

San Diego County Employees Retirement Association

ACTUARIAL EXPERIENCE STUDY

**Analysis of Actuarial Experience
During the Period
July 1, 2003 through June 30, 2006**

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January 29, 2007

Board of Retirement
San Diego County Employees Retirement Association
2275 Rio Bonito Way, Suite 200
San Diego, CA 92108-1685

Re: Review of Non-economic Actuarial Assumptions as of June 30, 2006

Dear Members of the Board:

We are pleased to submit this report of our review of the actuarial experience of the San Diego County Employees Retirement Association. This study utilizes the census data of the last three actuarial valuations and includes the proposed actuarial assumptions to be used in the next actuarial valuation as of June 30, 2007.

Please note that in this report, we have only reviewed the non-economic assumptions. The economic actuarial assumption recommendations for the June 30, 2007 valuation will be provided in a separate report.

We look forward to reviewing this report with you and answering any questions you may have.

Sincerely,

Paul Angelo, FSA, EA, MAAA, FCA
Senior Vice President and Actuary

SUV/hy

Andy Yeung, ASA, EA, MAAA
Associate Actuary

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TABLE OF CONTENTS

Page

I. INTRODUCTION, SUMMARY, AND RECOMMENDATIONS1

II. BACKGROUND AND METHODOLOGY4

III. ACTUARIAL ASSUMPTIONS.....5

A. RETIREMENT RATES.....5

B. MORTALITY RATES - HEALTHY12

C. MORTALITY RATES - DISABLED18

D. TERMINATION RATES.....23

E. DISABILITY INCIDENCE RATES.....35

F. MERIT AND LONGEVITY SALARY INCREASES46

APPENDIX A CURRENT ACTUARIAL ASSUMPTIONS50

APPENDIX B PROPOSED ACTUARIAL ASSUMPTIONS55

I. INTRODUCTION, SUMMARY, AND RECOMMENDATIONS

To project the cost and liabilities of the Pension Fund, assumptions are made about all future events that could affect the amount and timing of the benefits to be paid and the assets to be accumulated. Each year actual experience is compared against the assumptions, and to the extent there are differences, the future contribution requirement is adjusted.

If assumptions are changed, contribution requirements are adjusted to take into account a change in the projected experience in all future years. There is a great difference in both philosophy and cost impact between recognizing the actuarial deviations as they occur annually and changing the actuarial assumptions. Taking into account one year's gains or losses without making a change in the assumptions means that that year's experience was temporary and that, over the long run, experience will return to what was originally assumed. Changing assumptions reflects a basic change in thinking about the future, and it has a much greater effect on the current contribution requirements than the gain or loss for a single year.

The use of realistic actuarial assumptions is important in maintaining adequate funding, while paying adequate benefit amounts to participants already retired and to those near retirement. The actuarial assumptions used do not determine the "actual cost" of the plan. The actual cost is determined solely by the benefits and administrative expenses paid out, offset by investment income received. However, it is desirable to estimate as closely as possible what the actual cost will be so as to permit an orderly method for setting aside contributions today to provide benefits in the future, and to maintain equity among generations of participants and taxpayers.

This study was undertaken in order to compare the actual experience during the three year period from July 1, 2003 through June 30, 2006 with that expected under the current assumptions. The study was performed in accordance with Actuarial Standard of Practice (ASOP) No. 35, "Selection of Demographic and Other Non-economic Assumptions for Measuring Pension Obligations." This Standard of Practice put forth guidelines for the selection of the various actuarial assumptions utilized in a pension plan actuarial valuation. Based on the study's results and expected near-term experience, we are recommending various changes in the current actuarial assumptions.

During the three year period, the Association had losses of \$302 million related to actuarial experience. Out of this amount, a loss of \$99 million was from actual investment return, a loss of \$45 million from economic assumption changes adopted by the Board, and a loss of \$158 million from deviations in actual experience from expected experience. Please note that the above actuarial experience did not include an actuarial gain we had from data corrections.

We are recommending changes in the assumptions for retirement from active employment, deferred vested retirement age, pre-retirement mortality, healthy life mortality, disabled life mortality, turnover (withdrawal and vested termination), disability (ordinary and duty), salary increases, and percentage of members married.

Our recommendations for the major actuarial assumption categories are as follows:

Retirement Rates - The probability of retirement at each age at which participants are eligible to retire.

Recommendation: *Adjust the current retirement rates to more accurately reflect past experience. General members are assumed to retire a little earlier while Safety members are assumed to retire a little later.*

Mortality Rates - The probability of dying at each age. Mortality rates are used to project life expectancies.

Recommendation: *The current post-retirement mortality rates for Safety members who retired for service retirement and disability retirement have been adjusted to reflect about a one year improvement in mortality. The current post-retirement mortality rates for General members who retire for service retirement and disability retirement have been left unchanged. The pre-retirement mortality assumption for Safety members has been adjusted to be consistent with the table recommended for post service retirement mortality.*

Termination Rates - The probability of leaving employment at each age and receiving either a refund of contributions (ordinary withdrawal) or a deferred vested retirement benefit (vested termination).

Recommendation: *For General members, the ordinary withdrawal and vested termination rates have been decreased in total. For Safety members, the ordinary withdrawal rates have been slightly decreased while the vested termination rates have been slightly increased.*

Disability Incidence Rates - The probability of becoming disabled at each age.

Recommendation: The rates have been decreased for non-service connected disability (ordinary) and increased for service connected disability (duty) to more accurately reflect past experience. Overall, the current and proposed assumptions predict about the same number of total ordinary and duty disabilities for General females. The proposed assumptions predict a higher number of total ordinary and duty disabilities for Safety but a lower total for General males.

Individual Salary Increases - Increases in the salary of a member between the date of the valuation to the date of separation from active service

Recommendation: The merit and longevity rates during the first five years of service have been increased slightly to reflect the past experience.

Section II provides some background on basic principles and the methodology used for the experience study. A detailed discussion of the experience and reasons for the proposed changes is found in Section III.

II. BACKGROUND AND METHODOLOGY

In this report, we analyzed the “demographic” or “non-economic” assumptions only. The “economic” assumptions for the June 30, 2007 valuation will be provided in a separate report. Demographic assumptions include the probabilities of certain events occurring in the population of members, referred to as “decrements,” e.g., withdrawal from service, disability retirement, service retirement, and death after retirement. We also review the individual salary increases net of wage inflation (i.e., the merit and longevity assumptions) in this report.

Demographic Assumptions

In order to determine the probability of an event occurring, we examine the “decrements” and “exposures” of that event. For example, taking withdrawal from service, we compare the number of employees who actually withdraw in a certain age and/or service category (i.e., the number of “decrements”) with those who could have withdrawn (i.e., the number of “exposures”). For example, if there were 500 active employees in the 20-24 age group at the beginning of the year and 50 of them left during the year, we would say the probability of withdrawal in that age group is $50 \div 500$ or 10%.

The reliability of the resulting probability is highly dependent on both the number of decrements and the number of exposures. For example, if there are only a few people in a high age category at the beginning of the year (number of exposures), we would not lend as much credence to the probability of withdrawal developed for that age category, especially if it is out of line with the pattern shown for the other age groups. Similarly, if we are considering the death decrement, there may be a large number of exposures in, say, the age 20-24 category, but very few decrements (actual deaths); therefore, we would not be able to rely heavily on the probability developed for that category.

One reason we use several years of experience for such a study is to have more exposures and decrements, and therefore more statistical reliability. Another reason for using several years of data is to smooth out fluctuations that may occur from one year to the next. However, we also calculate the rates on a year-to-year basis to check for any trend that may be developing in the later years.

III. ACTUARIAL ASSUMPTIONS

A. RETIREMENT RATES

The age at which a member retires will affect both the amount of the benefits that will be paid to that member as well as the period over which funding must take place.

We used experience collected during the full three-year period since no benefit changes occurred. Please note that this is also the first triennial experience study to reflect the service retirement experience after the County benefit improvements effective March 8, 2002. The actual service (non-disability) retirement experience for active participants over the past three years is provided on the following page, followed by the current and proposed retirement rates.

The following rates are the observed rates based on the actual experience:

Actual Rate of Retirement (From July 1, 2003 to June 30, 2006)

Rate (%)

Age	General	Safety
48*	100.0	0.0
49*	100.0	9.6
50	7.0	16.3
51	5.3	9.1
52	6.5	9.2
53	6.5	14.8
54	9.5	24.4
55	14.4	15.4
56	12.5	23.6
57	15.4	17.0
58	16.1	30.4
59	18.6	28.9
60	22.8	42.1
61	27.0	25.0
62	34.2	40.7
63	26.9	23.5
64	31.3	27.3
65	47.8	28.6
66	36.0	20.0
67	30.8	75.0
68	39.6	100.0
69	40.5	-
70	30.5	-

* *These rates are calculated based on General members with 30 or more years of service and Safety members with 20 or more years of service.*

The following rates of retirement are currently assumed for SDCERA active members:

Current Retirement Probability
Rate (%)

Age	General	Safety
48	-	4.0
49	-	4.0
50	6.0	15.0
51	3.0	15.0
52	5.0	15.0
53	6.0	15.0
54	6.0	15.0
55	12.0	25.0
56	13.0	30.0
57	15.0	30.0
58	17.0	35.0
59	20.0	35.0
60	20.0	45.0
61	25.0	45.0
62	25.0	50.0
63	25.0	50.0
64	25.0	50.0
65	30.0	100.0
66	30.0	100.0
67	30.0	100.0
68	30.0	100.0
69	40.0	100.0
70	100.0	100.0

The following rates of retirement are what we would propose for this study:

Proposed Retirement Probability

Age	Rate (%)	
	General	Safety
48	-	4.0
49	-	4.0
50	8.0	15.0
51	5.0	15.0
52	5.0	15.0
53	6.0	15.0
54	8.0	15.0
55	12.0	20.0
56	13.0	25.0
57	15.0	30.0
58	17.0	35.0
59	20.0	35.0
60	20.0	45.0
61	25.0	45.0
62	27.0	45.0
63	29.0	45.0
64	30.0	45.0
65	30.0	100.0
66	30.0	100.0
67	30.0	100.0
68	40.0	100.0
69	40.0	100.0
70	100.0	100.0

As you can see from our proposed rates, we anticipate General members will retire a little earlier while Safety members will retire a little later than the current assumptions.

Chart 1 compares actual experience with the assumed and proposed rates of retirement for General members. Chart 2 has the same data for Safety members.

In prior valuations, deferred vested General and Safety members were assumed to retire at age 58 and 53, respectively. The average age at retirement over the prior three years was 57 for General and 53 for Safety. We recommend modifying the assumed retirement age for all deferred vested participants to age 57 for General members while maintaining the assumed retirement age of 53 for Safety members.

It is also assumed that 35% of inactive General and 40% of inactive Safety deferred vested participants would be reciprocal and receive 5.25% annual salary increases from termination until their date of retirement. Even though the actual experience only indicated that 23% of General and 33% of Safety members went on to be covered by a reciprocal retirement system, we recommend maintaining the current 35% and 40% reciprocal assumptions for General and Safety members, respectively. Our recommended reciprocal assumptions are higher than the observed experience during the last three years to reflect the generally higher reciprocal experience at other major California public retirement systems served by Segal. Since there are no significant changes to the salary increase assumptions, we propose that the current 5.25% annual salary increase assumption continue to be used to anticipate salary increases from termination to the expected date of retirement.

