

# Merced County Employees' Retirement Association

Report on the Actuarial Valuation As of June 30, 2008





# MERCED COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

# REPORT ON THE ACTUARIAL VALUATION AS OF JUNE 30, 2008

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May 20, 2009

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

Members of the Board:

We are pleased to present our report on the actuarial valuation of the Merced County Employees' Retirement Association as of June 30, 2008. The actuarial valuation is based on audited financial information and member data provided by the Retirement Association and summarized in this report.

All costs, liabilities and other factors used for the valuation were determined in accordance with generally accepted actuarial principles and procedures, using an actuarial cost method that we believe is reasonable. This report fully and fairly discloses the actuarial position of the Association.

In our opinion, the actuarial assumptions used are reasonable, taking into account the experience of the Association and reasonable expectations, and represent our best estimate of the anticipated experience under the Association. A summary of the actuarial assumptions and methods used in this actuarial valuation is shown in Section 8.

We are Members of the American Academy of Actuaries and meet the Academy's qualification standards to issue the statement of actuarial opinion.

We look forward to discussing this report with the Board and wish to express our appreciation for the invaluable cooperation extended to us by the Retirement Staff during the course of this study.

Respectfully submitted,

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Principal and Consulting Actuary

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Senior Consultant

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The table below summarizes the principal results from the current and the prior valuations.

r	Actuarial Valu	nation as of	Change Between	en Years
<u>Item</u>	<b>June 30, 2007</b>	June 30, 2008	<b>Amount</b>	<b>Percent</b>
Contribution Summary*				
Average Employer Contribution Rate	21.48%	23.19%	1.71%	8.0%
Estimated Employer Contributions	\$ 21,606,000	\$25,340,000	\$3,734,000	17.3%
Average Member Contribution Rate	7.96%	7.85%	-0.11%	-1.4%
Estimated Member Contributions	\$ 8,073,000	\$8,653,000	\$580,000	7.2%
Market Value of Assets				
Market Value of Assets	\$ 519,310,756	\$482,641,573	\$(36,669,183)	-7.1%
Actuarial Value of Assets	\$ 484,450,302	\$488,346,514	\$3,896,212	0.8%
Valuation Assets	\$ 480,516,711	\$469,910,606	\$(10,606,105)	-2.2%
GASB No. 25 Funded Status				
Actuarial Accrued Liability	\$ 656,414,914	\$692,252,217	\$35,837,303	5.5%
Unfunded Actuarial Accrued Liability/(Surplus)	\$ 171,964,612	\$203,905,703	\$31,941,091	18.6%
Funded Ratio	73.8%	70.5%	-3.3%	-4.5%
Summary of Data				
Active Participants	2,235	2,260	25	1.1%
Participants with Deferred Benefits	568	600	32	5.6%
Retired Participants and Beneficiaries	<u>1,620</u>	<u>1,658</u>	<u>38</u>	2.3%
Total	4,423	4,518	95	2.1%
Retired Participant Statistics				
Total Annual Allowance	\$ 31,823,000	\$34,603,000	\$2,780,000	8.7%
Average Annual Allowance	\$ 19,644	\$20,870	\$1,226	6.2%
Active Participant Statistics				
Total Annual Compensation	\$100,589,000	\$109,253,000	\$8,664,000	8.6%
Average Annual Compensation	\$ 45,006	\$48,342	\$3,336	7.4%
Average Age	43.42	43.42	0.00	0.0%
Average Service	8.67	8.71	0.04	0.5%
Key Assumptions				
Interest rate	8.16%	8.16%	0.00	0.00%
Inflation	4.50%	4.50%	0.00	0.00%
* Weighted by respective payrolls.				

<sup>\*</sup> Weighted by respective payrolls.

## **Purpose**

This report has been prepared by Buck Consultants to present the results of the June 30, 2008 actuarial valuation of the Merced County Employees' Retirement Association. The main purposes of the report are to:

- 1. Review the experience of the Association over the past year and identify reasons for changes in costs;
- 2. Calculate the annual contribution required to fund the Association in accordance with actuarial principles;
- 3. Project any emerging trends in Association costs;
- 4. Present items required for disclosure under Statement No. 25 of the Governmental Accounting Standards Board (GASB) and the annual CAFR.

# Significant Changes Since Last Year

Subtract Contingency and Interest Fluctuation Reserves from the Actuarial Value of Assets.

#### **Contribution Rates**

The average employer contribution rate increased from 21.48% as of June 30, 2007 to 23.19% as of June 30, 2008 for the following reasons:

June 30, 2007 Recommended Employer Rate	21.48%
Changes during the year due to:	
Experience loss/(gain)	(2.29)%
Asset loss/(gain)	3.95%
Change in the Amortization Period	0.05%
Total changes	1.71%
June 30, 2008 Recommended Employer Rate	23.19%

#### **Asset Returns**

During the twelve months ended June 30, 2008, the Association assets had an investment return of -6.7% on a market value basis and 1.2% on an actuarial value basis, compared to the actuarial assumption of 8.16%.

**Funding Ratio - GASB 25** 

The Governmental Accounting Standards Board Statement No. 25 (GASB 25) requires that the funding progress be shown based on the same funding method that was used to develop the Association's contribution requirements, the Entry Age Normal Cost funding method. The funding ratio decreased from 73.8% on June 30, 2007 to 70.5% on June 30, 2008.

**Non-economic Assumptions** 

A triannual experience study of the members of the Association was performed at the time of the June 30, 2007 valuation. At that time, we analyzed the plan experience during the three-year period from July 1, 2004 through June 30, 2007 regarding service retirements, deaths, disabilities and terminations of employment, and compared the number of actual terminations to the incidence expected using the then current actuarial assumptions. Where the results differed materially, we recommended modifying the assumptions. We will continue to use these new actuarial assumptions until the next experience analysis, which is due to be performed at the time of the June 30, 2010 actuarial valuation.

**Economic Assumptions** 

In order to ensure that the same inflationary expectations are consistently included in all of the economic assumptions, we have used a building block approach in developing these assumptions. That is, we assumed that the investment return earned over the long-term is comprised of inflation and the real rate of return. In addition, we have assumed future salary increases are comprised of inflation, merit and longevity increases.

**Inflation Assumption** 

We recommend that the current 4.50% long-term level of inflation be continued.

## **Investment Return Assumption**

Based upon future anticipated long-term returns on the Association's targeted asset mixes, we also recommend that the 3.50% future real rate of return be continued. In combination, these assumptions equate to an 8.00% long-term investment return assumption. Since interest is credited semi-annually, the nominal rate of 4.00% produces an effective rate of 8.16%.

#### **Salary Increase Assumption**

We incorporated the same inflation assumption, 4.50%, into the recommended long-term salary increase assumption. The overall effect of the merit and longevity increases is to add approximately 1.00% to the total salary increase assumption. Based on discussions with the Association staff, almost all members are taking advantage of the opportunity to include 160 hours of unused annual leave in their final average salary, as allowed by the Ventura decision.

#### **Actuarial Balance Sheet**

The actuarial balance sheet compares the present value of all future benefits anticipated to be paid for the current membership with the sources of funds to be used to provide these benefits. It illustrates that if recommended contribution levels made in the future prove out over time, current assets plus future employer and member contributions will be adequate to meet future benefit payments for the current membership.

## **Interest Crediting Policy**

The Retirement Board has adopted an interest crediting policy on member contributions. A key aspect of the policy is that interest will float between zero percent and six percent, with the Board setting the interest rate for any period based in part on the investment earnings during that period. Member accounts are given first priority for any interest credits during a period. The target interest rate for other accounts is the actuarially assumed rate.

#### Assets

The following discussion focuses on the assets of the Merced County Employees' Retirement Association, which is a key component in the determination of the Association's funding status.

#### **Financial Exhibits**

Exhibit 2.1 presents a statement of net Plan assets at Market Value.

Exhibit 2.2 presents a statement of changes in net Plan assets.

Exhibit 2.3 presents the calculation of the Actuarial Value of assets.

Exhibit 2.4 presents the calculation of the asset gain or loss for the year.

Exhibit 2.5 presents the historical returns on the Association's assets.

#### **Market Value of Assets**

Represents the fair market value of assets as of June 30, 2007 and June 30, 2008, as reported by the Trustee.

#### **Actuarial Value of Assets**

The Board has adopted an actuarial value of assets method that recognizes the difference between expected and actual market returns, net of expenses, over a 5-year period. The net market value of assets was \$482,641,573 and the net current actuarial value of assets under this method was \$488,346,514 or 101.2% of market value as of June 30, 2008.

#### **Valuation Assets**

Represents the actuarial value of the fund less the value of any special reserves that have been set aside for benefits that are to be funded outside the actuarially determined contribution rates. As of the valuation date, there are three special reserves: the Interest Fluctuation Reserve, the Contingency Reserve, and the IRC 401(h) Reserve.

#### **Rate of Return on Assets**

During the twelve months ended June 30, 2008, the Association assets had an investment return of -6.70% on a market value basis and 1.20% on an actuarial value basis, compared to the actuarial assumption of 8.16%.

EXHIBIT 2.1 – STATEMENT OF PLAN NET ASSETS

# AS OF JUNE 30, 2007 AND JUNE 30, 2008

		June 30,2007		June 30,2008
ASSETS				
Cash and Cash Equivalents	\$	72,208,931	\$	36,612,605
Receivables:				
Other	\$	12,981	\$	17,452
Bond Interest		1,086,032		441,883
Stock Dividends		184,718		158,240
Contributions		620,893		803,146
Securities Sold	_	3,161,315	_	2,532,808
Total Receivables	\$	5,065,939	\$	3,953,529
Investments at Fair Value:				
U.S. Government Bonds	\$	57,427,648	\$	19,313,900
U.S. Corporate Bonds		61,121,291		41,591,390
Domestic Fixed Income (Index Funds)				51,109,630
Common Stocks (Individual Equities)		224,139,859		166,039,934
Invesco (International Equity Fund)		55,705,055		82,975,316
Mellon Capital (Index Fund)		61,190,945		53,639,358
UBS Real Estate Separate Account (RESA)		37,799,191		38,948,020
Alternative Investments	_	10,151,613	_	19,156,397
Total Investments	\$	507,535,602	\$	472,773,945
Prepaid expenses	\$	0	\$	0
Property, Fixtures, and Equipment				
Net of Accumulated Depreciation of \$61,026				
and \$51,997 respectively	\$_	20,231	\$_	11,203
Total Assets	\$	584,830,703	\$	513,351,282
LIABILITIES				
Accounts Payable	\$	906,237	\$	779,960
Securities Lending Obligation		51,309,226		24,344,477
Securities Purchased		13,266,111		5,474,099
Unclaimed Contributions	_	38,373	-	111,173
Total Liabilities	\$	65,519,947	\$	30,709,709
Net Assets Held in Trust for Pension Benefits	\$	519,310,756	\$	482,641,573

EXHIBIT 2.2 – STATEMENT OF CHANGES IN PLAN NET ASSETS

# AS OF JUNE 30, 2007 AND JUNE 30, 2008

ADDITIONG		<u>June 30, 2007</u>		<u>June 30, 2008</u>
ADDITIONS Generally discourse				
Contributions:	\$	22 222 000	Ф	22.751.427
Employer	\$	23,232,099	\$	23,751,437
Plan members	_	8,757,297	φ -	9,357,702
Total contributions	\$	31,987,396	\$	33,109,139
Net appreciation (depreciation)				
in fair value of investments	\$	40,248,806	\$	(79,599,096)
Investment income		35,564,948		47,672,899
Other revenue		53,398		258,045
Less investment expenses		(2,302,469)		(2,332,306)
Net investment income (loss)	\$	73,564,683	\$	(34,000,458)
Securities lending income	\$	1,424,740	\$	1,419,347
Securities lending expense	*	(1,375,278)	т	(1,216,289)
Net securities lending income	\$	49,462	\$	203,058
Total investment income	\$	73,614,145	\$	(33,797,400)
Total additions	\$	105,601,541	\$	(688,261)
DEDUCTIONS				
Post Employment Health Subsidies	\$	850,000		850,000
Benefit payments		29,577,586		33,394,363
Refunds of contributions		703,867		653,143
Administrative expenses/Actuarial fees		1,056,053	_	1,083,416
Total deductions	\$ _	32,187,056	\$	35,980,922
Net increase (decrease)	\$	73,414,035	\$	(36,669,183)
Net assets held in trust for pension benefits at beginning of year:	\$	445,896,721	\$	519,310,756
Net assets held in trust for pension benefits at end of year:	\$	519,310,756	\$	482,641,573

