Members only, there will be an additional lump sum benefit of 12 months of pay at the time of death. An additional benefit of 25% of the above basic benefit will be paid for the first minor child, 15% for the second, and 10% for the third.

Form of Benefit: The Service-Connected Death Benefit will be paid monthly beginning at the Member's death and for the life of the eligible surviving spouse, domestic partner, or to the age of majority of dependent minor children if there is no eligible surviving spouse or domestic partner.

Annually on April 1, Tier 1 benefits are increased to reflect increases in the CPI for the San Francisco Bay Area. Annual increases may not exceed

3%, but CPI increases in excess of 3% are "banked" and used for future increases when the CPI increases by less than 3%.

G. Non Service-Connected Death

Eligibility: A Member's survivors are eligible to receive Non Service-Connected Death benefits if the Member's death arose from causes unrelated to the Member's duties.

Benefit Amount: In the event the Member had earned fewer than five years of Credited Service and has no or insufficient reciprocity service from another system, the Non Service-Connected Death benefit will be a refund of the Member's accumulated contributions with interest plus a payment of one month of Final Compensation for each year of Credited Service, not to exceed six months.

In the event the Member had earned five or more years of Credited Service, the Non Service-Connected Death benefit payable to an eligible surviving spouse, domestic partner, or minor children will be 60% of the amount the Member would have received as a Non Service-Connected Disability Retirement Benefit on the date of death.

Form of Benefit: For Members who had earned fewer than five years of Credited Service at death, the benefit will be paid as a lump sum.

For Members with five or more years of Credited Service, the Non Service-Connected Death Benefit will be paid monthly beginning at the Member's death and for the life of the eligible surviving spouse, domestic partner, or to the age of majority of dependent minor children if there is no eligible spouse or domestic partner.

Annually on April 1, Tier 1 benefits are increased to reflect increases in the CPI for the San Francisco Bay Area. Annual increases may not exceed 3%, but CPI increases in excess of 3% are "banked" and used for future increases when the CPI increases by less than 3%.

H. Withdrawal Benefit:

Eligibility: A Member is eligible for a Withdrawal Benefit upon termination of employment.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

Benefit Amount: The Withdrawal Benefit is a refund of the Member's accumulated Contributions with interest. Upon receipt of the Withdrawal Benefit the Member forfeits all Credited Service.

Form of Benefit: The Withdrawal Benefit is paid in a lump sum upon election by the Member.

I. Deferred Vested Benefit:

Eligibility: A Member is eligible for a Deferred Vested Benefit upon termination of employment after earning five years of Credited Service, including reciprocity service from another system. The Member must leave his or her Member Contributions with interest on deposit with the Plan.

Benefit Amount: The Deferred Vested Benefit is computed in the same manner as the Service Retirement Benefit, but it is based on Credited Service and Final Compensation on the date of termination.

Form of Benefit: The Deferred Vested Benefit will be paid monthly beginning at retirement and for the life of the Member; in the event of the Member's death, 60% of the benefit will continue for the life of the Member's eligible surviving spouse, domestic partner, or to the age of majority of dependent minor children if there is no eligible surviving spouse or domestic partner. In the event there is no eligible surviving spouse, domestic partner, or minor children, any unpaid remainder of the Member's accumulated contributions will be paid to the Member's designated beneficiary.

Actuarially equivalent optional benefit forms are also available.

Annually on April 1, Tier 1 benefits are increased to reflect increases in the CPI for the San Francisco Bay Area. Annual increases may not exceed 3%, but CPI increases in excess of 3% are "banked" and used for future increases when the CPI increases by less than 3%.

A lump sum benefit of $3,000 will be payable upon the death of a retired member.

J. Reciprocal Benefit:

Eligibility: A Member is eligible for a Reciprocal Benefit upon termination of employment and entry, within a specified period of time, into another retirement system recognized as a reciprocal system by the Plan. In addition, the Member must leave his or her Member Contributions with interest on deposit with the Plan.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

Benefit Amount: The Reciprocal Benefit is computed in the same manner as the Service Retirement Benefit, but it is based on Credited Service on the date of termination and Final Compensation on the date of retirement; Final Compensation is based on the highest of the Compensation earned under this Plan or the reciprocal plan.