In prior valuations, it was assumed that 80% of all active male members and 65% of all active female members would be married when they retired. According to experience of members who retired during the last three years, about 78% of all male members and 54% of all female members were married at retirement. We recommend maintaining the current 80% marriage assumption for male members, but decreasing the marriage assumption for female members from 65% to 55%. The reduction in the marriage rate reflects a correction in the retiree data provided by SDCERA in the June 30, 2006 valuation.

Based on the data, we also recommend maintaining the current assumption that when active members retire, female spouses are assumed to be three years younger than their male spouses. Spouses will be assumed to be of the opposite sex to the member until we have more actual experience concerning domestic partners.

Chart 1
Retirement Rates - General Members

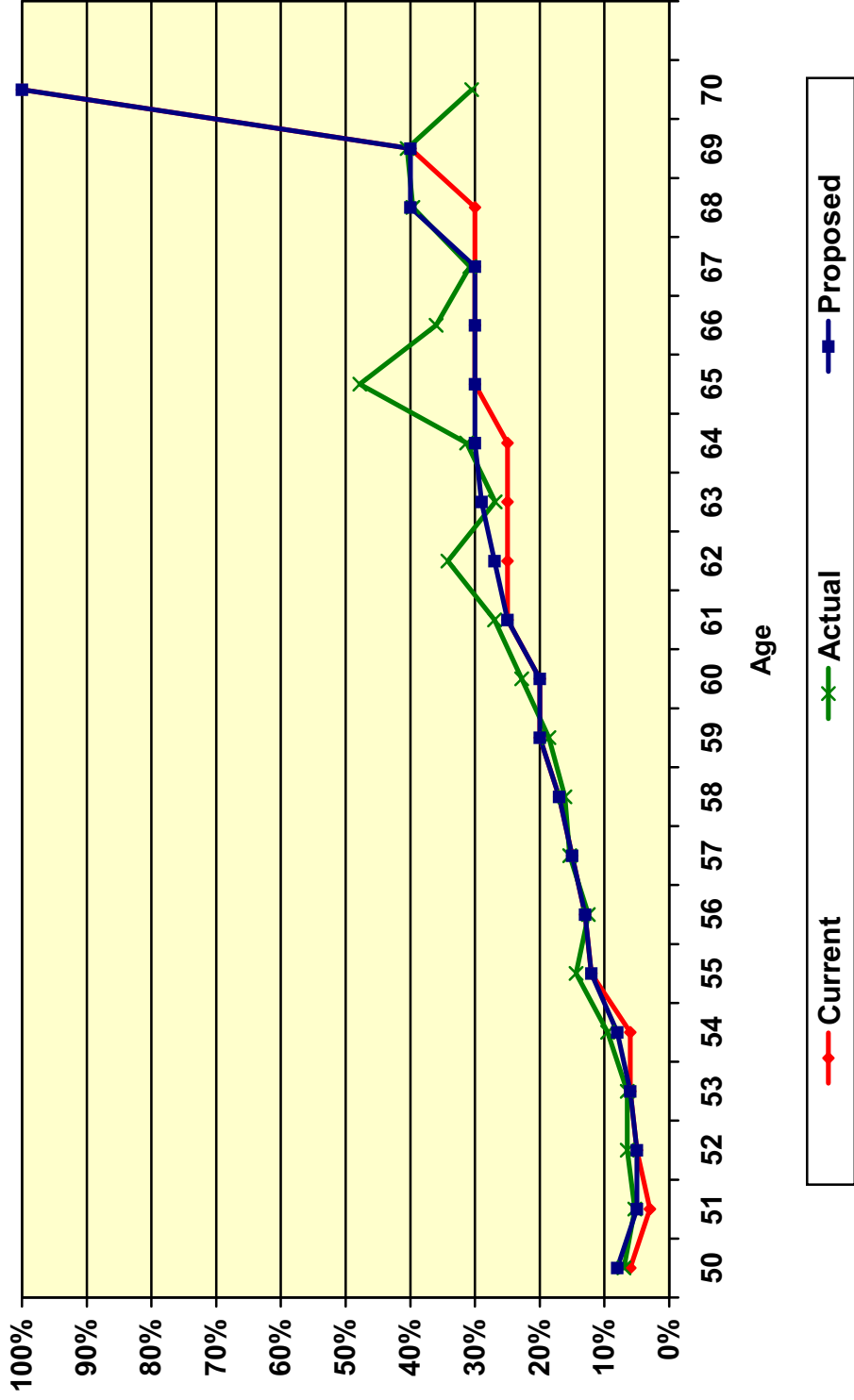
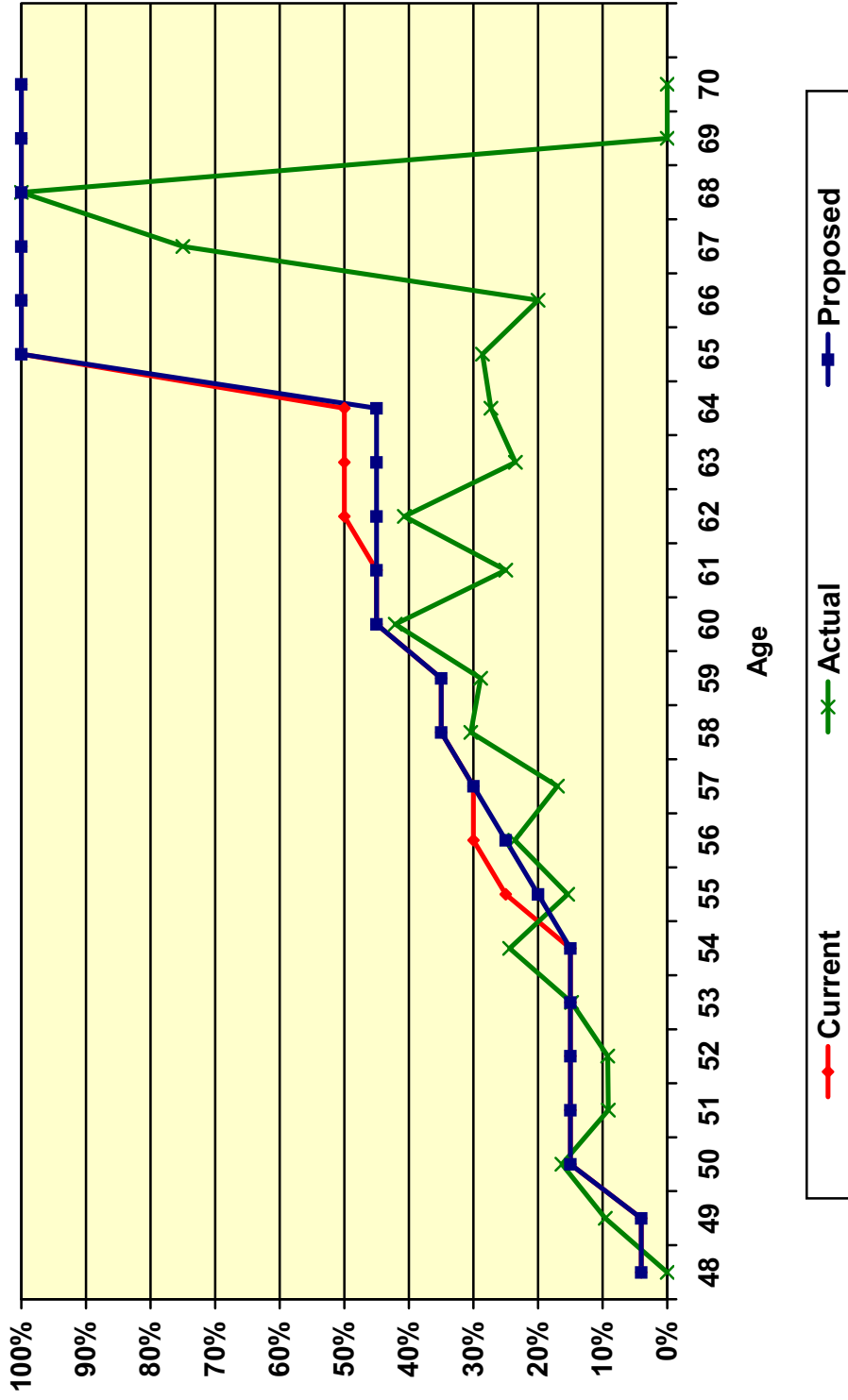


Chart 2
Retirement Rates - Safety Members



B. MORTALITY RATES - HEALTHY

The “healthy” mortality rates project what proportion of members will die before retirement as well as the life expectancy of a member who retires for service (i.e., who did not retire on a disability pension). The tables currently being used for post-service retirement mortality rates are the 1994 Group Annuity Mortality Male and Female Tables.

Pre-Retirement Mortality

The number of deaths among active members is not large enough to provide statistics credible enough to develop a unique table. Therefore, it is assumed that pre-retirement mortality and post-retirement mortality will follow the same tables. For General, all pre-retirement deaths are assumed to be non-service connected while for Safety, all pre-retirement deaths are assumed to be service connected.

Post-Retirement Mortality (Service Retirements)

Among service retired members, the actual deaths compared to the expected deaths under the current and proposed assumption for the last three years is as follows:

	<u>General - Healthy</u>			<u>Safety - Healthy</u>		
	<u>Actual Deaths</u>	<u>Current Expected Deaths</u>	<u>Proposed Expected Deaths (no change)</u>	<u>Actual Deaths</u>	<u>Current Expected Deaths</u>	<u>Proposed Expected Deaths</u>
2004	214	222	222	7	11	10
2005	222	219	219	12	11	10
2006	254	228	228	4	12	11
Total	690	669	669	23	34	31
Actual / Expected		103%	103%		68%	74%

Chart 3 compares actual to expected deaths for General members under the current and proposed assumptions for all pensioners over the last three years. Experience shows that there were more deaths than predicted by the current table.

Chart 4 has the same comparison for Safety members. Experience shows that there were fewer deaths than expected.

For General service retirees, the ratio of actual to expected deaths was 103%. We recommend no change in mortality table as general actuarial practice is to include some margin for improvements in mortality in the future.

For Safety service retirees, the ratio of actual to expected deaths was 68%. The actual number of deaths was 23 during this experience study period versus 29 actual deaths during the last experience study period. Based on the combined experience for all General and Safety service retirees, we are comfortable in recommending only a one year mortality improvement to the 1994 Group Annuity Mortality Table (separate tables for males and females). However, this will bring the actual to expected ratio for Safety service retirees to only 74%. We will continue to monitor this assumption closely in future studies.

Chart 5 shows the life expectancies under the current and the proposed tables for General members.

Chart 6 has the same information for Safety members.

Mortality Table for Member Contributions

We recommend that the mortality table used for determining contributions for General members be changed from the 1994 Group Annuity Mortality Table for Females with a two year set forward to a combination of the 1994 Group Annuity Mortality Table for Males weighted 30% and the 1994 Group Annuity Mortality Table for Females weighted 70%. This is based on the proposed valuation tables for General members and the actual sex distribution of General members.

For Safety members, we recommend the mortality table be changed from the 1994 Group Annuity Mortality Table for Males with a one year set back to a combination of the 1994 Group Annuity Mortality Table for Males with a one year set back weighted 75% and the 1994 Group Annuity Mortality Table for Females with a one year set back weighted 25%. This is based on the proposed valuation tables for Safety members and the actual sex distribution of Safety members.