# EXHIBIT 2.3 – ACTUARIAL VALUE OF ASSETS

1.		Contributions	Benefit Payments	Expected Investment <u>Return</u>	Actual Investment <u>Return</u>	Additional <u>Earnings</u>	Portion Deferred	Deferred <u>Earnings</u>
	2004	\$10,616,281	\$23,606,644	\$34,473,086	\$45,268,022	\$10,794,936	0%	\$0
	2005	13,515,440	25,328,776	34,610,416	37,131,776	2,521,360	20%	504,272
	2006	22,971,691	27,715,779	35,038,804	34,655,253	(383,551)	40%	(153,420)
	2007	31,987,396	31,131,453	36,012,796	75,916,614	39,903,818	60%	23,942,291
	2008	33,109,139	34,897,506	37,838,089	(31,465,094)	(69,303,183)	80%	(55,442,546)
	Total							\$(31,149,403)
2.	2. Market Value of Assets as of June 30, 2008							\$482,641,573
3.	3. Preliminary Actuarial Value of Assets as of June 30, 2008: (2)-(1)							\$513,790,976
4.								579,169,888
5.	5. 80% of Market Value							386,113,258
6.	Actua	rial Value of Ass	ets as of June 3	0, 2008 pre Inte	erest Fluctuation	Reserve Adjustn	nent	\$513,790,976
7.	7. Interest Fluctuation Reserve as of June 30, 2008							25,444,462
8.	8. Actuarial Value of Assets as of June 30, 2008 post Interest Fluctuation Reserve Adjustment: (6)-(7)						ment: (6)-(7)	\$488,346,514
9.	9. Contingency Reserve as of June 30, 2008							15,352,318
10.	IRC 4	01(h) Reserve						3,083,590
11.	Valua	tion Assets as of	June 30, 2008 :	(8)-(9)-(10)				\$469,910,606

# EXHIBIT 2.4 – ASSET GAIN/LOSS

	Market Value	Valuation Value
Total as of June 30, 2007	\$ 519,310,756	\$ 480,516,712
Changes During the Year		
County Contributions	\$ 23,751,437	\$ 23,751,437
Member Contributions	9,357,702	9,357,702
Benefit Payments	(34,897,506)	(34,047,506)
Expenses	(3,415,722)	(3,415,722)
Investment Return	(31,465,094)	(6,252,017)
Total as of June 30, 2008	\$ 482,641,573	\$ 469,910,606
Expected Value as of June 30, 2008	\$ 559,826,612	\$ 518,750,974
Gain/(Loss)	\$ (77,185,039)	\$ (48,840,368)
Rate of Return	-6.7%	-2.0%

EXHIBIT 2.5 – HISTORICAL RETURNS ON ASSOCIATION ASSETS

Year Ended June 30,	Annualized Rate of Return at <u>Market Value</u>	Annualized Rate of Return at Actuarial Value	Increase in Consumer Price <u>Index*</u>
1987		12.0%	3.7%
1988		8.6%	4.0%
1989		8.7%	5.2%
1990		8.7%	4.7%
1991		9.0%	4.7%
1992		9.1%	3.1%
1993		9.2%	3.0%
1994		6.3%	2.5%
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%
Compounded Average	6.9%	7.7%	3.2%

<sup>\*</sup> Based on All Urban Consumer - U.S. City Average, June indices

#### Liabilities

This section focuses on the Association's actuarial liabilities and the cost components that are derived from those liabilities.

#### **Actuarial Value of Assets**

Represents the value of assets accumulated by the Association at Actuarial Value (item 1 in Exhibit 3.1).

# Present Value of Future Member Contributions

Represents the present value of the contributions anticipated to be received in the future from the current members (item 2 in Exhibit 3.1).

# Present Value of Future Employer Normal Cost Contributions

Represents the present value of future employer normal costs with respect to current members (item 3 in Exhibit 3.1).

# Unfunded Actuarial Accrued Liability (Surplus)

Represents the difference between the present value of the benefits to be paid from the Association and the total of the existing assets plus the present value of the future employer normal cost contributions and future member contributions. In the text we will abbreviate it as UAAL. The UAAL is amortized as a level percentage of payrolls over 16 years from June 30, 2008 (item 4 in Exhibit 3.1).

#### **Total Actuarial Assets**

Represents the total of current assets at actuarial value plus the value of all future member and employer normal cost contributions plus current future employer costs to amortize the UAAL (item 5 in Exhibit 3.1).

#### **Present Value of Benefits**

The valuation determines the amount and timing of all future payments that will be made by the Association. For active members, the present value of benefits includes the value of all benefits earned to date and all benefits to be earned in the future. For all members, the present value of benefits includes the value of benefits payable to members and survivors over their remaining lifetimes. The present value is then determined by discounting these payments at the assumed interest rate to June 30, 2008, the date of the valuation. The present value of supplemental benefits is shown at reserve values (items 6 to 12 in Exhibit 3.1).

## **Actuarial Accrued Liability**

Employer contributions have been determined under the Entry Age Normal Cost Method, permitted by Government Code Section 31453.5. The Entry Age Normal Cost Method defines the Normal Cost as the level percentage of salary necessary to fund the projected future benefits over the period from each employee's date of entry to the date of separation from active service. The Actuarial Accrued Liability is the cost allocated to years prior to the actuarial valuation date; it is the excess of the total value of benefits over the value of future member contributions and future employer Normal Costs. The difference between the Actuarial Accrued Liability and the actuarial value of assets is called the Unfunded Actuarial Accrued Liability.

#### **Actuarial Gain and Loss**

The difference between the UAAL and the expected UAAL is an actuarial gain or loss. The actuarial gain or loss is comprised of two components: the asset gain or loss (from investment experience different than expected) and the liability gain or loss (from demographic sources, such as salary growth, turnover and retirement patterns, and mortality different than expected).

#### **Funded Ratio**

The ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability.

# EXHIBIT 3.1 – ACTUARIAL BALANCE SHEET

ASS	ETS		
1.	Actuarial value of assets	\$	488,346,514
2.	Present value of future contributions by members		50,043,253
3.	Present value of future employer contributions for normal cost		52,431,151
4.	Present value of other future employer contributions (UAAL)	_	203,905,703
5.	Total actuarial assets	\$	794,726,621
<u>LIA</u>	BILITIES		
6.	Present value of retirement allowances payable to retired members and their survivors	\$	370,764,441
7.	Present value of service retirement allowances payable to presently active members and their survivors		295,719,233
8.	Present value of allowances payable to current and future vested terminated members and their survivors		56,891,283
9.	Present value of disability retirement allowances payable to presently active members and their survivors		27,916,203
10.	Present value of death benefits payable on behalf of presently active members		5,380,230
11.	Present value of members' contributions to be returned upon withdrawal		19,619,323
12.	Special Reserves	_	18,435,908
13.	Total actuarial liabilities	\$	794,726,621

# EXHIBIT 3.2 – ACTUARIAL ACCRUED LIABILITY

14. Present value of future benefits (items 6 to 12)	\$	794,726,621
15. Present value of future contributions by members and employers (items 2 and 3)	_	102,474,404
16. Actuarial accrued liability (item 14 minus item 15)	\$	692,252,217
17. Actuarial value of assets	-	488,346,514
18. Unfunded actuarial accrued liability (UAAL) (item 16 minus item 17)	\$	203,905,703
19. Funded ratio (item 17/item 16)		70.5%

# EXHIBIT 3.3 – ACTUARIAL GAIN AND LOSS

1.	Unfunded actuarial accrued liability as of July 1, 2007		\$ 171,964,612
2.	Expected change:		
	(a) Normal cost	\$ 17,007,760	
	(b) Interest on (a)	680,310	
	(c) Interest on (1)	14,032,312	
	(d) Contributions (member and employer)	(33,109,139)	
	(e) Interest on (d)	(1,324,366)	
	(f) Net change: $(a)+(b)+(c)+(d)+(e)$		\$ (2,713,122)
3.	Expected unfunded actuarial accrued liability: (1)+(2)		\$ 169,251,490
4.	Change due to actuarial experience:		
	(a) Actuarial (gain)/loss from liability sources	\$ (14,186,155)	
	(b) Actuarial (gain)/loss from asset sources	48,840,368	
	(c) Change in actuarial assumptions	0	
	(d) Net (gain)/loss: (a)+(b)+(c)		\$ 34,654,213
5.	Actual unfunded actuarial accrued liability: (3)+(4)		\$ 203,905,703

#### **Member Contributions**

This section focuses on the determination of the member contribution rates to the Association

#### **Member Basic Contributions**

Government Code Section 31621.8 sets forth the basis for the determination of the normal rates of contribution for General Tier 1 and Tier 2 members. Government Code Section 31639.5 sets forth the basis for the normal rates of contribution for Safety Tier 1 and Tier 2 members.

The law further provides that the contribution rates of members will be based on the age nearest birthday at the time of entrance into the Retirement Association. Section 31453 states that no adjustment will be included in the rates of contribution for time prior to the effective date of any revisions.

Member Basic Contributions are based on entry age into the Association and the following actuarial assumptions:

- 1. Actuarial investment return (8.16%)
- 2. Salary increase (average of 5.50%)
- 3. Life expectancy

The basic employee contribution rates for General members were calculated on a unisex basis using the 1994 Group Annuity Mortality Table for Males with a 3-year setback. The Safety basic employee rates were based upon the 1994 Group Annuity Mortality Table for Males with a 1-year setback.

## **Cost-of-Living Contributions**

The employee portion of the cost-of-living provision is expressed as a percentage of the employees' basic contribution rates. The current cost of living percentage is 25.41% for Tier 1 General members and the recommended cost of living percentage is 24.79%. The current cost of living percentage is 61.79% for Tier 1 Safety members and the recommended cost of living percentage is 61.35%. The members pay 50% of the total cost of living rates.

A summary of the current and recommended average employee contribution rates is provided below.

	Average N	Average Member Basic and Cost of Living Contribution Rates				
	Ger	neral	Saf	ety		
	<u>Tier 1</u>	Tier 2*	Tier 1	<u>Tier 2*</u>		
Current Rates	9.14%	7.40%	10.57%	7.29%		
Recommended Rates	9.04%	7.39%	10.28%	7.27%		
* Tier 2 Members do not pay co	st of living contributions.					

Recommended employee rates at sample ages, with and without the cost of living, are shown below.

RECOMMENDED MEMBER CONTRIBUTION RATES

_	Basic	With 3% Automatic Cost of Living Increases	Basic				
Entry							
<u>Age</u>	<u>Tier 1</u>	<u>Tier 1</u>	<u>Tier 2</u>				
25	6.81%	8.50%	6.49%				
35	7.80%	9.73%	7.43%				
45	9.10%	11.36%	8.67%				

New Benefits Under Section 31664.1						
_	Basic	With 3% Automatic Cost of Living Increases	Basic			
Entry						
<u>Age</u>	<u>Tier 1</u>	<u>Tier 1</u>	<u>Tier 2</u>			
25	7.54%	12.17%	7.19%			
35	8.67%	13.99%	8.26%			
45	10.11%	16.31%	9.63%			

<sup>\*</sup>These are the full rates payable by the member. Contribution rates for the first \$350 of monthly salary are one-third lower for members covered by Social Security.

