

September 24, 2003

# **Actuarial Valuation Report**

## San Mateo County Employees' Retirement Association

As of June 30, 2003

**MERCER**

Human Resource Consulting

September 24, 2003

Board of Retirement  
San Mateo County Employees' Retirement Association  
100 Marine Parkway, Suite 125  
Redwood Shores, CA 94065

**Subject: Actuarial Valuation for the San Mateo County Employees'  
Retirement Association**

Dear Members of the Board:

We are pleased to present the actuarial valuation for the San Mateo County Employees' Retirement Association prepared as of June 30, 2003, by Mercer Human Resource Consulting. The report includes:


1. A determination of the recommended employer contribution rates. These rates are calculated to be effective July 1, 2004;
2. A determination of the recommended member contribution rates, also to be effective on July 1, 2004;
3. A determination of the funded status as of June 30, 2003; and
4. Financial reporting and disclosure information pursuant to applicable accounting standards.

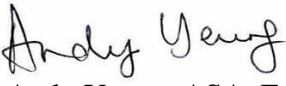
This report incorporates the impact on funding status and contribution rates of the Retirement Board's expansion of the pay items includable in Earnable Compensation in response to the 1997 California Supreme Court decision in the Ventura County Deputy Sheriff's Association vs. Board of Retirement, Ventura County Employees' Retirement Association. This report assumes no retroactive application of the October 1, 1997, Ventura decision.

The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

We look forward to presenting this report to the Board in the September meeting.

Sincerely,

  
Marcia L. Chapman, FSA, EA, MAAA

  
Andy Yeung, ASA, EA, MAAA

AY/MLC/ay:gjw

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## Section 1: Actuarial Certification

The annual actuarial valuation required for the San Mateo County Employees' Retirement Association has been prepared as of June 30, 2003, by Mercer Human Resource Consulting. In preparing this valuation, we have employed generally accepted actuarial methods and assumptions to determine a sound value for the Association's assets, liability and future contribution requirements. Our calculations are based upon member data and unaudited financial information provided to us by the Association's staff. This data has not been audited by us, but it has been reviewed and found to be consistent, both internally and with prior year's data.

The contribution requirements are determined as a percentage of payroll. Employer rates provide for both normal cost and a contribution to amortize the unfunded actuarial accrued liability. The amortization period for the unfunded actuarial accrued liability is 19 years as of June 30, 2003. The contribution to the unfunded actuarial accrued liability is calculated to remain as a level percentage of future payroll (including projected payroll for future members). Payments to the unfunded actuarial accrued liability are calculated to increase at 4.25% per year. The period for amortizing the unfunded actuarial accrued liability is set by the Board of Retirement.

Contribution levels are recommended by the Actuary and adopted by the Board each year. The ratio of Actuarial Value of Assets to Actuarial Accrued Liabilities decreased from 85.3% to 76.0% during the year. There was a reduction in the funding ratio due to:

- Actual investment returns on actuarial value of assets less than the 8.25% rate assumed in the last valuation
- Reduction in anticipated future rate of investment return to 8.00%
- Reflection of benefit improvement for General members to 2% at 55.5 (Section 31676.14)

However, there is some offset to the unfunded actuarial accrued liabilities due to a reduction in the inflation assumption to 3% per year.

Changes have been made to the economic assumptions used in this valuation. Please see Appendix B for details.

The liabilities and costs in this valuation incorporate the Board's expansion of the pay items includable in Earnable Compensation in response to the 1997 California Supreme Court's decision in Ventura County Deputy Sheriff's Association vs. Board of Retirement, Ventura County Employee's Retirement Association. Terminal pay is excluded under the Board's policy and the expansion of Earnable Compensation only applies to retirees since October 1997 (i.e., no retroactive application).

In our opinion, the combined operation of the assumptions and methods applied in this valuation, fairly represent past and anticipated future experience of the Association and meet the parameters required by GASB Statement 25.

**Section 1: Actuarial Certification** *(continued)*

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

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

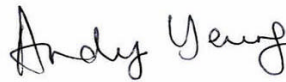
The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render this actuarial opinion.

Mercer Human Resource Consulting



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Marcia L. Chapman, FSA, EA, MAAA



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Andy Yeung, ASA, EA, MAAA

September 16, 2003

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Date

September 16, 2003

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Date

## Section 2: Board Member Summary of Valuation Results

### EMPLOYER CONTRIBUTION RATES SUMMARY OF RECOMMENDATIONS

Employer Contributions Rates	June 30, 2003	June 30, 2002	Increase/Decrease
Normal Cost Rate:	13.32%	12.98%	0.34%
Rate of Contribution to Unfunded Actuarial Accrued Liability:	<u>9.52%</u>	<u>5.71%</u>	<u>3.81%</u>
Total Employer Rate:	22.84%	18.69%	4.15%
Estimated Annual Amount:*	\$ 73,995,000	\$ 60,528,000	\$ 13,467,000

Member Contribution Rates	June 30, 2003**	March 13, 2005**	June 30, 2002**	Increase/Decrease
General Members (Plan 1 & Plan 2)				
25	5.90%	6.95%	5.54%	
35	6.22%	7.24%	5.90%	
45	6.89%	7.94%	6.63%	
General Members (Plan 4)				
25	5.63%	6.62%	5.28%	
35	5.93%	6.90%	5.63%	
45	6.57%	7.57%	6.32%	
Safety Members (Plan 1 & Plan 2)				
21	8.43%		6.77%	1.66%
25	8.48%		6.84%	1.64%
30	8.66%		7.03%	1.63%
Safety Members (Plan 4)				
21	8.02%		6.44%	1.58%
25	8.07%		6.51%	1.56%
30	8.24%		6.69%	1.55%
Probation Officers (Plan 1 & Plan 2)				
21	8.43%		7.97%	0.46%
25	8.48%		8.05%	0.43%
30	8.66%		8.27%	0.39%
Probation Officers (Plan 4)				
21	8.02%		7.58%	0.44%
25	8.07%		7.66%	0.41%
30	8.24%		7.87%	0.37%
Estimated Annual Amount*	\$ 27,153,000		\$ 21,440,000	\$ 5,713,000

Actuarial Assumptions	June 30, 2003	June 30, 2002	Increase/Decrease
Annual Inflation Rate (for COLA and Investment Returns):	3.00%	4.25%	-1.25%
Annual Wage Inflation:	4.25%	4.25%	0.00%
Annual Investment Return:	8.00%	8.25%	-0.25%
Average Annual Salary Increases:	6.25%	6.25%	0.00%

\* The Estimated Annual Amounts for Employee Contributions and Employer Contributions include cost sharing through June 30, 2005, weighted for timing.

\*\* The June 30, 2002, June 30, 2003 and March 13, 2005 rates above do not reflect changes in cost sharing and employer-pickup arrangements effective after June 30, 2002. See Appendix A for details regarding cost sharing and employer pickup arrangements.

**Section 2: Board Member Summary of Valuation Results (cont.)**

**SAN MATEO COUNTY  
Employees' Retirement Association  
Summary of Significant Actuarial Statistics and Measures**

<b>Association Membership</b>	<b>June 30, 2003</b>	<b>June 30, 2002</b>	<b>Increase/Decrease</b>
<i>Active Members</i>			
1. Number of Members	4,937	4,872	1.3%
2. Total Active Payroll	\$ 323,896,000	\$ 301,891,000	7.3%
3. Average Monthly Salary	\$ 5,467	\$ 5,164	5.9%
<i>Retired Members</i>			
1. Number of Members			
Service Retirement	2,637	2,638	0.0%
Disability Retirement	329	316	4.1%
Beneficiaries	488	477	2.3%
2. Total Retired Payroll	\$ 69,451,000	\$ 66,974,000	3.7%
3. Average Monthly Pension	\$ 1,676	\$ 1,627	3.0%
<i>Inactive Vested Members</i>			
1. Number of Members	855	833	2.6%
<hr/>			
<b>Asset Values (Net)</b>	<b>June 30, 2003</b>	<b>June 30, 2002</b>	
Market Value	\$ 1,233,272,000	\$ 1,207,484,000	2.1%
Return on Market Value	3.07%	-6.40%	
Actuarial Value	\$ 1,387,521,000	\$ 1,448,980,000	-4.2%
Return on Actuarial Value	-3.43%	2.08%	
Valuation Assets	\$ 1,353,941,000	\$ 1,416,821,000	-4.4%
Return on Valuation Assets	-3.69%	3.44%	
<hr/>			
<b>Liability Values</b>	<b>June 30, 2003</b>	<b>June 30, 2002</b>	
Actuarial Accrued Liability	\$ 1,781,544,000	\$ 1,660,566,000	7.3%
Unfunded Actuarial Accrued Liability (UAAL)	\$ 427,603,000	\$ 243,745,000	75.4%
Deferred Losses for Asset Smoothing Method	\$ 154,249,000	\$ 241,497,000	-36.1%
<hr/>			
<b>Funding Ratios</b>	<b>June 30, 2003</b>	<b>June 30, 2002</b>	
GASB No. 25*	76.0%	85.3%	-9.3%

\* Based on valuation assets

### Section 3: Actuarial Valuation Results

#### Employer and Member Contribution Rates

The following Table provides a comparison of the Employer and Member contribution rates and estimated annual contribution amounts under the valued actuarial assumption sets. The estimated annual contribution amounts are based upon annual payroll as of the actuarial valuation date.

**Table 1  
Contribution Rates and Estimated Annual Contributions**

Valuation Basis (Inflation/Investment Return/ Salary Increase)	Employer Contributions		Member Contributions	
	Rate*	Annual Amount*	Rate*	Annual Amount
<b>Current Rates</b> (4.25%/8.25%/6.25%)	18.69%	\$ 60,528,000	6.62%	\$ 21,440,000
<b>Recalculated Rates**</b> (3.00%/8.00%/6.25%)	22.84%	\$ 73,995,000	8.38%	\$ 27,153,000

\* Based on total annual salaries as of June 30, 2003 of \$323,896,000

\*\* Employee Rates and Employer Rates include weighted cost sharing through June 30, 2005.

#### Recommendation

Mercer recommends the adoption of the valuation basis and contribution rates according to the Recalculated Rates. The component parts of the current and recalculated employer and member contribution rates broken down among the various member categories can be found in Tables 2 and 3, respectively.

Please note that the current and recalculated rates are calculated assuming no subsidies of normal costs between plans.



**Section 3: Actuarial Valuation Results (continued)**

Explanation of Changes in Actuarial Values

Employer Contribution Rate

The average employer contribution rate increased from 18.69% calculated in the June 30, 2003, valuation to 22.84% calculated in this valuation. While the average rates declined, the rates for various classes of members both increased and decreased.

The gains and losses were as follows:

<u>Summary of (Gains) / Losses</u>	<u>Contribution Rate</u>	<u>Dollar Impact</u>
June 30, 2002 Rate	18.69%	\$ 60,550,000
Salary Increase lower than expected	(0.11%)	\$ (356,000)
Fewer withdrawals than expected	0.03%	\$ 97,000
Retiree COLA less than expected	(0.31%)	\$ (1,004,000)
Asset (Gain) / Loss	3.79%	\$ 12,278,000
Reduction in UAAL Rate	(0.17%)	\$ (551,000)
Change due to Assumption Changes	0.50%	\$ 1,620,000
Decrease due to Employee Cost Sharing	(1.00%)	\$ (3,240,000)
Decrease due to Elimination of 15% pick-up for Deputy Sheriffs	(0.20%)	\$ (648,000)
Miscellaneous (Gains) / Losses	0.02%	\$ 65,000
<u>Change due to Section 31676.14 for General</u>	<u>1.60%</u>	<u>\$ 5,184,000</u>
Total	4.15%	\$ 13,445,000
June 30, 2003 Rate	22.84%	\$ 73,995,000

Explanation of Gains/Losses

- (1) Salary increase less than expected – salary increases for continuing active employees averaged 5.68% over 2002/2003, and was slightly under the 6.25% increase expected.
- (2) Retiree COLA less than expected – Retirees received a COLA which was smaller than the assumed COLA.
- (3) Assets (Gain)/Loss – The Association’s valuation assets earned \$169 million less than the 8.25% return assumption.
- (4) Miscellaneous (Gains)/Losses – Other rate changes with untraced sources.

Member Contribution Rate

See Appendix A for a description of the member rates and cost sharing.

### **Section 3: Actuarial Valuation Results** *(continued)*

#### Funding Ratios

There was a reduction in the funding ratio due to:

- Actual investment returns on actuarial value of assets less than the 8.25% rate assumed in the last valuation
- Reduction in anticipated future rate of investment return to 8.00%
- Reflection of benefit improvement for General members to 2% at 55.5 (Section 31676.14)

However, there is some offset to the unfunded actuarial accrued liabilities due to a reduction in the inflation assumption to 3% per year.

#### Actuarial Assumptions

The investment return assumption used to develop the numbers in this valuation was reduced from 8.25 percent to 8.0 percent. In addition, the cost-of-living assumption was reduced from 4.25 percent to 3.0 percent to better reflect expectations of cost-of-living in the future.

### Section 3: Actuarial Valuation Results *(continued)*

**Table 2**  
**Summary of Employee Basic Contribution Rates**

**Current Member Rates**

4.25% inflation, 8.25% interest, and 6.25% salary increase assumptions

GENERAL			SAFETY*			PROBATION		
Entry Age	Plan 1 and 2 Rate	Plan 4 Rate	Entry Age	Plan 1 and 2 Rate	Plan 4 Rate	Entry Age	Plan 1 and 2 Rate	Plan 4 Rate
25	5.54%	5.28%	21	6.77%	6.44%	21	7.97%	7.58%
35	5.90%	5.63%	25	6.84%	6.51%	25	8.05%	7.66%
45	6.63%	6.32%	30	7.03%	6.69%	30	8.27%	7.87%

**Recommended Member Rates\*\***

3.00% inflation, 4.25% wage inflation, 8.00% interest, and 6.25% salary increase assumptions

GENERAL June 20, 2004 - March 12, 2005			GENERAL March 13, 2005 - June 30, 2005		
Entry Age	Plan 1 and 2 Rate	Plan 4 Rate	Entry Age	Plan 1 and 2 Rate	Plan 4 Rate
25	5.90%	5.63%	25	6.95%	6.62%
35	6.22%	5.93%	35	7.24%	6.90%
45	6.89%	6.57%	45	7.94%	7.57%

SAFETY			PROBATION		
Entry Age	Plan 1 and 2 Rate	Plan 4 Rate	Entry Age	Plan 1 and 2 Rate	Plan 4 Rate
21	8.43%	8.02%	21	8.43%	8.02%
25	8.48%	8.07%	25	8.48%	8.07%
30	8.66%	8.24%	30	8.66%	8.24%

\* The current Safety member rates reflect the 15% employer pickup, and should be divided by 85% for management employees or sergeants.

\*\* The above recommended member rates do not reflect cost sharing or employer-pickup arrangements. Refer to Appendix A for details on cost sharing and employer-pickup arrangements.

**Section 3: Actuarial Valuation Results (continued)**

Table 3

**Employer Contribution Rate Detail  
Current Rates  
4.25% inflation, 8.25% interest, and a 6.25% salary increase assumption**

GENERAL								
	Plan 1		Plan 2		Plan 3		Plan 4	
	<u>% of Payroll</u>	<u>Annual Amount</u>	<u>% of Payroll</u>	<u>Annual Amount</u>	<u>% of Payroll</u>	<u>Annual Amount</u>	<u>% of Payroll</u>	<u>Annual Amount</u>
Normal Cost	13.56%	\$ 3,654,000	11.80%	\$ 14,489,000	6.70%	\$ 580,000	9.77%	\$ 10,624,000
Contribution to UAAL	<u>8.51%</u>	<u>\$ 2,293,000</u>	<u>4.54%</u>	<u>\$ 5,575,000</u>	<u>4.08%</u>	<u>\$ 353,000</u>	<u>3.64%</u>	<u>\$ 3,959,000</u>
Total	22.07%	\$ 5,947,000	16.34%	\$ 20,064,000	10.78%	\$ 933,000	13.41%	\$ 14,583,000
Payroll		\$ 26,949,000		\$ 122,789,000		\$ 8,658,000		\$ 108,754,000
SAFETY								
	Plan 1		Plan 2		Plan 4			
	<u>% of Payroll</u>	<u>Annual Amount</u>	<u>% of Payroll</u>	<u>Annual Amount</u>	<u>% of Payroll</u>	<u>Annual Amount</u>		
Normal Cost	25.06%	\$ 1,738,000	21.91%	\$ 4,131,000	20.14%	\$ 2,453,000		
Contribution to UAAL	<u>17.37%</u>	<u>\$ 1,205,000</u>	<u>12.12%</u>	<u>\$ 2,285,000</u>	<u>10.82%</u>	<u>\$ 1,318,000</u>		
Total	42.43%	\$ 2,943,000	34.03%	\$ 6,416,000	30.96%	\$ 3,771,000		
Payroll		\$ 6,936,000		\$ 18,856,000		\$ 12,181,000		
PROBATION								
	Plan 1		Plan 2		Plan 4			
	<u>% of Payroll</u>	<u>Annual Amount</u>	<u>% of Payroll</u>	<u>Annual Amount</u>	<u>% of Payroll</u>	<u>Annual Amount</u>		
Normal Cost	32.70%	\$ 719,000	25.12%	\$ 1,818,000	19.51%	\$ 1,821,000		
Contribution to UAAL	8.61%	\$ 189,000	8.78%	\$ 636,000	7.37%	\$ 688,000		
Total	41.31%	\$ 908,000	33.90%	\$ 2,454,000	26.88%	\$ 2,509,000		
Payroll		\$ 2,200,000		\$ 7,238,000		\$ 9,335,000		
Average Rate for the total group =					18.69%			

Note: Normal costs have been adjusted to account for member cost sharing contributions through June 30, 2004, weighted for timing.

**Section 3: Actuarial Valuation Results (continued)**

Table 3 (Cont'd)

**Employer Contribution Rate Detail  
Recommended Rates**

3.00% inflation, 4.25% wage inflation, 8.00% interest, and a 6.25% salary increase assumption

GENERAL

	Plan 1		Plan 2		Plan 3		Plan 4	
	<u>% of Payroll</u>	<u>Annual Amount</u>	<u>% of Payroll</u>	<u>Annual Amount</u>	<u>% of Payroll</u>	<u>Annual Amount</u>	<u>% of Payroll</u>	<u>Annual Amount</u>
Normal Cost	14.66%	\$ 3,951,000	12.27%	\$ 15,066,000	6.84%	\$ 592,000	10.26%	\$ 11,158,000
Contribution to UAAL	14.19%	\$ 3,824,000	7.57%	\$ 9,295,000	6.80%	\$ 589,000	6.07%	\$ 6,601,000
Total	28.85%	\$ 7,775,000	19.84%	\$ 24,361,000	13.64%	\$ 1,181,000	16.33%	\$ 17,759,000
Payroll		\$ 26,949,000		\$ 122,789,000		\$ 8,658,000		\$ 108,754,000

SAFETY

	Plan 1		Plan 2		Plan 4	
	<u>% of Payroll</u>	<u>Annual Amount</u>	<u>% of Payroll</u>	<u>Annual Amount</u>	<u>% of Payroll</u>	<u>Annual Amount</u>
Normal Cost	22.69%	\$ 1,574,000	22.46%	\$ 4,235,000	19.74%	\$ 2,405,000
Contribution to UAAL	28.97%	\$ 2,009,000	20.21%	\$ 3,811,000	18.04%	\$ 2,197,000
Total	51.66%	\$ 3,583,000	42.67%	\$ 8,046,000	37.78%	\$ 4,602,000
Payroll		\$ 6,936,000		\$ 18,856,000		\$ 12,181,000

PROBATION

	Plan 1		Plan 2		Plan 4	
	<u>% of Payroll</u>	<u>Annual Amount</u>	<u>% of Payroll</u>	<u>Annual Amount</u>	<u>% of Payroll</u>	<u>Annual Amount</u>
Normal Cost	34.97%	\$ 769,000	24.48%	\$ 1,772,000	17.39%	\$ 1,623,000
Contribution to UAAL	14.36%	\$ 316,000	14.65%	\$ 1,060,000	12.30%	\$ 1,148,000
Total	49.33%	\$ 1,085,000	39.13%	\$ 2,832,000	29.69%	\$ 2,771,000
Payroll		\$ 2,200,000		\$ 7,238,000		\$ 9,335,000

Average Rate for the total group = 22.84%

Note: Normal costs have been adjusted to account for member cost sharing contributions through June 30, 2005, weighted for timing.