Chart 3
Post - Retirement Deaths (General)
Non - Disabled Members

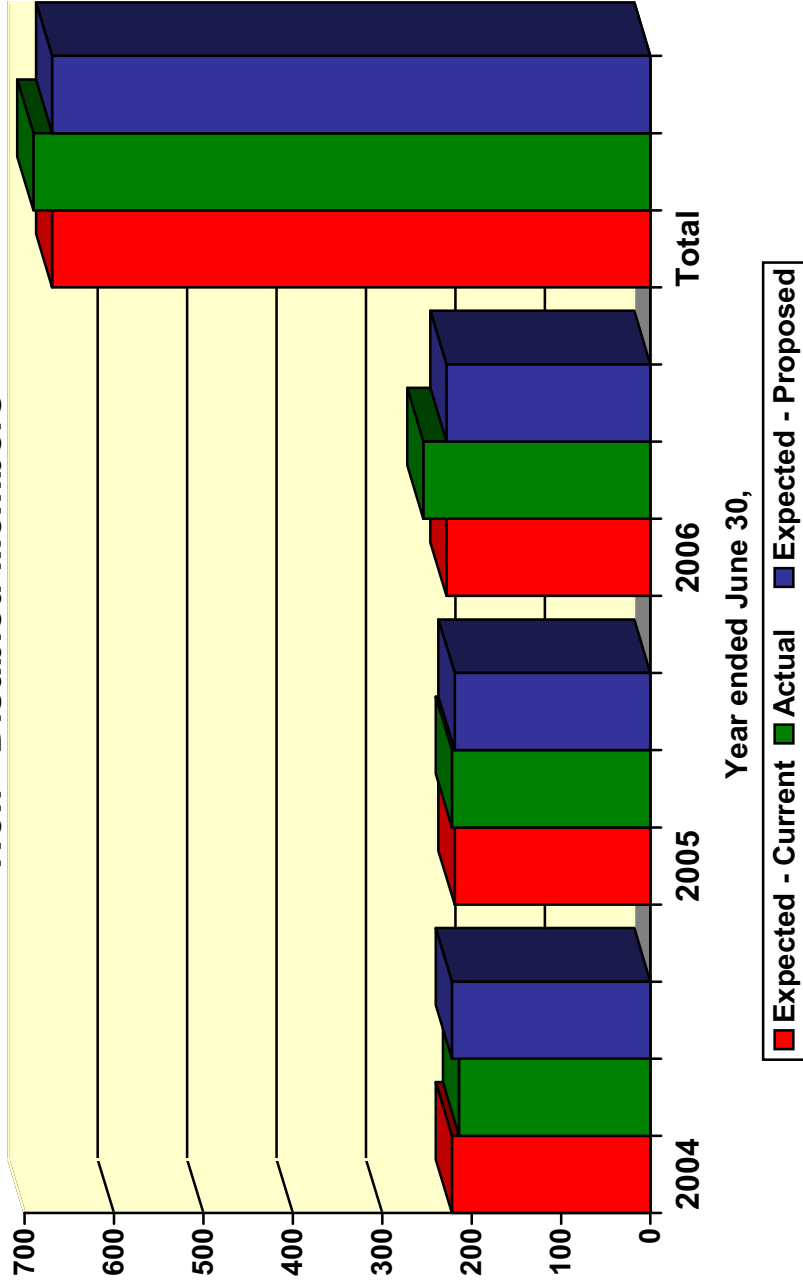


Chart 4
Post - Retirement Deaths (Safety)
Non - Disabled Members

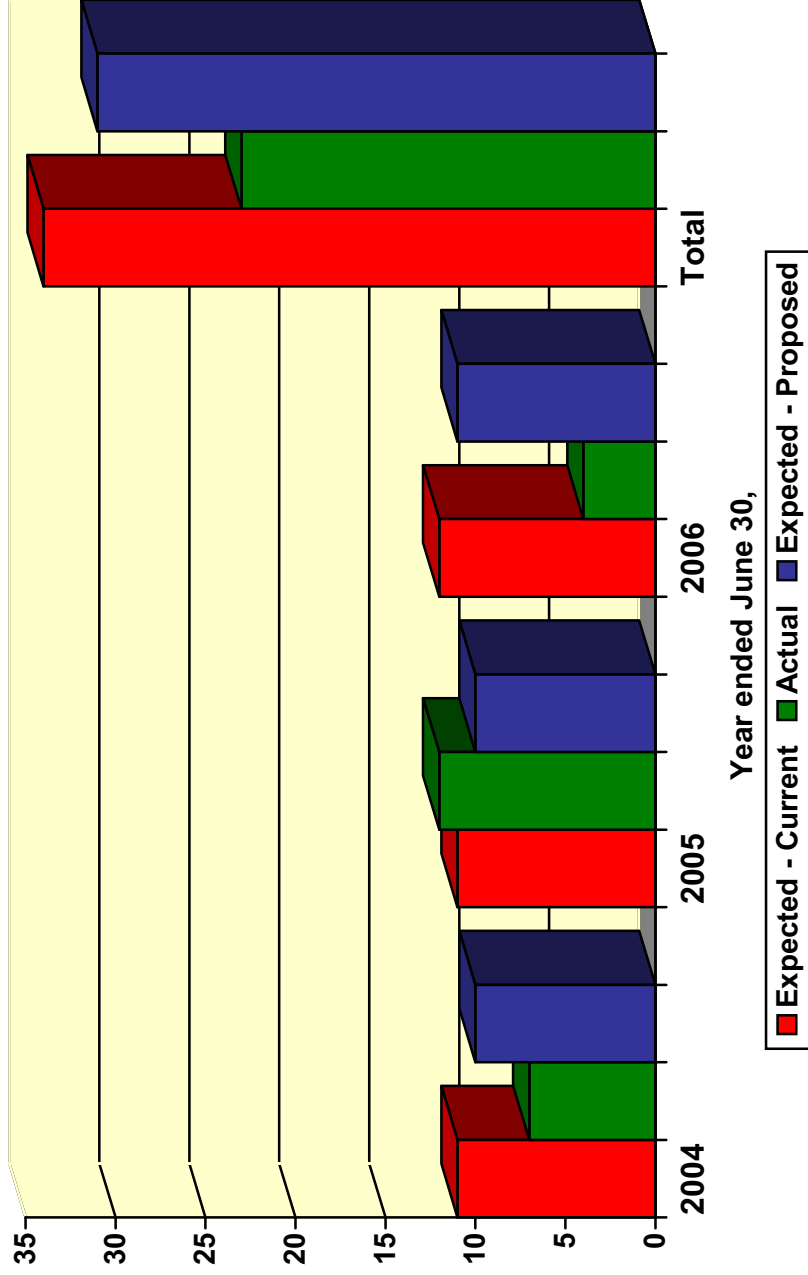


Chart 5
Life Expectancies (General)

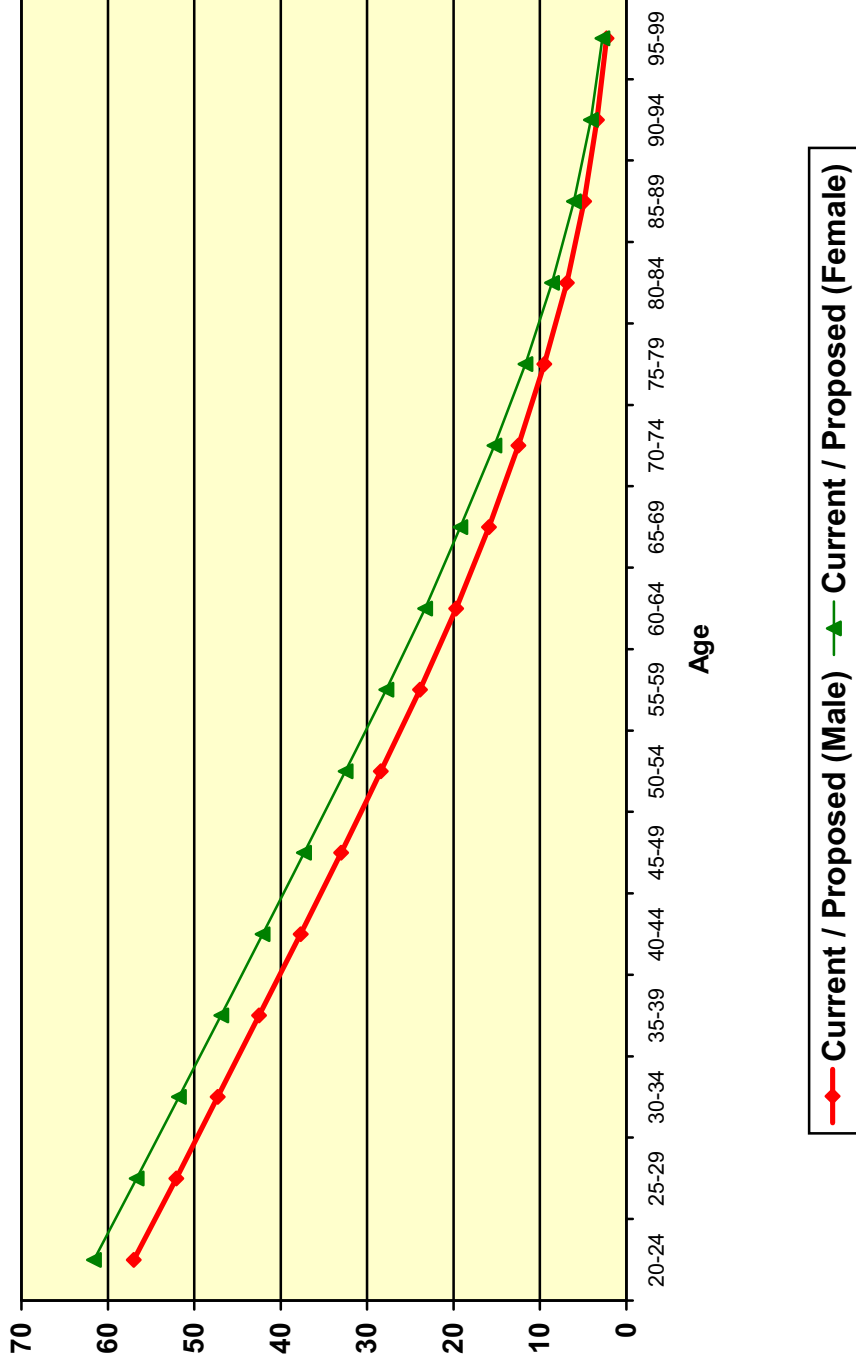
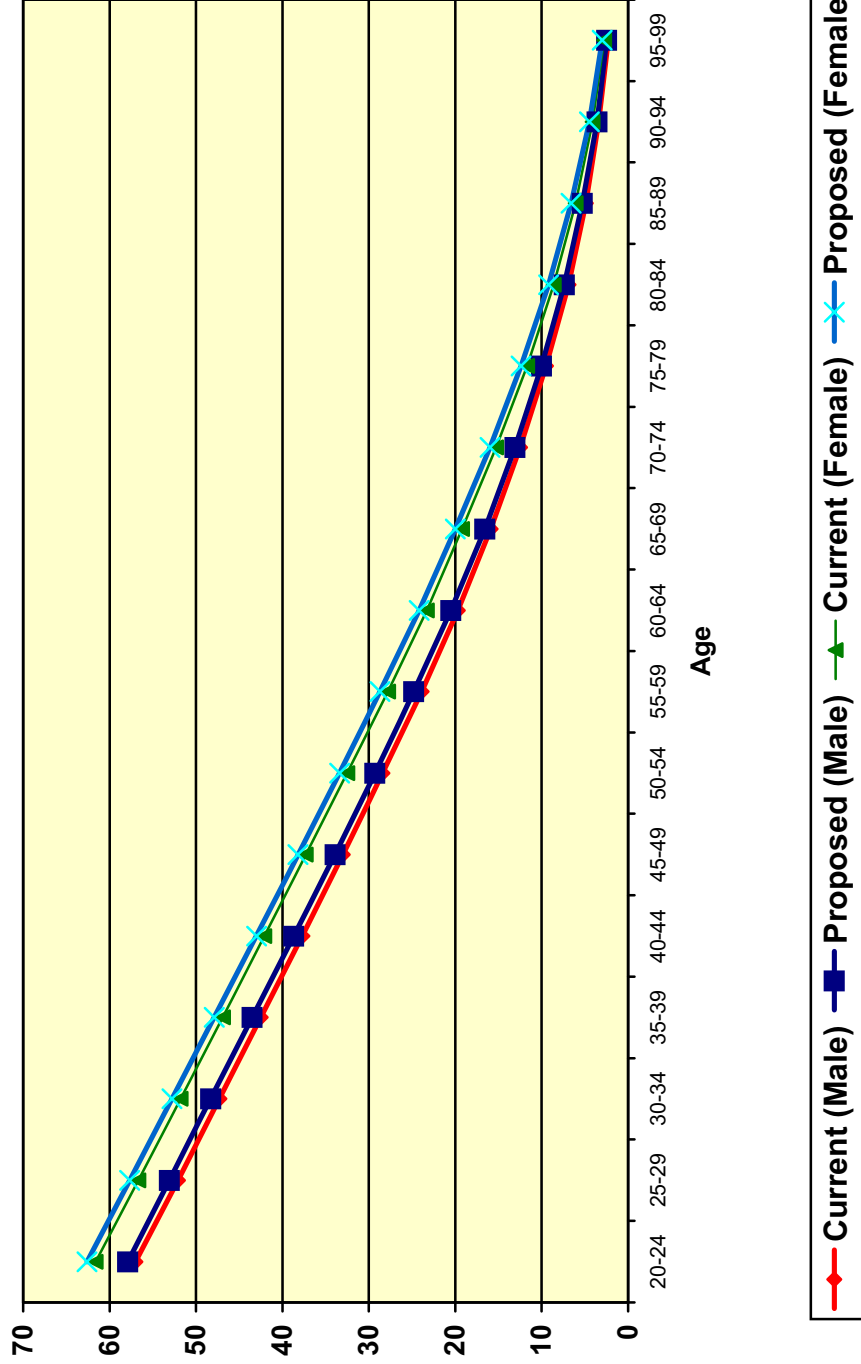


