Public Pension
Professionals, Inc.

Fresno County Employees' Retirement Association

Analysis of Plan Experience for the period from July 1, 2000 through June 30, 2003

February 2004

P³ *Actuaries you can understand*

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Section 1 Overview

Every three years, the Fresno County Employees' Retirement Association (FCERA) asks its actuary to review the past experience of FCERA and to recommend a set of actuarial assumptions consistent with our best expectation of future experience under the plan. This report contains a detailed description of our analysis and our rationale for recommending the various changes in assumptions.

A. Study Objectives

Each year, an actuarial valuation is performed for the purpose of determining the funded position of FCERA and the contributions that are needed to properly fund FCERA. These calculations require a projection of the benefits expected to be paid from FCERA along with the investment return that the fund can expect to achieve over time.

The primary purpose of the experience analysis described in this report is to establish appropriate assumptions for future actuarial valuations and cost studies. The actuarial assumptions directly affect only the timing of contributions to be made by the County. The ultimate level of contributions is determined by the benefits and expenses actually paid and by the actual investment results.

Even though the ultimate level of contributions is determined by these parameters, choosing accurate assumptions is important for several reasons:

- ***Stable contribution rates***. Accurate assumptions will allow plan costs to remain relatively stable from year to year.
- ***Accurate cost studies***. Individually reasonable assumptions will allow the actuary to make reasonable predictions of the cost of benefit enhancements.
- ***Improved budgeting capability***. Accurate assumptions will allow for more accurate projections of future costs.

These assumptions are intended to be long term in nature. That means that for all plan members we expect these assumptions to be good predictors over the lifetime of FCERA. Over shorter time periods, or for individual members, we do not expect actual experience to exactly match our assumptions.

B. Recommended Changes

As a result of our analysis, we have recommended changes to many of the assumptions used in valuing the plan. The assumptions for which we recommend changes include:

- Economic Assumptions
    - Salary Increase: Revise the rates from separate rates for Safety and General Members based on age to separate rates for Safety and General Members based on the employee's service with FCERA.
- Demographic Assumptions
    - Withdrawal: Adjust the rates of withdrawal for both General and Safety Members to reflect increased terminations at later ages. Overall, the new withdrawal rates will be slightly lower for Safety Members and slightly higher for General Members.
    - Deferred Vested: Increase the deferred vested rates for General and Safety Members to reflect plan experience.
    - Disability: Adjustments in the incidence of disabilities at various ages to reflect plan experience. Adjustments in the distribution between service and non-service connected disability rates. For Safety Members, we assume no future non-service connected disabilities. For General Members, we assume that 60% of future disabilities will be service-connected.
    - Retirement: A slight change in the retirement rates to better match future expectations.
    - Pre-retirement mortality: A decrease in the rate of service connected deaths to 0.02% per year for Safety Members and to 0% for General Members who are male. The rate of service-connected deaths for General Members who are female will remain at 0%.
    - Post-retirement mortality: For valuation purposes, change to a newer mortality table (RP-2000) reflecting the impact of the type of work performed by an individual during that person's career on post-retirement life expectancy.

C. Report Structure

We have broken the report into six sections: Overview, Economic Assumptions, Demographic Assumptions, Prior Assumptions, Proposed Assumptions, and Actuarial Methodology.

The Overview section contains a discussion of the study's objectives, a summary of our recommendations and an outline of the structure of this report.

The Economic Assumption section looks at the assumptions related to money. In this section, we walk through each of the economic assumptions being studied, describe how they fit together, the process that we went through to determine our recommendation, then provide a reasonable range of assumptions and our recommended assumption level.

The Demographic Assumption section looks at the assumptions related to the timing and length of benefit payment. In this section, we walk through each of the demographic assumptions being studied, describe the process that we went through to determine our recommendation, then provide our recommended assumption level.

The Prior Assumption section of the report contains a description of the assumptions used in the June 30, 2002 actuarial valuation.

The Proposed Assumption section of the report contains a description of our proposed assumptions. We have used by these assumptions in the preparation of the June 30, 2003 actuarial valuation.

Finally, the Actuarial Methodology section of the report contains a brief description of the actuarial methodology that we used in our analysis, along with our certification that we prepared this analysis in accordance with standard actuarial principles and practices.

Section 2

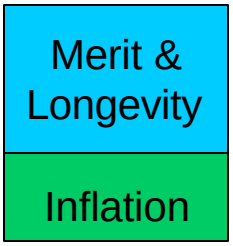
Economic Assumptions

The actuarial assumptions used in the annual valuation generally fall into two categories: economic assumptions and demographic assumptions. The plan's economic assumptions are those related to money. They generally have a larger impact on plan cost than the demographic assumptions (the assumptions related to the life of the employee). Last year, we reviewed the inflation assumptions and the assumed rate of return. This year, we focus on the individual rate of salary increase.

A. Individual Salary Increase

The salary increases received by the employees are composed of two rates: the underlying inflation rate, and a merit and longevity component.

Salary Increase



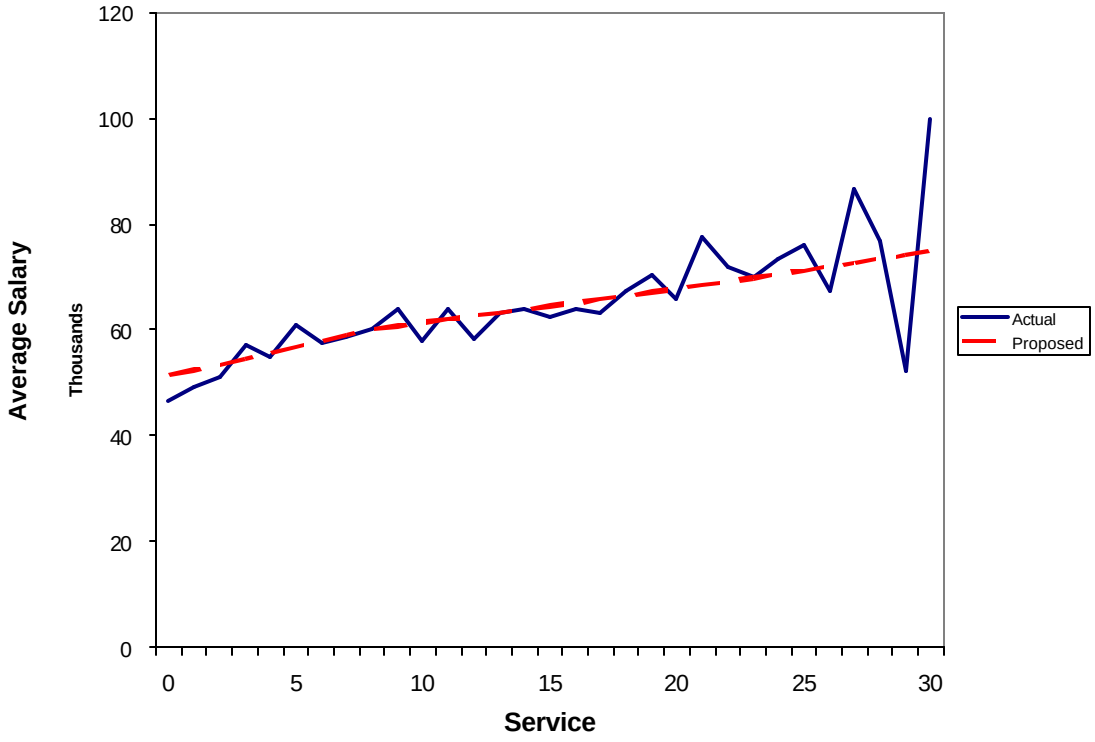
Methodology and Results

For the years covered by our experience analysis, we first looked at pay as related to the age of active plan members. While there was a slight correlation, it was not overwhelming.

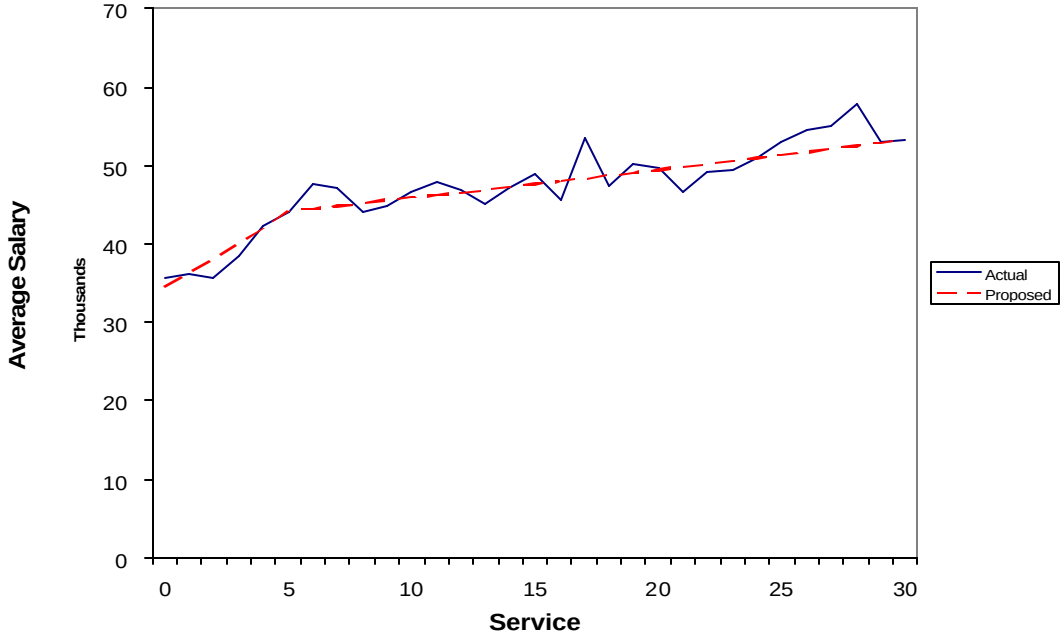
In public agencies, it is common for employees to experience large increases in pay early in their careers as they move through the early promotion levels. This tends to level off later in their careers, as the promotional levels get further apart.