# GENERAL TIER 1 MEMBERS' CONTRIBUTION RATES (expressed as a percentage of monthly compensation) New Benefits Under Section 31676.17

	Ba	sic	Cost-of-	Living*		Ва	sic	Cost-of-	Living*
Entry Age	First \$350	Over \$350	First \$350	Over \$350	Entry Age	First \$350	Over \$350	First \$350	Over \$350
16	4.26%	6.39%	1.05%	1.58%	36	5.28%	7.92%	1.31%	1.96%
17	4.27	6.40	1.06	1.59	37	5.36	8.04	1.33	1.99
18	4.28	6.42	1.06	1.59	38	5.44	8.16	1.35	2.02
19	4.30	6.45	1.07	1.60	39	5.53	8.29	1.37	2.06
20	4.33	6.49	1.07	1.61	40	5.61	8.42	1.39	2.09
21	4.35	6.53	1.08	1.62	41	5.70	8.55	1.41	2.12
22	4.39	6.59	1.09	1.63	42	5.79	8.68	1.43	2.15
23	4.44	6.66	1.10	1.65	43	5.88	8.82	1.46	2.19
24	4.49	6.73	1.11	1.67	44	5.97	8.96	1.48	2.22
25	4.54	6.81	1.13	1.69	45	6.07	9.10	1.51	2.26
26	4.59	6.89	1.14	1.71	46	6.16	9.24	1.53	2.29
27	4.65	6.98	1.15	1.73	47	6.25	9.38	1.55	2.33
28	4.71	7.07	1.17	1.75	48	6.35	9.53	1.57	2.36
29	4.77	7.16	1.18	1.77	49	6.45	9.67	1.60	2.40
30	4.84	7.26	1.20	1.80	50	6.55	9.82	1.62	2.43
31	4.91	7.36	1.21	1.82	51	6.64	9.96	1.65	2.47
32	4.98	7.47	1.23	1.85	52	6.74	10.11	1.67	2.51
33	5.05	7.57	1.25	1.88	53	6.84	10.26	1.69	2.54
34	5.13	7.69	1.27	1.91	54+	6.94	10.41	1.72	2.58
35	5.20	7.80	1.29	1.93					
* 24.79%	of basic rate	es							

<sup>\* 24.79%</sup> of basic rates

Mortality:

 Interest:
 8.16%

 Inflation:
 4.50%

 COLA:
 3.00%

1994 GA (MALE, -3)

# GENERAL TIER 2 MEMBERS' CONTRIBUTION RATES (expressed as a percentage of monthly compensation) New Benefits Under Section 31676.17

	Ba	sic	Cost-of-l	Living*		Basic		Cost-of-l	Living*
Entry Age	First \$350	Over \$350	First \$350	Over \$350	Entry Age	First \$350	Over \$350	First \$350	Over \$350
16	4.06%	6.09%	0.00%	0.00%	36	5.03%	7.54%	0.00%	0.00%
17	4.07	6.10	0.00	0.00	37	5.11	7.66	0.00	0.00
18	4.08	6.12	0.00	0.00	38	5.19	7.78	0.00	0.00
19	4.10	6.15	0.00	0.00	39	5.27	7.90	0.00	0.00
20	4.12	6.18	0.00	0.00	40	5.35	8.02	0.00	0.00
21	4.15	6.23	0.00	0.00	41	5.43	8.15	0.00	0.00
22	4.19	6.28	0.00	0.00	42	5.51	8.27	0.00	0.00
23	4.23	6.34	0.00	0.00	43	5.61	8.41	0.00	0.00
24	4.27	6.41	0.00	0.00	44	5.69	8.54	0.00	0.00
25	4.33	6.49	0.00	0.00	45	5.78	8.67	0.00	0.00
26	4.38	6.57	0.00	0.00	46	5.87	8.81	0.00	0.00
27	4.43	6.65	0.00	0.00	47	5.96	8.94	0.00	0.00
28	4.49	6.73	0.00	0.00	48	6.05	9.08	0.00	0.00
29	4.55	6.82	0.00	0.00	49	6.15	9.22	0.00	0.00
30	4.61	6.92	0.00	0.00	50	6.23	9.35	0.00	0.00
31	4.68	7.02	0.00	0.00	51	6.33	9.49	0.00	0.00
32	4.74	7.11	0.00	0.00	52	6.42	9.63	0.00	0.00
33	4.81	7.22	0.00	0.00	53	6.51	9.77	0.00	0.00
34	4.88	7.32	0.00	0.00	54+	6.61	9.92	0.00	0.00
35	4.95	7.43	0.00	0.00					
* 0% of b	asic rates								

 Interest:
 8.16%

 Inflation:
 4.50%

 COLA:
 0.00%

 Mortality:
 1994 GA (MALE, -3)

# SAFETY TIER 1 MEMBERS' CONTRIBUTION RATES (expressed as a percentage of monthly compensation) New Benefits Under Section 31664.1

	Ba	sic	Cost-of-	Living*		Ba	asic	Cost-of-	Living*
Entry Age	First \$350	Over \$350	First \$350	Over \$350	Entry Age	First \$350	Over \$350	First \$350	Over \$350
20	4.73%	7.10%	2.91%	4.36%	35	5.78%	8.67%	3.55%	5.32%
21	4.79	7.18	2.93	4.40	36	5.87	8.81	3.60	5.40
22	4.85	7.27	2.97	4.46	37	5.96	8.94	3.65	5.48
23	4.91	7.36	3.01	4.52	38	6.06	9.09	3.72	5.58
24	4.97	7.45	3.05	4.57	39	6.15	9.23	3.77	5.66
25	5.03	7.54	3.09	4.63	40	6.25	9.37	3.83	5.75
26	5.09	7.64	3.13	4.69	41	6.35	9.52	3.89	5.84
27	5.16	7.74	3.17	4.75	42	6.44	9.66	3.95	5.93
28	5.23	7.84	3.21	4.81	43	6.54	9.81	4.01	6.02
29	5.30	7.95	3.25	4.88	44	6.64	9.96	4.07	6.11
30	5.37	8.06	3.29	4.94	45	6.74	10.11	4.13	6.20
31	5.45	8.17	3.34	5.01	46	6.84	10.26	4.19	6.29
32	5.53	8.29	3.39	5.09	47	6.94	10.41	4.26	6.39
33	5.61	8.41	3.44	5.16	48	7.04	10.56	4.32	6.48
34	5.69	8.54	3.49	5.24	49+	7.15	10.73	4.39	6.58

<sup>\* 61.35%</sup> of basic rates

 Interest:
 8.16%

 Inflation:
 4.50%

 COLA:
 3.00%

Mortality: 1994 GA (MALE, -1)

# SAFETY TIER 2 MEMBERS' CONTRIBUTION RATES (expressed as a percentage of monthly compensation) New Benefits Under Section 31664.1

	Ba	sic	Cost-of-I	Living*		Ba	sic	Cost-of-l	Living*
Entry Age	First \$350	Over \$350	First \$350	Over \$350	Entry Age	First \$350	Over \$350	First \$350	Over \$350
20	4.51%	6.76%	0.00%	0.00%	35	5.51%	8.26%	0.00%	0.00%
21	4.56	6.84	0.00	0.00	36	5.59	8.39	0.00	0.00
22	4.61	6.92	0.00	0.00	37	5.68	8.52	0.00	0.00
23	4.67	7.01	0.00	0.00	38	5.77	8.66	0.00	0.00
24	4.73	7.10	0.00	0.00	39	5.86	8.79	0.00	0.00
25	4.79	7.19	0.00	0.00	40	5.95	8.93	0.00	0.00
26	4.85	7.28	0.00	0.00	41	6.05	9.07	0.00	0.00
27	4.92	7.38	0.00	0.00	42	6.14	9.21	0.00	0.00
28	4.99	7.48	0.00	0.00	43	6.23	9.35	0.00	0.00
29	5.05	7.58	0.00	0.00	44	6.33	9.49	0.00	0.00
30	5.12	7.68	0.00	0.00	45	6.42	9.63	0.00	0.00
31	5.19	7.79	0.00	0.00	46	6.52	9.78	0.00	0.00
32	5.27	7.90	0.00	0.00	47	6.61	9.92	0.00	0.00
33	5.35	8.02	0.00	0.00	48	6.71	10.07	0.00	0.00
34	5.43	8.14	0.00	0.00	49+	6.81	10.22	0.00	0.00

<sup>\* 0%</sup> of basic rates

 Interest:
 8.16%

 Inflation:
 4.50%

 COLA:
 0.00%

 Mortality:
 1994 GA (MALE, -1)

## **Employer Contributions**

This section focuses on the determination of the employer contribution rates to the Association.

## **Employer Contribution rates**

Employer contributions have been determined under the Entry Age Normal Cost Method, permitted by Government Code Section 31453.5. The Entry Age Normal Cost method defines the Normal Cost as the level percentage of salary necessary to fund the projected future benefit over the period from the date of entry to the date of separation from active service. The Actuarial Accrued Liability is the cost allocated to years prior to the actuarial valuation date; it is the excess of the total value of benefits over the value of future member and employer Normal Cost contributions. The difference between the Actuarial Accrued Liability and the plan assets is called the Unfunded Actuarial Accrued Liability (UAAL) and is funded (amortized) as a level percentage of payrolls over 16 years from June 30, 2008.

The average employer contribution rate increased from 21.48% as of June 30, 2007 to 23.19% as of June 30, 2008 for the following reasons:

June 30, 2007 Recommended Employer Rate	21.48%
Changes during the year due to:	
Experience loss/(gain)	(2.29)%
Asset loss/(gain)	3.95%
Change in the Amortization Period	0.05%
Total changes	1.71%
June 30, 2008 Recommended Employer Rate	23.19%

The following charts specify the recommended employer contributions and components thereof (expressed as a level percentage of payroll) for this valuation. A breakdown between normal cost and UAAL and by basic and cost-of-living benefits is provided.

# NORMAL COST AND UAAL RATE BREAKDOWN

		Current and Recommended Rate Breakdown						
	Tier 1	Members	Tier 2	2 Members	All Members*			
	<u>Current</u> <u>Recommended</u>		<u>Current</u> <u>Recommended</u>		Current	Recommended		
General								
Normal Cost	7.19%	7.02%	7.02%	6.81%	7.07%	6.87%		
UAAL Amortization	13.82%	15.84%	13.82%	15.84%	13.82%	15.84%		
Total Cost	21.01%	22.86%	20.84%	22.65%	20.89%	22.71%		
Safety								
Normal Cost	16.98%	16.55%	13.03%	13.08%	14.43%	14.19%		
UAAL Amortization	10.32%	11.60%	10.32%	11.60%	10.32%	11.60%		
Total Cost	27.30%	28.15%	23.35%	24.68%	24.75%	25.79%		
*Weighted by June 30, 2008 payr	oll.							
	Average Rate	e for Total Group:		Current	21.48%			
	· ·	•		Recommended	23.19%			

# BASIC AND COST OF LIVING RATE BREAKDOWN

		Current and Recommended Rate Breakdown							
	Tier 1	Members	Tier 2	Members	All Members*				
	<u>Current</u>	Recommended	<u>Current</u>	Recommende <u>d</u>	Current	Recommended			
General									
Basic	15.68%	17.12%	16.96%	18.34%	16.56%	17.99%			
Cost of Living	5.33%	5.74%	3.88%	4.31%	4.34%	4.72%			
Total Cost	21.01%	22.86%	20.84%	22.65%	20.89%	22.71%			
Safety									
Basic	19.13%	20.53%	18.58%	20.39%	18.78%	20.43%			
Cost of Living	8.17%	7.62%	4.77%	4.29%	5.98%	5.35%			
Total Cost	27.30%	28.15%	23.35%	24.68%	24.75%	25.79%			
*Weighted by June 30, 2008	payroll.								
	Average Rate	for Total Group:		Current Recommended	21.48% 23.19%				

#### Recommendations

We recommend that the economic and demographic assumptions be reviewed in connection with our June 30, 2010 actuarial valuation.

We recommend that the Board adopt the member and employer contribution rates as of June 30, 2008 as shown in the prior sections. These rates, which reflect the current assumptions, are based on the Entry Age Normal Cost Method and the actuarial value of assets, with the Unfunded Actuarial Accrued Liability amortized as a level percentage of payrolls over 16 years from June 30, 2008.

This combination of assumptions and methods reflects our best judgment of future long-term experience for the Association.

#### **Actuary's Certification Letter**

January 26, 2009

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

Re: Actuarial Certification of the Merced County Employees' Retirement Association

Members of the Board:

Buck Consultants, LLC is the Consulting Actuary for the Merced County Employees' Retirement Association. Actuarial valuations are completed annually as of June 30 of each year. The date of the most recent actuarial valuation was June 30, 2008. In each actuarial study, we conduct an examination of all participant data for reasonableness.

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 payrolls to amortize the unfunded actuarial accrued liability (UAAL). As of June 30, 2008, the remaining amortization period for the UAAL was 16 years. The funding objective of the Association is to establish contribution rates that, over time, will remain as a level percentage of payrolls and will fully fund the liability for each participant by the participant's retirement date, unless Association benefit provisions are changed.

For actuarial valuation purposes, Association assets are valued at Actuarial Value. Under this method, the assets used to determine employer contribution rates take into account market value, and spread all gains and losses (returns above or below expected returns) over five years. The Association's financial statements are audited by an outside auditor.

Our firm has prepared all of the schedules presented in the actuarial report. The actuarial assumptions shown in the schedules were selected by Buck as being appropriate for the valuation and Buck is solely responsible for the trend schedules presented in the financial section of the CAFR. An analysis of the Association's noneconomic experience was performed as of June 30, 2007 to establish the validity of these assumptions. The assumptions used in this valuation produce results that, in the aggregate, reasonably approximate the anticipated future experience of the Association. The next experience analysis is due to be performed as of June 30, 2010.

We certify that the valuation was performed in accordance with generally accepted actuarial principles and practices. In particular, the assumptions and methods used for funding purposes meet the parameters of the Governmental Accounting Standards Board Statement No. 25.

Respectfully submitted,

Harold A. Loeb, A.S.A., E.A., M.A.A.A.

Principal and Consulting Actuary

#### **GASB** and **CAFR** Information

This section focuses on the required GASB disclosures and the required CAFR information.