### Section 3: Actuarial Valuation Results *(continued)*

#### Funding Status

The evaluation of the Association's funding status is simply the comparison of its actual value of assets to a target value of assets. The Association's funding status is calculated using the GASB25 measure:

<b>Funding Status Measure</b>		<b>Target Assets</b>	<b>Actual Assets</b>	<b>Funded Ratio</b>		
GASB No. 25 Funding Method Progress		Actuarial Accrued Liability (in thousands)	Actuarial Value of Assets (in thousands)	Actual Assets/ Target Assets		
Actuarial Valuation Date	Actuarial Value of Assets <sup>1</sup> (a)	Actuarial Accrued Liability (AAL) - Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAAL as a percentage of Covered Payroll ((b-a)/c)
6/30/1995	\$ 651,217,000	\$ 945,417,000	\$ 294,200,000	68.9%	\$ 188,822,000	155.8%
6/30/1996	\$ 728,369,000	\$ 963,162,000	\$ 234,793,000	75.6%	\$ 187,926,000	124.9%
6/30/1997	\$ 856,679,000	\$ 1,037,431,000	\$ 180,752,000	82.6%	\$ 196,391,000	92.0%
6/30/1998	\$ 992,314,000	\$ 1,104,070,000	\$ 111,756,000	89.9%	\$ 211,529,000	52.8%
6/30/1999	\$ 1,109,417,000	\$ 1,205,554,000	\$ 96,137,000	92.0%	\$ 238,864,000	40.2%
6/30/2000	\$ 1,271,565,000	\$ 1,291,694,000	\$ 20,129,000	98.4%	\$ 259,075,000	7.8%
6/30/2001	\$ 1,384,586,000	\$ 1,404,060,000	\$ 19,474,000	98.6%	\$ 274,318,000	7.1%
6/30/2002	\$ 1,416,821,000	\$ 1,660,566,000	\$ 243,745,000	85.3%	\$ 301,891,000	80.7%
6/30/2003	\$ 1,353,941,000	\$ 1,781,544,000	\$ 427,603,000	76.0%	\$ 323,896,000	132.0%

<sup>1</sup> Exclude accounts payable

## Section 4: Association Assets

The market value of assets and related financial information was provided to us by the Association staff. We have not audited or verified the financial statements.

The approximate rates of return on plan assets are shown below, based on the following analysis:

### Summary of Asset Values

	Market Value	Actuarial Value	Valuation Assets
Value of Assets at 6/30/02	\$ 1,207,483,580	\$ 1,448,980,296	\$ 1,416,820,561
Contributions			
Employer and Member	\$ 58,719,484	\$ 58,719,484	\$ 58,719,484
Benefits Paid to Members	\$ 70,194,584	\$ 70,194,584	\$ 69,108,705
Expenses Paid	\$ 4,202,121	\$ 4,202,121	\$ 4,202,121
Investment Earnings	\$ 41,465,178	\$ (45,782,367)	\$ (48,288,511)
Value of Assets at 6/30/03	\$ 1,233,271,537	\$ 1,387,520,708	\$ 1,353,940,708 *
NET RATE OF RETURN	3.07%	-3.43%	-3.69%

\* Net of \$32,145,000 established to offset future contingent Ventura liabilities.

The -3.69% rate of return on the valuation assets is less than the 8.25% rate assumed for the prior year. This results in an increase in contribution rates, all else being equal.

## **Section 4: Association Assets** *(continued)*

### Development of Actuarial Value of Assets

#### **Background**

Under the Entry Age Normal Actuarial Funding Method, a determination is made of the assets the Association would have on hand if the current levels of employer normal cost and member contribution rates had been paid from each member's entry age through the actuarial valuation date and credited with the current actuarial interest rate assumption. This target value of assets is called the Actuarial Accrued Liability (AAL). The Unfunded Actuarial Accrued Liability (UAAL) is equal to the AAL less the Actuarial Value of Assets as of the actuarial valuation date.

#### **Actuarial Standards**

In 1993 the Actuarial Standards Board issued Standard of Practice (SOP) No. 4 entitled Measuring Pension Obligations. Section 5.2.6 of SOP No. 4 states, in part, that the Actuarial Value of Assets should generally reflect some function of market value; however, it may be appropriate to use methods which smooth out the effects of short-term volatility in market value.

In Mercer's opinion, the use of smoothing methods are especially important for employers with limited budgetary flexibility, such as governmental entities.

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

Effective with the fiscal year ending June 30, 1997, the Association adopted a smoothed market value of assets for establishing its reserves. This allows us to use the Association's reserves directly for actuarial purposes.



**Section 4: Association Assets** *(continued)*

**Calculation of Smoothed Market Value of Assets  
June 30, 2003**

From	To	Total Actual Market Return (Net)	Expected Market Return (Net)	Investment Gain (Loss)	Deferred Factor	Deferred Return
	Thru 12/02			(\$230,062,821)	0.889	(\$204,500,285)
1/03	6/03	\$102,786,971	\$46,952,400	\$55,834,571	0.9	\$50,251,114
1. Total Deferred Return						(\$154,249,171)
2. Market Value						\$1,233,271,537
3. Actuarial Value of Assets for Funding Ratio (Item 2 - Item 1)						\$1,387,520,708
4. Non-Valuation Reserves and Designations:						
a. Medicare Part B Reserve						\$1,435,000
b. Ventura Reserve						\$32,145,000
c. Total						<u>\$33,580,000</u>
5. Actuarial Value of Assets for Valuation (Item 3 - Item 4)						\$1,353,940,708

**Section 4: Association Assets (continued)**

**Actuarial Balance Sheet**

The purpose of the Actuarial Balance Sheet is to compare assets with liabilities in order to define the portion of the liabilities which need to be funded by the Employer and Members in the future.

Association liabilities equal the present value of all future benefits expected to be paid to current and future pensioners and beneficiaries of the Association.

Association assets are equal to the sum of:

- the assets currently available to pay benefits,
- the present value of future contributions expected to be made by current active members, and
- the present value of future contributions expected to be made by the employer.

The last item, the present value of future employer contributions, is made up of two parts:

1. The Present Value of Future Employer Normal Costs: Using the Entry Age Normal Cost Method, the employer budgets a certain percentage of payroll which will be sufficient to fund benefits for members from their entry into the Association. The Normal Cost is the level percentage of salary each year that is necessary to fund Members' benefits under the current benefit provisions. Normal Cost is funded from a Member's date of employment to the expected retirement date. An adjustment is made for the deductions which will be made from the future salaries of Association members. For this valuation, the Normal Costs are:

<u>Member Category</u>	<u>Contribution Rate</u>	<u>Annual Amount</u>
General Plan 1	14.66%	\$ 3,951,000
General Plan 2	12.27%	\$ 15,066,000
General Plan 3	6.84%	\$ 592,000
General Plan 4	10.26%	\$ 11,158,000
Safety Plan 1	22.69%	\$ 1,574,000
Safety Plan 2	22.46%	\$ 4,235,000
Safety Plan 4	19.74%	\$ 2,405,000
Probation Plan 1	34.97%	\$ 769,000
Probation Plan 2	24.48%	\$ 1,772,000
Probation Plan 4	17.39%	\$ 1,623,000

The present value of these future Employer Normal Cost contributions represents one piece of the present value of future employer contributions.

2. The Unfunded Actuarial Accrued Liability: The portion of the present value of future employer contributions which will not be funded by the future Entry Age Normal Cost contributions is the Unfunded Actuarial Accrued Liability (UAAL). The UAAL arises from prior contributions that

**Section 4: Association Assets (continued)**

were less than the current Normal Cost. This usually results from benefits and assumption changes and the net effect of prior gains and losses. If the employer had always contributed the current Normal Cost, if there were no prior benefit or assumption changes and if actual experience exactly matched the actuarial assumptions, the Normal Cost would be sufficient to fund all benefits and there would be no UAAL.

For the current year, we have determined that the appropriate amounts needed to fund the UAAL are:

<u>Member Category</u>	<u>Contribution Rate</u>	<u>Annual Amount*</u>
General Plan 1	14.19%	\$ 3,824,000
General Plan 2	7.57%	\$ 9,295,000
General Plan 3	6.80%	\$ 589,000
General Plan 4	6.07%	\$ 6,601,000
Safety Plan 1	28.97%	\$ 2,009,000
Safety Plan 2	20.21%	\$ 3,811,000
Safety Plan 4	18.04%	\$ 2,197,000
Probation Plan 1	14.36%	\$ 316,000
Probation Plan 2	14.65%	\$ 1,060,000
Probation Plan 4	12.30%	\$ 1,148,000

\* Increase with wage inflation rate to remain as a level percentage of payroll for current and future members.

**Section 4: Association Assets (continued)**

## Actuarial Balance Sheet as of June 30, 2003

	ASSETS		
	<u>Basic</u>	<u>COL</u>	<u>Total</u>
1. Total Assets at Actuarial Value	\$ 887,311,592	\$ 498,774,117	\$ 1,386,085,709
2. Present Value of Future Member Contributions	212,198,562	0	212,198,562
3. Present Value of Future Employer Contributions on Account of:			
a) Normal Cost	224,595,306	91,289,585	315,884,891
b) Unfunded Actuarial Accrued Liability	394,096,367	33,506,436	427,602,803
4. Total Actuarial Assets	<u>\$ 1,718,201,827</u>	<u>\$ 623,570,138</u>	<u>\$ 2,341,771,965</u>
	LIABILITIES		
	<u>Basic</u>	<u>COL</u>	<u>Total</u>
5. Present Value of Retirement Allowances Payable to Present Retired Members	\$ 450,511,574	\$ 336,974,176	\$ 787,485,750
6. Present Value of Retirement Allowances to be Granted for:			
a) Service Retirement	1,101,040,300	261,562,772	1,362,603,072
b) Disability Retirement	97,980,357	22,187,683	120,168,040
7. Present Value of Death Benefits to be Granted for:			
a) Lump Sum Death Benefit and Return of Contributions	152,998	0	152,998
b) Death while Eligible to Retire	12,512,609	2,336,396	14,849,005
c) Duty Death	2,898,573	509,111	3,407,684
8. Present Value of Members' Contributions to be Returned Upon Withdrawal Before Retirement	20,960,416	0	20,960,416
9. Contingent Ventura Liability Reserve	32,145,000	0	32,145,000
10. Total Actuarial Liabilities	<u>\$ 1,718,201,827</u>	<u>\$ 623,570,138</u>	<u>\$ 2,341,771,965</u>

## **Appendices**

## Appendix A: Major Provisions of the Present System

### **Benefit Sections 31676.1, 31676.14, 31676.16, 31497.3, 31664, 31664.1 and 31664.2 of the 1937 County Act**

Briefly summarized below are the major provisions of the County Employees Retirement Law of 1937, as amended through June 30, 2003, and as adopted by San Mateo County.

#### **Membership**

Employees hired after July 6, 1980, but on or before July 12, 1997 become members under Plan 2. Employees hired after July 13, 1997 become members of Plan 4. General members are given the option to elect non-contributory General Plan 3. General Plan 3 members can elect membership under the open contributory plan after 5 years of service. Members with Plan 3 service who are currently in a contributory plan may purchase an upgrade of their Plan 3 service. Probation Officers in 1990 were given the choice of remaining in the General Plan or electing Safety status for future service under a new Probation Plan. Such Probation Officers may purchase an upgrade of their General Plan service.

#### **Final Average Salary**

Final average salary (FAS) is defined as the highest 12 consecutive months of compensation earnable for General and Safety and Probation Plan 1 and 2 members. FAS for General Plan 3 and Plan 4 members are based on the highest three years average monthly salary. The individual years need not be consecutive months.

#### **Return of Contributions**

If a member resigns or dies before becoming eligible for retirement, his or her contributions plus interest will be refunded. In lieu of receiving a return of contributions, a member with five years of service may elect to leave his or her contributions on deposit and receive a deferred vested benefit when eligible for retirement.

#### **Service Retirement Benefit**

##### 1. Plan 1, Plan 2 and Plan 4

Members with 10 years of service who have attained the age of 50 are eligible to retire. Members with 30 years of service (20 years for Safety), regardless of age, are eligible to retire.

Appendix A (continued)

The benefit is a percentage of monthly FAS per year of service, depending on age at retirement and is illustrated below for typical ages under both the current and new formulas.

**PERCENTAGE OF FINAL AVERAGE SALARY  
(ROUNDED) – NEW FORMULA**

Age	General Section 31676.16 Current	General Section 31676.14 March 2005	Safety and Probation Section 31664.2 Current	Safety and Probation Section 31664.1 January 2005
50	1.43%	1.48%	2.29%	3.00%
55	2.00%	1.95%	3.00%	3.00%
60	2.26%	2.44%	3.00%	3.00%
62	2.37%	2.61%	3.00%	3.00%
65 and over	2.43%	2.61%	3.00%	3.00%

For members in the Mosquito Abatement District, their benefits are under Section 31676.1.

2. Plan 3

Members with 10 years of service, who have attained the age of 55, are eligible to retire.

Benefit

The percentage of monthly FAS per year of service, depending on age at retirement, is illustrated below for typical ages.

Age	Percentage*
55	0.74%
60	1.20%
62	1.46%
65 & over	2.00%

\* One-half of these percentages is credited for years of service over 35. Percentages for ages below 65 are actuarially reduced and may change from time to time.

The benefit arrived at by using the percentages shown above will be reduced by using a Social Security offset formula shown below:

Social Security Offset = 1/35 times County years of service times P.I.A. at age 65 (not greater than 100% P.I.A.) where P.I.A. is the Primary Insurance Amount from Social Security.

The maximum (Plan 3 benefit and P.I.A. combined) is 70% of final average salary for years of service less than 35 and is 80% of FAS for years of service greater than 35.

## Appendix A (continued)

**Disability Benefit**1. Plan 1, Plan 2 and 4

Members with 5 years of service, regardless of age, are eligible for nonservice connected disability. The benefit is 1.5 percent (1.8 percent for Safety members) of FAS for each year of service. If this benefit does not equal 1/3 of FAS, the benefit is increased by the above percentage of FAS for the years which would have been credited to age 65 for General members and age 55 for Safety members. The total benefit in this case cannot be exceed one-third of FAS.

If the disability is service connected, the member may retire regardless of length of service, with a benefit of 50 percent of FAS.

2. Plan 3

There is no disability benefit payable under the Retirement Plan until the member reaches age 65. At that time the benefit is calculated as a service retirement benefit and is calculated to incorporate years of service while disabled.

**Death Benefit Before Retirement**1. Plan 1, Plan 2 and Plan 4

In addition to the return of contributions, a lump sum death benefit is payable to the member's beneficiary or estate equal to one month's salary for each completed year of service under the Retirement Association, based on the salary earned during the last 12 months preceding the members' death, but not to exceed six months' salary.

If a member dies while eligible for service retirement or non-service connected disability, the Regulations of the Board of Retirement provide an eligible spouse with a monthly allowance equal to the Option 2 100 percent survivor continuance allowance that the member would have been eligible to receive for retirement on the day of his or her death. We have taken the value of the Option 2 benefit election in our valuation.

If a member dies in the performance of duty, the spouse receives 50 percent of the member's FAS.

2. Plan 3

No benefit is payable under the Retirement Plan on death before retirement.



## Appendix A (continued)

### Death Benefit After Retirement

#### 1. Plan 1, Plan 2 and Plan 4

If the retirement was for service connected disability, 100 percent of the member's allowance as it was at death is continued to the surviving spouse for life.

If the retirement was for other than service connected disability, 60 percent of the member's allowance is continued to the spouse for life.

#### 2. Plan 3

50 percent of the member's allowance is continued to the surviving spouse for life.

### Maximum Benefit

The maximum basic benefit payable to a member or beneficiary is 100 percent of FAS.

### Cost of Living

The maximum increase in retirement allowance for General and Safety Plan 1 is 5 percent per year; for Probation Plan 1 and all Plan 2 is 3 percent per year and for Plan 4 it is 2 percent per year. Plan 1 has a COLA bank for those members who retired before 1976. Plan 3 does not provide any cost-of-living increases. Increases are based on the annual change in the Consumer Price Index for the year ending December 31.

### Contribution Rates

Member basic rates are based on a formula reflecting the age at entry into the Association. The rates under the current formula (Section 31676.16 for County and 31676.1 for Mosquito Abatement District) are such as to provide an average annuity at age 60 of 1/120 of final average salary for General members under Plan 1, Plan 2 and Plan 4, and at age 50 of 1/100 of final average salary for Safety and Probation Officer members. When the 2 percent at 55.5 formula (Section 31676.14) goes into effect in March, 2005, the General contributions will be such as to provide an average annuity at age 55 of 1/120 of final average salary. The members do not contribute towards the cost of living benefit.

For the new formula, General members will share in 1 percent, 2 percent and 3 percent of the employers' contributions, effective August 30, 2003, August 28, 2004, and March 1, 2005, respectively. Our employer and member contribution rates represent the 1 percent cost sharing at August 30, 2003, and 2 percent cost sharing at August 28, 2004. Each additional 1 percent shared will

## Appendix A (continued)

decrease the employer's contribution rate for General members by approximately 0.71 percent<sup>1</sup>. The 0.71 percent reduction in the employer's contribution rate has already been included in the results.

If a General member retires at age 65 or older during the period that the new formula (Section 31676.16) is in effect, the member will (a) receive a refund of "Sharing Formula contributions" and interest thereon and (b) receive the higher benefit under the old formula.

Probation members will share in 1.5 percent, 2.5 percent and 3.5 percent of the employers' contributions, effective October 12, 2003, January 1, 2004, and January 1, 2005, respectively. Our employer and member contribution rates represent the 1.5 percent cost sharing at October 12, 2003 and 2.5 percent at January 1, 2004. Each additional 1 percent shared will decrease the employer's contribution rate for Safety members by approximately 0.963 percent<sup>1</sup>. The employer rates calculated in this report reflect the payment of 15 percent member contribution rate on a non-refundable basis by the County for the Probation Officers. The 0.71 percent reduction in the employer's contribution rate has already been included in the results.

Safety members, with the exception of Deputy Sheriffs, will share in 2 percent, 3 percent and 5 percent of the employers' contributions, effective July 1, 2003, January 1, 2004, and January 1, 2005, respectively. Our employer and member contribution rates represent the 2 percent cost sharing at July 1, 2003 and 3 percent at January 1, 2004. Each additional 1 percent shared will decrease the employer's contribution rate for Safety members by approximately 0.974 percent<sup>2</sup>. The 0.71 percent reduction in the employer's contribution rate has already been included in the results.

Deputy Sheriffs share in the contributions in accordance with the following schedule:

Effective July 6, 2003:

- Employees with more than 15 years of County service or who are age 45 or older will contribute 2 percent.
- Employees with 5 to 15 years of County service will contribute 1.5 percent
- Employees with 0 to 5 years of County service will contribute 1 percent

Effective January 4, 2004:

- Employees with more than 15 years of County service or who are age 45 or older as of will contribute an additional 1 percent for a total of 3 percent.

A. \_\_\_\_\_

<sup>1</sup> The reduction in the employer's rate is less than 1 percent because a fraction of the contributions will be refunded to the member either before or at retirement.