To study this phenomenon, we performed a transverse analysis of the salary data. In other words, we compared the average pay rate for employees at each level of service. The results are displayed graphically below. Graph 1 shows the results for Safety Members. Graph 2 shows the findings for General Members.

Graph 1
Comparison of Average Salary by Service
Safety Members



Graph 2
Comparison of Average Salary by Service
General Members



Reasonable Range and Recommendation

For those years of service where there were a significant number of employees, the data lined up in a relatively smooth progression. Our recommended rate of salary increase is superimposed upon the actual data (solid blue) by a projected trend line (red dashed).

For Safety Members, this translates into a projected merit and longevity increase of 2.00% per year for the first eight years of service and projected increases of 1.00% per year for Safety Members with more than eight years of service.

For General Members, this translates into a projected merit and longevity increase of 5.00% per year for the first five years of service and projected increases of 0.75% per year for General Members with more than five years of service.

Section 3 Demographic Assumptions

Demographic assumptions are the second major category of actuarial assumptions used in the annual valuation. A plan's demographic assumptions are those related to the lives and behaviors of plan members. They generally have a smaller impact on plan cost than the economic assumptions (the assumptions related to money). The demographic assumptions include assumptions related to the rate at which active members will leave employment due to termination, disability, death, or retirement, as well as how long retirees, beneficiaries and disabled retirees are expected to live. Not every demographic assumption used in the valuation was examined as a part of this study. These minor assumptions may be examined at a later time.

A. Termination

Rates of termination encompass all reasons an employee may leave employment before he or she retires, becomes disabled, or dies. The employee may resign, be terminated, or laid off. The employee may take a job as a police officer with another public agency, transfer to a non-police job at the County, or go to work in the private sector.

The Plan member may terminate employment and elect to collect a guaranteed monthly benefit at some date in the future, or the Plan member may simply receive his own employee contributions with interest. The Plan members making the first choice are referred to as Deferred Vested Members; the Plan members making the second choice are referred to as Withdrawals. The second category includes Plan members who are not vested and can only select a refund of contributions. This difference is an important one for valuation results, since Withdrawals represent a greater release of liability for the plan. If the rates are too high, then the valuation will produce liabilities that are too low. The converse is also true.

We performed our analysis of terminations in two stages. We first reviewed the total level of terminations and then analyzed the split between those terminating members who elected to receive a refund of contributions (Withdrawal) and those terminating members who elected to receive a future retirement benefit (Deferred Vested).

Total Terminations

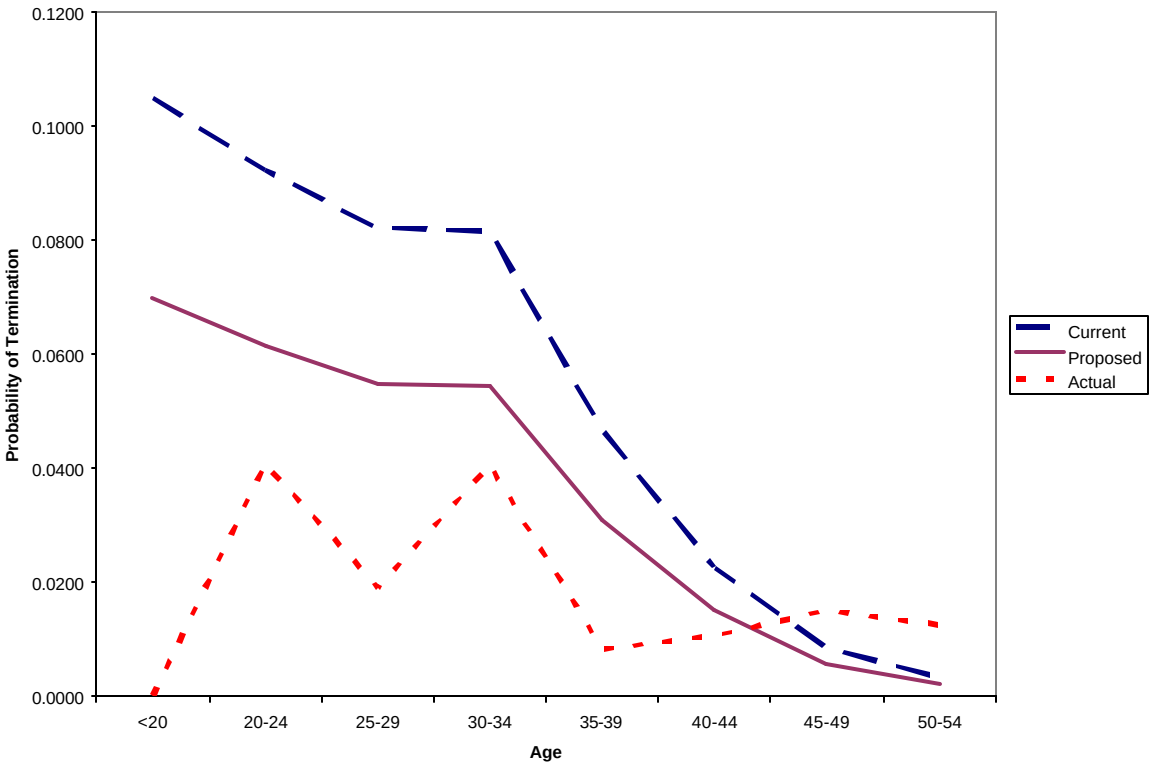
Methodology and Results - Safety

First we investigated the relationship between age and termination rates separately for General Members who are male, General Members who are female and Safety members. We plotted the rates of termination against the employee's age at termination (the "Actual" line in the graphs below), and we also graphed the expected number of termination based on the June 30, 2002 termination assumption used in the valuation (the "Current" line below).

Graph 3

Comparison of Total Terminations by Age

Safety Members



For Safety Members, we noticed that actual termination experience was generally lower than that assumed in the prior valuations. This was supported by a comparison of the number of terminations. During the years of the study, the plan experienced 18 withdrawals and 27 refunds for Safety Members. This was significantly lower than the 30.9 withdrawals and 79.5 refunds that were expected based on the assumptions used in the 2002 annual valuation.

Reasonable Range and Recommendation

We recommend that the termination rates for Safety Members be adjusted to reflect the level of terminations being experienced by the County and by reducing them to 2/3 of their previous level.

The proposed withdrawal rates shown in the graphs above are listed in detail in Section 5 of this report.

Methodology and Results - General

For General Members, both male and female, the total level of terminations was lower than projected. For male members, there were 157 members taking refunds and 87 members electing deferred benefits compared with an expectation of 255.5 people projected to take refunds and 86.7 people projected to leave and select deferred benefits. For female members, we expected 541.8 members to take withdrawals and 114.1 members to defer benefits. This was higher than the 329 female members who actually elected to receive withdrawals and the 126 females who elected to receive deferred benefits during the period of the study.

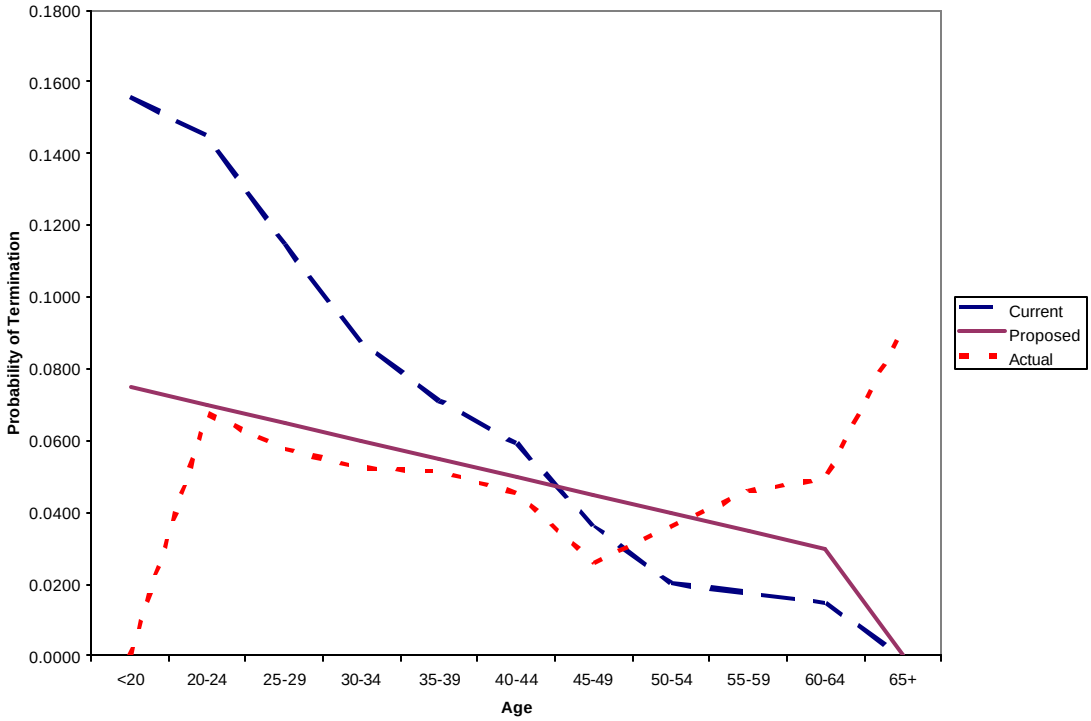
We also noticed that the pattern of withdrawals appeared to vary slightly from that assumed in the June 30, 2002 actuarial valuation. In the 2002 valuation, withdrawal rates were assumed to decrease as age increased. This was a common pattern for public retirement systems. It reflected the expectation that people who choose public employment do so with security and stability in mind. While the private sector has experienced job-hopping for some time, it was thought that such behavior was less prevalent in the public sector. In recent years, though, this has started to change, and it is reflected in the actual experience shown above.

