

June 2002

Actuarial Valuation Report **Contra Costa County Employees'** **Retirement Association**

As of December 31, 2001

MERCER
Human Resource Consulting

3 Embarcadero Center, Suite 1500
San Francisco, CA 94111-4015
415 743 8700

1914

1914

1914

1914

1914

1914

1914

1914

1914

1914



MERCER

Human Resource Consulting

Three Embarcadero Center, Suite 1500
San Francisco, CA 94111-4015
415 743 8700 Fax 415 743 8950
www.mercerHR.com

4 June 2002

Board of Retirement
Contra Costa County Employees' Retirement Association
1335 Willow Way, Suite 221
Concord, CA 94520

Dear Members of the Board:

We are pleased to present the actuarial valuation for the Contra Costa County Employees' Retirement Association prepared as of December 31, 2001 by Mercer Human Resource Consulting.

The report includes:

- (1) the recommended employer contribution rates to be effective January 1, 2003 through December 31, 2003;
- (2) a determination of the recommended member contribution rates, also to be effective for January 1, 2003 through December 31, 2003;
- (3) a determination of the funded status as of December 31, 2001; and
- (4) financial reporting and disclosure information pursuant to applicable accounting standards.

San Ramon Fire Protection District has adopted improved benefits for their General and Safety members under 2% at 55 and 3% at 50 formulas, respectively. The County is also negotiating similar improvements for its employees. Since there are still some outstanding issues on the design and how cost will be shared between employers and employees, we have not reflected the cost of the benefit improvements in our study.

The change in funding status and employer and member contributions from retirement benefit improvements will be reflected in a future study once the above issues can be resolved.

The final employer rates (after the transfers of excess earnings) are provided in the Special Study Section of this report.



Marsh & McLennan Companies

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This ensures transparency and allows for easy verification of the data.

In the second section, the author details the various methods used to collect and analyze the data. This includes both manual and automated processes. The manual process involves reviewing each entry individually, while the automated process uses software to identify patterns and anomalies.

The third section describes the results of the analysis. It shows that there are several areas where the data is inconsistent or incomplete. These areas need to be investigated further to determine the cause of the discrepancies.

Finally, the document concludes with a list of recommendations. These include implementing stricter controls over data entry, improving the accuracy of the automated systems, and conducting regular audits to ensure the integrity of the data.

Prepared by: [Name]

Date: [Date]

MERCER

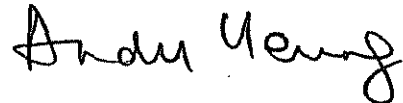
Human Resource Consulting

This report conforms with the requirements of the governing state and local statutes, accounting rules, and generally accepted actuarial principles and practices. The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Sincerely,



Marcia L. Chapman, FSA, EA, MAAA



Andy Yeung, ASA, EA, MAAA

1. The first part of the document
describes the general situation
of the country and the
state of the economy.

2. The second part of the document
describes the state of the
economy and the
state of the country.

3. The third part of the document
describes the state of the
country and the
state of the economy.

4. The fourth part of the document
describes the state of the
economy and the
state of the country.

5.

Contents

Actuarial Certification	1
Board Member Summary of Valuation Results	5
Explanation of Changes in Actuarial Values.....	9
Actuarial Assumptions	10
Actuarial Valuation Methods	11
Actuarial Funding Method.....	11
Actuarial Value of Assets	13
Actuarial Valuation Results	15
Employer and Member Contribution Rates	15
Funding Status	19
Evaluation of Funding Status.....	19
Association Assets	21
Actuarial Balance Sheet	23
Funding History	27
Special Studies	30
APPENDICES	39

Date	Description	Amount
1910	[Illegible]	[Illegible]
1911	[Illegible]	[Illegible]
1912	[Illegible]	[Illegible]
1913	[Illegible]	[Illegible]
1914	[Illegible]	[Illegible]
1915	[Illegible]	[Illegible]
1916	[Illegible]	[Illegible]
1917	[Illegible]	[Illegible]
1918	[Illegible]	[Illegible]
1919	[Illegible]	[Illegible]
1920	[Illegible]	[Illegible]
1921	[Illegible]	[Illegible]
1922	[Illegible]	[Illegible]
1923	[Illegible]	[Illegible]
1924	[Illegible]	[Illegible]
1925	[Illegible]	[Illegible]
1926	[Illegible]	[Illegible]
1927	[Illegible]	[Illegible]
1928	[Illegible]	[Illegible]

Actuarial Certification

Contra Costa County Employees' Retirement Association's basic financial goal is to establish contributions which fully fund the system's liabilities, and which, as a percentage of payroll, remain level for each generation of active members. Annual actuarial valuations measure the progress toward this goal, as well as test the adequacy of the contribution rates.

The actuarial valuation required for the Contra Costa County Employees' Retirement Association has been prepared as of December 31, 2001 by Mercer Human Resource Consulting. In preparing this valuation, we have employed generally accepted actuarial methods and assumptions to evaluate the Association's assets, liabilities and future contribution requirements. Our calculations are based upon member data and unaudited financial information provided to us by the Association's staff. This information has not been audited by us, but it has been reviewed and found to be consistent, both internally and with prior year's information.

The contribution requirements are determined as a percentage of payroll. The Association's employer rates provide for both normal cost and a contribution to amortize any unfunded or overfunded actuarial accrued liabilities. At its June 9, 1998 meeting, the Board of Retirement elected to amortize the Association's unfunded actuarial accrued liability over a decreasing 20-year period.

The rates calculated in this report may be adopted by the Board for January 1, 2003 through December 31, 2003.

The ratio of actuarial value of assets to actuarial accrued liabilities decreased from 89% to 88% as a result of this valuation.

Paulson Court Settlement

As a result of the Paulson Court Settlement, the Retirement Board has begun to recognize additional pay elements as Earnable Compensation. The additional pay elements recognized as Earnable Compensation includes items which are not known until a member retires ("terminal pay" items). As a result, it is necessary to include an assumption to anticipate terminal pay for members who have not yet retired.

At its November 2, 1999 meeting, the Board adopted terminal pay assumptions for active members and took the following actions with respect to the associated contribution rate increases:

- (1) To avoid creating an inequity among members, there will be no change in member basic benefit contribution rates as a result of the new terminal pay assumptions. The inequities could occur as a result of the considerable differences in terminal pay policies among participating employers, as well as the likelihood of considerable variation in terminal pay that will be received by individual members.

1944

1945

1946

1947

1948

1949

1950

1951

1952

1943

1944

1945

1946

1947

1948

1949

1950

1951

- (2) The increase in the employer contribution rates resulting from the application of the terminal pay assumptions will be phased in over 3 years, effective with the December 31, 1998 valuation. The contribution increase was fully phased in with the December 31, 2000 valuation.

A further impact of the Paulson Settlement is the additional benefits to be paid to members of the Association who were retired at the time the decision was rendered. These retired members would receive the following additional benefits, based on a litigation settlement agreement between the Association's sponsoring employers and retirees who were party to the litigation:

- Retroactive benefits to (September 1, 1994); plus
- Increased future benefits

In order to determine the amount of these additional benefits, the Association has undertaken to determine the amounts that retired members had received in additional pay elements now recognizable as Earnable Compensation. This is a lengthy process and is not yet completed. As part of the settlement, the Board designated \$90 million of assets to provide for the resulting additional liabilities. As the revised benefits were calculated, the funds to cover the increased benefits were transferred from the designated funds. At the time of this valuation, we determined that the \$90 million would not be sufficient to pay the lump sum retroactive payments plus the present value of future payments due after December 31, 2001.

However, the liability shortfall has not been included in determining the employer's contribution rates in this valuation. According to the settlement agreement, individual employers will pay for their share of liability shortfall. We will calculate the additional contribution requirement for each employer once the total liability of the settlement is available.

Experience Analysis

The results of this study are based on actuarial assumptions and procedures reviewed in our experience analysis as of December 31, 2000.

In that study, we reviewed and recommended the demographic assumptions and procedures for our annual actuarial valuations.

The Retirement Board adopted all of our recommendations except:

- (a) Service from unused sick leave conversion – members are allowed to convert unused sick leave to service credit at retirement. Currently, such service is not recognized in the actuarial valuation until it is actually converted at retirement.

We recommended that "sick leave service" be pre-funded during a member's active working years. The Board decided not to pre-fund but to continue the current practice of funding the conversions at retirement.

- (b) Post-Retirement Mortality – We recommended the mortality tables for retired female General and Safety members reflect lower than expected deaths over the experience study period. The Board decided not to use the recommended mortality tables.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes the need for transparency and accountability in financial reporting.

2. The second part of the document outlines the various methods and techniques used to collect and analyze data. It highlights the importance of using reliable sources and ensuring the accuracy of the information gathered.

3. The third part of the document focuses on the analysis and interpretation of the collected data. It discusses the various statistical and analytical tools used to identify trends, patterns, and correlations in the data.

4. The fourth part of the document discusses the importance of communication and reporting. It emphasizes the need for clear, concise, and accurate communication of the findings and conclusions of the study.

5. The fifth part of the document discusses the importance of ethical considerations in research. It highlights the need for researchers to adhere to ethical standards and to be transparent about their methods and findings.

6. The sixth part of the document discusses the importance of ongoing evaluation and improvement. It emphasizes the need for researchers to regularly assess the quality and effectiveness of their research and to make necessary adjustments.

7. The seventh part of the document discusses the importance of collaboration and teamwork. It highlights the benefits of working with others and sharing knowledge and resources.

8. The eighth part of the document discusses the importance of staying up-to-date on the latest research and developments in the field. It emphasizes the need for continuous learning and professional development.

9. The ninth part of the document discusses the importance of maintaining a strong professional reputation. It highlights the need for researchers to be honest, ethical, and transparent in their work.

10. The tenth part of the document discusses the importance of contributing to the field through publications and presentations. It emphasizes the need for researchers to share their findings and to engage in scholarly discourse.

11. The eleventh part of the document discusses the importance of maintaining a strong network of colleagues and mentors. It highlights the benefits of seeking advice and support from experienced researchers.

12. The twelfth part of the document discusses the importance of staying motivated and resilient in the face of challenges. It emphasizes the need for researchers to persevere and to stay focused on their goals.

ACTUARIAL CERTIFICATION

- (b) Post-Retirement Mortality – We recommended the mortality tables for retired female General and Safety members reflect lower than expected deaths over the experience study period. The Board decided not to use the recommended mortality tables.

In our report dated April 2, 2002, we reviewed the economic actuarial assumptions we would recommend for this valuation.

In that report, we derived an interest rate assumption of 8.35% per annum using the Building Block Approach, and we recommended an interest rate assumption of 8.25%. However, we pointed out the interest rate assumption of 8.50% would pose no unsound risk for CCCERA.

After further discussions at the April Board meeting, the Board decided to adopt an 8.35% investment return assumption.

The contribution rates provided in this report are based on the 8.35% investment return assumption adopted by the Board.

Benefit Changes

The following is a list of benefit Plan changes since our December 31, 2000 valuation:

San Ramon Fire Protection District has adopted improved benefits for their General and Safety members under 2% at 55 and 3% at 50 formulas, respectively.

The County is also negotiating similar improvements for its employees. Since there are still some outstanding issues on the design and how cost will be shared between employers and employees, we have not yet reflected the cost of the benefit improvements in our study.

The assumptions and methods, when applied in combination, fairly represent past and anticipated future experience of the Association and meet the parameters required by GASB Statement 25. However, the Board's decision not to adopt all the recommended assumptions in our December 31, 2000 experience study leads us to believe future assumption changes will be required.

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.

... ..
... ..
... ..
... ..
... ..
... ..
... ..
... ..
... ..
... ..

... ..
... ..
... ..
... ..
... ..
... ..
... ..
... ..
... ..
... ..

... ..
... ..
... ..
... ..
... ..
... ..
... ..
... ..
... ..
... ..

... ..
... ..
... ..
... ..
... ..
... ..
... ..
... ..
... ..
... ..

ACTUARIAL CERTIFICATION

The Solvency Test required for the Association's CAFR report is in the Funding History section of this report.

This report conforms with the requirements of the governing state and local statutes, accounting rules, and generally accepted actuarial principles and practices. The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Mercer Human Resource Consulting

Marcia L. Chapman

Marcia L. Chapman, FSA, EA, MAAA

6/4/02

Andy Yeung

Andy Yeung, ASA, EA, MAAA

6/4/02

10/10/10

10/10/10

10/10/10

10/10/10

10/10/10

10/10/10

10/10/10

10/10/10

Board Member Summary of Valuation Results

SUMMARY OF RECOMMENDATIONS

Employer Contribution Rates*	December 31, 2001**	December 31, 2000***	Increase/(Decrease)
Normal Cost Rate:	13.09%	12.64%	0.45%
Rate of Contribution to Unfunded Actuarial Accrued Liability:	5.92%	4.77%	1.15%
Total Employer Rate:	19.01%	17.41%	1.60%
Estimated Annual Amount****:	\$103,776,000	\$95,030,000	\$8,746,000

Member Contribution Rates*	December 31, 2001**	December 31, 2000***	Increase/(Decrease)
General Members (Tier 1)*****			
25	6.16%	5.98%	0.18%
35	6.72%	6.58%	0.14%
45	7.60%	7.49%	0.11%
Average Entry Age (Age 33)	6.58%	6.42%	0.16%
General Members (Tier 2)			
25	2.34%	2.28%	0.06%
35	2.56%	2.50%	0.06%
45	2.89%	2.85%	0.04%
Average Entry Age (Age 38)	2.65%	2.60%	0.05%
General Members (Tier 3)*****			
25	4.83%	4.63%	0.20%
35	5.28%	5.09%	0.19%
45	5.97%	5.79%	0.18%
Average Entry Age (Age 36)	5.33%	5.15%	0.18%
Safety Members			
21	7.70%	7.49%	0.21%
25	7.83%	7.63%	0.20%
30	8.15%	7.97%	0.18%
Average Entry Age (Age 29)	8.07%	7.89%	0.18%
Estimated Annual Amount****:	\$28,294,000	\$26,920,000	\$1,374,000

Actuarial Assumptions	December 31, 2001**	December 31, 2000***
Annual Inflation Rate:	4.25%	4.25%
Annual Investment Return:	8.35%	8.50%
Average Annual Salary Increase	5.71%	5.71%
Other Assumptions:	12/31/2000 Experience Study	12/31/2000 Experience Study

* Reflects 50% subvention of member basic contribution rates.

** Rates shown are to be applied from 1/1/2003 through 12/31/2003.

*** Rates shown are to be applied from 7/1/2002 through 12/31/2002.

**** Based on 12/31/2001 payroll projected with inflation to 12/31/2002.

***** Monthly contributions for the first \$350 are based upon 2/3 of the above rates.

SUMMARY OF VALUATION RESULTS

Member Contribution Rates

Current Rates/Recommended for Year 2002
4.25% inflation, 8.50% interest and 5.71% salary scale assumption

	Tier 1		General Tier 2		Tier 3		Safety	
	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount
Basic Without Subvention	5.31%	\$ 5,627,000	2.54%	\$ 4,019,000	6.20%	\$ 9,593,000	7.24%	\$ 9,189,000
Basic With 50% Subvention	2.65%	\$ 2,813,000	1.27%	\$ 2,009,000	3.10%	\$ 4,796,000	3.62%	\$ 4,594,000
Cost of Living	2.79%	\$ 2,957,000	1.33%	\$ 2,112,000	1.82%	\$ 2,810,000	3.81%	\$ 4,829,000
Total With 50% Subvention	5.44%	\$ 5,770,000	2.60%	\$ 4,121,000	4.92%	\$ 7,606,000	7.43%	\$ 9,423,000
Average Rate for Group with 50% Subvention=						4.93%		
Annual Amount for the total group with 50% Subvention=						\$ 26,920,000		

Based on 12/31/2001 annual salaries adjusted for inflation to 12/31/2002:

	General Tier 1		General Tier 2		General Tier 3		Safety	
County	\$	71,254,875	\$	157,536,345	\$	154,409,888	\$	77,596,403
District	\$	34,770,503	\$	673,455	\$	311,708	\$	49,322,760
Total	\$	106,025,378	\$	158,209,800	\$	154,721,595	\$	126,919,163

Recommended for Year 2003
4.25% inflation, 8.35% interest and 5.71% salary scale assumption

	Tier 1		General Tier 2		Tier 3		Safety	
	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount
Basic Without Subvention	5.65%	\$ 5,986,000	2.66%	\$ 4,208,000	6.52%	\$ 10,088,000	7.60%	\$ 9,646,000
Basic With 50% Subvention	2.82%	\$ 2,993,000	1.33%	\$ 2,104,000	3.26%	\$ 5,044,000	3.80%	\$ 4,823,000
Cost of Living	2.93%	\$ 3,108,000	1.38%	\$ 2,185,000	1.96%	\$ 3,029,000	3.95%	\$ 5,008,000
Total With 50% Subvention	5.75%	\$ 6,101,000	2.71%	\$ 4,289,000	5.22%	\$ 8,073,000	7.75%	\$ 9,831,000

Average Rate for Group with 50% Subvention= 5.18%
 Annual Amount for the total group with 50% Subvention= \$ 28,294,000

Based on 12/31/2001 annual salaries adjusted for inflation to 12/31/2002:

	General Tier 1		General Tier 2		General Tier 3		Safety	
County	\$	71,254,875	\$	157,536,345	\$	154,409,888	\$	77,596,403
District	\$	34,770,503	\$	673,455	\$	311,708	\$	49,322,760
Total	\$	106,025,378	\$	158,209,800	\$	154,721,595	\$	126,919,163

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the integrity of the financial system and for the ability to detect and prevent fraud.

2. The second part of the document outlines the various methods used to collect and analyze data. It describes the use of statistical techniques to identify trends and anomalies in the data, and the importance of using reliable sources of information.

3. The third part of the document discusses the role of the auditor in the process. It explains that the auditor's primary responsibility is to provide an independent and objective assessment of the financial statements. This involves a thorough review of the records and the application of professional judgment.

4. The fourth part of the document discusses the importance of communication in the auditing process. It notes that clear and concise communication is essential for the auditor to effectively convey the results of the audit to the relevant parties.

5. The fifth part of the document discusses the importance of ethics in the auditing profession. It emphasizes that auditors must adhere to a strict code of ethics to ensure the integrity and objectivity of their work.

6. The sixth part of the document discusses the importance of the auditor's independence. It explains that the auditor must be free from any conflicts of interest that could compromise their objectivity. This is achieved through various measures, including the establishment of independent audit committees and the implementation of strict rules regarding the auditor's relationships with the client.

7. The seventh part of the document discusses the importance of the auditor's professional competence. It notes that auditors must possess the necessary skills and knowledge to perform their duties effectively. This is achieved through ongoing education and training.

8. The eighth part of the document discusses the importance of the auditor's communication skills. It explains that auditors must be able to communicate clearly and effectively with the client and other stakeholders. This involves the use of clear and concise language, as well as the ability to listen and understand the client's needs.

9. The ninth part of the document discusses the importance of the auditor's integrity. It emphasizes that auditors must be honest and ethical in their work. This involves the ability to identify and report any errors or irregularities, even if it means going against the client's interests.

10. The tenth part of the document discusses the importance of the auditor's objectivity. It explains that auditors must be able to make decisions based on the facts and evidence, without being influenced by external pressures or biases.

SUMMARY OF VALUATION RESULTS

Employer Rates Under Current Assumptions For 7/1/2002 Through 12/31/2002 (Including 17 Year Amortization of UAAL) 4.25% inflation, 8.50% interest and 5.71% salary scale assumption

	Tier 1		General Tier 2		Tier 3		Safety		Aggregate	
	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount
Normal Cost Without Subvention										
County	12.99%	\$ 9,256,000	7.73%	\$ 12,178,000	5.98%	\$ 9,234,000	15.71%	\$ 12,190,000	9.30%	\$ 42,858,000
Districts	12.99%	\$ 4,517,000	7.73%	\$ 52,000	5.98%	\$ 19,000	15.71%	\$ 7,749,000	14.50%	\$ 12,337,000
Normal Cost With 50% subvention										
County	15.82%	\$ 11,130,000	8.86%	\$ 13,958,000	9.05%	\$ 13,974,000	19.25%	\$ 14,937,000	11.72%	\$ 53,999,000
Districts	15.82%	\$ 5,431,000	8.86%	\$ 60,000	9.05%	\$ 28,000	19.25%	\$ 9,495,000	17.65%	\$ 15,014,000
UAAL										
County	2.99%	\$ 2,131,000	4.62%	\$ 7,278,000	4.41%	\$ 6,809,000	1.18%	\$ 918,000	3.72%	\$ 17,134,000
Districts	9.96%	\$ 3,483,000	10.62%	\$ 72,000	11.58%	\$ 38,000	10.77%	\$ 5,312,000	10.44%	\$ 8,883,000
Total With 50% subvention										
County	18.61%	\$ 13,261,000	13.48%	\$ 21,236,000	13.46%	\$ 20,783,000	20.43%	\$ 15,853,000	15.44%	\$ 71,133,000
Districts	25.58%	\$ 8,894,000	19.48%	\$ 132,000	20.63%	\$ 64,000	30.02%	\$ 14,807,000	28.09%	\$ 23,897,000
Aggregate	20.90%	\$ 22,155,000	13.51%	\$ 21,368,000	13.47%	\$ 20,847,000	24.18%	\$ 30,660,000	17.41%	\$ 95,030,000
Average Rate for Group with 50% Subvention=								17.41%		
Annual Amount for the total group with 50% Subvention=								\$ 95,030,000		

Based on 12/31/2001 annual salaries adjusted for inflation to 12/31/2002:

	General Tier 1		General Tier 2		General Tier 3		Safety		Total	
County	\$ 71,254,875	\$ 157,536,345	\$ 154,409,888	\$ 77,596,403	\$ 460,797,510					
District	\$ 34,770,503	\$ 673,455	\$ 311,708	\$ 49,322,780	\$ 85,078,425					
Total	\$ 106,025,378	\$ 158,209,800	\$ 154,721,595	\$ 126,919,183	\$ 545,875,935					
Refundability Factor	0.9929	0.8938	0.9921	0.9785						

Employer Rates Under Recommended Assumptions For 1/1/2003 Through 12/31/2003 (Including 16 Year Amortization of UAAL) 4.25% Inflation, 8.35% interest and 5.71% salary scale assumption

	Tier 1		General Tier 2		Tier 3		Safety		Aggregate	
	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount
Normal Cost Without Subvention										
County	13.18%	\$ 9,377,000	7.85%	\$ 12,367,000	6.35%	\$ 9,805,000	18.33%	\$ 12,671,000	9.60%	\$ 44,220,000
Districts	13.18%	\$ 4,576,000	7.85%	\$ 53,000	6.35%	\$ 20,000	18.33%	\$ 8,054,000	14.83%	\$ 12,703,000
Normal Cost With 50% subvention										
County	15.96%	\$ 11,372,000	9.04%	\$ 14,241,000	9.56%	\$ 14,792,000	20.05%	\$ 15,558,000	12.14%	\$ 55,963,000
Districts	15.96%	\$ 5,549,000	9.04%	\$ 81,000	9.56%	\$ 30,000	20.05%	\$ 9,889,000	18.25%	\$ 15,529,000
UAAL										
County	4.10%	\$ 2,921,000	5.55%	\$ 8,743,000	5.34%	\$ 8,245,000	2.99%	\$ 2,320,000	4.82%	\$ 22,229,000
Districts	11.01%	\$ 3,828,000	11.48%	\$ 77,000	12.37%	\$ 39,000	12.39%	\$ 6,111,000	11.82%	\$ 10,055,000
Total With 50% subvention										
County	20.06%	\$ 14,293,000	14.59%	\$ 22,984,000	14.92%	\$ 23,037,000	23.04%	\$ 17,878,000	18.97%	\$ 78,192,000
Districts	28.97%	\$ 9,377,000	20.53%	\$ 138,000	21.95%	\$ 69,000	32.44%	\$ 16,000,000	30.07%	\$ 25,584,000
Aggregate	22.32%	\$ 23,670,000	14.81%	\$ 23,122,000	14.93%	\$ 23,106,000	28.69%	\$ 33,878,000	19.01%	\$ 103,776,000
Average Rate for Group with 50% Subvention=								19.01%		
Annual Amount for the total group with 50% Subvention=								\$ 103,776,000		

Based on 12/31/2001 annual salaries adjusted for inflation to 12/31/2002:

	General Tier 1		General Tier 2		General Tier 3		Safety		Total	
County	\$ 71,254,875	\$ 157,536,345	\$ 154,409,888	\$ 77,596,403	\$ 460,797,510					
District	\$ 34,770,503	\$ 673,455	\$ 311,708	\$ 49,322,780	\$ 85,078,425					
Total	\$ 106,025,378	\$ 158,209,800	\$ 154,721,595	\$ 126,919,183	\$ 545,875,935					
Refundability Factor	0.9917	0.8966	0.9932	0.9791						

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for ensuring transparency and accountability in financial operations.

2. The second part of the document outlines the various methods and techniques used to collect and analyze data. It highlights the need for consistent and reliable data collection processes to support informed decision-making.

3. The third part of the document focuses on the analysis and interpretation of the collected data. It discusses the various statistical and analytical tools used to identify trends, patterns, and anomalies in the data.

4. The fourth part of the document discusses the application of the analyzed data to various business and operational contexts. It highlights how the insights derived from the data can be used to optimize performance, identify areas for improvement, and inform strategic planning.

5. The fifth part of the document concludes by summarizing the key findings and recommendations. It emphasizes the importance of ongoing monitoring and evaluation to ensure that the data-driven insights continue to inform and improve organizational performance over time.

6. The sixth part of the document provides a detailed overview of the data collection and analysis process, including the specific steps and tools involved. It serves as a practical guide for implementing the data-driven approach discussed in the document.

7. The seventh part of the document discusses the challenges and limitations of the data-driven approach. It highlights the need for careful planning and execution to overcome these challenges and maximize the benefits of the approach.

8. The eighth part of the document provides a detailed overview of the data collection and analysis process, including the specific steps and tools involved. It serves as a practical guide for implementing the data-driven approach discussed in the document.

9. The ninth part of the document discusses the challenges and limitations of the data-driven approach. It highlights the need for careful planning and execution to overcome these challenges and maximize the benefits of the approach.

10. The tenth part of the document provides a detailed overview of the data collection and analysis process, including the specific steps and tools involved. It serves as a practical guide for implementing the data-driven approach discussed in the document.

100

100

SUMMARY OF VALUATION RESULTS

SUMMARY OF SIGNIFICATION RESULTS

	December 31, 2001	December 31, 2000	Increase/(Decrease)
Association Membership			
<i>Active Members</i>			
1. Number of Members	9,229	8,884 ***	3.9%
2. Total Active Payroll	\$523,621,000	\$488,384,000 ***	7.2%
3. Average Monthly Salary	\$4,728	\$4,581	3.2%
<i>Retired Members</i>			
1. Number of Members:			
Service Retirement	4,078	3,838	6.3%
Disability Retirement	823	777	5.9%
Beneficiaries	994	943	5.4%
2. Total Retired Payroll	\$132,093,000 ****	\$110,348,000	19.7%
3. Average Monthly Pension	\$1,867	\$1,654	12.9%
<i>Inactive Vested Members</i>			
1. Number of Members *	955	877	8.9%
Asset Values (Net)			
<i>Market Value</i>			
Market Value	\$2,704,729,000	\$2,931,262,000	-7.7%
Return on Market Value	-4.23%	0.79%	
<i>Actuarial Value</i>			
Actuarial Value	\$3,090,177,000	\$2,916,159,000	6.0%
Return on Actuarial Value	9.73%	13.75%	
<i>Valuation Assets</i>			
Valuation Assets	\$2,613,220,000	\$2,355,179,000 **	11.0%
Return on Valuation Assets	7.92%	8.21%	
Liability Values			
Actuarial Accrued Liability**	\$2,983,551,000	\$2,643,526,000	12.9%
Unfunded Actuarial Accrued Liability (UAAL)**	\$370,331,000	\$288,347,000	28.4%
Funding Ratio			
GASB No. 25	88%	89%	-1%

* Only include members who are not active in any other tier.

** After adjusting for the withdrawal of the City of Pittsburg.

*** Excludes active members from the City of Pittsburg.

**** Includes dollar power benefit.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. This is essential for ensuring the integrity of the financial statements and for providing a clear audit trail. The records should be kept up-to-date and should be easily accessible to all relevant parties.

2. The second part of the document outlines the various methods used to collect and analyze data. These methods include interviews, surveys, and focus groups. Each method has its own strengths and weaknesses, and it is important to choose the most appropriate method for the specific research objectives.

3. The third part of the document describes the process of data analysis. This involves identifying patterns and trends in the data, and then interpreting these findings in the context of the research objectives. It is important to be objective and to avoid drawing conclusions that are not supported by the data.

4. The fourth part of the document discusses the importance of communicating the results of the research. This involves writing a clear and concise report that summarizes the findings and provides recommendations for future action. It is important to use plain language and to avoid technical jargon where possible.

5. The fifth part of the document discusses the ethical considerations of research. This includes issues such as informed consent, confidentiality, and the potential for harm to participants. It is important to ensure that the research is conducted in a responsible and ethical manner.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. This is essential for ensuring the integrity of the financial statements and for providing a clear audit trail. The records should be kept up-to-date and should be easily accessible to all relevant parties.

2. The second part of the document outlines the various methods used to collect and analyze data. These methods include interviews, surveys, and focus groups. Each method has its own strengths and weaknesses, and it is important to choose the most appropriate method for the specific research objectives.

3. The third part of the document describes the process of data analysis. This involves identifying patterns and trends in the data, and then interpreting these findings in the context of the research objectives. It is important to be objective and to avoid drawing conclusions that are not supported by the data.

4. The fourth part of the document discusses the importance of communicating the results of the research. This involves writing a clear and concise report that summarizes the findings and provides recommendations for future action. It is important to use plain language and to avoid technical jargon where possible.

5. The fifth part of the document discusses the ethical considerations of research. This includes issues such as informed consent, confidentiality, and the potential for harm to participants. It is important to ensure that the research is conducted in a responsible and ethical manner.