Form of Benefit: The Reciprocal Benefit will be paid monthly beginning at retirement and for the life of the Member; in the event of the Member's death, 60% of the benefit will continue for the life of the Member's eligible surviving spouse, domestic partner, or to the age of majority of dependent minor children if there is no eligible surviving spouse or domestic partner. In the event there is no eligible surviving spouse, domestic partner, or minor children, any unpaid remainder of the Member's accumulated contributions will be paid to the Member's designated beneficiary.

Actuarially equivalent optional benefit forms are also available.

Annually on April 1, Tier 1 benefits are increased to reflect increases in the CPI for the San Francisco Bay Area. Annual increases may not exceed 3%, but CPI increases in excess of 3% are "banked" and used for future increases when the CPI increases by less than 3%.

A lump sum benefit may be payable upon the death of a retired Member by the last system under which the Member's service was covered.

K. Changes Since Last Valuation

This valuation is the first to include members of Tier 3 and Tier 4 (PEPRA). The plan provisions for these tiers have been described in this section.

APPENDIX D
MEMBER CONTRIBUTION RATES

Current Year Contribution Rates

Employee contribution rates vary by member Group and Tier. The rates were changed this year following an experience study covering the period July 1, 2010 – June 30, 2013.

Non-PEPRA Members

- The basic rates are determined based on Government Code Section 31621.8 for General Tier 1 and Tier 2 members (31621.1 for Tier 2 members under benefit section 31676.11), 31621 for General Tier 3 members, and Section 31639.25 for Safety members. The COLA rates for members in Tier 1 are determined based on 50% of the normal cost associated with the expected COLA benefits, including joint and survivor benefits, determined for each individual entry age.

- The rates are determined based on an interest rate of 7.75% per annum, an average salary increase of 3.00% per year (plus service-based increases for merit/longevity), and the Retired Pensioner (RP) 2000 Combined Healthy Tables, published by the Society of Actuaries, projected to 2027 using Projection Scale BB. The rates are blended based on a male/female weighting of 33 1/3% male / 66 2/3% female for General members, and 75% male / 25% female for Safety members.

- Effective with this valuation, an administrative expense load of 1.83% was added to the rates. This load was determined to account for the employees' share of the $1.25 million administrative expense assumption, assuming the employer and employees would share administrative expenses in proportion to their overall share of the contributions. The 1.83% load produces an average increase in the employee rates of approximately 0.15% of payroll.

PEPRA Members

- Employee contribution rates are equal to half of the total normal cost rate from the actuarial valuation, determined separately for General and Safety. Due to the passage of SB13, contribution rates for PEPRA members are not rounded, and will be recomputed each year.

- The same 1.83% load for administrative expenses was applied to the PEPRA rates. An alternative calculation could allocate the administrative expense cost to the total normal cost rate in a way that would produce the equivalent of a 1.83% load, but for clarity it has been presented in this report as a separate component.

APPENDIX D
MEMBER CONTRIBUTION RATES

Current Year Contribution Rates (General Non-PEPRA):