The termination experience for General Members is separately summarized for male and females in Graphs 4 and 5 below.

Graph 4

Comparison of Terminations by Age

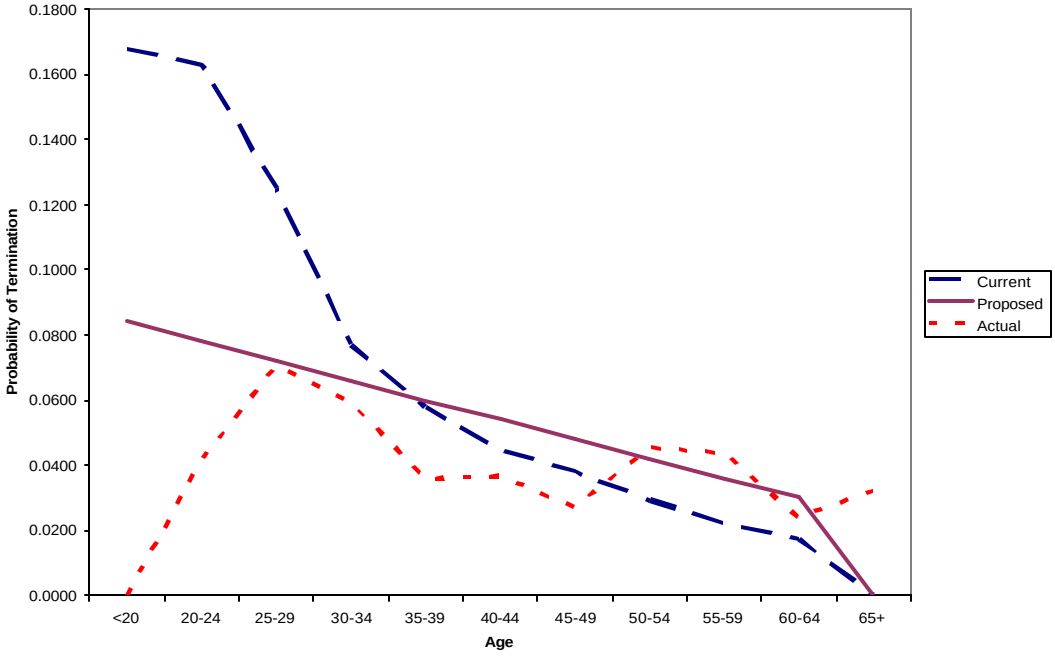
General Members - Male



Graph 5

Comparison of Terminations by Age

General Members - Female



Reasonable Range and Recommendation

We recommend that the withdrawal rates for General members be adjusted to reflect the level of terminations being experienced by the County and to reflect the increasing likelihood of termination at higher ages.

The proposed withdrawal rates shown in the graphs above are listed in detail in Section 5 of this report.

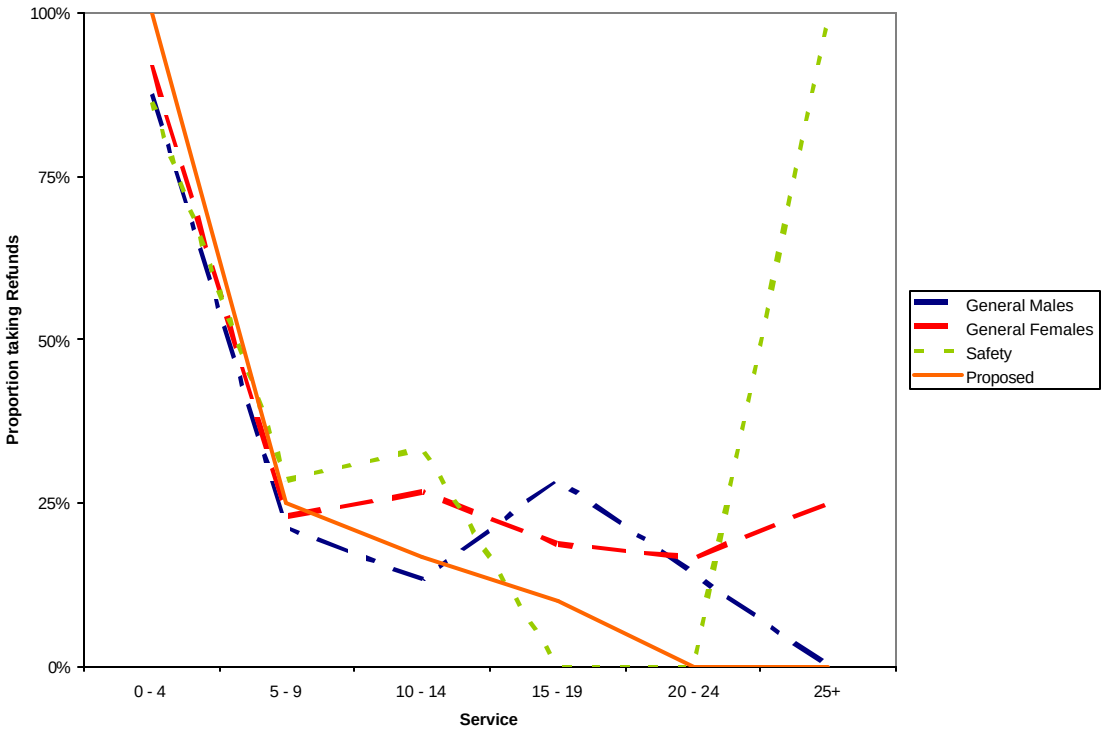
Deferred Vested versus Withdrawals

Methodology and Results

Next we studied the relationship between the amount of service a member has at termination against the likelihood that a member who was terminating would elect to receive a refund of contributions separately for General Members who are male, General Members who are female and Safety members. We plotted the rates of terminating members electing a refund of contributions against the employee's service at termination.

Graph 6

Proportion of Terminations taking Refund of Contributions by Service



The likelihood that a terminating member would elect to take a refund at a particular service level was relatively similar for each of the groups studied.

Reasonable Range and Recommendation

We recommend that the likelihood that a terminating member elects to take a refund (or a deferred vested benefit) be projected on a service related basis and be adjusted to reflect the level of terminations being experienced by the County and Districts.

The proposed probabilities shown in the graphs above are listed in detail in Section 5 of this report.

B. Disability

An active plan member will be retired for disability if he or she is unable to perform his or her own job. FCERA generally provides greater benefits to those whose disabilities are substantially caused by events occurring while they are working. For police officers who are often asked to chase and apprehend people wielding weapons or firefighters who must charge into burning buildings, this becomes an important benefit from the standpoint of peace of mind for the employees and their families.

However, this benefit provision accounts for less than 7% of the total liability of the plan, and only about 11½% of the total active liability. In other words, this assumption plays a relatively small role in determining liabilities and plan costs. Nonetheless, an accurate assumption regarding disability will enhance the accuracy of our cost projections in future years.

Our review of disability assumptions was done in two steps. First, we reviewed the overall level of disabilities separately for General Members who are male, General Members who are female and Safety members. We compared actual experience to the prior assumptions and determined whether to recommend any changes. Next, we reviewed the split between service related disabilities and non-service related disabilities separately for General Members and Safety Members and determined whether to recommend any changes in the likelihood of a disability being service related.

Methodology and Results

Overall Rates of Disability

There were many fewer disabilities awarded during the period of the study than would have been expected from the assumptions. When we discussed this finding with FCERA staff, we found that there was a significant delay between the time that a member would apply for a disability retirement and the time when he or she would actually receive a disability retirement benefit. Since there was not enough experience to produce valid results, we recommend that the overall level of disabilities continue as assumed in the prior valuation.

Service Connected versus Non-Service Connected Disabilities

We collected information on the incidence of service and non-service connected disabilities awarded during the period of the study. For Safety Members, 30 of the 31 disabilities for whom this information was available were determined to be service connected. For General Members, 8 of the 21 disabilities for which this information was available were determined to be service connected.

Reasonable Range and Recommendation

We recommend that the disability rates for all members be adjusted to reflect the level of disabilities being experienced by the County. We recommend that all Safety disabilities are assumed to be service related and that 33-1/3% of all General disabilities are assumed to be service related.