<sup>2</sup> The reduction in the employer's rate is less than 1 percent because a fraction of the contributions will be refunded to the member either before or at retirement.

Appendix A (*continued*)

- Employees with 5 to 15 years of County service will contribute an additional 1 percent for a total of 2.5 percent
- Employees with 0 to 5 years of County service will contribute an additional 1 percent for a total of 2 percent.

## Appendix A (continued)

Effective January 2, 2005:

- Employees with more than 15 years of County service or who are age 45 or older will contribute an additional 1.5 percent for a total of 4.5 percent.
- Employees with 5 to 15 years of County service will contribute an additional 1 percent for a total of 3.5 percent
- Employees with 0 to 5 years of County service will contribute an additional 1 percent for a total of 3 percent.

The County provides a variety of refundable service-based employer pick-up of member contributions programs for members in several of its unions. The County also pays 100 percent of management employees', unrepresented attorneys' and Sheriff's Sergeants contributions and 50 percent of confidential employees' contributions on a refundable basis.

As instructed by the Association, the employer rates have not been adjusted to reflect the payment of any of the refundable employer pick-up of member contributions programs because the County payroll system captures these costs on a pay-as-you-go basis while processing each individual's biweekly pay.

However, for Probation members, the employer rates have been adjusted to reflect the 15% County pickup effective October 12, 2003.

The County Contributions are actuarially determined to provide for the balance of the contributions needed to fund the benefits promised under the Retirement System.

## Appendix B: Actuarial Assumptions

### **Economic Actuarial Assumptions**

This year we made some changes to the economic assumptions to reflect changing consensus on the direction of the economic factors and no changes to the non-economic assumptions.

**Inflation** – We decreased the inflation assumption from 4.25 percent to 3.0 percent. This reflects changes in expectations for the future general inflationary increases (that affects investment return and automatic COLA increases for retirees) and the fact that California inflation rates will begin to approach national inflation expectations.

**Salary Increase** – The merit and longevity increase of 2.00 percent was reviewed as part of our June 30, 2002 triennial experience study. For the June 30, 2003, valuation, we propose to introduce a wage inflation assumption of 1.25 percent above general inflation. Combined with the inflation assumption of 3.0 percent and merit and longevity increase of 2.00 percent, we will maintain the total salary increase assumption of 6.25 percent.

**Investment Return** – Utilizing an approach that recognizes the relationships between your asset classes to develop a reasonable range of assumptions, with the related probability that the return would be realized, we developed a recommended investment return assumption. We believe this approach, while completely different from our prior approach, to be a better approach to developing forward-looking, long-term projections. We recommend a change to an 8.0 percent investment return assumption for the June 30, 2003, valuation.

We have also reviewed the methodology that the Association may use to amortize deferred investment losses prior to June 30, 2002. Our proposed methodology will recognize the \$241.5 million in deferred market losses over the nine 6-month interest crediting periods effective July 1, 2002.

Appendix B (continued)

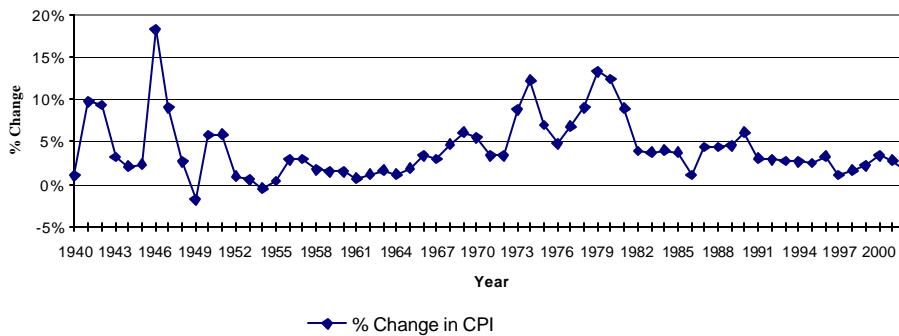
1. Inflation Assumption

The Association's inflation assumption is currently set at 4.25 percent per annum.

The following analysis backs up our recommendation of 3.0 percent per annum for a long-term inflation assumption.

Step 1 - Review Annual CPI from 1940 through 2002.

Annual Increase in CPI (1940 Through 2002)



**History of CPI Increases  
Expressed as an Annualized Average (1)**

Number of Years Ending 12/31/2002:	CPI
10	2.39%
20	3.10%
30	4.92%
40	4.54%
50	3.89%
60	4.02%

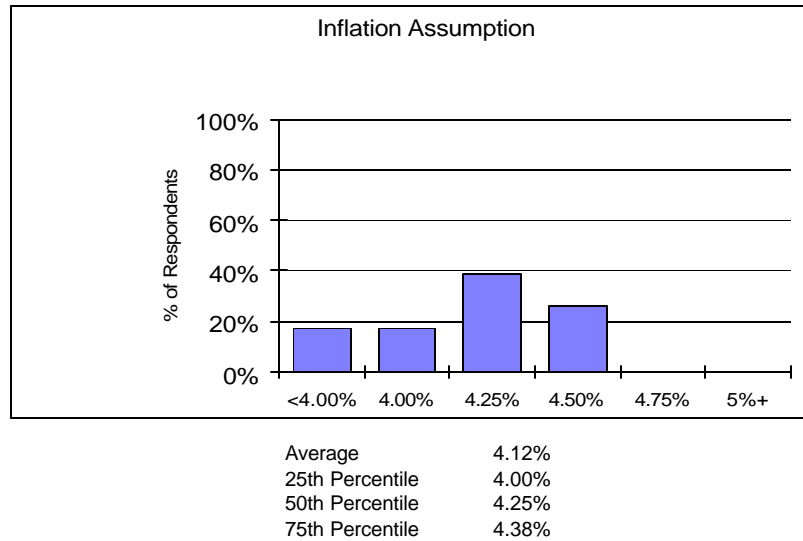
(1) Geometric average. CPI data is based upon US All City Average, CPI-U for years after 1979.

**Observation:** *With the exception of the high inflationary period between 1972 and 1981, inflation has averaged around 2.5% to 3.5%.*

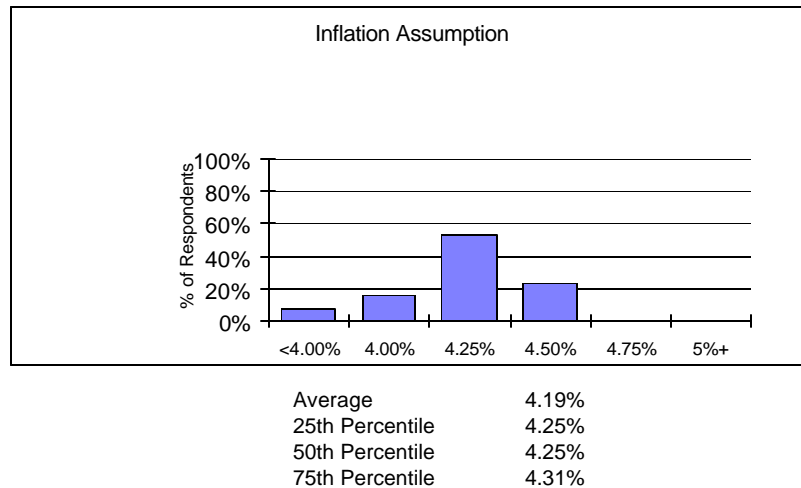
Appendix B (continued)

Step 2 - Inflation assumptions used by other California Public Retirement Systems in their last actuarial valuations.

**Comparisons of Economic Actuarial Assumptions  
All Respondents  
(Based on 23 responses)**



**37 Act County Respondents  
(Based on 13 responses)**



**Observation:** *The average inflation for the average California public system dropped from 4.25% last year to 4.12% this year.*

## Appendix B (continued)

### Conclusion

Based on actual historical inflation and current economic environment, we recommend lowering the inflation assumption from 4.25 percent to 3.0 percent. We recommend a relatively large decrease in the inflation assumption for the following reasons:

- With the exception of the high inflationary period in the late 1970's, inflation has averaged between 2.5 to 3.5 percent.
- While California inflation, on which cost-of-living increases for retirees are based, has been higher than the national inflation in recent years<sup>1</sup>, we believe that in the future, California inflation will be closer to the national inflation.
- Mercer's economic research suggests that inflation rates will tend to remain low in the foreseeable future.

#### 2. Salary Increase Assumption

Our current salary assumption is a combination of the inflation assumption and an age-based merit and longevity assumption. No specific wage increase assumption above general inflation is used. In total, the 2.0 percent average merit and longevity assumption combined with the 4.25 percent inflation assumption brings our average salary increase assumption to 6.25 percent. Because of the age-based nature of our merit scale, we expect higher salary increases for younger employees and lower increases for older employees. We state in our 2002 experience analysis report that if we maintain a higher inflation assumption of 4.25 percent then we will not need an additional wage increase assumption above general inflation.

### Wage Increase

- The Bureau of Labor Statistics (BLS) has been studying wage increases for State and Local Government employees since 1982. The Employment Cost Index (ECI) indicated that real wages (net of general CPI) for those employees have been growing at an annual rate of about 0.7% faster than general inflation over the last 10 years.

If we use the 3% general CPI assumption that we recommend to the Board (for building the investment return assumption and in projecting the amount of postretirement COLA increases for our retirees) with the Board's 2.0% average merit and longevity assumption, the total salary increase would only be 5.0%. The evidence provided by the ECI together with the observed total salary increases during the last 3 valuations lead us to believe that an additional component of wage inflation other than general CPI is warranted.

A. \_\_\_\_\_

<sup>1</sup> During 1997 and 2001, the California index was about 1.5 percent higher than the national average. For 2002, the two indexes were about the same.



Appendix B (continued)

We propose that the wage inflation assumption be set at 4.25 percent. This includes general inflation, negotiated increases, increases from County salary surveys, etc.

Comparison of recent salary increases

<b>Recent History of Salary Increases</b>		
<b>Average Salary Increase Observed During the Last 3 Valuations*</b>		
Plan Year Ending	Actual Increase	Expected Increase
June 30, 02	6.0%	6.25%
June 30, 01	7.7%	6.25%
June 30, 00	7.9%	6.25%
Average	7.2%	6.25%

\* Measured only for members who were active at the beginning and at the end of the plan year indicated.

**Observation:** *The total salary increase assumption of 6.25% studied in the triennial experience study is slightly lower than our observed annual total salary increase of 7.2%. However, over the long run, we expect 6.25% to be a good indicator of salary increases.*

**Conclusion**

Based on a 2.0 percent average merit and longevity increase, a 3.0 percent wage inflation assumption and an additional 1.25% wage increase assumption, we recommend maintaining the salary increase assumption of 6.25 percent.

Appendix B (continued)

Actuarial Interest Rate Assumption

The long term investment return assumption is currently set at 8.25% per annum. We review this return assumption taking into account:

- The Retirement Board’s target asset allocation.
- The forward looking investment return for each asset class included in the Association’s portfolio.

The actuarial interest rate assumption is developed taking into account the following:

Step 1: Review of Asset Allocation

- We understand that the Association is studying the feasibility of modifying the existing asset allocation. This analysis may have to be modified if the final asset allocation is materially different.
- The following table provides the current target asset allocation and the real rate of return (net of inflation) anticipated by Mercer and Strategic Investment Solutions (SIS):

<b>3. Asset Class</b>	<b>4. Target Allocation</b>	<b>5. Mercer Real Rate of Return Expectation</b>	<b>6. SIS Real Rate of Return Expectation (as of October 2002)</b>
7. Domestic Equity – Large Cap	8. 40%	9. 5.7%	10. 6.3%
11. Domestic Equity – Small Cap	12. 10%	13. 6.1%	14. 7.2%
15. International Equity	16. 15%	17. 6.1%	18. 6.7%
19. Domestic Bonds	20. 29%	21. 2.0%	22. 2.5%
23. Real Estate	24. 6%	25. 5.1%	26. 4.5%

**Commentary:** Mercer’s average real rate of return expectation has been lowered by about 0.25 percent – 0.5 percent since the last valuation as of June 30, 2002.

## Appendix B (continued)

### Step 2 – Mercer's Portfolio Return Calculator

- This software uses the most advanced research in developing expected returns. It takes into account the relationships of various asset classes in projecting returns. It also reflects the uncertain nature of investment return assumptions by assigning probabilities to the various returns. Please note that in the past, we have reflected this uncertainty through the “risk adjustment”.

We ran the Association's portfolio through Mercer's Portfolio Return Calculator (PRC) which adjusts the expected rates of return based on the risk characteristics of each investment class, the correlation between expected returns for different asset classes and the underlying inflation rate.

- Using the PRC together with an expense assumption of .40 percent produces a reasonable range of investment return assumptions from 6.68 percent to 8.57 percent with a median 7.62 percent expected return for the Association. The range shows returns from the 35th to the 65th percentile. We have also run the portfolio mix of the other California Retirement Systems that respond to our assumption survey using our Profile Return Calculation Software.
- We observed that on the average, a California System has chosen an investment return assumption that place their return assumption at the 68th percentile with a standard deviation of 8.56 percent. SamCERA's current investment return of 8.25 percent will be at about the 60th percentile<sup>1</sup>. However, if the assumption is set at 8.00 percent, the return assumption will be at about the 57th percentile.

### Step 3: Comparison with Other California Public Retirement Systems

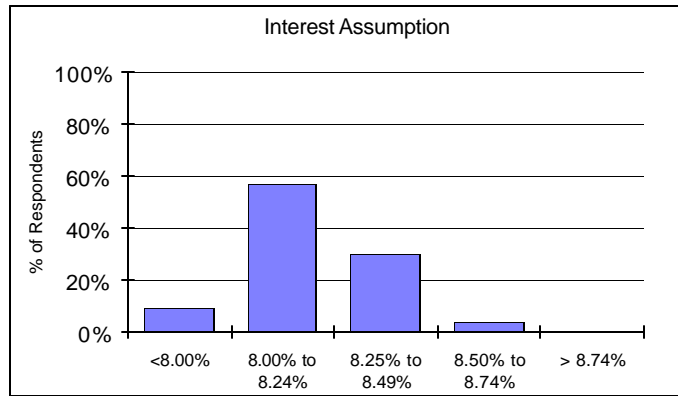
The following charts compare the interest rate assumptions adopted by 23 California public retirement systems and 13 1937 Act systems that responded to Mercer's 2002 survey.

A. \_\_\_\_\_

<sup>1</sup> Over the course of the next 20-30 years, there is a 40% chance that the average return will be higher than the current assumed rate of 8.25% per annum.

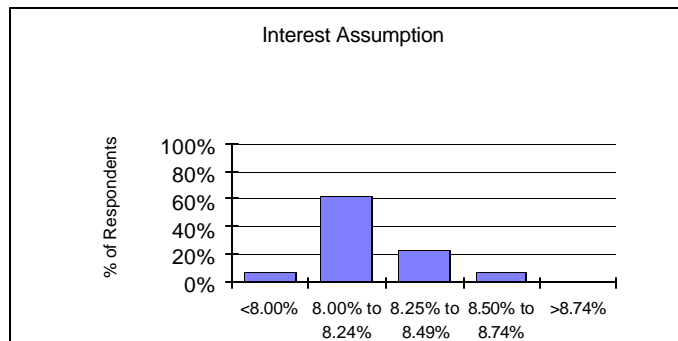
Appendix B (continued)

**Comparison of Economic Actuarial Assumptions  
All Respondents  
(based on 23 responses)**



Average	8.07%
25th Percentile	8.00%
50th Percentile	8.00%
75th Percentile	8.25%

**1937 Act County Respondents  
(based on 13 responses)**



Average	8.06%
25th Percentile	8.00%
50th Percentile	8.00%
75th Percentile	8.25%

**Observation:** *The investment return assumption for the average California public system has dropped from 8.14% last year to 8.07% this year.*

## Appendix B *(continued)*

### Step 4: Other Relevant Data

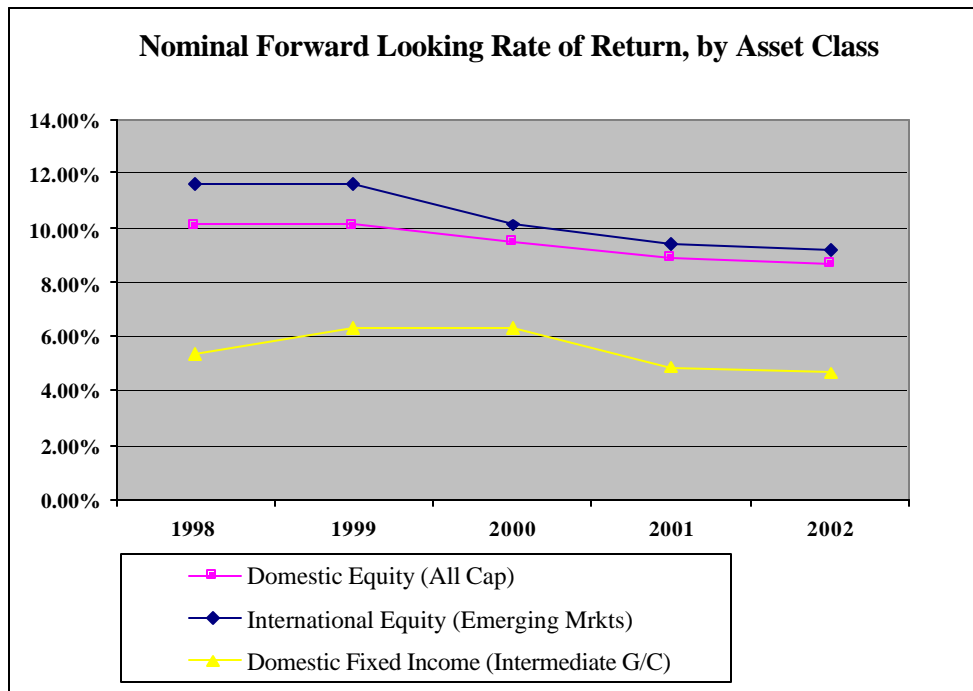
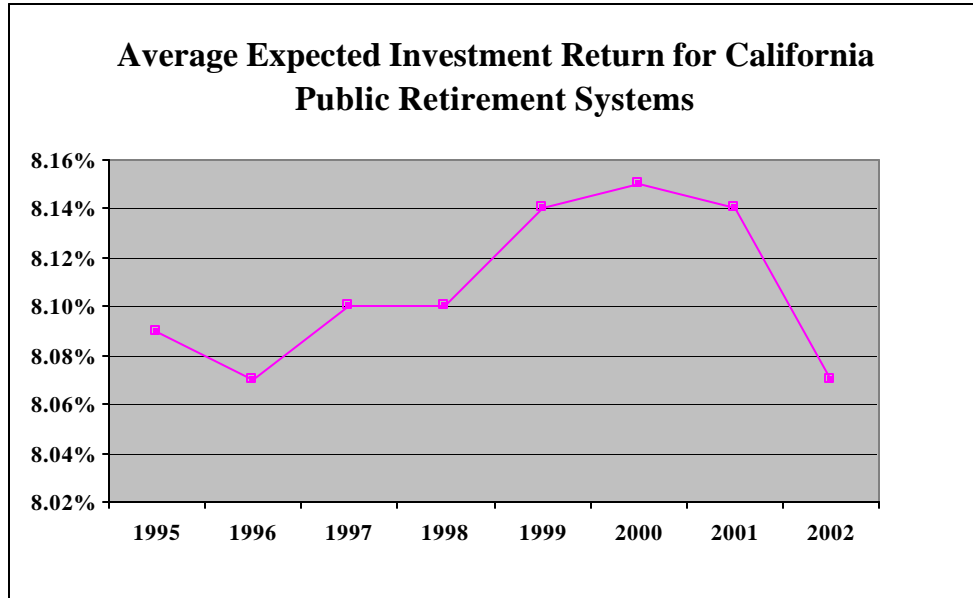
#### 1. SIS's Expected Return Calculation

- According to SamCERA, the long term expected return projected by SIS using the current portfolio (without taking into reduction due to account administrative and investment expenses and additions due to alphas from active management) is 8.23 percent with a standard deviation of 11.74 percent

#### 2. Steps Taken By California Public Retirement Systems in Reaction to Lower Long Term Investment Return

- We have compared the change in the rates of return expectations adopted by California public retirement systems with the change in the long term rates of return expectation for different asset classes predicted by Mercer during the last eight years.