Explanation of Changes in Actuarial Values

Components of Employer Contribution Rate Change

Employer Rate	Contribution Rate	Estimated Annual Dollar Cost*
1. Employer Rate Determined in 12/31/00 Valuation	17.41%	\$95,030,000
Changes:		
2. Investment return less than expected	0.24%	\$1,294,000
3. Change in terminal pay assumptions for active members	0.02%	\$104,000
4. More retirements than expected	0.04%	\$205,000
5. Change in interest rate assumption	1.19%	\$6,496,000
6. Paulson liabilities	1.05%	\$5,732,000
7. Transfers to offset Paulson liabilities	-1.05%	(\$5,732,000)
8. Other actuarial (Gains)/Losses	0.11%	\$647,000
9. Subtotal of Changes	1.60%	\$8,746,000
10. Employer Rate Determined in 12/31/01 Valuation	19.01%	\$103,776,000

*Based on payroll as of 12/31/2001 projected with inflation to 12/31/2002 of \$545,875,000.

Explanations:

Investment return less than expected - The Association's valuation assets earned 0.58% below the assumed rate of 8.50%.

Change in terminal pay assumptions for active members - The liability increases slightly due to the higher level of benefits expected from conversion of terminal pay at retirement.

Retirees more than expected - There were more actual retirements than expected by the assumptions.

Change in interest rate assumption - Increase in liability and normal cost from reduction in interest rate assumption from 8.5% to 8.35%

Paulson liabilities - This represents the additional liabilities for Paulson retirees who received benefit adjustments before the end of 2001.

Transfers to offset Paulson liabilities - Rate impact of transferring \$68.4m to offset Paulson liabilities.

Miscellaneous (gains)/ losses - Other rate changes with untraced sources including delay in the implementation of the higher employer and member contribution rates determined in the 12/31/00 valuation.

Components of Member Contribution Rate Change

Member Rate	Rate Change	Estimated Annual Dollar Cost*
1. Member Rate Determined in 12/31/00 Valuation	4.93%	\$26,920,000
2. Change in interest rate assumption	0.16%	\$885,000
3. Other changes in demographics	0.09%	\$489,000
Subtotal of Changes	0.25%	\$1,374,000
4. Member Rate Determined in 12/31/01 Valuation	5.18%	\$28,294,000

*Based on payroll as of 12/31/2001 projected with inflation to 12/31/2002 of \$545,875,000.

THE HISTORY OF THE UNITED STATES

The history of the United States is a story of growth and change. It begins with the first settlers who came to the eastern coast of North America. These settlers were mostly from Europe, and they brought with them the culture and customs of their home countries. Over time, these settlers and their descendants became known as the American people.

The American people have always been a people of great energy and ambition. They have always been looking for new opportunities and new challenges. This has led to the expansion of the United States across the continent, and eventually to the acquisition of territories in the West and the South.

The American people have also been a people of great freedom and independence. They have always valued their rights and liberties, and they have always fought to protect them. This has led to the development of a unique American government, one that is based on the principles of democracy and the rule of law.

The American people have also been a people of great diversity. They have always been made up of people from many different backgrounds and cultures. This diversity has been one of the strengths of the United States, and it has helped to make it a more tolerant and accepting society.

The American people have also been a people of great innovation and creativity. They have always been looking for new ways to solve problems and new ways to improve the world. This has led to many of the great inventions and discoveries of the United States, and it has helped to make it a world leader in science and technology.

The American people have also been a people of great courage and sacrifice. They have always been willing to fight for their beliefs and their country. This has led to many of the great battles and wars of the United States, and it has helped to shape the nation's character and destiny.

The American people have also been a people of great hope and optimism. They have always believed in a better future, and they have always worked hard to make it a reality. This has led to the great achievements of the United States, and it has helped to make it a land of opportunity for all.

The American people have also been a people of great faith and belief. They have always believed in a higher power, and they have always sought to live their lives in accordance with their faith. This has led to the development of many of the great religious and philosophical traditions of the United States, and it has helped to give the American people a sense of purpose and meaning.

The American people have also been a people of great love and compassion. They have always been willing to help those in need, and they have always sought to make the world a better place. This has led to many of the great acts of kindness and generosity of the United States, and it has helped to make it a more caring and humane society.

The American people have also been a people of great pride and honor. They have always been proud of their country and their heritage, and they have always sought to live up to the ideals and values of the United States. This has led to the great achievements and successes of the United States, and it has helped to make it a nation of great respect and admiration.

The American people have also been a people of great resilience and strength. They have always been able to overcome adversity and hardship, and they have always emerged stronger and more united. This has led to the great triumphs and victories of the United States, and it has helped to make it a nation of great power and influence.

The American people have also been a people of great unity and solidarity. They have always been able to come together and work for the common good, and they have always sought to make the United States a more cohesive and harmonious society. This has led to the great achievements and successes of the United States, and it has helped to make it a nation of great hope and promise.

Actuarial Assumptions

In our report of April 2, 2002, we provided extensive analysis of the economic actuarial assumptions and terminal pay assumptions that would be used for this report. In that letter, we recommended an 8.25% interest rate assumption based on capital market projections and the Association's target asset allocation. The Board adopted an interest rate assumption of 8.35%, which we do not believe poses an unsound risk to the Association's ability to pay benefits.

The following table summarizes the economic and terminal pay assumptions that the Board adopted for this actuarial valuation. Please see our April 2002 report for more information.

Economic Assumptions

Inflation	4.25%
Investment Return	8.35%
Merit and Longevity Salary Increase	Age related - See Appendix B for the ratio of current compensation to compensation anticipated at retirement age
Terminal Pay Assumptions	Applied to Employer rate only See our Appendix B for assumption summary

2000-01-01
1000-01-01
1000-01-01
1000-01-01

1000-01-01
1000-01-01

1000-01-01
1000-01-01

1000-01-01
1000-01-01

1000-01-01
1000-01-01

1000-01-01

1000-01-01

1000-01-01
1000-01-01

1000-01-01

1000-01-01
1000-01-01

1000-01-01

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 system 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 system and to monitor its performance. This financial plan is more commonly referred to as an actuarial funding method.

Employer Contributions

The actuarial funding method which has been adopted by the Board, is called the Entry Age Normal Funding Method. Under this method, the 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. This also includes the credits which result from an overfunded Actuarial Liability as a negative contribution rate. 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 (or credits) are scheduled to increase at the annual inflation rate of 4.25% along with expected payroll. The UAAL is being funded over the 16-year period following December 31, 2001.

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 E.

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 and Safety members, respectively. The basic

1944

1945

1946

1947

1948

1949

1950

1951

1952

ACTUARIAL VALUATION METHODS

contribution rate is determined as that percentage of compensation which, if paid annually from a member's first year of membership through the prescribed retirement age would accumulate to the amount necessary to fund a prescribed annuity. The annuity is equal to 1/120 of one year Final Average Salary per year of service at age 55 for General Tier 1 and Tier 3 members; 40% of the Tier 1 members contribution rate (using three year Final Average Salary) for General Tier 2 members; and Safety members pay for an annuity at age 50 equal to 1/100 of one year Final Average Salary per year of service. Member contributions are credited with interest at a rate reviewed semiannually by the Board. The County is now paying 50% of the members' basic contributions on a nonrefundable basis. Members also pay 50% of the cost of living benefit.

Handwritten notes in the upper right corner, including the word "The" and other illegible characters.

Handwritten notes in the center of the page, including the word "The" and other illegible characters.

Actuarial Value of Assets

Background

Under the Entry Age Normal Actuarial Funding Method, a determination is made of the target value of assets the Association would hold if current 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 investment return 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 December 31, 1995, the Board adopted a method for determining the actuarial value of assets that operates by smoothing over five years the difference between the Association's actual market return (net of expenses) from the actuarially expected return.

The Board also applies this smoothing method to value the Association's reserves for accounting purposes. Because reserves are valued each six months, the smoothing method is applied over six month periods rather than annual periods. As a result, we utilize the Association's financial accounting information as our sole source of the actuarial value of assets.

CONTRA COSTA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

MARKET STABILIZATION DESIGNATION (DEFERRED RETURN) AND ACTUARIAL VALUE OF ASSETS AS OF 12/31/2001

I. Deferred amounts:

Amount to be applied to:

<u>From Period:</u>	<u>Remaining Amount</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>Remaining Amount</u>
Dec-97	\$ 7,682,209	7,682,209					7,682,209
Jun-98	\$ 28,591,606	28,591,606					28,591,606
Dec-98	\$ (4,619,774)	(3,079,849)	(1,539,925)				(4,619,774)
Jun-99	\$ 34,668,322	17,334,161	17,334,161				34,668,322
Dec-99	\$ 38,553,830	15,421,532	15,421,532	7,710,766			38,553,830
Jun-00	\$ (54,810,909)	(18,270,303)	(18,270,303)	(18,270,303)			(54,810,909)
Dec-00	\$ (100,257,678)	(28,645,051)	(28,645,051)	(28,645,051)	(14,322,525)		(100,257,678)
Jun-01	\$ (166,713,385)	(41,678,346)	(41,678,346)	(41,678,346)	(41,678,346)		(166,713,385)
Dec-01	\$ (168,542,546)	(37,453,899)	(37,453,899)	(37,453,899)	(37,453,899)	(18,726,950)	(168,542,546)
	\$ (385,448,325)	\$ (60,097,941)	\$ (94,831,831)	\$ (118,336,833)	\$ (93,454,771)	\$ (18,726,950)	\$ (385,448,325)

II. Unrestricted Designation

Per December 31, 2001 Financial Statement **\$ 87,740,871**

III. Current (Preliminary) Contingency Balances

Per December 31, 2001
 Statutory Contingency Designation (1%) **\$ 27,683,923**

Board Designated Contingency
 Board Designated (1%) **\$ 27,683,923**
 Paulson Settlement Designation **\$ 53,087,977**
 Excess Earnings from December 31, 1998, 1999 and 2000 **\$316,832,593**

TOTAL \$397,604,493

IV. Actuarial Value of Assets

1. Market Value of Assets **\$ 2,704,726,752**
 2. Deferred Return (from I) **\$ (385,448,325)**
 3. Actuarial Value of Assets (1. - 2.) **\$ 3,090,177,077**
 4. Non Valuation Reserves and Designations:
 a. Unrestricted Designation (from II) **\$ 87,740,871**
 b. Statutory Contingency Reserve (from III) **\$ 27,683,923**
 c. Board Designated Contingency (from III) **\$ 397,604,493**
 d. Supplemental Reserves **\$ 11,585,380**
 e. Fixed Assets, etc **\$ -**
 f. Actuarial Transfer Designation **\$ 16,100,498**
 g. Retiree Health Benefit Transfer Designation **\$ 4,637,588**
 h. Subtotal **\$ 545,352,753**

5. Paulson Transfers **\$ 68,395,941**

6. Actuarial Value of Assets for Valuation and Funding Ratio (3.-4h.+5.) **\$ 2,613,220,265**

Actuarial Valuation Results

Employer and Member Contribution Rates

The following Table 6 provides a comparison of the Employer and Member contribution rates and estimated annual contribution amounts under the current and recommended actuarial assumptions. The estimated annual contribution amounts are based upon annual payroll as of the actuarial valuation date.

Table 6
Contribution Rates and Estimated Annual Contributions

Valuation Basis (Inflation/Investment Return/Salary Increase)	Employer Contributions		Member Contributions	
	Rate*	Annual Amount**	Rate*	Annual Amount**
Current Rates - Year 2002 (4.25%/8.50%/5.71%)	17.41%	\$95,030,000	4.93%	\$26,920,000
Recommended Rates - Year 2003 (4.25%/8.35%/5.71%)	19.01%	\$103,776,000	5.18%	\$28,294,000

* Reflects 50% employer subvention of member basis contribution rates.

** Based on annual salaries as of 12/31/2001 projected with inflation to 12/31/2002 of \$545,875,000.

Recommendation

The Recommended Rates are based on the economic actuarial assumptions previously adopted by the Board of Retirement upon the recommendation of Mercer Human Resource Consulting.

Component parts of the current and recommended member and employer contribution rates broken down among the various member categories can be found in Tables 7 and 8, respectively.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions.

2. It is essential to ensure that all entries are supported by appropriate documentation and receipts.

3. Regular audits should be conducted to verify the accuracy of the records and identify any discrepancies.

4. The second part of the document outlines the procedures for handling incoming payments and deposits.

5. All payments received should be promptly recorded and deposited into the designated bank account.

6. It is important to maintain a clear and organized system for tracking all financial activities.

7. The third part of the document details the process for issuing invoices and bills to customers.

8. Invoices should be generated accurately and sent to the customer in a timely manner.

9. The fourth part of the document discusses the methods for reconciling bank statements and accounts.

10. Regular reconciliation is necessary to ensure that the company's records match the bank's records.

11. The fifth part of the document provides information on the company's financial reporting requirements.

12. Financial statements should be prepared and reviewed on a regular basis to assess the company's performance.

13. The sixth part of the document discusses the company's policies regarding budgeting and cost control.

14. A well-defined budget is essential for managing the company's resources effectively.

15. The seventh part of the document concludes with a summary of the key points discussed throughout the document.

16. It is hoped that this document will provide a clear and comprehensive overview of the company's financial management practices.

17. For further information or assistance, please contact the finance department.

18. Thank you for your attention and cooperation.

19. Sincerely,
[Signature]

20. [Name]
[Title]

21. [Address]
[City, State, Zip]

22. [Phone Number]
[Email Address]

ACTUARIAL VALUATION RESULTS

Explanation of Changes in Actuarial Values

Components of Employer Contribution Rate Change

Employer Rate	<u>Contribution Rate</u>	<u>Estimated Annual Dollar Cost*</u>
1. Employer Rate Determined in 12/31/00 Valuation	17.41%	\$95,030,000
Changes:		
2. Investment return less than expected	0.24%	\$1,294,000
3. Change in terminal pay assumptions for active members	0.02%	\$104,000
4. More retirements than expected	0.04%	\$205,000
5. Change in interest rate assumption	1.19%	\$6,496,000
6. Paulson liabilities	1.05%	\$5,732,000
7. Transfers to offset Paulson liabilities	-1.05%	(\$5,732,000)
8. Other actuarial (Gains)/Losses	0.11%	\$647,000
9. Subtotal of Changes	1.60%	\$8,746,000
10. Employer Rate Determined in 12/31/01 Valuation	19.01%	\$103,776,000

*Based on payroll as of 12/31/2001 projected with inflation to 12/31/2002 of \$545,875,000.

Explanations:

Investment return less than expected - The Association's valuation assets earned 0.58% below the assumed rate of 8.50%.

Change in terminal pay assumptions for active members - The liability increases slightly due to the higher level of benefits expected from conversion of terminal pay at retirement.

Retirees more than expected - There were more actual retirements than expected by the assumptions.

Change in interest rate assumption - Increase in liability and normal cost from reduction in interest rate assumption from 8.5% to 8.35%

Paulson liabilities - This represents the additional liabilities for Paulson retirees who received benefit adjustments before the end of 2001.

Transfers to offset Paulson liabilities - Rate impact of transferring \$68.4m to offset Paulson liabilities.

Miscellaneous (gains)/ losses - Other rate changes with untraced sources including delay in the implementation of the higher employer and member contribution rates determined in the 12/31/00 valuation.

Components of Member Contribution Rate Change

Member Rate	<u>Rate Change</u>	<u>Estimated Annual Dollar Cost*</u>
1. Member Rate Determined in 12/31/00 Valuation	4.93%	\$26,920,000
2. Change in interest rate assumption	0.16%	\$885,000
3. Other changes in demographics	0.09%	\$489,000
Subtotal of Changes	0.25%	\$1,374,000
4. Member Rate Determined in 12/31/01 Valuation	5.18%	\$28,294,000

*Based on payroll as of 12/31/2001 projected with inflation to 12/31/2002 of \$545,875,000.

ACTUARIAL VALUATION RESULTS

Table 7
Comparison of Average Employee Contribution Rates

Current Rates/Recommended for Year 2002
4.25% inflation, 8.50% interest and 5.71% salary scale assumption

	Tier 1		General Tier 2		Tier 3		Safety	
	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount
Basic Without Subvention	5.31%	\$ 5,627,000	2.54%	\$ 4,019,000	6.20%	\$ 9,593,000	7.24%	\$ 9,189,000
Basic With 50% Subvention	2.85%	\$ 2,813,000	1.27%	\$ 2,009,000	3.10%	\$ 4,796,000	3.62%	\$ 4,594,000
Cost of Living	2.79%	\$ 2,957,000	1.33%	\$ 2,112,000	1.82%	\$ 2,810,000	3.81%	\$ 4,829,000
Total With 50% Subvention	5.44%	\$ 5,770,000	2.60%	\$ 4,121,000	4.92%	\$ 7,606,000	7.43%	\$ 9,423,000

Average Rate for Group with 50% Subvention= 4.93%
Annual Amount for the total group with 50% Subvention= \$ 26,920,000

Based on 12/31/2001 annual salaries adjusted for inflation to 12/31/2002:

	General Tier 1		General Tier 2		General Tier 2		Safety	
County	\$ 71,254,875		\$ 157,536,345		\$ 154,409,888		\$ 77,596,403	
District	\$ 34,770,503		\$ 673,455		\$ 311,708		\$ 49,322,760	
Total	\$ 106,025,378		\$ 158,209,800		\$ 154,721,595		\$ 126,919,163	

Recommended for Year 2003
4.25% inflation, 8.35% interest and 5.71% salary scale assumption

	Tier 1		General Tier 2		Tier 3		Safety	
	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount
Basic Without Subvention	5.65%	\$ 5,986,000	2.66%	\$ 4,208,000	6.52%	\$ 10,088,000	7.60%	\$ 9,646,000
Basic With 50% Subvention	2.82%	\$ 2,993,000	1.33%	\$ 2,104,000	3.26%	\$ 5,044,000	3.80%	\$ 4,823,000
Cost of Living	2.93%	\$ 3,108,000	1.38%	\$ 2,185,000	1.96%	\$ 3,029,000	3.95%	\$ 5,008,000
Total With 50% Subvention	5.75%	\$ 6,101,000	2.71%	\$ 4,289,000	5.22%	\$ 8,073,000	7.75%	\$ 9,831,000

Average Rate for Group with 50% Subvention= 5.18%
Annual Amount for the total group with 50% Subvention= \$ 28,294,000

Based on 12/31/2001 annual salaries adjusted for inflation to 12/31/2002:

	Tier 1		General Tier 2		Tier 3		Safety	
County	\$ 71,254,875		\$ 157,536,345		\$ 154,409,888		\$ 77,596,403	
District	\$ 34,770,503		\$ 673,455		\$ 311,708		\$ 49,322,760	
Total	\$ 106,025,378		\$ 158,209,800		\$ 154,721,595		\$ 126,919,163	

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. This is essential for ensuring the integrity of the financial system and for providing a clear audit trail.

2. The second part of the document outlines the various methods used to collect and analyze data. These methods include direct observation, interviews, and the use of specialized software tools.

3. The third part of the document describes the results of the data collection process. This includes a detailed breakdown of the data by category and a comparison of the findings to the initial hypotheses.

4. The fourth part of the document discusses the implications of the findings and provides recommendations for future research and practice.

5. The fifth part of the document is a conclusion that summarizes the key points of the study and reiterates the importance of the findings.

The following table provides a summary of the data collected during the study. The data is organized into five columns, each representing a different category of information.

Category	Sub-category	Value	Unit	Notes
Category 1	Sub-category 1.1	12.5	kg	Sample 1
	Sub-category 1.2	8.7	kg	Sample 2
	Sub-category 1.3	15.2	kg	Sample 3
	Sub-category 1.4	9.8	kg	Sample 4
Category 2	Sub-category 2.1	23.1	kg	Sample 5
	Sub-category 2.2	18.9	kg	Sample 6
	Sub-category 2.3	31.4	kg	Sample 7
	Sub-category 2.4	27.6	kg	Sample 8
Category 3	Sub-category 3.1	11.3	kg	Sample 9
	Sub-category 3.2	16.7	kg	Sample 10
	Sub-category 3.3	13.5	kg	Sample 11
	Sub-category 3.4	19.2	kg	Sample 12
Category 4	Sub-category 4.1	25.8	kg	Sample 13
	Sub-category 4.2	21.4	kg	Sample 14
	Sub-category 4.3	28.9	kg	Sample 15
	Sub-category 4.4	24.6	kg	Sample 16

The data shows a clear trend of increasing values across the different categories, with Category 4 having the highest values and Category 1 having the lowest. This suggests that the variables being measured are directly related to the categories.

ACTUARIAL VALUATION RESULTS

Table 8
Comparison of Average Employer Contribution Rates

Employer Rates Under Current Assumptions For 7/1/2002 Through 12/31/2002 (Including 17 Year Amortization of UAAL)
4.25% inflation, 8.50% interest and 5.71% salary scale assumption

	Tier 1		General Tier 2		Tier 3		Safety		Aggregate	
	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount
Normal Cost Without Subvention										
County	12.99%	\$ 9,256,000	7.73%	\$ 12,178,000	5.98%	\$ 9,234,000	15.71%	\$ 12,190,000	9.30%	\$ 42,858,000
Districts	12.99%	\$ 4,517,000	7.73%	\$ 52,000	5.98%	\$ 19,000	15.71%	\$ 7,749,000	14.50%	\$ 12,337,000
Normal Cost With 50% subvention										
County	15.82%	\$ 11,130,000	8.86%	\$ 13,958,000	9.05%	\$ 13,974,000	19.25%	\$ 14,937,000	11.72%	\$ 53,999,000
Districts	15.82%	\$ 5,431,000	8.86%	\$ 60,000	9.05%	\$ 28,000	19.25%	\$ 9,495,000	17.65%	\$ 15,014,000
UAAL										
County	2.99%	\$ 2,131,000	4.82%	\$ 7,278,000	4.41%	\$ 6,809,000	1.18%	\$ 918,000	3.72%	\$ 17,134,000
Districts	9.96%	\$ 3,483,000	10.82%	\$ 72,000	11.58%	\$ 36,000	10.77%	\$ 5,312,000	10.44%	\$ 8,883,000
Total With 50% subvention										
County	18.61%	\$ 13,261,000	13.48%	\$ 21,236,000	13.46%	\$ 20,783,000	20.43%	\$ 15,853,000	15.44%	\$ 71,133,000
Districts	25.58%	\$ 8,894,000	19.48%	\$ 132,000	20.63%	\$ 64,000	30.02%	\$ 14,807,000	28.09%	\$ 23,897,000
Aggregate	20.90%	\$ 22,155,000	13.51%	\$ 21,368,000	13.47%	\$ 20,847,000	24.16%	\$ 30,660,000	17.41%	\$ 95,030,000
Average Rate for Group with 50% Subvention=								17.41%		
Annual Amount for the total group with 50% Subvention=								\$ 85,030,000		

Based on 12/31/2001 annual salaries adjusted for inflation to 12/31/2002:

	General Tier 1	General Tier 2	General Tier 3	Safety	Total
County	\$ 71,254,875	\$ 157,536,345	\$ 154,409,888	\$ 77,596,403	\$ 460,797,510
District	\$ 34,770,503	\$ 673,455	\$ 311,708	\$ 49,322,760	\$ 85,078,425
Total	\$ 106,025,378	\$ 158,209,800	\$ 154,721,595	\$ 126,919,163	\$ 545,675,935
Refundability Factor	0.9929	0.8938	0.9921	0.9785	

Employer Rates Under Recommended Assumptions For 1/1/2003 Through 12/31/2003 (Including 16 Year Amortization of UAAL)
4.25% Inflation, 8.35% interest and 5.71% salary scale assumption

	Tier 1		General Tier 2		Tier 3		Safety		Aggregate	
	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount
Normal Cost Without Subvention										
County	13.16%	\$ 9,377,000	7.85%	\$ 12,367,000	6.35%	\$ 9,805,000	16.33%	\$ 12,671,000	9.60%	\$ 44,220,000
Districts	13.16%	\$ 4,578,000	7.85%	\$ 53,000	6.35%	\$ 20,000	16.33%	\$ 8,054,000	14.93%	\$ 12,703,000
Normal Cost With 50% subvention										
County	15.96%	\$ 11,372,000	9.04%	\$ 14,241,000	9.58%	\$ 14,792,000	20.05%	\$ 15,558,000	12.14%	\$ 55,963,000
Districts	15.96%	\$ 5,549,000	9.04%	\$ 61,000	9.58%	\$ 30,000	20.05%	\$ 9,889,000	18.25%	\$ 15,529,000
UAAL										
County	4.10%	\$ 2,921,000	5.55%	\$ 8,743,000	5.34%	\$ 8,245,000	2.99%	\$ 2,320,000	4.82%	\$ 22,229,000
Districts	11.01%	\$ 3,828,000	11.49%	\$ 77,000	12.37%	\$ 39,000	12.39%	\$ 6,111,000	11.82%	\$ 10,055,000
Total With 50% subvention										
County	20.06%	\$ 14,293,000	14.59%	\$ 22,984,000	14.92%	\$ 23,037,000	23.04%	\$ 17,878,000	16.97%	\$ 78,192,000
Districts	26.97%	\$ 9,377,000	20.53%	\$ 138,000	21.95%	\$ 69,000	32.44%	\$ 16,000,000	30.07%	\$ 25,584,000
Aggregate	22.32%	\$ 23,670,000	14.61%	\$ 23,122,000	14.93%	\$ 23,106,000	26.69%	\$ 33,878,000	19.01%	\$ 103,776,000
Average Rate for Group with 50% Subvention=								19.01%		
Annual Amount for the total group with 50% Subvention=								\$ 103,776,000		

Based on 12/31/2001 annual salaries adjusted for inflation to 12/31/2002:

	General Tier 1	General Tier 2	General Tier 3	Safety	Total
County	\$ 71,254,875	\$ 157,536,345	\$ 154,409,888	\$ 77,596,403	\$ 460,797,510
District	\$ 34,770,503	\$ 673,455	\$ 311,708	\$ 49,322,760	\$ 85,078,425
Total	\$ 106,025,378	\$ 158,209,800	\$ 154,721,595	\$ 126,919,163	\$ 545,675,935
Refundability Factor	0.9917	0.8968	0.9932	0.9791	

10/10/2014
10/10/2014
10/10/2014
10/10/2014
10/10/2014

10/10/2014
10/10/2014
10/10/2014
10/10/2014
10/10/2014

10/10/2014
10/10/2014
10/10/2014
10/10/2014
10/10/2014

10/10/2014
10/10/2014
10/10/2014
10/10/2014
10/10/2014

10/10/2014
10/10/2014
10/10/2014
10/10/2014
10/10/2014

10/10/2014
10/10/2014
10/10/2014
10/10/2014
10/10/2014

10/10/2014
10/10/2014
10/10/2014
10/10/2014
10/10/2014

10/10/2014
10/10/2014
10/10/2014
10/10/2014
10/10/2014

10/10/2014
10/10/2014
10/10/2014
10/10/2014
10/10/2014

10/10/2014
10/10/2014
10/10/2014
10/10/2014
10/10/2014

10/10/2014
10/10/2014
10/10/2014
10/10/2014
10/10/2014

10/10/2014
10/10/2014
10/10/2014
10/10/2014
10/10/2014

Funding Status

Evaluation of Funding Status

Background

The Association's funding status is measured as the ratio of its actuarial value of assets to a target value of assets. Following are the components of the funding status measure:

<u>Funding Status Measure</u>	<u>Target Assets</u>	<u>Actual Assets</u>	<u>Purpose</u>
Funding Ratio (GASB No. 25)	Actuarial Accrued Liability	Actuarial Value of Assets	Progress toward funding UAAL and Financial Disclosure

Funding Ratio – GASB No. 25

The GASB has issued two statements; Accounting for Pensions by State and Local Government Employers (GASB Statement No. 27); and Financial Reporting for Defined Benefit and Note Disclosures for Defined Contribution Plans (GASB Statement No. 25). Both of these statements require funding status to be measured based upon the actuarial funding method adopted by the Board of Retirement, i.e., the Entry Age Normal Funding Method. The target value of assets is equal to the Actuarial Accrued Liability (AAL) and the actual value of assets is the Actuarial Value of Assets.

The Association elected early implementation of GASB Statement No. 25, effective December 31, 1995.

The following table provides the GASB Statement No. 25 liabilities calculated for the years 1994 through 2001.

... ..
... ..
... ..

... ..
... ..
... ..

... ..
... ..
... ..

... ..
... ..
... ..

... ..
... ..
... ..

... ..
... ..
... ..

FUNDING STATUS

Actuarial Valuation Date	Actuarial Value of Assets ⁽ⁱ⁾ (a)	Actuarial Accrued Liability (AAL) - Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a)/c)
12/31/1994	\$1,428,466,000	\$1,496,280,000	\$67,814,000	95.5%	\$340,478,000	19.9%
12/31/1995	\$1,522,796,000	\$1,632,227,000	\$109,431,000	93.3%	\$351,831,000	31.1%
12/31/1996	\$1,629,592,000	\$1,730,879,000	\$101,287,000	94.1%	\$353,738,000	28.6%
12/31/1997	\$1,742,014,000	\$1,983,394,000	\$241,380,000	87.8%	\$385,412,000	62.6%
12/31/1998	\$1,868,521,000	\$2,320,315,000	\$451,794,000	80.5%	\$411,748,000	109.7%
12/31/1999 ⁽ⁱⁱ⁾	\$2,137,554,000	\$2,433,614,000	\$296,060,000	87.8%	\$463,279,000	63.9%
12/31/2000	\$2,355,179,000	\$2,643,526,000	\$288,347,000	89.1%	\$488,384,000	59.0%
12/31/2001	\$2,613,220,000	\$2,983,551,000	\$370,331,000	87.6%	\$523,621,000	70.7%

(i) Excludes accounts payable. Restated to exclude non-valuation reserves.

(ii) Adjusted to reflect the Board's action to change the annual investment return assumption to 8.50% in March 2001.

Note that effective 12/31/2000, both the Actuarial Value of Assets and the Actuarial Accrued Liabilities have been adjusted to reflect the present value of future benefits payable after the Paulson Settlement.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the integrity of the financial system and for the ability to detect and prevent fraud.

2. The second part of the document outlines the specific requirements for record-keeping, including the need to maintain original documents and to ensure that all records are properly indexed and filed. It also discusses the importance of regular audits and the need to keep records for a sufficient period of time.

3. The third part of the document discusses the consequences of failing to comply with these requirements. It notes that failure to maintain accurate records can result in the loss of tax benefits and may also lead to penalties and fines. It also discusses the potential for civil and criminal liability in the event of a fraud investigation.