Chart 6
Life Expectancies (Safety)



C. MORTALITY RATES - DISABLED

Since mortality rates for disabled members can be higher than for healthy members, a different mortality assumption is often used. The tables currently being used for General members is the 1994 Group Annuity Mortality Table with a seven year set forward. For Safety members, the tables currently used for healthy retirees are also used for disabled retirees.

The number of actual deaths compared to the number expected under the current and proposed assumptions for the last three years has been as follows:

	General - Disability			Safety – Disabled		
	Actual Deaths	Current Expected Deaths	Proposed Expected Deaths (no change)	Actual Deaths	Current Expected Deaths	Proposed Expected Deaths
2004	19	28	28	4	4	4
2005	32	28	28	2	4	4
2006	28	27	27	4	5	4
Total	79	83	83	10	13	12
Actual / Expected		95%	95%		77%	83%

Chart 7 compares actual to expected deaths under both the current and proposed assumptions for disabled General members over the last three years.

There were 79 actual deaths during this experience study period versus 91 actual deaths during the last experience study period. We are comfortable in not recommending an adjustment to the mortality assumption at this time. We will continue to monitor this assumption closely in future studies.

Chart 8 compares actual to expected deaths under both the current and proposed assumptions for disabled Safety members over the last three years.

For disabled Safety members, we recommend that the mortality table be changed to the 1994 Group Annuity Mortality Table with a one year set back consistent with our recommendation for Safety healthy retirees.

Chart 9 shows the life expectancies under both the current and proposed tables for General members.

Chart 10 has the same information for Safety members.