C. Retirement

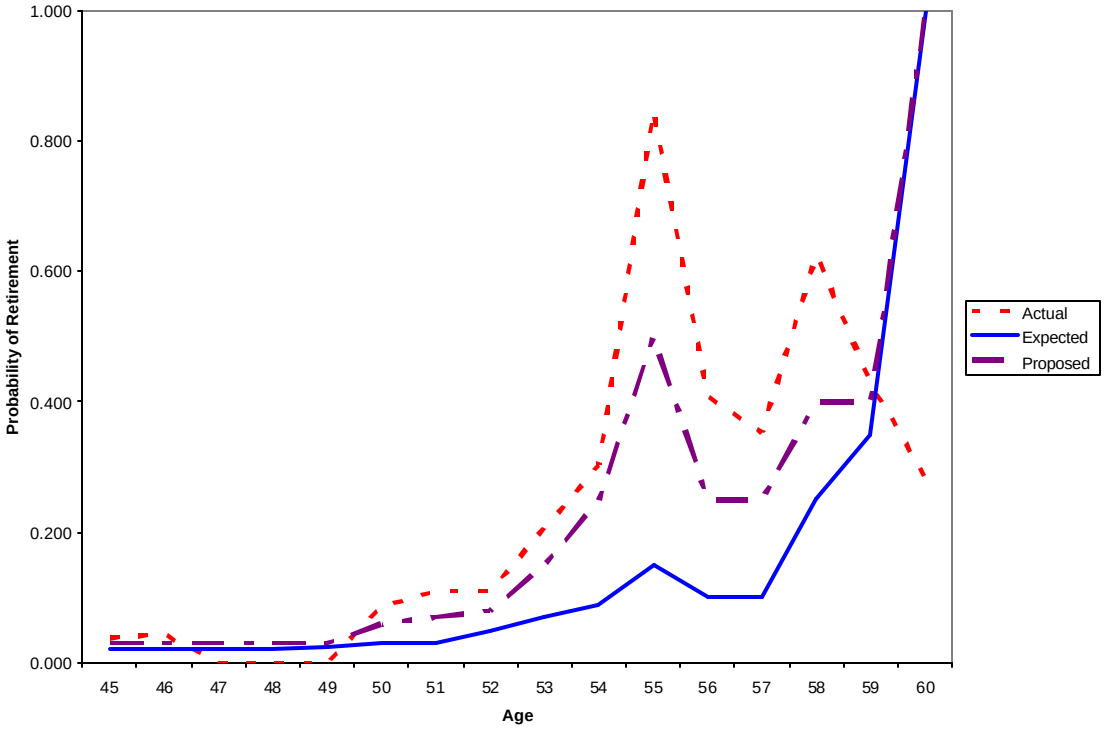
Retirement benefits are the single largest source of liability for active plan participants, and therefore the selection of retirement assumptions is important for the ability to accurately project cash flow and contribution rates.

Methodology and Results

During the period of the study the service retirement benefit for Safety Members was improved from the prior 2%-at-50 plan to the current 2.5%-at-50 plan. A similar change occurred for General Members to the 2.5%-at-55 plan. When a change of this magnitude occurs, there are often members who delay their retirement in order to receive the improved benefit. Fortunately, this was in the early part of the period covered by our study. Those members who delayed retirement until the new formulas took effect are covered in our analysis.

Graph 7 shows the retirement experience for Safety Members during the period of our study.

Graph 7
Comparison of Retirement by Age
Safety Members



Overall, the actual number of retirements was higher than the number of expected retirements for Safety Members in the period. We believe that was largely due to the delay that occurred while Safety Members waited for the new benefit structure to take effect.

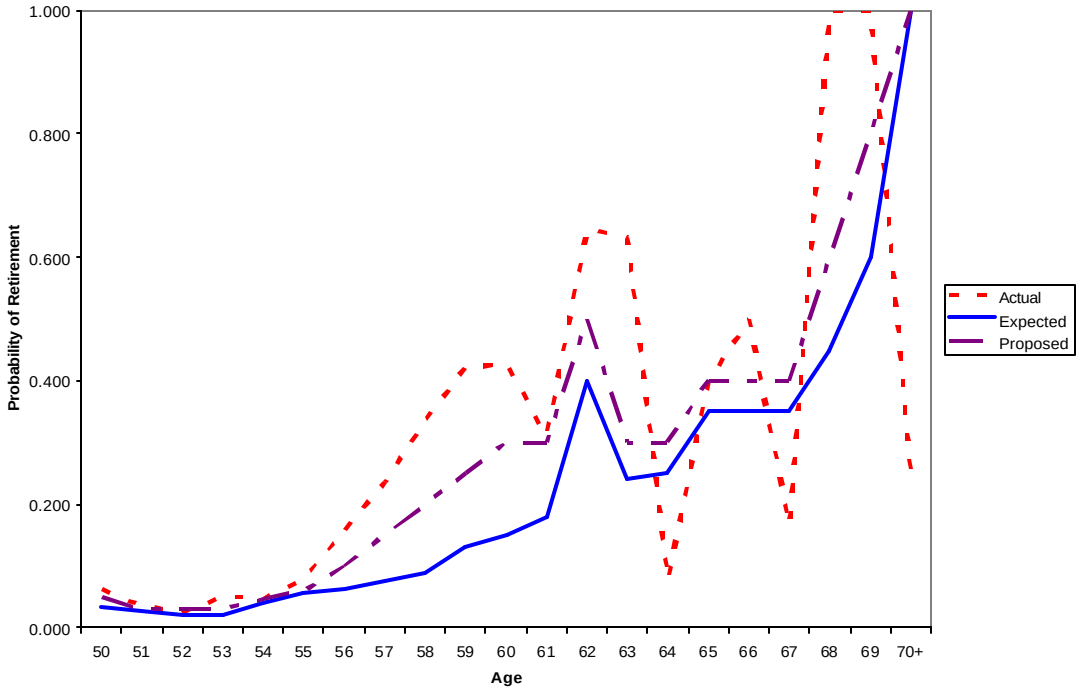
Under the new benefit program, the age factor reaches a maximum at age 50. This appears to be slowly eliminating some of the incentives to retire at age 55 that were present under the prior factors.

For General Members, the actual number of retirements during the study was higher than projected under the prior assumptions. This experience, broken down by age, is summarized on Graphs 8 and 9.

Graph 8

Comparison of Retirement by Age

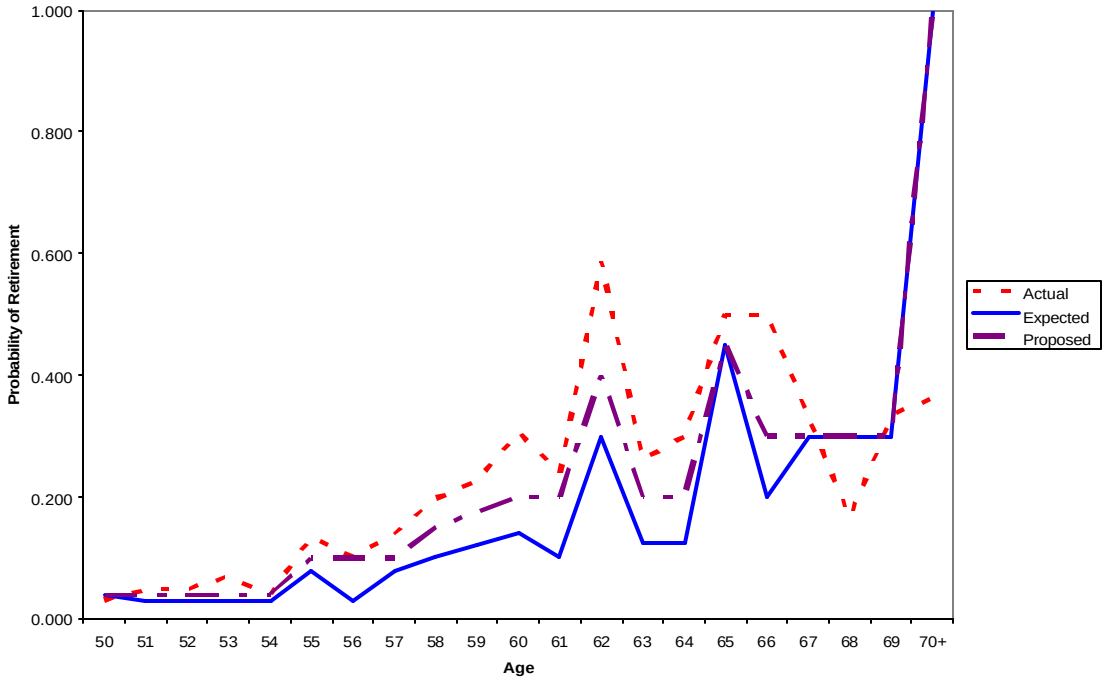
General Members - Male



Graph 9

Comparison of Retirement by Age

General Members - Female



Reasonable Range and Recommendation

We recommend that the service retirement rates for all members be refined to reflect changes in experience and changes in incentives created by the new retirement formula. For Safety Members, the rates at ages 49 and 59 would be increased. For General Members, slight adjustments are recommended at ages 55 and higher.

The proposed retirement rates shown in the graphs above are listed in detail in Section 5 of this report.

D. Service-Related Mortality

There are several different mortality rate assumptions that are utilized in the actuarial valuation. First, there are two sets of assumptions for death while in active service. The first of these relates to deaths that occur to active members outside of work. The second of these relate to service connected deaths. In addition, there are assumptions for post-retirement mortality, both for healthy and disabled retirees.

Methodology and Results

To some extent, it is difficult to differentiate between good mortality experience and bad mortality experience in a population this size over a period as short as three years.

We did note, though, that FCERA did not record any service related deaths for General Members and three service-related deaths for Safety Members. While this was expected for General Members, it was a little higher than expected for Safety Members.

Reasonable Range and Recommendation

The risks related to Safety work tend to be relatively uniform across the work force. As such, we recommend using a flat rate of 0.1% per year for all employees at all ages. For General Members, we will assume 0% likelihood of service connected deaths.

We recommend that mortality rates for non-service related deaths during active service be adjusted to match the post-retirement mortality tables recommended below.

E. Post-Retirement Mortality

For post-retirement mortality, we relied upon new information published in recent actuarial studies concerning the life expectancies of retirees and beneficiaries.