4. The fourth part of the document provides a summary of the key points discussed in the document and offers some practical advice for ensuring compliance with the requirements. It emphasizes the importance of staying up-to-date on the latest regulations and the need to seek professional advice when necessary.

5. The fifth part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the integrity of the financial system and for the ability to detect and prevent fraud.

6. The sixth part of the document outlines the specific requirements for record-keeping, including the need to maintain original documents and to ensure that all records are properly indexed and filed. It also discusses the importance of regular audits and the need to keep records for a sufficient period of time.

7. The seventh part of the document discusses the consequences of failing to comply with these requirements. It notes that failure to maintain accurate records can result in the loss of tax benefits and may also lead to penalties and fines. It also discusses the potential for civil and criminal liability in the event of a fraud investigation.

8. The eighth part of the document provides a summary of the key points discussed in the document and offers some practical advice for ensuring compliance with the requirements. It emphasizes the importance of staying up-to-date on the latest regulations and the need to seek professional advice when necessary.

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.



	December 31, 2001	December 31, 2000	Percent Change
Market Value	\$2,704,728,752	\$2,931,261,880	-7.70%
Smoothed Market (Actuarial Value)	\$3,090,177,077	\$2,916,159,015	6.00%

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

	Market Value	Actuarial Value	Valuation Assets
Value of Assets at 12/31/2000 ⁽¹⁾	\$2,931,261,880	\$2,916,159,015	\$2,363,182,627
Contributions:			
Employer*	\$55,182,505	\$55,182,505	\$223,760,360
Members	18,681,239	18,681,239	18,681,239
Benefits Paid to Participants	167,801,125	167,801,125	167,801,125
Amount Transferred to CALPERS**	10,791,085	10,791,085	10,791,085
Expenses Paid	3,745,158	3,745,158	3,745,158
Investment Earnings	(118,059,504)	282,491,686	189,933,407
Value of Assets at 12/31/2001 ⁽²⁾	\$2,704,728,752	\$3,090,177,077	\$2,613,220,265
NET RATE OF RETURN (Net of Expenses)	-4.23%	9.73%	7.92%

* For valuation assets, includes Board transfers to provide for COLA benefits, Paulson liabilities and the Supplemental Cost-of-living Benefit Program.

** On November 9, 2001, this amount was transferred to CALPERS pursuant to the withdrawal of the City of Pittsburg from the CCCERA.

The 9.73% rate of return on the actuarial value of assets is greater than the 8.50% rate assumed for the prior year. The return on the valuation assets of 7.92% is lower than the 8.50% rate assumed for the prior year.

(1) Net of current liabilities of \$112,335,026

(2) Net of current liabilities of \$63,663,499

1888
1889
1890

1891
1892
1893

1894
1895
1896

1897
1898
1899

1900
1901
1902

1903
1904
1905

1906
1907
1908

1909
1910
1911

1912
1913
1914

1915
1916
1917

1918
1919
1920

1888

1889

1890

1891

1892

1893

1894

1895

1896

1897

1898

1899

1900

1901

ACTUARIAL ASSETS

Association Accounting Assets,
Reserves and Other Liabilities
As of December 31 2001

Assets (Market Values)

Cash and short term investments	\$	129,733,427
Securities owned		2,271,167,939
Real Estate		267,431,185
Accrued interest, dividends, installment and rental receivables		6,707,927
Alternative Investments		50,652,596
Other investment receivables		39,954,132
Contributions receivable		1,827,024
Other receivables		92,276
Prepaid Expenses		252,117
Leasehold improvements, equipment and furniture less depreciation		<u>573,628</u>
TOTAL ASSETS	\$	2,768,392,251

Reserves and Liabilities

Current liabilities	\$	63,663,499
Member deposits		226,946,787
Employers advance reserve		558,650,009
Retired members' reserve		868,375,917
Cost-of-living reserve		741,107,125
Smoothed Market Value - Valuation Portion		114,581,216
Post retirement death benefit reserve		11,585,380
\$ Power COL Supplement and Prefund		35,163,270
Restricted		
a. Statutory reserve		27,683,923
b. Board designated		
i. Contingency reserve		27,683,923
ii. Paulson Settlement Designation		53,087,977
iii. Excess Earnings from December 31, 1998		30,133,228
iv. Excess Earnings from December 31, 1999		188,291,500
v. Excess Earnings from December 31, 2000		98,407,865
c. Actuarial Transfer Designation		16,100,498
d. Retiree Health Benefit Transfer Designation		<u>4,637,588</u>
e. Total Restricted		446,026,502
Investment in fixed assets		0
Unrestricted		87,740,871
Market Stabilization Reserve		<u>-385,448,325</u>
TOTAL LIABILITIES	\$	2,768,392,251

Note: The Paulson Settlement Designation has not been adjusted for the Paulson transfers.

1941
1942
1943
1944
1945
1946
1947
1948
1949
1950

1941
1942
1943
1944
1945
1946
1947
1948
1949
1950

1951
1952
1953
1954
1955
1956
1957
1958
1959
1960

1951
1952
1953
1954
1955
1956
1957
1958
1959
1960

1961
1962
1963
1964
1965
1966
1967
1968
1969
1970

1961
1962
1963
1964
1965
1966
1967
1968
1969
1970

1971
1972
1973
1974
1975

1971
1972
1973
1974
1975

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>
<i>County and Districts</i>		
General Tier 1	15.96%	\$16,921,000
General Tier 2	9.04%	\$14,302,000
General Tier 3	9.58%	\$14,822,000
Safety	20.05%	\$25,447,000

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

1. The first part of the document is a list of names and addresses.

2. The second part of the document is a list of names and addresses.

3. The third part of the document is a list of names and addresses.

4. The fourth part of the document is a list of names and addresses.

5. The fifth part of the document is a list of names and addresses.

6. The sixth part of the document is a list of names and addresses.

7. The seventh part of the document is a list of names and addresses.

8. The eighth part of the document is a list of names and addresses.

9. The ninth part of the document is a list of names and addresses.

10. The tenth part of the document is a list of names and addresses.

11. The eleventh part of the document is a list of names and addresses.

12. The twelfth part of the document is a list of names and addresses.

13. The thirteenth part of the document is a list of names and addresses.

14. The fourteenth part of the document is a list of names and addresses.

15. The fifteenth part of the document is a list of names and addresses.

16. The sixteenth part of the document is a list of names and addresses.

17. The seventeenth part of the document is a list of names and addresses.

18. The eighteenth part of the document is a list of names and addresses.

19. The nineteenth part of the document is a list of names and addresses.

20. The twentieth part of the document is a list of names and addresses.

21. The twenty-first part of the document is a list of names and addresses.

22. The twenty-second part of the document is a list of names and addresses.

23. The twenty-third part of the document is a list of names and addresses.

24. The twenty-fourth part of the document is a list of names and addresses.

25. The twenty-fifth part of the document is a list of names and addresses.

26. The twenty-sixth part of the document is a list of names and addresses.

27. The twenty-seventh part of the document is a list of names and addresses.

28. The twenty-eighth part of the document is a list of names and addresses.

29. The twenty-ninth part of the document is a list of names and addresses.

30. The thirtieth part of the document is a list of names and addresses.

31. The thirty-first part of the document is a list of names and addresses.

32. The thirty-second part of the document is a list of names and addresses.

33. The thirty-third part of the document is a list of names and addresses.

34. The thirty-fourth part of the document is a list of names and addresses.

35. The thirty-fifth part of the document is a list of names and addresses.

36. The thirty-sixth part of the document is a list of names and addresses.

37. The thirty-seventh part of the document is a list of names and addresses.

38. The thirty-eighth part of the document is a list of names and addresses.

39. The thirty-ninth part of the document is a list of names and addresses.

40. The fortieth part of the document is a list of names and addresses.

41. The forty-first part of the document is a list of names and addresses.

42. The forty-second part of the document is a list of names and addresses.

43. The forty-third part of the document is a list of names and addresses.

44. The forty-fourth part of the document is a list of names and addresses.

45. The forty-fifth part of the document is a list of names and addresses.

46. The forty-sixth part of the document is a list of names and addresses.

47. The forty-seventh part of the document is a list of names and addresses.

ACTUARIAL BALANCE SHEET

(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 (which can be negative) arises from accumulated prior contributions that were either less or more 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>
<i>County</i>		
General Tier 1	4.10%	\$2,921,000
General Tier 2	5.55%	\$8,743,000
General Tier 3	5.34%	\$8,245,000
Safety	2.99%	\$2,320,000
<i>Districts</i>		
General Tier 1	11.01%	\$3,828,000
General Tier 2	11.49%	\$77,000
General Tier 3	12.37%	\$39,000
Safety	12.39%	\$6,111,000

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

Dear Sir,
I am writing to you regarding the...
I have been informed that...
I am sure you will find this...
I look forward to your...
Yours faithfully,
[Signature]

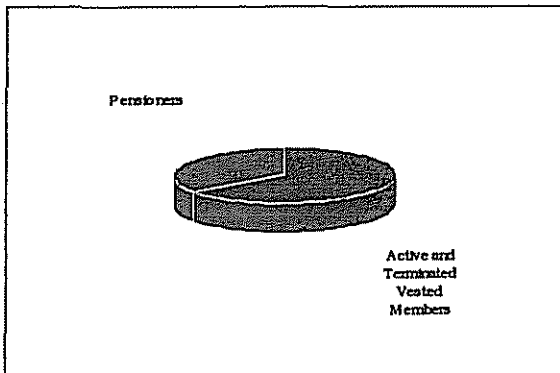
1. The first point to note is...
2. The second point is...
3. The third point is...
4. The fourth point is...
5. The fifth point is...
6. The sixth point is...
7. The seventh point is...
8. The eighth point is...
9. The ninth point is...
10. The tenth point is...

ACTUARIAL BALANCE SHEET

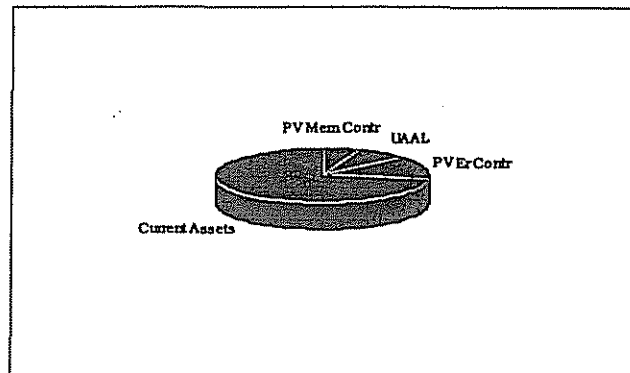
The following chart illustrates the breakdown of Balance Sheet assets and liabilities of the Association. It shows that 35% of the Association's liabilities are due to the retired members and their beneficiaries and 65% to active members. About 72% of Association assets consist of current available assets with 28% consisting of future contributions from the employer and the members.

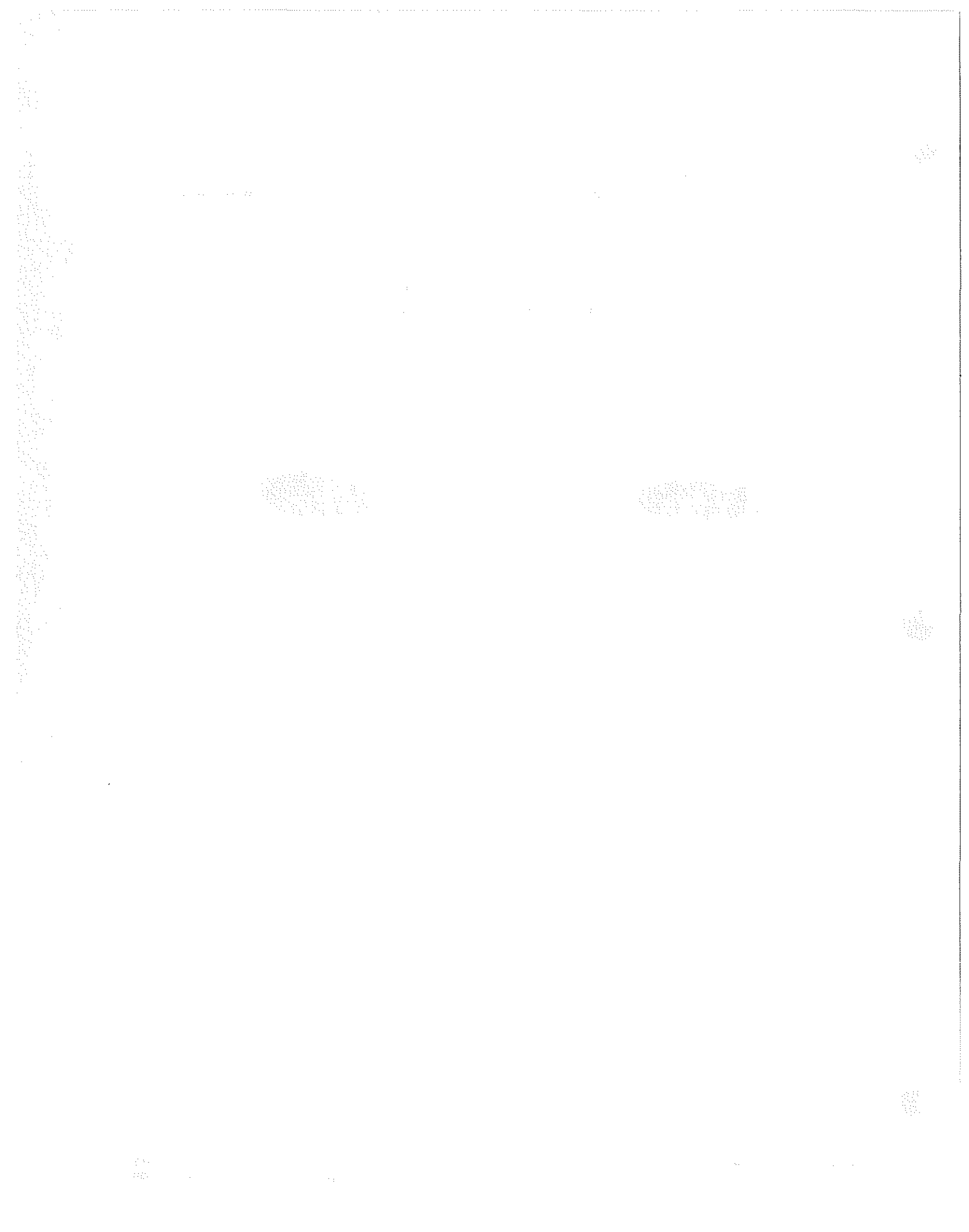
Chart 9
Actuarial Balance Sheet
As of December 31, 2001

LIABILITIES



ASSETS





ACTUARIAL BALANCE SHEET

Actuarial Balance Sheet*
(As Of December 31 2001)

ASSETS			
	<u>Basic</u>	<u>COL</u>	<u>Total</u>
1. Total Assets at Actuarial Value (gross of current liabilities)	\$2,345,025,910	\$808,814,666	\$3,153,840,576
2. Present Value of Future Member Contributions	126,951,703	111,939,812	238,891,515
3. Present Value of Future Employer Contributions on Account of:			
a) Normal Cost	474,613,508	106,294,243	580,907,751
b) Contributions receivable from Employer to pay Paulson Liabilities	9,145,255	6,162,709	15,307,964
c) Unfunded Actuarial Accrued Liability	<u>174,020,951</u>	<u>196,310,012</u>	<u>370,330,963</u>
Total Actuarial Assets	<u>\$3,129,757,327</u>	<u>\$1,229,521,442</u>	<u>\$4,359,278,769</u>
LIABILITIES			
5. Present Value of Retirement Allowances Payable	\$898,275,493	\$635,307,398	\$1,533,582,891
6. Present Value of Retirement Allowances to be Granted for:			
a) Service Retirement	1,401,098,668	493,490,467	1,894,589,135
b) Disability Retirement	241,348,360	87,589,274	328,937,634
7. Present Value of Death Benefits to be Granted for:			
a) Lump Sum and Return of Contributions	0	0	0
b) Death While Eligible to Retire	22,012,606	7,960,557	29,973,163
c) Duty Death	3,961,723	1,474,701	5,436,424
8. Present Value of Members' Contributions to be Returned Upon Withdrawal Before Retirement	7,132,202	3,699,045	10,831,247
9. Post-Retirement Death Benefit	11,585,380	0	11,585,380
10. Unrestricted earnings	87,740,871	0	87,740,871
11. Miscellaneous liabilities and reserves			
a) Current liabilities	63,663,499	0	63,663,499
b) Statutory reserve	27,683,923	0	27,683,923
c) Board designated reserve:			
i) Contingency Reserve	27,683,923	0	27,683,923
ii) Excess Earnings from December 31, 1997, 1998 and 1999	316,832,593	0	316,832,593
iii) Facilities and System Enhancements	0	0	0
iv) Capital outlay reserve	0	0	0
v) Paulson Settlement Designation	0	0	0
d) Actuarial Transfer Designation	16,100,498	0	16,100,498
e) Retiree Health Benefit Transfer Designation	4,637,588	0	4,637,588
f) Fixed Assets	0	0	0
13. Total Actuarial Liabilities	<u>\$3,129,757,327</u>	<u>\$1,229,521,442</u>	<u>\$4,359,278,769</u>

* Based on 8.35% interest rate and an average 5.71% salary scale assumptions.

Funding History

It is informative to monitor the history of key actuarial and other financial results over time as a dynamic indicator of the Association's ongoing funding progress. The following exhibit provides a eleven-year history of the following items:

- (1) Actuarial Accrued Liability (AAL)
- (2) Actuarial Value of Assets
- (3) Unfunded Actuarial Accrued Liability (UAAL)
- (4) Funding Method Progress Ratio
- (5) Investment Return Assumption
- (6) Rate of Return on Actuarial Value of Assets
- (7) Aggregate Employer Contribution Rate
- (8) Aggregate Member Contribution Rate
- (9) Total Contributions to the Association
- (10) Benefit Payments
- (11) Aggregate Contributions minus Benefit Payments
- (12) Investment Income
- (13) Aggregate Contributions plus Investment Income minus Benefit Payments

Vertical text on the left margin, possibly bleed-through from the reverse side of the page.

Faint, illegible text at the top of the page, possibly a header or title.

Main body of faint, illegible text in the center of the page.

Faint, illegible text at the bottom of the page, possibly a footer or signature.

Contra Costa County Employees' Retirement Association Funding History
(All Dollars in 1,000's)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Actuarial Valuation Date	AAL	Actuarial Value of Assets	UAAL	(2)/(1) GASB 25 Funding Ratio	Investment Return Assumption	Net Return on Actuarial Value of Assets	Employer Contribution Rate	Average Member Contribution Rate	Prior Year Total Contributions to Association	Prior Year Benefit Payments	Prior Year Free Cash Flow (9)-(10)	Prior Year Cash Investment Income	Prior Year Total Cash Flow (11)+(12)
12/31/1991	\$1,224,534	\$850,670	\$373,864	69%	8.25%	12.31%	17.13%	4.71%	\$55,947	\$48,175	\$7,772	\$75,101	\$82,873
12/31/1992	\$1,362,694	\$957,481	\$405,213	70%	8.25%	12.67%	17.62%	4.66%	\$60,588	\$54,016	\$6,572	\$93,589	\$100,161
12/31/1993 ⁽¹⁾	\$1,465,413	\$1,343,113	\$122,300	92%	8.00%	6.59%	11.40% ⁽²⁾	4.61%	\$55,831	\$59,138	(\$3,307)	\$113,909	\$110,602
12/31/1994	\$1,496,280	\$1,428,466	\$67,814	95%	8.00%	3.16%	12.62%	4.48%	\$372,671 ⁽¹⁾	\$65,894	\$306,777	\$26,373	\$333,150
12/31/1995	\$1,632,227	\$1,522,796	\$109,431	93%	8.00%	11.28%	12.93%	4.53%	\$49,062	\$69,790	(\$20,728)	\$119,579	\$98,851
12/31/1996	\$1,730,879	\$1,629,592	\$101,287	94%	8.00%	13.29%	12.76%	4.42%	\$52,789	\$80,264 ⁽⁴⁾	(\$27,476)	\$191,340	\$163,865
12/31/1997	\$1,983,394	\$1,742,014	\$241,380	88%	8.25%	16.14%	13.50%	4.54%	\$46,063	\$89,700 ⁽⁴⁾	(\$43,637)	\$230,978	\$187,341
12/31/1998 ⁽³⁾	\$2,320,315	\$1,868,621	\$451,794	81%	8.25%	17.84%	17.69%	5.20%	\$52,630	\$101,986 ⁽⁴⁾	(\$49,356)	\$337,754	\$288,398
12/31/1999	\$2,433,614	\$2,137,554	\$296,060	88%	8.50%	17.48%	17.41%	4.93%	\$63,715	\$110,002 ⁽⁴⁾	(\$46,287)	\$396,355	\$350,068
12/31/2000 ⁽⁵⁾	\$2,643,526	\$2,355,179	\$288,347	89%	8.50%	13.75%	17.50%	4.97%	\$68,450	\$147,653 ⁽⁴⁾	(\$79,203)	\$23,377	(\$55,826)
12/31/2001	\$2,983,551	\$2,613,220	\$370,331	88%	8.35%	9.73%	19.01%	5.16%	\$73,864	\$167,801 ⁽⁴⁾	(\$93,937)	(\$121,805)	(\$215,742)

- (1) Includes \$333,724 from Pension Obligation Bonds issued in 1994.
- (2) Employer Contribution Rate excluding the pension obligation bonds is 19.17%.
- (3) Includes initial recognition of Ventura pay elements, with terminal pay assumptions phased in over three years.
- (4) Includes retiree health insurance payments.
- (5) Reflects City of Pittsburg Termination

Handwritten notes at the top of the page, including the name "M. J. ...".

Vertical handwritten notes on the left side of the page, possibly a list or index.

Main body of handwritten text, organized into several columns, likely representing a ledger or data table.

CONTRA COSTA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

Solvency Test

Aggregate Accrued Liability For
(amounts in thousands)

Valuation Date	Aggregate Accrued Liability For (amounts in thousands)			Total	Actuarial Value of Assets	Portion of Accrued Liability Covered by Reported Assets		
	(1)	(2)	(3)			(1)	(2)	(3)
	Active Member Contributions	Retired Members and Beneficiaries	Vested Terminated and Active Members (Employer Financed Portion)					
12/31/1994	\$ 166,906	\$ 672,212	\$ 657,162	\$ 1,496,280	\$1,428,466	100%	100%	90%
12/31/1995	\$ 179,818	\$ 790,640	\$ 661,769	\$ 1,632,227	\$1,522,796	100%	100%	83%
12/31/1996	\$ 193,790	\$ 860,929	\$ 676,160	\$ 1,730,879	\$1,629,592	100%	100%	85%
12/31/1997	\$ 206,642	\$ 944,701	\$ 832,051	\$ 1,983,394	\$1,742,014	100%	100%	71%
12/31/1998	\$ 210,483	\$ 1,070,102	\$ 1,039,720	\$ 2,320,305	\$1,868,521	100%	100%	57%
12/31/1999	\$ 220,643	\$ 1,189,931	\$ 1,023,040	\$ 2,433,614	\$2,137,554	100%	100%	71%
12/31/2000	\$ 235,308	\$ 1,279,927	\$ 1,128,291	\$ 2,643,526	\$2,355,179	100%	100%	74%
12/31/2001	\$ 242,385	\$ 1,533,583	\$ 1,207,583	\$ 2,983,551	\$2,613,220	100%	100%	69%

\\sfonv\fs01\data\retire\lcca.pub\2002\corres\lcca-034a.doc

Vertical text on the left margin, possibly bleed-through from the reverse side of the page.

Top section of faint, illegible text.

Second section of faint, illegible text.

Third section of faint, illegible text.

Fourth section of faint, illegible text.

Fifth section of faint, illegible text.

Sixth section of faint, illegible text.

Bottom section of faint, illegible text.

Vertical text in the middle-right area, possibly bleed-through.

Small vertical text fragment.

Small vertical text fragment.

Small vertical text fragment on the right side.

Special Studies

In conjunction with the December 31, 2001 valuation, the following special studies were requested by the Board and included in the following pages:

- **Results of Policy Application**
Calculate the amounts required to carry out the Board's policy on the distributions of Unrestricted Earnings or Contingency Reserves.
- **Reduction in Contribution Rates**
Calculate the amounts required to eliminate the employer and employee COLA contributions for one year.

The transfers required (and the Resultant Contribution rates) to reduce the employer and employee rates are provided in Tables A through F.

Table A
Summary of CCCERA Excess Earnings Policy Application
For New Contribution Rates Effective January 1, 2003
(For Entire Calendar Year)

	<u>Transfer Assuming New</u> <u>Rates Effective January 1, 2003</u>	
Employee Transfer		
General Tier 1	\$	3,082,000
General Tier 2		1,959,000
General Tier 3		3,008,000
Safety		<u>4,903,000</u>
Subtotal	\$	12,952,000
Employer COLA Transfer (County)		
General Tier 1	\$	5,266,000
General Tier 2		10,350,000
General Tier 3		10,330,000
Safety		<u>7,977,000</u>
Subtotal	\$	33,923,000
Limited to Actual COLA Contribution	\$	22,233,000
Employer COLA Transfer (District)		
General Tier 1	\$	2,570,000
General Tier 2		44,000
General Tier 3		21,000
Safety		<u>5,070,000</u>
Subtotal	\$	7,705,000
Employer Basic Transfer (County Only)		
General Tier 1	\$	2,188,000
General Tier 2		3,307,000
General Tier 3		3,355,000
Safety		<u>2,840,000</u>
Subtotal	\$	<u>11,690,000</u>
Total	\$	<u>54,580,000</u>

Vertical text on the left margin, possibly bleed-through or a list of items.

Section header at the top center of the page.

Text block in the upper left quadrant.

Text block in the upper left quadrant, below the first one.

Text block in the upper right quadrant.

Text block in the middle left quadrant.

Text block in the middle right quadrant.

Text block in the lower middle left quadrant.

Text block in the lower middle right quadrant.

Text block in the lower left quadrant.

Text block in the lower right quadrant.

Text block at the bottom left of the main content area.



Table B
Employer Contribution Rates* With Board of Retirement Transfer**
 (As a Percentage of Payroll)
 BEFORE ADJUSTING COUNTY RATES TO PRE-POB CONDITION
 For Year 2003

COUNTY	Basic Without Employer Subvention	Basic With 50% Employer Subvention	COL Without Transfer	Net COL With Board of Retirement Transfer	Basic & COL with Board of Retirement Transfer
General Tier 1	11.90%	14.70%	5.36%	0.00%	14.70%
General Tier 2	8.86%	10.05%	4.54%	0.00%	10.05%
General Tier 3	7.17%	10.40%	4.52%	0.00%	10.40%
Safety	13.80%	17.52%	5.52%	0.00%	17.52%
Total	9.60%	12.14%	4.82%	0.00%	12.14%
DISTRICTS					
General Tier 1	16.78%	19.58%	7.39%	0.00%	19.58%
General Tier 2	12.77%	13.96%	6.57%	0.00%	13.96%
General Tier 3	12.03%	15.26%	6.69%	0.00%	15.26%
Safety	18.44%	22.16%	10.28%	0.00%	22.16%
Total	17.69%	21.02%	9.06%	0.00%	21.02%

Annual Contribution Amount**					
COUNTY					
General Tier 1	\$ 8,479,000	\$ 10,474,000	\$ 3,819,000	\$ -	\$ 10,474,000
General Tier 2	\$ 13,958,000	\$ 15,832,000	\$ 7,152,000	\$ -	\$ 15,832,000
General Tier 3	\$ 11,071,000	\$ 16,059,000	\$ 6,979,000	\$ -	\$ 16,059,000
Safety	\$ 10,708,000	\$ 13,595,000	\$ 4,283,000	\$ -	\$ 13,595,000
Subtotal	\$ 44,216,000	\$ 55,960,000	\$ 22,233,000	\$ -	\$ 55,960,000
DISTRICTS					
General Tier 1	\$ 5,834,000	\$ 6,808,000	\$ 2,570,000	\$ -	\$ 6,808,000
General Tier 2	\$ 86,000	\$ 94,000	\$ 44,000	\$ -	\$ 94,000
General Tier 3	\$ 37,000	\$ 48,000	\$ 21,000	\$ -	\$ 48,000
Safety	\$ 9,095,000	\$ 10,930,000	\$ 5,070,000	\$ -	\$ 10,930,000
Subtotal	\$ 15,052,000	\$ 17,880,000	\$ 7,705,000	\$ -	\$ 17,880,000
Total	\$ 59,268,000	\$ 73,840,000	\$ 29,938,000	\$ -	\$ 73,840,000

Based on 12/31/2001 annual salaries adjusted for inflation to 12/31/2002:

	<u>General Tier 1</u>	<u>General Tier 2</u>	<u>General Tier 3</u>	<u>Safety</u>	<u>Total</u>
County	\$ 71,254,875	\$ 157,538,345	\$ 154,409,888	\$ 77,596,403	\$ 460,797,510
Districts	\$ 34,770,503	\$ 673,455	\$ 311,708	\$ 49,322,760	\$ 85,078,425
Total	\$ 106,025,378	\$ 158,209,800	\$ 154,721,595	\$ 126,919,163	\$ 545,875,935

* Based on 8.35% investment return assumption and 5.71% salary scale.

** Assumes contribution rates effective January 1, 2003.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice.

2. The second part details the various methods used to collect and analyze data. This includes both manual and automated processes, ensuring that the information gathered is reliable and up-to-date.

3. The third section focuses on the implementation of quality control measures. It outlines the steps taken to minimize errors and ensure that the final output meets the highest standards of accuracy.

4. The fourth part addresses the challenges faced during the process and the strategies employed to overcome them. It highlights the need for clear communication and collaboration among all team members.

5. Finally, the document concludes with a summary of the key findings and recommendations for future projects. It stresses the importance of continuous improvement and staying abreast of the latest industry trends.