# GASB 25 Schedule of Funding Progress

GASB 25 established reporting and disclosure requirements for defined benefit pension plans. The required Schedule of Funding Progress shows a historical comparison of the Association's assets and liabilities, using the same actuarial method used for funding the Association.

# GASB 25 Schedule of Employer Contributions

The required Schedule of Employer Contributions compares the actual employer contributions to the "Annual Required Contributions (ARC)". The ARC is the employer contribution determined under GASB 25 standards (normal cost and amortization of unfunded actuarial accrued liabilities) using the actuarial funding method used for funding the Association.

# Actuarial Analysis of Financial Experience

The annual CAFR requires the disclosure of historical sources of actuarial gains and losses.

# **Retiree and Beneficiary Experience**

The annual CAFR requires the disclosure of historical summary data for retired members.

## **Solvency Test**

The annual CAFR requires the disclosure of a "Solvency Test." This test compares actuarial assets to actuarial accrued liabilities, applying assets to active member contributions first, then to inactive and retired members and then to the remaining active member liabilities.

EXHIBIT 7.1 – GASB 25 SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation <u>Date</u>	Valuation <u>Assets</u>	Actuarial Accrued Liability (AAL)	Unfunded AAL (UAAL)	Funded <u>Ratio</u>	Covered <u>Payroll</u>	UAAL as a Percent of Covered <u>Payroll</u>
7/1/90	\$ 132,671	\$ 175,500	\$ 42,829	75.6%	\$ 50,744	84.4%
7/1/91	143,834	199,261	55,427	72.2%	60,041	92.3%
7/1/92	156,653	223,595	66,942	70.1%	65,152	102.7%
7/1/93	172,103	247,050	74,947	69.7%	68,636	109.2%
7/1/94	180,806	280,092	99,286	64.6%	67,807	146.4%
7/1/95	189,846	290,096	100,250	65.4%	70,017	143.2%
7/1/96	210,215	289,150	78,935	72.7%	69,421	113.7%
7/1/97	233,253	291,208	57,955	80.1%	51,692	112.1%
7/1/98	260,884	333,771	72,887	78.2%	57,854	126.0%
7/1/99	354,467	351,252	(3,215)	100.9%	62,521	(5.1)%
7/1/01	411,710	404,316	(7,394)	101.8%	76,015	(9.7)%
7/1/02	424,613	421,435	(3,178)	100.8%	83,001	(3.8)%
7/1/03	428,959	451,181	22,222	95.1%	88,586	25.1%
7/1/04	430,054	531,938	101,884	80.8%	89,516	113.8%
7/1/05	428,813	589,794	160,981	72.7%	97,507	165.1%
7/1/06	439,309	619,644	180,335	71.1%	101,137	178.3%
7/1/07	480,517	652,482	171,965	73.6%	100,589	171.0%
7/1/08	488,347	692,252	203,906	70.5%	109,253	186.6%

EXHIBIT 7.2 – GASB 25 SCHEDULE OF EMPLOYER CONTRIBUTIONS

Year Ended	<b>Annual Required Contribution</b>	Percentage Contributed
6/30/90	\$5,467	100%
6/30/91	4,948	100%
6/30/92	5,478	100%
6/30/93	7,055	100%
6/30/94	6,988	100%
6/30/95	10,000	100%
6/30/96	10,566	100%
6/30/97	9,495	100%
6/30/98	9,253	100%
6/30/99	69,919*	100%
6/30/00	6,259	100%
6/30/01	6,927	100%
6/30/02	7,731	100%
6/30/03	7,201	100%
6/30/04	7,269	100%
6/30/05	8,931	100%
6/30/06	14,750	100%
6/30/07	23,232	100%
6/30/08	23,751	100%

<sup>\*</sup>Includes proceeds from Pension Obligation Bonds

EXHIBIT 7.3 - ACTUARIAL ANALYSIS OF FINANCIAL EXPERIENCE

	Act	uarial (Gains)/Lo	sses			
Plan Year <u>Ending</u>	Asset Sources	Liability Sources	<u>Total</u>	Changes in <u>Plan Provisions</u>	Changes in Assumptions/ <u>Methods</u>	Total (Gain)/Loss
6/30/1999	N/A	N/A	\$(6,212,000)	N/A	N/A	\$(6,212,000)
6/30/2000	N/A	N/A	14,316,000	N/A	N/A	14,316,000
6/30/2001	N/A	N/A	(804,000)	N/A	N/A	(804000)
6/30/2002	N/A	N/A	(7,565,000)	N/A	N/A	(7,565,000)
6/30/2003	\$15,639,284	\$11,231,696	26,870,980	N/A	N/A	26,870,980
6/30/2004	18,204,250	5,319,672	23,523,922	\$51,722,224	\$ 3,646,116	78,892,262
6/30/2005	23,824,836	9,229,933	33,054,769	2,435,268	14,011,978	49,502,015
6/30/2006	13,444,372	(2,865,643)	10,578,729	2,733,711	N/A	13,312,440
6/30/2007	(3,855,930)	(3,693,281)	(7,549,211)	N/A	624,681	(6,654,530)
6/30/2008	48,840,368	(14,186,155)	34,654,213	N/A	N/A	34,654,213

EXHIBIT 7.4 - RETIREE AND BENEFICIARY EXPERIENCE

	Added to Rolls		Removed from Rolls		Rolls at End of Year			
Plan Year <u>Ending</u>	<u>Number</u>	Annual Allowance (000's)	<u>Number</u>	Annual Allowance (000's)	<u>Number</u>	Annual Allowance (000's)	% Increase in Retiree <u>Payroll</u>	Average Annual <u>Allowances</u>
6/30/1998	N/A	N/A	N/A	N/A	1,144	\$13,031,000	6.54%	\$11,391
6/30/1999	N/A	N/A	N/A	N/A	1,179	14,398,000	10.49%	12,212
6/30/2001	N/A	N/A	N/A	N/A	1,259	16,548,000	14.93%	13,144
6/30/2002	N/A	N/A	N/A	N/A	1,295	17,673,000	6.80%	13,647
6/30/2003	N/A	N/A	N/A	N/A	1,348	20,369,000	15.25%	15,110
6/30/2004	124	\$2,807	31	\$396	1,441	22,780,000	11.84%	15,808
6/30/2005	87	1,904	51	510	1,477	24,867,000	9.16%	16,836
6/30/2006	97	2,559	52	698	1,522	27,297,000	9.77%	17,934
6/30/2007	136	4,419	38	560	1,620	31,823,000	16.58%	19.644
6/30/2008	105	2,757	67	902	1,658	34,603,000	8.74%	20,870

EXHIBIT 7.5 - SOLVENCY TEST (Dollars In Thousands)

	Actuarial Accrued Liabilities For					Portion of Accrued Liabilities Covered by Valuation Assets		
Valuation <u>Date</u>	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Members	Total Accrued <u>Liabilities</u>	Valuation <u>Assets</u>	<u>(1)</u>	(2)	<u>(3)</u>
6/30/1998	\$40,571	\$177,565	\$115,635	\$333,771	\$260,884	100%	100%	46%
6/30/1999	43,736	187,535	119,981	351,252	354,467	100%	100%	100%
6/30/2001	49,481	211,439	143,396	404,316	411,710	100%	100%	100%
6/30/2002	50,941	212,359	158,135	421,435	424,613	100%	100%	100%
6/30/2003	48,379	238,727	164,075	451,181	428,959	100%	100%	86%
6/30/2004	48,708	265,193	218,037	531,938	430,054	100%	100%	53%
6/30/2005	49,162	281,246	259,386	589,794	428,813	100%	100%	38%
6/30/2006	54,826	305,589	263,918	624,333	443,999	100%	100%	32%
6/30/2007	59,299	358,644	234,539	652,482	480,517	100%	100%	28%
6/30/2008	66,865	370,764	254,623	692,252	488,347	100%	100%	20%

## **Actuarial Assumptions**

This section focuses on the actuarial assumptions used to perform the valuation.

To perform an actuarial valuation of the assets and liabilities of the Association, the actuary must first adopt assumptions with respect to each of the following items:

## Noneconomic assumptions

- The probabilities of members separating from active service on account of nonvested and vested withdrawal, retirement for service, death and disability, and
- The mortality rates to be experienced among retired persons.

#### Economic assumptions

- Interest earnings to be realized on the funds over many years in the future, and
- The relative increases in members' salaries from the date of the valuation to the dates of separation from active service.

## **Noneconomic Assumptions**

# **Rates of Separation from Active Service**

In connection with the June 30, 2007 actuarial valuation, we compared the expected number of terminations from active service to the number actually experienced during the three-year period beginning July 1, 2004 and ending June 30, 2007. Based on this comparison and the trends observed over the prior years, the probabilities of separation were adjusted accordingly.

A complete list of the current rates of separation from active service can be found in Exhibits 8.1-8.3. These rates should be viewed in the aggregate rather than examining each of them separately. This is due to the interdependency of the rates. For example, if turnover were to increase, there would be fewer retirements.

# **Economic Assumptions**

# Inflation

In setting the economic assumptions, we take a building block approach. Specifically, we first look at the rate of inflation, which underlies both the total rate of return and the salary scale assumptions. To aid us in determining an appropriate inflation rate for the Association, we have reviewed long-term historical inflation averages, recent trends, and the assumptions adopted by other public retirement systems governed by the 1937 Act. It should be noted that we have placed more emphasis on long-term historical averages than on the more recent, short-term trends. This helps to minimize fluctuations, which are more apparent in short-term trends.

The rate of inflation is an important assumption used to value the Association's liabilities. This assumption underlies both the investment return assumption and the salary increase assumption. These in turn directly impact the employer and employee contribution rates.

If the pattern of inflation during the last 90-year period is analyzed, it may be extrapolated that the current low rates will not continue into the future indefinitely.

Because of the cyclical nature of inflation and the long-term nature of the Association's liabilities, we believe that it is appropriate to assume that the average inflation rate to be experienced over the next 30 to 50 years (which is approximately the lifetime of the Association's present obligations) will be between 4.00% and 4.75%.

Based on the information presented in the economic assumption section, we recommend that the current inflation rate assumption remain at 4.50%.

# **Economic Assumptions Real Rate of Return**

Secondly, we review the anticipated real rate of return on investments. The real rate of return is dependent on the anticipated returns on classes of investments and the asset allocation of the Association's funds. To develop the individual real rates of return, we utilize various empirical studies. By applying the results of these studies to the Association's target asset allocation, we develop the real rate of return. This rate may then be adjusted for any known or anticipated changes in the economy that may occur. Using this building block approach, we then combine the underlying inflation assumption with the real rate of return to develop the total rate of return assumption (interest rate assumption).

The first step in developing a real rate of return is to analyze how the Association's assets are allocated among the various investment classes. Based on this information, we can then apply the anticipated rate of return to the respective classes and develop an overall estimated real rate of return. The Association's target and actual asset allocations are shown in the table below.

There have been numerous studies performed which analyze the expected long-term real rates of return for use in asset allocation models. Roger Ibbotson and Rex A. Sinquefield produced one of these studies for the period 1926-2006 called *Stocks, Bonds and Inflation: Simulations of the Future*. The results of this study are presented below.

ASSET	ALLOC AS OF J 20	SET CATION UNE 30, 08 T VALUE)	IBBOTSON- SINQUEFIELD REAL RATES OF RETURN	TARGET WEIGHTED RETURN		
CLASS	TARGET	ACTUAL	(1926 - 2006)			
Equity*	71.0%	67.6%	7.1%	5.04%		
Fixed Income/Bonds	23.0%	23.6%	2.6%	0.60%		
Real Estate	6.0%	8.1%	4.0%	0.24%		
Alternative	0.0%	0.0%	4.0%	0.00%		
Short Term	0.0%	0.7%	0.7%	0.00%		
Total	100%	100%		5.88%		
*Domestic, International and Private						

## **Economic Assumptions**

#### **Real Rate of Return (continued)**

Applying the Association's target asset allocation to the real rates of return in the table produces a real rate of return of approximately 5.88% (assuming an equal proportion of government and corporate bonds and a real estate and alternative investment return of 4%). This rate, however, should be adjusted to reflect administrative expenses and potential adverse future experience.

After making this adjustment, we believe that a real rate of return of 3.50% provides a reasonable degree of conservatism when used with a 4.50% inflation rate. Thus, we feel that the 8.16% investment return assumption should be continued

#### **Salary Scale**

The salary scale assumption is developed in a similar manner. The inflation rate is combined with merit and longevity increases to produce a total salary scale assumption. We are recommending an assumption that members will cash out 90% of the maximum 160 annual leave hours allowed under the Ventura decision in their final year of employment.