Chart 7
Post - Retirement Deaths
Disabled General Members

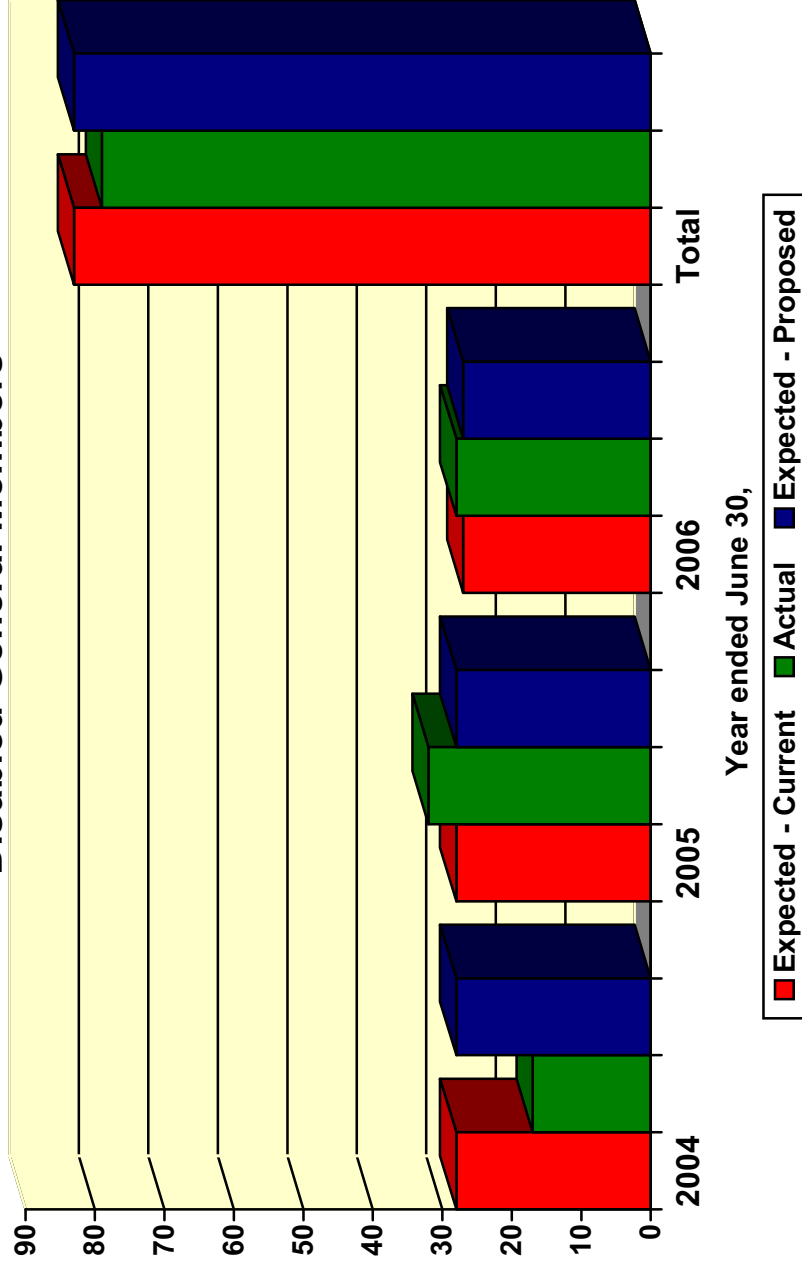


Chart 8
Post - Retirement Deaths
Disabled Safety Members

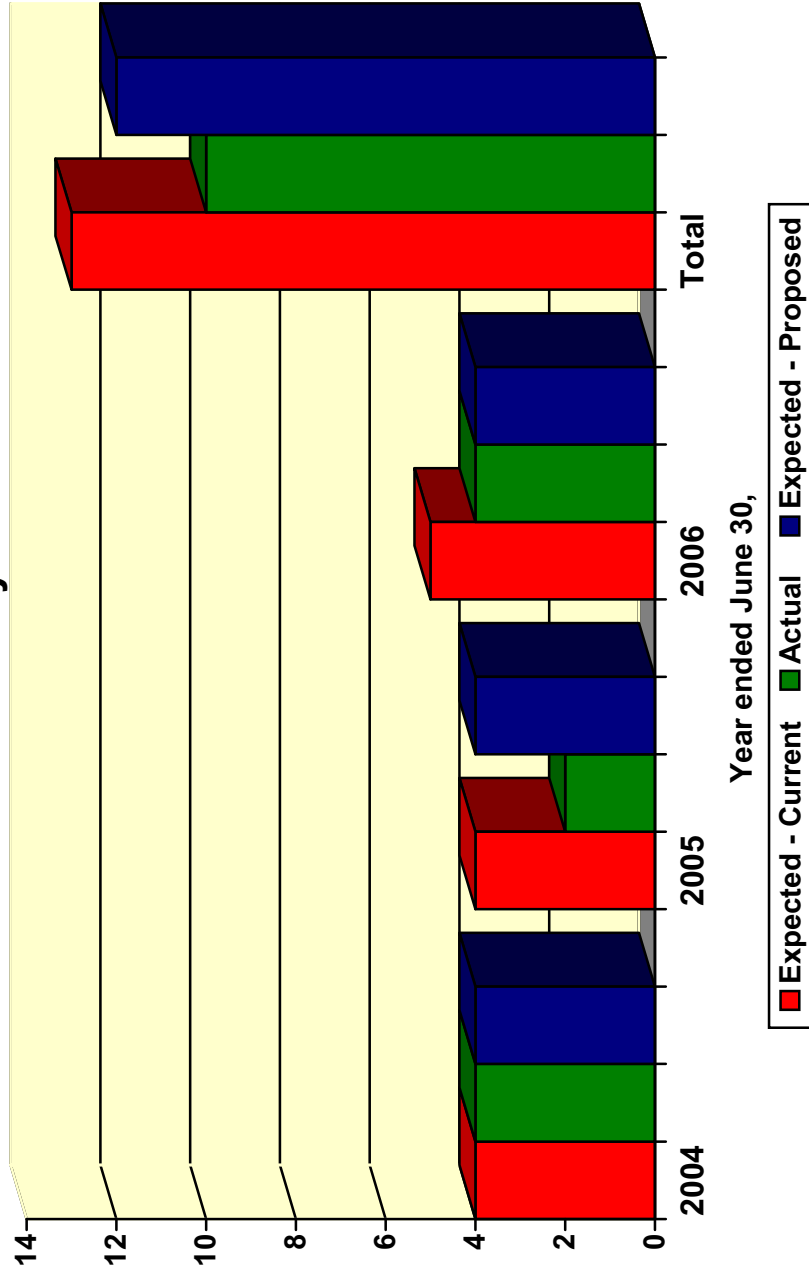


Chart 9
Life Expectancies
Disabled General Members

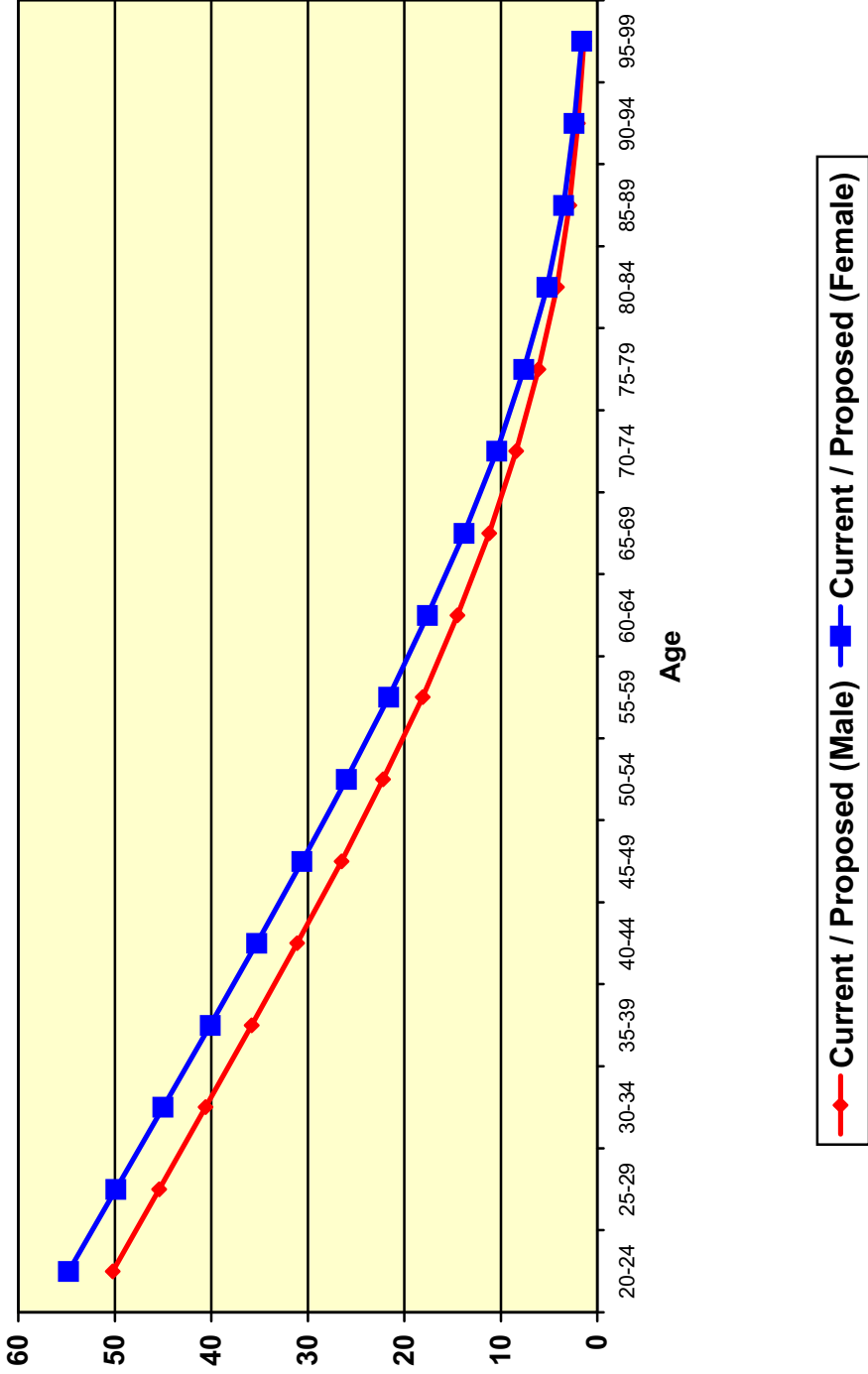
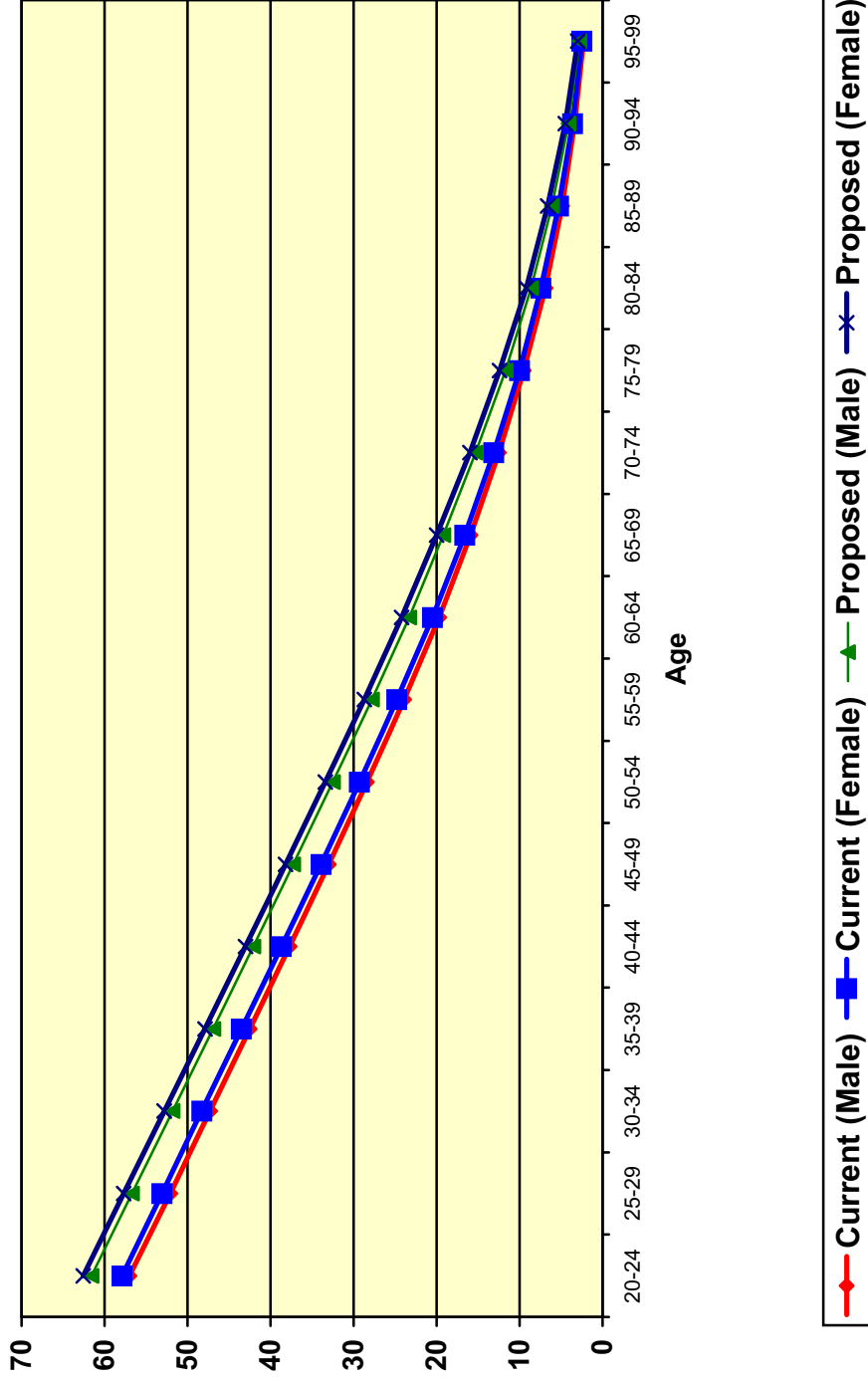


Chart 10
Life Expectancies
Disabled Safety Members



D. TERMINATION RATES

Termination rates include all terminations for reasons other than death, disability, or retirement. Under the current assumptions, there is a set of separate ordinary withdrawal and vested termination assumption to predict, respectively, those members who are anticipated to withdraw their contributions (ordinary withdrawal) or leave their contributions on deposit and receive a deferred vested benefit (vested termination). The experience over the last three years for General male, General female and Safety members split between those employees with under five years of service and those with five or more years of service is provided below.

Please note that this is also the first triennial experience study to reflect the termination experience after the County benefit improvements effective March 8, 2002.

Rates of Ordinary Withdrawal (General Male)
(Fewer than Five Years of Service)

<u>Years of Service</u>	<u>Current Rate</u>	<u>Observed Rate</u>	<u>Proposed Rate</u>
0	17.00%	15.84%	16.00%
1	11.00	9.68	10.00
2	7.00	7.56	7.50
3	6.00	5.99	6.00
4	5.00	6.21	5.50

Rates of Ordinary Withdrawal (General Female)
(Fewer than Five Years of Service)

<u>Years of Service</u>	<u>Current Rate</u>	<u>Observed Rate</u>	<u>Proposed Rate</u>
0	19.00%	13.40%	17.00%
1	12.00	10.44	11.00
2	8.00	8.92	8.00
3	7.00	6.33	7.00
4	6.50	6.18	6.50

Rates of Ordinary Withdrawal (Safety)
(Fewer than Five Years of Service)

<u>Years of Service</u>	<u>Current Rate</u>	<u>Observed Rate</u>	<u>Proposed Rate</u>
0	12.00%	10.75%	12.00%
1	11.00	11.73	11.00
2	5.00	6.46	6.00
3	4.50	4.99	4.50
4	4.00	3.52	4.00

Rates of Ordinary Withdrawal (General Male)
(Five or More Years of Service)

<u>Age</u>	<u>Current Rate</u>	<u>Observed Rate</u>	<u>Proposed Rate</u>
20 – 24	1.80%	0.00%	1.00%
25 – 29	1.80	1.43	1.00
30 – 34	1.62	0.85	0.90
35 – 39	1.44	0.26	0.80
40 – 44	1.26	0.16	0.70
45 – 49	0.90	0.13	0.50
50 – 54	0.72	0.00	0.40
55 – 59	0.54	1.23	0.30
60 – 64	0.54	0.00	0.30
65 – 69	0.54	1.85	0.30

Rates of Ordinary Withdrawal (General Female)
(Five or More Years of Service)

<u>Age</u>	<u>Current Rate</u>	<u>Observed Rate</u>	<u>Proposed Rate</u>
20 – 24	1.80%	0.00%	1.80%
25 – 29	1.80	2.31	1.80
30 – 34	1.35	1.12	1.35
35 – 39	1.08	0.30	0.80
40 – 44	0.72	0.31	0.60
45 – 49	0.54	0.11	0.30
50 – 54	0.54	0.39	0.30
55 – 59	0.54	0.34	0.30
60 – 64	0.54	0.70	0.30
65 – 69	0.54	0.00	0.30

Rates of Ordinary Withdrawal (Safety)
(Five or More Years of Service)

<u>Age</u>	<u>Current Rate</u>	<u>Observed Rate</u>	<u>Proposed Rate</u>
20 – 24	1.60%	0.00%	0.80%
25 – 29	1.44	0.75	0.72
30 – 34	1.20	0.24	0.60
35 – 39	0.96	0.00	0.72
40 – 44	0.80	0.26	0.60
45 – 49	0.64	0.17	0.48
50 – 54	0.48	0.78	0.36
55 – 59	0.48	1.52	0.36
60 – 64	0.00	0.00	0.00

Please note that consistent with the current assumption, under the proposed assumption we will continue to assume no withdrawal after a member is eligible for service retirement.

Rates of Vested Termination (General Male)
(Five or More Years of Service)

<u>Age</u>	<u>Current Rate</u>	<u>Observed Rate</u>	<u>Proposed Rate</u>
20 – 24	7.68%	0.00%	8.00%
25 – 29	7.00	5.71	7.00
30 – 34	5.99	5.68	6.00
35 – 39	4.93	3.89	4.50
40 – 44	3.92	2.57	3.00
45 – 49	2.68	2.07	2.50
50 – 54	1.70	2.69	2.00
55 – 59	0.56	5.25	1.00
60 – 64	0.56	2.10	1.00
65 – 69	0.56	12.96	1.00

Rates of Vested Termination (General Female)
(Five or More Years of Service)

<u>Age</u>	<u>Current Rate</u>	<u>Observed Rate</u>	<u>Proposed Rate</u>
20 – 24	8.89%	0.00%	8.00%
25 – 29	7.78	4.63	7.00
30 – 34	5.56	3.44	5.00
35 – 39	4.44	3.83	4.00
40 – 44	3.33	2.73	3.00
45 – 49	2.22	1.93	2.00
50 – 54	1.11	3.76	2.00
55 – 59	0.56	3.58	1.00
60 – 64	0.56	3.50	1.00
65 – 69	0.56	1.92	1.00

Rates of Vested Termination (Safety)
(Five or More Years of Service)

<u>Age</u>	<u>Current Rate</u>	<u>Observed Rate</u>	<u>Proposed Rate</u>
20 – 24	3.33%	0.00%	3.33%
25 – 29	2.76	3.37	2.76
30 – 34	2.18	2.26	2.18
35 – 39	1.34	1.93	1.73
40 – 44	1.28	1.12	1.28
45 – 49	1.00	0.34	0.80
50 – 54	0.21	3.13	0.60
55 – 59	0.21	6.06	0.40
60 – 64	0.00	0.00	0.00

Please note that consistent with the current assumption, under the proposed assumption we will continue to assume no vested termination after a member is eligible for service retirement. Also, after considering

the liabilities involved, all terminations among members with less than five years of service have been grouped under ordinary withdrawals, even if such members do not withdraw their contributions.