Table C
Employer Contribution Rates* With Board of Retirement Transfer**
 (As a Percentage of Payroll)
AFTER ADJUSTING COUNTY RATES TO PRE-POB CONDITION
 For Year 2003

COUNTY	Basic Without Employer Subvention	Basic With 50% Employer Subvention	COL Without Transfer	Net COL With Board of Retirement Transfer	Basic & COL with Board of Retirement Transfer
General Tier 1	16.78%	19.58%	7.39%	0.00%	19.58%
General Tier 2	12.77%	13.96%	6.57%	0.00%	13.96%
General Tier 3	12.03%	15.26%	6.69%	0.00%	15.26%
Safety	18.44%	22.16%	10.28%	0.00%	22.16%
Total	14.10%	16.65%	7.36%	0.00%	16.65%
DISTRICTS					
General Tier 1	16.78%	19.58%	7.39%	0.00%	19.58%
General Tier 2	12.77%	13.96%	6.57%	0.00%	13.96%
General Tier 3	12.03%	15.26%	6.69%	0.00%	15.26%
Safety	18.44%	22.16%	10.28%	0.00%	22.16%
Total	17.69%	21.02%	9.06%	0.00%	21.02%

Annual Contribution Amount**					
COUNTY					
General Tier 1	\$ 11,957,000	\$ 13,952,000	\$ 5,266,000	\$ -	\$ 13,952,000
General Tier 2	\$ 20,117,000	\$ 21,992,000	\$ 10,350,000	\$ -	\$ 21,992,000
General Tier 3	\$ 18,576,000	\$ 23,563,000	\$ 10,330,000	\$ -	\$ 23,563,000
Safety	\$ 14,309,000	\$ 17,195,000	\$ 7,977,000	\$ -	\$ 17,195,000
Subtotal	\$ 64,959,000	\$ 76,702,000	\$ 33,923,000	\$ -	\$ 76,702,000
DISTRICTS					
General Tier 1	\$ 5,834,000	\$ 6,808,000	\$ 2,570,000	\$ -	\$ 6,808,000
General Tier 2	\$ 86,000	\$ 94,000	\$ 44,000	\$ -	\$ 94,000
General Tier 3	\$ 37,000	\$ 48,000	\$ 21,000	\$ -	\$ 48,000
Safety	\$ 9,095,000	\$ 10,930,000	\$ 5,070,000	\$ -	\$ 10,930,000
Subtotal	\$ 15,052,000	\$ 17,880,000	\$ 7,705,000	\$ -	\$ 17,880,000
Total	\$ 80,011,000	\$ 94,582,000	\$ 41,628,000	\$ -	\$ 94,582,000

Based on 12/31/2001 annual salaries adjusted for inflation to 12/31/2002:

	<u>General Tier 1</u>	<u>General Tier 2</u>	<u>General Tier 3</u>	<u>Safety</u>	<u>Total</u>
County	\$ 71,254,875	\$ 157,536,345	\$ 154,409,888	\$ 77,596,403	\$ 460,797,510
Districts	\$ 34,770,503	\$ 673,455	\$ 311,708	\$ 49,322,760	\$ 85,078,425
Total	\$106,025,378	\$ 158,209,800	\$ 154,721,595	\$ 126,919,163	\$ 545,875,935

* Based on 8.35% investment return assumption and 5.71% salary scale.

** Assumes contribution rates effective January 1, 2003.

Table D
Employee Contribution Rates* With Board of Retirement Transfer**
 (As a Percentage of Payroll)
 For Year 2003

	<u>Basic Without Employer Subvention</u>	<u>Basic With 50% Employer Subvention</u>	<u>COL Without Transfer</u>	<u>Net COL With Board of Retirement Transfer</u>	<u>Basic & COL with County & Board of Retirement Transfer</u>
General Tier 1	5.65%	2.82%	2.93%	0.00%	2.82%
General Tier 2	2.66%	1.33%	1.38%	0.00%	1.33%
General Tier 3	6.52%	3.26%	1.96%	0.00%	3.26%
Safety	7.60%	3.80%	3.95%	0.00%	3.80%
Total	5.48%	2.74%	2.44%	0.00%	2.74%
Annual Contribution Amount**					
General Tier 1	\$ 5,986,000	\$ 2,993,000	\$ 3,108,000	\$ -	\$ 2,993,000
General Tier 2	\$ 4,208,000	\$ 2,104,000	\$ 2,185,000	\$ -	\$ 2,104,000
General Tier 3	\$ 10,088,000	\$ 5,044,000	\$ 3,029,000	\$ -	\$ 5,044,000
Safety	\$ 9,646,000	\$ 4,823,000	\$ 5,008,000	\$ -	\$ 4,823,000
Total	\$ 29,928,000	\$ 14,964,000	\$ 13,330,000	\$ -	\$ 14,964,000

Based on 12/31/2001 annual salaries adjusted for inflation to 12/31/2002:

	<u>General Tier 1</u>	<u>General Tier 2</u>	<u>General Tier 3</u>	<u>Safety</u>	<u>Total</u>
County	\$ 71,254,875	\$ 157,536,345	\$ 154,409,888	\$ 77,596,403	\$ 460,797,510
Districts	\$ 34,770,503	\$ 673,455	\$ 311,708	\$ 49,322,760	\$ 85,078,425
Total	\$106,025,378	\$ 158,209,800	\$ 154,721,595	\$ 126,919,163	\$ 545,875,935

* Based on 8.35% investment return assumption and 5.71% salary scale.

** Transfer amount on refundable basis. Assumes adoption of rates effective on January 1, 2003

*** Transfer amount on nonrefundable basis is: \$12,952,000

Year	1950	1951	1952	1953	1954
Population	1,000,000	1,050,000	1,100,000	1,150,000	1,200,000
Area (sq. miles)	100,000	100,000	100,000	100,000	100,000
Population Density	10	10.5	11	11.5	12
Urban Population	500,000	550,000	600,000	650,000	700,000
Rural Population	500,000	500,000	500,000	500,000	500,000
Urban Density	5	5.5	6	6.5	7
Rural Density	5	5	5	5	5
Urban Area (sq. miles)	100,000	100,000	100,000	100,000	100,000
Rural Area (sq. miles)	100,000	100,000	100,000	100,000	100,000
Urban Growth	0	50,000	100,000	150,000	200,000
Rural Change	0	0	0	0	0
Urban Density Change	0	0.5	1	1.5	2
Rural Density Change	0	0	0	0	0
Urban Area Change	0	0	0	0	0
Rural Area Change	0	0	0	0	0



**Table E - Components of Employer Contribution Rates
Before COLA Transfer**
From December 31, 2001 Valuation - For Year 2003
4.25%, 8.35% Interest and 5.71% Salary Scale Assumptions

	County				Districts			
	Normal Cost	+	UAAL	= Total	Normal Cost	+	UAAL	= Total
General Tier 1 (Aggregate)								
Basic	10.49%		1.41%	11.90%	10.49%		6.29%	16.78%
Subvention	<u>2.80%</u>		<u>0.00%</u>	<u>2.80%</u>	<u>2.80%</u>		<u>0.00%</u>	<u>2.80%</u>
Basic + Subvention	13.29%		1.41%	14.70%	13.29%		6.29%	19.58%
COL	<u>2.67%</u>		<u>2.69%</u>	<u>5.36%</u>	<u>2.67%</u>		<u>4.72%</u>	<u>7.39%</u>
Total	15.96%		4.10%	20.06%	15.96%		11.01%	26.97%
General Tier 1 (Under \$350)								
Basic	7.15%		0.97%	8.12%	7.15%		4.30%	11.45%
Subvention	<u>1.90%</u>		<u>0.00%</u>	<u>1.90%</u>	<u>1.90%</u>		<u>0.00%</u>	<u>1.90%</u>
Basic + Subvention	9.05%		0.97%	10.02%	9.05%		4.30%	13.35%
COL	<u>1.83%</u>		<u>1.82%</u>	<u>3.65%</u>	<u>1.83%</u>		<u>3.22%</u>	<u>5.05%</u>
Total	10.88%		2.79%	13.67%	10.88%		7.52%	18.40%
General Tier 1 (Over \$350)								
Basic	10.72%		1.45%	12.17%	10.72%		6.44%	17.16%
Subvention	<u>2.86%</u>		<u>0.00%</u>	<u>2.86%</u>	<u>2.86%</u>		<u>0.00%</u>	<u>2.86%</u>
Basic + Subvention	13.58%		1.45%	15.03%	13.58%		6.44%	20.02%
COL	<u>2.74%</u>		<u>2.74%</u>	<u>5.48%</u>	<u>2.74%</u>		<u>4.83%</u>	<u>7.57%</u>
Total	16.32%		4.19%	20.51%	16.32%		11.27%	27.59%
General Tier 2								
Basic	6.00%		2.86%	8.86%	6.00%		6.77%	12.77%
Subvention	<u>1.19%</u>		<u>0.00%</u>	<u>1.19%</u>	<u>1.19%</u>		<u>0.00%</u>	<u>1.19%</u>
Basic + Subvention	7.19%		2.86%	10.05%	7.19%		6.77%	13.96%
COL	<u>1.85%</u>		<u>2.69%</u>	<u>4.54%</u>	<u>1.85%</u>		<u>4.72%</u>	<u>6.57%</u>
Total	9.04%		5.55%	14.59%	9.04%		11.49%	20.53%
Safety								
Basic	12.98%		0.82%	13.80%	12.98%		5.46%	18.44%
Subvention	<u>3.72%</u>		<u>0.00%</u>	<u>3.72%</u>	<u>3.72%</u>		<u>0.00%</u>	<u>3.72%</u>
Basic + Subvention	16.70%		0.82%	17.52%	16.70%		5.46%	22.16%
COL	<u>3.35%</u>		<u>2.17%</u>	<u>5.52%</u>	<u>3.35%</u>		<u>6.93%</u>	<u>10.28%</u>
Total	20.05%		2.99%	23.04%	20.05%		12.39%	32.44%

1
 2
 3
 4
 5
 6
 7
 8
 9
 10
 11
 12
 13
 14
 15
 16
 17
 18
 19
 20
 21
 22
 23
 24
 25
 26
 27
 28
 29
 30
 31
 32
 33
 34
 35
 36
 37
 38
 39
 40
 41
 42
 43
 44
 45
 46
 47
 48
 49
 50
 51
 52
 53
 54
 55
 56
 57
 58
 59
 60
 61
 62
 63
 64
 65
 66
 67
 68
 69
 70
 71
 72
 73
 74
 75
 76
 77
 78
 79
 80
 81
 82
 83
 84
 85
 86
 87
 88
 89
 90
 91
 92
 93
 94
 95
 96
 97
 98
 99
 100

Account	Balance	Debit	Credit	Balance	Account	Balance
1000	1000.00			1000.00	1000	1000.00
1001		1000.00			1001	
1002			1000.00		1002	
1003					1003	
1004					1004	
1005					1005	
1006					1006	
1007					1007	
1008					1008	
1009					1009	
1010					1010	
1011					1011	
1012					1012	
1013					1013	
1014					1014	
1015					1015	
1016					1016	
1017					1017	
1018					1018	
1019					1019	
1020					1020	
1021					1021	
1022					1022	
1023					1023	
1024					1024	
1025					1025	
1026					1026	
1027					1027	
1028					1028	
1029					1029	
1030					1030	
1031					1031	
1032					1032	
1033					1033	
1034					1034	
1035					1035	
1036					1036	
1037					1037	
1038					1038	
1039					1039	
1040					1040	
1041					1041	
1042					1042	
1043					1043	
1044					1044	
1045					1045	
1046					1046	
1047					1047	
1048					1048	
1049					1049	
1050					1050	
1051					1051	
1052					1052	
1053					1053	
1054					1054	
1055					1055	
1056					1056	
1057					1057	
1058					1058	
1059					1059	
1060					1060	
1061					1061	
1062					1062	
1063					1063	
1064					1064	
1065					1065	
1066					1066	
1067					1067	
1068					1068	
1069					1069	
1070					1070	
1071					1071	
1072					1072	
1073					1073	
1074					1074	
1075					1075	
1076					1076	
1077					1077	
1078					1078	
1079					1079	
1080					1080	
1081					1081	
1082					1082	
1083					1083	
1084					1084	
1085					1085	
1086					1086	
1087					1087	
1088					1088	
1089					1089	
1090					1090	
1091					1091	
1092					1092	
1093					1093	
1094					1094	
1095					1095	
1096					1096	
1097					1097	
1098					1098	
1099					1099	
1100					1100	

**Table E (Continued) - Components of Employer Contribution Rates
Before COLA Transfer**
From December 31, 2001 Valuation - For Year 2003
4.25%, 8.35% Interest and 5.71% Salary Scale Assumptions

	County				Districts			
	Normal Cost	+	UAAL	= Total	Normal Cost	+	UAAL	= Total
General Tier 3 (Aggregate)								
Basic	4.52%		2.65%	7.17%	4.52%		7.51%	12.03%
Subvention	3.23%		0.00%	3.23%	3.23%		0.00%	3.23%
Basic + Subvention	7.75%		2.65%	10.40%	7.75%		7.51%	15.26%
COL	1.83%		2.69%	4.52%	1.83%		4.86%	6.69%
Total	9.58%		5.34%	14.92%	9.58%		12.37%	21.95%
General Tier 3 (Under \$350)								
Basic	3.08%		1.82%	4.90%	3.08%		5.13%	8.21%
Subvention	2.20%		0.00%	2.20%	2.20%		0.00%	2.20%
Basic + Subvention	5.28%		1.82%	7.10%	5.28%		5.13%	10.41%
COL	1.25%		1.83%	3.08%	1.25%		3.32%	4.57%
Total	6.53%		3.65%	10.18%	6.53%		8.45%	14.98%
General Tier 3 (Over \$350)								
Basic	4.62%		2.72%	7.34%	4.62%		7.69%	12.31%
Subvention	3.30%		0.00%	3.30%	3.30%		0.00%	3.30%
Basic + Subvention	7.92%		2.72%	10.64%	7.92%		7.69%	15.61%
COL	1.88%		2.75%	4.63%	1.88%		4.98%	6.86%
Total	9.80%		5.47%	15.27%	9.80%		12.67%	22.47%

1951
1952
1953
1954

1955
1956
1957
1958

1959
1960
1961
1962
1963

1964
1965
1966
1967
1968

1969
1970
1971
1972
1973

1974
1975
1976
1977
1978

1979

1980

1981

1982

1983

1984

1985

1986

1987

1988

1989

1990

1991

1992

1993

1994

1995

1996

1997

1998

1999

2000

Table F - Components of Employer Contribution Rates
Components of County Contribution Rates
Before and After Retirement Board Basic and COLA Transfers
 From December 31, 2001 Valuation - For Year 2003
 4.25%, 8.35% Interest and 5.71% Salary Scale Assumptions

	County (Before Basic & COLA Transfers)				County (After Basic & COLA Transfers)			
	Normal Cost	+	UAAL	= Total	Normal Cost	+	UAAL	= Total
General Tier 1 (Aggregate)								
Basic	10.49%		1.41%	11.90%	7.71%		1.12%	8.83%
Subvention	<u>2.80%</u>		<u>0.00%</u>	<u>2.80%</u>	<u>2.80%</u>		<u>0.00%</u>	<u>2.80%</u>
Basic + Subvention	13.29%		1.41%	14.70%	10.51%		1.12%	11.63%
COL	<u>2.67%</u>		<u>2.69%</u>	<u>5.36%</u>	<u>0.00%</u>		<u>0.00%</u>	<u>0.00%</u>
Total	15.96%		4.10%	20.06%	10.51%		1.12%	11.63%
General Tier 1 (Under \$350)								
Basic	7.15%		0.97%	8.12%	5.26%		0.77%	6.03%
Subvention	<u>1.90%</u>		<u>0.00%</u>	<u>1.90%</u>	<u>1.90%</u>		<u>0.00%</u>	<u>1.90%</u>
Basic + Subvention	9.05%		0.97%	10.02%	7.16%		0.77%	7.93%
COL	<u>1.83%</u>		<u>1.82%</u>	<u>3.65%</u>	<u>0.00%</u>		<u>0.00%</u>	<u>0.00%</u>
Total	10.88%		2.79%	13.67%	7.16%		0.77%	7.93%
General Tier 1 (Over \$350)								
Basic	10.72%		1.45%	12.17%	7.88%		1.15%	9.03%
Subvention	<u>2.86%</u>		<u>0.00%</u>	<u>2.86%</u>	<u>2.86%</u>		<u>0.00%</u>	<u>2.86%</u>
Basic + Subvention	13.58%		1.45%	15.03%	10.74%		1.15%	11.89%
COL	<u>2.74%</u>		<u>2.74%</u>	<u>5.48%</u>	<u>0.00%</u>		<u>0.00%</u>	<u>0.00%</u>
Total	16.32%		4.19%	20.51%	10.74%		1.15%	11.89%
General Tier 2								
Basic	6.00%		2.86%	8.86%	4.50%		2.26%	6.76%
Subvention	<u>1.19%</u>		<u>0.00%</u>	<u>1.19%</u>	<u>1.19%</u>		<u>0.00%</u>	<u>1.19%</u>
Basic + Subvention	7.19%		2.86%	10.05%	5.69%		2.26%	7.95%
COL	<u>1.85%</u>		<u>2.69%</u>	<u>4.54%</u>	<u>0.00%</u>		<u>0.00%</u>	<u>0.00%</u>
Total	9.04%		5.55%	14.59%	5.69%		2.26%	7.95%
Safety								
Basic	12.98%		0.82%	13.80%	9.49%		0.65%	10.14%
Subvention	<u>3.72%</u>		<u>0.00%</u>	<u>3.72%</u>	<u>3.72%</u>		<u>0.00%</u>	<u>3.72%</u>
Basic + Subvention	16.70%		0.82%	17.52%	13.21%		0.65%	13.86%
COL	<u>3.35%</u>		<u>2.17%</u>	<u>5.52%</u>	<u>0.00%</u>		<u>0.00%</u>	<u>0.00%</u>
Total	20.05%		2.99%	23.04%	13.21%		0.65%	13.86%

Item	Unit	Quantity	Description	Price	Total	Remarks
1.000	kg	1.000	...	...	...	...
2.000	kg	2.000	...	...	...	...
3.000	kg	3.000	...	...	...	...
4.000	kg	4.000	...	...	...	...
5.000	kg	5.000	...	...	...	...
6.000	kg	6.000	...	...	...	...
7.000	kg	7.000	...	...	...	...
8.000	kg	8.000	...	...	...	...
9.000	kg	9.000	...	...	...	...
10.000	kg	10.000	...	...	...	...
11.000	kg	11.000	...	...	...	...
12.000	kg	12.000	...	...	...	...
13.000	kg	13.000	...	...	...	...
14.000	kg	14.000	...	...	...	...
15.000	kg	15.000	...	...	...	...
16.000	kg	16.000	...	...	...	...
17.000	kg	17.000	...	...	...	...
18.000	kg	18.000	...	...	...	...
19.000	kg	19.000	...	...	...	...
20.000	kg	20.000	...	...	...	...

Table F (Continued) - Components of Employer Contribution Rates
Components of County Contribution Rates
Before and After Retirement Board Basic and COLA Transfers
 From December 31, 2001 Valuation - For Year 2003
 4.25%, 8.35% Interest and 5.71% Salary Scale Assumptions

	County (Before Basic & COLA Transfers)				County (After Basic & COLA Transfers)			
	Normal Cost	+	UAAL	= Total	Normal Cost	+	UAAL	= Total
General Tier 3 (Aggregate)								
Basic	4.52%		2.65%	7.17%	2.90%		2.10%	5.00%
Subvention	<u>3.23%</u>		<u>0.00%</u>	<u>3.23%</u>	<u>3.23%</u>		<u>0.00%</u>	<u>3.23%</u>
Basic + Subvention	7.75%		2.65%	10.40%	6.13%		2.10%	8.23%
COL	<u>1.83%</u>		<u>2.69%</u>	<u>4.52%</u>	<u>0.00%</u>		<u>0.00%</u>	<u>0.00%</u>
Total	9.58%		5.34%	14.92%	6.13%		2.10%	8.23%
General Tier 3 (Under \$350)								
Basic	3.08%		1.82%	4.90%	1.98%		1.44%	3.42%
Subvention	<u>2.20%</u>		<u>0.00%</u>	<u>2.20%</u>	<u>2.20%</u>		<u>0.00%</u>	<u>2.20%</u>
Basic + Subvention	5.28%		1.82%	7.10%	4.18%		1.44%	5.62%
COL	<u>1.25%</u>		<u>1.83%</u>	<u>3.08%</u>	<u>0.00%</u>		<u>0.00%</u>	<u>0.00%</u>
Total	6.53%		3.65%	10.18%	4.18%		1.44%	5.62%
General Tier 3 (Over \$350)								
Basic	4.62%		2.72%	7.34%	2.97%		2.15%	5.12%
Subvention	<u>3.30%</u>		<u>0.00%</u>	<u>3.30%</u>	<u>3.30%</u>		<u>0.00%</u>	<u>3.30%</u>
Basic + Subvention	7.92%		2.72%	10.64%	6.27%		2.15%	8.42%
COL	<u>1.88%</u>		<u>2.75%</u>	<u>4.63%</u>	<u>0.00%</u>		<u>0.00%</u>	<u>0.00%</u>
Total	9.80%		5.47%	15.27%	6.27%		2.15%	8.42%

Year	1990	1991	1992	1993	1994	1995
Population	100	100	100	100	100	100
Urban	40	40	40	40	40	40
Rural	60	60	60	60	60	60
Male	50	50	50	50	50	50
Female	50	50	50	50	50	50
Age 0-14	30	30	30	30	30	30
Age 15-64	50	50	50	50	50	50
Age 65+	20	20	20	20	20	20
Population Density	100	100	100	100	100	100
Urban Density	400	400	400	400	400	400
Rural Density	20	20	20	20	20	20
Population Growth	0	0	0	0	0	0
Urban Growth	0	0	0	0	0	0
Rural Growth	0	0	0	0	0	0
Population Change	0	0	0	0	0	0
Urban Change	0	0	0	0	0	0
Rural Change	0	0	0	0	0	0

1990-1995

1990-1995

Appendices

Appendix A Major Provisions of the Pension Plan

Major Provisions of the Present System Benefit Sections 31676.11, 31676.16, 31751, 31664, and 31664.1 of the 1937 County Act

Briefly summarized below are the major provisions of the County Employees Retirement Law of 1937, as amended through December 31, 2001, and as adopted by Contra Costa County and special district employees.

A. GENERAL MEMBERS¹

Tier 1 and Tier 3 Plans (Section 31676.11)
San Ramon Fire Protection District
(Section 31676.16)

Tier 2 Plan (Section 31751)

Coverage

Tier 1:

All General members hired before August 1, 1980 and electing not to transfer to Tier 2 Plan

All General members hired on or after August 1, 1980 and all General members hired before August 1, 1980 electing to transfer to the Tier 2 Plan

Tier 3:

Tier 2 members can elect Tier 3 coverage (for future service) effective on the later of:

- October 1, 1998 or
- The day after achieving 5 years of service

San Ramon Fire Protection District (Section 31676.16):
All General employees of the San Ramon Fire Protection District.

Final Average Salary (FAS)

One year final average salary

Three year final average salary

Service Retirement

Requirement

Age 50 and 10 years of service, or with 30 years of service regardless of age.

Requirement

Age 50 and 10 years of service, or with 30 years of service regardless of age.

Benefit (Section 31676.11)

Retirement

Age	Benefit Formula
50	$(1.24\% \times \text{FAS} - 1/3 \times 1.24\% \times \$350) \times \text{Yrs.}$
55	$(1.67\% \times \text{FAS} - 1/3 \times 1.67\% \times \$350) \times \text{Yrs.}$
60	$(2.18\% \times \text{FAS} - 1/3 \times 2.18\% \times \$350) \times \text{Yrs.}$
62	$(2.35\% \times \text{FAS} - 1/3 \times 2.35\% \times \$350) \times \text{Yrs.}$
65	$(2.61\% \times \text{FAS} - 1/3 \times 2.61\% \times \$350) \times \text{Yrs.}$

Benefit

Retirement

Age	Benefit Formula
50	$(0.83\% \times \text{FAS} \times \text{Yrs.} - 0.57\% \times \text{Yrs.} \times \text{PIA})$
55	$(1.13\% \times \text{FAS} \times \text{Yrs.} - 0.87\% \times \text{Yrs.} \times \text{PIA})$
60	$(1.43\% \times \text{FAS} \times \text{Yrs.} - 1.37\% \times \text{Yrs.} \times \text{PIA})$
62	$(1.55\% \times \text{FAS} \times \text{Yrs.} - 1.67\% \times \text{Yrs.} \times \text{PIA})$
65	$(1.73\% \times \text{FAS} \times \text{Yrs.} - 1.67\% \times \text{Yrs.} \times \text{PIA})$

Maximum Benefit 100% of FAS

* Not greater than 30 years, where PIA is the Social Security Primary Insurance Amount.

¹ San Ramon Fire Protection District has already adopted improved benefits for their General and Safety Members under 2% at 55 and 3% at 50 formulas, respectively.

The first part of the document discusses the importance of maintaining accurate records. It emphasizes that proper record-keeping is essential for ensuring the integrity and reliability of the data collected. This section also outlines the various methods used to collect and analyze the data, highlighting the challenges faced during the process.

In the second part, the focus shifts to the results of the study. The data shows a clear trend towards... The findings indicate that... This suggests that... The overall conclusion is that...

The third part of the document provides a detailed analysis of the data. It examines the relationship between... and... The results show a strong correlation between... and... This is supported by the statistical analysis conducted.

Finally, the document concludes with a summary of the key findings and their implications. It suggests that... and... These findings have significant implications for... and... Further research is needed to explore...

Tier 1 and Tier 3 Plans (Section 31676.11)
San Ramon Fire Protection District
(Section 31676.16)

Tier 2 Plan (Section 31751)

Benefit (Section 31676.16)

Retirement

Age	Benefit Formula
50	$(1.43\% \times \text{FAS} - 1/3 \times 1.43\% \times \$350) \times \text{YRS}$
55	$(2.00\% \times \text{FAS} - 1/3 \times 2.00\% \times \$350) \times \text{YRS}$
60	$(2.26\% \times \text{FAS} - 1/3 \times 2.26\% \times \$350) \times \text{YRS}$
62	$(2.37\% \times \text{FAS} - 1/3 \times 2.37\% \times \$350) \times \text{YRS}$
65	$(2.42\% \times \text{FAS} - 1/3 \times 2.42\% \times \$350) \times \text{YRS}$

Maximum Benefit - 100% of FAS

Disability Retirement

Tier 1 and San Ramon Fire Protection District:

Requirements

- (1) Service-connected: None
- (2) Nonservice-connected: five years of service

Benefit

- (1) Service-connected. 50% FAS or Service Retirement benefit, if greater.
- (2) Nonservice-connected. $1-1/2\% \times \text{FAS} \times \text{years of service}$. If the benefit does not exceed one-third of FAS, the service is projected to 65, but total benefit cannot be more than one-third of FAS.

Tier 3:

Tier 3 and Tier 2 disability benefits are identical.

Death Before Retirement

Before eligible to retire for disability (Less than five years).

- (1) One month's salary for each year of service
- (2) Return of contributions

While eligible to retire (after five years) 60% of Service or Disability Retirement Benefit. Generally the benefit is 20% of FAS.

Line of duty death - 50% of FAS

Requirements

- (1) Service-connected: None
- (2) Nonservice-connected: ten years of service
- (3) Definition of disability is more strict than in Tier 1 Plan

Benefit

- (1) Service-connected or nonservice-connected is 40% FAS plus 10% FAS for each minor child (maximum of three).
- (2) Disability benefits are offset by other plans of the County except Workers Compensation and Social Security.

Before eligible to retire (less than ten years).

- (1) \$2,000 lump sum benefit offset by any Social Security payment
- (2) Return of contributions

While eligible to retire (ten years or service-connected death) 60% of Service or Disability Retirement Benefit (minimum benefit is 24% of FAS) plus, for each minor child, 20% of the allowance otherwise paid to the member. Minimum family benefit is 60% of the member's allowance. Maximum family benefit is 100% of member's allowance.

1944
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954
1955
1956
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025

1944
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954
1955
1956
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025

1944
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954
1955
1956
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025

1944
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954
1955
1956
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025



Tier 1 and Tier 3 Plans (Section 31676.11)
San Ramon Fire Protection District
(Section 31676.16)

Tier 2 Plan (Section 31751)

Death After Retirement

After Service Retirement or Nonservice-Connected Disability - 60% of the allowance continued to the spouse or to minor children

After Service-Connected Disability - 100% of the allowance continued to the spouse or to minor children

Lump sum payment of \$1,000

Withdrawal Benefits

If less than five years of service, return of contributions

If greater than five years of service, right to have vested deferred retirement benefit

Cost of Living Benefit

3% maximum change per year except for Tier 3 disability benefits which can increase 4% per year

Employees' Contribution¹ Rates

Basic - to provide for 1/2 of the Section 31676.11 benefit at age 55

COL - to pay for 1/2 of future COL costs

Employer Contribution Rates

Enough to make up for the balance of the basic and COL contributions needed

After Service or Disability Retirement

(1) 60% of allowance continued to spouse plus 20% of allowance to each minor child. Minimum benefit is 60% of allowance. Maximum benefit is 100% of allowance.

(2) Lump sum payment of \$3,000 less any Social Security Lump sum payment

If less than five years of service, return of contributions

If greater than five years of service, right to have vested deferred retirement benefit

4% maximum change per year

40% of the full Section 31676.11 employee contribution rate

COL - to pay for 1/2 of future COL costs

Enough to make up the balance of the basic and COL contributions needed

Transfers from the Tier 1 Plan to the Tier 2 Plan were made on an individual voluntary irrevocable basis. Credit is given under the Tier 2 Plan for future service only. The COL maximum is 4% only for the credit under the Tier 2 Plan. Transferred Tier 2 Plan members keep the five year requirement for nonservice-connected disability. Those who were members before April 1, 1973 will be exempt from paying member contributions after 30 years of service.

¹ We are working with the Retirement Association in developing the assumptions required to determine contribution rates for the enhanced 2% at 55 benefits. Members of San Ramon Fire Protection District will continue to pay the contribution rates determined for Tier 1 formula until new contribution rates for the enhanced 2% at 55 benefits are developed.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the smooth operation of any business and for the protection of its interests.

2. The second part of the document outlines the various methods and procedures for recording transactions. It provides detailed instructions on how to set up a system of accounts and how to record each transaction in a clear and concise manner.

3. The third part of the document discusses the importance of regular audits and reviews of the records. It explains how audits can help to identify errors and discrepancies and how they can be used to improve the accuracy and reliability of the records.