	Tier 1						Tier 2		Tier 2 (Cemetry)		Tier 3	
	Basic		COLA		Total		Basic		Basic		Basic	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350	First $350	Over $350	First $350	Over $350	First $350	Over $350
16	3.90%	5.85%	0.93%	1.40%	4.83%	7.25%	3.63%	5.44%	3.03%	4.53%	2.45%	3.69%
17	3.90%	5.85%	0.93%	1.40%	4.83%	7.25%	3.63%	5.44%	3.03%	4.53%	2.45%	3.69%
18	3.90%	5.85%	0.93%	1.40%	4.83%	7.25%	3.63%	5.44%	3.03%	4.53%	2.45%	3.69%
19	3.90%	5.85%	0.93%	1.40%	4.83%	7.25%	3.63%	5.44%	3.03%	4.53%	2.45%	3.69%
20	3.90%	5.85%	0.93%	1.40%	4.83%	7.25%	3.63%	5.44%	3.03%	4.53%	2.45%	3.69%
21	4.02%	6.03%	0.97%	1.46%	4.99%	7.49%	3.74%	5.60%	3.12%	4.67%	2.54%	3.80%
22	4.14%	6.21%	1.02%	1.53%	5.16%	7.74%	3.85%	5.77%	3.21%	4.81%	2.61%	3.91%
23	4.27%	6.41%	1.07%	1.60%	5.34%	8.01%	3.96%	5.95%	3.30%	4.96%	2.69%	4.03%
24	4.40%	6.60%	1.11%	1.67%	5.51%	8.27%	4.08%	6.13%	3.40%	5.11%	2.77%	4.15%
25	4.53%	6.79%	1.16%	1.74%	5.69%	8.53%	4.21%	6.31%	3.51%	5.26%	2.85%	4.28%
26	4.67%	7.01%	1.21%	1.82%	5.88%	8.83%	4.34%	6.51%	3.62%	5.43%	2.94%	4.41%
27	4.82%	7.22%	1.26%	1.89%	6.08%	9.11%	4.47%	6.71%	3.73%	5.59%	3.02%	4.54%
28	4.96%	7.44%	1.31%	1.98%	6.27%	9.42%	4.61%	6.91%	3.84%	5.76%	3.13%	4.68%
29	5.11%	7.67%	1.37%	2.06%	6.48%	9.73%	4.76%	7.13%	3.97%	5.94%	3.22%	4.83%
30	5.26%	7.90%	1.43%	2.14%	6.69%	10.04%	4.90%	7.35%	4.08%	6.13%	3.31%	4.97%
31	5.44%	8.16%	1.48%	2.22%	6.92%	10.38%	5.05%	7.58%	4.21%	6.32%	3.41%	5.12%
32	5.61%	8.41%	1.54%	2.31%	7.15%	10.72%	5.20%	7.81%	4.33%	6.51%	3.52%	5.28%
33	5.78%	8.68%	1.60%	2.39%	7.38%	11.07%	5.36%	8.03%	4.47%	6.69%	3.64%	5.45%
34	5.98%	8.96%	1.65%	2.47%	7.63%	11.43%	5.49%	8.24%	4.58%	6.87%	3.74%	5.61%
35	6.10%	9.15%	1.70%	2.56%	7.80%	11.71%	5.62%	8.43%	4.68%	7.03%	3.86%	5.78%
36	6.24%	9.37%	1.76%	2.64%	8.00%	12.01%	5.74%	8.61%	4.78%	7.18%	3.98%	5.97%
37	6.38%	9.58%	1.80%	2.71%	8.18%	12.29%	5.88%	8.82%	4.90%	7.35%	4.10%	6.15%
38	6.53%	9.80%	1.86%	2.79%	8.39%	12.59%	6.00%	8.99%	5.00%	7.49%	4.23%	6.33%
39	6.69%	10.03%	1.90%	2.86%	8.59%	12.89%	6.10%	9.14%	5.08%	7.62%	4.33%	6.49%
40	6.78%	10.17%	1.94%	2.92%	8.72%	13.09%	6.18%	9.27%	5.15%	7.73%	4.43%	6.64%
41	6.87%	10.32%	1.98%	2.96%	8.85%	13.28%	6.26%	9.40%	5.22%	7.83%	4.52%	6.78%
42	6.98%	10.46%	2.00%	2.99%	8.98%	13.45%	6.35%	9.53%	5.29%	7.94%	4.63%	6.94%
43	7.07%	10.60%	2.02%	3.02%	9.09%	13.62%	6.45%	9.66%	5.38%	8.05%	4.71%	7.08%
44	7.17%	10.75%	2.04%	3.05%	9.21%	13.80%	6.54%	9.81%	5.45%	8.18%	4.80%	7.20%
45	7.27%	10.91%	2.05%	3.08%	9.32%	13.99%	6.63%	9.94%	5.53%	8.28%	4.87%	7.30%
46	7.38%	11.07%	2.07%	3.10%	9.45%	14.17%	6.72%	10.08%	5.60%	8.40%	4.94%	7.40%
47	7.48%	11.22%	2.08%	3.12%	9.56%	14.34%	6.82%	10.23%	5.68%	8.53%	5.00%	7.50%
48	7.60%	11.39%	2.09%	3.14%	9.69%	14.53%	6.92%	10.39%	5.77%	8.66%	5.08%	7.62%
49	7.71%	11.57%	2.11%	3.16%	9.82%	14.73%	7.02%	10.53%	5.85%	8.78%	5.14%	7.72%
50	7.84%	11.76%	2.11%	3.17%	9.95%	14.93%	7.10%	10.65%	5.92%	8.88%	5.22%	7.83%
51	7.95%	11.92%	2.07%	3.11%	10.02%	15.03%	7.16%	10.73%	5.97%	8.94%	5.30%	7.94%
52	8.03%	12.05%	2.03%	3.03%	10.06%	15.08%	7.18%	10.77%	5.98%	8.98%	5.37%	8.05%
53	8.05%	12.08%	1.99%	2.97%	10.04%	15.05%	7.44%	11.17%	6.20%	9.31%	5.45%	8.18%
54	8.08%	12.12%	1.93%	2.90%	10.01%	15.02%	7.73%	11.59%	6.44%	9.66%	5.53%	8.30%
55	7.99%	12.00%	1.89%	2.84%	9.88%	14.84%	7.65%	11.48%	6.38%	9.57%	5.59%	8.39%
56	7.91%	11.86%	1.82%	2.74%	9.73%	14.60%	7.57%	11.35%	6.31%	9.46%	5.63%	8.45%
57	7.82%	11.73%	1.76%	2.65%	9.58%	14.38%	7.48%	11.23%	6.23%	9.36%	5.65%	8.48%
58	7.73%	11.60%	1.70%	2.56%	9.43%	14.16%	7.39%	11.09%	6.16%	9.24%	5.87%	8.80%
59+	7.63%	11.45%	1.64%	2.46%	9.27%	13.91%	7.30%	10.96%	6.08%	9.13%	6.08%	9.12%