Chart 11 compares actual to expected terminations (both ordinary withdrawal and vested terminations) over the past three years for both the current and proposed assumptions for General members.

Chart 12 graphs the same information as Chart 11, but for Safety members.

Chart 13 shows the current and proposed ordinary withdrawal rates for General male members with over five years of service.

Chart 14 shows the same information as Chart 13, but for General female members.

Chart 15 shows the same information as Chart 13, but for Safety members.

Chart 16 shows the current and proposed vested termination rates for General male members with five or more years of service.

Chart 17 shows the same information as Chart 16, but for General female members.

Chart 18 shows the same information as Chart 16, but for Safety members.

Based upon the recent experience, we have adjusted the turnover rates accordingly. We also continued to assume that all termination rates are zero for members eligible to retire; that is, it is assumed that members eligible to retire at termination will retire rather than defer their benefit.

For General members, the ordinary withdrawal and vested termination rates have been decreased in total. For Safety members, the ordinary withdrawal rates have been slightly decreased while the vested termination rates have been slightly increased.

Chart 11
Actual Number of Terminations Compared
to Expected (General Members)

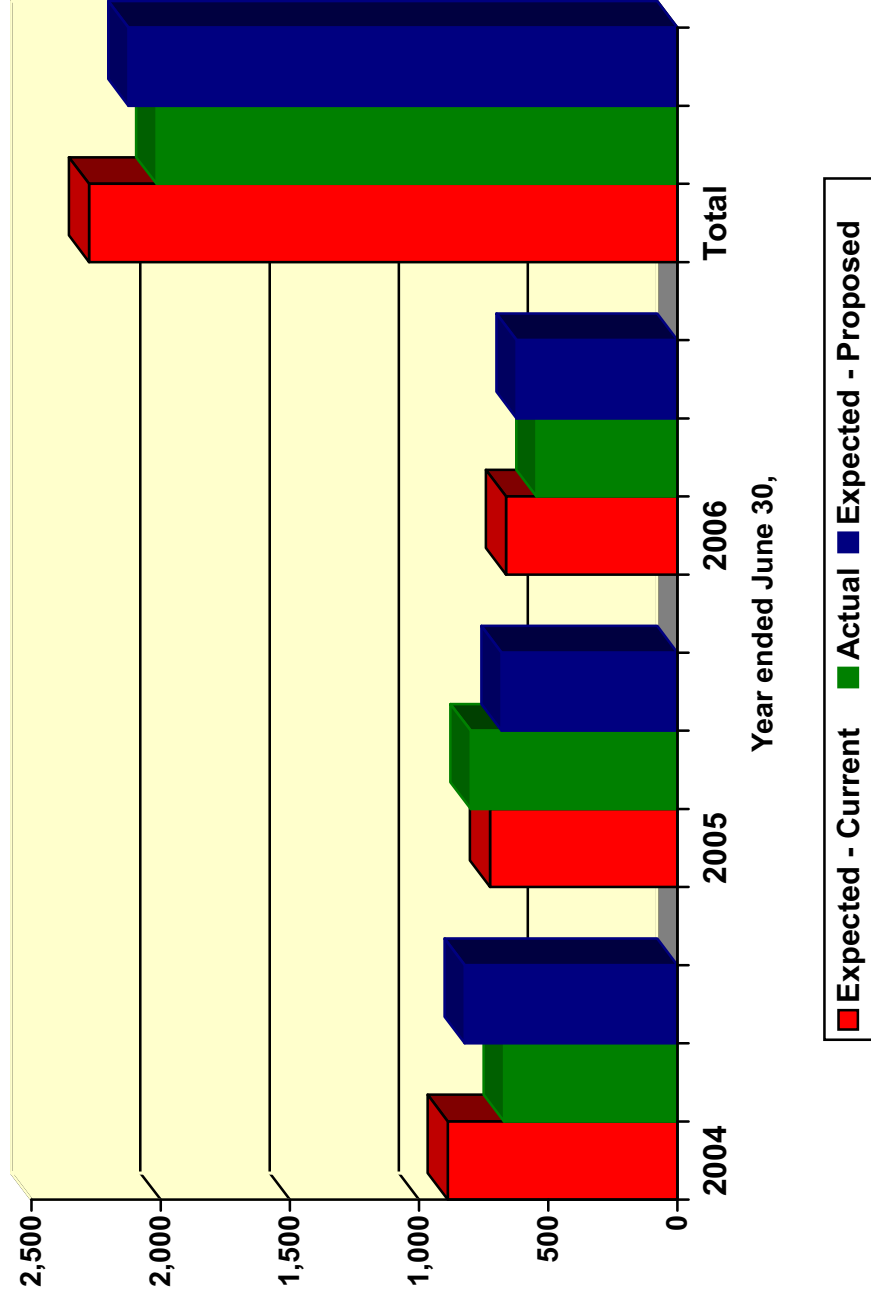


Chart 12
Actual Number of Terminations Compared
to Expected (Safety members)

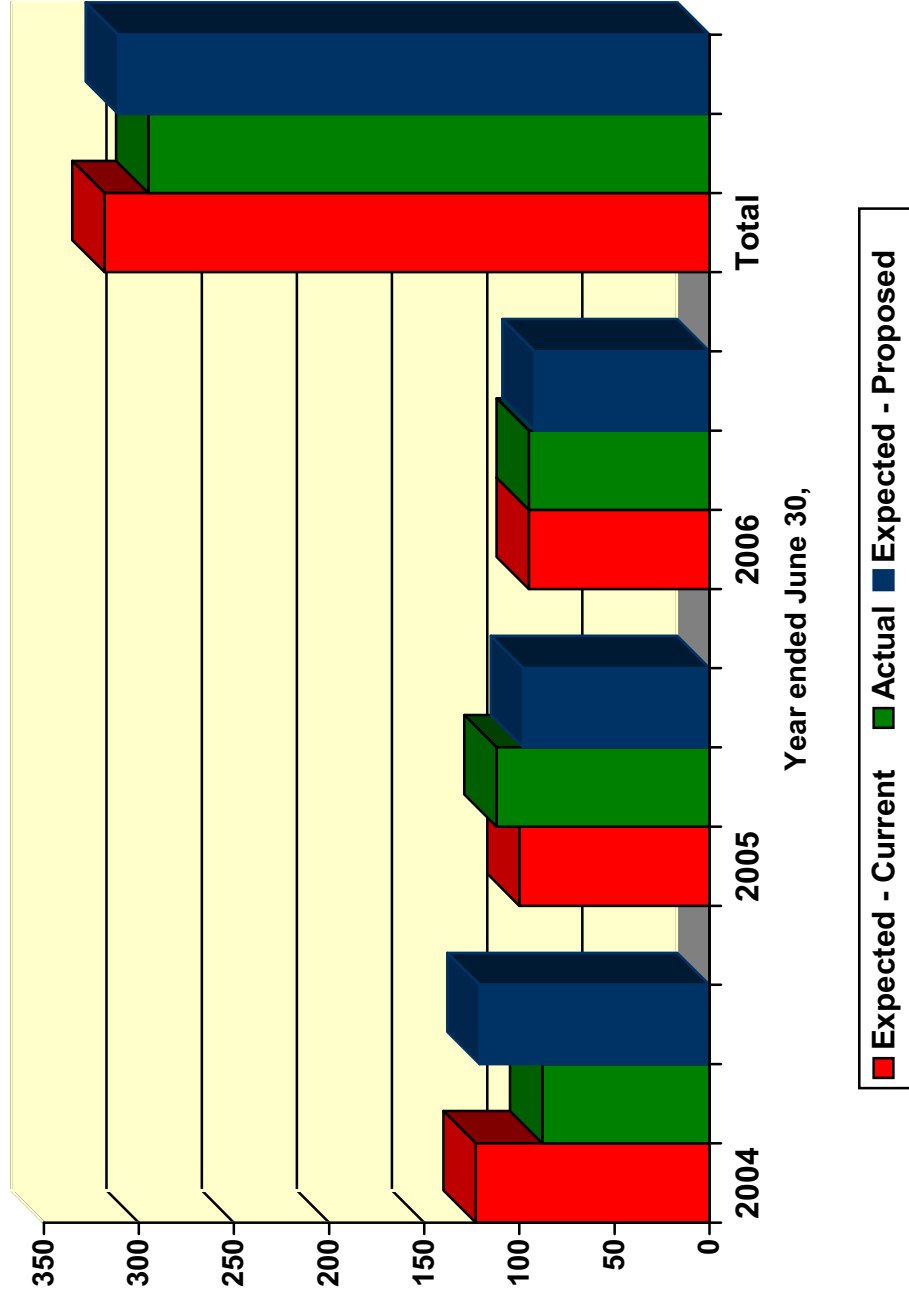


Chart 13
Ordinary Withdrawal Rates - General Male Members (Over 5 Years of Service)