Methodology and Results

The current post retirement mortality tables used in the actuarial valuations are standard tables developed in the early 1990's. There have been numerous studies since that time, and we looked at the literature to see if there was new information that would indicate that the assumptions should be updated. One of the more recent studies showed a significant updating of mortality, and also studied the differences that income level and type of industry made on the expected mortality. Based on this study, we reviewed FCERA experience to see which tables matched best. Though not conclusive, the "white collar" industry type experience produced slightly closer results to that found for General Members and the "blue collar" industry type assumptions produced a slightly better fit for Safety Members.

Reasonable Range and Recommendation

For post retirement mortality, we recommend that the standard RP-2000 mortality tables, with the blue-collar adjustments for Safety Members and white collar adjustments for General Members, be adopted for valuation purposes. For actuarial equivalence purposes and for the purpose of determining member contribution rates, we recommend blending male and female rates into a single unisex rate. For Safety Members, we recommend a mix of 5/6 male and 1/6 female. For General Members, we recommend a mix of 1/3 male and 2/3 female. These match reasonably well with recent population mixes at FCERA.

Section 4 Prior Assumptions

This section of the report describes the assumptions, both economic and demographic, used in the June 30, 2002 annual valuation.

Economic Assumptions

Interest:	8.16% per year. This is a change from 8.42% in the previous valuation.
Salary Increase – Total Payroll:	4.0 % per year. This is a change from 4.5% in the previous valuation.
Salary Increase – Individual:	Rates varying by age, as shown in Schedule 1.
Inflation:	4.0% per year. This is a change from 4.5% in the previous valuation.
Employee Contribution Interest Crediting Rate:	8.16% per year. This is a change from 8.42% in the previous valuation.

Demographic Assumptions

Post-retirement mortality:

- ***Service Retirement - General:*** 1994 Group Annuity Mortality, with ages set forward one year for female members. Life Expectancies are shown in Schedule 2.
- ***Service Retirement - Safety:*** 1994 Group Annuity Mortality for males, with no age adjustment. Life Expectancies are shown in Schedule 3.
- ***Disability Retirement:*** 1981 Disability Mortality. Life

	Expectancies are shown in Schedule 4.
• ***Spouse:***	1994 Group Annuity Mortality, with ages set forward one year for female beneficiaries.
Withdrawal (termination with refund of member contributions):	Rates varying by age, as shown in Schedule 5 (for General males), 6 (for General females) and 7 (for Safety).
Vested Termination (termination with retirement pension deferred to age 63 for General and age 55 for Safety members):	Rates varying by age, as shown in Schedule 5 (for General males), 6 (for General females) and 7 (for Safety). Half of all members are assumed to join a reciprocal agency immediately after termination.
Pre-retirement mortality:	Rates varying by age, as shown in Schedule 5 (for General males), 6 (for General females) and 7 (for Safety). Separate rates for ordinary death, service related death, and death while eligible.
Service Disability:	Rates varying by age, as shown in Schedule 5 (for General males), 6 (for General females) and 7 (for Safety).
Ordinary Disability:	Rates varying by age, as shown in Schedule 5 (for General males), 6 (for General females) and 7 (for Safety).
Service Retirement:	Rates varying by age, as shown in Schedule 5 (for General males), 6 (for General females) and 7 (for Safety).
Form of Payment:	Life annuity for single members. 60% contingent annuity for married members (100% contingent annuity if receiving service-related disability).
Percentage Married at Retirement:	90% of male active members and 50% of female active members assumed married at retirement.

Benefit Eligibility:

For decrement purposes, all active members are considered potentially eligible for all benefits without regard to service requirements. The demographic decrements take the eligibility requirements into account.

Spouse Ages

For active members reaching retirement, wives are assumed to be three years younger than husbands.

Where spousal information was included for retirees, that information was used. If no beneficiary information was present, it was assumed that there was no eligible beneficiary.

Schedule 1

Assumed Rate of Salary Increase

Age	General Members	Safety Members
20	10.240%	8.160%
21	9.720%	6.600%
22	8.680%	6.080%
23	7.640%	6.080%
24	7.640%	6.080%
25	6.600%	5.560%
26	6.600%	5.560%
27	6.600%	5.560%
28	6.600%	5.248%
29	6.600%	5.248%
30	6.080%	5.248%
31	5.560%	5.248%
32	5.040%	5.248%
33	4.520%	5.040%
34	4.520%	5.040%
35	4.520%	4.624%
36	4.520%	4.624%
37	4.520%	4.624%
38	4.520%	4.624%
39	4.520%	4.624%
40	4.520%	4.520%
41	4.520%	4.520%
42	4.520%	4.520%
43	4.520%	4.520%
44	4.520%	4.520%
45	4.520%	4.520%
46	4.520%	4.520%
47	4.520%	4.520%
48	4.520%	4.520%
49	4.520%	4.520%
50	4.520%	4.520%
51	4.520%	4.520%
52	4.520%	4.520%
53	4.520%	4.520%
54	4.520%	4.520%
55	4.520%	4.624%
56	4.520%	4.520%
57	4.520%	4.520%
58	4.520%	4.520%
59	4.520%	4.520%
60	4.520%	
61	4.520%	
62	4.520%	
63	4.520%	
64	4.520%	
65	4.520%	
66	4.520%	
67	4.520%	
68	4.520%	
69	4.520%	

Schedule 2

Life Expectancies at Sample Ages

Healthy General Members

Age	Male	Female	Age	Male	Female
20	59.44	63.16	70	14.33	16.58
21	58.47	62.18	71	13.67	15.82
22	57.50	61.19	72	13.02	15.08
23	56.53	60.21	73	12.38	14.35
24	55.57	59.23	74	11.77	13.64
25	54.60	58.25	75	11.16	12.94
26	53.64	57.26	76	10.57	12.27
27	52.68	56.28	77	10.00	11.61
28	51.71	55.30	78	9.45	10.97
29	50.75	54.32	79	8.92	10.35
30	49.79	53.33	80	8.41	9.76
31	48.83	52.35	81	7.93	9.18
32	47.87	51.37	82	7.48	8.63
33	46.91	50.40	83	7.04	8.09
34	45.95	49.42	84	6.63	7.59
35	44.99	48.44	85	6.23	7.10
36	44.03	47.47	86	5.84	6.63
37	43.06	46.49	87	5.47	6.19
38	42.10	45.52	88	5.11	5.77
39	41.14	44.55	89	4.78	5.39
40	40.18	43.58	90	4.46	5.02
41	39.22	42.61	91	4.17	4.69
42	38.27	41.65	92	3.90	4.37
43	37.32	40.68	93	3.65	4.08
44	36.36	39.72	94	3.42	3.81
45	35.42	38.76	95	3.21	3.55
46	34.47	37.80	96	3.02	3.32
47	33.53	36.84	97	2.85	3.10
48	32.59	35.88	98	2.70	2.90
49	31.66	34.93	99	2.56	2.71
50	30.73	33.98	100	2.43	2.54
51	29.81	33.03	101	2.31	2.38
52	28.90	32.09	102	2.19	2.23
53	27.99	31.15	103	2.08	2.10
54	27.09	30.21	104	1.97	1.98
55	26.19	29.28	105	1.88	1.88
56	25.31	28.35	106	1.80	1.79
57	24.43	27.44	107	1.73	1.70
58	23.56	26.53	108	1.66	1.63
59	22.71	25.63	109	1.61	1.58
60	21.87	24.74	110	1.57	1.55
61	21.04	23.86	111	1.55	1.54
62	20.23	23.00	112	1.54	1.53
63	19.43	22.15	113	1.53	1.53
64	18.65	21.32	114	1.53	1.51
65	17.88	20.50	115	1.51	1.48
66	17.14	19.69	116	1.48	1.42
67	16.41	18.90	117	1.42	1.29
68	15.70	18.12	118	1.29	1.04
69	15.01	17.35			

General Members – 1994 Group Annuity Mortality, females set forward 1 year

Schedule 3

Life Expectancies at Sample Ages

Healthy Safety Members

Age	Unisex	Age	Unisex
20	59.44	70	14.33
21	58.47	71	13.67
22	57.50	72	13.02
23	56.53	73	12.38
24	55.57	74	11.77
25	54.60	75	11.16
26	53.64	76	10.57
27	52.68	77	10.00
28	51.71	78	9.45
29	50.75	79	8.92
30	49.79	80	8.41
31	48.83	81	7.93
32	47.87	82	7.48
33	46.91	83	7.04
34	45.95	84	6.63
35	44.99	85	6.23
36	44.03	86	5.84
37	43.06	87	5.47
38	42.10	88	5.11
39	41.14	89	4.78
40	40.18	90	4.46
41	39.22	91	4.17
42	38.27	92	3.90
43	37.32	93	3.65
44	36.36	94	3.42
45	35.42	95	3.21
46	34.47	96	3.02
47	33.53	97	2.85
48	32.59	98	2.70
49	31.66	99	2.56
50	30.73	100	2.43
51	29.81	101	2.31
52	28.90	102	2.19
53	27.99	103	2.08
54	27.09	104	1.97
55	26.19	105	1.88
56	25.31	106	1.80
57	24.43	107	1.73
58	23.56	108	1.66
59	22.71	109	1.61
60	21.87	110	1.57
61	21.04	111	1.55
62	20.23	112	1.54
63	19.43	113	1.53
64	18.65	114	1.53
65	17.88	115	1.51
66	17.14	116	1.48
67	16.41	117	1.42
68	15.70	118	1.29
69	15.01	119	14.33

