# Merced County <br> Employees' Retirement Association 

## Actuarial Review and Analysis as of June 30, 2011

February 29, 2012

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## Summary of Results

This Actuarial Review and Analysis (Report) of the Merced County Employees' Retirement Association (MCERA, the Plan) has produced a significant increase in the recommended employer contribution rate. A summary of the status of the Plan is as follows:

|  | June 30, 2010 | June 30, 2011 |
| :---: | :---: | :---: |
| Plan Membership |  |  |
| Active | 2,038 | 1,980 |
| Inactive | 633 | 609 |
| Receiving Benefits | 1,826 | 1,885 |
| Total | 4,497 | 4,474 |
| Average Pay | \$56,236 | \$57,952 |
| Assets (\$ millions) |  |  |
| Market Value | \$416.5 | \$511.7 |
| Actuarial Value | \$513.5 | \$526.7 |
| Actuarial Value | \$513.5 | \$526.7 |
| (excluding Interest Fluctuation |  |  |
| Reserve) |  |  |
| Valuation Assets | \$509.6 | \$524.0 |
| Valuation Results (\$ millions) |  |  |
| Actuarial Accrued Liability (AAL) | \$930.8 | \$933.9 |
| AAL - Including Non-Valuation | \$934.0 | \$936.7 |
| Liabilities |  |  |
| Unfunded Accrued Liability (UAAL) | \$421.3 | \$409.9 |
| Funding Ratio (Valuation) | 54.7\% | 56.1\% |
| Funded Ratio (Market, Valuation) | 44.7\% | 54.8\% |
| Funded Ratio (Actuarial, Including NonValuation Liabilities/Reserves) | 55.0\% | 56.2\% |
| Funded Ratio (Inactive-Only) | 61.2\% | 63.7\% |
| Employer Contribution Rate | 36.14\% | 40.05\% |
| Expected Employer Contributions | \$41.7 | \$44.6 |

The recommended employer contribution rate has increased by about 4\% of active member payroll. The benefit provisions of the Plan remained unchanged from the prior valuation. The increase in the contribution rate over the past year was the net result of several factors:

- The demographic experience of the Plan - rates of retirement, disability, termination, and death was more positive than was assumed in the actuarial assumptions. Consequently, the net effect of
demographic changes was a decrease in cost as a percentage of pay, but an increase as a dollar amount.
- Salaries for continuing active Plan members were less than expected, decreasing the cost as a percentage of payroll.
- New entrants joined the Plan to replace terminating and retiring members, increasing covered payroll and the contribution rate.
- Minor changes were made to our actuarial software and the resulting funding calculations to reflect revised GASB requirements, increasing the contribution rate.
- The contributions rates (as a percentage of payroll) have increased due to a decline in the payroll base over which the unfunded liability is amortized.
- Costs increased due to lower than expected returns on the actuarial (smoothed) value of Plan assets, caused by the recognition of deferred investment losses from prior years. This was compounded by the cost impact of the one year delay in application of actuarial contribution rates.
- A 5\% temporary pay reduction went into effect from January 1, 2012 to December 31, 2013, resulting in an increase to the employer contribution rate as a percentage of pay, but a decrease in the dollar amount.
- The Board elected to retain the prior year's amortization period of 18 years for the current valuation, resulting in a reduction in the current employer contribution rate.

There are a number of factors that can be expected to impact costs in the future:

- The liabilities and contribution rates determined in this Valuation are based on a set of actuarial assumptions. Despite the care and effort expended in determining the most accurate possible set of assumptions, the future experience of the Plan will certainly differ from what we assume. As a result, actuarial gains or losses will occur annually, and the employer contribution rate will fluctuate.
- There are investment losses that are deferred by the actuarial smoothing method and not included in the actuarial value of assets used to determine the employer contribution rate. The ratio of the actuarial value of Plan assets to the market value is $102 \%$; that means that about $2 \%$ of Plan actuarial assets are in fact losses that have yet to be recognized. This is likely to cause a cost increase over the next year as these losses are recognized in the actuarial value of assets.
- Based on the assumptions and cost method, Plan assets are currently below the target level of assets determined by the cost method; consequently, there is an unfunded actuarial accrued liability. As a result, the employer contribution consists of two components: The normal cost and the amortization of the unfunded actuarial accrued liability.

The employer normal cost of $10.3 \%$ of payroll represents the cost of the additional benefits earned each year by active Plan members. The balance of the employer contribution rate represents the
amortization of the unfunded liability, which is a payment designed to bring the Plan's assets up to the target level set by the actuarial cost method.

## Purpose of the Report

This Report presents the results of an actuarial review and analysis of the Merced County Employees' Retirement Association as of June 30, 2011. The purposes of this Report are:

- To review the experience of the Plan over the past year and to discuss reasons for changes in Plan cost;
- To compute the annual contribution required to fund the Plan in accordance with actuarial principles;
- To discuss and project any emerging trends in Plan costs; and
- To present those items required for disclosure under Statement No. 25 of the Governmental Accounting Standards Board (GASB).


## Organization of the Report

This Report is organized in five sections:

- This Summary presents the conclusions of the Report and discusses the reasons for changes since the last valuation.
- Section 1 below contains an outline of the Plan provisions on which our calculations are based, statistical data concerning Plan participants, and a summary of the actuarial assumptions used to compute liabilities and costs. A glossary of actuarial terms is also included.
- Section 2 presents information concerning Plan assets, including balance sheets and income statements from June 30, 2010 to June 30, 2011. The actuarial value of Plan assets is also computed in this Section.
- Section 3 contains the calculation of actuarial liabilities and the employer contribution rate, as well as the actuarial balance sheet and development of gain and loss.
- Section 4 contains pension plan information required under Statement No. 25 of the Governmental Accounting Standards Board.
- The Appendices contains employee and employer contribution rates by Group, Class and Tier, as well as additional information necessary for completing the Plan's Comprehensive Annual Financial Report (CAFR).


## Change in Plan Cost from June 30, 2010 to June 30, 2011

The table below summarizes the impact of actuarial experience and changes in assumptions and funding policy on Plan cost, starting from the results as of June 30, 2010.

|  | Employer <br> Contribution Rate (\% <br> Payroll) |  |
| :--- | ---: | ---: |
| June 30, 2010 | $\mathbf{3 6 . 1 4 \%}$ |  |
| Change in Cost Due to: | $\mathbf{\$ 1 , 6 9 7 , 7 6 8}$ |  |
| Demographic Experience during 2010-2011 | 651,694 | $(0.20 \%)$ |
| Salary Experience during 2010-2010 | $(890,714)$ | $(0.59 \%)$ |
| New Entrants to the Plan | 768,747 | $0.27 \%$ |
| Funding Calculation Change | $1,806,703$ | $1.53 \%$ |
| Investment Experience during 2010-2011 | $2,052,064$ | $1.78 \%$ |
| Impact of 12-month delay in contribution rates | 417,264 | $0.36 \%$ |
| and contribution shortfall |  | 0 |
| Amortization Payroll |  | $0.97 \%$ |
| 2-Year Pay Freeze | $(551,393)$ | $1.01 \%$ |
| 18-Year Rolling Amortization | $(1,357,429)$ | $(1.22 \%)$ |
| Total Cost as of June 30, 2011 | $\$ 44,594,704$ | $\mathbf{4 0 . 0 5 \%}$ |

The changes affecting the cost from 2010 to 2011 are described below:

- Demographic experience caused a decrease in the contribution rate.

The actual demographic experience of the Plan - rates of retirement, death, disability, and termination, as well as other factors, such as sick leave credit and cost of living assumptions - was more favorable than was predicted by the actuarial assumptions in aggregate, producing actuarial gains and decrease in the employer contribution rate of $0.20 \%$ of pay. However, the cost increased in dollar terms, by approximately $\$ 650,000$.

- Pay increases were lower than expected.

Increases in pay among active members during 2010-2011 were below those anticipated by the actuarial assumptions, decreasing the cost as a dollar amount by almost $\$ 0.9$ million and by $0.59 \%$ as a percentage of payroll.

- New members entered the Plan.

While the total number of active members in the Plan decreased by about 58 members from June 30,2010 to June 30, 2011, there were approximately 99 new hires and rehires entering the Plan to replace departing members.

These new hires were not included in the prior valuation cost calculations. The impact of the new hires was to increase the employer contribution rate by $0.27 \%$ of payroll, and the addition of these new members increased member payroll by $\$ 4.3$ million, increasing the Plan cost in dollar terms by about $\$ 0.8$ million.

- There was a funding calculation change.

We updated our actuarial software and the resulting funding calculations to reflect coming GASB requirements. There was no change to the Present Value of Benefits, but the Accrued Liability was lowered, while the Normal Cost increased. Because the Normal Cost is amortized over a shorter period (future working lifetime) than the Accrued Liability (currently 18 years), this change caused costs to increase by $1.53 \%$ of pay, or about $\$ 1.8$ million.

- The one year contribution rate delay and the shortfall in the FY2011 contribution caused a cost increase.

We have calculated the impact of the one year delay in the contribution rate (i.e. the use of the June 30, 2009 contribution rate for the computation of the FY2011 contribution) and the impact of the underestimation of the contribution rate due to improper prior calculations. Given that the amount the employer actually contributed for FY2011 (\$36.7 million) was less than the actuarial cost (\$41.7 million), there was a loss. This phenomenon caused costs to increase by $0.36 \%$ of pay, or about $\$ 0.4$ million.

This type of loss will occur in any year in which the contribution rate has increased. Conversely, a decrease in the contribution rate will result in a gain in the following year.

- Changes in the payroll used to amortize the unfunded liability increased the cost as a percentage of payroll.

Under the level percentage of payroll amortization method that is currently part of the funding policy, the amortization payment is determined based on an assumption that total payroll will increase each year by $3.75 \%$, under the assumptions in place as of the prior valuation). The amortization payment is recalculated each year, based on the unfunded liability determined as of the valuation date, and then divided by the current year projected payroll to compute the amortization amount as a percentage of pay.

If - as was the case this year - pay does not increase by the projected salary growth assumed in the amortization calculation, the amortization payment will be larger as a percentage of pay, though the dollar amount is the same. This increased the employejklr contribution rate by $0.97 \%$ of pay.

- Growth in the valuation assets produced an actuarial loss.

The return on the market value of assets was $22.6 \%$ (net of expenses) over the fiscal year 2011. The return on the actuarial value of assets was $2.58 \%$. The return on the actuarial value of the valuation assets (excluding the non-valuation reserves) was $2.70 \%$.

The higher return on the market value of assets ( $22.6 \%$ versus $2.6 \%$ ) is a result of the delayed recognition of asset losses from prior years, and the deferral of the gains experienced in FY 2010 and FY 2011. Under the actuarial smoothing policy previously implemented by the Board, only $20 \%$ of the gains or losses occurring in a given year are recognized in that year - with the remaining portion recognized over the next four years at 20\% per year.

The difference between the return on valuation assets and the return on the actuarial value of assets ( $2.7 \%$ versus $2.6 \%$ ) is a result of the impact of the small reserves - the Ad-hoc COLA reserve and the 401(h) reserve - that are not included in the valuation assets.

The actuarial assumption from the prior valuation provides that the valuation assets are assumed to earn $7.75 \%$ each year. Thus the lower-than-expected return of $2.58 \%$ on the valuation assets produced an actuarial loss that increased Plan costs by $1.78 \%$ of active member payroll, or about $\$ 2.1$ million.

The above sources of actuarial gains and losses combined to increase Plan cost by $4.12 \%$ of payroll from 2010 to 2011, or $\$ 4.8$ million. In addition to the gains and losses described above, there were other changes that affected Plan cost:

- A temporary 5\% pay reduction for most member groups was put in place effective January 1, 2012 through December 31, 2013.

These pay reductions will not affect Final Average Pay calculation for benefits, or payroll used to calculate employee or employer contributions. This pay decrease has been approximated by assuming a $0 \%$ pay growth assumption for the next two years, versus our $3.75 \%$ assumption.

As a result, the employer contribution rate increased by $1.01 \%$ of payroll, while the dollar amount decreased by $\$ 0.6$ million.

- The amortization policy for the Plan's unfunded liability was changed.