# Merit and Longevity Increases

The merit and longevity component of the total salary scale assumption reflects increases in members' salaries due to promotions, advances in pay grades, etc. These increases are dependent on an individual's membership and are graded downward as members age.

The overall effect of the merit and longevity increases is to add approximately 1.00% to the total salary scale assumption.

The Entry Age Normal Cost Method was used in conjunction with the following actuarial assumptions. The UAAL is being funded as a level percentage of payrolls over 16 years from the June 30, 2007 valuation date.

1. Interest: 8.16% per annum.

2. Interest Credited to Employee Accounts: Determined annually subject to 6% maximum.

3. Inflation: 4.50% per annum.

4. Asset Valuation: Smoothed actuarial value.

5. Salary Scale: See Exhibit 8.7

6. Spouses and Dependents: 80% of General male, 50% of General female

and 90% of Safety employees assumed married at retirement, with wives assumed three years

younger than husbands.

7. Rates of Termination of Employment: See Exhibits 8.1 - 8.3

8. Years of Life Expectancy After Retirement (Exhibit 8.4):

• General 1994 Group Annuity Mortality Table for Males, with no adjustment

• General 1994 Group Annuity Mortality Table for Females, with no adjustment

• Safety 1994 Group Annuity Mortality Table for Males, with a 1 year setback

9. Years of Life Expectancy After Disability Retirement (Exhibits 8.5 and Exhibits 8.6):

- General 1981 Disability Mortality Table for Male Members, with no setback
- General 1981 Disability Mortality Table for Female Members, with a 5 year setback
- Safety 1981 Disability Mortality Table for Safety Members, with a 1 year setback

- 10. Life Expectancy After Retirement for Employee Contribution Rate Purposes
- General Members 1994 Group Annuity Table for Males, with a 3-year setback.
- Safety Members 1994 Group Annuity Table for Males, with a 1-year setback.

11. Reciprocity Assumption:

50% of members who terminate with a vested benefit are assumed to enter a reciprocal system.

12. Deferral Age for Vested Terminations:

Age 60 for General members; age 50 for Safety members.

13. Sex:

All Safety members are assumed to be male.

EXHIBIT 8.1 – PROBABILITIES OF SEPARATION FROM ACTIVE SERVICE
GENERAL MEMBERS – MALES
CURRENT ASSUMPTIONS

		Ordinary	Non-Service Connected		Death While	Duty	Service Connected	Terminated
Age	Withdrawal	<u>Death</u>	<u>Disability</u>	Service	<u>Eligible</u>	<u>Death</u>	<u>Disability</u>	Vested
20	0.20900	0.00030	0.00000	0.00000	0.00000	0.00000	0.00008	0.00000
21	0.20350	0.00030	0.00000	0.00000	0.00000	0.00000	0.00008	0.00000
22	0.19800	0.00030	0.00000	0.00000	0.00000	0.00000	0.00008	0.00000
23	0.19250	0.00030	0.00000	0.00000	0.00000	0.00000	0.00008	0.00000
24	0.18700	0.00030	0.00000	0.00000	0.00000	0.00000	0.00008	0.00000
25	0.18150	0.00030	0.00040	0.00000	0.00010	0.00000	0.00016	0.01130
26	0.17600	0.00030	0.00050	0.00000	0.00010	0.00000	0.00024	0.01300
27	0.17050	0.00040	0.00060	0.00000	0.00010	0.00000	0.00024	0.01430
28	0.16390	0.00040	0.00070	0.00000	0.00010	0.00000	0.00032	0.01550
29	0.15620	0.00040	0.00080	0.00000	0.00010	0.00000	0.00032	0.01690
30	0.14850	0.00040	0.00080	0.00000	0.00010	0.00000	0.00040	0.01850
31	0.14300	0.00040	0.00080	0.00000	0.00010	0.00000	0.00048	0.01990
32	0.13860	0.00040	0.00080	0.00000	0.00010	0.00000	0.00056	0.02150
33	0.13530	0.00040	0.00080	0.00000	0.00010	0.00000	0.00056	0.02290
34	0.12760	0.00050	0.00080	0.00000	0.00010	0.00000	0.00064	0.02360
35	0.11990	0.00050	0.00080	0.00000	0.00020	0.00000	0.00072	0.02410
36	0.11000	0.00050	0.00090	0.00000	0.00020	0.00000	0.00072	0.02400
37	0.10120	0.00050	0.00100	0.00000	0.00020	0.00000	0.00080	0.02350
38	0.09240	0.00060	0.00110	0.00000	0.00020	0.00000	0.00080	0.02260
39	0.08580	0.00060	0.00120	0.00000	0.00020	0.00000	0.00088	0.02270
40	0.06688	0.00060	0.00130	0.00000	0.00030	0.00000	0.00096	0.02270
41	0.06237	0.00070	0.00140	0.00000	0.00030	0.00000	0.00104	0.02300
42	0.05863	0.00070	0.00150	0.00000	0.00030	0.00000	0.00112	0.02320
43	0.05500	0.00080	0.00160	0.00000	0.00040	0.00000	0.00120	0.02320
44	0.05137	0.00090	0.00180	0.00000	0.00040	0.00000	0.00128	0.02350
45	0.04796	0.00090	0.00190	0.00000	0.00050	0.00000	0.00144	0.02340
46	0.04565	0.00090	0.00200	0.00000	0.00050	0.00000	0.00152	0.02350
47	0.04301	0.00100	0.00210	0.00000	0.00060	0.00000	0.00160	0.02340
48	0.04037	0.00100	0.00220	0.00000	0.00070	0.00000	0.00168	0.02340
49	0.03762	0.00100	0.00230	0.00000	0.00090	0.00000	0.00176	0.02290
50	0.03036	0.00100	0.00240	0.06150	0.00110	0.00000	0.00192	0.02320
51	0.02717	0.00100	0.00260	0.04100	0.00120	0.00000	0.00200	0.02280
52	0.02398	0.00100	0.00280	0.04100	0.00140	0.00000	0.00208	0.02230
53	0.02860	0.00110	0.00290	0.06000	0.00160	0.00000	0.00224	0.02090
54	0.02420	0.00110	0.00300	0.03380	0.00180	0.00000	0.00232	0.01940
55	0.02090	0.00120	0.00320	0.07500	0.00200	0.00000	0.00240	0.01810
56	0.01925	0.00130	0.00340	0.07880	0.00220	0.00000	0.00256	0.01740
57	0.01760	0.00140	0.00360	0.16500	0.00240	0.00000	0.00272	0.01630
58	0.01540	0.00150	0.00380	0.08630	0.00260	0.00000	0.00296	0.01510
59	0.01430	0.00160	0.00400	0.18000	0.00280	0.00000	0.00320	0.01450
60	0.01320	0.00170	0.00420	0.16000	0.00310	0.00000	0.00336	0.01480
61	0.01210	0.00180	0.00440	0.16000	0.00330	0.00000	0.00352	0.01380
62	0.01100	0.00190	0.00460	0.34500	0.00360	0.00000	0.00368	0.01280
63	0.00990	0.00190	0.00480	0.18060	0.00390	0.00000	0.00384	0.01220
64	0.00880	0.00200	0.00520	0.22140	0.00420	0.00000	0.00400	0.01160
65	0.00000	0.00220	0.00000	0.25560	0.00450	0.00000	0.00000	0.00000
66	0.00000	0.00240	0.00000	0.25000	0.00490	0.00000	0.00000	0.00000
67	0.00000	0.00260	0.00000	0.40000	0.00530	0.00000	0.00000	0.00000
68	0.00000	0.00280	0.00000	0.70000	0.00570	0.00000	0.00000	0.00000
69	0.00000	0.00310	0.00000	0.80000	0.00610	0.00000	0.00000	0.00000
70	0.00000	0.00000	0.00000	1.00000	0.00000	0.00000	0.00000	0.00000

EXHIBIT 8.2 – PROBABILITIES OF SEPARATION FROM ACTIVE SERVICE
GENERAL MEMBERS - FEMALES
CURRENT ASSUMPTIONS

		Ordinary	Non-Service Connected		Death While	Duty	Service Connected	Terminated
Age	Withdrawal	<u>Death</u>	<u>Disability</u>	Service	Eligible	<u>Death</u>	<u>Disability</u>	<u>Vested</u>
20	0.17200	0.00015	0.00000	0.00000	0.00000	0.00000	0.00008	0.00000
21	0.17040	0.00015	0.00000	0.00000	0.00000	0.00000	0.00008	0.00000
22	0.16880	0.00015	0.00000	0.00000	0.00000	0.00000	0.00008	0.00000
23	0.16720	0.00015	0.00000	0.00000	0.00000	0.00000	0.00008	0.00000
24	0.16560	0.00015	0.00000	0.00000	0.00000	0.00000	0.00008	0.00000
25	0.16080	0.00023	0.00010	0.00000	0.00008	0.00000	0.00015	0.02340
26	0.15520	0.00023	0.00010	0.00000	0.00008	0.00000	0.00015	0.02660
27	0.14720	0.00023	0.00010	0.00000	0.00008	0.00000	0.00015	0.02920
28	0.13760	0.00023	0.00010	0.00000	0.00008	0.00000	0.00015	0.03240
29	0.13280	0.00023	0.00010	0.00000	0.00008	0.00000	0.00023	0.03540
30	0.12720	0.00023	0.00020	0.00000	0.00008	0.00000	0.00023	0.01930
31	0.12080	0.00030	0.00020	0.00000	0.00008	0.00000	0.00023	0.02040
32	0.11200	0.00030	0.00020	0.00000	0.00008	0.00000	0.00023	0.02110
33	0.10720	0.00030	0.00020	0.00000	0.00008	0.00000	0.00023	0.02200
34	0.10240	0.00030	0.00020	0.00000	0.00008	0.00000	0.00023	0.02300
35	0.09440	0.00038	0.00030	0.00000	0.00008	0.00000	0.00030	0.04600
36	0.08680	0.00038	0.00030	0.00000	0.00008	0.00000	0.00030	0.04600
37	0.08080	0.00038	0.00040	0.00000	0.00008	0.00000	0.00030	0.04620
38	0.07520	0.00038	0.00040	0.00000	0.00008	0.00000	0.00030	0.04620
39	0.06960	0.00045	0.00040	0.00000	0.00008	0.00000	0.00038	0.04600
40	0.05208	0.00045	0.00040	0.00000	0.00015	0.00000	0.00038	0.02290
41	0.04888	0.00045	0.00050	0.00000	0.00015	0.00000	0.00045	0.02290
42	0.04568	0.00045	0.00060	0.00000	0.00015	0.00000	0.00045	0.02280
43	0.04312	0.00053	0.00070	0.00000	0.00015	0.00000	0.00053	0.02290
44	0.03992	0.00053	0.00080	0.00000	0.00015	0.00000	0.00060	0.02260
45	0.04640	0.00053	0.00090	0.00000	0.00023	0.00000	0.00068	0.04420
46	0.04400	0.00060	0.00100	0.00000	0.00023	0.00000	0.00075	0.04480
47	0.04080	0.00060	0.00120	0.00000	0.00030	0.00000	0.00083	0.04400
48	0.03760	0.00060	0.00140	0.00000	0.00038	0.00000	0.00090	0.04380
49	0.03440	0.00060	0.00160	0.00000	0.00045	0.00000	0.00105	0.04140
50	0.03320	0.00060	0.00180	0.06530	0.00060	0.00000	0.00120	0.01980
51	0.03200	0.00060	0.00200	0.04360	0.00075	0.00000	0.00135	0.01840
52	0.03040	0.00060	0.00220	0.03810	0.00090	0.00000	0.00150	0.01780
53	0.02880	0.00060	0.00240	0.03910	0.00105	0.00000	0.00165	0.01760
54	0.02640	0.00068	0.00260	0.03710	0.00113	0.00000	0.00188	0.01710
55	0.02320	0.00068	0.00280	0.13500	0.00128	0.00000	0.00210	0.01660
56	0.02000	0.00068	0.00310	0.13670	0.00143	0.00000	0.00233	0.01630
57	0.01680	0.00075	0.00340	0.13830	0.00158	0.00000	0.00255	0.01620
58	0.01440	0.00075	0.00380	0.14000	0.00173	0.00000	0.00278	0.01540
59	0.01200	0.00075	0.00420	0.14000	0.00188	0.00000	0.00300	0.01490
60	0.01040	0.00083	0.00460	0.16000	0.00210	0.00000	0.00315	0.01430
61	0.00960	0.00090	0.00500	0.12880	0.00233	0.00000	0.00330	0.01340
62	0.00880	0.00098	0.00550	0.35000	0.00263	0.00000	0.00345	0.01220
63	0.00800	0.00105	0.00600	0.20000	0.00285	0.00000	0.00360	0.01130
64	0.00720	0.00113	0.00650	0.20000	0.00308	0.00000	0.00375	0.01010
65	0.00000	0.00128	0.00000	0.40000	0.00323	0.00000	0.00000	0.00000
66	0.00000	0.00143	0.00000	0.45000	0.00353	0.00000	0.00000	0.00000
67	0.00000	0.00158	0.00000	0.50000	0.00375	0.00000	0.00000	0.00000
68	0.00000	0.00173	0.00000	0.60000	0.00398	0.00000	0.00000	0.00000
69	0.00000	0.00188	0.00000	0.80000	0.00420	0.00000	0.00000	0.00000
70	0.00000	0.00000	0.00000	1.00000	0.00000	0.00000	0.00000	0.00000