Appendix B (continued)



**Observation:** *There has been a movement in the survey toward lower investment return assumptions. The reduction started in 2001 and was a lot steeper in 2002.*

## Appendix B *(continued)*

### **Conclusion**

We recommend that the Board adopt an 8.00% return assumption. Our recommendation is based on the following considerations:

- Using Mercer's Profile Return Calculation Software, a reasonable range of investment return assumption is from 6.68 percent to 8.57 percent with a median return of 7.62 percent. An 8 percent investment return assumption will place SamCERA's return at the 57th percentile.
- According to SamCERA, SIS's expected investment return is 8.23 percent. This return was before reductions for administrative and investment expenses and addition from active management.
- Other California systems have used an average investment return assumption of 8.07 percent. The assumption has been reduced over the last two years consistent with the reduction in the long term rates of return expectation for different asset classes predicted by Mercer.
- Even though there is a high likelihood that the short term actual market return will be less than the 8.00 percent return recommendation, the 80 percent-120 percent market value corridor that the Board has adopted for actuarial value of assets will cause those short term losses to be made up immediately by higher employer contributions.
- The Board will want to continue to monitor the investment return assumption regularly based on most recent economic analysis. If the reasonable range changes such that the return assumption is near the edge of the range, the Board may wish to change the assumption.

Appendix B (*continued*)***Recognition of Deferred Investment Losses Carried over from June 30, 2002***

- In developing the actuarial or (smoothed) assets, the Board smooths the return that is in excess or below the assumed rate (currently 8.25 percent per annum) over 5 years. Normally one-tenth of the losses from the most recent 6-month interest crediting period will have to be recognized immediately. The remaining 90 percent will be recognized over the next nine 6-month periods.

The Association's portfolio earned less than 4.125 percent (1/2 of 8.25 percent per annum) during the last several 6-month interest crediting periods and those losses have to be recognized during the next several years.

- The Board adopted our recommendation to implement an 80-120 percent market value corridor so that the actuarial and accounting reserves would not deviate too significantly from the actual market value.
- As of June 30, 2002, there was \$241,496,716 in market losses that have to be recognized over the next nine 6-month interest crediting periods.
- We propose the \$241,496,716 loss be amortized in nine equal (\$26,832,968) installments over the nine 6-month cycles effective July 1, 2002.
- The principal advantage of this methodology is that it will allow the employer to predict and budget for rate increase for the next several years after the actuarial (or smoothed) assets fall outside the 80 percent-120 percent corridor.



## Appendix B *(continued)*

### **Noneconomic Actuarial Assumptions**

#### General

Noneconomic assumptions are based on observed experience by category of employment by age and/or service group.

The noneconomic assumptions were reviewed at the time of June 30, 2002 triennial experience investigation. Adjustments to the current assumptions will be based upon a determination of the likelihood that the most recent experience could be produced as merely a statistical variation of the current assumptions.

If the most recent experience demonstrates a deviation from current assumptions which is deemed statistically significant, a credibility weighting is attached to this experience. The credibility weighting can vary significantly among the various components depending upon whether there is a low or high number of occurrences. The credibility weighting will also depend upon the presence of any non-recurring events that might affect the predictive ability of the recent experience.

Post-retirement mortality tables will generally be some variation of standard tables developed by actuarial professional organizations from a much wider base of data.

#### Components

1. Nonvested withdrawal
2. Service retirement
3. Disability retirement (service and nonservice connected)
4. Pre-retirement death benefits (service and nonservice connected)
5. Deferred retirement
6. Post-retirement mortality

Components 1 through 5 represent the probabilities of separation from active service due to various causes. Component 6 represents the length of time members will live after retirement.

#### **Separation from Active Service**

The probabilities used as the basis of determining costs in this study are those developed in our June 30, 2002, expenses analysis.

The probabilities for each noneconomic assumption component are listed in Appendix B.

## Appendix B *(continued)*

### **Post-Retirement Mortality**

The mortality after service and after disability was also analyzed in the June 30, 2002, experience study: The life expectancies based on tables adopted at that time are shown in Appendix B.

### **Mortality Basis for Members' Basic Contribution Rates**

We have calculated member contribution rates utilizing a sex-independent mortality basis under Sections 31676.1, 31676.16, and 31676.14 for General members and Sections 31664, 31664.1, and 31664.2 for Safety members and Probation Officers. The mortality table for General Members is the 1994 Group Annuity Mortality Table for female (with no setback) and for Safety Members and Probation Officers is the 1994 Group Annuity Mortality Table for males (set forward 1 year). In our opinion, these tables can reasonably be expected to represent the aggregate future mortality for each group and provide an adequate and equitable mortality basis for determining member contribution rates.

## Appendix B (continued)

**Assumptions**

<i>Valuation Interest Rate</i>	8.00%
<i>Inflation Assumption</i>	3.0%
<i>COLA</i>	
<i>Plan 1</i>	3.00% for members without COLA bank as of April 1, 2003 5.00% for members with COLA bank as of April 1, 2003
<i>Plan 2</i>	2.75% projected using our Market Simulation model taking into account that there is no COLA bank for Plan 2 members.
<i>Plan 3</i>	N/A
<i>Plan 4</i>	2.00%
<i>Interest Rate Credited To Active Member Accounts</i>	8.00%
<i>Wage Inflation</i>	4.25%
<i>Post-Retirement Mortality</i>	
<i>(a) Service</i>	
<i>General Males</i>	1994 Group Annuity Mortality Table set back 1 year (Male)
<i>General Females</i>	1994 Group Annuity Mortality Table set back 2 years (Female)
<i>Safety and Probation Members</i>	1994 Group Annuity Mortality Table set forward 1 year (Male)
<i>(b) Beneficiaries</i>	
<i>General Males</i>	1994 Group Annuity Mortality Table set back 1 year (Male)
<i>General Females</i>	1994 Group Annuity Mortality Table set back 1 year (Female)
<i>Safety and Probation Members</i>	1994 Group Annuity Mortality Table set back 2 years (Female)
<i>(c) Disability</i>	
<i>General</i>	1981 General Disability Mortality Table set back 4 years
<i>Safety</i>	1981 Safety Disability Mortality Table set back 2 years
<i>(d) For Employee Contribution</i>	
<i>Rate Purposes</i>	
<i>General</i>	1994 Group Annuity Mortality Table no set back (Female)
<i>Safety</i>	1994 Group Annuity Mortality Table set forward 1 year (Male)
<i>Pre-Retirement Mortality</i>	Based upon the Experience Analysis as of 06/30/2002
<i>Withdrawal Rates</i>	Based upon the Experience Analysis as of 06/30/2002
<i>Disability Rates</i>	Based upon the Experience Analysis as of 06/30/2002
<i>Service Retirement Rates</i>	Based upon the Experience Analysis as of 06/30/2002
<i>Salary Scales</i>	Total increases of 6.25% per year reflecting approximately 4.25% for wage inflation and approximately 2.00% for merit and longevity
<i>Value of Assets for Contribution Purposes</i>	Actuarial Value as described in Association Assets Section

Appendix B *(continued)*

**Assumptions** *(continued)*

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<i>Percentage of Members Married at Retirement</i>	85% for General male, Safety and Probation members. 55% for General female members
<i>Members Eligible for Reciprocal Benefits</i>	50%
<i>Additional Employer Normal Cost for General Plan 3</i>	An additional cost equal to 2% of payroll was added to the Normal Cost for General Plan 3 to anticipate the future increase in cost from those members expected to transfer to General Plan 2.

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Appendix B (continued)

Exhibit I

**PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT  
General Male Members - Plan 1**

Age	With(0<Svc<1)	With(1<Svc<2)	With(2<Svc<3)	With(3<Svc<4)	With(4<Svc<5)	With(Svc>5)	Vested Term	Ord. Disab	Duty Disab	Ord. Dth	Duty Dth	Svc Ret
<= 20	0.1460	0.1460	0.1460	0.1460	0.1460	0.1460	0.0000	0.0000	0.0000	0.0002	0.0001	0.0000
21	0.1440	0.1440	0.1440	0.1440	0.1440	0.1440	0.0000	0.0000	0.0000	0.0002	0.0001	0.0000
22	0.1420	0.1420	0.1420	0.1420	0.1420	0.1420	0.0000	0.0000	0.0000	0.0002	0.0001	0.0000
23	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.0000	0.0000	0.0000	0.0002	0.0001	0.0000
24	0.1370	0.1370	0.1370	0.1370	0.1370	0.1370	0.0000	0.0000	0.0000	0.0002	0.0001	0.0000
25	0.1340	0.1340	0.1340	0.1340	0.1340	0.1340	0.0085	0.0003	0.0000	0.0003	0.0001	0.0000
26	0.1310	0.1310	0.1310	0.1310	0.1310	0.1310	0.0085	0.0003	0.0000	0.0003	0.0001	0.0000
27	0.1280	0.1280	0.1280	0.1280	0.1280	0.1280	0.0090	0.0003	0.0001	0.0003	0.0001	0.0000
28	0.1250	0.1250	0.1250	0.1250	0.1250	0.1250	0.0090	0.0003	0.0001	0.0003	0.0001	0.0000
29	0.1210	0.1210	0.1210	0.1210	0.1210	0.1210	0.0095	0.0003	0.0001	0.0003	0.0001	0.0000
30	0.1170	0.1170	0.1170	0.1170	0.1170	0.1170	0.0098	0.0003	0.0002	0.0003	0.0001	0.0000
31	0.1120	0.1120	0.1120	0.1120	0.1120	0.1120	0.0103	0.0003	0.0002	0.0004	0.0001	0.0000
32	0.1050	0.1050	0.1050	0.1050	0.1050	0.1050	0.0108	0.0004	0.0002	0.0004	0.0001	0.0000
33	0.0960	0.0960	0.0960	0.0960	0.0960	0.0927	0.0113	0.0004	0.0003	0.0005	0.0001	0.0000
34	0.0860	0.0860	0.0860	0.0860	0.0860	0.0800	0.0123	0.0005	0.0003	0.0005	0.0001	0.0000
35	0.0760	0.0760	0.0760	0.0760	0.0760	0.0727	0.0130	0.0006	0.0003	0.0005	0.0001	0.0000
36	0.0650	0.0650	0.0650	0.0650	0.0650	0.0597	0.0137	0.0007	0.0004	0.0006	0.0001	0.0000
37	0.0550	0.0550	0.0550	0.0550	0.0550	0.0485	0.0144	0.0008	0.0005	0.0006	0.0001	0.0000
38	0.0460	0.0460	0.0460	0.0460	0.0460	0.0386	0.0152	0.0009	0.0006	0.0006	0.0001	0.0000
39	0.0380	0.0380	0.0380	0.0380	0.0380	0.0301	0.0159	0.0010	0.0007	0.0006	0.0001	0.0000
40	0.0300	0.0300	0.0300	0.0300	0.0300	0.0176	0.0166	0.0010	0.0008	0.0006	0.0001	0.0000
41	0.0240	0.0240	0.0240	0.0240	0.0240	0.0133	0.0170	0.0011	0.0009	0.0007	0.0001	0.0000
42	0.0200	0.0200	0.0200	0.0200	0.0200	0.0103	0.0170	0.0013	0.0010	0.0008	0.0001	0.0000
43	0.0180	0.0180	0.0180	0.0180	0.0180	0.0088	0.0168	0.0014	0.0010	0.0009	0.0001	0.0000
44	0.0160	0.0160	0.0160	0.0160	0.0160	0.0074	0.0165	0.0016	0.0011	0.0010	0.0002	0.0000
45	0.0140	0.0140	0.0140	0.0140	0.0140	0.0050	0.0157	0.0018	0.0012	0.0012	0.0002	0.0000
46	0.0120	0.0120	0.0120	0.0120	0.0120	0.0040	0.0150	0.0020	0.0012	0.0014	0.0002	0.0000
47	0.0100	0.0100	0.0100	0.0100	0.0100	0.0031	0.0142	0.0021	0.0013	0.0016	0.0002	0.0000
48	0.0090	0.0090	0.0090	0.0090	0.0090	0.0027	0.0134	0.0023	0.0013	0.0018	0.0002	0.0000
49	0.0080	0.0080	0.0080	0.0080	0.0080	0.0023	0.0126	0.0025	0.0013	0.0020	0.0002	0.0000
50	0.0070	0.0070	0.0070	0.0070	0.0070	0.0026	0.0000	0.0026	0.0013	0.0022	0.0002	0.0362
51	0.0060	0.0060	0.0060	0.0060	0.0060	0.0021	0.0000	0.0028	0.0013	0.0024	0.0002	0.0300
52	0.0050	0.0050	0.0050	0.0050	0.0050	0.0017	0.0000	0.0030	0.0013	0.0026	0.0003	0.0300
53	0.0040	0.0040	0.0040	0.0040	0.0040	0.0013	0.0000	0.0031	0.0013	0.0028	0.0003	0.0300
54	0.0040	0.0040	0.0040	0.0040	0.0040	0.0012	0.0000	0.0033	0.0013	0.0030	0.0003	0.0300
55	0.0030	0.0030	0.0030	0.0030	0.0030	0.0029	0.0000	0.0035	0.0014	0.0032	0.0003	0.0340
56	0.0020	0.0020	0.0020	0.0020	0.0020	0.0019	0.0000	0.0036	0.0015	0.0034	0.0003	0.0490
57	0.0020	0.0020	0.0020	0.0020	0.0020	0.0018	0.0000	0.0038	0.0016	0.0036	0.0004	0.0865
58	0.0010	0.0010	0.0010	0.0010	0.0010	0.0013	0.0000	0.0040	0.0019	0.0038	0.0004	0.1121
59	0.0010	0.0010	0.0010	0.0010	0.0010	0.0017	0.0000	0.0042	0.0022	0.0040	0.0004	0.1650
60	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0043	0.0025	0.0042	0.0004	0.1570
61	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0045	0.0028	0.0044	0.0004	0.1489
62	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0047	0.0032	0.0046	0.0005	0.3000
63	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0048	0.0038	0.0048	0.0005	0.2121
64	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0044	0.0050	0.0005	0.2656
65	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0052	0.0005	0.5000
66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0056	0.0005	0.5000
67	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0060	0.0006	0.7500
68	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0065	0.0006	0.8500
69	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0070	0.0006	0.9500
70	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000

Appendix B (continued)

Exhibit I

**PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT  
General Female Members - Plan 1**

Age	With(0<Svc<1)	With(1<Svc<2)	With(2<Svc<3)	With(3<Svc<4)	With(4<Svc<5)	With(Svc>5)	Vested Term	Ord. Disab	Duty Disab	Ord. Dth	Duty Dth	Svc Ret
<= 20	0.1540	0.1540	0.1540	0.1540	0.1540	0.1540	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000
21	0.1471	0.1471	0.1471	0.1471	0.1471	0.1471	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000
22	0.1401	0.1401	0.1401	0.1401	0.1401	0.1401	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000
23	0.1332	0.1332	0.1332	0.1332	0.1332	0.1332	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000
24	0.1263	0.1263	0.1263	0.1263	0.1263	0.1263	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000
25	0.1194	0.1194	0.1194	0.1194	0.1194	0.1194	0.0035	0.0001	0.0000	0.0003	0.0000	0.0000
26	0.1124	0.1124	0.1124	0.1124	0.1124	0.1124	0.0040	0.0001	0.0000	0.0003	0.0000	0.0000
27	0.1055	0.1055	0.1055	0.1055	0.1055	0.1055	0.0045	0.0002	0.0001	0.0003	0.0000	0.0000
28	0.0986	0.0986	0.0986	0.0986	0.0986	0.0986	0.0055	0.0002	0.0001	0.0003	0.0000	0.0000
29	0.0916	0.0916	0.0916	0.0916	0.0916	0.0916	0.0070	0.0002	0.0001	0.0003	0.0000	0.0000
30	0.0847	0.0847	0.0847	0.0847	0.0847	0.0847	0.0080	0.0002	0.0002	0.0003	0.0000	0.0000
31	0.0762	0.0762	0.0762	0.0762	0.0762	0.0762	0.0094	0.0002	0.0002	0.0004	0.0000	0.0000
32	0.0676	0.0676	0.0676	0.0676	0.0676	0.0676	0.0113	0.0002	0.0002	0.0004	0.0000	0.0000
33	0.0591	0.0591	0.0591	0.0591	0.0591	0.0565	0.0132	0.0003	0.0003	0.0004	0.0000	0.0000
34	0.0520	0.0520	0.0520	0.0520	0.0520	0.0474	0.0151	0.0003	0.0003	0.0004	0.0000	0.0000
35	0.0461	0.0461	0.0461	0.0461	0.0461	0.0400	0.0180	0.0004	0.0003	0.0005	0.0000	0.0000
36	0.0402	0.0402	0.0402	0.0402	0.0402	0.0331	0.0190	0.0004	0.0004	0.0005	0.0000	0.0000
37	0.0344	0.0344	0.0344	0.0344	0.0344	0.0268	0.0200	0.0005	0.0005	0.0005	0.0000	0.0000
38	0.0285	0.0285	0.0285	0.0285	0.0285	0.0202	0.0200	0.0006	0.0006	0.0006	0.0000	0.0000
39	0.0227	0.0227	0.0227	0.0227	0.0227	0.0145	0.0190	0.0006	0.0007	0.0006	0.0000	0.0000
40	0.0168	0.0168	0.0168	0.0168	0.0168	0.0096	0.0188	0.0006	0.0008	0.0006	0.0000	0.0000
41	0.0157	0.0157	0.0157	0.0157	0.0157	0.0079	0.0172	0.0006	0.0009	0.0007	0.0000	0.0000
42	0.0145	0.0145	0.0145	0.0145	0.0145	0.0063	0.0156	0.0007	0.0010	0.0008	0.0000	0.0000
43	0.0138	0.0138	0.0138	0.0138	0.0138	0.0067	0.0144	0.0010	0.0010	0.0008	0.0000	0.0000
44	0.0134	0.0134	0.0134	0.0134	0.0134	0.0071	0.0132	0.0014	0.0011	0.0009	0.0000	0.0000
45	0.0126	0.0126	0.0126	0.0126	0.0126	0.0073	0.0119	0.0022	0.0012	0.0009	0.0000	0.0000
46	0.0118	0.0118	0.0118	0.0118	0.0118	0.0075	0.0107	0.0030	0.0012	0.0010	0.0000	0.0000
47	0.0107	0.0107	0.0107	0.0107	0.0107	0.0073	0.0094	0.0039	0.0013	0.0010	0.0000	0.0000
48	0.0099	0.0099	0.0099	0.0099	0.0099	0.0075	0.0089	0.0037	0.0013	0.0011	0.0000	0.0000
49	0.0092	0.0092	0.0092	0.0092	0.0092	0.0076	0.0080	0.0034	0.0013	0.0012	0.0000	0.0000
50	0.0084	0.0084	0.0084	0.0084	0.0084	0.0000	0.0079	0.0030	0.0020	0.0013	0.0000	0.0400
51	0.0076	0.0076	0.0076	0.0076	0.0076	0.0000	0.0076	0.0030	0.0020	0.0014	0.0000	0.0400
52	0.0069	0.0069	0.0069	0.0069	0.0069	0.0000	0.0075	0.0030	0.0020	0.0015	0.0000	0.0400
53	0.0061	0.0061	0.0061	0.0061	0.0061	0.0000	0.0074	0.0030	0.0020	0.0017	0.0000	0.0400
54	0.0054	0.0054	0.0054	0.0054	0.0054	0.0000	0.0072	0.0030	0.0020	0.0019	0.0000	0.0400
55	0.0046	0.0046	0.0046	0.0046	0.0046	0.0000	0.0071	0.0020	0.0042	0.0021	0.0000	0.0450
56	0.0038	0.0038	0.0038	0.0038	0.0038	0.0000	0.0068	0.0025	0.0045	0.0022	0.0000	0.0694
57	0.0031	0.0031	0.0031	0.0031	0.0031	0.0000	0.0061	0.0020	0.0048	0.0025	0.0000	0.0750
58	0.0023	0.0023	0.0023	0.0023	0.0023	0.0000	0.0054	0.0020	0.0056	0.0028	0.0000	0.0800
59	0.0019	0.0019	0.0019	0.0019	0.0019	0.0000	0.0047	0.0018	0.0065	0.0031	0.0000	0.0850
60	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0032	0.0019	0.0065	0.0036	0.0000	0.1219
61	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0026	0.0020	0.0065	0.0042	0.0000	0.1655
62	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0021	0.0021	0.0065	0.0048	0.0000	0.2000
63	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0016	0.0025	0.0065	0.0055	0.0000	0.2000
64	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0011	0.0029	0.0065	0.0063	0.0000	0.2000
65	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0072	0.0000	0.4000
66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0082	0.0000	0.2641
67	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0093	0.0000	0.2832
68	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0104	0.0000	0.4484
69	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0116	0.0000	0.5765
70	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000