At the Board's meeting on February 9, 2012, the Board increased the current amortization period from 17 years to 18 years. The change in amortization policy reduced the overall current payment amount by $1.22 \%$ of payroll, or $\$ 1.4$ million. With a level percentage of pay amortization policy and a period of 17 or more years, the amortization payment in the current year will be less than the
interest on the unfunded amount - no payment towards "principal" is made. This is sometimes referred to as negative amortization.

The net impact of these changes to the pay increase assumption and funding policy decreased the current year employer contribution by $0.21 \%$ of payroll, or $\$ 1.9$ million.

## Future Trends

There are a number of factors that can be expected to impact costs in the future:

- The liabilities and contribution rates determined in this Report are based on a set of actuarial assumptions. Despite the care and effort expended in determining the most accurate possible set of assumptions, the future experience of the Plan will certainly differ from what we assume.
- There are investment losses that are deferred by the actuarial smoothing method and have not been recognized in the actuarial value of assets used to determine the employer contribution rate. The ratio of the actuarial value of Plan assets to the market value is now 102.4\%; that means that over $2 \%$ of Plan assets (or approximately $\$ 12$ million) actually represent investment losses that have yet to be recognized. If the cost of the plan were determined using the market value of valuation assets (rather than the actuarial value), the cost of the Plan would increase by nearly $1 \%$ of pay, to over $40.9 \%$, or $\$ 45.6$ million.

The graph below shows a projection of the actuarial employer cost of the Plan over the next 20 years. The projection labeled "Old Policy" is based on the funding policies in effect last year; with an amortization period of 18 years for 2010 and 17 years for 2011, declining by one each year until a minimum period of 10 years is reached. The "New Policy" projection uses the same actuarial assumptions, but uses an 18 year amortization period for 2010 and 2011, declining by one year until the minimum period of 10 years is reached. A $7.75 \%$ return on the market value of Plan assets is assumed for all future years.


We note in the graph above that the assumed Plan cost increases over the next several years as the deferred losses from FY2009 are recognized, and then moves lower as the unfunded liability is amortized. The actual cost of the Plan in future years will be determined largely by the investment return produced on Plan assets.

The graph below shows a projection of the funded ratio using the smoothed valuation assets over the same time period, again assuming a $7.75 \%$ return on the market value of Plan assets for all future years and the same "New" and "Old" amortization policies.

The red line represents the portion of the total actuarial liability that is based on benefits for inactive participants only. Since the Plan's funded ratio has dropped below the Inactive Funded Ratio, it indicates that liabilities for inactive members are not fully funded, and moreover that no Plan assets have been set aside to fund future benefits for current active employees.


## Actuarial Certification

In this study, we conducted an examination of all participant data for reasonableness and consistency. Actuarial funding is based on the Entry Age Normal Cost Method. Under this method, the employer contribution rate provides for current cost (normal cost) plus a level percentage of payroll to amortize the unfunded actuarial accrued liability (UAAL). As of the valuation date, the amortization period is 18 years.

The funding objective of the Plan is to accumulate assets during the working lifetime of each member so that, at retirement, sufficient assets will be on hand to provide the member the promised benefit. For actuarial valuation purposes, Plan assets are valued at Actuarial Value with adjustments for certain Special Reserves. Under this method, the assets used to determine employer contribution rates take into account market value by spreading all investment gains and losses (returns above or below expected returns) over a period of five years, limited by a corridor that restrains the Actuarial Value to within $30 \%$ of the Market Value of assets.

Our firm has prepared all of the schedules presented in the actuarial report. The actuarial assumptions were developed by the EFI and approved by the Board during the course of an analysis of experience which covered the period from July 1, 2007 through June 30,2010 . The assumptions used in the most recent valuation are intended to produce results that will reasonably approximate the anticipated future experience of the Plan. The next experience analysis is expected to cover the years 2010 through 2013.

Data on active and inactive Members and their beneficiaries as of the valuation date was supplied by the Plan Administrator on electronic media. As is usual in studies of this type, Member data was neither verified nor audited. However, we conducted an examination of all participant data for reasonableness and consistency. The financial information provided by the Plan Administrator included the Statement of Changes in Plan Net Assets Available for Benefits and Statement of Plan Net Assets Available for Benefits, both of which are included in the Comprehensive Annual Financial Report.

GASB Statement No. 25 requires preparation of trend data schedules of funding status and employer contributions. To produce the required schedules, we have relied upon information from our files and contained in the reports of other actuaries employed by the sponsor in completing the schedules.

We certify that the valuation was performed in accordance with generally accepted actuarial principles and practices. In particular, to the best of our knowledge the assumptions and methods used for funding purposes meet the parameters of the Governmental Accounting Standards Board Statement No. 25. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Respectfully Submitted,


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## Section 1:

## Summary of Plan Provisions, <br> Member Statistics, and <br> Actuarial Assumptions

## 1.1: Brief Outline of Plan Provisions

## 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.

## 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 of up to one year.
- 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 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 $25^{\text {th }}$ pay period
- Vacation sold back during $25^{\text {th }}$ pay period (management only)


## 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.

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.

## 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.

## 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. Representative rates are shown in Table 1 below (full rate table in appendix).

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.

Interest is credited semiannually 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.

Table 1 (a): General Member Contribution Rates

| Entry Age | Basic Rate - Tier 1 |  | Basic Rate - Tier 2 |  | Cost of Living Rate - Tier 1 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $1^{\text {st }}$ \$350/month | Over \$350 | $1^{\text {st }}$ \$350/month | Over \$350 | $1^{\text {st }}$ \$350/month | Over \$350 |
| 20 | 4.40\% | 6.59\% | 4.06\% | 6.08\% | 1.30\% | 1.95\% |
| 25 | 4.98\% | 7.47\% | 4.60\% | 6.90\% | 1.42\% | 2.13\% |
| 30 | 5.66\% | 8.49\% | 5.22\% | 7.83\% | 1.57\% | 2.36\% |
| 35 | 6.41\% | 9.62\% | 5.86\% | 8.79\% | 1.78\% | 2.67\% |
| 40 | 6.98\% | 10.47\% | 6.32\% | 9.47\% | 1.93\% | 2.89\% |
| 45 | 7.34\% | 11.00\% | 6.64\% | 9.96\% | 2.02\% | 3.04\% |
| 50 | 7.76\% | 11.64\% | 6.98\% | 10.47\% | 1.98\% | 2.97\% |

Table 1 (b): Safety Member Contribution Rates

| Entry Age | Basic Rate - Tier 1 |  | Basic Rate - Tier 2 |  | Cost of Living Rate - Tier 1 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $1^{\text {st }}$ \$350/month | Over \$350 | $1^{\text {st }}$ \$350/month | Over \$350 | $1^{\text {st }}$ \$350/month | Over \$350 |
| 20 | 5.36\% | 8.04\% | 4.92\% | 7.39\% | 2.65\% | 3.98\% |
| 25 | 5.96\% | 8.94\% | 5.47\% | 8.21\% | 2.82\% | 4.24\% |
| 30 | 6.66\% | 9.98\% | 6.11\% | 9.17\% | 2.97\% | 4.45\% |
| 35 | 7.40\% | 11.10\% | 6.70\% | 10.05\% | 2.95\% | 4.42\% |
| 40 | 7.85\% | 11.78\% | 7.11\% | 10.66\% | 2.96\% | 4.43\% |
| 45 | 8.25\% | 12.37\% | 7.35\% | 11.03\% | 3.05\% | 4.58\% |
| 50 | 8.19\% | 12.29\% | 7.84\% | 11.76\% | 3.04\% | 4.56\% |

## Service Retirement

## Eligibility

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

Tier 2 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 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. Members hired prior to December 31, 1978 may retire upon reaching age 65 with no service requirement.

## 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 2 and the age factor from Table 3 corresponding to the Member's code section. The appropriate code sections for each group are listed in Table 2. For General members in the Merced County Cemetery 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 all Members, 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 2: Member Group Descriptions

| Group | Open or Closed | FAP | $\begin{aligned} & \text { Max } \\ & \text { COLA } \end{aligned}$ | Code Section | Description | Top <br> Retirement Factor Age | Benefit Factor |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| General Tier 1 | Closed ${ }^{1}$ | 1 | 3 | 31676.17 | $3 \%$ at 60 | 60 | 3.00\% |
| General Tier 2 | Open | 3 | 0 | 31676.17 | $3 \%$ at 60 | 60 | 3.00\% |
| Safety Tier 1 | Closed $^{1}$ | 1 | 3 | 31664.1 | 3\% at 50 | 50 | 3.00\% |
| Safety Tier 2 | Open | 3 | 0 | 31664.1 | 3\% at 50 | 50 | 3.00\% |

Table 3: Age Factors

|  | Safety <br> 3\% at Age 50 <br> CERL §: 31664.1 | General <br> 3\% at Age 60 <br> CERL §: 31676.17 | General <br> 2\% at Age 58 1/2 <br> CERL §: 31676.11 |
| :---: | :---: | :---: | :---: |
| $\mathbf{4 1 . 0 0}$ | 0.6258 | N/A | N/A |
| $\mathbf{4 2 . 0 0}$ | 0.6625 | N/A | N/A |
| $\mathbf{4 3 . 0 0}$ | 0.7004 | $\mathrm{~N} / \mathrm{A}$ | $\mathrm{N} / \mathrm{A}$ |
| $\mathbf{4 4 . 0 0}$ | 0.7397 | $\mathrm{~N} / \mathrm{A}$ | $\mathrm{N} / \mathrm{A}$ |
| $\mathbf{4 5 . 0 0}$ | 0.7805 | $\mathrm{~N} / \mathrm{A}$ | $\mathrm{N} / \mathrm{A}$ |
| $\mathbf{4 6 . 0 0}$ | 0.8226 | $\mathrm{~N} / \mathrm{A}$ | $\mathrm{N} / \mathrm{A}$ |
| $\mathbf{4 7 . 0 0}$ | 0.8678 | $\mathrm{~N} / \mathrm{A}$ | $\mathrm{N} / \mathrm{A}$ |
| $\mathbf{4 8 . 0 0}$ | 0.9085 | $\mathrm{~N} / \mathrm{A}$ | $\mathrm{N} / \mathrm{A}$ |
| $\mathbf{4 9 . 0 0}$ | 0.9522 | 1.0000 | $\mathrm{~N} / \mathrm{A}$ |
| $\mathbf{5 0 . 0 0}$ | 1.0000 | 1.0500 | 0.7454 |
| $\mathbf{5 1 . 0 0}$ | 1.0000 | 1.1000 | 0.7882 |
| $\mathbf{5 2 . 0 0}$ | 1.0000 | 1.1500 | 0.8346 |
| $\mathbf{5 3 . 0 0}$ | 1.0000 | 1.2000 | 0.8850 |
| $\mathbf{5 4 . 0 0}$ | 1.0000 | 1.2500 | 0.9399 |
| $\mathbf{5 5 . 0 0}$ | 1.0000 | 1.3000 | 1.0000 |
| $\mathbf{5 6 . 0 0}$ | 1.0000 | 1.3500 | 1.0447 |
| $\mathbf{5 7 . 0 0}$ | 1.0000 | 1.4000 | 1.1048 |
| $\mathbf{5 8 . 0 0}$ | 1.0000 | 1.4500 | 1.1686 |
| $\mathbf{5 9 . 0 0}$ | 1.0000 | 1.5000 | 1.2365 |
| $\mathbf{6 0 . 0 0}$ | 1.0000 | 1.5000 | 1.3093 |
| $\mathbf{6 1 . 0 0}$ | 1.0000 | 1.5000 | 1.3608 |
| $\mathbf{6 2 . 0 0}$ | 1.0000 | 1.5000 | 1.4123 |
| $\mathbf{6 3 . 0 0}$ | 1.0000 | 1.5000 | 1.4638 |
| $\mathbf{6 5 . 0 0}$ | 1.0000 | 1.5000 | 1.5153 |
|  | 1.0000 |  | 1.5668 |
|  |  |  |  |

[^0]
## 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 or 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.

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 above this figure 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.

## 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 his or her pay prior to becoming disabled. 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 or 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 above this figure 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.