#### EXHIBIT 8.3 – PROBABILITIES OF SEPARATION FROM ACTIVE SERVICE SAFETY MEMBERS CURRENT ASSUMPTIONS

Age	<u>Withdrawal</u>	Ordinary <u>Death</u>	Non-Service Connected <u>Disability</u>	Service	Death While Eligible	Duty <u>Death</u>	Service Connected <u>Disability</u>	Terminated <u>Vested</u>
20	0.13000	0.00030	0.00000	0.00000	0.00000	0.00030	0.00650	0.00000
22	0.12000	0.00030	0.00000	0.00000	0.00000	0.00030	0.00660	0.00000
22	0.11500	0.00030	0.00000	0.00000	0.00000	0.00030	0.00680	0.00000
23	0.11000	0.00030	0.00000	0.00000	0.00000	0.00040	0.00690	0.00000
24	0.10500	0.00030	0.00000	0.00000	0.00000	0.00040	0.00700	0.00000
25	0.10000	0.00040	0.00020	0.00000	0.00010	0.00040	0.00730	0.03080
26	0.09500	0.00040	0.00020	0.00000	0.00010	0.00050	0.00740	0.03440
27	0.09100	0.00040	0.00030	0.00000	0.00010	0.00050	0.00760	0.03960
28	0.08700	0.00050	0.00030	0.00000	0.00010	0.00050	0.00780	0.04280
29	0.08300	0.00050	0.00040	0.00000	0.00010	0.00050	0.00800	0.04440
30	0.07800	0.00050	0.00030	0.00000	0.00010	0.00060	0.00840	0.04500
31	0.07200	0.00060	0.00030	0.00000	0.00010	0.00060	0.00880	0.04640
32	0.06600	0.00070	0.00040	0.00000	0.00010	0.00070	0.00890	0.04520
33	0.06000	0.00070	0.00040	0.00000	0.00010	0.00080	0.00940	0.04760
34	0.05400	0.00080	0.00040	0.00000	0.00010	0.00090	0.00990	0.04640
35	0.05000	0.00090	0.00040	0.00000	0.00010	0.00100	0.01030	0.02320
36	0.04600	0.00110	0.00050	0.00000	0.00010	0.00110	0.01080	0.02320
37	0.03900	0.00120	0.00050	0.00000	0.00010	0.00130	0.01130	0.02040
38	0.03500	0.00140	0.00060	0.00000	0.00010	0.00140	0.01180	0.02020
39	0.03000	0.00150	0.00060	0.00000	0.00010	0.00160	0.01230	0.01980
40	0.02500	0.00160	0.00060	0.00000	0.00020	0.00170	0.01280	0.01660
41	0.02200	0.00170	0.00070	0.00000	0.00020	0.00180	0.01330	0.01620
42	0.02000	0.00180	0.00080	0.00000	0.00020	0.00190	0.01380	0.01600
43	0.01900	0.00190	0.00080	0.00000	0.00030	0.00200	0.01440	0.01540
44	0.01750	0.00200	0.00090	0.00000	0.00030	0.00210	0.01490	0.01480
45	0.01600	0.00210	0.00090	0.00500	0.00040	0.00220	0.01560	0.01420
46	0.01500	0.00220	0.00100	0.00750	0.00050	0.00230	0.01630	0.01360
47	0.01400	0.00230	0.00100	0.01125	0.00060	0.00240	0.01730	0.01320
48	0.01200	0.00240	0.00110	0.01688	0.00070	0.00250	0.01790	0.01260
49	0.01000	0.00250	0.00120	0.02531	0.00090	0.00260	0.01880	0.01200
50	0.00900	0.00260	0.00120	0.04500	0.00100	0.00270	0.01990	0.00700
51	0.00800	0.00270	0.00130	0.03000	0.00120	0.00280	0.02090	0.00700
52	0.00700	0.00280	0.00140	0.03000	0.00140	0.00290	0.02180	0.00700
53	0.00600	0.00290	0.00140	0.03750	0.00160	0.00300	0.02300	0.00700
54	0.00500	0.00300	0.00150	0.03750	0.00180	0.00310	0.02410	0.00700
55	0.00000	0.00300	0.00160	0.25000	0.00230	0.00310	0.02530	0.00000
56	0.00000	0.00300	0.00170	0.12500	0.00260	0.00320	0.02650	0.00000
57	0.00000	0.00310	0.00180	0.12500	0.00290	0.00320	0.02780	0.00000
58	0.00000	0.00310	0.00190	0.15000	0.00300	0.00330	0.02900	0.00000
59	0.00000	0.00310	0.00200	0.30000	0.00350	0.00330	0.03030	0.00000
60	0.00000	0.00000	0.00000	1.00000	0.00000	0.00000	0.00000	0.00000

EXHIBIT 8.4 – YEARS OF LIFE EXPECTANCY AFTER SERVICE RETIREMENT CURRENT ASSUMPTIONS

General				Ger	neral		
<u>Age</u>	Male	<b>Female</b>	<b>Safety</b>	<u>Age</u>	Male	<u>Female</u>	<b>Safety</b>
50	30.69	34.89	31.62	85	6.19	7.54	6.59
51	29.77	33.94	30.69	86	5.80	7.06	6.19
52	28.85	32.99	29.77	87	5.43	6.59	5.80
53	27.95	32.05	28.85	88	5.07	6.15	5.43
54	27.04	31.11	27.95	89	4.73	5.73	5.07
55	26.15	30.17	27.04	90	4.42	5.34	4.73
56	25.27	29.24	26.15	91	4.13	4.98	4.42
57	24.39	28.31	25.27	92	3.86	4.64	4.13
58	23.52	27.40	24.39	93	3.61	4.33	3.86
59	22.67	26.49	23.52	94	3.37	4.04	3.61
60	21.83	25.59	22.67	95	3.16	3.76	3.37
61	21.00	24.70	21.83	96	2.98	3.51	3.16
62	20.18	23.82	21.00	97	2.81	3.28	2.98
63	19.39	22.96	20.18	98	2.66	3.06	2.81
64	18.60	22.11	19.39	99	2.52	2.86	2.66
65	17.84	21.28	18.60	100	2.39	2.67	2.52
66	17.10	20.46	17.84	101	2.26	2.50	2.39
67	16.37	19.65	17.10	102	2.15	2.34	2.26
68	15.66	18.86	16.37	103	2.04	2.19	2.15
69	14.97	18.08	15.66	104	1.93	2.06	2.04
70	14.29	17.31	14.97	105	1.84	1.94	1.93
71	13.63	16.54	14.29	106	1.75	1.83	1.84
72	12.98	15.78	13.63	107	1.68	1.74	1.75
73	12.34	15.04	12.98	108	1.62	1.66	1.68
74	11.72	14.31	12.34	109	1.57	1.59	1.62
75	11.12	13.60	11.72	110	1.52	1.54	1.57
76	10.53	12.90	11.12	111	1.50	1.51	1.52
77 77	9.96	12.22	10.53	112	1.48	1.49	1.50
78	9.40	11.57	9.96	113	1.47	1.49	1.48
78 79	8.88	10.93	9.40	113	1.43	1.48	1.47
80	8.37	10.33	8.88	115	1.37	1.46	1.47
81	7.89	9.71	8.37	116	1.23	1.41	1.43
82	7.89 7.44	9.14	7.89	117	1.07	1.35	1.23
83	7.00	8.58	7.44	117	0.83	1.33	1.23
84	6.59	8.05	7.00	118	0.50	1.00	0.83
U <del>T</del>	0.39	0.05	7.00	120	0.50	0.50	0.83

1994 GA (x, y) for General Members 1994 GA (x-1) for Safety Members

EXHIBIT 8.5 – YEARS OF LIFE EXPECTANCY AFTER DISABILITY RETIREMENT GENERAL MEMBERS – CURRENT ASSUMPTIONS

		ars of epectancy		Years of Life Expectancy						ars of pectancy
Age	Male	<u>Female</u>	<u>Age</u>	Male	<u>Female</u>	<u>Age</u>	Male	<u>Female</u>		
20	38.73	42.92	50	21.08	23.57	80	7.00	9.24		
21	37.98	41.92	51	20.59	23.06	81	6.63	8.76		
22	37.26	41.09	52	20.11	22.56	82	6.27	8.28		
23	36.56	40.28	53	19.63	22.06	83	5.94	7.83		
24	35.87	39.49	54	19.16	21.57	84	5.63	7.41		
25	35.19	38.73	55	18.68	21.08	85	5.34	7.00		
26	34.53	37.98	56	18.21	20.59	86	5.06	6.63		
27	33.87	37.26	57	17.75	20.11	87	4.80	6.27		
28	33.23	36.56	58	17.29	19.63	88	4.55	5.94		
29	32.60	35.87	59	16.83	19.16	89	4.31	5.63		
30	31.98	35.19	60	16.37	18.68	90	4.09	5.34		
31	31.37	34.53	61	15.91	18.21	91	3.87	5.06		
32	30.76	33.87	62	15.45	17.75	92	3.66	4.80		
33	30.17	33.23	63	14.99	17.29	93	3.46	4.55		
34	29.58	32.60	64	14.53	16.83	94	3.26	4.31		
35	29.00	31.98	65	14.07	16.37	95	3.07	4.09		
36	28.43	31.37	66	13.60	15.91	96	2.89	3.87		
37	27.87	30.76	67	13.13	15.45	97	2.71	3.66		
38	27.31	30.17	68	12.66	14.99	98	2.54	3.46		
39	26.76	29.58	69	12.18	14.53	99	2.37	3.26		
40	26.21	29.00	70	11.70	14.07	100	2.20	3.07		
41	25.67	28.43	71	11.21	13.60	101	2.04	2.89		
42	25.14	27.87	72	10.72	13.13	102	1.88	2.71		
43	24.61	27.31	73	10.22	12.66	103	1.72	2.54		
44	24.09	26.76	74	9.73	12.18	104	1.55	2.37		
45	23.57	26.21	75	9.24	11.70	105	1.38	2.20		
46	23.06	25.67	76	8.76	11.21	106	1.21	2.04		
47	22.56	25.14	77	8.28	10.72	107	1.04	1.88		
48	22.06	24.61	78	7.83	10.22	108	.88	1.72		
49	21.57	24.09	79	7.41	9.73	109	.71	1.55		
						110	.50	1.38		

1981 Disability (x, y-5) for General Members

EXHIBIT 8.6 – YEARS OF LIFE EXPECTANCY AFTER DISABILITY RETIREMENT SAFETY MEMBERS – CURRENT ASSUMPTIONS

Age	Years of Life Expectancy	Age	Years of Life Expectancy	Age	Years of <u>Life Expectancy</u>
20	50.20	50	24.38	80	7.41
21	49.29	51	23.59	81	7.00
22	48.39	52	22.80	82	6.63
23	47.48	53	22.03	83	6.27
24	46.58	54	21.26	84	5.94
25	45.68	55	20.50	85	5.63
26	44.79	56	19.77	86	5.34
27	43.89	57	19.06	87	5.06
28	43.01	58	18.40	88	4.80
29	42.12	59	17.78	89	4.55
30	41.24	60	17.20	90	4.31
31	40.36	61	16.64	91	4.09
32	39.48	62	16.11	92	3.87
33	38.61	63	15.59	93	3.66
34	37.74	64	15.08	94	3.46
35	36.88	65	14.58	95	3.26
36	36.02	66	14.09	96	3.07
37	35.16	67	13.61	97	2.89
38	34.31	68	13.13	98	2.71
39	33.45	69	12.66	99	2.54
40	32.61	70	12.18	100	2.37
41	31.77	71	11.70	101	2.20
42	30.93	72	11.21	102	2.04
43	30.09	73	10.72	103	1.88
44	29.26	74	10.22	104	1.72
45	28.43	75	9.73	105	1.55
46	27.61	76	9.24	106	1.38
47	26.80	77	8.76	107	1.21
48	25.98	78	8.28	108	1.04
49	25.18	79	7.83	109	.88
				110	.71

1981 Disability (x-1) (Safety)

EXHIBIT 8.7 – RATIO OF CURRENT COMPENSATION TO COMPENSATION ANTICIPATED AT RETIREMENT

Age	General <u>Members</u>	Safety <u>Members</u>	Age	General <u>Members</u>	Safety <u>Members</u>
20	0.063	0.121	45	0.293	0.478
21	0.070	0.129	46	0.308	0.502
22	0.077	0.137	47	0.323	0.528
23	0.084	0.146	48	0.339	0.555
24	0.090	0.155	49	0.356	0.582
25	0.097	0.165	50	0.374	0.612
26	0.103	0.175	51	0.393	0.643
27	0.110	0.186	52	0.413	0.675
28	0.117	0.196	53	0.434	0.708
29	0.125	0.208	54	0.456	0.743
30	0.133	0.220	55	0.480	0.782
31	0.140	0.234	56	0.504	0.822
32	0.149	0.248	57	0.529	0.863
33	0.157	0.262	58	0.555	0.907
34	0.166	0.277	59	0.584	0.952
35	0.176	0.292	60	0.612	1.000
36	0.186	0.307	61	0.643	
37	0.196	0.323	62	0.676	
38	0.206	0.339	63	0.710	
39	0.217	0.357	64	0.745	
40	0.228	0.374	65	0.782	
41	0.241	0.393	66	0.822	
42	0.253	0.413	67	0.863	
43	0.265	0.433	68	0.907	
44	0.279	0.454	69	0.952	
			70	1.000	

Note: Salary scale assumption reflects 4.50% for inflation and graded merit and longevity increases. We include an assumption that members will cashout 90% of the maximum 160 hours annual leave under the Ventura decision in their final year of employment.