Appendix B (continued)

Exhibit I

**PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT  
General Plans 2 and 4 Male Members**

Age	With(0<Svc<1)	With(1<Svc<2)	With(2<Svc<3)	With(3<Svc<4)	With(4<Svc<5)	With(Svc>5)	Vested Term	Ord. Disab	Duty Disab	Ord. Dth	Duty Dth	Svc Ret
<= 20	0.1360	0.1100	0.1000	0.0700	0.0400	0.0400	0.0000	0.0000	0.0000	0.0002	0.0001	0.0000
21	0.1360	0.1100	0.1000	0.0700	0.0400	0.0400	0.0000	0.0000	0.0000	0.0002	0.0001	0.0000
22	0.1360	0.1100	0.1000	0.0700	0.0400	0.0400	0.0000	0.0000	0.0000	0.0002	0.0001	0.0000
23	0.1360	0.1100	0.1000	0.0700	0.0400	0.0400	0.0000	0.0000	0.0000	0.0002	0.0001	0.0000
24	0.1360	0.1100	0.1000	0.0700	0.0400	0.0400	0.0000	0.0000	0.0000	0.0002	0.0001	0.0000
25	0.1360	0.1100	0.1000	0.0700	0.0400	0.0400	0.0090	0.0003	0.0000	0.0003	0.0001	0.0000
26	0.1360	0.1100	0.1000	0.0700	0.0400	0.0400	0.0100	0.0003	0.0000	0.0003	0.0001	0.0000
27	0.1360	0.1100	0.1000	0.0700	0.0400	0.0400	0.0110	0.0003	0.0002	0.0003	0.0001	0.0000
28	0.1360	0.1100	0.1000	0.0700	0.0400	0.0400	0.0120	0.0003	0.0002	0.0003	0.0001	0.0000
29	0.1360	0.1100	0.1000	0.0700	0.0400	0.0400	0.0130	0.0003	0.0002	0.0003	0.0001	0.0000
30	0.1360	0.1100	0.1000	0.0700	0.0400	0.0400	0.0160	0.0003	0.0004	0.0003	0.0001	0.0000
31	0.1360	0.1100	0.1000	0.0700	0.0400	0.0400	0.0144	0.0003	0.0004	0.0004	0.0001	0.0000
32	0.1360	0.1100	0.1000	0.0700	0.0400	0.0400	0.0190	0.0004	0.0004	0.0004	0.0001	0.0000
33	0.1360	0.1100	0.1000	0.0700	0.0400	0.0400	0.0174	0.0004	0.0006	0.0005	0.0001	0.0000
34	0.1360	0.1100	0.1000	0.0700	0.0400	0.0400	0.0220	0.0005	0.0006	0.0005	0.0001	0.0000
35	0.1360	0.1100	0.1000	0.0700	0.0400	0.0400	0.0260	0.0005	0.0006	0.0005	0.0001	0.0000
36	0.1360	0.1100	0.1000	0.0700	0.0400	0.0400	0.0220	0.0006	0.0008	0.0006	0.0001	0.0000
37	0.1360	0.1100	0.1000	0.0700	0.0400	0.0350	0.0300	0.0006	0.0010	0.0006	0.0001	0.0000
38	0.1360	0.1100	0.1000	0.0700	0.0400	0.0300	0.0260	0.0007	0.0012	0.0006	0.0001	0.0000
39	0.1360	0.1100	0.1000	0.0700	0.0400	0.0250	0.0340	0.0009	0.0014	0.0006	0.0001	0.0000
40	0.1360	0.1100	0.1000	0.0700	0.0400	0.0200	0.0380	0.0012	0.0016	0.0006	0.0001	0.0000
41	0.1360	0.1100	0.1000	0.0700	0.0400	0.0175	0.0380	0.0015	0.0018	0.0007	0.0001	0.0000
42	0.1360	0.1100	0.1000	0.0700	0.0400	0.0150	0.0380	0.0018	0.0020	0.0008	0.0001	0.0000
43	0.1360	0.1100	0.1000	0.0700	0.0400	0.0150	0.0300	0.0021	0.0022	0.0009	0.0001	0.0000
44	0.1360	0.1100	0.1000	0.0700	0.0400	0.0150	0.0280	0.0024	0.0024	0.0010	0.0002	0.0000
45	0.1360	0.1100	0.1000	0.0700	0.0400	0.0150	0.0260	0.0027	0.0026	0.0012	0.0002	0.0000
46	0.1360	0.1100	0.1000	0.0700	0.0400	0.0150	0.0260	0.0030	0.0028	0.0014	0.0002	0.0000
47	0.1360	0.1100	0.1000	0.0700	0.0400	0.0150	0.0240	0.0032	0.0030	0.0016	0.0002	0.0000
48	0.1360	0.1100	0.1000	0.0700	0.0400	0.0150	0.0240	0.0034	0.0032	0.0018	0.0002	0.0000
49	0.1360	0.1100	0.1000	0.0700	0.0400	0.0150	0.0240	0.0036	0.0034	0.0020	0.0002	0.0000
50	0.1360	0.1100	0.1000	0.0700	0.0400	0.0000	0.0220	0.0038	0.0036	0.0022	0.0002	0.0362
51	0.1360	0.1100	0.1000	0.0700	0.0400	0.0000	0.0220	0.0040	0.0038	0.0024	0.0002	0.0300
52	0.1360	0.1100	0.1000	0.0700	0.0400	0.0000	0.0220	0.0042	0.0040	0.0026	0.0003	0.0300
53	0.1360	0.1100	0.1000	0.0700	0.0400	0.0000	0.0200	0.0044	0.0042	0.0028	0.0003	0.0300
54	0.1360	0.1100	0.1000	0.0700	0.0400	0.0000	0.0180	0.0046	0.0044	0.0030	0.0003	0.0300
55	0.1360	0.1100	0.1000	0.0700	0.0400	0.0000	0.0120	0.0048	0.0048	0.0032	0.0003	0.0340
56	0.1360	0.1100	0.1000	0.0700	0.0400	0.0000	0.0110	0.0050	0.0054	0.0034	0.0003	0.0490
57	0.1360	0.1100	0.1000	0.0700	0.0400	0.0000	0.0100	0.0052	0.0060	0.0036	0.0004	0.0865
58	0.1360	0.1100	0.1000	0.0700	0.0400	0.0000	0.0090	0.0054	0.0066	0.0038	0.0004	0.1121
59	0.1360	0.1100	0.1000	0.0700	0.0400	0.0000	0.0080	0.0056	0.0072	0.0040	0.0004	0.1650
60	0.1360	0.1100	0.1000	0.0700	0.0400	0.0000	0.0070	0.0058	0.0078	0.0042	0.0004	0.1570
61	0.1360	0.1100	0.1000	0.0700	0.0400	0.0000	0.0060	0.0060	0.0084	0.0044	0.0004	0.1489
62	0.1360	0.1100	0.1000	0.0700	0.0400	0.0000	0.0050	0.0062	0.0092	0.0046	0.0005	0.2833
63	0.1360	0.1100	0.1000	0.0700	0.0400	0.0000	0.0040	0.0064	0.0100	0.0048	0.0005	0.2121
64	0.1360	0.1100	0.1000	0.0700	0.0400	0.0000	0.0030	0.0066	0.0108	0.0050	0.0005	0.2656
65	0.1360	0.1100	0.1000	0.0700	0.0400	0.0000	0.0000	0.0000	0.0000	0.0052	0.0005	0.3000
66	0.1360	0.1100	0.1000	0.0700	0.0400	0.0000	0.0000	0.0000	0.0000	0.0056	0.0005	0.1000
67	0.1360	0.1100	0.1000	0.0700	0.0400	0.0000	0.0000	0.0000	0.0000	0.0060	0.0006	0.1500
68	0.1360	0.1100	0.1000	0.0700	0.0400	0.0000	0.0000	0.0000	0.0000	0.0065	0.0006	0.2000
69	0.1360	0.1100	0.1000	0.0700	0.0400	0.0000	0.0000	0.0000	0.0000	0.0070	0.0006	0.2500
70	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000

Appendix B (continued)

Exhibit I

**PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT  
General Plans 2 and 4 Female Members**

Age	With(0<Svc<1)	With(1<Svc<2)	With(2<Svc<3)	With(3<Svc<4)	With(4<Svc<5)	With(Svc>5)	Vested Term	Ord. Disab	Duty Disab	Ord. Dth	Duty Dth	Svc Ret
<= 20	0.1300	0.1097	0.0882	0.0700	0.0400	0.0400	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000
21	0.1300	0.1097	0.0882	0.0700	0.0400	0.0400	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000
22	0.1300	0.1097	0.0882	0.0700	0.0400	0.0400	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000
23	0.1300	0.1097	0.0882	0.0700	0.0400	0.0400	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000
24	0.1300	0.1097	0.0882	0.0700	0.0400	0.0400	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000
25	0.1300	0.1097	0.0882	0.0700	0.0400	0.0400	0.0128	0.0001	0.0000	0.0003	0.0000	0.0000
26	0.1300	0.1097	0.0882	0.0700	0.0400	0.0400	0.0128	0.0001	0.0000	0.0003	0.0000	0.0000
27	0.1300	0.1097	0.0882	0.0700	0.0400	0.0400	0.0135	0.0002	0.0001	0.0003	0.0000	0.0000
28	0.1300	0.1097	0.0882	0.0700	0.0400	0.0400	0.0135	0.0002	0.0001	0.0003	0.0000	0.0000
29	0.1300	0.1097	0.0882	0.0700	0.0400	0.0400	0.0143	0.0002	0.0001	0.0003	0.0000	0.0000
30	0.1300	0.1097	0.0882	0.0700	0.0400	0.0349	0.0188	0.0003	0.0001	0.0003	0.0000	0.0000
31	0.1300	0.1097	0.0882	0.0700	0.0400	0.0349	0.0225	0.0003	0.0001	0.0004	0.0000	0.0000
32	0.1300	0.1097	0.0882	0.0700	0.0400	0.0349	0.0240	0.0003	0.0001	0.0004	0.0000	0.0000
33	0.1300	0.1097	0.0882	0.0700	0.0400	0.0349	0.0255	0.0007	0.0003	0.0004	0.0000	0.0000
34	0.1300	0.1097	0.0882	0.0700	0.0400	0.0349	0.0263	0.0010	0.0006	0.0004	0.0000	0.0000
35	0.1300	0.1097	0.0882	0.0700	0.0400	0.0240	0.0300	0.0016	0.0010	0.0005	0.0000	0.0000
36	0.1300	0.1097	0.0882	0.0700	0.0400	0.0240	0.0300	0.0020	0.0012	0.0005	0.0000	0.0000
37	0.1300	0.1097	0.0882	0.0700	0.0400	0.0240	0.0300	0.0028	0.0015	0.0005	0.0000	0.0000
38	0.1300	0.1097	0.0882	0.0700	0.0400	0.0240	0.0263	0.0029	0.0018	0.0006	0.0000	0.0000
39	0.1300	0.1097	0.0882	0.0700	0.0400	0.0240	0.0225	0.0030	0.0020	0.0006	0.0000	0.0000
40	0.1300	0.1097	0.0882	0.0700	0.0400	0.0240	0.0225	0.0030	0.0020	0.0006	0.0000	0.0000
41	0.1300	0.1097	0.0882	0.0700	0.0400	0.0240	0.0225	0.0030	0.0020	0.0007	0.0000	0.0000
42	0.1300	0.1097	0.0882	0.0700	0.0400	0.0240	0.0225	0.0030	0.0020	0.0008	0.0000	0.0000
43	0.1300	0.1097	0.0882	0.0700	0.0400	0.0240	0.0225	0.0030	0.0020	0.0008	0.0000	0.0000
44	0.1300	0.1097	0.0882	0.0700	0.0400	0.0240	0.0225	0.0030	0.0020	0.0009	0.0000	0.0000
45	0.1300	0.1097	0.0882	0.0700	0.0400	0.0227	0.0210	0.0030	0.0022	0.0009	0.0000	0.0000
46	0.1300	0.1097	0.0882	0.0700	0.0400	0.0211	0.0200	0.0036	0.0024	0.0010	0.0000	0.0000
47	0.1300	0.1097	0.0882	0.0700	0.0400	0.0195	0.0190	0.0036	0.0026	0.0010	0.0000	0.0000
48	0.1300	0.1097	0.0882	0.0700	0.0400	0.0180	0.0180	0.0036	0.0028	0.0011	0.0000	0.0000
49	0.1300	0.1097	0.0882	0.0700	0.0400	0.0166	0.0170	0.0036	0.0030	0.0012	0.0000	0.0000
50	0.1300	0.1097	0.0882	0.0700	0.0400	0.0000	0.0160	0.0036	0.0031	0.0013	0.0000	0.0400
51	0.1300	0.1097	0.0882	0.0700	0.0400	0.0000	0.0150	0.0036	0.0032	0.0014	0.0000	0.0350
52	0.1300	0.1097	0.0882	0.0700	0.0400	0.0000	0.0140	0.0036	0.0033	0.0015	0.0000	0.0300
53	0.1300	0.1097	0.0882	0.0700	0.0400	0.0000	0.0130	0.0036	0.0034	0.0017	0.0000	0.0300
54	0.1300	0.1097	0.0882	0.0700	0.0400	0.0000	0.0125	0.0036	0.0035	0.0019	0.0000	0.0300
55	0.1300	0.1097	0.0882	0.0700	0.0400	0.0000	0.0120	0.0036	0.0036	0.0021	0.0000	0.0400
56	0.1300	0.1097	0.0882	0.0700	0.0400	0.0000	0.0110	0.0036	0.0037	0.0022	0.0000	0.0694
57	0.1300	0.1097	0.0882	0.0700	0.0400	0.0000	0.0100	0.0036	0.0038	0.0025	0.0000	0.0750
58	0.1300	0.1097	0.0882	0.0700	0.0400	0.0000	0.0050	0.0036	0.0039	0.0028	0.0000	0.0800
59	0.1300	0.1097	0.0882	0.0700	0.0400	0.0000	0.0025	0.0036	0.0040	0.0031	0.0000	0.0850
60	0.1300	0.1097	0.0882	0.0700	0.0400	0.0000	0.0000	0.0036	0.0056	0.0036	0.0000	0.1219
61	0.1300	0.1097	0.0882	0.0700	0.0400	0.0000	0.0000	0.0036	0.0071	0.0042	0.0000	0.1655
62	0.1300	0.1097	0.0882	0.0700	0.0400	0.0000	0.0000	0.0036	0.0085	0.0048	0.0000	0.2000
63	0.1300	0.1097	0.0882	0.0700	0.0400	0.0000	0.0000	0.0036	0.0097	0.0055	0.0000	0.2000
64	0.1300	0.1097	0.0882	0.0700	0.0400	0.0000	0.0000	0.0036	0.0107	0.0063	0.0000	0.2000
65	0.1300	0.1097	0.0882	0.0700	0.0400	0.0000	0.0000	0.0000	0.0000	0.0072	0.0000	0.4000
66	0.1300	0.1097	0.0882	0.0700	0.0400	0.0000	0.0000	0.0000	0.0000	0.0082	0.0000	0.2000
67	0.1300	0.1097	0.0882	0.0700	0.0400	0.0000	0.0000	0.0000	0.0000	0.0093	0.0000	0.2500
68	0.1300	0.1097	0.0882	0.0700	0.0400	0.0000	0.0000	0.0000	0.0000	0.0104	0.0000	0.2200
69	0.1300	0.1097	0.0882	0.0700	0.0400	0.0000	0.0000	0.0000	0.0000	0.0116	0.0000	0.3000
70	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000



Appendix B (continued)

Exhibit I

**PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT  
General Male Members - Plan 3**

No withdrawal is assumed after a member has 10 years of service.

Age	With(0<Svc<1)	With(1<Svc<2)	With(2<Svc<3)	With(3<Svc<4)	With(4<Svc<5)	With(Svc>5)	Vested Term	Ord. Disab	Duty Disab	Ord. Dth	Duty Dth	Svc Ret
<= 20	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0000	0.0000	0.0000	0.0002	0.0001	0.0000
21	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0000	0.0000	0.0000	0.0002	0.0001	0.0000
22	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0000	0.0000	0.0000	0.0002	0.0001	0.0000
23	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0000	0.0000	0.0000	0.0002	0.0001	0.0000
24	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0000	0.0000	0.0000	0.0002	0.0001	0.0000
25	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0085	0.0002	0.0000	0.0003	0.0001	0.0000
26	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0085	0.0002	0.0000	0.0003	0.0001	0.0000
27	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0090	0.0002	0.0000	0.0003	0.0001	0.0000
28	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0090	0.0002	0.0000	0.0003	0.0001	0.0000
29	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0095	0.0002	0.0000	0.0003	0.0001	0.0000
30	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0100	0.0002	0.0000	0.0003	0.0001	0.0000
31	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0105	0.0002	0.0000	0.0004	0.0001	0.0000
32	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0110	0.0002	0.0000	0.0004	0.0001	0.0000
33	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0115	0.0002	0.0000	0.0005	0.0001	0.0000
34	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0125	0.0002	0.0000	0.0005	0.0001	0.0000
35	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0135	0.0003	0.0001	0.0005	0.0001	0.0000
36	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0160	0.0004	0.0001	0.0006	0.0001	0.0000
37	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0180	0.0004	0.0001	0.0006	0.0001	0.0000
38	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0195	0.0005	0.0001	0.0006	0.0001	0.0000
39	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0205	0.0005	0.0001	0.0006	0.0001	0.0000
40	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0210	0.0006	0.0001	0.0006	0.0001	0.0000
41	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0215	0.0006	0.0001	0.0007	0.0001	0.0000
42	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0215	0.0007	0.0001	0.0008	0.0001	0.0000
43	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0220	0.0008	0.0001	0.0009	0.0001	0.0000
44	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0230	0.0009	0.0001	0.0010	0.0002	0.0000
45	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0240	0.0010	0.0002	0.0012	0.0002	0.0000
46	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0250	0.0011	0.0002	0.0014	0.0002	0.0000
47	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0260	0.0012	0.0002	0.0016	0.0002	0.0000
48	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0250	0.0014	0.0002	0.0018	0.0002	0.0000
49	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0245	0.0015	0.0002	0.0020	0.0002	0.0000
50	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0245	0.0016	0.0002	0.0022	0.0002	0.0000
51	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0225	0.0018	0.0003	0.0024	0.0002	0.0000
52	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0200	0.0019	0.0004	0.0026	0.0003	0.0000
53	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0175	0.0021	0.0004	0.0028	0.0003	0.0000
54	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0140	0.0023	0.0005	0.0030	0.0003	0.0000
55	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0120	0.0025	0.0005	0.0032	0.0003	0.0513
56	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0110	0.0027	0.0006	0.0034	0.0003	0.0660
57	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0100	0.0029	0.0006	0.0036	0.0004	0.0806
58	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0090	0.0032	0.0007	0.0038	0.0004	0.0953
59	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0080	0.0034	0.0008	0.0040	0.0004	0.1099
60	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0070	0.0038	0.0009	0.0042	0.0004	0.1200
61	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0060	0.0040	0.0010	0.0044	0.0004	0.1250
62	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0050	0.0042	0.0011	0.0046	0.0005	0.2500
63	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0040	0.0045	0.0012	0.0048	0.0005	0.2000
64	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0030	0.0047	0.0013	0.0050	0.0005	0.2000
65	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0000	0.0000	0.0000	0.0052	0.0005	0.2553
66	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0000	0.0000	0.0000	0.0056	0.0005	0.2553
67	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0000	0.0000	0.0000	0.0060	0.0006	0.2918
68	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0000	0.0000	0.0000	0.0065	0.0006	0.3283
69	0.3000	0.1387	0.1387	0.1387	0.0600	0.0000	0.0000	0.0000	0.0000	0.0070	0.0006	0.3647
70	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000

Appendix B (continued)

Exhibit I

**PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT  
General Female Members - Plan 3**

No withdrawal is assumed after a member has 10 years of service.