## Nonservice-Connected Disability

## Eligibility

Members are eligible to for Nonservice-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 Nonservice-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
- If the Member is not eligible at disability for a Service Retirement Benefit, the $90 \%$ of the Service Retirement Benefit accrued on the date of disability; or
- If the Member is eligible at disability for a Service Retirement Benefit, the Service Retirement Benefit accrued on the date of disability.

The Nonservice-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;
- If the Member is not eligible at disability for a Service Retirement Benefit, the $90 \%$ of the Service Retirement Benefit accrued on the date of disability; 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 his or her pay prior to becoming disabled. The Supplemental Disability Allowance may not exceed the Nonservice-Connected Disability Retirement benefit.

## Form of Benefit

The Nonservice-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 or 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 above this figure 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.

## 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 who die in the performance of duty, 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 an eligible surviving spouse or 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 above this figure are "banked" and used for future increases when the CPI increases by less than 3\%.

## Nonservice-Connected Death

## Eligibility

A Member's survivors are eligible to receive Nonservice-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 Nonservice-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 NonserviceConnected 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 Nonservice-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 Nonservice-Connected Death Benefit will be paid monthly beginning at the Member's death and for the life of an eligible surviving spouse or 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 above this figure are "banked" and used for future increases when the CPI increases by less than $3 \%$.

## Withdrawal Benefit

## Eligibility

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

## 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.

## 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.

Tables 2 and 3 are extended for service under ten years using benefit multipliers of one-fiftieth per year of Credited Service at age 50 (General) or 3\% per year of Credited Service at age 50 (Safety), with adjustments for earlier or later retirement under Sections 31676.17 and 31664.1, respectively, of the County Employees Retirement Law of 1937.

## 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 spouse or 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 above this figure 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.

## 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.

## 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 spouse or 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 above this figure 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 the Member worked under.

## 1.2: Participant Data as of July 1, 2011: Total Plan

|  | General | Safety | Total |
| :---: | :---: | :---: | :---: |
| Active Participants |  |  |  |
| Number | 1,659 | 321 | 1,980 |
| Average Age | 45.66 | 37.72 | 44.37 |
| Average Service | 10.67 | 9.31 | 10.45 |
| Average Pay | \$57,250 | \$61,585 | \$57,952 |
| Service Retired |  |  |  |
| Number | 1,282 | 163 | 1,445 |
| Average Age | 69.34 | 64.51 | 68.80 |
| Average Annual Total Benefit | \$25,614 | \$35,867 | \$26,771 |
| Beneficiaries |  |  |  |
| Number | 208 | 52 | 260 |
| Average Age | 73.80 | 69.75 | 72.99 |
| Average Annual Total Benefit | \$11,819 | \$19,494 | \$13,354 |
| Duty Disabled |  |  |  |
| Number | 51 | 79 | 130 |
| Average Age | 67.75 | 60.19 | 63.15 |
| Average Annual Total Benefit | \$20,398 | \$28,233 | \$25,159 |
| Non-Duty Disabled |  |  |  |
| Number | 49 | 1 | 50 |
| Average Age | 65.94 | 64.84 | 65.92 |
| Average Annual Total Benefit | \$13,795 | \$14,271 | \$13,804 |
| Total Receiving Benefits |  |  |  |
| Number | 1,590 | 295 | 1,885 |
| Average Age | 69.77 | 64.28 | 68.91 |
| Average Annual Total Benefit | \$23,278 | \$30,863 | \$24,465 |
| Terminated Vested |  |  |  |
| Number | 199 | 16 | 215 |
| Average Age | 51.44 | 41.36 | 50.69 |
| Average Service | 10.03 | 9.53 | 9.99 |
| Transfers |  |  |  |
| Number | 206 | 60 | 266 |
| Average Age | 49.44 | 41.11 | 47.56 |
| Average Service | 5.33 | 5.10 | 5.28 |
| Funds on Account |  |  |  |
| Number | 113 | 15 | 128 |
| Average Age | 42.93 | 32.81 | 41.74 |
| Average Service | 1.57 | 1.40 | 1.55 |
| Total Inactive |  |  |  |
| Number | 518 | 91 | 609 |
| Average Age | 48.79 | 39.79 | 47.44 |
| Average Service | 6.31 | 5.27 | 6.16 |

Participant Data as of July 1, 2011: General Members

|  | General Tier 1 | General Tier 2 | General Total |
| :---: | :---: | :---: | :---: |
| Active Participants |  |  |  |
| Number | 300 | 1,359 | 1,659 |
| Average Age | 53.51 | 43.93 | 45.66 |
| Average Service | 22.25 | 8.11 | 10.67 |
| Average Pay | \$71,124 | \$54,187 | \$57,250 |
| Service Retired |  |  |  |
| Number | 1,185 | 97 | 1,282 |
| Average Age | 69.69 | 65.10 | 69.34 |
| Average Annual Total Benefit | \$26,608 | \$13,475 | \$25,614 |
| Beneficiaries |  |  |  |
| Number | 194 | 14 | 208 |
| Average Age | 75.38 | 51.95 | 73.80 |
| Average Annual Total Benefit | \$12,082 | \$8,169 | \$11,819 |
| Duty Disabled |  |  |  |
| Number | 47 | 4 | 51 |
| Average Age | 68.62 | 57.54 | 67.75 |
| Average Annual Total Benefit | \$20,541 | \$18,717 | \$20,398 |
| Non-Duty Disabled |  |  |  |
| Number | 40 | 9 | 49 |
| Average Age | 67.58 | 58.62 | 65.94 |
| Average Annual Total Benefit | \$14,619 | \$10,132 | \$13,795 |
| Total Receiving Benefits |  |  |  |
| Number | 1,466 | 124 | 1,590 |
| Average Age | 70.35 | 62.90 | 69.77 |
| Average Annual Total Benefit | \$24,164 | \$12,803 | \$23,278 |
| Terminated Vested |  |  |  |
| Number | 109 | 90 | 199 |
| Average Age | 54.87 | 47.28 | 51.44 |
| Average Service | 11.52 | 8.22 | 10.03 |
| Transfers |  |  |  |
| Number | 80 | 126 | 206 |
| Average Age | 53.65 | 46.76 | 49.44 |
| Average Service | 6.64 | 4.49 | 5.33 |
| Funds on Account |  |  |  |
| Number | 9 | 104 | 113 |
| Average Age | 58.01 | 41.62 | 42.93 |
| Average Service | 1.60 | 1.57 | 1.57 |
| Total Inactive |  |  |  |
| Number | 198 | 320 | 518 |
| Average Age | 54.52 | 45.24 | 48.79 |
| Average Service | 9.10 | 4.59 | 6.31 |

Participant Data as of July 1, 2011: Safety Members

|  | Safety <br> Tier 1 | Safety <br> Tier 2 | Safety <br> Total |
| :---: | :---: | :---: | :---: |
| Active Participants |  |  |  |
| Number | 60 | 261 | 321 |
| Average Age | 46.95 | 35.59 | 37.72 |
| Average Service | 20.47 | 6.74 | 9.31 |
| Average Pay | \$78,083 | \$57,793 | \$61,585 |
| Service Retired |  |  |  |
| Number | 160 | 3 | 163 |
| Average Age | 64.64 | 57.83 | 64.51 |
| Average Annual Total Benefit | \$36,269 | \$14,410 | \$35,867 |
| Beneficiaries |  |  |  |
| Number | 51 | 1 | 52 |
| Average Age | 70.33 | 40.34 | 69.75 |
| Average Annual Total Benefit | \$19,713 | \$8,311 | \$19,494 |
| Duty Disabled |  |  |  |
| Number | 70 | 9 | 79 |
| Average Age | 61.30 | 51.52 | 60.19 |
| Average Annual Total Benefit | \$28,735 | \$24,328 | \$28,233 |
| Non-Duty Disabled |  |  |  |
| Number | 1 | 0 | 1 |
| Average Age | 64.84 | 0.00 | 64.84 |
| Average Annual Total Benefit | \$14,271 | 0 | \$14,271 |
| Total Receiving Benefits |  |  |  |
| Number | 282 | 13 | 295 |
| Average Age | 64.84 | 52.11 | 64.28 |
| Average Annual Total Benefit | \$31,327 | \$20,807 | \$30,863 |
| Terminated Vested |  |  |  |
| Number | 6 | 10 | 16 |
| Average Age | 49.26 | 36.61 | 41.36 |
| Average Service | 13.00 | 7.45 | 9.53 |
| Transfers |  |  |  |
| Number | 24 | 36 | 60 |
| Average Age | 49.42 | 35.57 | 41.11 |
| Average Service | 6.07 | 4.45 | 5.10 |
| Funds on Account |  |  |  |
| Number | 0 | 15 | 15 |
| Average Age | 0.00 | 32.81 | 32.81 |
| Average Service | 0.00 | 1.40 | 1.40 |
| Total Inactive |  |  |  |
| Number | 30 | 61 | 91 |
| Average Age | 49.39 | 35.06 | 39.79 |
| Average Service | 7.46 | 4.19 | 5.27 |

by Age and Service
as of July 1, 2011


| Service <br> / Age | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35+ | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0-19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-24 | 5 | 2 | 2 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 |
| 25-29 | 15 | 19 | 16 | 17 | 22 | 33 | 1 | 0 | 0 | 0 | 0 | 0 | 123 |
| 30-34 | 9 | 11 | 13 | 25 | 31 | 94 | 24 | 0 | 0 | 0 | 0 | 0 | 207 |
| 35-39 | 9 | 6 | 6 | 18 | 29 | 67 | 61 | 11 | 0 | 0 | 0 | 0 | 207 |
| 40-44 | 9 | 10 | 3 | 6 | 13 | 61 | 64 | 27 | 10 | 1 | 0 | 0 | 204 |
| 45-49 | 5 | 3 | 5 | 6 | 19 | 68 | 65 | 40 | 27 | 15 | 0 | 1 | 254 |
| 50-54 | 3 | 7 | 6 | 6 | 7 | 67 | 81 | 45 | 37 | 17 | 12 | 2 | 290 |
| 55-59 | 2 | 6 | 3 | 8 | 10 | 44 | 67 | 34 | 24 | 18 | 13 | 2 | 231 |
| 60-64 | 0 | 4 | 2 | 1 | 2 | 21 | 33 | 11 | 16 | 1 | 6 | 2 | 99 |
| 65-69 | 1 | 0 | 1 | 2 | 1 | 10 | 6 | 1 | 5 | 0 | 0 | 0 | 27 |
| 70+ | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| Total | 58 | 68 | 57 | 92 | 135 | 465 | 406 | 169 | 119 | 52 | 31 | 7 | 1,659 |



| Service | 0 | 1 | 2 | 3 | 4 | $5-9$ | $10-14$ | $15-19$ | $20-24$ | $25-29$ | $30-34$ | $35+$ | Average |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| / Age |  |  |  |  |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



| Service / Age | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35+ | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0-19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-24 | 1 | 2 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| 25-29 | 1 | 5 | 9 | 17 | 16 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 64 |
| 30-34 | 2 | 1 | 7 | 12 | 9 | 39 | 2 | 0 | 0 | 0 | 0 | 0 | 72 |
| 35-39 | 1 | 2 | 1 | 6 | 4 | 22 | 14 | 4 | 0 | 0 | 0 | 0 | 54 |
| 40-44 | 0 | 0 | 2 | 1 | 0 | 8 | 16 | 16 | 9 | 0 | 0 | 0 | 52 |
| 45-49 | 1 | 1 | 3 | 1 | 0 | 3 | 11 | 7 | 7 | 8 | 0 | 0 | 42 |
| 50-54 | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 4 | 2 | 6 | 1 | 0 | 18 |
| 55-59 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 6 |
| 60-64 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 4 |
| 65-69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 70+ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 6 | 11 | 27 | 40 | 31 | 91 | 49 | 32 | 19 | 14 | 1 | 0 | 321 |