General Members – 1994 Group Annuity Mortality, males

Schedule 4

Life Expectancies at Sample Ages

Disabled Members

Age	General Members	Safety Members	Age	General Members	Safety Members
20	38.77	49.33	70	11.74	11.74
21	38.02	48.43	71	11.25	11.25
22	37.30	47.52	72	10.76	10.76
23	36.60	46.62	73	10.26	10.26
24	35.91	45.72	74	9.77	9.77
25	35.23	44.83	75	9.28	9.28
26	34.57	43.93	76	8.80	8.80
27	33.91	43.05	77	8.32	8.32
28	33.27	42.16	78	7.87	7.87
29	32.64	41.28	79	7.45	7.45
30	32.02	40.40	80	7.05	7.05
31	31.41	39.53	81	6.67	6.67
32	30.81	38.66	82	6.32	6.32
33	30.21	37.79	83	5.98	5.98
34	29.62	36.92	84	5.67	5.67
35	29.04	36.06	85	5.38	5.38
36	28.47	35.20	86	5.10	5.10
37	27.91	34.35	87	4.84	4.84
38	27.35	33.50	88	4.59	4.59
39	26.80	32.65	89	4.35	4.35
40	26.26	31.81	90	4.13	4.13
41	25.72	30.97	91	3.91	3.91
42	25.18	30.13	92	3.71	3.71
43	24.65	29.30	93	3.50	3.50
44	24.13	28.48	94	3.30	3.30
45	23.62	27.66	95	3.11	3.11
46	23.11	26.84	96	2.93	2.93
47	22.60	26.03	97	2.75	2.75
48	22.10	25.22	98	2.58	2.58
49	21.61	24.42	99	2.41	2.41
50	21.12	23.63	100	2.25	2.25
51	20.63	22.84	101	2.08	2.08
52	20.15	22.07	102	1.92	1.92
53	19.67	21.30	103	1.76	1.76
54	19.20	20.55	104	1.59	1.59
55	18.72	19.81	105	1.42	1.42
56	18.26	19.10	106	1.25	1.25
57	17.79	18.44	107	1.09	1.09
58	17.33	17.82	108	0.92	0.92
59	16.87	17.24	109	0.76	0.76
60	16.41	16.69	110	0.54	0.54
61	15.95	16.15	111	0.54	0.54
62	15.49	15.63	112	0.54	0.54
63	15.03	15.12	113	0.54	0.54
64	14.57	14.62	114	0.54	0.54
65	14.11	14.13	115	0.54	0.54
66	13.64	13.65	116	0.54	0.54
67	13.18	13.18	117	0.54	0.54
68	12.70	12.70	118	0.54	0.54
69	12.22	12.22			

General Members – 1981 Disability Mortality

Safety Members – 1981 Disability Mortality for Safety

Schedule 5

Probability of Separation from Active Service

(Number separating at each age per 10,000 working at that age)

General Members - Male

Age	Ordinary Withdrawal (Refund)	Ordinary Death	Ordinary Disability	Service Retirement	Death While Eligible	Service Death	Service Disability	Vested Termination
20	1,550	2	-	-	-	1	1	6
21	1,500	2	-	-	-	1	1	6
22	1,450	2	-	-	-	1	1	12
23	1,380	2	-	-	-	1	1	18
24	1,310	2	-	-	-	1	1	23
25	1,240	3	1	-	1	1	1	29
26	1,170	3	1	-	1	1	1	35
27	1,100	3	1	-	1	1	1	47
28	1,030	3	1	-	1	1	1	59
29	960	3	1	-	1	1	1	70
30	900	4	1	-	1	1	1	82
31	830	4	1	-	1	1	1	94
32	760	4	1	-	1	1	1	105
33	700	4	1	-	3	1	1	117
34	630	4	1	-	3	1	1	140
35	570	5	1	-	3	1	2	176
36	520	5	1	-	3	1	2	205
37	480	5	2	-	3	1	2	222
38	450	5	2	-	3	1	2	252
39	420	6	2	-	3	1	2	263
40	390	6	3	-	4	1	2	269
41	360	6	3	-	4	1	2	269
42	330	7	4	-	4	1	2	269
43	300	7	4	-	5	1	3	257
44	270	8	5	-	5	1	3	246
45	230	8	6	-	7	1	3	234
46	190	9	7	-	7	1	4	222
47	150	10	8	-	8	1	4	211
48	120	11	9	-	8	1	5	187
49	100	12	10	-	9	1	5	164
50	100	13	11	350	10	1	6	140
51	100	14	12	270	12	1	7	117
52	100	15	14	200	13	2	8	94
53	100	16	15	200	14	2	9	82
54	100	17	17	400	16	2	10	76
55	100	18	18	550	17	2	11	76
56	100	19	20	630	18	2	12	76
57	100	20	21	760	20	2	13	76
58	100	21	22	900	21	2	14	76
59	100	22	23	1,300	22	3	15	76
60	100	24	23	1,500	23	3	16	70
61	100	26	24	1,800	25	3	16	59
62	100	28	24	4,000	26	3	17	47
63	100	30	25	2,400	29	3	17	35
64	100	32	25	2,500	31	4	18	23
65	-	34	-	3,500	35	4	-	-
66	-	36	-	3,500	39	4	-	-
67	-	38	-	3,500	44	4	-	-
68	-	40	-	4,500	51	4	-	-
69	-	42	-	6,000	59	4	-	-
70	-	-	-	10,000	-	-	-	-

Schedule 6

Probability of Separation from Active Service

(Number separating at each age per 10,000 working at that age)

General Members - Female

Age	Ordinary Withdrawal (Refund)	Ordinary Death	Ordinary Disability	Service Retirement	Death While Eligible	Service Death	Service Disability	Vested Termination
20	1,650	1	-	-	-	-	1	27
21	1,650	1	-	-	-	-	1	27
22	1,600	1	-	-	-	-	1	27
23	1,550	1	-	-	-	-	1	27
24	1,550	1	-	-	-	-	1	45
25	1,500	2	1	-	1	-	1	45
26	1,300	2	1	-	1	-	1	45
27	1,150	2	1	-	1	-	1	45
28	1,050	2	1	-	1	-	1	45
29	1,020	3	1	-	1	-	1	45
30	950	3	1	-	1	-	1	45
31	840	3	1	-	1	-	1	45
32	700	3	1	-	1	-	1	45
33	600	4	1	-	1	-	1	45
34	490	4	1	-	1	-	1	90
35	460	4	2	-	1	-	1	162
36	420	5	2	-	1	-	1	198
37	390	5	2	-	1	-	1	198
38	370	5	3	-	1	-	1	180
39	350	5	3	-	1	-	2	171
40	320	6	3	-	1	-	2	167
41	300	6	4	-	1	-	2	162
42	290	6	4	-	1	-	2	158
43	270	7	5	-	1	-	2	158
44	250	7	5	-	1	-	2	153
45	250	7	6	-	2	-	2	153
46	240	8	7	-	2	-	2	149
47	240	8	8	-	2	-	2	144
48	230	9	9	-	2	-	3	140
49	230	9	10	-	2	-	3	131
50	220	10	11	400	2	-	3	117
51	220	10	12	300	2	-	3	99
52	210	11	13	300	3	-	4	81
53	210	11	14	300	3	-	4	63
54	200	12	15	300	3	-	5	45
55	190	12	16	800	3	-	5	45
56	180	13	17	300	4	-	6	72
57	170	14	18	800	4	-	6	63
58	150	15	19	1,000	4	-	7	54
59	140	16	21	1,200	5	-	7	45
60	130	18	23	1,400	5	-	8	45
61	130	19	25	1,000	5	-	9	45
62	130	20	27	3,000	5	-	10	45
63	130	21	29	1,250	5	-	11	45
64	130	22	31	1,250	5	-	13	45
65	-	24	-	4,500	6	-	-	-
66	-	25	-	2,000	6	-	-	-
67	-	26	-	3,000	6	-	-	-
68	-	27	-	3,000	7	-	-	-
69	-	28	-	3,000	7	-	-	-
70	-	-	-	10,000	-	-	-	-

Schedule 7

Probability of Separation from Active Service

(Number separating at each age per 10,000 working at that age)

Safety Members

Age	Ordinary Withdrawal (Refund)	Ordinary Death	Ordinary Disability	Service Retirement	Death While Eligible	Service Death	Service Disability	Vested Termination
20	1,050	2	-	-	-	2	6	1
21	950	2	-	-	-	2	6	11
22	900	2	-	-	-	2	6	12
23	850	2	-	-	-	2	7	13
24	800	2	-	-	-	2	7	14
25	750	2	2	-	1	2	8	20
26	720	2	2	-	1	2	9	30
27	700	2	3	-	2	2	10	50
28	680	2	3	-	2	2	11	100
29	660	2	3	-	2	2	12	170
30	640	3	3	-	2	3	13	250
31	600	3	4	-	2	3	14	340
32	550	3	4	-	2	3	16	300
33	490	3	4	-	2	3	18	270
34	430	3	5	-	2	3	21	240
35	370	4	6	-	2	4	23	220
36	310	4	6	-	2	4	25	200
37	280	4	7	-	2	4	28	180
38	250	4	8	-	2	4	31	160
39	220	4	9	-	2	4	35	140
40	190	5	10	-	2	5	39	120
41	170	5	10	-	2	5	43	100
42	150	5	11	-	2	5	47	80
43	120	5	12	-	2	5	52	60
44	100	5	12	-	2	5	58	40
45	90	6	13	200	3	6	64	30
46	80	6	14	200	3	6	71	20
47	70	7	14	200	4	7	79	10
48	60	7	15	200	5	7	88	8
49	50	8	16	250	5	8	97	5
50	50	8	16	300	6	8	1,060	-
51	40	8	17	300	7	8	115	-
52	40	8	18	500	8	9	125	-
53	30	9	19	700	8	10	135	-
54	-	9	20	900	9	10	145	-
55	-	10	20	1,500	10	11	155	-
56	-	10	21	1,000	11	11	165	-
57	-	11	22	1,000	11	12	175	-
58	-	11	22	2,500	12	13	185	-
59	-	11	23	3,500	13	14	195	-
60	-	-	-	10,000	-	-	-	-

Section 5 Proposed Assumptions

The proposed assumptions are based upon the current analysis of the experience of the plan. All economic and demographic assumptions listed below are used in the June 30, 2003 annual valuation of the pension plan.