APPENDIX D
MEMBER CONTRIBUTION RATES

Current Year Contribution Rates (Safety Non-PEPRA):

	Tier 1						Tiers 2 and 3	
	Basic		COLA		Total		Basic	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350	First $350	Over $350
20	4.86%	7.28%	2.21%	3.32%	7.07%	10.60%	4.49%	6.73%
21	4.98%	7.46%	2.28%	3.42%	7.26%	10.88%	4.60%	6.90%
22	5.11%	7.67%	2.34%	3.51%	7.45%	11.18%	4.72%	7.09%
23	5.24%	7.86%	2.41%	3.61%	7.65%	11.47%	4.85%	7.27%
24	5.38%	8.06%	2.47%	3.71%	7.85%	11.77%	4.98%	7.46%
25	5.52%	8.28%	2.54%	3.80%	8.06%	12.08%	5.10%	7.66%
26	5.67%	8.50%	2.60%	3.89%	8.27%	12.39%	5.24%	7.86%
27	5.81%	8.73%	2.65%	3.97%	8.46%	12.70%	5.39%	8.08%
28	5.98%	8.96%	2.71%	4.06%	8.69%	13.02%	5.53%	8.29%
29	6.14%	9.21%	2.76%	4.14%	8.90%	13.35%	5.67%	8.51%
30	6.30%	9.45%	2.82%	4.23%	9.12%	13.68%	5.82%	8.74%
31	6.48%	9.71%	2.85%	4.28%	9.33%	13.99%	5.99%	8.98%
32	6.66%	9.99%	2.88%	4.33%	9.54%	14.32%	6.16%	9.24%
33	6.85%	10.27%	2.92%	4.39%	9.77%	14.66%	6.30%	9.46%
34	7.06%	10.58%	2.98%	4.48%	10.04%	15.06%	6.43%	9.64%
35	7.16%	10.73%	3.04%	4.56%	10.20%	15.29%	6.53%	9.79%
36	7.26%	10.90%	3.11%	4.66%	10.37%	15.56%	6.63%	9.94%
37	7.38%	11.07%	3.17%	4.76%	10.55%	15.83%	6.73%	10.09%
38	7.49%	11.24%	3.24%	4.86%	10.73%	16.10%	6.83%	10.24%
39	7.62%	11.43%	3.31%	4.97%	10.93%	16.40%	6.93%	10.41%
40	7.74%	11.61%	3.39%	5.09%	11.13%	16.70%	7.06%	10.59%
41	7.87%	11.81%	3.39%	5.09%	11.26%	16.90%	7.16%	10.73%
42	8.02%	12.04%	3.40%	5.10%	11.42%	17.14%	7.24%	10.87%
43	8.10%	12.15%	3.42%	5.13%	11.52%	17.28%	7.32%	10.98%
44	8.19%	12.28%	3.44%	5.16%	11.63%	17.44%	7.39%	11.09%
45	8.28%	12.42%	3.45%	5.18%	11.73%	17.60%	7.43%	11.15%
46	8.40%	12.60%	3.47%	5.20%	11.87%	17.80%	7.44%	11.17%
47	8.38%	12.58%	3.48%	5.22%	11.86%	17.80%	7.42%	11.14%
48	8.36%	12.55%	3.49%	5.23%	11.85%	17.78%	7.71%	11.56%
49+	8.35%	12.53%	3.51%	5.26%	11.86%	17.79%	7.99%	11.99%