## Active Safety Members

 Annual Payroll by Age and Service as of July 1, 2011

| Service <br> / Age | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35+ | Average |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0-19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-24 | 34,008 | 43,170 | 49,358 | 56,693 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 48,722 |
| 25-29 | 40,789 | 45,405 | 46,779 | 53,293 | 55,863 | 53,309 | 0 | 0 | 0 | 0 | 0 | 0 | 52,212 |
| 30-34 | 40,612 | 50,381 | 46,559 | 52,248 | 59,259 | 57,368 | 59,623 | 0 | 0 | 0 | 0 | 0 | 55,200 |
| 35-39 | 37,523 | 47,269 | 57,573 | 58,513 | 57,857 | 59,942 | 68,401 | 84,320 | 0 | 0 | 0 | 0 | 62,699 |
| 40-44 | 0 | 0 | 57,094 | 52,853 | 0 | 60,403 | 68,304 | 72,703 | 78,771 | 0 | 0 | 0 | 69,525 |
| 45-49 | 40,789 | 34,008 | 42,421 | 49,435 | 0 | 68,160 | 70,139 | 63,664 | 75,255 | 81,273 | 0 | 0 | 67,860 |
| 50-54 | 0 | 0 | 48,734 | 0 | 51,165 | 70,761 | 68,758 | 85,753 | 74,899 | 81,990 | 188,882 | 0 | 82,323 |
| 55-59 | 0 | 0 | 0 | 0 | 70,527 | 68,458 | 61,201 | 56,895 | 0 | 0 | 0 | 0 | 63,247 |
| 60-64 | 0 | 0 | 112,278 | 0 | 0 | 56,134 | 65,043 | 0 | 68,458 | 0 | 0 | 0 | 75,478 |
| 65-69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 70+ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Average | 39,056 | 44,754 | 50,186 | 53,910 | 57,428 | 58,155 | 67,906 | 73,315 | 76,525 | 81,580 | 188,882 | 0 | 61,585 |

Merced County Employees' Retirement Association 30

Changes in Plan Membership: All Groups


| Changes in Plan Membership: General |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Actives | Transfers | Non-Vested <br> Terminations | Vested Terminations | Non- <br> Duty Disabled | Duty Disabled | Retired | Beneficiaries | Total |
| July 1, 2010 | 1,708 | 207 | 118 | 217 | 48 | 53 | 1,237 | 207 | 3,795 |
| New Entrants | 66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 66 |
| Rehires | 22 | (1) | (8) | (3) | 0 | 0 | 0 | 0 | 10 |
| Duty Disabilities | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Non-Duty Disabilities | (2) | 0 | 0 | (1) | 3 | 0 | 0 | 0 | 0 |
| Retirements | (43) | (8) | 0 | (20) | 0 | 0 | 71 | 0 | 0 |
| Retirements from Safety with General Service | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vested Terminations | (21) | (2) | 0 | 23 | 0 | 0 | 0 | 0 | 0 |
| Died, With Beneficiaries' Benefit Payable | (2) | 0 | 0 | 0 | (1) | (1) | (7) | 11 | 0 |
| Died, Without Beneficiary, and Other Terminations | (26) | (2) | 26 | (1) | (1) | (1) | (19) | 0 | (24) |
| Transfers | (5) | 15 | (3) | (7) | 0 | 0 | 0 | 0 | 0 |
| Beneficiary Deaths | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (10) | (10) |
| Domestic Relations Orders | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Withdrawals Paid | (38) | (3) | (20) | (9) | 0 | 0 | 0 | 0 | (70) |
| Data Corrections | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| July 1, 2011 | 1,659 | 206 | 113 | 199 | 49 | 51 | 1,282 | 208 | 3,767 |

Merced County Employees' Retirement Association 32


| Changes in Plan Membership: Safety |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Actives | Transfers | Non-Vested Terminations | Vested Terminations |  | $\begin{gathered} \text { Duty } \\ \text { Disabled } \end{gathered}$ | Retired | Beneficiaries | Total |
| July 1, 2010 | 330 | 65 | 14 | 12 | 1 | 76 | 154 | 50 | 702 |
| New Entrants | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| Rehires | 2 | 0 | (1) | 0 | 0 | 0 | 0 | 0 | 1 |
| Duty Disabilities | (3) | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| Non-Duty Disabilities | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Retirements | (4) | (7) | 0 | 0 | 0 | 0 | 11 | 0 | 0 |
| Retirements from Safety with General Service | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vested Terminations | (4) | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 |
| Died, With Beneficiaries' Benefit Payable | 0 | 0 | 0 | 0 | 0 | 0 | (3) | 3 | 0 |
| Died, Without Beneficiary, and Other Terminations | (5) | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| Transfers | (1) | 3 |  | 0 | 0 | 0 | 0 | 0 | 2 |
| Beneficiary Deaths | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (1) | (1) |
| Domestic Relations Orders | 0 |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Withdrawals Paid | (3) | (1) | (3) | 0 | 0 | 0 | 0 | 0 | (7) |
| Data Corrections | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| July 1, 2011 | 321 | 60 | 15 | 16 | 1 | 79 | 163 | 52 | 707 |

Service Retired

| Age | General |  | Safety |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number | Annual Average Benefit | Number | Annual Average Benefit | Number | Annual Average Benefit |
| 0-24 | 0 | \$0 | 0 | \$0 | 0 | \$0 |
| 25-29 | 1 | \$5,577 | 0 | \$0 | 1 | \$5,577 |
| 30-34 | 0 | \$0 | 0 | \$0 | 0 | \$0 |
| 35-39 | 0 | \$0 | 0 | \$0 | 0 | \$0 |
| 40-44 | 0 | \$0 | 0 | \$0 | 0 | \$0 |
| 45-49 | 0 | \$0 | 2 | \$42,632 | 2 | \$42,632 |
| 50-54 | 35 | \$22,212 | 22 | \$33,551 | 57 | \$26,588 |
| 55-59 | 155 | \$28,886 | 25 | \$34,731 | 180 | \$29,698 |
| 60-64 | 285 | \$34,365 | 48 | \$43,843 | 333 | \$35,731 |
| 65-69 | 290 | \$25,640 | 28 | \$25,938 | 318 | \$25,667 |
| 70-74 | 194 | \$21,633 | 20 | \$36,196 | 214 | \$22,994 |
| 75-79 | 141 | \$19,978 | 6 | \$43,942 | 147 | \$20,956 |
| 80-84 | 79 | \$19,580 | 6 | \$24,629 | 85 | \$19,937 |
| 85-89 | 58 | \$17,434 | 3 | \$43,415 | 61 | \$18,712 |
| 90-94 | 36 | \$18,146 | 3 | \$19,446 | 39 | \$18,246 |
| 95+ | 8 | \$15,300 | 0 | \$0 | 8 | \$15,300 |
| All Ages | 1,282 | \$25,614 | 163 | \$35,867 | 1,445 | \$26,771 |

Duty Disabled

|  | General |  | Safety |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 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 | 1 | \$26,600 | 1 | \$26,600 |
| 35-39 | 1 | \$36,532 | 3 | \$29,830 | 4 | \$31,506 |
| 40-44 | 0 | \$0 | 0 | \$0 | 0 | \$0 |
| 45-49 | 1 | \$24,086 | 7 | \$34,611 | 8 | \$33,295 |
| 50-54 | 3 | \$19,293 | 6 | \$18,800 | 9 | \$18,964 |
| 55-59 | 3 | \$12,730 | 18 | \$25,532 | 21 | \$23,703 |
| 60-64 | 14 | \$22,866 | 20 | \$30,763 | 34 | \$27,511 |
| 65-69 | 9 | \$18,245 | 12 | \$27,012 | 21 | \$23,254 |
| 70-74 | 8 | \$20,380 | 12 | \$30,023 | 20 | \$26,166 |
| 75-79 | 4 | \$14,804 | 0 | \$0 | 4 | \$14,804 |
| 80-84 | 7 | \$23,585 | 0 | \$0 | 7 | \$23,585 |
| 85-89 | 0 | \$0 | 0 | \$0 | 0 | \$0 |
| 90-94 | 1 | \$11,917 | 0 | \$0 | 1 | \$11,917 |
| 95+ | 0 | \$0 | 0 | \$0 | 0 | \$0 |
| All Ages | 51 | \$20,398 | 79 | \$28,233 | 130 | \$25,159 |

Non-Duty Disabled

| 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 | 0 | \$0 | 0 | \$0 |
| 45-49 | 3 | \$13,739 | 0 | \$0 | 3 | \$13,739 |
| 50-54 | 4 | \$14,774 | 0 | \$0 | 4 | \$14,774 |
| 55-59 | 9 | \$15,871 | 0 | \$0 | 9 | \$15,871 |
| 60-64 | 6 | \$12,711 | 1 | \$14,271 | 7 | \$12,934 |
| 65-69 | 9 | \$10,976 | 0 | \$0 | 9 | \$10,976 |
| 70-74 | 9 | \$16,250 | 0 | \$0 | 9 | \$16,250 |
| 75-79 | 6 | \$13,122 | 0 | \$0 | 6 | \$13,122 |
| 80-84 | 2 | \$13,368 | 0 | \$0 | 2 | \$13,368 |
| 85-89 | 1 | \$6,032 | 0 | \$0 | 1 | \$6,032 |
| 90-94 | 0 | \$0 | 0 | \$0 | 0 | \$0 |
| 95+ | 0 | \$0 | 0 | \$0 | 0 | \$0 |
| All Ages | 49 | \$13,795 | 1 | \$14,271 | 50 | \$13,804 |

Surviving Beneficiaries (all benefit types)

| Age | General |  | Safety |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number | Annual Average Benefit | Number | Annual <br> Average <br> Benefit | Number | Annual Average Benefit |
| 0-24 | 1 | \$15,642 | 1 | \$15,656 | 2 | \$15,649 |
| 25-29 | 0 | \$0 | 0 | \$0 | 0 | \$0 |
| 30-34 | 0 | \$0 | 0 | \$0 | 0 | \$0 |
| 35-39 | 2 | \$1,527 | 0 | \$0 | 2 | \$1,527 |
| 40-44 | 2 | \$7,889 | 1 | \$8,311 | 3 | \$8,030 |
| 45-49 | 4 | \$9,599 | 0 | \$0 | 4 | \$9,599 |
| 50-54 | 14 | \$9,694 | 2 | \$23,872 | 16 | \$11,466 |
| 55-59 | 8 | \$12,258 | 4 | \$20,130 | 12 | \$14,882 |
| 60-64 | 17 | \$12,501 | 11 | \$19,191 | 28 | \$15,129 |
| 65-69 | 18 | \$13,361 | 10 | \$17,020 | 28 | \$14,668 |
| 70-74 | 36 | \$12,975 | 6 | \$26,014 | 42 | \$14,838 |
| 75-79 | 34 | \$14,232 | 5 | \$21,823 | 39 | \$15,206 |
| 80-84 | 26 | \$10,162 | 5 | \$22,359 | 31 | \$12,129 |
| 85-89 | 30 | \$10,081 | 2 | \$17,234 | 32 | \$10,528 |
| 90-94 | 12 | \$10,007 | 4 | \$15,241 | 16 | \$11,316 |
| 95+ | 4 | \$15,232 | 1 | \$7,716 | 5 | \$13,729 |
| All Ages | 208 | \$11,819 | 52 | \$19,494 | 260 | \$13,354 |