Age	With(0<Svc<1)	With(1<Svc<2)	With(2<Svc<3)	With(3<Svc<4)	With(4<Svc<5)	With(Svc>5)	Vested Term	Ord. Disab	Duty Disab	Ord. Dth	Duty Dth	Svc Ret
<= 20	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000
21	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000
22	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000
23	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000
24	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000
25	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000
26	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000
27	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000
28	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000
29	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000
30	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0400	0.0001	0.0000	0.0003	0.0000	0.0000
31	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0400	0.0001	0.0000	0.0004	0.0000	0.0000
32	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0400	0.0001	0.0000	0.0004	0.0000	0.0000
33	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0400	0.0001	0.0000	0.0004	0.0000	0.0000
34	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0400	0.0001	0.0000	0.0004	0.0000	0.0000
35	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0400	0.0002	0.0001	0.0005	0.0000	0.0000
36	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0400	0.0002	0.0001	0.0005	0.0000	0.0000
37	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0400	0.0002	0.0001	0.0005	0.0000	0.0000
38	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0400	0.0002	0.0001	0.0006	0.0000	0.0000
39	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0400	0.0002	0.0001	0.0006	0.0000	0.0000
40	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0300	0.0002	0.0001	0.0006	0.0000	0.0000
41	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0280	0.0002	0.0001	0.0007	0.0000	0.0000
42	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0240	0.0003	0.0001	0.0008	0.0000	0.0000
43	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0200	0.0004	0.0001	0.0008	0.0000	0.0000
44	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0180	0.0005	0.0001	0.0009	0.0000	0.0000
45	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0175	0.0006	0.0002	0.0009	0.0000	0.0000
46	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0170	0.0006	0.0002	0.0010	0.0000	0.0000
47	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0165	0.0008	0.0002	0.0010	0.0000	0.0000
48	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0155	0.0008	0.0002	0.0011	0.0000	0.0000
49	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0140	0.0009	0.0002	0.0012	0.0000	0.0000
50	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0130	0.0010	0.0003	0.0013	0.0000	0.0000
51	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0125	0.0011	0.0003	0.0014	0.0000	0.0000
52	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0120	0.0012	0.0004	0.0015	0.0000	0.0000
53	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0115	0.0014	0.0004	0.0017	0.0000	0.0000
54	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0110	0.0017	0.0005	0.0019	0.0000	0.0000
55	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0105	0.0018	0.0005	0.0021	0.0000	0.0229
56	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0100	0.0021	0.0006	0.0022	0.0000	0.0204
57	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0090	0.0022	0.0006	0.0025	0.0000	0.0137
58	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0080	0.0023	0.0006	0.0028	0.0000	0.0166
59	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0070	0.0025	0.0007	0.0031	0.0000	0.0225
60	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0060	0.0027	0.0008	0.0036	0.0000	0.0317
61	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0050	0.0028	0.0008	0.0042	0.0000	0.0350
62	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0040	0.0029	0.0008	0.0048	0.0000	0.0957
63	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0030	0.0031	0.0009	0.0055	0.0000	0.0886
64	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0020	0.0033	0.0009	0.0063	0.0000	0.2000
65	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0000	0.0000	0.0000	0.0072	0.0000	0.2500
66	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0000	0.0000	0.0000	0.0082	0.0000	0.1158
67	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0000	0.0000	0.0000	0.0093	0.0000	0.1244
68	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0000	0.0000	0.0000	0.0104	0.0000	0.4540
69	0.2000	0.2000	0.1000	0.1000	0.0800	0.0000	0.0000	0.0000	0.0000	0.0116	0.0000	0.5837
70	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000

Appendix B (continued)

Exhibit I

**PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT  
Safety and Probation Members**

Age	With(0<Svc<1)	With(1<Svc<2)	With(2<Svc<3)	With(3<Svc<4)	With(4<Svc<5)	With(Svc>5)	Vested Term	Ord. Disab	Duty Disab	Ord. Dth	Duty Dth	Svc Ret
<= 20	0.1000	0.0799	0.0799	0.0799	0.0799	0.0078	0.0500	0.0000	0.0008	0.0002	0.0005	0.0000
21	0.1000	0.0754	0.0754	0.0754	0.0754	0.0078	0.0500	0.0000	0.0009	0.0002	0.0005	0.0000
22	0.1000	0.0709	0.0709	0.0709	0.0709	0.0078	0.0500	0.0000	0.0010	0.0002	0.0005	0.0000
23	0.1000	0.0663	0.0663	0.0663	0.0663	0.0078	0.0500	0.0000	0.0011	0.0002	0.0005	0.0000
24	0.1000	0.0618	0.0618	0.0618	0.0618	0.0078	0.0500	0.0000	0.0012	0.0002	0.0005	0.0000
25	0.1000	0.0474	0.0474	0.0474	0.0474	0.0078	0.0400	0.0002	0.0010	0.0003	0.0005	0.0000
26	0.1000	0.0449	0.0449	0.0449	0.0449	0.0078	0.0400	0.0002	0.0011	0.0003	0.0005	0.0000
27	0.1000	0.0424	0.0424	0.0424	0.0424	0.0078	0.0400	0.0002	0.0011	0.0004	0.0005	0.0000
28	0.1000	0.0411	0.0411	0.0411	0.0411	0.0078	0.0400	0.0002	0.0012	0.0004	0.0004	0.0000
29	0.1000	0.0399	0.0399	0.0399	0.0399	0.0078	0.0400	0.0002	0.0013	0.0004	0.0004	0.0000
30	0.1000	0.0369	0.0369	0.0369	0.0369	0.0078	0.0400	0.0003	0.0011	0.0003	0.0005	0.0000
31	0.1000	0.0357	0.0357	0.0357	0.0357	0.0078	0.0300	0.0003	0.0011	0.0004	0.0005	0.0000
32	0.1000	0.0345	0.0345	0.0345	0.0345	0.0077	0.0250	0.0004	0.0012	0.0003	0.0005	0.0000
33	0.1000	0.0333	0.0333	0.0333	0.0333	0.0077	0.0250	0.0004	0.0012	0.0004	0.0005	0.0000
34	0.1000	0.0321	0.0321	0.0321	0.0321	0.0077	0.0250	0.0005	0.0012	0.0004	0.0005	0.0000
35	0.1000	0.0310	0.0310	0.0310	0.0310	0.0077	0.0225	0.0004	0.0012	0.0004	0.0005	0.0000
36	0.1000	0.0299	0.0299	0.0299	0.0299	0.0077	0.0200	0.0005	0.0016	0.0004	0.0005	0.0000
37	0.1000	0.0289	0.0289	0.0289	0.0289	0.0077	0.0200	0.0006	0.0020	0.0004	0.0005	0.0000
38	0.1000	0.0278	0.0278	0.0278	0.0278	0.0077	0.0200	0.0007	0.0023	0.0004	0.0005	0.0000
39	0.1000	0.0267	0.0267	0.0267	0.0267	0.0077	0.0175	0.0008	0.0026	0.0004	0.0006	0.0000
40	0.1000	0.0257	0.0257	0.0257	0.0257	0.0076	0.0150	0.0009	0.0047	0.0004	0.0006	0.0000
41	0.1000	0.0214	0.0214	0.0214	0.0214	0.0076	0.0125	0.0010	0.0057	0.0004	0.0006	0.0000
42	0.1000	0.0172	0.0172	0.0172	0.0172	0.0076	0.0100	0.0010	0.0070	0.0005	0.0007	0.0000
43	0.1000	0.0129	0.0129	0.0129	0.0129	0.0066	0.0100	0.0011	0.0081	0.0005	0.0007	0.0000
44	0.1000	0.0086	0.0086	0.0086	0.0086	0.0061	0.0100	0.0011	0.0092	0.0006	0.0007	0.0000
45	0.1000	0.0056	0.0056	0.0056	0.0056	0.0056	0.0100	0.0012	0.0100	0.0006	0.0007	0.0000
46	0.1000	0.0051	0.0051	0.0051	0.0051	0.0051	0.0100	0.0012	0.0105	0.0007	0.0007	0.0000
47	0.1000	0.0046	0.0046	0.0046	0.0046	0.0046	0.0100	0.0012	0.0110	0.0008	0.0007	0.0000
48	0.1000	0.0041	0.0041	0.0041	0.0041	0.0041	0.0100	0.0012	0.0115	0.0008	0.0007	0.0000
49	0.1000	0.0036	0.0036	0.0036	0.0036	0.0036	0.0100	0.0012	0.0120	0.0008	0.0007	0.0000
50	0.1000	0.0013	0.0013	0.0013	0.0013	0.0000	0.0075	0.0012	0.0125	0.0009	0.0007	0.3300
51	0.1000	0.0013	0.0013	0.0013	0.0013	0.0000	0.0065	0.0012	0.0130	0.0009	0.0007	0.2500
52	0.1000	0.0007	0.0007	0.0007	0.0007	0.0000	0.0055	0.0015	0.0135	0.0009	0.0007	0.2500
53	0.1000	0.0007	0.0007	0.0007	0.0007	0.0000	0.0050	0.0020	0.0150	0.0010	0.0007	0.3300
54	0.1000	0.0007	0.0007	0.0007	0.0007	0.0000	0.0050	0.0030	0.0167	0.0012	0.0010	0.3300
55	0.1000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0035	0.0175	0.0013	0.0011	0.5000
56	0.1000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0036	0.0200	0.0014	0.0011	0.5000
57	0.1000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0038	0.0225	0.0015	0.0012	0.5000
58	0.1000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0040	0.0250	0.0017	0.0015	0.5000
59	0.1000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0041	0.0275	0.0019	0.0000	0.5000
60	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000
61	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000
62	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000
63	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000
64	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000
65	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000
66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000
67	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000
68	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000
69	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000
70	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000

Appendix B (continued)

Exhibit II

RATIO OF CURRENT COMPENSATION TO COMPENSATION ANTICIPATED AT RETIREMENT AGE

Age	General Members	Safety and Probation Members
20	0.038	0.071
21	0.042	0.078
22	0.046	0.085
23	0.051	0.093
24	0.056	0.101
25	0.061	0.111
26	0.067	0.121
27	0.073	0.132
28	0.079	0.143
29	0.086	0.156
30	0.094	0.169
31	0.102	0.184
32	0.110	0.199
33	0.120	0.215
34	0.130	0.231
35	0.140	0.249
36	0.151	0.267
37	0.162	0.285
38	0.174	0.305
39	0.186	0.325
40	0.199	0.346
41	0.213	0.367
42	0.227	0.390
43	0.241	0.413
44	0.257	0.438
45	0.273	0.463
46	0.290	0.490
47	0.308	0.517
48	0.326	0.545
49	0.345	0.575
50	0.365	0.606
51	0.385	0.639
52	0.406	0.672
53	0.428	0.708
54	0.451	0.745
55	0.474	0.783
56	0.499	0.823
57	0.525	0.864
58	0.552	0.908
59	0.581	0.953
60	0.611	1.000
61	0.642	
62	0.675	
63	0.710	
64	0.746	
65	0.784	
66	0.823	
67	0.864	
68	0.908	
69	0.953	
70	1.000	

Salary Scale of merit and longevity plus 4.25% inflation

Appendix B (continued)

Exhibit III

**YEARS OF LIFE EXPECTANCY AFTER SERVICE RETIREMENT**

General				General			
Age	Male	Female	Safety	Age	Male	Female	Safety
50	30.94	36.14	29.09	81	7.97	10.49	7.07
51	30.01	35.19	28.18	82	7.51	9.88	6.65
52	29.09	34.24	27.28	83	7.07	9.30	6.24
53	28.18	33.29	26.38	84	6.65	8.74	5.86
54	27.28	32.34	25.49	85	6.24	8.20	5.48
55	26.38	31.4	24.61	86	5.86	7.68	5.12
56	25.49	30.47	23.74	87	5.48	7.18	4.78
57	24.61	29.53	22.88	88	5.12	6.71	4.45
58	23.74	28.6	22.04	89	4.78	6.25	4.15
59	22.88	27.68	21.20	90	4.45	5.83	3.87
60	22.04	26.77	20.38	91	4.15	5.42	3.61
61	21.2	25.86	19.57	92	3.87	5.05	3.37
62	20.38	24.97	18.78	93	3.61	4.70	3.15
63	19.57	24.09	18.01	94	3.37	4.37	2.95
64	18.78	23.22	17.26	95	3.15	4.07	2.77
65	18.01	22.36	16.53	96	2.95	3.79	2.61
66	17.26	21.52	15.81	97	2.77	3.53	2.46
67	16.53	20.69	15.11	98	2.61	3.28	2.33
68	15.81	19.88	14.43	99	2.46	3.06	2.21
69	15.11	19.09	13.77	100	2.33	2.85	2.09
70	14.43	18.3	13.11	101	2.21	2.65	1.98
71	13.77	17.53	12.48	102	2.09	2.48	1.87
72	13.11	16.77	11.85	103	1.98	2.31	1.77
73	12.48	16.01	11.25	104	1.87	2.16	1.68
74	11.85	15.26	10.66	105	1.77	2.02	1.62
75	11.25	14.53	10.08	106	1.68	1.89	1.57
76	10.66	13.81	9.52	107	1.62	1.78	1.53
77	10.08	13.11	8.98	108	1.57	1.69	1.51
78	9.52	12.43	8.46	109	1.53	1.62	1.49
79	8.98	11.76	7.97	110	1.51	1.57	1.47
80	8.46	11.11	7.51				

General                    Male Members - 1994 GAM Male Set Back 1 Year  
                                   Female Members - 1994 GAM Female Set Back 2 Years

Safety                     All Members - 1994 GAM Male Set Forward 1 Year

Appendix B (continued)

Exhibit III

**YEARS OF LIFE EXPECTANCY AFTER DISABILITY RETIREMENT**  
**General Members**

Age	Male & Female	Age	Male & Female	Age	Male & Female
20	40.93	50	22.56	80	8.28
21	40.06	51	22.06	81	7.83
22	39.17	52	21.57	82	7.41
23	38.27	53	21.08	83	7.00
24	37.60	54	20.59	84	6.63
25	36.95	55	20.11	85	6.27
26	36.31	56	19.63	86	5.94
27	35.67	57	19.16	87	5.63
28	35.04	58	18.68	88	5.34
29	34.41	59	18.21	89	5.06
30	33.78	60	17.75	90	4.80
31	33.16	61	17.29	91	4.55
32	32.55	62	16.83	92	4.31
33	31.94	63	16.37	93	4.09
34	31.34	64	15.91	94	3.87
35	30.75	65	15.45	95	3.66
36	30.16	66	14.99	96	3.46
37	29.57	67	14.53	97	3.26
38	29.00	68	14.07	98	3.07
39	28.43	69	13.60	99	2.89
40	27.87	70	13.13	100	2.71
41	27.31	71	12.66	101	2.54
42	26.76	72	12.18	102	2.37
43	26.21	73	11.70	103	2.20
44	25.67	74	11.21	104	2.04
45	25.14	75	10.72	105	1.88
46	24.61	76	10.22	106	1.72
47	24.09	77	9.73	107	1.55
48	23.57	78	9.24	108	1.38
49	23.06	79	8.76	109	1.21
				110	1.04

General

All Members - 1981 General Disability Set Back 4 Years

## Appendix C: Actuarial Valuation Methods

### Actuarial Funding Method

#### Responsibility of the Actuary

A retirement system is a long-term proposition. It contains benefit promises that extend many decades into the future. The fiduciaries responsible for funding the Association cannot wait until these promises become due before seeking out the money needed to pay for them. The actuary's primary responsibility is to assist the Board to structure a financial plan to advance fund the benefit promises of the Association and to monitor its performance. This financial plan is more commonly referred to as an actuarial funding method.

#### Employer Contributions

Employer contributions consist of two components:

1. *Normal Cost* - That annual contribution rate which, if paid annually from a member's first year of membership through the year of retirement, would accumulate to the amount necessary to fully fund the member's retirement-related benefits. Accumulation includes annual crediting of interest at the assumed investment earnings rate. The contribution rate is expressed as a level percentage of the member's compensation.
2. *Contribution to the Unfunded Actuarial Accrued Liability (UAAL)* - That annual contribution rate which, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment earnings rate. The contribution is calculated to remain as a level percentage of future active member payroll (including payroll of new members as they enter the Association) assuming a constant number of active members. In order to remain as a level percentage of payroll, amortization payments are scheduled to increase at the annual wage inflation rate of 4.25% along with expected payroll. The UAAL is being funded over the 19-year period following June 30, 2003.

The actuarial funding method just described, which has been adopted by the Board, is called the Entry Age Normal Funding Method.

A more complete definition of the Unfunded Actuarial Accrued Liability and other actuarial terms is provided in the Glossary of Actuarial Terms which can be found in Appendix G.

#### Member Contributions

Articles 6 and 6.8 of the 1937 Act define the methodology to be used in the calculation of member basic contribution rates for General members; and Safety members and Probation Officers, respectively. See Appendix A for a full description of the determination of member contribution rates.

## Appendix C (continued)

### Actuarial Value of Assets

#### **Background**

Under the Entry Age Normal Actuarial Funding Method, a determination is made of the assets the Association would have on hand if the current levels of employer normal cost and member contribution rates had been paid from each member's entry age through the actuarial valuation date and credited with the current actuarial interest rate assumption. This target value of assets is called the Actuarial Accrued Liability (AAL). The Unfunded Actuarial Accrued Liability (UAAL) is equal to the AAL less the Actuarial Value of Assets as of the actuarial valuation date.

#### **Actuarial Standards**

In 1993 the Actuarial Standards Board issued Standard of Practice (SOP) No. 4 entitled Measuring Pension Obligations. Section 5.2.6 of SOP No. 4 states, in part, that the Actuarial Value of Assets should generally reflect some function of market value; however, it may be appropriate to use methods which smooth out the effects of short-term volatility in market value.

In Mercer's opinion, the use of smoothing methods are especially important for employers with limited budgetary flexibility, such as governmental entities.

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

Effective with the fiscal year ending June 30, 1997, the Association adopted a smoothed market value of assets for establishing its reserves. This allows us to use the Association's reserves directly for actuarial purposes.

#### **Funding Method**

The employer's liability is being funded on the Entry Age Normal Method with an Unfunded Actuarial Accrued Liability (UAAL). The Board changed the current amortization period for the UAAL to 19 years from the valuation date, effective June 30, 2003.