APPENDIX D
MEMBER CONTRIBUTION RATES

Current Year Contribution Rates (PEPRA):

	General	Safety
	5.16%	8.86%
Assumptions:		
Interest	7.75%	
Salary	2013 Valuation Scale (service-based, includes inflation at 3.00%)	
Mortality	RP-2000 Combined Healthy, projected to 2027 using Scale BB	
Other	Same as June 30, 2013 valuation (see Appendix B)	

APPENDIX D
MEMBER CONTRIBUTION RATES

Prior Year Contribution Rates

Employee contribution rates vary by member Group and Tier. The basic rates are determined based on Government Code Section 31621.8 for General members (31621.1 for members under benefit section 31676.11) and Section 31639.25 for Safety members. The COLA rates for members in Tier 1 are determined based on 50% of the normal cost associated with the expected COLA benefits, including joint and survivor benefits, determined for each individual entry age.

The prior rates were determined based on an interest rate of 7.75% per annum, an average salary increase of 3.75% per year (plus service-based increases for merit/longevity), and the Retired Pensioner (RP) 2000 Tables, published by the Society of Actuaries, with a two-year setback for male employees and no age adjustment for female employees. The rates are blended based on a male/female weighting of 33 1/3% male / 66 2/3% female for General members, and 75% male / 25% female for Safety members.

APPENDIX D
MEMBER CONTRIBUTION RATES

Prior Year Contribution Rates (General):