EFI Actuaries
 ...AND TOMORROW

Benefit Form Elections

|  | General <br> Tier 1 | General <br> Tier 2 | Safety <br> Tier 1 | Safety <br> Tier 2 | Total |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Service Retired |  |  |  |  |  |
| Unmodified (No Continuance) | 270 | 35 | 15 | 0 | 320 |
| Unmodified (60\% to Spouse) | 657 | 42 | 98 | 2 | 799 |
| Option \#1 (Cash Refund) | 39 | 3 | 2 | 0 | 44 |
| Option \#2 (100\% Continuance) | 97 | 9 | 21 | 0 | 127 |
| Option \#3 (50\% Continuance) | 17 | 3 | 2 | 1 | 23 |
| Option \#4 (Multiple Survivors) | 2 | 0 | 0 | 0 | 2 |
| Unmodified (No Continuance) w/SS | 27 | 3 | 4 | 0 | 34 |
| Unmodified (60\% to Spouse) w/SS | 70 | 0 | 18 | 0 | 88 |
| Option \#1 (Cash Refund) w/SS | 4 | 0 | 0 | 0 | 4 |
| Option \#2 (100\% Continuance) w/SS | 2 | 2 | 0 | 0 | 4 |
| Option \#3 (50\% Continuance) /SS | 0 | 0 | 0 | 0 | 0 |
| Total Service Retirement | 1,185 | 97 | 160 | 3 | 1,445 |
| Non-Duty Disability |  |  |  |  |  |
| Unmodified (No Continuance) | 17 | 4 | 0 | 0 | 21 |
| Unmodified (60\% to Spouse) | 21 | 5 | 1 | 0 | 27 |
| Option \#1 (Cash Refund) | 0 | 0 | 0 | 0 | 0 |
| Option \#2 (100\% Continuance) | 0 | 0 | 0 | 0 | 0 |
| Option \#3 (50\% Continuance) | 2 | 0 | 0 | 0 | 2 |
| Total Non-Duty Disability | 40 | 9 | 1 | 0 | 50 |
| Duty Disability |  |  |  |  |  |
| Unmodified (No Continuance) | 13 | 2 | 10 | 1 | 26 |
| Unmodified (60\% to Spouse) | 29 | 2 | 52 | 8 | 91 |
| Option \#1 (Cash Refund) | 3 | 0 | 5 | 0 | 8 |
| Option \#2 (100\% Continuance) | 1 | 0 | 2 | 0 | 3 |
| Option \#3 (50\% Continuance) | 1 | 0 | 1 | 0 | 2 |
| Total Duty Disability | 47 | 4 | 70 | 9 | 130 |
| Total | 1,272 | 110 | 231 | 12 | 1,625 |

## Retirement Eligibility

| Plan | Total Current Actives | Number of Actives Reaching Retirement Eligibility in Year(s) |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Eligible | 1 | 2 | 3 | 4 | 5 | 6-10 | Total, <br> Years <br> 0-10 |
| General Tier 1 | 300 | 204 | 25 | 11 | 16 | 8 | 7 | 24 | 295 |
| General Tier 2 | 1,359 | 126 | 50 | 43 | 39 | 58 | 61 | 255 | 632 |
| Safety Tier 1 | 60 | 37 | 2 | 4 | 3 | 6 | 6 | 2 | 60 |
| Safety Tier 2 | 261 | 8 | 1 | 5 | 7 | 6 | 4 | 51 | 82 |
| Total | 1,980 | 375 | 78 | 63 | 65 | 78 | 78 | 332 | 1,069 |

## 1.3: Summary of Actuarial Assumptions

Valuation Date<br>Rate of Return

Cost of Living

Post Retirement COLA

Increases in Pay

Mortality Improvement

Retired Member and
Beneficiary Mortality

All assets and liabilities are computed as of June 30, 2011.

The annual rate of return on all Plan assets is assumed to be $7.75 \%$, net of investment and administrative expenses.

The cost of living, or inflation rate, as measured by the Consumer Price Index (CPI) will increase at the rate of $3.75 \%$ per year.

COLAs at the rate of $2.7 \%$ are assumed for Tier 1 members.
3.75\% base salary increases. Assumed pay increases for active Members consist of increases due to base salary adjustments (as noted above), plus service-based increases due to longevity and promotion, as shown below.

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

No mortality improvement is explicitly assumed; however we build a margin in our mortality assumption between the actual and expected number of deaths in order to assume some future mortality improvements. The experience study report for the period covering July 1, 2007 to June 30, 2010 contains a full description of these margins.

Rates of mortality for retired Members and all beneficiaries are specified by the Combined Healthy Retired Pensioners (RP) 2000 tables published by the Society of Actuaries, with a two year setback for male members.

Disabled Member Mortality

Active Member Mortality

Rates of mortality for disabled Members and are specified by the Retired Pensioners (RP) 2000 tables published by the Society of Actuaries, with a three year set-forward for male and female members.

Duty related mortality rates are only applicable for Safety Active Members and remain the same as in the prior valuation. Sample rates:

| Age | Safety Active Duty- <br> Related Death |
| :---: | :---: |
| 20 | $0.0300 \%$ |
| 25 | $0.0400 \%$ |
| 30 | $0.0600 \%$ |
| 35 | $0.1000 \%$ |
| 40 | $0.1700 \%$ |
| 45 | $0.2200 \%$ |
| 50 | $0.2700 \%$ |
| 55 | $0.3100 \%$ |
| 60 | $0.0000 \%$ |

Rates of non-duty mortality for active Members are specified by the Combined Healthy Retired Pensioners (RP) 2000 tables published by the Society of Actuaries, with a two year setback for male members and no adjustment for females.

Separate rates of duty disability are assumed among Safety and General

Members; rates for both sexes for Safety Members are combined. Below are sample rates:

|  | Safety |  | General |  |
| :---: | :---: | :---: | :---: | :---: |
| Age | All | Female | Male |  |
| 20 | $0.3250 \%$ | $0.0040 \%$ | $0.0040 \%$ |  |
| 25 | $0.3625 \%$ | $0.0075 \%$ | $0.0080 \%$ |  |
| 30 | $0.4190 \%$ | $0.0115 \%$ | $0.0200 \%$ |  |
| 35 | $0.5063 \%$ | $0.0150 \%$ | $0.0360 \%$ |  |
| 40 | $0.6375 \%$ | $0.0190 \%$ | $0.0480 \%$ |  |
| 45 | $0.7815 \%$ | $0.0340 \%$ | $0.0720 \%$ |  |
| 50 | $0.9940 \%$ | $0.0600 \%$ | $0.0960 \%$ |  |
| 55 | $1.2625 \%$ | $0.1050 \%$ | $0.1200 \%$ |  |
| 60 | $0.0000 \%$ | $0.1575 \%$ | $0.1680 \%$ |  |
| 65 | $0.0000 \%$ | $0.0000 \%$ | $0.0000 \%$ |  |

Service-Connected Disability

Service Retirement

Retirement rates have changed due to the most recent experience study, and are assumed to occur among eligible members in accordance with the table below.

## General Rates

|  | (By Service) |  |  |
| :---: | :---: | :---: | :---: |
| Age | $\mathbf{1 0 - 1 9}$ | $\mathbf{2 0 - 2 9}$ | 30+ |
| 50 | $2.50 \%$ | $5.00 \%$ | $7.50 \%$ |
| 51 | $2.50 \%$ | $5.00 \%$ | $7.50 \%$ |
| 52 | $5.00 \%$ | $10.00 \%$ | $15.00 \%$ |
| 53 | $5.00 \%$ | $10.00 \%$ | $15.00 \%$ |
| 54 | $5.00 \%$ | $10.00 \%$ | $15.00 \%$ |
| 55 | $9.00 \%$ | $18.00 \%$ | $27.00 \%$ |
| 56 | $7.50 \%$ | $15.00 \%$ | $22.50 \%$ |
| 57 | $7.50 \%$ | $15.00 \%$ | $22.50 \%$ |
| 58 | $7.50 \%$ | $15.00 \%$ | $22.50 \%$ |
| 59 | $7.50 \%$ | $15.00 \%$ | $22.50 \%$ |
| 60 | $25.00 \%$ | $25.00 \%$ | $37.50 \%$ |
| 61 | $25.00 \%$ | $25.00 \%$ | $37.50 \%$ |
| 62 | $25.00 \%$ | $25.00 \%$ | $37.50 \%$ |
| 63 | $25.00 \%$ | $25.00 \%$ | $37.50 \%$ |
| 64 | $25.00 \%$ | $25.00 \%$ | $37.50 \%$ |
| 65 | $40.00 \%$ | $40.00 \%$ | $40.00 \%$ |
| 66 | $45.00 \%$ | $45.00 \%$ | $45.00 \%$ |
| 67 | $50.00 \%$ | $50.00 \%$ | $50.00 \%$ |
| 68 | $60.00 \%$ | $60.00 \%$ | $60.00 \%$ |
| 69 | $80.00 \%$ | $80.00 \%$ | $80.00 \%$ |
| 70 | $100.00 \%$ | $100.00 \%$ | $100.00 \%$ |

Service Retirement Continued

Non Service-Connected Disability

## Safety Rates

|  | (By Service) |  |
| :---: | :---: | :---: |
| Age | $10-19 \mathrm{Yrs}$ | $20+\mathrm{Yrs}$ |
| $40-44$ | $0.00 \%$ | $2.50 \%$ |
| 45 | $0.00 \%$ | $5.00 \%$ |
| 46 | $0.00 \%$ | $5.00 \%$ |
| 47 | $0.00 \%$ | $5.00 \%$ |
| 48 | $0.00 \%$ | $5.00 \%$ |
| 49 | $0.00 \%$ | $5.00 \%$ |
| 50 | $7.50 \%$ | $25.00 \%$ |
| $51-52$ | $7.50 \%$ | $25.00 \%$ |
| $53-54$ | $7.50 \%$ | $25.00 \%$ |
| 55 | $7.50 \%$ | $25.00 \%$ |
| $56-57$ | $7.50 \%$ | $25.00 \%$ |
| 58 | $7.50 \%$ | $25.00 \%$ |
| 59 | $7.50 \%$ | $25.00 \%$ |
| $60+$ | $100.00 \%$ | $100.00 \%$ |

(By Service)

Separate rates of ordinary disability are assumed among Safety and General Members; rates for both sexes for Safety Members are combined. Below are sample rates:

|  | Safety | General |  |
| :---: | :---: | :---: | :---: |
| Age | All | Female | Male |
| 20 | $0.0000 \%$ | $0.0000 \%$ | $0.0000 \%$ |
| 25 | $0.0200 \%$ | $0.0100 \%$ | $0.0400 \%$ |
| 30 | $0.0300 \%$ | $0.0200 \%$ | $0.0800 \%$ |
| 35 | $0.0400 \%$ | $0.0300 \%$ | $0.0800 \%$ |
| 40 | $0.0600 \%$ | $0.0400 \%$ | $0.1300 \%$ |
| 45 | $0.0900 \%$ | $0.0900 \%$ | $0.1900 \%$ |
| 50 | $0.1200 \%$ | $0.1800 \%$ | $0.2400 \%$ |
| 55 | $0.1600 \%$ | $0.2800 \%$ | $0.3200 \%$ |
| 60 | $0.0000 \%$ | $0.4600 \%$ | $0.4200 \%$ |
| 65 | $0.0000 \%$ | $0.0000 \%$ | $0.0000 \%$ |

Rates of withdrawal apply to active Members who terminate their employment and withdraw their member contributions, forfeiting entitlement to future Plan benefits. Separate rates of withdrawal are assumed among Safety and General Members. No members are assumed to withdraw their contributions once eligible for a service retirement benefit.

| Service | Safety <br> All | General <br> All |
| :---: | :---: | :---: |
| 0 | $25.00 \%$ | $33.00 \%$ |
| 1 | $12.50 \%$ | $15.00 \%$ |
| 2 | $5.00 \%$ | $10.00 \%$ |
| $3-4$ | $5.00 \%$ | $7.00 \%$ |
| $5-6$ | $2.50 \%$ | $3.00 \%$ |
| 7 | $2.50 \%$ | $1.50 \%$ |
| $8-9$ | $1.00 \%$ | $1.50 \%$ |
| $10-19$ | $0.00 \%$ | $1.50 \%$ |
| $20-29$ | $0.00 \%$ | $0.50 \%$ |
| $30+$ | $0.00 \%$ | $0.00 \%$ |

## Vested Termination

Rates of vested termination apply to active Members who terminate their employment after five years of service and leave their member contributions on deposit with the Plan. Alternatively, those who terminate their employment with less than five years of service can leave their member contributions with the Plan and transfer to a reciprocal employer, therefore retaining entitlement to future Plan benefits.

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

Fifty percent of vested terminated Safety members and twenty-five percent of vested terminated General members are assumed to be reciprocal.

|  | Safety | General |  |
| :---: | :---: | :---: | :---: |
| Service | All | Female | Male |
| $0-4$ | $1.50 \%$ | $0.00 \%$ | $1.00 \%$ |
| $5-9$ | $4.50 \%$ | $4.00 \%$ | $3.30 \%$ |
| $10-14$ | $3.00 \%$ | $2.50 \%$ | $5.50 \%$ |
| $15-19$ | $0.50 \%$ | $2.50 \%$ | $5.50 \%$ |
| $20-29$ | $0.00 \%$ | $2.50 \%$ | $2.00 \%$ |
| $30+$ | $0.00 \%$ | $0.00 \%$ | $0.00 \%$ |

Family Composition

Final Average Compensation Load
$50 \%$ of female General members, $80 \%$ of male General members, and $90 \%$ of Safety members are assumed to be married at retirement. Male spouses are assumed to be three years older than their wives.