The UAAL rates for June 30, 2003 were calculated by taking the UAAL rates calculated last year for the ten plans and adjusting them proportionally by the change in actuarial experience during the 2002/2003 plan year.

In other words, the plan with the larger UAAL rate last year was allocated a larger absolute reduction to the UAAL rate this year. Under this approach, if SamCERA experiences actuarial losses in the future, the plan with the larger UAAL rate will also be allocated with a larger absolute increase to fund for the new UAAL.

The result of this approach is to distribute assets among the membership categories. The assets allocated to a particular category are such that the unfunded actuarial accrued liability created for



## Appendix C *(continued)*

that category, when amortized over 19 years equals the difference between last year's rate and the new normal cost.

As instructed by the Board, we have included the 1% minimum statutory Contingency Reserve (less the amount required to pay Medicare Part B premium for 2003/2004) in determining the employer rates in this valuation.

## Appendix D: Member Statistics

**RETIRED AND INACTIVE VESTED MEMBERS**

	<u>June 30, 2003</u>	<u>June 30, 2002</u>	<u>Percent Change</u>
<b>Retired Members</b>			
A. Service Retirement			
i. Number	2,637	2,638	0.0%
ii. Annual Allowance			
Basic Only	\$ 36,929,000	\$ 36,260,000	1.8%
COLA	\$ 17,185,000	\$ 16,668,000	3.1%
Total	\$ 54,114,000	\$ 52,928,000	2.2%
Average Monthly Amount	\$ 1,710	\$ 1,672	2.3%
B. Disability Retirement			
i. Number	329	316	4.1%
ii. Annual Allowance			
Basic Only	\$ 5,588,000	\$ 5,061,000	10.4%
COLA	\$ 2,130,000	\$ 2,049,000	4.0%
Total	\$ 7,718,000	\$ 7,110,000	8.6%
Average Monthly Amount	\$ 1,955	\$ 1,875	4.3%
C. Beneficiaries			
i. Number	488	477	2.3%
ii. Annual Allowance			
Basic Only	\$ 4,065,000	\$ 3,548,000	14.6%
COLA	\$ 3,554,000	\$ 3,388,000	4.9%
Total	\$ 7,619,000	\$ 6,936,000	9.8%
Average Monthly Amount	\$ 1,301	\$ 1,212	7.3%
Total			
i. Number	3,454	3,431	0.7%
ii. Annual Allowance			
Basic Only	\$ 46,582,000	\$ 44,869,000	3.8%
COLA	\$ 22,869,000	\$ 22,105,000	3.5%
Total	\$ 69,451,000	\$ 66,974,000	3.7%
Average Monthly Amount	\$ 1,676	\$ 1,627	3.0%
<b>Inactive Vested Members</b>			
A. Number	855	833	2.6%

## Appendix D (continued)

## Summary of Active Membership

<b>Active General Members</b>			
	<u>June 30, 2003</u>	<u>June 30, 2002</u>	<u>Percent Change</u>
<b>General Plan 1</b>			
A. Number	370	378	-2.1%
B. Average Age	56.38	55.51	1.6%
C. Average Years of Service	27.56	26.58	3.7%
D. Annual Salary			
i. Total	\$ 26,949,000	\$ 26,334,000	2.3%
ii. Average Monthly Salary	\$ 6,070	\$ 5,806	4.5%
<b>General Plan 2</b>			
A. Number	1,836	1,885	-2.6%
B. Average Age	47.85	46.95	1.9%
C. Average Years of Service	11.13	10.41	6.9%
D. Annual Salary			
i. Total	\$ 122,789,000	\$ 120,136,000	2.2%
ii. Average Monthly Salary	\$ 5,573	\$ 5,311	4.9%
<b>General Plan 3</b>			
A. Number	152	200	-24.0%
B. Average Age	42.61	41.97	1.5%
C. Average Years of Service	8.16	8.13	0.4%
D. Annual Salary			
i. Total	\$ 8,658,000	\$ 11,368,000	-23.8%
ii. Average Monthly Salary	\$ 4,747	\$ 4,737	0.2%
<b>General Plan 4</b>			
A. Number	1,855	1,696	9.4%
B. Average Age	38.81	38.13	1.8%
C. Average Years of Service	2.11	1.51	39.7%
D. Annual Salary			
i. Total	\$ 108,754,000	\$ 92,506,000	17.6%
ii. Average Monthly Salary	\$ 4,886	\$ 4,545	7.5%
<b>General Total</b>			
A. Number	4,213	4,159	1.3%
B. Average Age	44.43	43.89	1.2%
C. Average Years of Service	8.49	8.14	4.3%
D. Annual Salary			
i. Total	\$ 267,150,000	\$ 250,344,000	6.7%
ii. Average Monthly Salary	\$ 5,284	\$ 5,016	5.3%

## Appendix D (continued)

<b>Active Safety Members</b>			
	<u>June 30, 2003</u>	<u>June 30, 2002</u>	<u>Percent Change</u>
<b>Safety Plan 1</b>			
A. Number	68	70	-2.9%
B. Average Age	53.66	52.74	1.7%
C. Average Years of Service	27.19	26.17	3.9%
D. Annual Salary			
i. Total	\$ 6,936,000	\$ 6,569,000	5.6%
ii. Average Monthly Salary	\$ 8,500	\$ 7,820	8.7%
<b>Safety Plan 2</b>			
A. Number	209	216	-3.2%
B. Average Age	43.40	42.43	2.3%
C. Average Years of Service	13.21	12.19	8.4%
D. Annual Salary			
i. Total	\$ 18,856,000	\$ 17,764,000	6.1%
ii. Average Monthly Salary	\$ 7,518	\$ 6,853	9.7%
<b>Safety Plan 4</b>			
A. Number	157	145	8.3%
B. Average Age	34.32	34.19	0.4%
C. Average Years of Service	2.49	1.88	32.4%
D. Annual Salary			
i. Total	\$ 12,181,000	\$ 10,072,000	20.9%
ii. Average Monthly Salary	\$ 6,465	\$ 5,789	11.7%
<b>Safety Total</b>			
A. Number	434	431	0.7%
B. Average Age	41.72	41.33	0.9%
C. Average Years of Service	11.52	10.99	4.8%
D. Annual Salary			
i. Total	\$ 37,973,000	\$ 34,405,000	10.4%
ii. Average Monthly Salary	\$ 7,291	\$ 6,652	9.6%

## Appendix D (continued)

**Active Probation Members**

	<u>June 30, 2003</u>	<u>June 30, 2002</u>	<u>Percent Change</u>
<b>Probation Plan 1</b>			
A. Number	28	29	-3.4%
B. Average Age	54.36	53.38	1.8%
C. Average Years of Service	13.11	11.14	17.7%
D. Annual Salary			
i. Total	\$ 2,200,000	\$ 2,176,000	1.1%
ii. Average Monthly Salary	\$ 6,548	\$ 6,253	4.7%
<b>Probation Plan 2</b>			
A. Number	104	104	0.0%
B. Average Age	41.55	40.32	3.1%
C. Average Years of Service	9.75	8.82	10.5%
D. Annual Salary			
i. Total	\$ 7,238,000	\$ 6,916,000	4.7%
ii. Average Monthly Salary	\$ 5,800	\$ 5,542	4.7%
<b>Probation Plan 4</b>			
A. Number	158	149	6.0%
B. Average Age	34.82	32.97	5.6%
C. Average Years of Service	2.39	1.59	50.3%
D. Annual Salary			
i. Total	\$ 9,335,000	\$ 8,050,000	16.0%
ii. Average Monthly Salary	\$ 4,924	\$ 4,502	9.4%
<b>Probation Total</b>			
A. Number	290	282	2.8%
B. Average Age	39.12	37.78	3.5%
C. Average Years of Service	6.06	5.24	15.8%
D. Annual Salary			
i. Total	\$ 18,773,000	\$ 17,142,000	9.5%
ii. Average Monthly Salary	\$ 5,395	\$ 5,066	6.5%
<b>Total</b>			
Number	4,937	4,872	1.3%
Annual Payroll	\$ 323,896,000	\$ 301,891,000	7.3%
Average Monthly Salary	\$ 5,467	\$ 5,164	5.9%

Appendix D (continued)

**SUMMARY OF MONTHLY ALLOWANCES BEING PAID  
AS OF JUNE 30, 2003**

General Members	Count	Monthly Allowance		
		Basic	COLA	Total
Service Retirement				
Unmodified	2,152	2,200,444	1,135,179	3,335,623
Option 1	89	73,573	46,594	120,167
Options 2, 3 & 4	131	92,742	29,208	121,950
Total	2,372	2,366,759	1,210,981	3,577,740
Ordinary Disability				
Unmodified	118	86,804	52,940	139,744
Option 1	6	2,592	1,931	4,523
Options 2, 3 & 4	8	7,378	1,454	8,832
Total	132	96,774	56,325	153,099
Duty Disability				
Unmodified	109	172,317	49,233	221,550
Option 1	6	7,839	3,795	11,634
Options 2, 3 & 4	3	4,138	853	4,991
Total	118	184,294	53,881	238,175
Beneficiary				
Total	428	276,869	245,363	522,232
Total (all groups)	3,050	2,924,696	1,566,550	4,491,246
<b>Safety and Probation Members</b>				
Safety and Probation Members	Count	Monthly Allowance		
		Basic	COLA	Total
Service Retirement				
Unmodified	253	691,277	213,266	904,543
Option 1	4	5,869	3,233	9,102
Options 2, 3 & 4	8	13,503	4,571	18,074
Total	265	710,649	221,070	931,719
Ordinary Disability				
Unmodified	6	6,234	5,011	11,245
Option 1	-	-	-	-
Options 2, 3 & 4	-	-	-	-
Total	6	6,234	5,011	11,245
Duty Disability				
Unmodified	71	174,511	61,028	235,539
Option 1	-	-	-	-
Options 2, 3 & 4	2	3,849	1,218	5,067
Total	73	178,360	62,246	240,606
Beneficiary				
Total	60	60,505	50,849	112,666
Total (all groups)	404	955,748	339,176	1,296,236

Appendix D (continued)

Annual Salary and Membership Distribution  
of Active General Plan 1 Members

Age Group	YEARS OF SERVICE									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19										0
20-24										0
25-29										0
30-34										0
35-39										0
40-44					3					3
					67,906					67,906
45-49			2	1	7	18				28
			71,377	47,368	61,491	69,530				66,861
50-54	1		2	2	23	41	28			97
	79,891		78,493	58,422	75,356	72,423	67,523			71,618
55-59			3	7	31	46	49	15	1	152
			38,864	58,489	75,483	76,718	79,225	76,601	67,848	75,618
60-64	1		2	2	4	27	24	12	2	74
	84,850		53,403	64,738	85,382	77,596	69,098	60,175	78,379	71,554
65-69					3	2	2	3	1	11
					67,379	54,463	86,579	77,666	140,686	77,991
70-74					1	2			1	4
					69,153	56,270			55,633	59,332
75+						1				1
						42,469				42,469
Total	2	0	9	12	72	137	103	30	5	370
	82,371	0	58,126	58,593	73,891	73,788	73,827	70,137	84,185	72,836
						Total Salary				\$26,949,274
						Average Age				56.38
						Average Service				27.56

Appendix D (continued)

Annual Salary and Membership Distribution  
of Active General Plan 2 Members

Age Group	YEARS OF SERVICE									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19										0
20-24										0
25-29	3	11	1							15
	64,380	56,572	57,338							58,185
30-34	12	74	22	1						109
	55,224	64,512	60,605	86,158						62,899
35-39	18	87	85	23	3					216
	67,827	65,448	63,756	61,602	57,397					64,459
40-44	18	129	111	57	13					328
	69,310	65,704	69,825	60,950	69,244					66,611
45-49	26	91	135	78	31	1				362
	64,557	66,950	70,559	65,320	70,039	155,117				68,281
50-54	25	105	138	62	27					357
	65,864	68,893	70,517	67,579	80,265					69,941
55-59	13	64	113	61	33					284
	56,843	70,203	69,797	61,952	64,135					66,953
60-64	4	36	40	43	16					139
	57,606	70,285	62,468	61,575	77,618					65,820
65-69		6	7	5	1					19
		51,253	58,972	52,959	51,328					54,550
70-74		1	2	1	1					5
		35,257	44,317	131,908	59,132					62,986
75+			1	1						2
			43,958	43,117						43,538
Total	119	604	655	332	125	1	0	0	0	1,836
	64,023	66,653	68,318	63,640	71,036	155,117	0	0	0	66,879

Total Salary \$122,788,822  
 Average Age 47.85  
 Average Service 11.13



Appendix D (continued)

**Annual Salary and Membership Distribution  
of Active General Plan 3 Members**

Age Group	YEARS OF SERVICE									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19										0
20-24	2 44,842									2 44,842
25-29	19 52,560	2 39,652								21 51,331
30-34	7 59,493	6 54,084	2 64,962							15 58,059
35-39	11 58,161	9 57,151	5 62,890							25 58,743
40-44	9 56,718	1 60,144	9 63,247	1 59,168	2 54,965					22 59,497
45-49	6 51,846	4 64,421	6 56,980	7 60,045	1 49,979					24 57,539
50-54	3 52,038	3 46,511	7 68,300	2 63,456	3 40,806	1 95,145				19 58,854
55-59	2 40,257	2 29,743	4 56,928	4 79,094	1 56,615					13 56,977
60-64	4 56,829	1 43,958	2 43,570	1 49,979		1 70,308				9 53,189
65-69			1 52,677	1 71,195						2 61,936
70-74										0
75+										0
<b>Total</b>	<b>63 54,445</b>	<b>28 52,820</b>	<b>36 61,142</b>	<b>16 65,247</b>	<b>7 48,420</b>	<b>2 82,727</b>	<b>0 0</b>	<b>0 0</b>	<b>0 0</b>	<b>152 56,963</b>
							<b>Total Salary</b>			<b>\$8,658,448</b>
							<b>Average Age</b>			<b>42.61</b>
							<b>Average Service</b>			<b>8.16</b>

Appendix D (continued)

Annual Salary and Membership Distribution  
of Active General Plan 4 Members

Age Group	YEARS OF SERVICE									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19										0
20-24	87									87
	43,288									43,288
25-29	309	8								317
	52,148	55,717								52,238
30-34	344	26								370
	57,543	57,654								57,551
35-39	249	26								275
	63,228	60,426								62,963
40-44	218	35								253
	58,687	61,502								59,077
45-49	188	19								207
	59,237	70,777								60,297
50-54	166	19								185
	64,008	62,571								63,860
55-59	97	12								109
	69,857	73,243								70,230
60-64	34	7								41
	51,644	56,317								52,442
65-69	8	1								9
	75,967	101,189								78,769
70-74	2									2
	31,955									31,955
75+										0
Total	1,702	153	0	0	0	0	0	0	0	1,855
	58,271	62,590	0	0	0	0	0	0	0	58,627
						Total Salary	\$108,754,079			
						Average Age	38.81			
						Average Service	2.11			

Appendix D (continued)

Annual Salary and Membership Distribution  
of Active Safety Plan 1 Members

Age Group	YEARS OF SERVICE									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19										0
20-24										0
25-29										0
30-34										0
35-39										0
40-44					1					1
					100,783					100,783
45-49			1		6	5				12
			147,715		107,846	102,462				108,925
50-54					5	16	4			25
					99,429	96,014	99,695			97,286
55-59					3	13	11	1		25
					83,447	89,959	107,989	147,357		101,904
60-64						1	3	1		5
						118,153	98,607	134,215		109,638
65-69										0
70-74										0
75+										0
Total	0	0	1	0	15	35	18	2	0	68
	0	0	147,715	0	99,690	95,319	104,582	140,786	0	101,997
					Total Salary		\$6,935,832			
					Average Age		53.66			
					Average Service		27.19			

Appendix D (continued)

Annual Salary and Membership Distribution  
of Active Safety Plan 2 Members

Age Group	YEARS OF SERVICE									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19										0
20-24										0
25-29		2								2
		78,903								78,903
30-34	5	14								19
	72,679	83,998								81,020
35-39	2	17	16	9						44
	76,211	86,222	90,091	100,843						90,164
40-44	3	9	19	20	3					54
	73,853	88,194	90,924	90,855	83,211					89,067
45-49	2	8	13	15	9					47
	75,398	88,833	97,688	93,083	97,806					93,785
50-54		4	5	10	12					31
		87,390	79,502	97,884	97,917					93,578
55-59			1	4	6					11
			73,797	89,481	94,531					90,810
60-64										0
65-69										0
70-74				1						1
				74,200						74,200
75+										0
Total	12	54	54	59	30	0	0	0	0	209
	74,014	86,176	90,931	93,761	95,736	0	0	0	0	90,220
				Total Salary		\$18,855,941				
				Average Age		43.40				
				Average Service		13.21				

Appendix D (continued)

**Annual Salary and Membership Distribution  
of Active Safety Plan 4 Members**

Age Group	YEARS OF SERVICE									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19										0
20-24	5 66,831	1 81,520								6 69,279
25-29	33 71,883	4 76,123								37 72,341
30-34	36 75,198	7 84,692								43 76,744
35-39	36 79,829	9 82,760								45 80,415
40-44	13 81,525	3 81,286								16 81,480
45-49	2 103,025									2 103,025
50-54	4 84,642									4 84,642
55-59	3 80,447									3 80,447
60-64	1 80,258									1 80,258
65-69										0
70-74										0
75+										0
<b>Total</b>	133 76,792	24 81,981	0 0	0 0	0 0	0 0	0 0	0 0	0 0	157 77,585
						<b>Total Salary</b>	\$12,180,856			
						<b>Average Age</b>	34.32			
						<b>Average Service</b>	2.49			

Appendix D (continued)

Annual Salary and Membership Distribution of Active Probation Plan 1 Members

Age Group	YEARS OF SERVICE									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19										0
20-24										0
25-29										0
30-34										0
35-39										0
40-44										0
45-49		1	1		2					4
		48,352	82,263		86,460					75,884
50-54		2	5			2				9
		49,683	83,825			67,327				72,572
55-59	1	2	8	1	1					13
	82,263	78,326	86,450	74,388	74,389					83,022
60-64			2							2
			82,263							82,263
65-69										0
70-74										0
75+										0
Total	1	5	16	1	3	2	0	0	0	28
	82,263	60,874	84,845	74,388	82,436	67,327	0	0	0	78,589
					Total Salary			\$2,200,498		
					Average Age			54.36		
					Average Service			13.11		

Appendix D (continued)

Annual Salary and Membership Distribution  
of Active Probation Plan 2 Members

Age Group	YEARS OF SERVICE									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19										0
20-24										0
25-29		1								1
		70,351								70,351
30-34	3	16								19
	63,722	63,489								63,525
35-39		13	16							29
		63,514	67,416							65,666
40-44		5	11	1						17
		74,007	75,063	72,019						74,573
45-49	1	2	15			1				19
	35,850	58,007	72,845			82,263				69,832
50-54		1	10			1				12
		70,351	77,241			77,751				76,709
55-59		1	4	2						7
		71,991	78,121	78,326						77,304
60-64										0
65-69										0
70-74										0
75+										0
<b>Total</b>	<b>4</b>	<b>39</b>	<b>56</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>104</b>
	56,754	65,135	72,891	76,224	80,007	0	0	0	0	69,595
						Total Salary	\$7,237,847			
						Average Age	41.55			
						Average Service	9.75			

Appendix D (continued)

**Annual Salary and Membership Distribution  
of Active Probation Plan 4 Members**

YEARS OF SERVICE										
Age Group	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	TOTAL
0-19										0
20-24	3									3
	52,317									52,317
25-29	44	3								47
	56,578	67,139								57,252
30-34	39	7								46
	55,728	63,005								56,835
35-39	26	4								30
	57,400	66,493								58,612
40-44	10	2								12
	64,574	74,492								66,227
45-49	6	2								8
	56,604	73,044								60,714
50-54	2									2
	52,046									52,046
55-59	5									5
	78,694									78,694
60-64	4	1								5
	65,414	74,388								67,209
65-69										0
70-74										0
75+										0
<b>Total</b>	<b>139</b>	<b>19</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>158</b>
	<b>57,962</b>	<b>67,257</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>59,080</b>