	Tier 1						Tier 2		Tier 2 (Cemetry)	
	Basic		COLA		Total		Basic		Basic	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350	First $350	Over $350	First $350	Over $350
16	4.35%	6.53%	1.34%	2.01%	5.69%	8.54%	4.01%	6.02%	3.35%	5.02%
17	4.35%	6.53%	1.34%	2.01%	5.69%	8.54%	4.01%	6.02%	3.35%	5.02%
18	4.35%	6.53%	1.34%	2.01%	5.69%	8.54%	4.01%	6.02%	3.35%	5.02%
19	4.35%	6.53%	1.34%	2.01%	5.69%	8.54%	4.01%	6.02%	3.35%	5.02%
20	4.35%	6.53%	1.34%	2.01%	5.69%	8.54%	4.01%	6.02%	3.35%	5.02%
21	4.46%	6.69%	1.37%	2.05%	5.83%	8.74%	4.12%	6.17%	3.43%	5.15%
22	4.57%	6.86%	1.40%	2.10%	5.97%	8.96%	4.22%	6.33%	3.52%	5.28%
23	4.69%	7.03%	1.42%	2.13%	6.11%	9.16%	4.33%	6.49%	3.61%	5.41%
24	4.81%	7.21%	1.44%	2.16%	6.25%	9.38%	4.44%	6.66%	3.70%	5.55%
25	4.93%	7.40%	1.47%	2.20%	6.40%	9.60%	4.55%	6.82%	3.79%	5.69%
26	5.06%	7.59%	1.50%	2.24%	6.55%	9.83%	4.67%	7.00%	3.89%	5.83%
27	5.19%	7.78%	1.53%	2.29%	6.72%	10.07%	4.79%	7.18%	3.99%	5.98%
28	5.32%	7.98%	1.56%	2.34%	6.88%	10.32%	4.91%	7.36%	4.09%	6.14%
29	5.46%	8.19%	1.59%	2.39%	7.05%	10.58%	5.04%	7.56%	4.20%	6.30%
30	5.60%	8.40%	1.63%	2.44%	7.23%	10.85%	5.17%	7.75%	4.31%	6.46%
31	5.75%	8.63%	1.67%	2.50%	7.42%	11.13%	5.31%	7.96%	4.42%	6.63%
32	5.91%	8.86%	1.71%	2.56%	7.62%	11.42%	5.45%	8.17%	4.54%	6.81%
33	6.07%	9.10%	1.76%	2.63%	7.82%	11.73%	5.58%	8.37%	4.65%	6.97%
34	6.23%	9.35%	1.80%	2.71%	8.04%	12.06%	5.70%	8.55%	4.75%	7.12%
35	6.35%	9.52%	1.85%	2.78%	8.20%	12.30%	5.80%	8.70%	4.83%	7.25%
36	6.46%	9.69%	1.88%	2.83%	8.35%	12.52%	5.91%	8.86%	4.92%	7.38%
37	6.58%	9.87%	1.92%	2.88%	8.50%	12.75%	6.02%	9.02%	5.01%	7.52%
38	6.71%	10.06%	1.95%	2.93%	8.66%	12.99%	6.11%	9.17%	5.09%	7.64%
39	6.84%	10.26%	1.99%	2.98%	8.82%	13.24%	6.19%	9.28%	5.16%	7.74%
40	6.91%	10.36%	2.01%	3.02%	8.92%	13.38%	6.25%	9.38%	5.21%	7.81%
41	6.97%	10.46%	2.04%	3.06%	9.02%	13.52%	6.31%	9.47%	5.26%	7.89%
42	7.04%	10.57%	2.07%	3.10%	9.11%	13.67%	6.38%	9.56%	5.31%	7.97%
43	7.11%	10.67%	2.09%	3.13%	9.20%	13.81%	6.44%	9.66%	5.37%	8.05%
44	7.19%	10.78%	2.11%	3.16%	9.29%	13.94%	6.51%	9.76%	5.42%	8.13%
45	7.26%	10.89%	2.12%	3.18%	9.38%	14.07%	6.57%	9.86%	5.48%	8.22%
46	7.34%	11.01%	2.12%	3.17%	9.45%	14.18%	6.64%	9.96%	5.53%	8.30%
47	7.42%	11.12%	2.11%	3.17%	9.53%	14.29%	6.71%	10.07%	5.59%	8.39%
48	7.50%	11.25%	2.10%	3.15%	9.60%	14.40%	6.79%	10.18%	5.66%	8.48%
49	7.59%	11.38%	2.09%	3.14%	9.68%	14.52%	6.86%	10.28%	5.71%	8.57%
50	7.68%	11.52%	2.08%	3.12%	9.76%	14.64%	6.91%	10.37%	5.76%	8.64%
51	7.76%	11.63%	2.02%	3.03%	9.77%	14.66%	6.93%	10.40%	5.78%	8.67%
52	7.81%	11.71%	1.96%	2.93%	9.76%	14.65%	6.94%	10.41%	5.78%	8.67%
53	7.80%	11.70%	1.90%	2.84%	9.70%	14.55%	7.19%	10.79%	5.99%	8.99%
54	7.80%	11.69%	1.84%	2.76%	9.63%	14.45%	7.46%	11.19%	6.22%	9.33%
55	7.70%	11.56%	1.78%	2.67%	9.49%	14.23%	7.37%	11.06%	6.14%	9.21%
56	7.61%	11.41%	1.71%	2.57%	9.32%	13.98%	7.28%	10.92%	6.06%	9.10%
57	7.50%	11.26%	1.64%	2.46%	9.14%	13.71%	7.18%	10.77%	5.98%	8.97%
58	7.40%	11.09%	1.57%	2.35%	8.97%	13.45%	7.08%	10.62%	5.90%	8.85%
59+	7.28%	10.93%	1.50%	2.25%	8.78%	13.18%	6.97%	10.46%	5.81%	8.71%

APPENDIX D
MEMBER CONTRIBUTION RATES

Prior Year Contribution Rates (Safety):