The final average compensation (FAC) for members projected to receive a service retirement benefit has been 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 members by $2.31 \%$.

## Participant Data

Data on active and inactive Members and their beneficiaries as of the valuation date was supplied by the Plan Administrator on electronic media. As is usual in studies of this type, Member data was neither verified nor audited.

## 1.4: Glossary of Actuarial Terms

Actuarial Accrued Liability

A plan's actuarial accrued liability is the level of assets estimated by the system actuary to be needed as of the valuation date to

- Finance all previously earned benefits for actively employed members of the plan (and their beneficiaries, if applicable) for when they eventually retire, die or terminate with deferred vested benefits, and
- Finance all currently payable benefits of current pensioners and their beneficiaries (if applicable).

It is important to note that the Actuarial Accrued Liability is not a debt; instead, it is an asset target set by the actuarial cost method to produce an orderly accumulation of assets to pay for the plan's obligations.

## Actuarial Assumptions

The actuarial assumptions are the actuary's anticipated rates of future termination, death, disability and retirement for each member of the plan as well as the actuary's anticipated rate of investment return on underlying assets. To the extent that these assumptions are not in exact accord with actual events (which they never are), actuarial gains and losses will materialize.

## Actuarial Value of Assets

The actuarial value of assets, used for funding purposes, is computed using an asset smoothing technique in which investment gains and losses are not fully recognized in the year they occur, but are spread out. Use of an actuarial value of assets (rather than market value) helps avoid large fluctuations in recognized value of the underlying assets and, in turn, avoids large fluctuations in required contribution rates.

## Actuarial Present Value of Benefits

The actuarial present value of benefits is the Actuarial Accrued Liability plus actuarial present value of future Normal Costs. The actuarial present value of benefits is also the actuarial present value of all future benefits expected to be paid to the Plan's current members, whether accrued on the valuation data or after.

## Actuarial Funding Policy

The plan's actuarial funding policy is the scheduled program of accumulating assets to fund the plan's obligations, typically, but not necessarily, as a level percentage of payroll. The funding policy includes:

- The Normal Cost, and
- Amortization of the Unfunded or Overfunded Actuarial Accrued Liability (whichever is applicable).


## Investment Gains and Losses

When the investment return on assets exceeds the assumed rate of return (the actuarial assumption as to investment return), this difference is identified as an investment gain. Correspondingly, when the returns are less than expected, this difference is identified as an investment loss. These investment gains and losses are either recognized immediately to produce the market value of assets or are spread out to produce the Actuarial Value of Assets.

## Normal Cost

The Normal Cost is calculated as the amount necessary to fund each Member's benefits from that Member's Plan entry date to the end of his or her projected working life.

## Unfunded Actuarial Accrued Liabilities

When the actuarial value of assets is below the Actuarial Accrued Liability, there is an Unfunded Actuarial Accrued Liability which must be paid off or amortized on a schedule. When the actuarial value of assets is in excess of the Actuarial Accrued Liability, this can lead to a reduction in future contributions on an amortization schedule.

## Section 2:

## Asset Information

## 2.1: Balance Sheet as of June 30, 2009, June 30, 2010 and June 30, 2011

|  | June 30, 2009 | June 30, 2010 | June 30, 2011 |
| :---: | :---: | :---: | :---: |
| Cash and Equivalents | 30,530,165 | 34,941,260 | 30,278,397 |
| Receivables |  |  |  |
| Interest | 90,640 | 1,513,478 | 1,478,209 |
| Dividends | 168,439 | 157,968 | 246,860 |
| Contributions | 1,035,345 | 1,417,791 | 1,806,062 |
| Income and Miscellaneous | 388,409 | 452,045 | 2,248,893 |
| Total Receivables | 1,682,833 | 3,541,282 | 5,780,024 |
| Investments |  |  |  |
| Government Bonds | 49,603,648 | 67,069,066 | 67,859,377 |
| Corporate Bonds | 12,771,437 | 73,770,270 | 72,878,775 |
| Domestic Fixed Income (Index Fund) | 17,945,486 | 0 | 0 |
| Common Stocks | 120,536,402 | 93,212,816 | 71,856,011 |
| Invesco (International Equity Fund) | 62,567,853 | 83,547,325 | 131,716,069 |
| Mellon Capital (Index Fund) | 49,594,885 | 34,406,700 | 91,767,260 |
| Real Estate | 29,910,341 | 29,408,722 | 34,114,016 |
| Alternative Investments | 18,376,979 | 21,843,405 | 27,000,610 |
| Other | 0 | 0 | 0 |
| Total Investments | 361,307,031 | 403,258,304 | 497,192,118 |
| Prepaid Expense | 3,150 | 1,575 | 0 |
| Property, Fixtures and Equipment |  |  |  |
| Net of Accumulated Depreciation of $\$ 66,593, \$ 68,129$, and $\$ 69,364$ respectively |  |  |  |
| \$66,593, \$68,129, and \$69,364 respectively | 5,635 | 444,314 | 901,056 |
| Total Property, Fixtures and Equipment | 5,635 | 444,314 | 901,056 |
| Liabilities |  |  |  |
| Accounts Payable | 843,013 | 1,158,348 | 459,780 |
| Securities Lending Obligations | 15,468,497 | 18,538,246 | 18,145,491 |
| Securities Purchased | 1,437,979 | 2,627,128 | 1,152,094 |
| Other | 184,620 | 184,620 | 33,373 |
| Total Liabilities | 17,934,109 | 22,508,342 | 19,790,738 |
| Market Value | \$375,594,705 | \$419,678,393 | \$514,360,857 |


| Merced County Employees' Retirement Association | 47 |
| :--- | :--- |



## 2.3: Income Statement For the Years Ending June 30, 2010 and June 30, 2011

|  | June 30, 2010 | June 30, 2011 |
| :---: | :---: | :---: |
| Additions |  |  |
| Contributions |  |  |
| Employer's Contribution | \$29,136,704 | \$36,662,122 |
| Members' Contributions | 9,864,161 | 9,754,849 |
| Other Contributions | $\underline{0}$ | $\underline{0}$ |
| Total Contributions | \$39,000,865 | \$46,416,971 |
| Investment Income |  |  |
| Net Appreciation/(Depreciation) in |  |  |
| Fair Value of Investments | 23,910,891 | 85,841,436 |
| Interest and Dividends | 26,667,860 | 12,359,833 |
| Commission Recapture | 0 | 0 |
| Other Investment Income | 23,738 | 9,035 |
| Total Investment Income | \$50,602,489 | \$98,210,304 |
| Investment Expenses | (1,904,976) | (2,233,790) |
| Net Investment Income | \$48,697,513 | \$95,976,514 |
| Securities Lending Activities |  |  |
| Securities Lending Income | 48,571 | 62,410 |
| Expenses from Securities Lending |  |  |
| Activities | 26,163 | $(7,406)$ |
| Net Securities Lending Income | \$74,734 | \$55,004 |
| Total Net Investment Income | \$48,772,247 | \$96,031,518 |
| Total Additions | \$87,773,112 | \$142,448,489 |
| Deductions |  |  |
| Benefits | 40,929,109 | 45,022,104 |
| Refunds | 673,160 | 766,692 |
| Administrative Costs | 1,170,605 | 1,189,030 |
| Actuarial Expense | 66,549 | 138,200 |
| 401(h) distribution to County | 850,000 | 650,000 |
| Total Deductions | \$43,689,423 | \$47,766,026 |
| Net increase (Decrease) | \$44,083,689 | \$94,682,463 |
| Net Assets Beginning of Year | \$375,594,705 | \$419,678,394 |
| Net Assets End of Year | \$419,678,394 | \$514,360,857 |

## 2.4: Historical Returns

| Year Ended June 30 | Annualized Rate of Return (Market Value) | Annualized Rate of Return (Actuarial Value) | Annualized Rate of Return (Valuation Assets) | Increase in CPI* |
| :---: | :---: | :---: | :---: | :---: |
| 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\% |
| Compounded 15 Year Average | 5.8\% | 5.9\% | N / A | 2.5\% |
| Compounded 10 <br> Year Average | 4.3\% | 3.3\% | N/A | 2.4\% |
| Compounded 5 Year Average | 3.2\% | 2.8\% | N/A | 2.2\% |

* Based on All Urban Consumers - U.S. City Average, June indices.
** Return on Valuation Assets was -5.2\% prior to expansion of corridor from 20\% to 30\%


## Section 3:

## Actuarial Computations

## 3.1: Computation of Annual Contribution Rate as of June 30, 2010

| (1) Fully Projected Liability |  |  |
| :---: | :---: | :---: |
|  | Active | 528,367,511 |
|  | Inactive | 37,096,112 |
|  | Receiving Benefits | 532,694,876 |
|  | Total | 1,098,158,499 |
| (2) Actuarial Accrued Liability |  |  |
|  | Active | 361,041,077 |
|  | Inactive | 37,096,112 |
|  | Receiving Benefits | 532,694,876 |
|  | Total | 930,832,065 |
| (3) | Projected Payroll | 115,384,369 |
| (4) | Total Normal Cost (\% Pay) | 18.35\% |
| (5) | Employee Contribution (\% Pay) | 10.18\% |
| (6) | Employer Normal Cost (\% Pay) [(4) - (5)] | 8.17\% |
| (7) | Valuation Assets | 509,561,395 |
| (8) | Unfunded Actuarial Accrued Liability [(2) - (7)] | 421,270,670 |
| (9) | Amortization of Unfunded Liability | 32,277,261 |
| (10) | Amortization of Unfunded Liability (\% Pay) [(9) $\div(3)$ ] | 27.97\% |
| (11) | Total Employer Cost (\% Pay) [(6) + (10)] | 36.14\% |
| (12) | Total Employer Cost (\% Pay) [(11) x (3)] | 41,697,768 |
| (13) | Projected Payroll FY 2011-2012 [(3) x (1.0375)] | 119,711,283 |
| (14) | Projected Employer Cost FY 2011-2012 [(13) x (11)] | 43,261,434 |

## 3.2: Computation of Annual Contribution Rate as of June 30, 2011

| (1) Fully Projected Liability |  |  |
| :---: | :---: | :---: |
|  | Active | 503,986,173 |
|  | Inactive | 36,156,111 |
|  | Receiving Benefits | 558,483,150 |
|  | Total | 1,098,625,434 |
| (2) | Actuarial Accrued Liability |  |
|  | Active | 339,277,422 |
|  | Inactive | 36,156,111 |
|  | Receiving Benefits | 558,483,150 |
|  | Total | 933,916,683 |
| (3) | Projected Payroll | 111,341,814 |
| (4) | Total Normal Cost (\% Pay) | 19.41\% |
| (5) | Employee Contribution (\% Pay) | 9.08\% |
| (6) | Employer Normal Cost (\% Pay) [(4) - (5)] | 10.33\% |
| (7) | Valuation Assets | 523,980,432 |
| (8) | Unfunded Actuarial Accrued Liability [(2) - (7)] | 409,936,251 |
| (9) | Amortization of Unfunded Liability | 33,092,818 |
| (10) | Amortization of Unfunded | 29.72\% |
|  | Liability (\% Pay) [(9) $\div(3)$ ] |  |
| (11) | Total Employer Cost (\% Pay) [(6) + (10)] | 40.05\% |
| (12) | Total Employer Cost (\% Pay) [(11) x (3)] | 44,594,074 |
| (13) | Projected Payroll FY 2012-2013 [(3) x (1.0000)] ${ }^{2}$ | 111,341,814 |
| (14) | Projected Employer Cost FY 2012-2013 [(13) x (11)] | 44,594,074 |

[^1]
## 3.3: Actuarial Balance Sheet

## Assets

1. Actuarial value of assets
\$526,713,896
2. Present value of future contributions by members

71,390,382
3. Present value of future employer contributions for normal cost

93,318,369
4. Present value of other future employer contributions (UAAL)