The June 30, 2008 actuarial valuation of the Association was based on the following data. For comparison, we also show a summary of the June 30, 2007 statistical information.

SUMMARY OF RETIRED MEMBERSHIP									
	<u>June 30, 2007</u>	June 30, 2008	Percentage Change During <u>the Period</u>						
GENERAL									
Number	1,383	1,407	1.7%						
Basic Annual Allowance	\$20,021,000	\$21,612,000	7.9%						
Average Basic Monthly Allowance	\$1,206	\$1,280	6.1%						
Total Annual Allowance	\$25,435,000	\$27,536,000	8.3%						
Average Total Monthly Allowance	\$1,533	\$1,631	6.4%						
SAFETY									
Number	237	251	5.9%						
Basic Annual Allowance	\$4,807,000	\$5,320,000	10.7%						
Average Basic Monthly Allowance	\$1,690	\$1,766	4.5%						
Total Annual Allowance	\$6,388,000	\$7,067,000	10.6%						
Average Total Monthly Allowance	\$2,246	\$2,346	4.5%						
TOTAL									
Number	1,620	1,658	2.3%						
Basic Annual Allowance	\$24,828,000	\$26,932,000	8.5%						
Average Basic Monthly Allowance	\$1,277	\$1,354	6.0%						
Total Annual Allowance	\$31,823,000	\$34,603,000	8.7%						
Average Total Monthly Allowance	\$1,637	\$1,739	6.2%						

	SUMMARY OF INACTIVE MEMBERSHIP*									
	<u>June 30, 2007</u>	<u>June 30, 2008</u>	Percentage Change During the Period							
GENERAL Number	487	519	6.6%							
SAFETY Number	81	81	0.0%							
TOTAL Number	568	600	5.6%							

<sup>\*</sup>Includes unclaimed accounts.

SUMMARY OF ACTIVE MEMBERSHIP									
	June 30, 2007	June 30, 2008	Percentage Change During <u>the Period</u>						
GENERAL TIER 1									
Number	479	440	-8.1%						
Annual Payroll*	\$26,949,000	\$26,330,000	-2.3%						
Average Monthly Salary	\$4,688	\$4,987	6.4%						
Average Age	52.39	52.94	1.0%						
Average Service	19.62	20.07	2.3%						
GENERAL TIER 2									
Number	1,438	1,481	3.0%						
Annual Payroll*	\$58,359,000	\$65,786,000	12.7%						
Average Monthly Salary	\$3,382	\$3,702	9.5%						
Average Age	41.90	42.13	0.5%						
Average Service	5.15	5.59	8.5%						
SAFETY TIER 1									
Number	93	85	-8.6%						
Annual Payroll*	\$5,425,000	\$5,476,000	0.9%						
Average Monthly Salary	\$4,861	\$5,369	10.4%						
Average Age	46.17	46.87	1.5%						
Average Service	18.11	18.81	3.9%						
SAFETY TIER 2									
Number	225	254	12.9%						
Annual Payroll <sup>*</sup>	\$9,856,000	\$11,661,000	18.3%						
Average Monthly Salary	\$3,650	\$3,826	4.8%						
Average Age	32.93	33.28	1.1%						
Average Service	3.96	3.84	-3.0%						
ГОТАL									
Number	2,235	2,260	1.1%						
Annual Payroll*	\$100,589,000	\$109,253,000	8.6%						
Average Monthly Salary	\$3,751	\$4,029	7.4%						
Average Age	43.42	43.42	0.0%						
Average Service	8.67	8.71	0.5%						

<sup>\*</sup> Represents the annualization of active members' pay rates on June 30.

# AGE AND SERVICE DISTRIBUTION WITH ANNUAL AVERAGE SALARY OF ACTIVE GENERAL MEMBERS AS OF JUNE 30, 2008 TIER 1 – MALES

CURRENT AGE								
	0-4	5-9	10-14	15-19	20-24	25-29	30 & OVER	TOTAL
Below 19	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
35-39	0	1	0	2	0	0	0	3
	0	157,560	0	37,804	0	0	0	77,723
40-44	1	0	0	7	5	0	0	13
	60,320	0	0	46,880	73,528	0	0	58,163
45-49	0	2	0	13	11	5	0	31
	0	90,844	0	57,110	64,351	46,226	0	60,100
50-54	2	2	2	12	12	9	7	46
	116,914	51,558	145,309	62,865	59,237	64,057	57,952	66,847
55-59	2	1	5	13	13	4	10	48
	86,091	139,339	91,894	70,582	58,624	89,123	81,476	75,457
60-64	0	0	0	5	5	2	1	13
	0	0	0	100,961	92,875	100,654	149,989	101,575
65-69	0	0	1	3	3	0	0	7
	0	0	31,429	119,477	80,947	0	0	90,386
70 & Over	0	0	0	0	0	0	0	0
_	0	0	0	0	0	0	0	0
Total	5	6	8	55	49	20	18	161
	93,266	96,951	97,690	66,934	66,442	68,272		71,444

# AGE AND SERVICE DISTRIBUTION WITH ANNUAL AVERAGE SALARY OF ACTIVE GENERAL MEMBERS AS OF JUNE 30, 2008 TIER 1 – FEMALES

Current								
Age								
	0-4	5-9	10-14	15-19	20-24	25-29	30 & OVER	TOTAL
Below 19	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
35-39	1	0	4	8	0	0	0	13
	44,304	0	56,566	45,469	0	0	0	48,794
40-44	1	1	2	13	8	0	0	25
	75,213	44,741	58,729	47,146	52,304	0	0	50,750
45-49	2	1	9	24	18	4	2	60
	42,349	51,813	44,882	48,360	46,762	55,697	64,272	48,236
50-54	0	1	7	24	20	15	8	75
	0	32,365	54,567	59,777	55,485	54,730	55,346	56,299
55-59	4	3	9	19	19	9	10	73
	53,133	31,574	51,697	56,367	54,731	63,770	58,329	55,351
60-64	1	1	0	11	6	2	3	24
	50,039	139,339	0	49,406	65,749	50,835	57,353	58,378
65-69	0	1	0	4	0	0	0	5
	0	33,176	0	34,159	0	0	0	33,962
70 & Over	0	2	2	0	0	0	0	4
_	0	34,341	63,729	0	0	0	0	49,035
Total	9	10	33	103	71	30	23	279
TOtal	51,865	46,484	52,193	51,680	53,581		57,681	

# AGE AND SERVICE DISTRIBUTION WITH ANNUAL AVERAGE SALARY OF ACTIVE GENERAL MEMBERS AS OF JUNE 30, 2008 TIER 2 – MALES

Current								
Age								
	0-4	5-9	10-14	15-19	20-24	25-29	30 & OVER	TOTAL
Below 19	1	0	0	0	0	0	0	1
	34,507	0	0	0	0	0	0	34,507
20-24	14	0	0	0	0	0	0	14
	33,326	0	0	0	0	0	0	33,326
25-29	37	6	0	0	0	0	0	43
	39,090	47,025	0	0	0	0	0	40,197
30-34	40	18	4	1	0	0	0	63
	46,474	49,162	50,185	34,694	0	0	0	47,291
35-39	24	18	9	0	0	0	0	51
	46,782	56,470	57,838	0	0	0	0	52,152
40-44	24	26	11	0	0	0	0	61
	48,001	54,181	55,795	0	0	0	0	52,041
45-49	33	28	10	2	0	0	0	73
	48,664	54,452	47,087	39,260	0	0	0	50,410
50-54	25	32	12	1	0	0	0	70
	40,154	58,585	66,399	61,526	0	0	0	53,384
55-59	16	17	11	0	0	0	0	44
	58,864	61,529	52,151	0	0	0	0	58,215
60-64	1	10	4	0	0	0	0	15
	104,853	59,904	74,793	0	0	0	0	66,871
65-69	1	3	2	0	0	0	0	6
	36,088	73,653	60,289	0	0	0	0	62,938
70 & Over	0	0	0	0	0	0	0	0
_	0	0	0	0	0	0	0	0
Total	216	158	63	4	0	0	0	441
1000	45,249	56,061	57,081	43,685	0	0	0	50,798

# AGE AND SERVICE DISTRIBUTION WITH ANNUAL AVERAGE SALARY OF ACTIVE GENERAL MEMBERS AS OF JUNE 30, 2008 TIER 2 – FEMALES

Current								
Age								
	0-4	5-9	10-14	15-19	20-24	25-29	30 & OVER	TOTAL
Below 19	1	0	0	0	0	0	0	1
	22,152	0	0	0	0	0	0	22,152
20-24	27	0	0	0	0	0	0	27
	29,604	0	0	0	0	0	0	29,604
25-29	128	32	0	0	0	0	0	160
	34,878	39,680	0	0	0	0	0	35,838
30-34	96	46	12	0	0	0	0	154
	36,845	42,807	43,401	0	0	0	0	39,137
35-39	68	53	22	2	0	0	0	145
	39,136	45,568	45,234	49,951	0	0	0	42,561
40-44	53	59	26	1	0	0	0	139
	39,810	45,973	45,634	41,579	0	0	0	43,528
45-49	51	72	28	2	0	0	0	153
	42,926	45,961	47,731	36,005	0	0	0	45,143
50-54	46	60	34	1	0	0	0	141
	41,878	46,083	48,845	29,640	0	0	0	45,261
55-59	13	31	19	1	0	0	0	64
	29,456	48,631	47,322	41,579	0	0	0	44,237
60-64	14	17	10	1	0	0	0	42
	53,320	46,953	44,106	34,341	0	0	0	48,097
65-69	2	4	3	0	0	0	0	9
	39,811	28,235	34,084	0	0	0	0	32,757
70 & Over	0	2	1	0	0	0	0	3
_	0	47,747	29,640	0	0	0	0	41,711
Total	499	376	155	8	0	0	0	1,038
	37,913	45,092	46,269	39,881	0	0	0	41,777

# AGE AND SERVICE DISTRIBUTION WITH ANNUAL AVERAGE SALARY OF ACTIVE SAFETY MEMBERS AS OF JUNE 30, 2008 TIER 1 – TOTAL

				i ears or	Service			
Current Age								
	0-4	5-9	10-14	15-19	20-24	25-29	30 & OVER	TOTAL
Below 19	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
35-39	0	1	9	5	0	0	0	15
	0	58,573	58,961	59,688	0	0	0	59,177
40-44	0	0	9	10	4	0	0	23
	0	0	60,560	64,896	72,644	0	0	64,547
45-49	0	0	4	4	9	4	0	21
	0	0	63,503	56,254	67,988	58,770	0	63,143
50-54	0	1	2	3	2	3	1	12
	0	44,970	69,233	69,105	49,587	90,376	96,013	71,422
55-59	1	0	1	3	2	2	2	11
	126,298	0	49,587	51,556	53,467	57,575	94,328	67,390
60-64	0	0	0	1	0	0	1	2
	0	0	0	58,282	0	0	71,614	64,948
65-69	0	0	0	1	0	0	0	1
	0	0	0	49,587	0	0	0	49,587
70 & Over	0	0	0	0	0	0	0	0
_	0	0	0	0	0	0	0	0
Total	1	2	25	27	17	9	4	85
	126,298	51,772	60,710	60,825	65,210	69,040	89,071	64,424