4. The fourth part of the document provides a summary of the key points discussed in the previous sections. It reiterates the importance of accurate record-keeping and provides a checklist of the steps that should be followed to ensure that the records are maintained properly.

5. The fifth part of the document contains a list of references and sources of information that were used in the preparation of the document. It includes books, articles, and other publications that provide further information on the topics discussed in the document.

B. SAFETY MEMBERS

Coverage

All Safety members

Final Average Salary (FAS)

One year final average salary

Service Retirement**Requirement**

Age 50 and 10 years of service, or with 20 years of service, or with 20 years of service regardless of age.

Benefit at Retirement (Section 31664)- (for all members except employees from San Ramon Fire Protection District)

Age	Benefit Formula
50	2.00% x FAS x Yrs.
55	2.62% x FAS x Yrs.
60	2.62% x FAS x Yrs.

For Employees of San Ramon Fire Protection District (Section 31664.1)

Age	Benefit Formula
50	3.00% x FAS x Yrs.
55	3.00% x FAS x Yrs.
60	3.00% x FAS x Yrs.

Maximum Benefit: 100% of FAS

Disability Retirement**Requirements**

- (1) Service-connected: None
- (2) Nonservice-connected: five years of service

Benefit

- (1) Service-connected. 50% FAS or Service Retirement benefit if greater
- (2) Nonservice-connected.
1.8% x FAS x years of service. Future service years projected to age 55. Generally leads to 1/3 FAS benefit.

Death Before Retirement**Before eligible** to retire (less than five years)

- (1) One month's salary for each year of service
- (2) Return of contributions

While eligible to retire (after five years). 60% of Service or Disability Retirement Benefit. Generally the benefit is 20% of FAS**Line of duty death** - 50% of FAS**Death After Retirement**

After Service Retirement or Nonservice-Connected Disability - 60% of the allowance continued to the spouse or to minor children

After Service-Connected Disability - 100% of the allowance continued to the spouse or to minor children

Lump sum payment of \$1,000

Withdrawal Benefits

If less than five years of service, return of contribution

If greater than five years of service, right to have vested deferred retirement benefit

Cost of Living Benefit

3% maximum change per year

Employees' Contribution RatesBasic¹ - to provide for 1/2 of the Section 31664 benefit at age 50

COL - to pay for 1/2 of future COL costs

Employer Contribution Rate

Enough to make for the balance and COL costs

¹ We are working with the Retirement Association in developing the assumptions required to determine contribution rates for the enhanced 3% at 50 benefit.

Members for San Ramon Fire Protection District will continue to pay the contribution rates determined for Safety members under Section 31664 formula until new contribution rates for the enhanced 3% at 50 benefit are developed.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for ensuring the integrity of financial data and for facilitating audits.

2. The second part of the document outlines the various methods used to collect and analyze data. It describes how data is gathered from different sources and how it is processed to extract meaningful insights.

3. The third part of the document focuses on the application of statistical techniques to the data. It explains how these techniques are used to identify trends, patterns, and correlations within the data set.

4. The fourth part of the document discusses the challenges associated with data analysis. It highlights the need for robust data management systems and the importance of ensuring data quality and security.

5. The fifth part of the document concludes by summarizing the key findings and recommendations. It stresses the importance of ongoing monitoring and evaluation to ensure that the data analysis process remains effective and relevant.

6. The sixth part of the document provides a detailed overview of the data analysis process. It describes the steps involved in data collection, from identifying the data sources to the final analysis and reporting.

7. The seventh part of the document discusses the role of technology in data analysis. It highlights how modern tools and software have revolutionized the way data is processed and analyzed, making it more efficient and accurate.

8. The eighth part of the document focuses on the importance of data visualization. It explains how visual representations of data can help in understanding complex information and in communicating findings to a wider audience.

9. The ninth part of the document discusses the ethical considerations surrounding data analysis. It emphasizes the need for transparency, accountability, and the protection of individual privacy when handling sensitive data.

10. The tenth part of the document concludes by providing a final summary of the document's content. It reiterates the key points and offers suggestions for further research and development in the field of data analysis.

Appendix B Summary of Assumptions and Funding Methods

Assumptions Previously Adopted By the Board

Valuation Interest Rate	8.35%
Inflation Assumption	4.25%
Interest Rate Credited to Active Member Accounts	8.35%

Post-Retirement Mortality

(a) Service

General Tier 1, Tier 2,
and Tier 3

Males	1994 Group Annuity Mortality Table (also known as the UP-94 Mortality Table) set back 1 year (Male)
Females	1994 Group Annuity Mortality Table (also known as the UP-94 Mortality Table) set forward 1 year (Female)

Safety

Members	1994 Group Annuity Mortality Table (also known as the UP-94 Mortality Table) set forward 1 year (Male)
Beneficiaries	1994 Group Annuity Mortality Table (also known as the UP-94 Mortality Table) set forward 1 year (Female)

(b) Disability

General Tier 1, Tier 2, and Tier 3	1981 General Disability Mortality Table set back 3 years
Safety	1981 Safety Disability Mortality Table

[Faint, illegible text covering the majority of the page, possibly bleed-through from the reverse side.]



(c) For Employee Contribution Rate Purposes	1994 Group Annuity Mortality Table (also known as the UP-94 Mortality Table) (Male) set back three years for General Members
	1994 Group Annuity Mortality Table (also known as the UP-94 Mortality Table) (Male) set forward one year for Safety Members
(d) For Optional Benefit Purposes	1994 Group Annuity Mortality Table (also known as the UP-94 Mortality Table) with a three year setback (Male)
Pre-Retirement Mortality	Based upon the Experience Analysis as of 12/31/2000
Withdrawal Rates	Based upon the Experience Analysis as of 12/31/2000
Disability Rates	Based upon the Experience Analysis as of 12/31/2000
Service Retirement Rates	Based upon the Experience Analysis as of 12/31/2000
Marriage Assumption at Retirement	80% for male members 55% for female members
Value of Assets for Contribution Rate Purposes	Actuarial Value as described in Actuarial Valuation Methods Section
Election for Tier 3 Membership	Assumes 75% of all eligible Tier 2 members will elect Tier 3 membership after five years of service.

Funding Method

The employer's liability is being funded on the Entry Age Normal Method with an Unfunded Actuarial Accrued Liability (UAAL). The current amortization period for the UAAL is 16 years as of December 31, 2001.

Terminal Pay Assumptions

Based on the following analysis, the Board adopted our recommendation to use a higher terminal pay assumption for members in General Tier 1 and a lower terminal pay assumption for members in General Tier 3.

The assumptions used in previous valuations are also shown in the table below.

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every sale or purchase must be properly documented to ensure transparency and accountability. This includes recording the date, amount, and the parties involved in each transaction.

Additionally, the document highlights the need for regular audits to verify the accuracy of the financial statements. Auditors play a crucial role in identifying any discrepancies or errors in the accounting process. By conducting thorough audits, businesses can ensure that their financial data is reliable and trustworthy.

Another key aspect mentioned is the importance of proper inventory management. Businesses should maintain a detailed record of their stock levels to avoid overstocking or understocking. This helps in optimizing cash flow and ensuring that products are available to meet customer demand.

Finally, the document stresses the importance of staying up-to-date with the latest accounting regulations and standards. Failure to comply with these regulations can result in penalties and legal issues. Therefore, businesses should invest in professional accounting services or training to stay informed and compliant.

In conclusion, effective financial management is essential for the long-term success of any business. By implementing robust accounting practices, businesses can gain valuable insights into their financial performance and make informed decisions. Regular audits, accurate record-keeping, and staying compliant with regulations are all critical components of a successful financial strategy.

The document also provides a detailed breakdown of the accounting cycle, which consists of eight steps:

1. Analyze and identify the business transactions.
2. Record the business transactions in a journal.
3. Post the journal entries to the ledger.
4. Prepare a trial balance to check for errors.
5. Adjust the accounts for accruals and deferrals.
6. Prepare financial statements (Income Statement, Balance Sheet, and Cash Flow Statement).
7. Close the temporary accounts to the permanent accounts.
8. Prepare a post-closing trial balance to ensure the books are balanced.

Understanding these steps is crucial for anyone involved in business accounting. Each step is designed to ensure that the financial records are accurate and complete. The trial balance, in particular, is a vital tool for detecting errors in the recording and posting process.

Moreover, the document discusses the importance of the closing process. At the end of each accounting period, businesses must close their temporary accounts (such as sales, expenses, and dividends) to the permanent accounts (such as retained earnings). This process resets the temporary accounts to zero, allowing for a fresh start in the next period.

Overall, the document serves as a comprehensive guide to the fundamentals of accounting. It provides a clear and structured overview of the accounting cycle and the various aspects of financial management that are essential for business success.

Contra Costa County Employees Retirement Association
Evaluation of Terminal Pay Percentages for Recent Retirees

1. Number of Retirees

	10/1/1997 to 12/31/1997	Date of Retirement			
		1998	1999	2000	2001
General Tier 1	21	156	153	140	167
General Tier 2	17	59	78	66	101
General Tier 3			39	45	64
Safety	8	67	78	54	56
Total	46	282	348	305	388

2. Average Years of Service

	10/1/1997 to 12/31/1997	Date of Retirement				Average ⁽¹⁾
		1998	1999	2000	2001	10/1/1997 to 12/31/2001
General Tier 1	20	23	25	24	23	23.6
General Tier 2	13	13	14	14	14	13.8
General Tier 3			14	15	15	14.7
Safety	26	24	25	24	22	23.9

3. Equivalent Vacation Weeks Added to Final Average Pay

	10/1/1997 to 12/31/1997	Date of Retirement				Average ⁽¹⁾	Theoretical ⁽²⁾
		1998	1999	2000	2001	10/1/1997 to 12/31/2001	Maximum For Non-Management
General Tier 1	3.54	4.39	6.13	6.16	5.40	5.44	5
General Tier 2	2.28	2.34	3.49	4.06	3.48	3.33	3
General Tier 3			3.35	3.42	3.07	3.25	3
Safety	3.82	5.5	6.33	6.30	5.27	5.81	5

4. Terminal Pay as a % of Final Average Pay

	10/1/1997 to 12/31/1997 ⁽²⁾	Date of Retirement				Average ⁽¹⁾	Assumptions Used in 1999 & 2000 Valuations	Proposed Assumptions for 12/31/2001
		1998 ⁽²⁾	1999	2000	2001	10/1/1997 to 12/31/2001		
General Tier 1	5.71%	9.68%	13.23%	13.39%	12.16%	11.87%	11.07%	11.47%
General Tier 2	3.99%	3.12%	3.33%	4.93%	2.48%	3.39%	3.32%	3.32%
General Tier 3			7.99%	10.39%	5.40%	7.60%	9.40%	8.50%
Safety	7.15%	11.12%	12.70%	13.12%	10.62%	11.77%	11.72%	11.72%

(1) Weighted by number of retirees.

(2) Based on County Vacation Schedule (in Weeks) for Non-Management Employees:

Years of Service	# of Weeks
Less than 15	3
15-19	4
20-24	5
25-29	6
30+	7

(3) Recalculated based on most recent data provided by CCCERA.

Vertical text on the left margin, possibly bleed-through from the reverse side of the page.

Small mark or text in the top right corner.

Block of text in the lower-left quadrant, appearing to be a list or set of instructions.

Block of text in the lower-middle quadrant, possibly a continuation of the list or instructions.

Block of text in the lower-right quadrant, possibly a separate note or entry.

Small block of text located in the lower-right area, possibly a signature or date.

Small mark or text in the bottom right corner.

Small mark or text in the bottom right corner.

Exhibit I
PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT
General Male Members - Tier 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	0.1500	0.1000	0.1000	0.1000	0.1000	0.0412	0.0014	0.0000	0.0005	0.0002	0.0001	0.0000
21	0.1500	0.1000	0.1000	0.1000	0.1000	0.0399	0.0022	0.0000	0.0006	0.0002	0.0001	0.0000
22	0.1500	0.1000	0.1000	0.1000	0.1000	0.0389	0.0028	0.0000	0.0007	0.0002	0.0001	0.0000
23	0.1500	0.1000	0.1000	0.1000	0.1000	0.0379	0.0032	0.0000	0.0008	0.0002	0.0001	0.0000
24	0.1500	0.1000	0.1000	0.1000	0.1000	0.0372	0.0081	0.0000	0.0009	0.0002	0.0001	0.0000
25	0.1500	0.0750	0.0750	0.0750	0.0750	0.0350	0.0119	0.0004	0.0010	0.0002	0.0001	0.0000
26	0.1500	0.0750	0.0750	0.0750	0.0750	0.0328	0.0162	0.0004	0.0011	0.0002	0.0001	0.0000
27	0.1500	0.0750	0.0750	0.0750	0.0750	0.0305	0.0200	0.0004	0.0012	0.0002	0.0001	0.0000
28	0.1500	0.0750	0.0750	0.0750	0.0750	0.0283	0.0250	0.0006	0.0012	0.0002	0.0001	0.0000
29	0.1500	0.0750	0.0750	0.0750	0.0750	0.0261	0.0300	0.0006	0.0013	0.0002	0.0001	0.0000
30	0.1500	0.0600	0.0600	0.0600	0.0600	0.0239	0.0350	0.0008	0.0013	0.0003	0.0001	0.0000
31	0.1500	0.0600	0.0600	0.0600	0.0600	0.0217	0.0400	0.0008	0.0013	0.0003	0.0001	0.0000
32	0.1500	0.0600	0.0600	0.0600	0.0600	0.0194	0.0450	0.0008	0.0014	0.0003	0.0001	0.0000
33	0.1500	0.0600	0.0600	0.0600	0.0600	0.0172	0.0450	0.0007	0.0015	0.0003	0.0001	0.0000
34	0.1500	0.0600	0.0600	0.0600	0.0600	0.0150	0.0450	0.0007	0.0016	0.0004	0.0001	0.0000
35	0.1500	0.0500	0.0500	0.0500	0.0500	0.0128	0.0450	0.0008	0.0020	0.0004	0.0001	0.0000
36	0.1500	0.0500	0.0500	0.0500	0.0500	0.0117	0.0425	0.0008	0.0021	0.0004	0.0001	0.0000
37	0.1500	0.0500	0.0500	0.0500	0.0500	0.0105	0.0400	0.0008	0.0022	0.0004	0.0001	0.0000
38	0.1500	0.0500	0.0500	0.0500	0.0500	0.0095	0.0375	0.0013	0.0023	0.0005	0.0001	0.0000
39	0.1500	0.0500	0.0500	0.0500	0.0500	0.0085	0.0350	0.0015	0.0024	0.0005	0.0001	0.0000
40	0.1500	0.0450	0.0450	0.0450	0.0450	0.0058	0.0325	0.0016	0.0026	0.0006	0.0001	0.0000
41	0.1500	0.0450	0.0450	0.0450	0.0450	0.0054	0.0300	0.0017	0.0027	0.0006	0.0001	0.0000
42	0.1500	0.0450	0.0450	0.0450	0.0450	0.0049	0.0275	0.0018	0.0028	0.0007	0.0001	0.0000
43	0.1500	0.0450	0.0450	0.0450	0.0450	0.0045	0.0250	0.0019	0.0029	0.0007	0.0001	0.0000
44	0.1500	0.0450	0.0450	0.0450	0.0450	0.0041	0.0225	0.0020	0.0030	0.0008	0.0001	0.0000
45	0.1500	0.0350	0.0350	0.0350	0.0350	0.0025	0.0200	0.0021	0.0031	0.0008	0.0001	0.0000
46	0.1500	0.0350	0.0350	0.0350	0.0350	0.0022	0.0150	0.0022	0.0032	0.0009	0.0001	0.0000
47	0.1500	0.0350	0.0350	0.0350	0.0350	0.0020	0.0125	0.0023	0.0033	0.0009	0.0001	0.0000
48	0.1500	0.0350	0.0350	0.0350	0.0350	0.0018	0.0100	0.0024	0.0034	0.0010	0.0001	0.0000
49	0.1500	0.0350	0.0350	0.0350	0.0350	0.0016	0.0088	0.0025	0.0035	0.0011	0.0001	0.0000
50	0.1500	0.0200	0.0200	0.0200	0.0200	0.0000	0.0075	0.0025	0.0040	0.0017	0.0001	0.0300
51	0.1500	0.0200	0.0200	0.0200	0.0200	0.0000	0.0058	0.0025	0.0050	0.0023	0.0001	0.0343
52	0.1500	0.0200	0.0200	0.0200	0.0200	0.0000	0.0043	0.0025	0.0060	0.0029	0.0001	0.0343
53	0.1500	0.0200	0.0200	0.0200	0.0200	0.0000	0.0038	0.0025	0.0070	0.0035	0.0001	0.0329
54	0.1500	0.0200	0.0200	0.0200	0.0200	0.0000	0.0037	0.0025	0.0075	0.0041	0.0001	0.0299
55	0.1500	0.0150	0.0150	0.0150	0.0150	0.0000	0.0036	0.0025	0.0080	0.0048	0.0001	0.1018
56	0.1500	0.0150	0.0150	0.0150	0.0150	0.0000	0.0035	0.0025	0.0085	0.0053	0.0001	0.1018
57	0.1500	0.0150	0.0150	0.0150	0.0150	0.0000	0.0033	0.0025	0.0090	0.0060	0.0001	0.1018
58	0.1500	0.0150	0.0150	0.0150	0.0150	0.0000	0.0029	0.0025	0.0095	0.0068	0.0001	0.1018
59	0.1500	0.0150	0.0150	0.0150	0.0150	0.0000	0.0026	0.0025	0.0100	0.0076	0.0001	0.1016
60	0.1500	0.0100	0.0100	0.0100	0.0100	0.0000	0.0023	0.0025	0.0110	0.0086	0.0001	0.2476
61	0.1500	0.0100	0.0100	0.0100	0.0100	0.0000	0.0020	0.0025	0.0120	0.0097	0.0001	0.1519
62	0.1500	0.0100	0.0100	0.0100	0.0100	0.0000	0.0017	0.0025	0.0130	0.0109	0.0001	0.4357
63	0.1500	0.0100	0.0100	0.0100	0.0100	0.0000	0.0018	0.0025	0.0140	0.0123	0.0001	0.2471
64	0.1500	0.0100	0.0100	0.0100	0.0100	0.0000	0.0017	0.0025	0.0150	0.0139	0.0001	0.3411
65	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0025	0.0150	0.0156	0.0001	0.4673
66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0025	0.0150	0.0175	0.0001	0.3505
67	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0025	0.0150	0.0194	0.0001	0.3400
68	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0025	0.0150	0.0214	0.0001	0.3040
69	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0025	0.0150	0.0234	0.0001	0.2896
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

Year	Month	Day	Time	Location	Activity	Remarks
1950	Jan	1	08:00	...	...	...
1950	Jan	2	08:00	...	...	...
1950	Jan	3	08:00	...	...	...
1950	Jan	4	08:00	...	...	...
1950	Jan	5	08:00	...	...	...
1950	Jan	6	08:00	...	...	...
1950	Jan	7	08:00	...	...	...
1950	Jan	8	08:00	...	...	...
1950	Jan	9	08:00	...	...	...
1950	Jan	10	08:00	...	...	...
1950	Jan	11	08:00	...	...	...
1950	Jan	12	08:00	...	...	...
1950	Jan	13	08:00	...	...	...
1950	Jan	14	08:00	...	...	...
1950	Jan	15	08:00	...	...	...
1950	Jan	16	08:00	...	...	...
1950	Jan	17	08:00	...	...	...
1950	Jan	18	08:00	...	...	...
1950	Jan	19	08:00	...	...	...
1950	Jan	20	08:00	...	...	...
1950	Jan	21	08:00	...	...	...
1950	Jan	22	08:00	...	...	...
1950	Jan	23	08:00	...	...	...
1950	Jan	24	08:00	...	...	...
1950	Jan	25	08:00	...	...	...
1950	Jan	26	08:00	...	...	...
1950	Jan	27	08:00	...	...	...
1950	Jan	28	08:00	...	...	...
1950	Jan	29	08:00	...	...	...
1950	Jan	30	08:00	...	...	...
1950	Jan	31	08:00	...	...	...
1950	Feb	1	08:00	...	...	...
1950	Feb	2	08:00	...	...	...
1950	Feb	3	08:00	...	...	...
1950	Feb	4	08:00	...	...	...
1950	Feb	5	08:00	...	...	...
1950	Feb	6	08:00	...	...	...
1950	Feb	7	08:00	...	...	...
1950	Feb	8	08:00	...	...	...
1950	Feb	9	08:00	...	...	...
1950	Feb	10	08:00	...	...	...
1950	Feb	11	08:00	...	...	...
1950	Feb	12	08:00	...	...	...
1950	Feb	13	08:00	...	...	...
1950	Feb	14	08:00	...	...	...
1950	Feb	15	08:00	...	...	...
1950	Feb	16	08:00	...	...	...
1950	Feb	17	08:00	...	...	...
1950	Feb	18	08:00	...	...	...
1950	Feb	19	08:00	...	...	...
1950	Feb	20	08:00	...	...	...
1950	Feb	21	08:00	...	...	...
1950	Feb	22	08:00	...	...	...
1950	Feb	23	08:00	...	...	...
1950	Feb	24	08:00	...	...	...
1950	Feb	25	08:00	...	...	...
1950	Feb	26	08:00	...	...	...
1950	Feb	27	08:00	...	...	...
1950	Feb	28	08:00	...	...	...
1950	Feb	29	08:00	...	...	...
1950	Mar	1	08:00	...	...	...
1950	Mar	2	08:00	...	...	...
1950	Mar	3	08:00	...	...	...
1950	Mar	4	08:00	...	...	...
1950	Mar	5	08:00	...	...	...
1950	Mar	6	08:00	...	...	...
1950	Mar	7	08:00	...	...	...
1950	Mar	8	08:00	...	...	...
1950	Mar	9	08:00	...	...	...
1950	Mar	10	08:00	...	...	...
1950	Mar	11	08:00	...	...	...
1950	Mar	12	08:00	...	...	...
1950	Mar	13	08:00	...	...	...
1950	Mar	14	08:00	...	...	...
1950	Mar	15	08:00	...	...	...
1950	Mar	16	08:00	...	...	...
1950	Mar	17	08:00	...	...	...
1950	Mar	18	08:00	...	...	...
1950	Mar	19	08:00	...	...	...
1950	Mar	20	08:00	...	...	...
1950	Mar	21	08:00	...	...	...
1950	Mar	22	08:00	...	...	...
1950	Mar	23	08:00	...	...	...
1950	Mar	24	08:00	...	...	...
1950	Mar	25	08:00	...	...	...
1950	Mar	26	08:00	...	...	...
1950	Mar	27	08:00	...	...	...
1950	Mar	28	08:00	...	...	...
1950	Mar	29	08:00	...	...	...
1950	Mar	30	08:00	...	...	...
1950	Mar	31	08:00	...	...	...



PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT
General Female Members - Tier 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	0.5000	0.1000	0.1000	0.1000	0.1000	0.0319	0.0000	0.0000	0.0005	0.0001	0.0001	0.0000
21	0.5000	0.1000	0.1000	0.1000	0.1000	0.0318	0.0000	0.0000	0.0006	0.0001	0.0001	0.0000
22	0.5000	0.1000	0.1000	0.1000	0.1000	0.0306	0.0000	0.0000	0.0007	0.0001	0.0001	0.0000
23	0.5000	0.1000	0.1000	0.1000	0.1000	0.0280	0.0000	0.0000	0.0008	0.0001	0.0001	0.0000
24	0.5000	0.1000	0.1000	0.1000	0.1000	0.0254	0.0000	0.0000	0.0009	0.0001	0.0001	0.0000
25	0.4500	0.0750	0.0750	0.0750	0.0750	0.0221	0.1000	0.0001	0.0010	0.0002	0.0001	0.0000
26	0.4250	0.0750	0.0750	0.0750	0.0750	0.0189	0.1000	0.0001	0.0011	0.0002	0.0001	0.0000
27	0.4000	0.0750	0.0750	0.0750	0.0750	0.0169	0.1000	0.0001	0.0012	0.0002	0.0001	0.0000
28	0.3750	0.0750	0.0750	0.0750	0.0750	0.0150	0.1000	0.0001	0.0012	0.0002	0.0001	0.0000
29	0.3500	0.0750	0.0750	0.0750	0.0750	0.0131	0.0950	0.0001	0.0013	0.0002	0.0001	0.0000
30	0.3000	0.0600	0.0600	0.0600	0.0600	0.0125	0.0750	0.0001	0.0015	0.0003	0.0001	0.0000
31	0.2800	0.0600	0.0600	0.0600	0.0600	0.0120	0.0650	0.0001	0.0016	0.0003	0.0001	0.0000
32	0.2600	0.0600	0.0600	0.0600	0.0600	0.0110	0.0500	0.0001	0.0017	0.0003	0.0001	0.0000
33	0.2400	0.0600	0.0600	0.0600	0.0600	0.0100	0.0500	0.0001	0.0018	0.0003	0.0001	0.0000
34	0.2200	0.0600	0.0600	0.0600	0.0600	0.0090	0.0400	0.0001	0.0019	0.0004	0.0001	0.0000
35	0.2000	0.0500	0.0500	0.0500	0.0500	0.0080	0.0313	0.0007	0.0029	0.0004	0.0001	0.0000
36	0.1800	0.0500	0.0500	0.0500	0.0500	0.0075	0.0305	0.0007	0.0030	0.0004	0.0001	0.0000
37	0.1700	0.0500	0.0500	0.0500	0.0500	0.0070	0.0292	0.0007	0.0031	0.0004	0.0001	0.0000
38	0.1600	0.0500	0.0500	0.0500	0.0500	0.0065	0.0280	0.0011	0.0033	0.0004	0.0001	0.0000
39	0.1500	0.0500	0.0500	0.0500	0.0500	0.0060	0.0273	0.0011	0.0034	0.0005	0.0001	0.0000
40	0.1500	0.0450	0.0450	0.0450	0.0450	0.0050	0.0246	0.0012	0.0036	0.0005	0.0001	0.0000
41	0.1500	0.0450	0.0450	0.0450	0.0450	0.0040	0.0218	0.0013	0.0037	0.0005	0.0001	0.0000
42	0.1500	0.0450	0.0450	0.0450	0.0450	0.0030	0.0190	0.0013	0.0038	0.0005	0.0001	0.0000
43	0.1500	0.0450	0.0450	0.0450	0.0450	0.0020	0.0162	0.0014	0.0040	0.0006	0.0001	0.0000
44	0.1500	0.0450	0.0450	0.0450	0.0450	0.0010	0.0133	0.0015	0.0041	0.0006	0.0001	0.0000
45	0.1400	0.0350	0.0350	0.0350	0.0350	0.0009	0.0116	0.0016	0.0042	0.0007	0.0001	0.0000
46	0.1300	0.0350	0.0350	0.0350	0.0350	0.0008	0.0113	0.0018	0.0043	0.0008	0.0001	0.0000
47	0.1200	0.0350	0.0350	0.0350	0.0350	0.0007	0.0110	0.0020	0.0044	0.0009	0.0001	0.0000
48	0.1100	0.0350	0.0350	0.0350	0.0350	0.0006	0.0106	0.0024	0.0045	0.0010	0.0001	0.0000
49	0.1000	0.0350	0.0350	0.0350	0.0350	0.0005	0.0102	0.0026	0.0046	0.0011	0.0001	0.0000
50	0.1000	0.0200	0.0200	0.0200	0.0200	0.0000	0.0037	0.0028	0.0055	0.0012	0.0001	0.0315
51	0.1000	0.0200	0.0200	0.0200	0.0200	0.0000	0.0035	0.0030	0.0060	0.0013	0.0001	0.0237
52	0.1000	0.0200	0.0200	0.0200	0.0200	0.0000	0.0033	0.0032	0.0065	0.0014	0.0001	0.0221
53	0.1000	0.0200	0.0200	0.0200	0.0200	0.0000	0.0029	0.0034	0.0070	0.0015	0.0001	0.0250
54	0.1000	0.0200	0.0200	0.0200	0.0200	0.0000	0.0025	0.0038	0.0075	0.0016	0.0001	0.0488
55	0.1000	0.0150	0.0150	0.0150	0.0150	0.0000	0.0023	0.0042	0.0080	0.0017	0.0001	0.0650
56	0.1000	0.0150	0.0150	0.0150	0.0150	0.0000	0.0021	0.0044	0.0085	0.0018	0.0001	0.0900
57	0.1000	0.0150	0.0150	0.0150	0.0150	0.0000	0.0019	0.0046	0.0090	0.0019	0.0001	0.1000
58	0.1000	0.0150	0.0150	0.0150	0.0150	0.0000	0.0017	0.0048	0.0095	0.0020	0.0001	0.1100
59	0.1000	0.0150	0.0150	0.0150	0.0150	0.0000	0.0015	0.0050	0.0100	0.0021	0.0001	0.1200
60	0.1000	0.0100	0.0100	0.0100	0.0100	0.0000	0.0015	0.0060	0.0105	0.0022	0.0001	0.1800
61	0.1000	0.0100	0.0100	0.0100	0.0100	0.0000	0.0013	0.0070	0.0110	0.0023	0.0001	0.1300
62	0.1000	0.0100	0.0100	0.0100	0.0100	0.0000	0.0009	0.0080	0.0120	0.0024	0.0001	0.4000
63	0.1000	0.0100	0.0100	0.0100	0.0100	0.0000	0.0006	0.0090	0.0130	0.0025	0.0001	0.2500
64	0.1000	0.0100	0.0100	0.0100	0.0100	0.0000	0.0004	0.0100	0.0140	0.0026	0.0001	0.2000
65	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0150	0.0028	0.0001	0.3009
66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0150	0.0030	0.0001	0.3510
67	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0150	0.0032	0.0001	0.3510
68	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0150	0.0034	0.0001	0.3510
69	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0150	0.0036	0.0001	0.5015
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

1
 2
 3
 4
 5
 6
 7
 8
 9
 10
 11
 12
 13
 14
 15
 16
 17
 18
 19
 20
 21
 22
 23
 24
 25
 26
 27
 28
 29
 30
 31
 32
 33
 34
 35
 36
 37
 38
 39
 40
 41
 42
 43
 44
 45
 46
 47
 48
 49
 50
 51
 52
 53
 54
 55
 56
 57
 58
 59
 60
 61
 62
 63
 64
 65
 66
 67
 68
 69
 70
 71
 72
 73
 74
 75
 76
 77
 78
 79
 80
 81
 82
 83
 84
 85
 86
 87
 88
 89
 90
 91
 92
 93
 94
 95
 96
 97
 98
 99
 100