409,936,251
5. Total actuarial assets
\$1,101,358,898

Liabilities
6. Present value of retirement allowances payable to retired/disabled
\$558,483,150 members and their survivors
7. Present value of service retirement allowances payable to presently 443,569,869 active members and their survivors
8. Present value of allowances payable to current and future vested 58,293,311 terminated and their survivors
9. Present value of disability retirement allowances payable to presently
active members and their survivors
10. Present value of death benefits payable on behalf of presently active

8,081,816 members
11. Present value of members' contributions to be returned upon

7,154,272 withdrawal
12. Special Reserves (Measured at Actuarial Value)

2,733,464
13. Total actuarial liabilities
\$1,101,358,898

## 3.4: Actuarial Gain and Loss

1. Unfunded actuarial accrued liability as of June 30, 2010
2. Change due to contributions:
(a) Normal Cost
20,357,096
(b) Interest on (a)
1,577,675
(c) Interest on (1) 32,648,477
(d) Total contributions $(46,416,971)$
(e) Interest on (d) $(1,798,658)$
(f) Net change [(a) + (b) + (c) + (d) + (e)] 6,367,619
3. Expected unfunded actuarial accrued liability as of June 30, 427,638,289 2011 [(1) + (2)]
4. Change due to experience:
(a) Actuarial (gain)/loss from liabilities
$(13,824,158)$
(b) Actuarial (gain)/loss from assets
30,955,265
(c) Net change [(a) + (b)]

17,131,107
5. Unfunded actuarial accrued liability before changes [(3) + (4)]

444,769,396
6. Change in actuarial assumptions
$(21,915,195)$
7. Change in plan provisions
8. Change in actuarial assumptions $(12,917,950)$
9. Unfunded actuarial accrued liability as of June 30, 2011 409,936,251 $[(5)+(6)+(7)+(8)]$

## Section 4:

## Disclosure Information

## 4.1: Schedules of Funding Status and Employer Contributions Required Under GASB Statement No. 25

The Governmental Accounting Standards Board (GASB) Statements No. 25 and 27 relate to the disclosure of pension liabilities on a public employer's financial statements. For accounting periods beginning after June 15, 1996, information required under these statements must be prepared for a public employer who seeks compliance with generally accepted accounting principles (GAAP) on behalf of its public employee retirement system.

GASB Statement No. 25 requires preparation of schedules of funding status and employer contributions, as well as the disclosure of plan provisions, actuarial assumptions, and other information. The required schedules are shown below. In each case, we have relied upon information from our files and contained in the reports of other actuaries employed by the employer in completing the schedules. While we have no reason to believe the information in our files or in other actuaries' reports is inaccurate, we strongly recommend that employer personnel verify the schedules below before they are included in Plan or employer financial statements.

| Schedule of Funding Status (Dollar Amounts in Thousands) |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Actuarial |  | Unfunded |  |  | Unfunded |
| Actuarial | Value of | Actuarial | Actuarial |  |  | Liability as a |
| Valuation | Valuation | Accrued | Accrued |  | Covered | Percent of |
| Date | Assets | Liability | Liability | Funded Ratio | Payroll | Payroll |
| 7/1/1998 | 260,884 | 333,771 | 72,887 | 78.2\% | 57,854 | 126.0\% |
| 7/1/1999 | 354,467 | 351,252 | $(3,215)$ | 100.9\% | 62,521 | (5.1\%) |
| 7/1/2000 | N/A | N/A | N/A | N/A | N/A | N/A |
| 7/1/2001 | 411,710 | 404,316 | $(7,394)$ | 101.8\% | 76,015 | (9.7\%) |
| 7/1/2002 | 424,613 | 421,435 | $(3,178)$ | 100.8\% | 83,001 | (3.8\%) |
| 7/1/2003 | 428,959 | 451,181 | 22,222 | 95.1\% | 88,586 | 25.1\% |
| 7/1/2004 | 430,054 | 531,938 | 101,884 | 80.8\% | 89,516 | 113.8\% |
| 7/1/2005 | 428,813 | 589,794 | 160,891 | 72.7\% | 97,507 | 165.1\% |
| 7/1/2006 | 439,309 | 619,644 | 180,335 | 71.1\% | 101,137 | 178.3\% |
| 7/1/2007 | 480,517 | 652,482 | 171,965 | 73.6\% | 100,589 | 171.0\% |
| 7/1/2008 | 488,347 | 692,252 | 203,906 | 70.5\% | 109,253 | 186.6\% |
| 7/1/2009 | 483,145 | 809,681 | 326,536 | 59.7\% | 114,984 | 284.0\% |
| 7/1/2010 | 509,561 | 930,832 | 421,271 | 54.7\% | 115,384 | 365.1\% |
| 7/1/2011 | 523,980 | 933,917 | 409,936 | 56.1\% | 111,342 | 368.2\% |

Schedule of Employer Contributions
(Dollar Amounts in Thousands)

| Year Ending | Annual Required <br> Contribution | Percentage Contributed |
| :---: | :---: | :---: |
| $6 / 30 / 1999$ | 69,919 | $100 \%$ |
| $6 / 30 / 2000$ | 6,259 | $100 \%$ |
| $6 / 30 / 2001$ | 6,927 | $100 \%$ |
| $6 / 30 / 2002$ | 7,731 | $100 \%$ |
| $6 / 30 / 2003$ | 7,201 | $100 \%$ |
| $6 / 30 / 2004$ | 7,269 | $100 \%$ |
| $6 / 30 / 2005$ | 8,931 | $100 \%$ |
| $6 / 30 / 2006$ | 14,750 | $100 \%$ |
| $6 / 30 / 2007$ | 23,232 | $100 \%$ |
| $6 / 30 / 2008$ | 23,751 | $100 \%$ |
| $6 / 30 / 2009$ | 27,883 | $100 \%$ |
| $6 / 30 / 2010$ | 29,137 | $100 \%$ |
| $6 / 30 / 2011$ | 36,662 | $100 \%$ |

The table below summarizes certain information about this actuarial report.

Valuation date
Actuarial cost method
Amortization method
Remaining amortization period
Asset valuation method

Actuarial assumptions:
Investment rate of return*
Projected salary increases*
*Includes inflation at
Cost of living adjustments

June 30, 2011
Entry Age Normal (to Final Decrement)
Level percentage of payroll closed
18 Years
Actuarial value: Excess earnings smoothed over five years, $70 \% / 130 \%$ corridor around market value
7.75\%
$3.75 \%$, plus service-based rates
3.75\%

For Tier 1, $100 \%$ of CPI to $3 \%$ annually with banking, assumed to be $2.7 \%$ annually

Appendix I:
General and Safety Contribution Rates,
Solvency Test,
Individual Member Contribution Rates
Employer Contribution Rates for General and Safety
Separate rates for General and Safety members are shown below.

Employee Contribution Rates for General and Safety
Sample rates (for pay over $\$ 350$ per month) are shown for various entry ages, as well as the average rate for each Tier (weighted by dollars of contributions and total payroll).

Employer Contribution Rates - Cemetery Members Only
Only the rates for Tier II general members are shown below, as this is the only Tier with active Cemetery Members.

| General Tier II | Prior | Recommended |
| :--- | :---: | :---: |
| Employer Normal Cost | $8.36 \%$ | $7.05 \%$ |
| UAAL Amortization Cost | $7.62 \%$ | $9.37 \%$ |
| Total Cost | $15.98 \%$ | $16.42 \%$ |

Solvency Test
As part of the information required for financial reporting, a solvency test and history of such is shown in the table below. Historical information (prior to 6/30/2009) was taken from the actuarial valuation report as of June 30, 2008.

| Valuation Date | Actuarial Accrued Liability |  |  | Total Actuarial Accrued Liability | Valuation Assets | Portion of Accrued Liabilities Covered by Assets |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Active Member Contributions | Retirees and Beneficiaries | Active Members ${ }^{3}$ |  |  | Active Member Contributions | Retirees and <br> Beneficiaries | Active <br> Members |
| 6/30/1999 | 43,736,000 | 187,535,000 | 119,981,000 | 351,252,000 | 354,469,000 | 100\% | 100\% | 100\% |
| 6/30/2001 | 49,481,000 | 211,439,000 | 143,396,000 | 404,316,000 | 411,710,000 | 100\% | 100\% | 100\% |
| 6/30/2002 | 50,941,000 | 212,359,000 | 158,135,000 | 421,435,000 | 424,613,000 | 100\% | 100\% | 100\% |
| 6/30/2003 | 48,379,000 | 238,727,000 | 164,075,000 | 451,181,000 | 428,959,000 | 100\% | 100\% | 86\% |
| 6/30/2004 | 48,708,000 | 265,193,000 | 218,037,000 | 531,938,000 | 430,054,000 | 100\% | 100\% | 53\% |
| 6/30/2005 | 49,162,000 | 281,246,000 | 259,386,000 | 589,794,000 | 428,813,000 | 100\% | 100\% | 38\% |
| 6/30/2006 | 54,826,000 | 305,589,000 | 263,918,000 | 624,333,000 | 443,999,000 | 100\% | 100\% | 32\% |
| 6/30/2007 | 59,299,000 | 358,644,000 | 234,539,000 | 652,482,000 | 480,517,000 | 100\% | 100\% | 28\% |
| 6/30/2008 | 66,865,000 | 370,764,000 | 254,623,000 | 692,252,000 | 488,347,000 | 100\% | 100\% | 20\% |
| 6/30/2009 | 65,126,000 | 448,231,000 | 296,324,000 | 809,681,000 | 483,145,000 | 100\% | 93\% | 0\% |
| 6/30/2010 | 64,917,000 | 532,695,000 | 333,220,000 | 930,832,000 | 509,561,000 | 100\% | 83\% | 0\% |
| 6/30/2011 | 65,723,000 | 558,483,000 | 309,711,000 | 933,917,000 | 523,980,000 | 100\% | 82\% | 0\% |

## Individual Employee 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, determined for each individual entry age.

The current rates were determined by EFI 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 Pensioners (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.