# AGE AND SERVICE DISTRIBUTION WITH ANNUAL AVERAGE SALARY OF ACTIVE SAFETY MEMBERS AS OF JUNE 30, 2008 TIER 2 – TOTAL

				1 cars or	DCI VICC			
Current								
Age								
	0-4	5-9	10-14	15-19	20-24	25-29	30 & OVER	TOTAL
Below 19	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
20-24	28	0	0	0	0	0	0	28
	39,520	0	0	0	0	0	0	39,520
25-29	66	11	0	0	0	0	0	77
	38,983	51,090	0	0	0	0	0	40,713
30-34	47	19	0	0	0	0	0	66
	44,190	51,189	0	0	0	0	0	46,205
35-39	12	20	6	0	0	0	0	38
	38,122	57,257	61,773	0	0	0	0	51,927
40-44	8	10	4	0	0	0	0	22
	47,538	54,128	65,286	0	0	0	0	53,760
45-49	3	3	2	1	0	0	0	9
	56,860	54,794	55,432	49,587	0	0	0	55,046
50-54	4	3	0	0	0	0	0	7
	46,831	57,034	0	0	0	0	0	51,204
55-59	1	1	2	0	0	0	0	4
	58,573	55,494	52,749	0	0	0	0	54,891
60-64	1	2	0	0	0	0	0	3
	35,734	52,541	0	0	0	0	0	46,939
65-69	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
70 & Over	0	0	0	0	0	0	0	0
_	0	0	0	0	0	0	0	0
Total	170	69	14	1	0	0	0	254
2 0 000	41,449	53,870	60,582	49,587	0	0	0	45,910

# AVERAGE ANNUAL BENEFIT AND MEMBERSHIP DISTRIBUTION OF RETIRED GENERAL MEMBERS AS OF JUNE 30, 2008 MALES

Years of R	etirement
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_				Years of R	etirement			
Current								_
Age								
	0-4	5-9	10-14	15-19	20-24	25-29	30 & OVER	TOTAL
Below 45	1	0	1	1	0	0	0	3
	15,642	0	10,128	6,105	0	0	0	10,625
45-49	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
50-54	16	2	2	1	0	0	0	21
	20,301	7,887	7,779	20,780	0	0	0	17,949
55-59	44	14	5	1	1	0	0	65
	42,304	10,580	18,568	12,776	21,777	0	0	32,875
60-64	57	26	9	4	0	1	0	97
	39,460	29,946	11,400	10,060	0	16,869	0	32,861
65-69	29	33	25	5	1	0	0	93
	34,792	39,707	14,661	10,231	12,545	0	0	29,565
70-74	11	31	23	12	5	2	0	84
	29,502	20,749	24,882	15,535	7,903	17,490	0	21,440
75-79	1	5	23	37	13	5	2	86
	9,711	19,646	18,347	19,216	8,930	10,157	11,782	16,644
80-84	1	1	6	11	14	5	4	42
	23,235	2,671	24,159	20,640	30,646	7,015	16,280	22,075
85 & Over	0	0	1	1	11	27	9	49
_	0	0	35,615	13,677	24,055	20,012	10,710	19,400
•								
Total	160	112	95	73	45	40	15	540
	36,359	26,758	18,552	17,386	19,635	16,951	12,338	25,172

# AVERAGE ANNUAL BENEFIT AND MEMBERSHIP DISTRIBUTION OF RETIRED GENERAL MEMBERS AS OF JUNE 30, 2008 FEMALES

Years of Retirement

_				Years of R	etirement			
Current								
Age								
	0-4	5-9	10-14	15-19	20-24	25-29	30 & OVER	TOTAL
Below 45	2	0	0	0	0	0	0	2
	10,156	0	0	0	0	0	0	10,156
45-49	3	1	3	0	0	0	0	7
	13,002	22,809	13,693	0	0	0	0	14,699
50-54	35	2	2	0	1	0	0	40
	15,790	20,161	15,239	0	10,423	0	0	15,847
55-59	61	39	6	0	0	0	0	106
	24,175	10,407	4,486	0	0	0	0	17,995
60-64	92	45	36	5	0	0	0	178
	25,336	14,109	8,963	21,547	0	0	0	19,080
65-69	36	58	54	8	2	0	1	159
	23,190	16,508	14,632	11,006	10,220	0	4,303	16,951
70-74	5	32	58	27	5	3	2	132
	5,815	19,623	18,099	13,796	4,991	7,987	7,684	16,239
75-79	1	4	34	27	10	9	4	89
	9,474	17,591	18,422	15,506	11,215	8,502	9,263	15,175
80-84	0	2	12	21	17	14	9	75
	0	5,527	14,031	15,133	10,367	7,858	5,328	11,086
85 & Over	1	1	6	7	18	24	22	79
-	2,369	5,946	12,091	10,118	16,305	8,537	9,616	10,907
Total	236	184	211	95	53	50	38	867
Total	22,429		14,826		12,032	8,308	8,322	16,082

# AVERAGE ANNUAL BENEFIT AND MEMBERSHIP DISTRIBUTION OF RETIRED SAFETY MEMBERS AS OF JUNE 30, 2008 TOTAL

Years of Retireme	nt
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				1 cars of R	Cuiciicii			
Current Age								
1.50	0-4	5-9	10-14	15-19	20-24	25-29	30 & OVER	TOTAL
Below 45	6	2	1	0	0	0	0	9
	18,110	15,552	20,449	0	0	0	0	17,801
45-49	3	4	2	0	0	0	0	9
	39,762	20,308	14,435	0	0	0	0	25,488
50-54	13	1	8	3	2	0	0	27
	39,498	25,598	19,336	21,355	16,583	0	0	29,296
55-59	22	12	5	4	3	1	0	47
	35,372	26,831	21,253	20,789	31,061	22,078	0	29,890
60-64	13	25	12	8	7	4	0	69
	52,410	29,017	20,862	17,623	21,618	18,730	0	29,338
65-69	6	5	12	9	6	1	1	40
	30,362	22,274	32,092	33,118	27,000	16,877	18,835	29,361
70-74	1	3	5	4	2	0	1	16
	13,271	24,652	41,467	34,651	32,262	0	18,944	32,290
75-79	0	1	2	2	5	2	2	14
	0	6,216	32,103	23,241	32,765	20,702	18,541	25,658
80-84	0	0	0	0	4	3	2	9
	0	0	0	0	22,602	28,898	11,118	22,149
85 & Over	0	0	0	0	1	4	6	11
_	0	0	0	0	31,858	29,630	9,528	18,868
TD 1	- 4		47	20	20	1.5	12	251
Total	64	-			30			
	37,443	25,979	25,899	25,712	26,343	24,033	12,855	28,155

#### SUMMARY OF ANNUAL RETIREMENT ALLOWANCES

#### AS OF JUNE 30, 2008

#### GENERAL MEMBERS

g .		<u>Number</u>	Ar	nual Allowance
Service	Males	457	\$	12 202 000
	Females	667	Ψ	12,392,009 11,552,666
	Total	1,124	\$	23,944,675
	10441	1,124	Ψ	23,944,073
Disability				
·	Males	45	\$	800,221
	Females	59		842,180
	Total	104	\$	1,642,401
Beneficiaries				
	Males	38	\$	400,542
	Females	141		1,548,282
	Total	179	\$	1,948,824
Total		1,407	\$	27,535,900
Total		1,407	Ψ	21,333,900
		SAFETY MEMBERS		
		<u>Number</u>	<u>Ar</u>	nual Allowance
Service				
	Males	118	\$	4,006,655
	Females	15	. <del></del>	315,241
	Total	133	\$	4,321,896
Disability				
	Males	74	\$	1,952,588
	Females	7_		131,937
	Total	81	\$	2,084,526
Beneficiaries				
	Males	3	\$	23,137
	Females	34_		637,366
	Total	37	\$	660,503
Total		251	\$	7,066,924

#### Section 10: Summary of Major Plan Provisions

**Eligibility** First day of employment.

**Final Average Salary** Highest 12 consecutive months of compensation earned for Tier 1

members and highest 36 consecutive months of compensation

earned for Tier 2 members.

**Service Retirement** Early retirement

Age 50 and 10 years, or 30 years, for General Tier 1 Age 55 and 10 years, or 30 years, for General Tier 2

Age 50 with 10 years, or 20 years, for Safety Tiers 1 and 2

**Benefit** 

General under Section 31676.17: 2% of final average salary times years of service times factor in the table on the following page.

Safety under Section 31664.1: 3% of final average salary times years of service times factor in the table on the following page.

Benefit Factors		General	Safety
	<u>Age</u>	<u>31676.17</u>	<u>31664.1</u>
	41		.6258
	42		.6625
	43		.7004
	44		.7397
	45		.7805
	46		.8226
	47		.8678
	48		.9085
	49		.9522
	50	1.0000	1.0000
	51	1.0500	1.0000
	52	1.1000	1.0000
	53	1.1500	1.0000
	54	1.2000	1.0000
	55	1.2500	1.0000
	56	1.3000	1.0000
	57	1.3500	1.0000
	58	1.4000	1.0000
	59	1.4500	1.0000
	60	1.5000	1.0000
	61	1.5000	1.0000
	62	1.5000	1.0000
	63	1.5000	1.0000
	64	1.5000	1.0000
	65	1.5000	1.0000

Non Service Connected Disability Retirement

Greater of 1.5% (1.8% for Safety) of final average salary times years of service, with a maximum of 33-1/3% if projected service is used (age 65 for General, age 55 for Safety), or 90% of the accrued service retirement benefit without a benefit adjustment, or service retirement benefit (if eligible).

Service Connected Disability Retirement Greater of 50% of final average salary or service retirement benefit (if eligible).

#### Section 10: Summary of Major Plan Provisions

Death Before Retirement If nonservice connected before eligible to retire, a refund of contributions plus 1/12 of last year's salary per year of service up to 6

years.

If eligible for nonservice connected disability or service retirement, 60%

of member's accrued allowance.

If service connected death, 50% of salary.

Death After Retirement For service retirement or nonservice connected disability, 60% of

member's allowance payable to an eligible spouse.

For service connected disability, 100% of member's allowance payable

to an eligible spouse.

**Vesting** After five years of Service.

**Member Contributions** Based on entry age

**Maximum Benefit** 100% of final average salary

**Cost-Of-Living** Up to 3% COLA for Tier 1 members, depending on CPI changes.

None for Tier 2 members.

Following is a glossary of some of the commonly used actuarial terms.

Actuarial Accrued Liability The portion, as determined by a particular cost method, of

the total present value of benefits that is attributable to past

service credit.

Actuarial Gain (Loss)

A measure of the difference between actual and expected

experience based upon a set of actuarial assumptions, Examples include higher than expected salary increases (loss) and a higher return on fund assets than anticipated

(gain).

Actuarial Present Value Also referred to as the present value of benefits. It is the

value, as of a specified date, of the amounts payable in the future to all plan participants, where the amounts have been adjusted to reflect both the time value of money and the

probability that the payment will actually be made.

Amortization or UAAL Payment That portion of the pension plan contribution which is

designed to pay off (amortize) the unfunded actuarial accrued liability in a systematic fashion. Equivalently, it is a

series of periodic payments required to pay off a debt.

Annual Amount Estimated contributions due for the year in order to ensure

the orderly funding of the pension plan (equal to the contribution rate multiplied by the annual payroll). The annual amount is comprised of normal cost and UAAL

payments.

Entry Age Normal Actuarial Cost This method assumes that the annual costs are the level

percentage of salary needed from entry age until retirement age

to fund the ultimate retirement benefit.

The portion of this actuarial present value allocated to a

valuation year is called the normal cost.

Final Average Salary The average amount of compensation earned over a specified

number of consecutive months preceding retirement during

which compensation was highest.

Funding Policy The policy for the amounts and timing of contributions to be

made by the employer, members and any other sources to

provide the benefits promised by the pension plan.

Method

#### Section 11: Glossary of Terms

Non-economic Actuarial Assumptions Probabilities that members will separate from active service for

causes such as retirement, disability, death and withdrawal, as well as rates of post-retirement mortality. The probabilities

reflect the experience of the Association membership.

Normal Cost The annual cost allocated to the system by a particular

actuarial cost method for providing benefits. Normal cost payments are made during the working lifetime of each

member.

Unfunded Actuarial Accrued Liability

(UAAL)

The excess of the actuarial accrued liability over the actuarial

value of assets.

Vested Benefit an employee is entitled to if the employee

separates from active service prior to normal retirement age.