1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9
10	10	10	10	10	10	10	10	10	10
11	11	11	11	11	11	11	11	11	11
12	12	12	12	12	12	12	12	12	12
13	13	13	13	13	13	13	13	13	13
14	14	14	14	14	14	14	14	14	14
15	15	15	15	15	15	15	15	15	15
16	16	16	16	16	16	16	16	16	16
17	17	17	17	17	17	17	17	17	17
18	18	18	18	18	18	18	18	18	18
19	19	19	19	19	19	19	19	19	19
20	20	20	20	20	20	20	20	20	20
21	21	21	21	21	21	21	21	21	21
22	22	22	22	22	22	22	22	22	22
23	23	23	23	23	23	23	23	23	23
24	24	24	24	24	24	24	24	24	24
25	25	25	25	25	25	25	25	25	25
26	26	26	26	26	26	26	26	26	26
27	27	27	27	27	27	27	27	27	27
28	28	28	28	28	28	28	28	28	28
29	29	29	29	29	29	29	29	29	29
30	30	30	30	30	30	30	30	30	30
31	31	31	31	31	31	31	31	31	31
32	32	32	32	32	32	32	32	32	32
33	33	33	33	33	33	33	33	33	33
34	34	34	34	34	34	34	34	34	34
35	35	35	35	35	35	35	35	35	35
36	36	36	36	36	36	36	36	36	36
37	37	37	37	37	37	37	37	37	37
38	38	38	38	38	38	38	38	38	38
39	39	39	39	39	39	39	39	39	39
40	40	40	40	40	40	40	40	40	40
41	41	41	41	41	41	41	41	41	41
42	42	42	42	42	42	42	42	42	42
43	43	43	43	43	43	43	43	43	43
44	44	44	44	44	44	44	44	44	44
45	45	45	45	45	45	45	45	45	45
46	46	46	46	46	46	46	46	46	46
47	47	47	47	47	47	47	47	47	47
48	48	48	48	48	48	48	48	48	48
49	49	49	49	49	49	49	49	49	49
50	50	50	50	50	50	50	50	50	50
51	51	51	51	51	51	51	51	51	51
52	52	52	52	52	52	52	52	52	52
53	53	53	53	53	53	53	53	53	53
54	54	54	54	54	54	54	54	54	54
55	55	55	55	55	55	55	55	55	55
56	56	56	56	56	56	56	56	56	56
57	57	57	57	57	57	57	57	57	57
58	58	58	58	58	58	58	58	58	58
59	59	59	59	59	59	59	59	59	59
60	60	60	60	60	60	60	60	60	60
61	61	61	61	61	61	61	61	61	61
62	62	62	62	62	62	62	62	62	62
63	63	63	63	63	63	63	63	63	63
64	64	64	64	64	64	64	64	64	64
65	65	65	65	65	65	65	65	65	65
66	66	66	66	66	66	66	66	66	66
67	67	67	67	67	67	67	67	67	67
68	68	68	68	68	68	68	68	68	68
69	69	69	69	69	69	69	69	69	69
70	70	70	70	70	70	70	70	70	70
71	71	71	71	71	71	71	71	71	71
72	72	72	72	72	72	72	72	72	72
73	73	73	73	73	73	73	73	73	73
74	74	74	74	74	74	74	74	74	74
75	75	75	75	75	75	75	75	75	75
76	76	76	76	76	76	76	76	76	76
77	77	77	77	77	77	77	77	77	77
78	78	78	78	78	78	78	78	78	78
79	79	79	79	79	79	79	79	79	79
80	80	80	80	80	80	80	80	80	80
81	81	81	81	81	81	81	81	81	81
82	82	82	82	82	82	82	82	82	82
83	83	83	83	83	83	83	83	83	83
84	84	84	84	84	84	84	84	84	84
85	85	85	85	85	85	85	85	85	85
86	86	86	86	86	86	86	86	86	86
87	87	87	87	87	87	87	87	87	87
88	88	88	88	88	88	88	88	88	88
89	89	89	89	89	89	89	89	89	89
90	90	90	90	90	90	90	90	90	90
91	91	91	91	91	91	91	91	91	91
92	92	92	92	92	92	92	92	92	92
93	93	93	93	93	93	93	93	93	93
94	94	94	94	94	94	94	94	94	94
95	95	95	95	95	95	95	95	95	95
96	96	96	96	96	96	96	96	96	96
97	97	97	97	97	97	97	97	97	97
98	98	98	98	98	98	98	98	98	98
99	99	99	99	99	99	99	99	99	99
100	100	100	100	100	100	100	100	100	100

101
 102
 103
 104
 105
 106
 107
 108
 109
 110
 111
 112
 113
 114
 115
 116
 117
 118
 119
 120
 121
 122
 123
 124
 125
 126
 127
 128
 129
 130
 131
 132
 133
 134
 135
 136
 137
 138
 139
 140
 141
 142
 143
 144
 145
 146
 147
 148
 149
 150

PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT
General Male Members - Tier 2

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	0.1360	0.1360	0.1360	0.1360	0.0800	0.0272	0.0000	0.0001	0.0002	0.0001	0.0000
21	0.1000	0.1311	0.1311	0.1311	0.1311	0.0800	0.0272	0.0000	0.0001	0.0002	0.0001	0.0000
22	0.1000	0.1262	0.1262	0.1262	0.1262	0.0800	0.0272	0.0000	0.0001	0.0002	0.0001	0.0000
23	0.1000	0.1250	0.1250	0.1250	0.1250	0.0800	0.0227	0.0000	0.0001	0.0002	0.0001	0.0000
24	0.1000	0.1250	0.1250	0.1250	0.1250	0.0800	0.0181	0.0000	0.0001	0.0002	0.0001	0.0000
25	0.1000	0.1250	0.1250	0.1250	0.1250	0.0783	0.0162	0.0004	0.0001	0.0002	0.0001	0.0000
26	0.1000	0.1250	0.1250	0.1250	0.1250	0.0699	0.0125	0.0004	0.0001	0.0002	0.0001	0.0000
27	0.1000	0.1250	0.1250	0.1250	0.1250	0.0684	0.0070	0.0004	0.0001	0.0002	0.0001	0.0000
28	0.1000	0.1250	0.1250	0.1250	0.1250	0.0670	0.0091	0.0006	0.0001	0.0002	0.0001	0.0000
29	0.1000	0.1250	0.1250	0.1250	0.1250	0.0649	0.0086	0.0006	0.0001	0.0002	0.0001	0.0000
30	0.1000	0.1000	0.1000	0.1000	0.1000	0.0547	0.0085	0.0008	0.0002	0.0003	0.0001	0.0000
31	0.1000	0.1000	0.1000	0.1000	0.1000	0.0523	0.0103	0.0008	0.0002	0.0003	0.0001	0.0000
32	0.1000	0.0950	0.0950	0.0950	0.0950	0.0498	0.0121	0.0008	0.0002	0.0003	0.0001	0.0000
33	0.1000	0.0900	0.0900	0.0900	0.0900	0.0474	0.0137	0.0008	0.0002	0.0003	0.0001	0.0000
34	0.1000	0.0900	0.0900	0.0900	0.0900	0.0443	0.0153	0.0008	0.0002	0.0004	0.0001	0.0000
35	0.1000	0.0851	0.0851	0.0851	0.0851	0.0411	0.0112	0.0010	0.0003	0.0004	0.0001	0.0000
36	0.1000	0.0851	0.0851	0.0851	0.0851	0.0378	0.0124	0.0010	0.0003	0.0004	0.0001	0.0000
37	0.1000	0.0851	0.0851	0.0851	0.0851	0.0345	0.0136	0.0010	0.0003	0.0004	0.0001	0.0000
38	0.1000	0.0851	0.0851	0.0851	0.0851	0.0312	0.0168	0.0010	0.0003	0.0005	0.0001	0.0000
39	0.1000	0.0851	0.0851	0.0851	0.0851	0.0280	0.0200	0.0012	0.0004	0.0005	0.0001	0.0000
40	0.1000	0.0697	0.0697	0.0697	0.0697	0.0247	0.0145	0.0012	0.0004	0.0006	0.0001	0.0000
41	0.1000	0.0697	0.0697	0.0697	0.0697	0.0228	0.0168	0.0014	0.0005	0.0006	0.0001	0.0000
42	0.1000	0.0697	0.0697	0.0697	0.0697	0.0210	0.0191	0.0016	0.0005	0.0007	0.0001	0.0000
43	0.1000	0.0697	0.0697	0.0697	0.0697	0.0192	0.0171	0.0018	0.0005	0.0007	0.0001	0.0000
44	0.1000	0.0697	0.0697	0.0697	0.0697	0.0172	0.0147	0.0020	0.0006	0.0008	0.0001	0.0000
45	0.1000	0.0779	0.0779	0.0779	0.0779	0.0155	0.0133	0.0022	0.0006	0.0008	0.0001	0.0000
46	0.1000	0.0779	0.0779	0.0779	0.0779	0.0137	0.0119	0.0024	0.0006	0.0009	0.0001	0.0000
47	0.1000	0.0779	0.0779	0.0779	0.0779	0.0120	0.0103	0.0027	0.0006	0.0009	0.0001	0.0000
48	0.1000	0.0779	0.0779	0.0779	0.0779	0.0103	0.0102	0.0029	0.0006	0.0010	0.0001	0.0000
49	0.1000	0.0779	0.0779	0.0779	0.0779	0.0085	0.0102	0.0031	0.0006	0.0011	0.0001	0.0000
50	0.1000	0.0608	0.0608	0.0608	0.0608	0.0068	0.0101	0.0032	0.0006	0.0017	0.0001	0.0295
51	0.1000	0.0608	0.0608	0.0608	0.0608	0.0063	0.0091	0.0033	0.0006	0.0023	0.0001	0.0249
52	0.1000	0.0608	0.0608	0.0608	0.0608	0.0059	0.0083	0.0034	0.0007	0.0029	0.0001	0.0268
53	0.1000	0.0608	0.0608	0.0608	0.0608	0.0054	0.0095	0.0035	0.0007	0.0035	0.0001	0.0305
54	0.1000	0.0608	0.0608	0.0608	0.0608	0.0054	0.0108	0.0036	0.0007	0.0041	0.0001	0.0338
55	0.1000	0.0500	0.0500	0.0500	0.0500	0.0021	0.0094	0.0037	0.0009	0.0048	0.0001	0.0636
56	0.1000	0.0500	0.0500	0.0500	0.0500	0.0020	0.0104	0.0038	0.0010	0.0053	0.0001	0.0602
57	0.1000	0.0500	0.0500	0.0500	0.0500	0.0020	0.0114	0.0039	0.0012	0.0060	0.0001	0.0568
58	0.1000	0.0500	0.0500	0.0500	0.0500	0.0019	0.0092	0.0040	0.0014	0.0068	0.0001	0.0576
59	0.1000	0.0500	0.0500	0.0500	0.0500	0.0019	0.0070	0.0042	0.0015	0.0076	0.0001	0.0576
60	0.1000	0.0500	0.0500	0.0500	0.0500	0.0016	0.0087	0.0044	0.0017	0.0086	0.0001	0.1439
61	0.1000	0.0400	0.0400	0.0400	0.0400	0.0013	0.0049	0.0046	0.0017	0.0097	0.0001	0.1268
62	0.1000	0.0300	0.0300	0.0300	0.0300	0.0010	0.0012	0.0048	0.0018	0.0109	0.0001	0.1580
63	0.1000	0.0200	0.0200	0.0200	0.0200	0.0006	0.0059	0.0050	0.0018	0.0123	0.0001	0.1156
64	0.1000	0.0100	0.0100	0.0100	0.0100	0.0003	0.0105	0.0055	0.0020	0.0139	0.0001	0.1082
65	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0060	0.0022	0.0156	0.0001	0.1944
66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0065	0.0024	0.0175	0.0001	0.1471
67	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0070	0.0025	0.0194	0.0001	0.1158
68	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0075	0.0028	0.0214	0.0001	0.3788
69	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0080	0.0029	0.0234	0.0001	0.4085
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

PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT
General Female Members - Tier 2

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	0.1806	0.1360	0.1360	0.1360	0.1360	0.0275	0.0056	0.0000	0.0001	0.0001	0.0001	0.0000
21	0.1741	0.1311	0.1311	0.1311	0.1311	0.0275	0.0056	0.0000	0.0001	0.0001	0.0001	0.0000
22	0.1677	0.1262	0.1262	0.1262	0.1262	0.0275	0.0056	0.0000	0.0001	0.0001	0.0001	0.0000
23	0.1576	0.1214	0.1214	0.1214	0.1214	0.0275	0.0050	0.0000	0.0001	0.0001	0.0001	0.0000
24	0.1478	0.1165	0.1165	0.1165	0.1165	0.0275	0.0043	0.0000	0.0001	0.0001	0.0001	0.0000
25	0.1345	0.1248	0.1248	0.1248	0.1248	0.0275	0.0043	0.0003	0.0001	0.0002	0.0001	0.0000
26	0.1216	0.1135	0.1135	0.1135	0.1135	0.0275	0.0041	0.0003	0.0001	0.0002	0.0001	0.0000
27	0.1093	0.1078	0.1078	0.1078	0.1078	0.0275	0.0037	0.0003	0.0001	0.0002	0.0001	0.0000
28	0.1093	0.1021	0.1021	0.1021	0.1021	0.0275	0.0063	0.0003	0.0001	0.0002	0.0001	0.0000
29	0.1093	0.1021	0.1021	0.1021	0.1021	0.0275	0.0067	0.0003	0.0001	0.0002	0.0001	0.0000
30	0.1057	0.0900	0.0900	0.0900	0.0900	0.0250	0.0071	0.0004	0.0001	0.0003	0.0001	0.0000
31	0.1057	0.0900	0.0900	0.0900	0.0900	0.0250	0.0067	0.0004	0.0001	0.0003	0.0001	0.0000
32	0.1057	0.0900	0.0900	0.0900	0.0900	0.0250	0.0071	0.0004	0.0001	0.0003	0.0001	0.0000
33	0.1057	0.0900	0.0900	0.0900	0.0900	0.0250	0.0078	0.0004	0.0001	0.0003	0.0001	0.0000
34	0.1057	0.0900	0.0900	0.0900	0.0900	0.0250	0.0085	0.0004	0.0001	0.0004	0.0001	0.0000
35	0.1057	0.0800	0.0800	0.0800	0.0800	0.0225	0.0100	0.0009	0.0002	0.0004	0.0001	0.0000
36	0.1057	0.0800	0.0800	0.0800	0.0800	0.0225	0.0116	0.0009	0.0002	0.0004	0.0001	0.0000
37	0.1057	0.0800	0.0800	0.0800	0.0800	0.0225	0.0132	0.0012	0.0002	0.0004	0.0001	0.0000
38	0.1057	0.0800	0.0800	0.0800	0.0800	0.0225	0.0119	0.0012	0.0002	0.0004	0.0001	0.0000
39	0.1057	0.0800	0.0800	0.0800	0.0800	0.0225	0.0107	0.0015	0.0002	0.0005	0.0001	0.0000
40	0.1057	0.0700	0.0700	0.0700	0.0700	0.0200	0.0094	0.0015	0.0002	0.0005	0.0001	0.0000
41	0.1057	0.0700	0.0700	0.0700	0.0700	0.0194	0.0081	0.0015	0.0002	0.0005	0.0001	0.0000
42	0.1057	0.0700	0.0700	0.0700	0.0700	0.0181	0.0069	0.0015	0.0003	0.0005	0.0001	0.0000
43	0.1057	0.0700	0.0700	0.0700	0.0700	0.0168	0.0075	0.0015	0.0003	0.0006	0.0001	0.0000
44	0.1057	0.0700	0.0700	0.0700	0.0700	0.0156	0.0082	0.0015	0.0003	0.0006	0.0001	0.0000
45	0.0982	0.0650	0.0650	0.0650	0.0650	0.0142	0.0084	0.0015	0.0003	0.0007	0.0001	0.0000
46	0.0955	0.0650	0.0650	0.0650	0.0650	0.0134	0.0085	0.0017	0.0003	0.0008	0.0001	0.0000
47	0.0928	0.0650	0.0650	0.0650	0.0650	0.0125	0.0086	0.0018	0.0003	0.0009	0.0001	0.0000
48	0.0921	0.0650	0.0650	0.0650	0.0650	0.0117	0.0078	0.0020	0.0003	0.0010	0.0001	0.0000
49	0.0914	0.0650	0.0650	0.0650	0.0650	0.0110	0.0069	0.0022	0.0003	0.0011	0.0001	0.0000
50	0.0753	0.0600	0.0600	0.0600	0.0600	0.0126	0.0065	0.0027	0.0010	0.0012	0.0001	0.0373
51	0.0747	0.0600	0.0600	0.0600	0.0600	0.0117	0.0061	0.0033	0.0015	0.0013	0.0001	0.0371
52	0.0741	0.0600	0.0600	0.0600	0.0600	0.0101	0.0057	0.0038	0.0021	0.0014	0.0001	0.0391
53	0.0741	0.0600	0.0600	0.0600	0.0600	0.0087	0.0061	0.0044	0.0022	0.0015	0.0001	0.0410
54	0.0741	0.0600	0.0600	0.0600	0.0600	0.0076	0.0065	0.0049	0.0023	0.0016	0.0001	0.0504
55	0.0741	0.0550	0.0550	0.0550	0.0550	0.0077	0.0069	0.0055	0.0024	0.0017	0.0001	0.0458
56	0.0741	0.0550	0.0550	0.0550	0.0550	0.0072	0.0071	0.0058	0.0025	0.0018	0.0001	0.0501
57	0.0741	0.0550	0.0550	0.0550	0.0550	0.0069	0.0073	0.0061	0.0028	0.0019	0.0001	0.0534
58	0.0741	0.0550	0.0550	0.0550	0.0550	0.0066	0.0072	0.0064	0.0030	0.0020	0.0001	0.0475
59	0.0741	0.0550	0.0550	0.0550	0.0550	0.0063	0.0071	0.0069	0.0033	0.0021	0.0001	0.0455
60	0.0741	0.0500	0.0500	0.0500	0.0500	0.0045	0.0073	0.0100	0.0035	0.0022	0.0001	0.1496
61	0.0643	0.0500	0.0500	0.0500	0.0500	0.0043	0.0075	0.0125	0.0035	0.0023	0.0001	0.1233
62	0.0513	0.0500	0.0500	0.0500	0.0500	0.0043	0.0077	0.0175	0.0035	0.0024	0.0001	0.1721
63	0.0529	0.0500	0.0500	0.0500	0.0500	0.0043	0.0085	0.0225	0.0035	0.0025	0.0001	0.0744
64	0.0545	0.0500	0.0500	0.0500	0.0500	0.0041	0.0093	0.0275	0.0035	0.0026	0.0001	0.2760
65	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0325	0.0035	0.0028	0.0001	0.2916
66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0375	0.0035	0.0030	0.0001	0.2533
67	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0425	0.0035	0.0032	0.0001	0.3078
68	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0475	0.0035	0.0034	0.0001	0.4142
69	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0525	0.0035	0.0036	0.0001	0.3333
70	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	1.0000

PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT
General Male Members - Tier 3

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0412	0.0000	0.0000	0.0001	0.0002	0.0001	0.0000
21	0.0000	0.0000	0.0000	0.0000	0.0000	0.0399	0.0000	0.0000	0.0001	0.0002	0.0001	0.0000
22	0.0000	0.0000	0.0000	0.0000	0.0000	0.0389	0.0000	0.0000	0.0001	0.0002	0.0001	0.0000
23	0.0000	0.0000	0.0000	0.0000	0.0000	0.0379	0.0000	0.0000	0.0001	0.0002	0.0001	0.0000
24	0.0000	0.0000	0.0000	0.0000	0.0000	0.0372	0.0000	0.0000	0.0001	0.0002	0.0001	0.0000
25	0.0000	0.0000	0.0000	0.0000	0.0000	0.0350	0.0500	0.0004	0.0001	0.0002	0.0001	0.0000
26	0.0000	0.0000	0.0000	0.0000	0.0000	0.0328	0.0500	0.0004	0.0001	0.0002	0.0001	0.0000
27	0.0000	0.0000	0.0000	0.0000	0.0000	0.0305	0.0500	0.0004	0.0001	0.0002	0.0001	0.0000
28	0.0000	0.0000	0.0000	0.0000	0.0000	0.0283	0.0500	0.0006	0.0001	0.0002	0.0001	0.0000
29	0.0000	0.0000	0.0000	0.0000	0.0000	0.0261	0.0500	0.0006	0.0001	0.0002	0.0001	0.0000
30	0.0000	0.0000	0.0000	0.0000	0.0000	0.0239	0.0450	0.0008	0.0002	0.0003	0.0001	0.0000
31	0.0000	0.0000	0.0000	0.0000	0.0000	0.0217	0.0400	0.0008	0.0002	0.0003	0.0001	0.0000
32	0.0000	0.0000	0.0000	0.0000	0.0000	0.0194	0.0350	0.0008	0.0002	0.0003	0.0001	0.0000
33	0.0000	0.0000	0.0000	0.0000	0.0000	0.0172	0.0325	0.0007	0.0003	0.0003	0.0001	0.0000
34	0.0000	0.0000	0.0000	0.0000	0.0000	0.0150	0.0300	0.0007	0.0003	0.0004	0.0001	0.0000
35	0.0000	0.0000	0.0000	0.0000	0.0000	0.0128	0.0300	0.0009	0.0003	0.0004	0.0001	0.0000
36	0.0000	0.0000	0.0000	0.0000	0.0000	0.0117	0.0300	0.0009	0.0003	0.0004	0.0001	0.0000
37	0.0000	0.0000	0.0000	0.0000	0.0000	0.0105	0.0300	0.0008	0.0004	0.0004	0.0001	0.0000
38	0.0000	0.0000	0.0000	0.0000	0.0000	0.0095	0.0300	0.0008	0.0003	0.0005	0.0001	0.0000
39	0.0000	0.0000	0.0000	0.0000	0.0000	0.0085	0.0300	0.0009	0.0004	0.0005	0.0001	0.0000
40	0.0000	0.0000	0.0000	0.0000	0.0000	0.0058	0.0300	0.0009	0.0005	0.0006	0.0001	0.0000
41	0.0000	0.0000	0.0000	0.0000	0.0000	0.0054	0.0325	0.0010	0.0005	0.0006	0.0001	0.0000
42	0.0000	0.0000	0.0000	0.0000	0.0000	0.0049	0.0325	0.0010	0.0005	0.0007	0.0001	0.0000
43	0.0000	0.0000	0.0000	0.0000	0.0000	0.0045	0.0300	0.0011	0.0006	0.0007	0.0001	0.0000
44	0.0000	0.0000	0.0000	0.0000	0.0000	0.0041	0.0300	0.0011	0.0006	0.0008	0.0001	0.0000
45	0.0000	0.0000	0.0000	0.0000	0.0000	0.0025	0.0250	0.0012	0.0006	0.0008	0.0001	0.0000
46	0.0000	0.0000	0.0000	0.0000	0.0000	0.0022	0.0200	0.0012	0.0006	0.0009	0.0001	0.0000
47	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0150	0.0012	0.0006	0.0009	0.0001	0.0000
48	0.0000	0.0000	0.0000	0.0000	0.0000	0.0018	0.0125	0.0012	0.0006	0.0010	0.0001	0.0000
49	0.0000	0.0000	0.0000	0.0000	0.0000	0.0016	0.0100	0.0012	0.0006	0.0011	0.0001	0.0000
50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0065	0.0012	0.0006	0.0017	0.0001	0.0100
51	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0061	0.0012	0.0006	0.0023	0.0001	0.0054
52	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0058	0.0012	0.0006	0.0029	0.0001	0.0001
53	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0053	0.0013	0.0007	0.0035	0.0001	0.0010
54	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0052	0.0014	0.0007	0.0041	0.0001	0.0019
55	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0017	0.0009	0.0048	0.0001	0.0136
56	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0020	0.0010	0.0053	0.0001	0.0180
57	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0023	0.0012	0.0060	0.0001	0.0225
58	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0027	0.0013	0.0068	0.0001	0.0234
59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0032	0.0015	0.0076	0.0001	0.0242
60	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0037	0.0017	0.0086	0.0001	0.0561
61	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0042	0.0018	0.0097	0.0001	0.0308
62	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0048	0.0019	0.0109	0.0001	0.0909
63	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0058	0.0019	0.0123	0.0001	0.0754
64	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0070	0.0020	0.0139	0.0001	0.1389
65	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0082	0.0024	0.0156	0.0001	0.2669
66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0098	0.0025	0.0175	0.0001	0.2206
67	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0115	0.0026	0.0194	0.0001	0.2553
68	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0153	0.0028	0.0214	0.0001	0.3040
69	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0163	0.0029	0.0234	0.0001	0.2896
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

PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT
General Female Members - Tier 3

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0319	0.0000	0.0000	0.0001	0.0001	0.0001	0.0000
21	0.0000	0.0000	0.0000	0.0000	0.0000	0.0318	0.0000	0.0000	0.0001	0.0001	0.0001	0.0000
22	0.0000	0.0000	0.0000	0.0000	0.0000	0.0306	0.0000	0.0000	0.0001	0.0001	0.0001	0.0000
23	0.0000	0.0000	0.0000	0.0000	0.0000	0.0279	0.0000	0.0000	0.0001	0.0001	0.0001	0.0000
24	0.0000	0.0000	0.0000	0.0000	0.0000	0.0253	0.0000	0.0000	0.0001	0.0001	0.0001	0.0000
25	0.0000	0.0000	0.0000	0.0000	0.0000	0.0219	0.0500	0.0003	0.0001	0.0002	0.0001	0.0000
26	0.0000	0.0000	0.0000	0.0000	0.0000	0.0211	0.0500	0.0003	0.0001	0.0002	0.0001	0.0000
27	0.0000	0.0000	0.0000	0.0000	0.0000	0.0203	0.0500	0.0003	0.0001	0.0002	0.0001	0.0000
28	0.0000	0.0000	0.0000	0.0000	0.0000	0.0195	0.0500	0.0003	0.0001	0.0002	0.0001	0.0000
29	0.0000	0.0000	0.0000	0.0000	0.0000	0.0187	0.0500	0.0003	0.0001	0.0002	0.0001	0.0000
30	0.0000	0.0000	0.0000	0.0000	0.0000	0.0179	0.0450	0.0004	0.0001	0.0003	0.0001	0.0000
31	0.0000	0.0000	0.0000	0.0000	0.0000	0.0171	0.0400	0.0004	0.0001	0.0003	0.0001	0.0000
32	0.0000	0.0000	0.0000	0.0000	0.0000	0.0163	0.0350	0.0004	0.0001	0.0003	0.0001	0.0000
33	0.0000	0.0000	0.0000	0.0000	0.0000	0.0155	0.0350	0.0004	0.0001	0.0003	0.0001	0.0000
34	0.0000	0.0000	0.0000	0.0000	0.0000	0.0144	0.0350	0.0004	0.0001	0.0004	0.0001	0.0000
35	0.0000	0.0000	0.0000	0.0000	0.0000	0.0112	0.0300	0.0009	0.0002	0.0004	0.0001	0.0000
36	0.0000	0.0000	0.0000	0.0000	0.0000	0.0110	0.0300	0.0009	0.0002	0.0004	0.0001	0.0000
37	0.0000	0.0000	0.0000	0.0000	0.0000	0.0108	0.0290	0.0012	0.0002	0.0004	0.0001	0.0000
38	0.0000	0.0000	0.0000	0.0000	0.0000	0.0106	0.0285	0.0012	0.0002	0.0004	0.0001	0.0000
39	0.0000	0.0000	0.0000	0.0000	0.0000	0.0104	0.0275	0.0015	0.0002	0.0005	0.0001	0.0000
40	0.0000	0.0000	0.0000	0.0000	0.0000	0.0102	0.0281	0.0015	0.0002	0.0005	0.0001	0.0000
41	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0246	0.0015	0.0002	0.0005	0.0001	0.0000
42	0.0000	0.0000	0.0000	0.0000	0.0000	0.0098	0.0212	0.0015	0.0003	0.0005	0.0001	0.0000
43	0.0000	0.0000	0.0000	0.0000	0.0000	0.0095	0.0178	0.0015	0.0003	0.0006	0.0001	0.0000
44	0.0000	0.0000	0.0000	0.0000	0.0000	0.0076	0.0165	0.0015	0.0003	0.0006	0.0001	0.0000
45	0.0000	0.0000	0.0000	0.0000	0.0000	0.0056	0.0165	0.0015	0.0003	0.0007	0.0001	0.0000
46	0.0000	0.0000	0.0000	0.0000	0.0000	0.0055	0.0165	0.0017	0.0003	0.0008	0.0001	0.0000
47	0.0000	0.0000	0.0000	0.0000	0.0000	0.0054	0.0165	0.0018	0.0003	0.0009	0.0001	0.0000
48	0.0000	0.0000	0.0000	0.0000	0.0000	0.0043	0.0165	0.0020	0.0003	0.0010	0.0001	0.0000
49	0.0000	0.0000	0.0000	0.0000	0.0000	0.0035	0.0165	0.0022	0.0003	0.0011	0.0001	0.0000
50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0065	0.0027	0.0013	0.0012	0.0001	0.0223
51	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0061	0.0033	0.0013	0.0013	0.0001	0.0138
52	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0058	0.0038	0.0015	0.0014	0.0001	0.0098
53	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0053	0.0044	0.0015	0.0015	0.0001	0.0110
54	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0052	0.0049	0.0017	0.0016	0.0001	0.0214
55	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0055	0.0018	0.0017	0.0001	0.0279
56	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0058	0.0019	0.0018	0.0001	0.0379
57	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0061	0.0020	0.0019	0.0001	0.0451
58	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0064	0.0021	0.0020	0.0001	0.0432
59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0069	0.0021	0.0021	0.0001	0.0564
60	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0087	0.0022	0.0022	0.0001	0.0689
61	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0106	0.0024	0.0023	0.0001	0.0590
62	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0125	0.0026	0.0024	0.0001	0.1495
63	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0144	0.0028	0.0025	0.0001	0.1033
64	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0162	0.0030	0.0026	0.0001	0.1888
65	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0181	0.0030	0.0028	0.0001	0.1660
66	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0190	0.0030	0.0030	0.0001	0.2093
67	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0201	0.0030	0.0032	0.0001	0.2249
68	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0211	0.0030	0.0034	0.0001	0.3510
69	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0223	0.0030	0.0036	0.0001	0.5015
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

PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT
Safety 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	0.0668	0.0668	0.0668	0.0668	0.0200	0.0024	0.0000	0.0008	0.0001	0.0001	0.0000
21	0.1000	0.0668	0.0668	0.0668	0.0668	0.0200	0.0034	0.0000	0.0010	0.0001	0.0001	0.0000
22	0.1000	0.0668	0.0668	0.0668	0.0668	0.0200	0.0044	0.0000	0.0011	0.0001	0.0001	0.0000
23	0.1000	0.0668	0.0668	0.0668	0.0668	0.0200	0.0065	0.0000	0.0013	0.0001	0.0001	0.0000
24	0.1000	0.0668	0.0668	0.0668	0.0668	0.0200	0.0089	0.0000	0.0014	0.0001	0.0001	0.0000
25	0.0800	0.0624	0.0624	0.0624	0.0624	0.0200	0.0118	0.0005	0.0006	0.0001	0.0001	0.0000
26	0.0700	0.0581	0.0581	0.0581	0.0581	0.0200	0.0140	0.0005	0.0007	0.0001	0.0001	0.0000
27	0.0600	0.0538	0.0538	0.0538	0.0538	0.0200	0.0165	0.0005	0.0008	0.0001	0.0001	0.0000
28	0.0550	0.0495	0.0495	0.0495	0.0495	0.0200	0.0178	0.0005	0.0009	0.0001	0.0001	0.0000
29	0.0525	0.0451	0.0451	0.0451	0.0451	0.0200	0.0190	0.0005	0.0010	0.0001	0.0001	0.0000
30	0.0500	0.0408	0.0408	0.0408	0.0408	0.0118	0.0190	0.0006	0.0046	0.0001	0.0002	0.0000
31	0.0475	0.0408	0.0408	0.0408	0.0408	0.0111	0.0189	0.0006	0.0050	0.0001	0.0002	0.0000
32	0.0450	0.0408	0.0408	0.0408	0.0408	0.0104	0.0187	0.0006	0.0052	0.0001	0.0002	0.0000
33	0.0425	0.0408	0.0408	0.0408	0.0408	0.0096	0.0157	0.0007	0.0055	0.0001	0.0002	0.0000
34	0.0400	0.0400	0.0400	0.0400	0.0400	0.0085	0.0128	0.0007	0.0057	0.0001	0.0002	0.0000
35	0.0375	0.0375	0.0375	0.0375	0.0375	0.0078	0.0125	0.0006	0.0060	0.0002	0.0002	0.0000
36	0.0350	0.0350	0.0350	0.0350	0.0350	0.0071	0.0120	0.0006	0.0065	0.0002	0.0002	0.0000
37	0.0340	0.0340	0.0340	0.0340	0.0340	0.0064	0.0115	0.0007	0.0070	0.0002	0.0002	0.0000
38	0.0330	0.0330	0.0330	0.0330	0.0330	0.0057	0.0110	0.0007	0.0075	0.0002	0.0003	0.0000
39	0.0320	0.0320	0.0320	0.0320	0.0320	0.0050	0.0105	0.0007	0.0080	0.0002	0.0003	0.0000
40	0.0310	0.0310	0.0310	0.0310	0.0310	0.0050	0.0100	0.0006	0.0085	0.0002	0.0003	0.0000
41	0.0300	0.0300	0.0300	0.0300	0.0300	0.0050	0.0100	0.0006	0.0090	0.0002	0.0003	0.0010
42	0.0290	0.0290	0.0290	0.0290	0.0290	0.0050	0.0093	0.0006	0.0097	0.0003	0.0003	0.0011
43	0.0280	0.0280	0.0280	0.0280	0.0280	0.0045	0.0079	0.0006	0.0100	0.0003	0.0004	0.0012
44	0.0270	0.0270	0.0270	0.0270	0.0270	0.0040	0.0060	0.0007	0.0105	0.0003	0.0004	0.0012
45	0.0260	0.0260	0.0260	0.0260	0.0260	0.0035	0.0043	0.0012	0.0110	0.0003	0.0004	0.0015
46	0.0250	0.0250	0.0250	0.0250	0.0250	0.0030	0.0036	0.0013	0.0115	0.0003	0.0004	0.0020
47	0.0225	0.0225	0.0225	0.0225	0.0225	0.0025	0.0028	0.0014	0.0120	0.0003	0.0004	0.0025
48	0.0200	0.0200	0.0200	0.0200	0.0200	0.0020	0.0020	0.0015	0.0130	0.0004	0.0005	0.0030
49	0.0175	0.0175	0.0175	0.0175	0.0175	0.0015	0.0024	0.0017	0.0140	0.0004	0.0005	0.0035
50	0.0130	0.0130	0.0130	0.0130	0.0130	0.0010	0.0020	0.0005	0.0150	0.0004	0.0005	0.0075
51	0.0125	0.0125	0.0125	0.0125	0.0125	0.0008	0.0020	0.0005	0.0160	0.0004	0.0005	0.0150
52	0.0100	0.0100	0.0100	0.0100	0.0100	0.0006	0.0020	0.0006	0.0170	0.0005	0.0005	0.0200
53	0.0050	0.0050	0.0050	0.0050	0.0050	0.0003	0.0020	0.0007	0.0200	0.0005	0.0005	0.0300
54	0.0010	0.0010	0.0010	0.0010	0.0010	0.0003	0.0020	0.0007	0.0225	0.0005	0.0005	0.0400
55	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0006	0.0017	0.0250	0.0005	0.0006	0.2000
56	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0006	0.0018	0.0250	0.0005	0.0006	0.1700
57	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0006	0.0020	0.0250	0.0005	0.0006	0.1700
58	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0006	0.0022	0.0250	0.0005	0.0006	0.1800
59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0006	0.0023	0.0250	0.0005	0.0006	0.2000
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

DATE	DESCRIPTION	AMOUNT	CHECK NO.	BANK	BALANCE
11/11/11
11/12/11
11/13/11
11/14/11
11/15/11
11/16/11
11/17/11
11/18/11
11/19/11
11/20/11
11/21/11
11/22/11
11/23/11
11/24/11
11/25/11
11/26/11
11/27/11
11/28/11
11/29/11
11/30/11

Exhibit II

YEARS OF LIFE EXPECTANCY AFTER SERVICE RETIREMENT

Age	General		Safety		Age	General		Safety	
	Male	Female	Member	Beneficiary		Male	Female	Member	Beneficiary
50	30.94	33.29	29.09	33.29	80	8.46	9.30	7.51	9.30
51	30.01	32.34	28.18	32.34	81	7.97	8.74	7.07	8.74
52	29.09	31.40	27.28	31.40	82	7.51	8.20	6.65	8.20
53	28.18	30.47	26.38	30.47	83	7.07	7.68	6.24	7.68
54	27.28	29.53	25.49	29.53	84	6.65	7.18	5.86	7.18
55	26.38	28.61	24.61	28.61	85	6.24	6.71	5.48	6.71
56	25.49	27.68	23.74	27.68	86	5.86	6.25	5.12	6.25
57	24.61	26.77	22.88	26.77	87	5.48	5.83	4.78	5.83
58	23.74	25.86	22.04	25.86	88	5.12	5.42	4.45	5.42
59	22.88	24.97	21.20	24.97	89	4.78	5.05	4.15	5.05
60	22.04	24.09	20.38	24.09	90	4.45	4.70	3.87	4.70
61	21.20	23.22	19.57	23.22	91	4.15	4.37	3.61	4.37
62	20.38	22.36	18.78	22.36	92	3.87	4.07	3.37	4.07
63	19.57	21.52	18.01	21.52	93	3.61	3.79	3.15	3.79
64	18.78	20.69	17.26	20.69	94	3.37	3.53	2.95	3.53
65	18.01	19.88	16.53	19.88	95	3.15	3.28	2.77	3.28
66	17.26	19.09	15.81	19.09	96	2.95	3.06	2.61	3.06
67	16.53	18.30	15.11	18.30	97	2.77	2.85	2.46	2.85
68	15.81	17.53	14.43	17.53	98	2.61	2.65	2.33	2.65
69	15.11	16.77	13.77	16.77	99	2.46	2.48	2.21	2.48
70	14.43	16.01	13.11	16.01	100	2.33	2.31	2.09	2.31
71	13.77	15.26	12.48	15.26	101	2.21	2.16	1.98	2.16
72	13.11	14.53	11.85	14.53	102	2.09	2.02	1.87	2.02
73	12.48	13.81	11.25	13.81	103	1.98	1.89	1.77	1.89
74	11.85	13.11	10.66	13.11	104	1.87	1.78	1.68	1.78
75	11.25	12.43	10.08	12.43	105	1.77	1.70	1.62	1.70
76	10.66	11.76	9.52	11.76	106	1.68	1.63	1.57	1.63
77	10.08	11.11	8.98	11.11	107	1.62	1.57	1.53	1.57
78	9.52	10.49	8.46	10.49	108	1.57	1.53	1.51	1.53
79	8.98	9.88	7.97	9.88	109	1.53	1.50	1.49	1.50
					110	1.51	1.47	1.47	1.47

	<u>Male</u>	<u>Female</u>
General	94 GAM Male -1	94 GAM Female +1
	<u>Member</u>	<u>Beneficiary</u>
Safety	94 GAM Male +1	94 GAM Female +1

YEARS OF LIFE EXPECTANCY AFTER DISABILITY RETIREMENT

GENERAL MEMBERS

Age	Male & Female	Age	Male & Female	Age	Male & Female
20	41.73	50	22.56	80	8.28
21	40.73	51	22.06	81	7.83
22	39.73	52	21.57	82	7.41
23	38.73	53	21.08	83	7.00
24	37.98	54	20.59	84	6.63
25	37.26	55	20.11	85	6.27
26	36.56	56	19.63	86	5.94
27	35.87	57	19.16	87	5.63
28	35.19	58	18.68	88	5.34
29	34.53	59	18.21	89	5.06
30	33.87	60	17.75	90	4.80
31	33.23	61	17.29	91	4.55
32	32.60	62	16.83	92	4.31
33	31.98	63	16.37	93	4.09
34	31.37	64	15.91	94	3.87
35	30.76	65	15.45	95	3.66
36	30.17	66	14.99	96	3.46
37	29.58	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

1981 Disability Table Setback 3 Years

Vertical column of text on the left side of the page, possibly a page number or header.

Section header or title.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.

Text line.



YEARS OF LIFE EXPECTANCY AFTER DISABILITY RETIREMENT

SAFETY MEMBERS

<u>Age</u>	<u>Male & Female</u>	<u>Age</u>	<u>Male & Female</u>	<u>Age</u>	<u>Male & Female</u>
20	49.29	50	23.59	80	7.00
21	48.39	51	22.80	81	6.63
22	47.48	52	22.03	82	6.27
23	46.58	53	21.26	83	5.94
24	45.68	54	20.50	84	5.63
25	44.79	55	19.77	85	5.34
26	43.89	56	19.06	86	5.06
27	43.01	57	18.40	87	4.80
28	42.12	58	17.78	88	4.55
29	41.24	59	17.20	89	4.31
30	40.36	60	16.64	90	4.09
31	39.48	61	16.11	91	3.87
32	38.61	62	15.59	92	3.66
33	37.74	63	15.08	93	3.46
34	36.88	64	14.58	94	3.26
35	36.02	65	14.09	95	3.07
36	35.16	66	13.61	96	2.89
37	34.31	67	13.13	97	2.71
38	33.45	68	12.66	98	2.54
39	32.61	69	12.18	99	2.37
40	31.77	70	11.70	100	2.20
41	30.93	71	11.21	101	2.04
42	30.09	72	10.72	102	1.88
43	29.26	73	10.22	103	1.72
44	28.43	74	9.73	104	1.55
45	27.61	75	9.24	105	1.38
46	26.80	76	8.76	106	1.21
47	25.98	77	8.28	107	1.04
48	25.18	78	7.83	108	0.88
49	24.38	79	7.41	109	0.71
				110	0.50

1981 Disability Table (Safety)

**Ratio of Current Compensation to Compensation
Anticipated At Retirement Age**

Age	General	Safety
20	0.047	0.087
21	0.053	0.095
22	0.058	0.105
23	0.065	0.115
24	0.071	0.125
25	0.078	0.137
26	0.085	0.149
27	0.092	0.161
28	0.099	0.174
29	0.107	0.188
30	0.115	0.202
31	0.124	0.216
32	0.132	0.230
33	0.141	0.245
34	0.151	0.261
35	0.161	0.277
36	0.171	0.293
37	0.182	0.310
38	0.194	0.328
39	0.206	0.346
40	0.218	0.366
41	0.231	0.387
42	0.245	0.409
43	0.260	0.432
44	0.275	0.456
45	0.291	0.480
46	0.307	0.506
47	0.325	0.532
48	0.343	0.560
49	0.361	0.589
50	0.381	0.619
51	0.401	0.651
52	0.422	0.683
53	0.444	0.717
54	0.466	0.753
55	0.490	0.791
56	0.515	0.831
57	0.541	0.872
58	0.568	0.914
59	0.597	0.957
60	0.626	1.000
61	0.657	
62	0.689	
63	0.723	
64	0.758	
65	0.796	
66	0.834	
67	0.874	
68	0.915	
69	0.957	
70	1.000	

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes the need for transparency and accountability in financial reporting.

2. The second part of the document outlines the various methods and techniques used to collect and analyze data. It includes a detailed description of the experimental procedures and the statistical analysis performed.

3. The third part of the document presents the results of the study, showing the trends and patterns observed in the data. It includes several tables and graphs to illustrate the findings.

4. The fourth part of the document discusses the implications of the results and the potential applications of the findings. It also addresses the limitations of the study and suggests areas for future research.

5. The fifth part of the document provides a conclusion and summarizes the key points of the study. It also includes a list of references and a bibliography.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes the need for transparency and accountability in financial reporting.

2. The second part of the document outlines the various methods and techniques used to collect and analyze data. It includes a detailed description of the experimental procedures and the statistical analysis performed.

Appendix C System Membership and Benefit Statistics

System Membership and Benefit Statistics Active Members*

	December 31, 2001	December 31, 2000	Percent Change
1. General Tier 1			
Number			
Non Vested	437	352	24.1%
Vested	1,220	1,329	(8.2%)
Average Age	48.46	49.02	(1.1%)
Average Years of Service*	15.64	16.63	(6.0%)
Annual Salary			
Total	\$101,702,815	\$100,103,577	1.6%
Average	\$61,378	\$59,550	3.1%
2. General Tier 2			
Number			
Non Vested	2,873	2,508	14.6%
Vested	505	611	(17.3%)
Average Age	41.48	41.46	0.0%
Average Years of Service*	2.90	3.19	(9.1%)
Annual Salary			
Total	\$151,760,601	\$134,724,339	12.6%
Average	\$44,926	\$43,195	4.0%
3. General Tier 3			
Number			
Non Vested	2	45	(95.6%)
Vested	2,492	2,398	3.9%
Average Age	48.20	47.65	1.2%
Average Years of Service*	12.35	12.19	1.3%
Annual Salary			
Total	\$148,413,594	\$140,090,465	5.9%
Average	\$59,508	\$57,344	3.8%
4. General Total			
Number			
Non Vested	3,312	2,905	14.0%
Vested	4,217	4,338	(2.8%)
Average Age	45.24	45.30	(0.1%)
Average Years of Service*	8.83	9.34	(5.5%)
Annual Salary			
Total	\$401,877,010	\$374,918,381	7.2%
Average	\$53,377	\$51,763	3.1%
5. Safety			
Number			
Non Vested	579	490	18.2%
Vested	1,121	1,151	(2.6%)
Average Age	40.78	40.75	0.1%
Average Years of Service	11.35	11.78	(3.7%)
Annual Salary			
Total	\$121,744,376	\$113,465,137	7.3%
Average	\$71,614	\$69,144	3.6%

* In preparing the age and service distribution charts for December 31, 2001, we have used the total service from all tiers combined (instead of using service just for the latest tier of membership only in December 31, 2000).

g:\retire\cce.pub\2002\corres\cce-034b.doc

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This ensures transparency and allows for easy verification of the data.

In the second section, the author details the various methods used to collect and analyze the data. This includes both manual data entry and the use of specialized software tools. The goal is to ensure that the data is both accurate and easy to interpret.

The third section provides a detailed breakdown of the results. It shows that there has been a significant increase in sales over the period, which is a positive indicator for the business. However, it also notes that certain areas still require attention and improvement.

Finally, the document concludes with a series of recommendations for future actions. These include implementing more robust data security measures, continuing to invest in staff training, and exploring new market opportunities. The author expresses confidence that these steps will lead to continued growth and success.

[Faint vertical text on the right margin, possibly a page number or reference code.]

[Small circular stamp or mark on the right margin.]

[Faint text at the bottom left corner, possibly a footer or page number.]

[Faint text at the bottom center, possibly a footer or page number.]

System Membership and Benefit Statistics Retired Members

	December 31, 2001	December 31, 2000	Percent Change
Retired Members			
A. Service Retirement			
i. Number	4,080	3838	6.3%
ii. Annual Allowance			
Basic Only	\$71,869,786	\$62,381,226	15.2%
Dollar Power	\$2,326,336	\$0	
COLA without Dollar Power	\$20,765,421	\$17,848,308	16.3%
COLA	<u>\$23,091,757</u>	<u>\$17,848,308</u>	29.4%
Total	\$94,961,543	\$80,229,534	18.4%
Average Monthly Amount*	\$1,940	\$1,742	11.3%
B. Disability Retirement			
i. Number	823	777	5.9%
ii. Annual Allowance			
Basic Only	\$16,645,925	\$14,562,031	14.3%
Dollar Power	\$716,593	\$0	
COLA without Dollar Power	\$4,969,461	\$4,321,403	15.0%
COLA	<u>\$5,686,054</u>	<u>\$4,321,403</u>	31.6%
Total	\$22,331,978	\$18,883,434	18.3%
Average Monthly Amount*	\$2,261	\$2,025	11.7%
C. Beneficiaries			
i. Number	994	943	5.4%
ii. Annual Allowance			
Basic Only	\$8,336,359	\$7,263,336	14.8%
Dollar Power	\$1,735,087	\$0	
COLA without Dollar Power	\$4,736,589	\$3,971,959	19.3%
COLA	\$6,471,676	\$3,971,959	62.9%
Total	\$14,808,035	\$11,235,295	31.8%
Average Monthly Amount*	\$1,241	\$993	25.0%
Inactive Vested Members			
A. Number**	955	877	8.9%

* Includes member who received retroactive benefit adjustments as a result of the Paulson Settlement.

** Includes only members who have terminated employment with CCCERA.

**Average Annual Salary And Membership Distribution
of Active General Tier 1 Members
As Of December 31, 2001**

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	2									2
	23,871									23,871
20-24	8									8
	33,349									33,349
25-29	40	3								43
	46,904	53,629								47,374
30-34	56	11	8	1						76
	49,055	49,371	60,116	63,366						50,453
35-39	86	25	23	6						140
	54,791	58,358	62,252	53,867						56,614
40-44	71	37	39	14	41	2				204
	58,002	55,776	63,866	65,716	57,398	51,209				59,061
45-49	72	32	48	24	86	59	2			323
	60,574	66,503	68,759	63,160	62,936	53,050	56,520			61,799
50-54	64	26	39	31	102	108	51	4		425
	54,970	73,702	64,661	73,964	64,936	63,606	56,540	53,065		63,147
55-59	29	19	30	23	52	85	80	10		328
	67,208	56,563	67,698	71,518	61,618	69,224	68,347	65,959		66,814
60-64	5	1	7	4	24	26	15	7	1	90
	67,844	68,422	57,273	59,805	60,029	64,838	64,032	82,460	38,687	63,896
65-69	4		2	3	3	1	1	1		15
	49,775		78,020	62,446	48,338	45,321	50,748	64,018		56,505
70-74							1			1
							34,965			34,965
75+					2					2
					97,641					97,641
Total	437	154	196	106	310	281	150	22	1	1,657
	55,228	61,131	65,376	67,800	62,498	63,050	63,404	68,777	38,687	61,378

Total Salary	\$101,702,815
Average Age	48.46
Average Service	15.64

1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
41							
42							
43							
44							
45							
46							
47							
48							
49							
50							



**Average Annual Salary And Membership Distribution
of Active General Tier 2 Members
As Of December 31, 2001**

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	3									3
	24,427									24,427
20-24	111	1								112
	33,583	32,750								33,576
25-29	339	6								345
	40,490	45,914								40,584
30-34	471	41	8							520
	45,796	50,286	41,564							46,085
35-39	470	43	25	5						543
	45,544	47,790	47,075	42,136						45,761
40-44	418	42	29	9	3					501
	45,310	45,732	48,278	44,242	43,263					45,486
45-49	431	50	46	10	8					545
	45,644	41,981	53,503	53,787	49,168					46,172
50-54	336	30	29	13	6					414
	45,312	45,875	47,763	58,630	45,131					45,940
55-59	198	18	21	7	4			1		249
	43,756	50,980	51,750	48,414	50,734		83,240			45,354
60-64	70	14	10	7	3			1		105
	47,315	41,645	53,438	44,489	56,027		54,880			47,274
65-69	21	7	3	2						33
	40,212	51,390	68,743	35,160						44,871
70-74		1		2	1					4
		33,727		39,267	55,834					42,024
75+	2	2								4
	48,147	69,707								58,927
Total	2,870	255	171	55	25		2			3,378
	44,340	46,488	50,193	49,238	48,831		69,060			44,926

Total Salary	\$151,760,601
Average Age	41.48
Average Service	2.9



Year	Month	Day	Event	Location	Remarks
1984	10	20	...	...	...
1984	10	21	...	...	...
1984	10	22	...	...	...
1984	10	23	...	...	...
1984	10	24	...	...	...
1984	10	25	...	...	...
1984	10	26	...	...	...
1984	10	27	...	...	...
1984	10	28	...	...	...
1984	10	29	...	...	...
1984	10	30	...	...	...
1984	10	31	...	...	...
1984	11	01	...	...	...
1984	11	02	...	...	...
1984	11	03	...	...	...
1984	11	04	...	...	...
1984	11	05	...	...	...
1984	11	06	...	...	...
1984	11	07	...	...	...
1984	11	08	...	...	...
1984	11	09	...	...	...
1984	11	10	...	...	...
1984	11	11	...	...	...
1984	11	12	...	...	...
1984	11	13	...	...	...
1984	11	14	...	...	...
1984	11	15	...	...	...
1984	11	16	...	...	...
1984	11	17	...	...	...
1984	11	18	...	...	...
1984	11	19	...	...	...
1984	11	20	...	...	...
1984	11	21	...	...	...
1984	11	22	...	...	...
1984	11	23	...	...	...
1984	11	24	...	...	...
1984	11	25	...	...	...
1984	11	26	...	...	...
1984	11	27	...	...	...
1984	11	28	...	...	...
1984	11	29	...	...	...
1984	11	30	...	...	...
1984	12	01	...	...	...
1984	12	02	...	...	...
1984	12	03	...	...	...
1984	12	04	...	...	...
1984	12	05	...	...	...
1984	12	06	...	...	...
1984	12	07	...	...	...
1984	12	08	...	...	...
1984	12	09	...	...	...
1984	12	10	...	...	...
1984	12	11	...	...	...
1984	12	12	...	...	...
1984	12	13	...	...	...
1984	12	14	...	...	...
1984	12	15	...	...	...
1984	12	16	...	...	...
1984	12	17	...	...	...
1984	12	18	...	...	...
1984	12	19	...	...	...
1984	12	20	...	...	...
1984	12	21	...	...	...
1984	12	22	...	...	...
1984	12	23	...	...	...
1984	12	24	...	...	...
1984	12	25	...	...	...
1984	12	26	...	...	...
1984	12	27	...	...	...
1984	12	28	...	...	...
1984	12	29	...	...	...
1984	12	30	...	...	...
1984	12	31	...	...	...



**Average Annual Salary And Membership Distribution
of Active General Tier 3 Members
As Of December 31, 2001**

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										
20-24										
25-29		7								7
		54,003								54,003
30-34		66	33	2						101
		57,418	46,243	52,082						53,661
35-39		129	154	34	5					322
		62,944	61,668	55,632	56,459					61,461
40-44		109	203	71	38					421
		52,669	61,300	65,002	51,636					58,818
45-49		133	197	123	45	6	1			505
		57,211	61,407	66,902	66,678	54,026	87,273			62,074
50-54	1	144	209	122	62	10	2			550
	47,970	54,340	58,428	63,970	70,302	87,652	43,393			60,383
55-59		95	148	90	40	13	5			391
		52,262	58,170	58,100	70,208	90,785	65,139			59,123
60-64	1	32	56	44	15	2				150
	38,080	49,253	50,831	56,861	57,826	111,120				53,682
65-69		7	19	8	2	1				37
		37,052	51,648	45,088	60,239	38,687				47,582
70-74		3	2	1	1					7
		70,501	63,510	42,665	61,173					63,194
75+		1	2							3
		28,130	52,399							44,309
Total	2	726	1,023	495	208	32	8			2,494
	43,025	55,788	59,085	62,178	64,717	82,557	62,469			59,508

Total Salary	\$148,413,594
Average Age	48.2
Average Service	12.35

Year	1966	1967	1968	1969	1970	1971	1972
1	1000	1000	1000	1000	1000	1000	1000
2	1000	1000	1000	1000	1000	1000	1000
3	1000	1000	1000	1000	1000	1000	1000
4	1000	1000	1000	1000	1000	1000	1000
5	1000	1000	1000	1000	1000	1000	1000
6	1000	1000	1000	1000	1000	1000	1000
7	1000	1000	1000	1000	1000	1000	1000
8	1000	1000	1000	1000	1000	1000	1000
9	1000	1000	1000	1000	1000	1000	1000
10	1000	1000	1000	1000	1000	1000	1000
11	1000	1000	1000	1000	1000	1000	1000
12	1000	1000	1000	1000	1000	1000	1000
13	1000	1000	1000	1000	1000	1000	1000
14	1000	1000	1000	1000	1000	1000	1000
15	1000	1000	1000	1000	1000	1000	1000
16	1000	1000	1000	1000	1000	1000	1000
17	1000	1000	1000	1000	1000	1000	1000
18	1000	1000	1000	1000	1000	1000	1000
19	1000	1000	1000	1000	1000	1000	1000
20	1000	1000	1000	1000	1000	1000	1000
21	1000	1000	1000	1000	1000	1000	1000
22	1000	1000	1000	1000	1000	1000	1000
23	1000	1000	1000	1000	1000	1000	1000
24	1000	1000	1000	1000	1000	1000	1000
25	1000	1000	1000	1000	1000	1000	1000
26	1000	1000	1000	1000	1000	1000	1000
27	1000	1000	1000	1000	1000	1000	1000
28	1000	1000	1000	1000	1000	1000	1000
29	1000	1000	1000	1000	1000	1000	1000
30	1000	1000	1000	1000	1000	1000	1000
31	1000	1000	1000	1000	1000	1000	1000
32	1000	1000	1000	1000	1000	1000	1000
33	1000	1000	1000	1000	1000	1000	1000
34	1000	1000	1000	1000	1000	1000	1000
35	1000	1000	1000	1000	1000	1000	1000
36	1000	1000	1000	1000	1000	1000	1000
37	1000	1000	1000	1000	1000	1000	1000
38	1000	1000	1000	1000	1000	1000	1000
39	1000	1000	1000	1000	1000	1000	1000
40	1000	1000	1000	1000	1000	1000	1000
41	1000	1000	1000	1000	1000	1000	1000
42	1000	1000	1000	1000	1000	1000	1000
43	1000	1000	1000	1000	1000	1000	1000
44	1000	1000	1000	1000	1000	1000	1000
45	1000	1000	1000	1000	1000	1000	1000
46	1000	1000	1000	1000	1000	1000	1000
47	1000	1000	1000	1000	1000	1000	1000
48	1000	1000	1000	1000	1000	1000	1000
49	1000	1000	1000	1000	1000	1000	1000
50	1000	1000	1000	1000	1000	1000	1000

1973
 1974
 1975
 1976
 1977
 1978
 1979
 1980

**Average Annual Salary And Membership Distribution
of Active Safety Members
As Of December 31, 2001**

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										
20-24	27									27
	52,147									52,147
25-29	170	5								175
	53,792	66,356								54,151
30-34	191	72	33							296
	59,049	65,750	76,527							62,628
35-39	94	70	136	23						323
	63,335	68,788	75,990	83,145						71,256
40-44	48	27	80	95	23					273
	64,029	67,248	77,560	84,093	89,155					77,411
45-49	16	13	27	47	93	32				228
	64,491	60,224	74,519	82,524	84,988	93,750				81,620
50-54	12	14	22	28	64	79	21			240
	63,221	63,889	74,397	82,545	79,924	84,183	93,317			80,526
55-59	14	8	6	14	19	29	27	1		118
	58,039	68,046	68,660	77,117	78,775	83,659	83,830	76,371		77,213
60-64	6	5	3			1	2			17
	56,013	54,700	53,778			58,854	81,116			58,353
60+	1	1		1						3
	26,313	48,274		60,002						44,863
Total	579	215	307	208	199	141	50	1		1,700
	58,417	66,233	75,853	82,840	83,248	86,067	87,706	76,371		71,614

Total Salary	\$121,744,376
Average Age	40.78
Average Service	11.35

50

Year	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024																																																																		
Population	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355	360	365	370	375	380	385	390	395	400	405	410	415	420	425	430	435	440	445	450	455	460	465	470	475	480	485	490	495	500	505	510	515	520	525	530	535	540	545	550	555	560	565	570	575	580	585	590	595	600	605	610	615	620	625	630	635	640	645	650	655	660	665	670	675	680	685	690	695	700	705	710	715	720	725	730	735	740	745	750	755	760	765	770	775	780	785	790	795	800	805	810	815	820	825	830	835	840	845	850	855	860	865	870	875	880	885	890	895	900	905	910	915	920	925	930	935	940	945	950	955	960	965	970	975	980	985	990	995	1000

1000
1000
1000

**Average Annual Benefit And Membership Distribution
of Retired General Tier 1 Members And Beneficiaries
As Of December 31, 2001**

Age Group	YEARS OF RETIREMENT									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19	2	3								5
	11,675	3,448								6,739
20-24		4								4
		9,284								9,284
25-29	1	2		1						4
	8,107	11,853		7,625						9,860
30-34	2	4	1							7
	31,408	9,168	8,157							15,378
35-39	3	4	2							9
	11,013	12,272	5,713							10,395
40-44	6	5	1	3						15
	20,758	13,925	17,040	5,353						15,151
45-49	11	13	2	5	1	3				35
	17,811	20,049	18,145	10,924	11,137	1,662				16,103
50-54	108	21	8	8	8	5				158
	17,170	18,012	17,863	11,580	12,345	5,332				16,415
55-59	205	99	26	11	10	3				354
	27,305	14,704	17,015	16,989	14,968	10,570				22,215
60-64	256	133	78	19	8	2		1		497
	34,041	19,615	14,067	13,744	13,668	12,536		16,981		26,781
65-69	166	249	129	80	11	8	4	1		648
	34,041	29,862	18,281	11,945	13,923	13,737	9,357	8,258		25,785
70-74	44	173	227	145	77	15	3	1	1	686
	18,612	28,735	26,262	14,852	8,548	17,403	9,796	20,409	8,762	21,695
75-79	39	53	163	218	165	36	2	2		678
	15,335	23,064	23,904	20,923	12,582	7,925	7,505	14,021		18,706
80-84	34	34	46	148	177	85	7	2		533
	16,773	13,719	16,917	20,143	16,884	14,016	8,145	11,138		16,989
85-89	12	15	12	34	73	72	31	2	3	254
	6,286	6,971	12,903	15,713	16,045	15,143	10,170	6,580	4,662	13,673
90+	6	5	4	3	3	40	33	6	5	105
	9,916	9,458	8,518	3,838	9,066	13,598	9,793	6,512	7,669	10,706
Total	895	817	699	675	533	269	80	15	9	3,992
	27,248	23,473	21,371	17,506	13,965	13,272	9,716	9,880	6,788	20,741

Total Retired Benefit	\$82,796,823
Average Age	70.91
Average Years Retired	12.43

1000

1000

B

1000

1000

C

1000

D

E

F

G

H

I

J

1000

K

1000

L

M

1000

N

O

1000

P

1000

1000

**Average Annual Benefit And Membership Distribution
of Retired General Tier 2 Members And Beneficiaries
As Of December 31, 2001**

Age Group	YEARS OF RETIREMENT									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19	3									3
	5,595									5,595
20-24										
25-29	6	1	2							9
	6,776	14,773	6,335							7,566
30-34	3	2	3							8
	17,250	9,310	3,895							10,257
35-39		1	1							2
		13,531	16,146							14,839
40-44	1	2								3
	27,441	9,250								15,313
45-49	1	3	1							5
	16,769	13,744	18,569							15,314
50-54	53	6	3	2						64
	6,838	15,612	13,774	12,991						7,975
55-59	93	28	3	2						126
	7,435	5,283	16,307	9,336						7,198
60-64	89	31	7							127
	8,735	8,042	4,604							8,338
65-69	97	47	10	3						157
	8,637	7,595	3,278	8,876						7,988
70-74	19	47	9	4	1					80
	7,548	8,467	10,358	934	192					7,981
75-79	8	15	15	2	1					41
	5,821	4,837	5,598	1,561	15,005					5,395
80-84		3	4	1						8
		4,391	2,971	2,516						3,447
85-89										
90+										
Total	373	186	58	14	2					633
	8,076	7,732	6,955	5,761	7,599					7,799

Total Retired Benefit	\$4,936,836
Average Age	62.42
Average Years Retired	4.62

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. This is essential for ensuring the integrity of the financial system and for providing a clear audit trail.