Total Salary \$9,334,617  
 Average Age 34.82  
 Average Service 2.39



Appendix D (continued)

Annual Benefit And Membership Distribution  
Of Retired General Members

Age Group	YEARS RETIRED									
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	TOTAL
0-19										0
20-24										0
25-29										0
30-34										0
35-39										0
40-44										0
45-49	1									1
	6,080									6,080
50-54	76	1								77
	9,589	14,181								9,649
55-59	120	56								176
	11,814	9,309								11,017
60-64	181	85	65							331
	20,231	13,731	11,087							16,766
65-69	144	131	93	34	1					403
	25,855	19,314	17,341	10,711	38,449					20,517
70-74	39	115	145	57	32	1				389
	19,350	22,681	22,937	15,489	13,500	8,233				20,596
75+	4	35	177	293	292	155	36	3		995
	34,474	18,175	21,834	19,086	17,361	17,351	11,200	7,312		18,507
Total	565	423	480	384	325	156	36	3	0	2,372
	18,460	17,676	19,841	17,811	17,046	17,293	11,200	7,312	0	18,100
			Total Annual Benefit			\$42,932,885				
			Average Age			71.92				
			Average Years Retired			12.17				

Appendix D (continued)

**ANNUAL BENEFIT AND MEMBERSHIP DISTRIBUTION  
OF NON-SERVICE CONNECTED DISABILITY RETIRED GENERAL MEMBERS**

Age Group	YEARS RETIRED									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19										0
20-24										0
25-29										0
30-34										0
35-39	1									1
	12,061									12,061
40-44	3	2								5
	13,388	17,868								15,180
45-49	5									5
	17,451									17,451
50-54	7	4	3							14
	13,275	17,292	14,187							14,618
55-59	5	4	2							11
	12,521	15,814	21,726							15,392
60-64	10	8	5	5	1	1	1			31
	17,197	11,364	13,998	16,820	24,179	11,938	11,432			14,985
65-69	1	3	8	3		1				16
	10,705	9,506	11,854	12,866		12,562				11,576
70-74			3	2	3			1		9
			9,824	16,029	13,772			14,815		13,073
75+	1		5	2	10	15	6	1		40
	13,215		7,289	10,051	12,131	16,572	12,039	8,726		13,015
Total	33	21	26	12	14	17	7	2	0	132
	14,876	13,695	12,183	14,572	13,343	16,064	11,952	11,771	0	13,918
Total Annual Benefit						\$1,837,193				
Average Age						66.01				
Average Years Retired						13.57				

Appendix D (continued)

**ANNUAL BENEFIT AND MEMBERSHIP DISTRIBUTION  
OF SERVICE CONNECTED DISABILITY RETIRED GENERAL MEMBERS**

Age Group	YEARS RETIRED									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19										0
20-24										0
25-29										0
30-34										0
35-39	2	1								3
	19,165	22,053								20,128
40-44	5	3								8
	25,570	22,314								24,349
45-49	10	4	1							15
	24,381	32,534	18,856							26,187
50-54	7	2	5							14
	24,346	18,783	30,702							25,821
55-59	9	6	3							18
	23,881	23,027	23,756							23,575
60-64	14	5	5	1						25
	25,726	24,726	18,621	32,868						24,390
65-69	4	5	4			1				14
	22,028	18,761	24,398			23,684				21,657
70-74	1	1	4	1		2				9
	27,546	17,254	24,845	16,775		19,328				22,179
75+				3	3	5		1		12
				31,036	27,916	24,225		13,734		25,976
Total	52	27	22	5	3	8	0	1	0	118
	24,445	23,317	24,260	28,550	27,916	22,933	0	13,734	0	24,221

Total Annual Benefit \$2,858,103  
 Average Age 59.65  
 Average Years Retired 8.11

Appendix D (continued)

ANNUAL BENEFIT AND MEMBERSHIP DISTRIBUTION OF GENERAL BENEFICIARIES

Age Group	YEARS RETIRED									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19		6								6
		6,464								6,464
20-24		1								1
		7,027								7,027
25-29										0
30-34										0
35-39		1	1							2
		169,796	11,386							90,591
40-44	2	3	1							6
	22,126	64,064	7,306							40,625
45-49	5	1		2						8
	10,897	6,930		19,444						12,538
50-54	3	7	4	1						15
	20,818	20,412	6,881	19,098						16,797
55-59	3	4	10	2	3	1	1			24
	32,985	15,352	14,979	9,806	6,293	2,684	3,107			14,768
60-64	3	6	5		1	1				16
	23,669	14,625	11,608		13,666	18,987				15,591
65-69	3	10	8	6	4	4				35
	21,745	15,631	12,000	14,022	8,188	6,312				13,134
70-74	1	8	17	12	8	3				49
	9,697	15,686	21,242	16,318	12,197	13,704				16,955
75+	2	8	21	43	81	69	34	6	2	266
	2,283	8,799	15,827	12,361	12,559	14,493	14,980	10,935	9,182	13,344
Total	22	55	67	66	97	78	35	6	2	428
	18,666	19,254	15,575	13,471	12,167	13,949	14,641	10,935	9,182	14,642
			Total Annual Benefit				\$6,266,778			
			Average Age				75.10			
			Average Years Retired				18.65			

### Appendix D (continued)

#### ANNUAL BENEFIT AND MEMBERSHIP DISTRIBUTION OF RETIRED SAFETY AND PROBATION MEMBERS

Age Group	YEARS RETIRED										TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+		
0-19											0
20-24											0
25-29											0
30-34											0
35-39											0
40-44											0
45-49	4 22,188										4 22,188
50-54	8 30,019	2 8,392	1 25,581								11 25,683
55-59	49 55,273	13 31,434	2 31,141								64 49,676
60-64	30 43,094	50 46,550	15 32,303	1 25,061							96 43,020
65-69	7 28,422	16 24,003	19 55,678	3 31,697							45 38,577
70-74	4 14,587	1 4,884	5 40,933	6 56,478	3 17,976						19 34,773
75+		1 13,258	2 58,673	1 8,626	9 44,015	10 44,395	3 41,375				26 42,440
Total	102 44,974	83 38,014	44 44,370	11 42,513	12 37,505	10 44,395	3 41,375	0 0	0 0	265 42,191	
Total Annual Benefit						\$11,180,625					
Average Age						63.29					
Average Years Retired						7.76					

Appendix D (continued)

**ANNUAL BENEFIT AND MEMBERSHIP DISTRIBUTION  
OF RETIRED SAFETY AND PROBATION MEMBERS NON-SERVICE CONNECTED DISABILITY**

Age Group	YEARS RETIRED									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19										0
20-24										0
25-29										0
30-34										0
35-39	1 14,959									1 14,959
40-44	1 21,581									1 21,581
45-49										0
50-54										
55-59				1 4,527						1 4,527
60-64			1 26,250							1 26,250
65-69										0
70-74										0
75+					1 35,566		1 32,057			2 33,812
Total	2 18,270	0	1 26,250	1 4,527	1 35,566	0	1 32,057	0	0	6 22,490
Total Annual Benefit							\$134,940			
Average Age							59.83			
Average Years Retired							14.00			

Appendix D (continued)

**ANNUAL BENEFIT AND MEMBERSHIP DISTRIBUTION  
OF RETIRED SAFETY AND PROBATION MEMBERS SERVICE CONNECTED DISABILITY**

Age Group	YEARS RETIRED									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19										0
20-24										0
25-29										0
30-34	2									2
	37,414									37,414
35-39	5									5
	35,528									35,528
40-44	2									2
	34,414									34,414
45-49	1	1	1							3
	34,011	35,536	31,219							33,589
50-54	7	2	5							14
	42,910	26,972	31,186							36,446
55-59	9	4	3		2					18
	57,395	44,659	31,519		31,504					47,375
60-64	4	6	6		2	1	1			20
	48,253	50,440	38,246		35,034	33,587	29,866			42,932
65-69			2			2	1			5
			30,745			29,386	19,771			28,006
70-74										0
75+					2	1			1	4
					34,390	21,137			13,608	25,881
Total	30	13	17	0	6	4	2	0	1	73
	45,508	43,904	33,687	0	33,643	28,374	24,819	0	13,608	39,552

Total Annual Benefit                     \$2,887,273  
Average Age                                     56.48  
Average Years Retired                     9.49

Appendix D (continued)

**ANNUAL BENEFIT AND MEMBERSHIP DISTRIBUTION  
OF SAFETY AND PROBATION BENEFICIARIES**

Age Group	YEARS RETIRED									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19										0
20-24										0
25-29										0
30-34										0
35-39		1 47,458								1 47,458
40-44	1 9,597									1 9,597
45-49	2 11,623		1 43,728							3 22,325
50-54	2 41,966	2 17,886	3 19,456	1 31,400	1 9,337					9 24,312
55-59		2 15,935	3 13,281		1 9,993					6 13,618
60-64		6 18,374	4 17,891			1 24,339				11 18,741
65-69		1 8,915	2 34,696	4 31,645	1 17,022					8 27,739
70-74		1 7,699	2 49,555		2 36,915	1 28,808				6 34,908
75+	2 12,280				2 18,393	7 22,177	1 16,622	2 19,151	1 18,429	15 19,329
<b>Total</b>	<b>7</b> 20,191	<b>13</b> 18,612	<b>15</b> 25,467	<b>5</b> 31,596	<b>7</b> 20,995	<b>9</b> 23,154	<b>1</b> 16,622	<b>2</b> 19,151	<b>1</b> 18,429	<b>60</b> 22,533
			Total Annual Benefit			\$1,351,990				
			Average Age			65.97				
			Average Years Retired			15.23				



# Appendix E: Member Contribution Rates

## MEMBERS' CONTRIBUTION RATES

ENTRY AGE	GENERAL July 1, 2004 - March 12, 2005		GENERAL March 13, 2005 - June 30, 2005		GENERAL Mosquito Abatement		SAFETY		PROBATION	
	Plans 1 & 2	Plan 4	Plans 1 & 2	Plan 4	Plans 1 & 2	Plan 4	Plans 1 & 2	Plan 4	Plans 1 & 2	Plans 4
16	5.87%	5.59%	6.94%	6.61%	5.87%	5.59%				
17	5.87%	5.59%	6.94%	6.61%	5.87%	5.59%				
18	5.87%	5.59%	6.94%	6.61%	5.87%	5.59%	8.43%	8.02%	7.16%	6.82%
19	5.87%	5.59%	6.94%	6.61%	5.87%	5.59%	8.43%	8.02%	7.16%	6.82%
20	5.87%	5.59%	6.94%	6.61%	5.87%	5.59%	8.43%	8.02%	7.16%	6.82%
21	5.87%	5.60%	6.93%	6.61%	5.87%	5.60%	8.43%	8.02%	7.17%	6.82%
22	5.87%	5.60%	6.93%	6.61%	5.87%	5.60%	8.44%	8.03%	7.17%	6.83%
23	5.88%	5.61%	6.93%	6.61%	5.88%	5.61%	8.45%	8.04%	7.18%	6.84%
24	5.89%	5.62%	6.94%	6.61%	5.89%	5.62%	8.46%	8.06%	7.19%	6.85%
25	5.90%	5.63%	6.95%	6.62%	5.90%	5.63%	8.48%	8.07%	7.21%	6.86%
26	5.92%	5.65%	6.96%	6.63%	5.92%	5.65%	8.51%	8.10%	7.23%	6.88%
27	5.94%	5.67%	6.98%	6.65%	5.94%	5.67%	8.54%	8.12%	7.26%	6.91%
28	5.96%	5.69%	7.00%	6.67%	5.96%	5.69%	8.57%	8.16%	7.29%	6.93%
29	5.99%	5.71%	7.02%	6.69%	5.99%	5.71%	8.61%	8.20%	7.32%	6.97%
30	6.02%	5.74%	7.05%	6.71%	6.02%	5.74%	8.66%	8.24%	7.36%	7.00%
31	6.05%	5.77%	7.08%	6.74%	6.05%	5.77%	8.71%	8.29%	7.41%	7.05%
32	6.09%	5.80%	7.11%	6.77%	6.09%	5.80%	8.77%	8.35%	7.46%	7.10%
33	6.13%	5.84%	7.15%	6.81%	6.13%	5.84%	8.84%	8.41%	7.51%	7.15%
34	6.17%	5.88%	7.19%	6.85%	6.17%	5.88%	8.91%	8.48%	7.57%	7.21%
35	6.22%	5.93%	7.24%	6.90%	6.22%	5.93%	8.99%	8.55%	7.64%	7.27%
36	6.27%	5.98%	7.29%	6.95%	6.27%	5.98%	9.07%	8.64%	7.71%	7.34%
37	6.32%	6.03%	7.35%	7.00%	6.32%	6.03%	9.16%	8.72%	7.79%	7.41%
38	6.38%	6.09%	7.41%	7.06%	6.38%	6.09%	9.26%	8.81%	7.87%	7.49%
39	6.45%	6.15%	7.47%	7.12%	6.45%	6.15%	9.36%	8.91%	7.96%	7.57%
40	6.51%	6.21%	7.54%	7.19%	6.51%	6.21%	9.47%	9.01%	8.05%	7.66%
41	6.58%	6.28%	7.62%	7.26%	6.58%	6.28%	9.58%	9.11%	8.14%	7.75%
42	6.65%	6.35%	7.69%	7.33%	6.65%	6.35%	9.69%	9.22%	8.24%	7.84%
43	6.73%	6.42%	7.77%	7.41%	6.73%	6.42%	9.81%	9.34%	8.34%	7.94%
44	6.81%	6.49%	7.86%	7.49%	6.81%	6.49%	9.94%	9.46%	8.45%	8.04%
45	6.89%	6.57%	7.94%	7.57%	6.89%	6.57%	10.06%	9.58%	8.55%	8.14%
46	6.98%	6.66%	8.04%	7.66%	6.98%	6.66%	10.20%	9.70%	8.67%	8.25%
47	7.07%	6.74%	8.13%	7.75%	7.07%	6.74%	10.33%	9.83%	8.78%	8.36%
48	7.16%	6.83%	8.23%	7.84%	7.16%	6.83%	10.47%	10.21%	8.90%	8.68%
49	7.26%	6.92%	8.33%	7.94%	7.26%	6.92%	10.61%	10.61%	9.02%	9.02%
50	7.36%	7.02%	8.44%	8.05%	7.36%	7.02%				
51	7.47%	7.12%	8.56%	8.15%	7.47%	7.12%				
52	7.57%	7.22%	8.68%	8.27%	7.57%	7.22%				
53	7.69%	7.33%	8.80%	8.59%	7.69%	7.33%				
54	7.80%	7.44%	8.92%	8.92%	7.80%	7.44%				
55	7.91%	7.55%	8.92%	8.92%	7.91%	7.55%				
56	8.03%	7.66%	8.92%	8.92%	8.03%	7.66%				
57	8.15%	7.77%	8.92%	8.92%	8.15%	7.77%				
58	8.26%	8.07%	8.92%	8.92%	8.26%	8.07%				
59 & Over	8.39%	8.39%	8.92%	8.92%	8.39%	8.39%				

The following sections are also used in deriving the contribution rates.

	GENERAL July 1, 2004 - March 12, 2005		GENERAL March 13, 2005 - June 30, 2005		GENERAL Mosquito Abatement	
	Plans 1 & 2	Plan 4	Plans 1 & 2	Plan 4	Plans 1 & 2	Plan 4
Section	31676.1	31676.1	31621.9	31621.9	31676.1	31676.1
Years of Final Average Salary	1	3	1	3	1	3
Percent of Full Rates	100%	100%	100%	100%	100%	100%

	SAFETY		PROBATION OFFICERS	
	Plans 1 & 2	Plan 4	Plans 1 & 2	Plans 4
Section	31664	31664	31664	31664
Years of Final Average Salary	1	3	1	3
Percent of Full Rates	100%	100%	85%	85%

The Employee Rates shown above do not reflect any additional cost sharing arrangements. Refer to Appendix A for details on cost sharing arrangements for the 2003/04 year and the 2004/05 year.

## Appendix F: Employer Contribution Rates for Mosquito Abatement District

### General

	<u>Plan 1</u>	<u>Plan 2</u>	<u>Plan 3</u>	<u>Plan 4</u>
Total Rate	23.24%	14.60%	10.73%	11.62%

## Appendix G: Glossary

**AAL.** See Actuarial (Accrued Liability)

**Accrued Benefit.** The amount of an individual's benefit (whether or not vested) as of a specified date, determined in accordance with the terms of a pension plan and based on compensation (if applicable) and service to that date.

**Actuarial Accrued Liability.** "Target assets" which would be on hand were the Association's current level of benefits to have been funded as a level percentage of pay each year from date of entry into the Association by all current members and interest at the current investment return assumption were credited each year. It also includes the actuarial present value of all retired members and beneficiaries future benefits.

**Actuarial Asset Value.** The value of Assets used by the actuary in the actuarial valuation. In order to reduce the impact of assets value fluctuation and to capture the long term intrinsic value of the Association's assets, actuaries sometimes use smoothing methods. These methods usually reflect the current market value of assets in some manner.

**Actuarial Assumptions.** Those assumptions such as interest (investment return), salary increases, termination from service and mortality needed by the actuary to complete an actuarial valuation.

**Actuarial Gain (Loss).** The difference between actual experience and actuarial assumption anticipated experience during the period between two actuarial valuation dates.

**Actuarial Present Value.** The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. For purposes of this standard, each such amount or series of amounts is:

- (a) adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, Social Security, marital status, etc.)
- (b) multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned, and
- (c) discounted according to an assumed rate (or rates) of return to reflect the time value of money.

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

**Actuary.** A business mathematician trained in mathematics, risk analysis and finance. An actuary is assigned the task of determining the contribution required to maintain financial balance as to inflow and outflow from a retirement Association.

**Assets.** Underlying funds available to provide for the Association's benefits. It reflects the accumulation of all contributions and investment earnings.

## Appendix G (continued)

**Contribution to the Unfunded Actuarial Accrued Liability (UAAL).** That annual contribution rate which, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment earnings rate. The contribution is calculated to remain as a level percentage of future active member payroll (including payroll of new members as they enter the Association) assuming a constant number of active members. In order to remain as a level percentage of payroll, amortization payments are scheduled to increase at the annual inflation rate.

**Entry Age Normal Actuarial Funding Method.** An actuarial method for pre-funding future retirement benefits. Under this method which the member contribution stream plus the employer contribution stream is determined as that level of percentage of payroll sufficient to finance benefits and employee contribution refunds for new entrant.

**GASB.** The Government Accounting Standards Board which promulgates financial reporting and disclosure requirements for governmental entities, including public retirement Associations.

**GASB Statement No. 25.** A set of disclosures promulgated by GASB to provide users of financial statements information as to the funding status of a public retirement Association. GASB No. 25 specifies the Actuarial Accrued Liability as a standardized target level of assets.

**Investment Return Assumption.** The average rate of investment earnings which is assumed will be earned by Association funds.

**Normal Cost.** That annual contribution rate which, if paid annually from a member's first year of membership through the year of retirement, would accumulate to the amount necessary to fully fund the member's retirement benefits. Accumulation includes annual crediting of interest at the assumed investment earnings rate. The contribution rate is expressed as a level percentage of the member's compensation.

**Pension Benefit Obligation.** A standardized disclosure measure of the present value of pension benefits, adjusted for the effects of projected salary increases, estimated to be payable in the future as a result of employee service to date.

**UAAL.** (See Unfunded Actuarial Accrued Liability).

**Unfunded Actuarial Accrued Liability.** Actuarial Accrued Liability minus the Actuarial Value of Assets.

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