Economic Assumptions

Interest:	8.16% per year.
Salary Increase – Total Payroll:	4.0 % per year
Salary Increase – Individual:	Rates varying by service, as shown in Schedule 8.
Inflation:	4.0% per year.
Employee Contribution Interest Crediting Rate:	8.16% per year.

Demographic Assumptions

Post-retirement mortality:

- ***Service Retirement - General:*** RP-2000 Healthy Annuitant Mortality, with adjustment for white collar workers. Life expectancies are shown in Schedules 9.
- ***Service Retirement - Safety:*** RP-2000 Healthy Annuitant Mortality, with adjustment for blue collar workers. Life expectancies are shown in Schedules 10.
- ***Disability Retirement:*** RP-2000 Disabled Annuitant Mortality. Life expectancies are shown in

	Schedules 11.
• ***Spouse:***	RP-2000 Healthy Annuitant Mortality, with adjustment for white collar workers.
Terminations (includes both withdrawals and vested terminations)	Rates varying by age, as shown in Schedule 12 (for General males), 13 (for General females) and 14 (for Safety).
Withdrawal (termination with refund of member contributions):	Proportion of total terminations varying by service, as shown in Schedule 12 (for General males), 13 (for General females) and 14 (for Safety).
Vested Termination (termination with retirement pension deferred to age 60):	Proportion of total terminations varying by service, as shown in Schedule 15. Half of all members are assumed to join a reciprocal agency immediately after termination.
Pre-retirement mortality:	Rates varying by age, as shown in Schedule 12 (for General males), 13 (for General females) and 14 (for Safety). Separate rates for ordinary death and service related death.
Service Disability:	Rates varying by age, as shown in Schedule 12 (for General males), 13 (for General females) and 14 (for Safety).
Ordinary Disability:	Rates varying by age, as shown in Schedule 12 (for General males), 13 (for General females) and 14 (for Safety).
Service Retirement:	Rates varying by age, as shown in Schedule 12 (for General males), 13 (for General females) and 14 (for Safety).
Form of Payment:	Life annuity for single members. 60% contingent annuity for married members (100% contingent annuity if receiving service-related disability).
Percentage Married at Retirement:	90% of male active members and 50% of female active members assumed married at retirement.

Benefit Eligibility:

The decrements related to a specific benefit are not assumed to apply until the member becomes eligible for the benefit. Withdrawal and termination decrements no longer apply when retirement decrements begin to take effect.

Spouse Ages

For active members reaching retirement, wives are assumed to be three years younger than husbands.

Where spousal information was included for retirees, that information was used. If no beneficiary information was present, it was assumed that there was no eligible beneficiary.

Schedule 8

Assumed Rate of Salary Increase

Years of Service	General Members	Safety Members
0	9.00%	6.00%
1	9.00%	6.00%
2	9.00%	6.00%
3	9.00%	6.00%
4	9.00%	6.00%
5	4.75%	6.00%
6	4.75%	6.00%
7	4.75%	6.00%
8 or more	4.75%	5.00%

Schedule 9

Life Expectancies at Sample Ages

Nondisabled General Members

Age	Male	Female	Age	Male	Female
20	58.04	63.01	70	14.48	16.98
21	57.09	62.03	71	13.76	16.23
22	56.15	61.05	72	13.04	15.26
23	55.21	60.06	73	12.35	14.54
24	54.26	59.08	74	11.67	13.84
25	53.32	58.10	75	11.02	13.16
26	52.38	57.12	76	10.38	12.49
27	51.43	56.13	77	9.77	11.84
28	50.49	55.15	78	9.18	11.21
29	49.54	54.17	79	8.61	10.59
30	48.60	53.19	80	8.06	10.00
31	47.66	52.21	81	7.54	9.43
32	46.72	51.23	82	7.04	8.87
33	45.80	50.26	83	6.56	8.34
34	44.88	49.29	84	6.11	7.84
35	43.96	48.32	85	5.69	7.35
36	43.06	47.35	86	5.29	6.90
37	42.16	46.39	87	4.92	6.47
38	41.26	45.42	88	4.58	6.08
39	40.37	44.46	89	4.26	5.72
40	39.49	43.51	90	3.97	5.38
41	38.61	42.55	91	3.72	5.08
42	37.73	41.60	92	3.49	4.81
43	36.85	40.65	93	3.28	4.57
44	35.99	39.70	94	3.09	4.36
45	35.13	38.76	95	2.93	4.17
46	34.27	37.83	96	2.78	4.01
47	33.43	36.89	97	2.65	3.86
48	32.59	35.96	98	2.53	3.72
49	31.75	35.04	99	2.43	3.59
50	30.93	34.12	100	2.33	3.47
51	30.11	33.20	101	2.25	3.33
52	29.29	32.28	102	2.19	3.19
53	28.46	31.37	103	2.14	3.05
54	27.62	30.46	104	2.11	2.91
55	26.77	29.55	105	2.09	2.78
56	25.91	28.65	106	2.08	2.65
57	25.05	27.76	107	2.08	2.54
58	24.19	26.88	108	2.08	2.44
59	23.32	26.00	109	2.08	2.35
60	22.46	25.13	110	2.07	2.28
61	21.61	24.27	111	2.07	2.21
62	20.76	23.42	112	2.05	2.16
63	19.93	22.57	113	2.04	2.11
64	19.11	21.74	114	2.01	2.06
65	18.30	20.91	115	1.96	2.00
66	17.51	20.10	116	1.87	1.91
67	16.74	19.30	117	1.74	1.77
68	15.97	18.51	118	1.52	1.54
69	15.22	17.74	119	1.15	1.16

General Members – RP-2000 Healthy Mortality, with adjustment for white collar

Schedule 10

Life Expectancies at Sample Ages

Nondisabled Safety Members

Age	Male	Female	Age	Male	Female
20	56.26	61.99	70	13.31	15.77
21	55.31	61.00	71	12.66	15.05
22	54.36	60.02	72	12.03	14.36
23	53.42	59.03	73	11.41	13.69
24	52.47	58.04	74	10.81	13.03
25	51.52	57.06	75	10.23	12.40
26	50.57	56.07	76	9.66	11.77
27	49.62	55.08	77	9.12	11.17
28	48.67	54.10	78	8.60	10.57
29	47.72	53.11	79	8.09	10.00
30	46.77	52.13	80	7.61	9.43
31	45.82	51.15	81	7.15	8.89
32	44.88	50.16	82	6.71	8.37
33	43.95	49.19	83	6.29	7.87
34	43.02	48.21	84	5.89	7.40
35	42.10	47.23	85	5.52	6.95
36	41.18	46.26	86	5.17	6.53
37	40.27	45.29	87	4.83	6.14
38	39.36	44.32	88	4.53	5.78
39	38.46	43.35	89	4.24	5.45
40	37.56	42.38	90	3.98	5.15
41	36.67	41.42	91	3.74	4.88
42	35.78	40.45	92	3.52	4.64
43	34.89	39.49	93	3.32	4.42
44	34.01	38.54	94	3.14	4.23
45	33.13	37.58	95	2.97	4.05
46	32.26	36.63	96	2.82	3.89
47	31.39	35.69	97	2.69	3.75
48	30.53	34.74	98	2.57	3.62
49	29.68	33.80	99	2.47	3.49
50	28.83	32.86	100	2.37	3.37
51	27.99	31.93	101	2.29	3.24
52	27.16	30.99	102	2.23	3.10
53	26.32	30.05	103	2.18	2.96
54	25.49	29.12	104	2.14	2.82
55	24.67	28.19	105	2.12	2.69
56	23.84	27.27	106	2.12	2.57
57	23.02	26.36	107	2.12	2.46
58	22.21	25.45	108	2.11	2.36
59	21.40	24.56	109	2.11	2.28
60	20.61	23.69	110	2.11	2.20
61	19.82	22.83	111	2.10	2.14
62	19.05	21.98	112	2.09	2.09
63	18.28	21.16	113	2.07	2.04
64	17.53	20.34	114	2.04	2.00
65	16.79	19.55	115	1.98	1.94
66	16.06	18.76	116	1.90	1.86
67	15.35	17.99	117	1.76	1.73
68	14.65	17.24	118	1.53	1.51
69	13.97	16.49	119	1.15	1.15