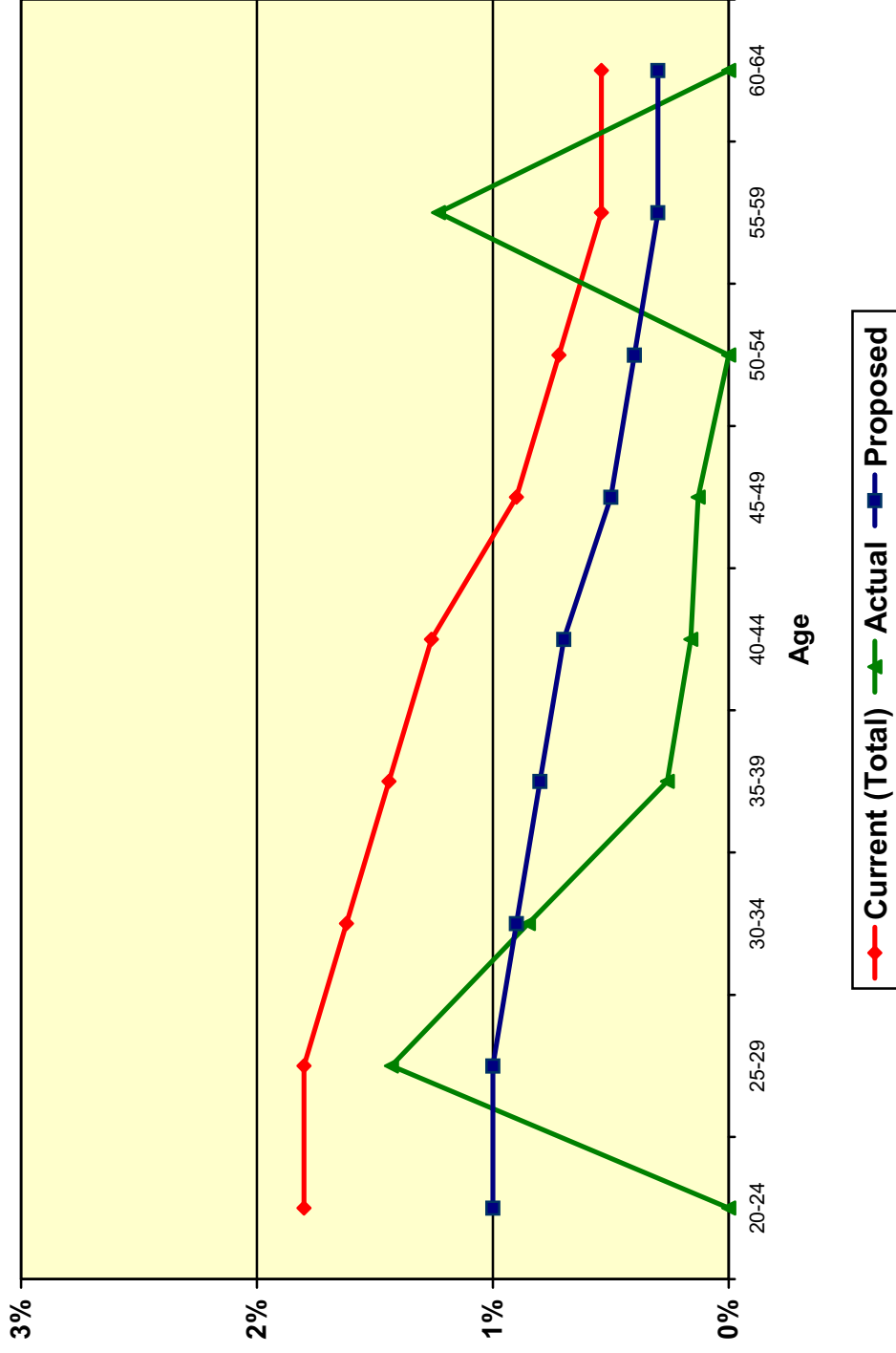


Chart 14
Ordinary Withdrawal Rates - General Female Active
Members (Over 5 Years of Service)

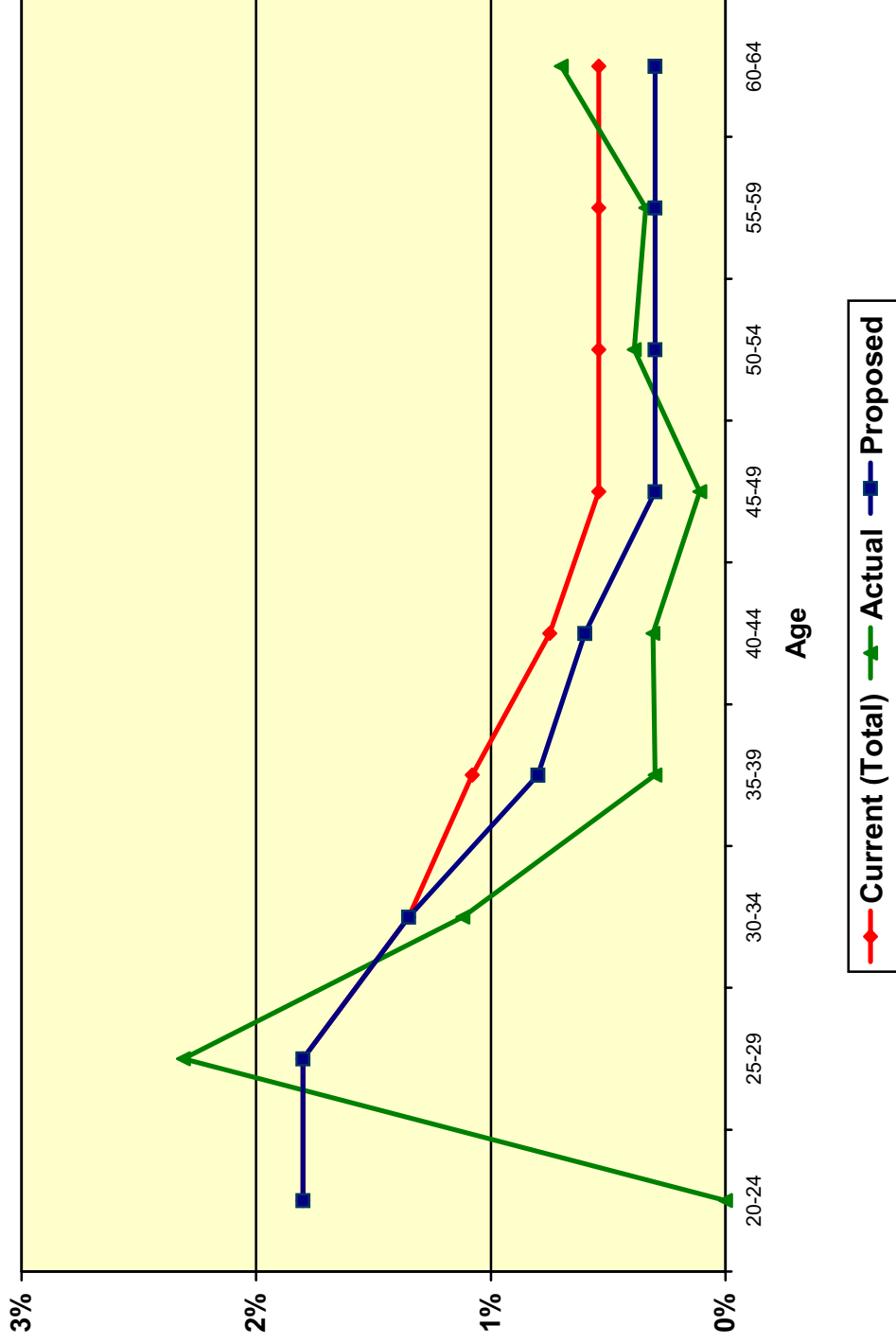


Chart 15
Ordinary Withdrawal Rates - Safety Members
(Over 5 Years of Service)