	Tier 1						Tier 2	
	Basic		COLA		Total		Basic	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350	First $350	Over $350
20	5.35%	8.02%	2.89%	4.33%	8.23%	12.35%	4.91%	7.37%
21	5.46%	8.19%	2.94%	4.41%	8.40%	12.60%	5.01%	7.52%
22	5.58%	8.37%	2.97%	4.46%	8.55%	12.83%	5.12%	7.68%
23	5.70%	8.54%	3.01%	4.52%	8.71%	13.06%	5.23%	7.85%
24	5.82%	8.73%	3.05%	4.58%	8.87%	13.31%	5.34%	8.01%
25	5.94%	8.92%	3.09%	4.64%	9.04%	13.56%	5.46%	8.19%
26	6.07%	9.11%	3.13%	4.70%	9.20%	13.81%	5.58%	8.37%
27	6.21%	9.31%	3.17%	4.75%	9.37%	14.06%	5.70%	8.55%
28	6.35%	9.52%	3.20%	4.80%	9.55%	14.32%	5.83%	8.74%
29	6.49%	9.73%	3.24%	4.86%	9.73%	14.59%	5.96%	8.94%
30	6.64%	9.95%	3.27%	4.91%	9.91%	14.86%	6.09%	9.14%
31	6.79%	10.19%	3.27%	4.90%	10.06%	15.09%	6.24%	9.35%
32	6.95%	10.43%	3.27%	4.90%	10.22%	15.33%	6.38%	9.58%
33	7.12%	10.68%	3.27%	4.91%	10.40%	15.59%	6.51%	9.76%
34	7.30%	10.95%	3.28%	4.92%	10.58%	15.88%	6.61%	9.91%
35	7.38%	11.07%	3.29%	4.94%	10.67%	16.01%	6.68%	10.02%
36	7.46%	11.20%	3.30%	4.95%	10.76%	16.15%	6.76%	10.14%
37	7.55%	11.33%	3.31%	4.96%	10.86%	16.29%	6.83%	10.25%
38	7.64%	11.46%	3.32%	4.98%	10.96%	16.43%	6.91%	10.37%
39	7.73%	11.60%	3.33%	4.99%	11.06%	16.59%	7.00%	10.50%
40	7.83%	11.75%	3.34%	5.02%	11.17%	16.76%	7.09%	10.63%
41	7.94%	11.91%	3.36%	5.04%	11.29%	16.94%	7.16%	10.74%
42	8.05%	12.08%	3.37%	5.06%	11.43%	17.14%	7.22%	10.83%
43	8.10%	12.15%	3.42%	5.13%	11.52%	17.28%	7.27%	10.90%
44	8.16%	12.24%	3.47%	5.20%	11.63%	17.44%	7.32%	10.97%
45	8.22%	12.34%	3.50%	5.26%	11.73%	17.59%	7.33%	11.00%
46	8.31%	12.46%	3.51%	5.26%	11.82%	17.72%	7.31%	10.97%
47	8.26%	12.39%	3.52%	5.27%	11.78%	17.66%	7.27%	10.91%
48	8.22%	12.32%	3.52%	5.28%	11.74%	17.61%	7.54%	11.31%
49+	8.17%	12.26%	3.53%	5.30%	11.70%	17.55%	7.82%	11.73%

APPENDIX E
GLOSSARY

1. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs such as mortality, withdrawal, disability, retirement, changes in compensation, and rates of investment return.

2. Actuarial Cost Method

A procedure for determining the Actuarial Present Value of pension plan benefits and expenses and for developing an allocation of such value to each year of service, usually in the form of a Normal Cost and an Actuarial Liability.

3. Actuarial Gain (Loss)

The difference between actual experience and that expected based upon a set of Actuarial Assumptions during the period between two Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.

4. Actuarial Liability

The portion of the Actuarial Present Value of Projected Benefits which will not be paid by future Normal Costs. It represents the value of the past Normal Costs with interest to the valuation date.

5. Actuarial Present Value (Present Value)

The value as of a given date of a future amount or series of payments. The Actuarial Present Value discounts the payments to the given date at the assumed investment return and includes the probability of the payment being made.

6. Actuarial Valuation

The determination, as of a specified date, of the Normal Cost, Actuarial Liability, Actuarial Value of Assets, and related Actuarial Present Values for a pension plan.

APPENDIX E
GLOSSARY

7. Actuarial Value of Assets

The value of cash, investments and other property belonging to a pension plan as used by the actuary for the purpose of an Actuarial Valuation. The purpose of an Actuarial Value of Assets is to smooth out fluctuations in market values.

8. Actuarially Equivalent

Of equal Actuarial Present Value, determined as of a given date, with each value based on the same set of actuarial assumptions.

9. Amortization Payment

The portion of the pension plan contribution which is designed to pay interest and principal on the Unfunded Actuarial Liability in order to pay for that liability in a given number of years.

10. Entry Age Normal Actuarial Cost Method

A method under which the Actuarial Present Value of the Projected Benefits of each individual included in an Actuarial Valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages.

11. Funded Ratio

The ratio of the Actuarial Value of Assets to the Actuarial Liabilities.

12. Normal Cost

That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.

13. Projected Benefits

Those pension plan benefit amounts which are expected to be paid in the future under a particular set of Actuarial Assumptions, taking into account such items as increases in future compensation and service credits.

14. Unfunded Actuarial Liability

The excess of the Actuarial Liability over the Actuarial Value of Assets.