Safety Members – RP-2000 Healthy Mortality, with adjustment for blue collar

Schedule 11

Life Expectancies at Sample Ages

Disabled General and Safety Members

Age	Male	Female	Age	Male	Female
20	30.81	46.81	70	9.81	12.98
21	30.51	46.16	71	9.43	12.46
22	30.20	45.50	72	9.05	11.96
23	29.89	44.84	73	8.69	11.47
24	29.57	44.17	74	8.33	11.00
25	29.24	43.50	75	7.99	10.53
26	28.90	42.82	76	7.65	10.09
27	28.55	42.14	77	7.33	9.65
28	28.20	41.45	78	7.02	9.23
29	27.84	40.76	79	6.72	8.81
30	27.47	40.06	80	6.43	8.42
31	27.09	39.36	81	6.16	8.03
32	26.70	38.65	82	5.89	7.66
33	26.31	37.93	83	5.63	7.29
34	25.90	37.22	84	5.38	6.94
35	25.49	36.49	85	5.14	6.61
36	25.07	35.76	86	4.90	6.28
37	24.63	35.03	87	4.66	5.97
38	24.19	34.28	88	4.41	5.67
39	23.73	33.54	89	4.16	5.39
40	23.27	32.78	90	3.90	5.12
41	22.79	32.03	91	3.65	4.87
42	22.31	31.26	92	3.43	4.63
43	21.81	30.49	93	3.23	4.40
44	21.30	29.72	94	3.04	4.20
45	20.78	28.94	95	2.88	4.02
46	20.25	28.15	96	2.73	3.85
47	19.73	27.38	97	2.60	3.71
48	19.23	26.62	98	2.49	3.58
49	18.73	25.88	99	2.38	3.46
50	18.25	25.15	100	2.29	3.33
51	17.78	24.44	101	2.21	3.20
52	17.32	23.74	102	2.15	3.07
53	16.86	23.06	103	2.10	2.93
54	16.42	22.39	104	2.06	2.79
55	15.98	21.73	105	2.05	2.66
56	15.55	21.09	106	2.04	2.54
57	15.12	20.46	107	2.04	2.43
58	14.69	19.83	108	2.04	2.34
59	14.27	19.22	109	2.04	2.25
60	13.86	18.62	110	2.03	2.18
61	13.44	18.02	111	2.03	2.11
62	13.03	17.43	112	2.02	2.06
63	12.61	16.85	113	2.00	2.02
64	12.20	16.27	114	1.97	1.98
65	11.80	15.70	115	1.93	1.93
66	11.39	15.14	116	1.85	1.85
67	10.99	14.58	117	1.72	1.72
68	10.59	14.04	118	1.50	1.50
69	10.20	13.50	119	1.14	1.14

Disabled Members – RP-2000 Disabled Mortality

Schedule 12

Probability of Separation from Active Service

(Number separating at each age per 10,000 working at that age)

General Members - Male

Age	Total Termination	Ordinary Death	Ordinary Disability	Service Retirement	Service Death	Service Disability
20	750	10	1	-	-	-
21	720	10	1	-	-	-
22	710	10	1	-	-	-
23	700	10	1	-	-	-
24	690	11	1	-	-	-
25	680	11	1	-	-	1
26	670	11	1	-	-	1
27	660	11	1	-	-	1
28	650	11	1	-	-	1
29	640	12	1	-	-	1
30	630	12	1	-	-	1
31	620	14	1	-	-	1
32	610	16	1	-	-	1
33	600	18	1	-	-	1
34	590	20	1	-	-	1
35	580	22	2	-	-	1
36	570	24	2	-	-	1
37	560	25	3	-	-	1
38	550	27	3	-	-	1
39	540	29	3	-	-	1
40	530	30	3	-	-	2
41	520	32	3	-	-	2
42	510	34	4	-	-	2
43	500	36	5	-	-	2
44	490	39	5	-	-	3
45	480	42	6	-	-	3
46	470	45	7	-	-	4
47	460	49	8	-	-	4
48	450	52	9	-	-	5
49	440	56	10	-	-	5
50	430	60	11	500	-	6
51	420	60	13	300	-	6
52	410	59	15	300	-	7
53	400	57	16	300	-	8
54	390	56	18	450	-	9
55	380	54	19	600	-	10
56	370	54	21	1000	-	11
57	360	55	23	1500	-	11
58	350	57	24	2000	-	12
59	340	61	25	2500	-	13
60	330	66	26	3000	-	13
61	320	73	27	3000	-	13
62	310	82	27	5000	-	14
63	300	92	28	3000	-	14
64	290	104	29	3000	-	14
65	-	116	-	4000	-	-
66	-	130	-	4000	-	-
67	-	144	-	4000	-	-
68	-	158	-	6000	-	-
69	-	174	-	8000	-	-
70	-	-	-	10,000	-	-

Schedule 13

Probability of Separation from Active Service

(Number separating at each age per 10,000 working at that age)

General Members - Female

Age	Total Termination	Ordinary Death	Ordinary Disability	Service Retirement	Service Death	Service Disability
20	840	3	1	-	-	-
21	804	3	1	-	-	-
22	792	3	1	-	-	-
23	780	3	1	-	-	-
24	768	3	1	-	-	-
25	756	3	1	-	-	1
26	744	3	1	-	-	1
27	732	3	1	-	-	1
28	720	3	1	-	-	1
29	708	4	1	-	-	1
30	696	4	1	-	-	1
31	684	4	1	-	-	1
32	672	5	1	-	-	1
33	660	6	1	-	-	1
34	648	6	1	-	-	1
35	636	7	2	-	-	1
36	624	8	2	-	-	1
37	612	8	2	-	-	1
38	600	9	3	-	-	1
39	588	9	3	-	-	2
40	576	10	3	-	-	2
41	564	11	4	-	-	2
42	552	12	4	-	-	2
43	540	14	5	-	-	2
44	528	15	5	-	-	2
45	516	16	5	-	-	3
46	504	18	6	-	-	3
47	492	19	7	-	-	3
48	480	21	8	-	-	4
49	468	23	9	-	-	4
50	456	24	9	400	-	5
51	444	25	10	400	-	5
52	432	27	11	400	-	6
53	420	29	12	400	-	6
54	408	32	13	400	-	7
55	396	35	14	1000	-	7
56	384	39	15	1000	-	8
57	372	43	16	1000	-	8
58	360	47	17	1500	-	9
59	348	51	19	1750	-	9
60	336	56	21	2000	-	10
61	324	61	23	2000	-	11
62	312	67	25	4000	-	12
63	300	74	27	2000	-	13
64	288	82	29	2000	-	15
65	-	91	-	4500	-	-
66	-	101	-	3000	-	-
67	-	112	-	3000	-	-
68	-	124	-	3000	-	-
69	-	137	-	3000	-	-
70	-	-	-	10,000	-	-

Schedule 14

Probability of Separation from Active Service

(Number separating at each age per 10,000 working at that age)

Safety Members

Age	Total Termination	Ordinary Death	Ordinary Disability	Service Retirement	Service Death	Service Disability
20	701	10	-	-	10	6
21	641	10	-	-	10	6
22	608	10	-	-	10	6
23	575	10	-	-	10	7
24	543	11	-	-	10	7
25	513	11	-	-	10	10
26	500	11	-	-	10	11
27	500	11	-	-	10	13
28	520	11	-	-	10	14
29	553	12	-	-	10	15
30	593	12	-	-	10	16
31	627	14	-	-	10	18
32	567	16	-	-	10	20
33	507	18	-	-	10	22
34	447	20	-	-	10	26
35	393	22	-	-	10	29
36	340	24	-	-	10	31
37	307	25	-	-	10	35
38	273	27	-	-	10	39
39	240	29	-	-	10	44
40	207	30	-	-	10	49
41	180	32	-	-	10	53
42	153	34	-	-	10	58
43	120	36	-	-	10	64
44	93	39	-	-	10	70
45	80	42	-	300	10	77
46	67	45	-	300	10	85
47	53	49	-	300	10	93
48	45	52	-	300	10	103
49	37	56	-	300	10	113
50	33	60	-	600	10	1076
51	27	60	-	700	10	132
52	27	59	-	800	10	143
53	20	57	-	1500	10	154
54	-	56	-	2500	10	165
55	-	54	-	5000	10	175
56	-	54	-	2500	10	186
57	-	55	-	2500	10	197
58	-	57	-	4000	10	207
59	-	61	-	4000	10	218
60	-	-	-	10,000	-	-

Schedule 15

Proportion of Terminations Receiving Refunds and Deferred Vested Benefits

Years of Service	Refunds	Deferred Vested
0	100%	0%
1	100%	0%
2	100%	0%
3	100%	0%
4	100%	0%
5	25%	75%
6	25%	75%
7	25%	75%
8	25%	75%
9	25%	75%
10	16.7%	83.3%
11	16.7%	83.3%
12	16.7%	83.3%
13	16.7%	83.3%
14	16.7%	83.3%
15	10%	90%
16	10%	90%
17	10%	90%
18	10%	90%
19	10%	90%
20 or more	0%	100%

Section 6

Actuarial Methodology

A. Actuarial Methods and Procedures

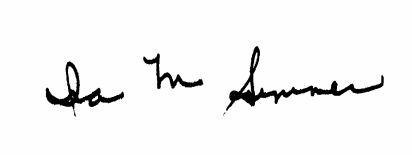
The actuarial methods and procedures followed in this experience study were consistent with standard actuarial principles and practice. The age of participants was calculated on an age-last-birthday basis. Decrements were assumed to occur in the middle of the year. No exposure was given unless the participant was both age and service-eligible for the benefit. A participant decrementing for one reason was assumed to have no more exposure with respect to other decrements. Only participants who were present at the beginning of the year were included in exposure and decrement calculations. Service was calculated as completed years of service at the beginning of each year.

B. Participant Data

The member data is supplied by the Retirement Office. It is reviewed for reasonableness and consistency, but no audit was performed. Public Pension Professionals is not aware of any errors or omissions in the data that would have a significant effect on the results of our calculations.

C. Certification

This study of plan experience was prepared and completed by me or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my opinion, the techniques and assumptions used are reasonable and are in accordance with generally accepted actuarial principles and practices.



Ira M. Summer, F.S.A, E.A.
Public Pension Professionals, Inc.
February 2004