General Members

| Entry Age | Tier 1 |  |  |  | Tier 2 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Basic Rate |  | COL Rate |  | Basic Rate |  | COL Rate |  |
|  | $1^{\text {st }} \$ 350$ | Over \$350 | $1^{\text {st }} \$ 350$ | Over \$350 | $1^{\text {st }} \$ 350$ | Over \$350 | $1^{\text {st }}$ \$350 | Over \$350 |
| 16 | 4.40\% | 6.59\% | 1.30\% | 1.95\% | 4.06\% | 6.08\% | 4.06\% | 6.09\% |
| 17 | 4.40\% | 6.59\% | 1.30\% | 1.95\% | 4.06\% | 6.08\% | 4.07\% | 6.10\% |
| 18 | 4.40\% | 6.59\% | 1.30\% | 1.95\% | 4.06\% | 6.08\% | 4.08\% | 6.12\% |
| 19 | 4.40\% | 6.59\% | 1.30\% | 1.95\% | 4.06\% | 6.08\% | 4.10\% | 6.15\% |
| 20 | 4.40\% | 6.59\% | 1.30\% | 1.95\% | 4.06\% | 6.08\% | 4.12\% | 6.18\% |
| 21 | 4.51\% | 6.76\% | 1.33\% | 1.99\% | 4.16\% | 6.24\% | 4.15\% | 6.23\% |
| 22 | 4.62\% | 6.93\% | 1.36\% | 2.03\% | 4.26\% | 6.40\% | 4.19\% | 6.28\% |
| 23 | 4.74\% | 7.11\% | 1.38\% | 2.07\% | 4.37\% | 6.56\% | 4.23\% | 6.34\% |
| 24 | 4.86\% | 7.29\% | 1.40\% | 2.10\% | 4.48\% | 6.72\% | 4.27\% | 6.41\% |
| 25 | 4.98\% | 7.47\% | 1.42\% | 2.13\% | 4.60\% | 6.90\% | 4.33\% | 6.49\% |
| 26 | 5.11\% | 7.66\% | 1.45\% | 2.17\% | 4.71\% | 7.07\% | 4.38\% | 6.57\% |
| 27 | 5.24\% | 7.86\% | 1.48\% | 2.22\% | 4.84\% | 7.25\% | 4.43\% | 6.65\% |
| 28 | 5.38\% | 8.06\% | 1.51\% | 2.26\% | 4.96\% | 7.44\% | 4.49\% | 6.73\% |
| 29 | 5.52\% | 8.27\% | 1.54\% | 2.31\% | 5.09\% | 7.63\% | 4.55\% | 6.82\% |
| 30 | 5.66\% | 8.49\% | 1.57\% | 2.36\% | 5.22\% | 7.83\% | 4.61\% | 6.92\% |
| 31 | 5.81\% | 8.72\% | 1.61\% | 2.41\% | 5.36\% | 8.04\% | 4.68\% | 7.02\% |
| 32 | 5.97\% | 8.95\% | 1.65\% | 2.47\% | 5.51\% | 8.26\% | 4.74\% | 7.11\% |
| 33 | 6.13\% | 9.19\% | 1.69\% | 2.54\% | 5.64\% | 8.46\% | 4.81\% | 7.22\% |
| 34 | 6.30\% | 9.45\% | 1.74\% | 2.60\% | 5.76\% | 8.63\% | 4.88\% | 7.32\% |
| 35 | 6.41\% | 9.62\% | 1.78\% | 2.67\% | 5.86\% | 8.79\% | 4.95\% | 7.43\% |
| 36 | 6.53\% | 9.79\% | 1.81\% | 2.71\% | 5.97\% | 8.95\% | 5.03\% | 7.54\% |
| 37 | 6.65\% | 9.98\% | 1.84\% | 2.76\% | 6.08\% | 9.12\% | 5.11\% | 7.66\% |
| 38 | 6.78\% | 10.17\% | 1.87\% | 2.81\% | 6.17\% | 9.26\% | 5.19\% | 7.78\% |
| 39 | 6.91\% | 10.36\% | 1.90\% | 2.85\% | 6.25\% | 9.38\% | 5.27\% | 7.90\% |
| 40 | 6.98\% | 10.47\% | 1.93\% | 2.89\% | 6.32\% | 9.47\% | 5.35\% | 8.02\% |
| 41 | 7.05\% | 10.57\% | 1.95\% | 2.93\% | 6.38\% | 9.57\% | 5.43\% | 8.15\% |
| 42 | 7.12\% | 10.67\% | 1.98\% | 2.96\% | 6.44\% | 9.66\% | 5.51\% | 8.27\% |
| 43 | 7.19\% | 10.78\% | 2.00\% | 3.00\% | 6.51\% | 9.76\% | 5.61\% | 8.41\% |
| 44 | 7.26\% | 10.89\% | 2.01\% | 3.02\% | 6.57\% | 9.86\% | 5.69\% | 8.54\% |
| 45 | 7.34\% | 11.00\% | 2.02\% | 3.04\% | 6.64\% | 9.96\% | 5.78\% | 8.67\% |
| 46 | 7.41\% | 11.12\% | 2.02\% | 3.03\% | 6.71\% | 10.06\% | 5.87\% | 8.81\% |
| 47 | 7.49\% | 11.24\% | 2.02\% | 3.02\% | 6.78\% | 10.17\% | 5.96\% | 8.94\% |
| 48 | 7.58\% | 11.36\% | 2.01\% | 3.01\% | 6.86\% | 10.29\% | 6.05\% | 9.08\% |
| 49 | 7.66\% | 11.50\% | 2.00\% | 2.99\% | 6.93\% | 10.39\% | 6.15\% | 9.22\% |
| 50 | 7.76\% | 11.64\% | 1.98\% | 2.97\% | 6.98\% | 10.47\% | 6.23\% | 9.35\% |
| 51 | 7.84\% | 11.75\% | 1.92\% | 2.88\% | 7.01\% | 10.51\% | 6.33\% | 9.49\% |
| 52 | 7.89\% | 11.83\% | 1.86\% | 2.79\% | 7.01\% | 10.51\% | 6.42\% | 9.63\% |
| 53 | 7.88\% | 11.82\% | 1.80\% | 2.71\% | 7.27\% | 10.90\% | 6.51\% | 9.77\% |
| 54 | 7.88\% | 11.82\% | 1.75\% | 2.62\% | 7.54\% | 11.31\% | 6.61\% | 9.92\% |
| 55 | 7.79\% | 11.68\% | 1.70\% | 2.54\% | 7.45\% | 11.18\% | 6.61\% | 9.92\% |
| 56 | 7.69\% | 11.54\% | 1.63\% | 2.44\% | 7.36\% | 11.04\% | 6.61\% | 9.92\% |
| 57 | 7.60\% | 11.39\% | 1.56\% | 2.34\% | 7.27\% | 10.90\% | 6.61\% | 9.92\% |
| 58 | 7.49\% | 11.24\% | 1.50\% | 2.25\% | 7.17\% | 10.76\% | 6.61\% | 9.92\% |
| 59+ | 7.39\% | 11.08\% | 1.43\% | 2.15\% | 7.07\% | 10.60\% | 6.61\% | 9.92\% |

## General Members - Tier 2 (31676.11 - Cemetery Only)

| Entry Age | Basic Rates |  |
| :---: | :---: | :---: |
|  | $1^{\text {st }}$ \$350 | Over \$350 |
| 16 | 3.38\% | 5.07\% |
| 17 | 3.38\% | 5.07\% |
| 18 | 3.38\% | 5.07\% |
| 19 | 3.38\% | 5.07\% |
| 20 | 3.38\% | 5.07\% |
| 21 | 3.47\% | 5.20\% |
| 22 | 3.55\% | 5.33\% |
| 23 | 3.64\% | 5.46\% |
| 24 | 3.74\% | 5.60\% |
| 25 | 3.83\% | 5.75\% |
| 26 | 3.93\% | 5.89\% |
| 27 | 4.03\% | 6.04\% |
| 28 | 4.13\% | 6.20\% |
| 29 | 4.24\% | 6.36\% |
| 30 | 4.35\% | 6.53\% |
| 31 | 4.47\% | 6.70\% |
| 32 | 4.59\% | 6.88\% |
| 33 | 4.70\% | 7.05\% |
| 34 | 4.80\% | 7.19\% |
| 35 | 4.88\% | 7.32\% |
| 36 | 4.97\% | 7.46\% |
| 37 | 5.06\% | 7.60\% |
| 38 | 5.14\% | 7.72\% |
| 39 | 5.21\% | 7.82\% |
| 40 | 5.26\% | 7.89\% |
| 41 | 5.32\% | 7.97\% |
| 42 | 5.37\% | 8.05\% |
| 43 | 5.42\% | 8.13\% |
| 44 | 5.48\% | 8.22\% |
| 45 | 5.53\% | 8.30\% |
| 46 | 5.59\% | 8.39\% |
| 47 | 5.65\% | 8.48\% |
| 48 | 5.71\% | 8.57\% |
| 49 | 5.77\% | 8.66\% |
| 50 | 5.82\% | 8.73\% |
| 51 | 5.84\% | 8.76\% |
| 52 | 5.84\% | 8.76\% |
| 53 | 6.06\% | 9.08\% |
| 54 | 6.28\% | 9.42\% |
| 55 | 6.21\% | 9.32\% |
| 56 | 6.14\% | 9.20\% |
| 57 | 6.06\% | 9.09\% |
| 58 | 5.98\% | 8.96\% |
| 59+ | 5.89\% | 8.84\% |

## Safety Members

| Entry Age | Tier 1 |  |  |  | Tier 2 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Basic Rate |  | COL Rate |  | Basic Rate |  |
|  | $1^{\text {st }}$ \$350 | Over \$350 | Over \$350 | $1^{\text {st }}$ \$350 | $1^{\text {st }}$ \$350 | Over \$350 |
| 20 | 5.36\% | 8.04\% | 2.65\% | 3.98\% | 4.92\% | 7.39\% |
| 21 | 5.48\% | 8.21\% | 2.70\% | 4.05\% | 5.03\% | 7.54\% |
| 22 | 5.59\% | 8.39\% | 2.73\% | 4.09\% | 5.14\% | 7.70\% |
| 23 | 5.71\% | 8.57\% | 2.76\% | 4.14\% | 5.25\% | 7.87\% |
| 24 | 5.83\% | 8.75\% | 2.79\% | 4.19\% | 5.36\% | 8.04\% |
| 25 | 5.96\% | 8.94\% | 2.82\% | 4.24\% | 5.47\% | 8.21\% |
| 26 | 6.09\% | 9.14\% | 2.85\% | 4.28\% | 5.59\% | 8.39\% |
| 27 | 6.22\% | 9.34\% | 2.88\% | 4.33\% | 5.72\% | 8.57\% |
| 28 | 6.36\% | 9.54\% | 2.91\% | 4.37\% | 5.84\% | 8.76\% |
| 29 | 6.51\% | 9.76\% | 2.94\% | 4.41\% | 5.97\% | 8.96\% |
| 30 | 6.66\% | 9.98\% | 2.97\% | 4.45\% | 6.11\% | 9.17\% |
| 31 | 6.81\% | 10.22\% | 2.95\% | 4.43\% | 6.25\% | 9.38\% |
| 32 | 6.97\% | 10.46\% | 2.95\% | 4.42\% | 6.40\% | 9.60\% |
| 33 | 7.14\% | 10.71\% | 2.94\% | 4.42\% | 6.53\% | 9.79\% |
| 34 | 7.32\% | 10.98\% | 2.95\% | 4.42\% | 6.63\% | 9.94\% |
| 35 | 7.40\% | 11.10\% | 2.95\% | 4.42\% | 6.70\% | 10.05\% |
| 36 | 7.49\% | 11.23\% | 2.95\% | 4.42\% | 6.78\% | 10.16\% |
| 37 | 7.57\% | 11.36\% | 2.94\% | 4.42\% | 6.85\% | 10.28\% |
| 38 | 7.66\% | 11.49\% | 2.95\% | 4.42\% | 6.93\% | 10.40\% |
| 39 | 7.75\% | 11.63\% | 2.95\% | 4.42\% | 7.02\% | 10.53\% |
| 40 | 7.85\% | 11.78\% | 2.96\% | 4.43\% | 7.11\% | 10.66\% |
| 41 | 7.96\% | 11.94\% | 2.96\% | 4.44\% | 7.18\% | 10.77\% |
| 42 | 8.08\% | 12.11\% | 2.97\% | 4.45\% | 7.24\% | 10.86\% |
| 43 | 8.13\% | 12.19\% | 3.00\% | 4.49\% | 7.29\% | 10.93\% |
| 44 | 8.18\% | 12.27\% | 3.03\% | 4.55\% | 7.34\% | 11.01\% |
| 45 | 8.25\% | 12.37\% | 3.05\% | 4.58\% | 7.35\% | 11.03\% |
| 46 | 8.33\% | 12.49\% | 3.05\% | 4.57\% | 7.33\% | 11.00\% |
| 47 | 8.28\% | 12.43\% | 3.05\% | 4.57\% | 7.29\% | 10.94\% |
| 48 | 8.24\% | 12.36\% | 3.04\% | 4.56\% | 7.56\% | 11.34\% |
| 49+ | 8.19\% | 12.29\% | 3.04\% | 4.56\% | 7.84\% | 11.76\% |

Appendix II:



| Merced County Employees' Retirement Association | 72 |
| ---: | :--- |
| Actuarial Review and Analysis as of June 30, 2011 |  |

Schedule of Retirees and Beneficiaries Valuation Data

| Valuation at Year End |  |  |  |  |  |  | Annual Retirement Payroll | Average <br> Allowance <br> Percentage Increase | Average <br> Annual Allowance |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Beginning of Year | Added During Year | Allowances Added | Removed During Year | Allowances Removed | End of <br> Year |  |  |  |
| 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 | 1,477 | 24,867,000 | 9.16\% | 16,836 |
| 2006 | 1,477 | 98 | 2,007,000 | 53 | 785,000 | 1,521 | 27,297,000 | 9.77\% | 17,947 |
| 2007 | 1,521 | 136 | 4,419,000 | 38 | 560,000 | 1,620 | 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 |


[^0]:    ${ }^{1}$ Open for " $A$ " Level management only.

[^1]:    ${ }^{2}$ No general wage increase is assumed for the FY 2012-2013