2. The second part of the document outlines the various methods used to collect and analyze data. These methods include direct observation, interviews, and the use of specialized software tools. Each method has its own strengths and limitations, and they are often used in combination to provide a comprehensive view of the data.

3. The third part of the document describes the process of data analysis. This involves identifying patterns, trends, and anomalies in the data. It also involves testing hypotheses and drawing conclusions based on the results of the analysis. This process is often iterative and requires a high level of attention to detail.

4. The fourth part of the document discusses the importance of data security. In an era of increasing cyber threats, it is crucial to implement robust security measures to protect sensitive data. This includes using encryption, firewalls, and other security technologies, as well as implementing strict access controls and security policies.

5. The fifth part of the document concludes by emphasizing the need for ongoing monitoring and evaluation. The data analysis process is not a one-time event; it is an ongoing activity that requires regular updates and adjustments to ensure that the data remains accurate and relevant.

6. In conclusion, the document highlights the critical role of data analysis in decision-making. By providing a clear and accurate picture of the data, it enables organizations to make informed decisions and to identify areas for improvement. The process of data analysis is a complex one, but it is one that is essential for the success of any organization.

**Average Annual Benefit And Membership Distribution
of Retired General Tier 3 Members And Beneficiaries
As Of December 31, 2001**

Age Group	YEARS OF RETIREMENT									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19	1									1
	3,497									3,497
20-24										
25-29	1									1
	6,986									6,986
30-34	2									2
	7,806									7,806
35-39	1									1
	10,049									10,049
40-44										
45-49	3									3
	20,882									20,882
50-54	23									23
	4,051									4,051
55-59	49									49
	6,154									6,154
60-64	67									67
	6,337									6,337
65-69	29									29
	4,221									4,221
70-74	6									6
	5,044									5,044
75-79										
80-84										
85-89										
90+										
Total	182									182
	5,883									5,883

Total Retired Benefit	\$1,070,747
Average Age	59.35
Average Years Retired	0.79

g:\retire\cca.pub\2002\comes\cca-034b.doc



[The following text is extremely faint and largely illegible. It appears to be a list or a set of notes, possibly containing names and dates. The text is arranged in several columns and rows, but the individual characters are too light to transcribe accurately.]

**Average Annual Benefit And Membership Distribution
of Retired Safety Members And Beneficiaries
As Of December 31, 2001**

Age Group	YEARS OF RETIREMENT									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19		1								1
		33,316								33,316
20-24		3								3
		6,518								6,518
25-29			2							2
			14,756							14,756
30-34	3	1	1		1					6
	28,424	6,853	7,203		22,738					20,344
35-39	14	7	1							22
	35,620	22,734	7,203							30,228
40-44	17	11	4	1						33
	33,358	31,545	31,048	26,972						32,280
45-49	21	13	5	3						42
	32,575	29,241	30,184	21,390						30,459
50-54	52	30	16	6	7			1		112
	36,105	27,924	28,401	20,088	24,099		8,288			30,956
55-59	135	45	15	19	10	1				225
	58,844	29,598	32,984	22,517	23,873	36,429				46,550
60-64	57	83	30	17	8	5	2			202
	55,295	56,042	38,978	26,288	25,580	24,858	23,774			48,495
65-69	15	52	51	26	9	2	2			157
	33,667	42,425	52,224	35,824	25,041	18,390	16,158			42,041
70-74	3	19	18	51	24	12	2	1		130
	28,315	30,582	31,166	43,636	34,988	21,966	25,123	17,924		35,568
75-79	5	6	4	17	32	17	6	3		90
	28,994	27,799	27,617	43,874	46,487	31,119	17,747	9,239		36,876
80-84	2	7	2	1	7	16	5	1		41
	26,673	24,265	36,469	57,665	40,102	33,392	21,359	23,313		31,680
85-89	2		4	2	2	3	5			18
	33,669		31,459	17,090	14,440	29,303	18,467			24,249
90+			3	1						4
			17,704	6,006						14,780
Total	326	278	156	144	100	56	23	5		1,088
	48,049	39,176	38,617	35,326	34,971	28,791	19,305	13,791		39,787

Total Retired Benefit	\$43,288,441
Average Age	62.24
Average Years Retired	10.52



[Faint, mostly illegible text, possibly a list or table of data. Some words like 'TABLE', 'ITEM', and 'NO.' are faintly visible.]



**Summary of Monthly Allowances Being Paid
as of December 31, 2001**

General Members				
Monthly Allowance				
Service	Number	Basic	Cost of Living	Total
Unmodified	3,166 \$	3,930,358 \$	1,344,930 \$	5,275,288
Option1	183	201,307	49,977	251,285
Option 2, 3 &4	199	216,043	42,933	258,976
Total	3,548 \$	4,347,709 \$	1,437,840 \$	5,785,549
Disability				
Unmodified	448 \$	543,690 \$	205,067 \$	748,757
Option1	24	27,209	8,242	35,451
Option 2, 3 &4	10	10,576	1,968	12,544
Total	482 \$	581,475 \$	215,278 \$	796,753
Beneficiaries				
Total	779 \$	464,431 \$	354,361 \$	818,792
Total	4,809 \$	5,393,614 \$	2,007,479 \$	7,401,093

Safety Members				
Monthly Allowance				
Service	Number	Basic	Cost of Living	Total
Unmodified	506 \$	1,585,427 \$	475,026 \$	2,060,454
Option1	14	21,454	5,276	26,729
Option 2, 3 &4	12	34,559	6,171	40,730
Total	532 \$	1,641,440 \$	486,473 \$	2,127,913
Disability				
Unmodified	332 \$	792,214 \$	254,021 \$	1,046,236
Option1	4	4,614	2,500	7,115
Option 2, 3 &4	5	8,856	2,039	10,895
Total	341 \$	805,685 \$	258,560 \$	1,064,245
Beneficiaries				
Total	215 \$	230,266 \$	184,945 \$	415,211
Total	1,088 \$	2,677,392 \$	929,978 \$	3,607,370

1. *John Doe* is a *member* of the *Board of Directors*.
 2. *John Doe* is a *member* of the *Executive Committee*.
 3. *John Doe* is a *member* of the *Advisory Board*.
 4. *John Doe* is a *member* of the *Finance Committee*.
 5. *John Doe* is a *member* of the *Marketing Committee*.
 6. *John Doe* is a *member* of the *Research and Development Committee*.
 7. *John Doe* is a *member* of the *Human Resources Committee*.
 8. *John Doe* is a *member* of the *Legal and Compliance Committee*.
 9. *John Doe* is a *member* of the *Information Technology Committee*.
 10. *John Doe* is a *member* of the *Operations Committee*.
 11. *John Doe* is a *member* of the *Public Relations Committee*.
 12. *John Doe* is a *member* of the *Strategy and Planning Committee*.
 13. *John Doe* is a *member* of the *Quality Assurance Committee*.
 14. *John Doe* is a *member* of the *Supply Chain Management Committee*.
 15. *John Doe* is a *member* of the *Customer Service Committee*.

Appendix D Members' Contribution Rates

8.35% Interest Rate

General Tier 1 Members' Contribution Rates
(Expressed as a Percentage of Monthly Payroll)

Entry Age	Calculated Under Recommended Assumptions				Total	
	Basic		COLA		First \$350	Over \$350
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
15	3.97%	5.96%	2.06%	3.09%	6.03%	9.05%
16	3.97%	5.96%	2.06%	3.09%	6.03%	9.05%
17	3.97%	5.96%	2.06%	3.09%	6.03%	9.05%
18	3.97%	5.96%	2.06%	3.09%	6.03%	9.05%
19	3.97%	5.96%	2.06%	3.09%	6.03%	9.05%
20	3.97%	5.96%	2.06%	3.09%	6.03%	9.05%
21	3.97%	5.96%	2.06%	3.10%	6.03%	9.06%
22	3.98%	5.97%	2.07%	3.10%	6.05%	9.07%
23	3.99%	5.99%	2.07%	3.11%	6.06%	9.10%
24	4.01%	6.01%	2.08%	3.12%	6.09%	9.13%
25	4.03%	6.04%	2.09%	3.14%	6.12%	9.18%
26	4.05%	6.08%	2.10%	3.15%	6.15%	9.23%
27	4.08%	6.12%	2.12%	3.18%	6.20%	9.30%
28	4.11%	6.16%	2.13%	3.20%	6.24%	9.36%
29	4.14%	6.21%	2.15%	3.23%	6.29%	9.44%
30	4.18%	6.27%	2.17%	3.25%	6.35%	9.52%
31	4.22%	6.33%	2.19%	3.28%	6.41%	9.61%
32	4.26%	6.39%	2.21%	3.32%	6.47%	9.71%
33	4.30%	6.45%	2.23%	3.35%	6.53%	9.80%
34	4.35%	6.52%	2.26%	3.39%	6.61%	9.91%
35	4.40%	6.59%	2.28%	3.42%	6.68%	10.01%
36	4.44%	6.67%	2.31%	3.46%	6.75%	10.13%
37	4.50%	6.74%	2.33%	3.50%	6.83%	10.24%
38	4.55%	6.82%	2.36%	3.54%	6.91%	10.36%
39	4.60%	6.91%	2.39%	3.59%	6.99%	10.50%
40	4.66%	6.99%	2.42%	3.63%	7.08%	10.62%
41	4.72%	7.08%	2.45%	3.67%	7.17%	10.75%
42	4.78%	7.17%	2.48%	3.72%	7.26%	10.89%
43	4.84%	7.26%	2.51%	3.77%	7.35%	11.03%
44	4.90%	7.36%	2.55%	3.82%	7.45%	11.18%
45	4.97%	7.46%	2.58%	3.87%	7.55%	11.33%
46	5.04%	7.56%	2.62%	3.92%	7.66%	11.48%
47	5.11%	7.66%	2.65%	3.98%	7.76%	11.64%
48	5.18%	7.77%	2.69%	4.03%	7.87%	11.80%
49	5.25%	7.88%	2.73%	4.09%	7.98%	11.97%
50	5.33%	7.99%	2.77%	4.15%	8.10%	12.14%
51	5.41%	8.11%	2.81%	4.21%	8.22%	12.32%
52	5.49%	8.23%	2.85%	4.27%	8.34%	12.50%
53	5.57%	8.35%	2.89%	4.34%	8.46%	12.69%
54	5.65%	8.48%	2.94%	4.40%	8.59%	12.88%
55	5.65%	8.48%	2.94%	4.40%	8.59%	12.88%
56	5.65%	8.48%	2.94%	4.40%	8.59%	12.88%
57	5.65%	8.48%	2.94%	4.40%	8.59%	12.88%
58	5.65%	8.48%	2.94%	4.40%	8.59%	12.88%
59	5.65%	8.48%	2.94%	4.40%	8.59%	12.88%
60	5.65%	8.48%	2.94%	4.40%	8.59%	12.88%

Calculated Using the Following Assumptions

Interest Rate:	8.35%	Inflation:	4.25%
COLA Loading:	51.92%	Mortality Table:	94 GAM Male -3

g:\retire\cca.pub\2002\comres\cca-034b.doc

Year	Month	Day	Event	Location	Notes
1911	Jan	1	...	...	...
1911	Jan	2	...	...	...
1911	Jan	3	...	...	...
1911	Jan	4	...	...	...
1911	Jan	5	...	...	...
1911	Jan	6	...	...	...
1911	Jan	7	...	...	...
1911	Jan	8	...	...	...
1911	Jan	9	...	...	...
1911	Jan	10	...	...	...
1911	Jan	11	...	...	...
1911	Jan	12	...	...	...
1911	Jan	13	...	...	...
1911	Jan	14	...	...	...
1911	Jan	15	...	...	...
1911	Jan	16	...	...	...
1911	Jan	17	...	...	...
1911	Jan	18	...	...	...
1911	Jan	19	...	...	...
1911	Jan	20	...	...	...
1911	Jan	21	...	...	...
1911	Jan	22	...	...	...
1911	Jan	23	...	...	...
1911	Jan	24	...	...	...
1911	Jan	25	...	...	...
1911	Jan	26	...	...	...
1911	Jan	27	...	...	...
1911	Jan	28	...	...	...
1911	Jan	29	...	...	...
1911	Jan	30	...	...	...
1911	Jan	31	...	...	...
1911	Feb	1	...	...	...
1911	Feb	2	...	...	...
1911	Feb	3	...	...	...
1911	Feb	4	...	...	...
1911	Feb	5	...	...	...
1911	Feb	6	...	...	...
1911	Feb	7	...	...	...
1911	Feb	8	...	...	...
1911	Feb	9	...	...	...
1911	Feb	10	...	...	...
1911	Feb	11	...	...	...
1911	Feb	12	...	...	...
1911	Feb	13	...	...	...
1911	Feb	14	...	...	...
1911	Feb	15	...	...	...
1911	Feb	16	...	...	...
1911	Feb	17	...	...	...
1911	Feb	18	...	...	...
1911	Feb	19	...	...	...
1911	Feb	20	...	...	...
1911	Feb	21	...	...	...
1911	Feb	22	...	...	...
1911	Feb	23	...	...	...
1911	Feb	24	...	...	...
1911	Feb	25	...	...	...
1911	Feb	26	...	...	...
1911	Feb	27	...	...	...
1911	Feb	28	...	...	...
1911	Feb	29	...	...	...
1911	Mar	1	...	...	...
1911	Mar	2	...	...	...
1911	Mar	3	...	...	...
1911	Mar	4	...	...	...
1911	Mar	5	...	...	...
1911	Mar	6	...	...	...
1911	Mar	7	...	...	...
1911	Mar	8	...	...	...
1911	Mar	9	...	...	...
1911	Mar	10	...	...	...
1911	Mar	11	...	...	...
1911	Mar	12	...	...	...
1911	Mar	13	...	...	...
1911	Mar	14	...	...	...
1911	Mar	15	...	...	...
1911	Mar	16	...	...	...
1911	Mar	17	...	...	...
1911	Mar	18	...	...	...
1911	Mar	19	...	...	...
1911	Mar	20	...	...	...
1911	Mar	21	...	...	...
1911	Mar	22	...	...	...
1911	Mar	23	...	...	...
1911	Mar	24	...	...	...
1911	Mar	25	...	...	...
1911	Mar	26	...	...	...
1911	Mar	27	...	...	...
1911	Mar	28	...	...	...
1911	Mar	29	...	...	...
1911	Mar	30	...	...	...
1911	Mar	31	...	...	...

General Tier 2 Members' Contribution Rates
(Expressed as a Percentage of Monthly Payroll)

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
15	2.27%	1.18%	3.45%
16	2.27%	1.18%	3.45%
17	2.27%	1.18%	3.45%
18	2.27%	1.18%	3.45%
19	2.27%	1.18%	3.45%
20	2.27%	1.18%	3.45%
21	2.27%	1.18%	3.45%
22	2.27%	1.18%	3.45%
23	2.28%	1.18%	3.46%
24	2.29%	1.19%	3.48%
25	2.30%	1.19%	3.49%
26	2.31%	1.20%	3.51%
27	2.33%	1.21%	3.54%
28	2.34%	1.21%	3.55%
29	2.36%	1.23%	3.59%
30	2.38%	1.24%	3.62%
31	2.41%	1.25%	3.66%
32	2.43%	1.26%	3.69%
33	2.46%	1.28%	3.74%
34	2.48%	1.29%	3.77%
35	2.51%	1.30%	3.81%
36	2.54%	1.32%	3.86%
37	2.57%	1.33%	3.90%
38	2.60%	1.35%	3.95%
39	2.63%	1.37%	4.00%
40	2.66%	1.38%	4.04%
41	2.70%	1.40%	4.10%
42	2.73%	1.42%	4.15%
43	2.76%	1.43%	4.19%
44	2.80%	1.45%	4.25%
45	2.84%	1.47%	4.31%
46	2.88%	1.50%	4.38%
47	2.92%	1.52%	4.44%
48	2.96%	1.54%	4.50%
49	3.00%	1.56%	4.56%
50	3.04%	1.58%	4.62%
51	3.09%	1.60%	4.69%
52	3.13%	1.62%	4.75%
53	3.26%	1.69%	4.95%
54	3.39%	1.76%	5.15%
55	3.39%	1.76%	5.15%
56	3.39%	1.76%	5.15%
57	3.39%	1.76%	5.15%
58	3.39%	1.76%	5.15%
59	3.39%	1.76%	5.15%
60	3.39%	1.76%	5.15%

Calculated Using the Following Assumptions

Interest Rate: 8.35%	Inflation: 4.25%
COLA Loading: 51.92%	Mortality Table: 94 GAM Male -3

110

Year	Month	Day	Event
1911	Jan	1	...
1911	Jan	2	...
1911	Jan	3	...
1911	Jan	4	...
1911	Jan	5	...
1911	Jan	6	...
1911	Jan	7	...
1911	Jan	8	...
1911	Jan	9	...
1911	Jan	10	...
1911	Jan	11	...
1911	Jan	12	...
1911	Jan	13	...
1911	Jan	14	...
1911	Jan	15	...
1911	Jan	16	...
1911	Jan	17	...
1911	Jan	18	...
1911	Jan	19	...
1911	Jan	20	...
1911	Jan	21	...
1911	Jan	22	...
1911	Jan	23	...
1911	Jan	24	...
1911	Jan	25	...
1911	Jan	26	...
1911	Jan	27	...
1911	Jan	28	...
1911	Jan	29	...
1911	Jan	30	...
1911	Jan	31	...
1911	Feb	1	...
1911	Feb	2	...
1911	Feb	3	...
1911	Feb	4	...
1911	Feb	5	...
1911	Feb	6	...
1911	Feb	7	...
1911	Feb	8	...
1911	Feb	9	...
1911	Feb	10	...
1911	Feb	11	...
1911	Feb	12	...
1911	Feb	13	...
1911	Feb	14	...
1911	Feb	15	...
1911	Feb	16	...
1911	Feb	17	...
1911	Feb	18	...
1911	Feb	19	...
1911	Feb	20	...
1911	Feb	21	...
1911	Feb	22	...
1911	Feb	23	...
1911	Feb	24	...
1911	Feb	25	...
1911	Feb	26	...
1911	Feb	27	...
1911	Feb	28	...
1911	Feb	29	...
1911	Mar	1	...
1911	Mar	2	...
1911	Mar	3	...
1911	Mar	4	...
1911	Mar	5	...
1911	Mar	6	...
1911	Mar	7	...
1911	Mar	8	...
1911	Mar	9	...
1911	Mar	10	...
1911	Mar	11	...
1911	Mar	12	...
1911	Mar	13	...
1911	Mar	14	...
1911	Mar	15	...
1911	Mar	16	...
1911	Mar	17	...
1911	Mar	18	...
1911	Mar	19	...
1911	Mar	20	...
1911	Mar	21	...
1911	Mar	22	...
1911	Mar	23	...
1911	Mar	24	...
1911	Mar	25	...
1911	Mar	26	...
1911	Mar	27	...
1911	Mar	28	...
1911	Mar	29	...
1911	Mar	30	...
1911	Mar	31	...

111

General Tier 3 Members' Contribution Rates
(Expressed as a Percentage of Monthly Payroll)

Entry Age	Calculated Under Recommended Assumptions					
	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
15	3.97%	5.96%	1.19%	1.79%	5.16%	7.75%
16	3.97%	5.96%	1.19%	1.79%	5.16%	7.75%
17	3.97%	5.96%	1.19%	1.79%	5.16%	7.75%
18	3.97%	5.96%	1.19%	1.79%	5.16%	7.75%
19	3.97%	5.96%	1.19%	1.79%	5.16%	7.75%
20	3.97%	5.96%	1.19%	1.79%	5.16%	7.75%
21	3.97%	5.96%	1.19%	1.79%	5.16%	7.75%
22	3.98%	5.97%	1.20%	1.79%	5.18%	7.76%
23	3.99%	5.99%	1.20%	1.80%	5.19%	7.79%
24	4.01%	6.01%	1.20%	1.80%	5.21%	7.81%
25	4.03%	6.04%	1.21%	1.81%	5.24%	7.85%
26	4.05%	6.08%	1.22%	1.82%	5.27%	7.90%
27	4.08%	6.12%	1.22%	1.84%	5.30%	7.96%
28	4.11%	6.16%	1.23%	1.85%	5.34%	8.01%
29	4.14%	6.21%	1.24%	1.87%	5.38%	8.08%
30	4.18%	6.27%	1.25%	1.88%	5.43%	8.15%
31	4.22%	6.33%	1.27%	1.90%	5.49%	8.23%
32	4.26%	6.39%	1.28%	1.92%	5.54%	8.31%
33	4.30%	6.45%	1.29%	1.94%	5.59%	8.39%
34	4.35%	6.52%	1.31%	1.96%	5.66%	8.48%
35	4.40%	6.59%	1.32%	1.98%	5.72%	8.57%
36	4.44%	6.67%	1.33%	2.00%	5.77%	8.67%
37	4.50%	6.74%	1.35%	2.03%	5.85%	8.77%
38	4.55%	6.82%	1.37%	2.05%	5.92%	8.87%
39	4.60%	6.91%	1.38%	2.07%	5.98%	8.98%
40	4.66%	6.99%	1.40%	2.10%	6.06%	9.09%
41	4.72%	7.08%	1.42%	2.13%	6.14%	9.21%
42	4.78%	7.17%	1.43%	2.15%	6.21%	9.32%
43	4.84%	7.26%	1.45%	2.18%	6.29%	9.44%
44	4.90%	7.36%	1.47%	2.21%	6.37%	9.57%
45	4.97%	7.46%	1.49%	2.24%	6.46%	9.70%
46	5.04%	7.56%	1.51%	2.27%	6.55%	9.83%
47	5.11%	7.66%	1.53%	2.30%	6.64%	9.96%
48	5.18%	7.77%	1.56%	2.33%	6.74%	10.10%
49	5.25%	7.88%	1.58%	2.37%	6.83%	10.25%
50	5.33%	7.99%	1.60%	2.40%	6.93%	10.39%
51	5.41%	8.11%	1.62%	2.44%	7.03%	10.55%
52	5.49%	8.23%	1.65%	2.47%	7.14%	10.70%
53	5.57%	8.35%	1.67%	2.51%	7.24%	10.86%
54	5.65%	8.48%	1.70%	2.55%	7.35%	11.03%
55	5.65%	8.48%	1.70%	2.55%	7.35%	11.03%
56	5.65%	8.48%	1.70%	2.55%	7.35%	11.03%
57	5.65%	8.48%	1.70%	2.55%	7.35%	11.03%
58	5.65%	8.48%	1.70%	2.55%	7.35%	11.03%
59	5.65%	8.48%	1.70%	2.55%	7.35%	11.03%
60	5.65%	8.48%	1.70%	2.55%	7.35%	11.03%

Calculated Using the Following Assumptions

Interest Rate:	8.35%	Inflation:	4.25%
COLA Loading:	30.03%	Mortality Table:	94 GAM Male -3

Safety Members' Contribution Rates
(Expressed as a Percentage of Monthly Payroll)

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
15	7.55%	3.92%	11.47%
16	7.55%	3.92%	11.47%
17	7.55%	3.92%	11.47%
18	7.55%	3.92%	11.47%
19	7.55%	3.92%	11.47%
20	7.55%	3.92%	11.47%
21	7.56%	3.92%	11.48%
22	7.58%	3.94%	11.52%
23	7.61%	3.95%	11.56%
24	7.64%	3.97%	11.61%
25	7.68%	3.99%	11.67%
26	7.73%	4.01%	11.74%
27	7.79%	4.04%	11.83%
28	7.85%	4.08%	11.93%
29	7.92%	4.11%	12.03%
30	8.00%	4.15%	12.15%
31	8.08%	4.19%	12.27%
32	8.17%	4.24%	12.41%
33	8.27%	4.29%	12.56%
34	8.37%	4.35%	12.72%
35	8.48%	4.40%	12.88%
36	8.58%	4.45%	13.03%
37	8.70%	4.52%	13.22%
38	8.82%	4.58%	13.40%
39	8.93%	4.64%	13.57%
40	9.06%	4.70%	13.76%
41	9.18%	4.77%	13.95%
42	9.31%	4.83%	14.14%
43	9.44%	4.90%	14.34%
44	9.57%	4.97%	14.54%
45	9.71%	5.04%	14.75%
46	9.84%	5.11%	14.95%
47	9.99%	5.19%	15.18%
48	10.14%	5.26%	15.40%
49	10.29%	5.34%	15.63%
50	10.29%	5.34%	15.63%
51	10.29%	5.34%	15.63%
52	10.29%	5.34%	15.63%
53	10.29%	5.34%	15.63%
54	10.29%	5.34%	15.63%
55	10.29%	5.34%	15.63%
56	10.29%	5.34%	15.63%
57	10.29%	5.34%	15.63%
58	10.29%	5.34%	15.63%
59	10.29%	5.34%	15.63%
60	10.29%	5.34%	15.63%

Calculated Using the Following Assumptions

Interest Rate: 8.35% Inflation: 4.25%
COLA Loading: 51.92% Mortality Table: 94 GAM Male +1

g:\retira\cce.pub\2002\comes\cce-034b.doc

Year	Value	Year	Value
1970	100	1980	100
1971	105	1981	105
1972	110	1982	110
1973	115	1983	115
1974	120	1984	120
1975	125	1985	125
1976	130	1986	130
1977	135	1987	135
1978	140	1988	140
1979	145	1989	145
1980	150	1990	150
1981	155	1991	155
1982	160	1992	160
1983	165	1993	165
1984	170	1994	170
1985	175	1995	175
1986	180	1996	180
1987	185	1997	185
1988	190	1998	190
1989	195	1999	195
1990	200	2000	200
1991	205	2001	205
1992	210	2002	210
1993	215	2003	215
1994	220	2004	220
1995	225	2005	225
1996	230	2006	230
1997	235	2007	235
1998	240	2008	240
1999	245	2009	245
2000	250	2010	250
2001	255	2011	255
2002	260	2012	260
2003	265	2013	265
2004	270	2014	270
2005	275	2015	275
2006	280	2016	280
2007	285	2017	285
2008	290	2018	290
2009	295	2019	295
2010	300	2020	300

Handwritten notes and signatures in the right margin, including a date '1970' and some illegible text.

Appendix E Glossary of Actuarial Terminology

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 asset 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.

1944

...

...

...

...

...

...

...

...

...

...

...

...

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 of assets 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.

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 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 standards information as to the funding status of a public retirement Association. GASB No. 25 specifies the Pension Benefit Obligation as a standardized target level of the actuarial value of assets.

Investment Return Assumption: The average rate of investment earnings which is assumed to 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).

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..