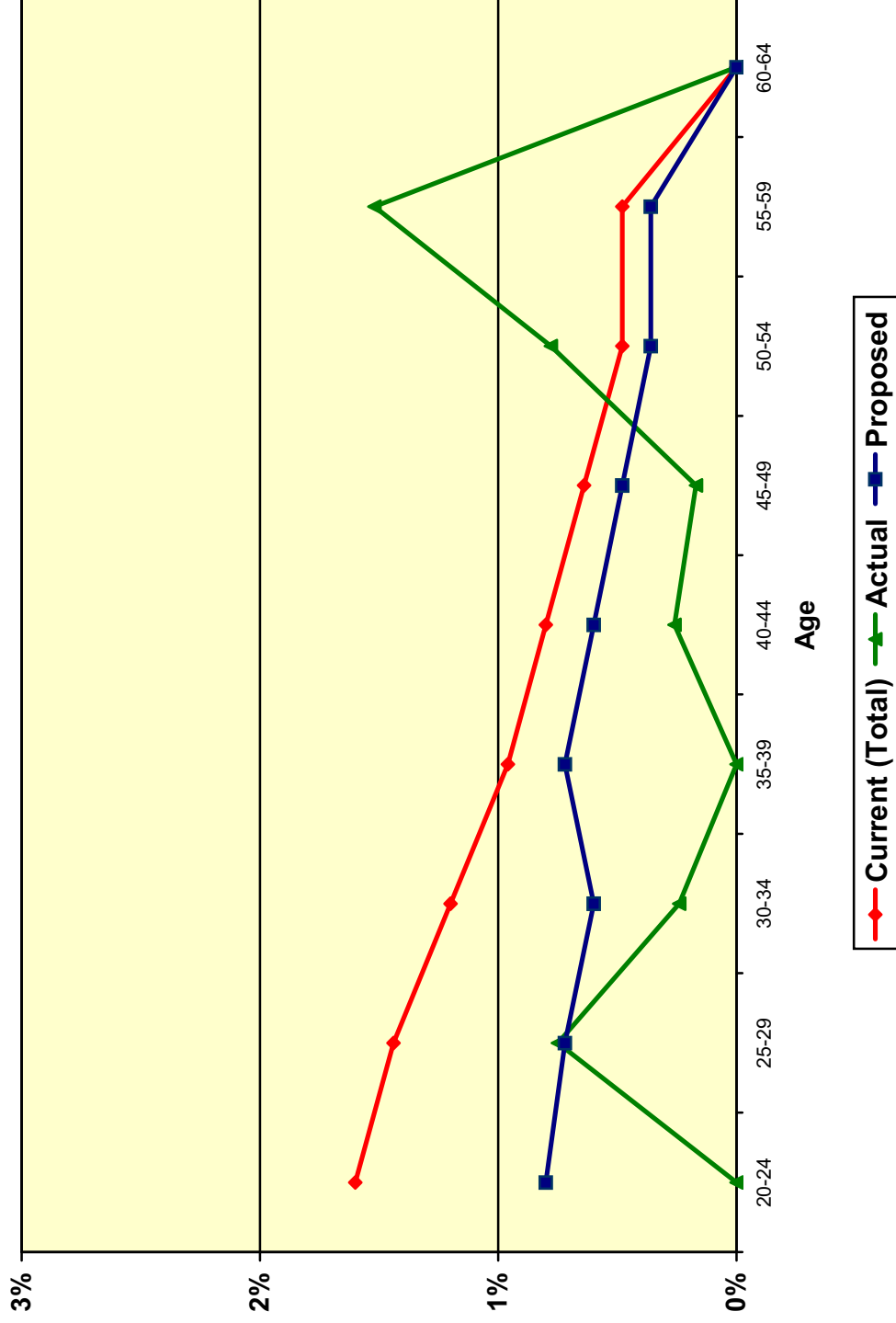


Chart 16
Vested Termination Rates - General Male Members

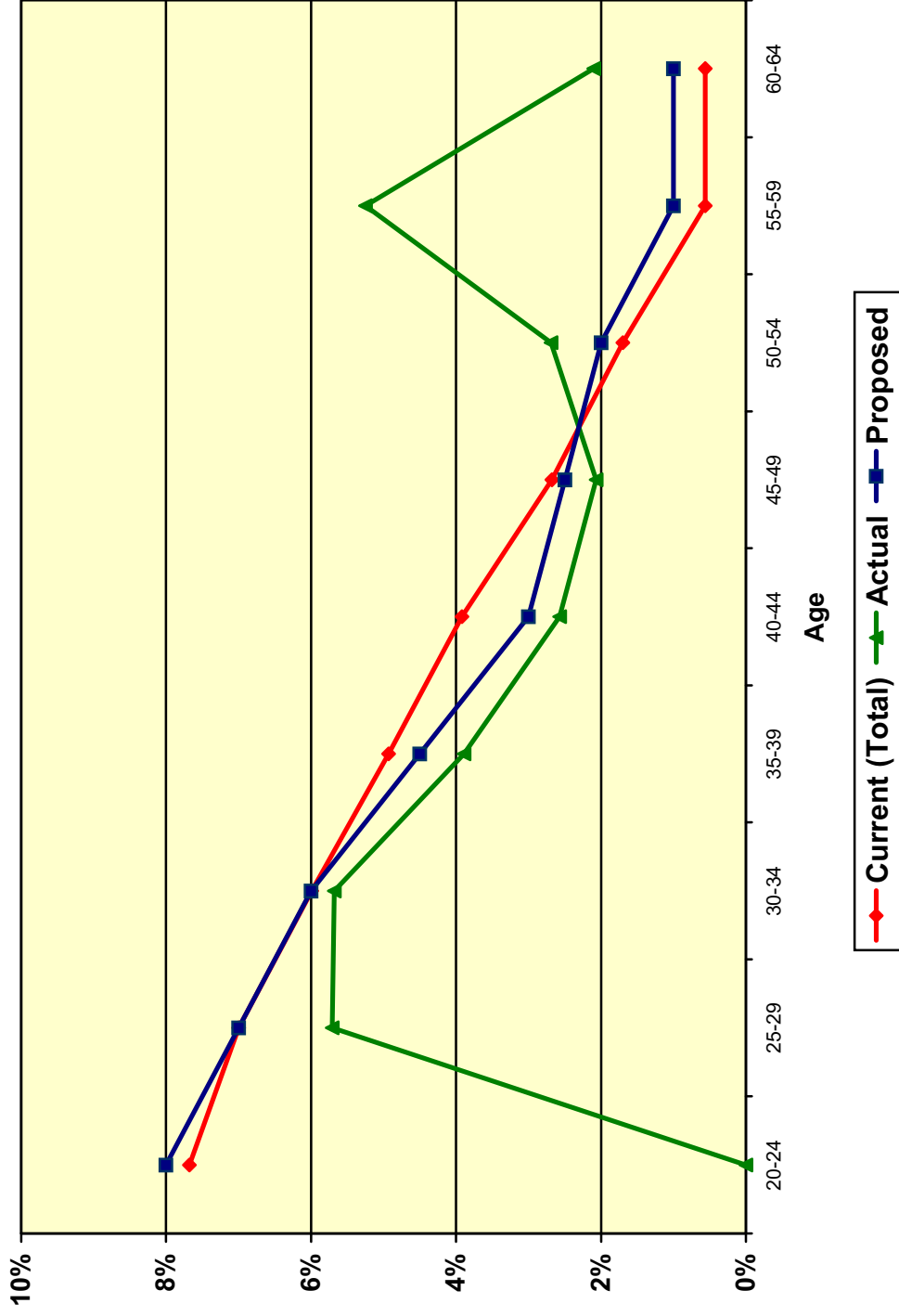


Chart 17
Vested Termination Rates - General Female Members

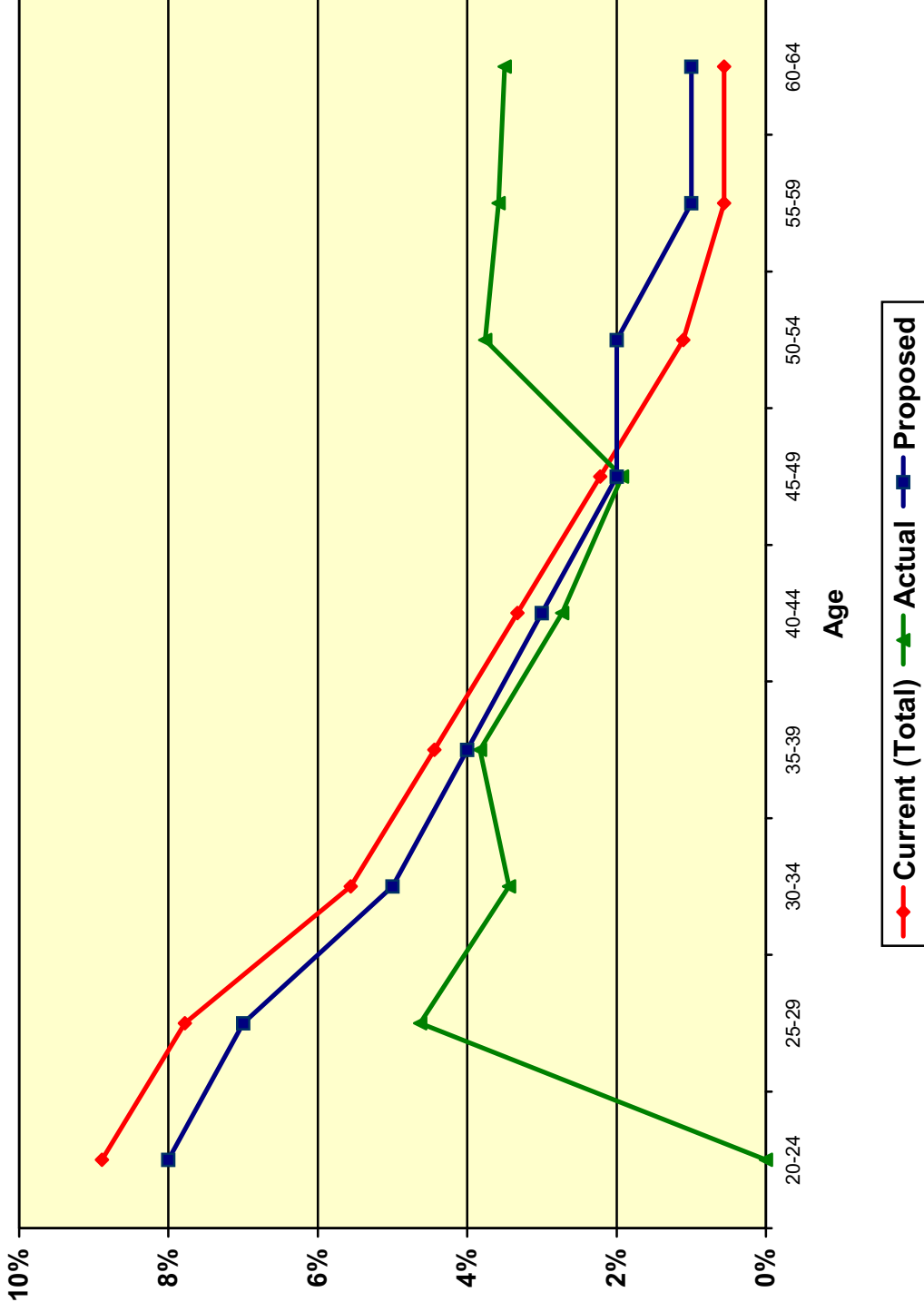
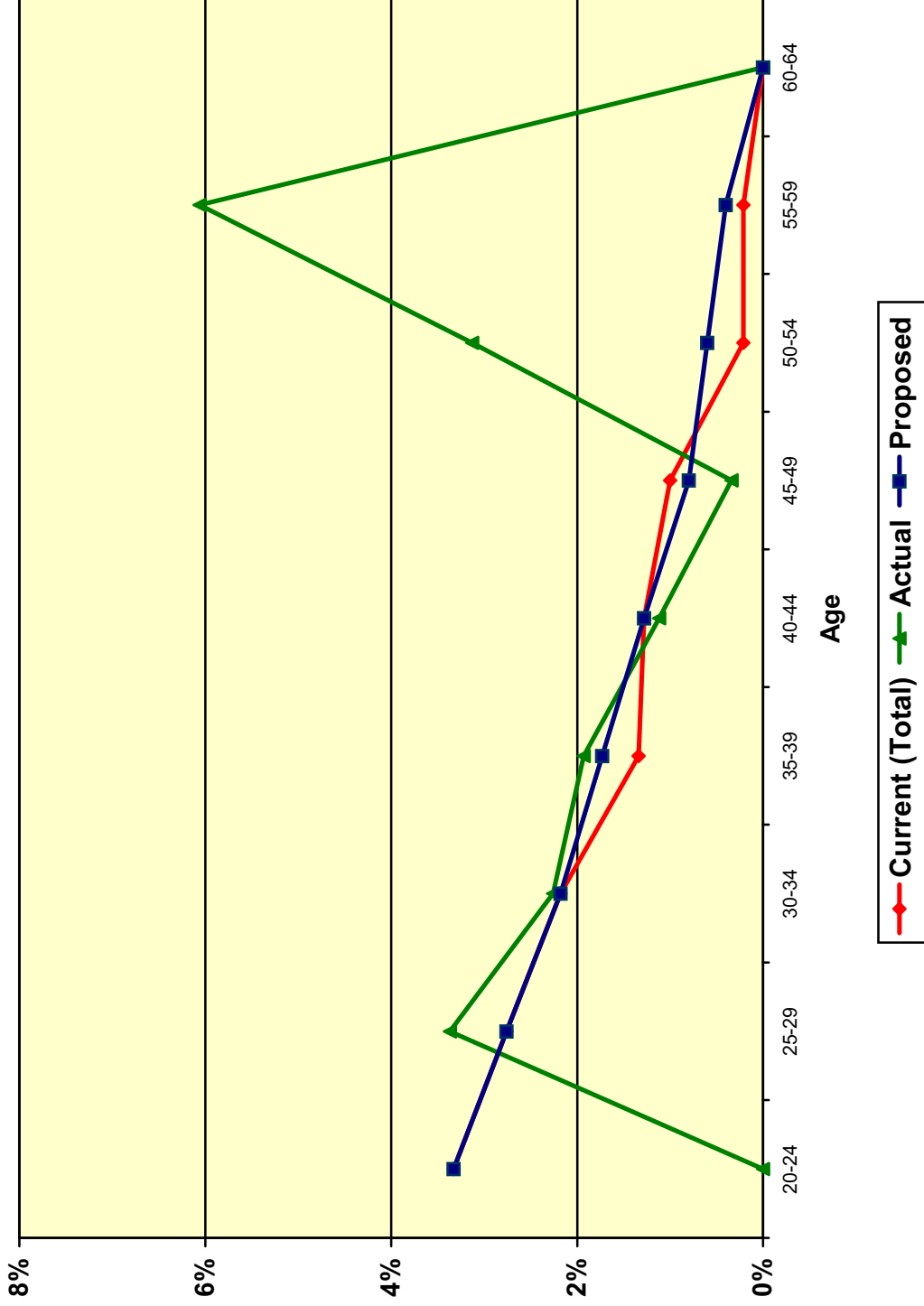


Chart 18
Vested Termination Rates - Safety Members



E. DISABILITY INCIDENCE RATES

When a member becomes disabled, he or she may be entitled to a pension that depends upon the member's years of service (non-service connected disability), or the greater of that benefit or a 50% pension (service connected disability). The following summarizes the actual experience over the past three years compared to the current and proposed assumptions for both non-service connected and service-connected disability incidence:

Rates of Non-Service Connected Disability Incidence (General Male)

<u>Age</u>	<u>Current Rate</u>	<u>Observed Rate</u>	<u>Proposed Rate</u>
20 – 24	0.01%	0.00%	0.00%
25 – 29	0.01	0.00	0.00
30 – 34	0.01	0.00	0.01
35 – 39	0.04	0.13	0.02
40 – 44	0.10	0.00	0.04
45 – 49	0.15	0.06	0.08
50 – 54	0.23	0.05	0.12
55 – 59	0.33	0.18	0.20
60 – 64	0.33	0.15	0.25
65 – 69	0.00	0.00	0.00

Rates of Non-Service Connected Disability Incidence (General Female)

<u>Age</u>	<u>Current Rate</u>	<u>Observed Rate</u>	<u>Proposed Rate</u>
20 – 24	0.00%	0.00%	0.00%
25 – 29	0.00	0.00	0.00
30 – 34	0.01	0.00	0.01
35 – 39	0.10	0.00	0.05
40 – 44	0.20	0.06	0.10
45 – 49	0.24	0.13	0.15
50 – 54	0.26	0.18	0.20
55 – 59	0.30	0.18	0.25
60 – 64	0.40	0.17	0.30
65 – 69	0.00	0.33	0.00

Rates of Non-Service Connected Disability Incidence (Safety)

<u>Age</u>	<u>Current Rate</u>	<u>Observed Rate</u>	<u>Proposed Rate</u>
20 – 24	0.00%	0.00%	0.00%
25 – 29	0.03	0.00	0.00
30 – 34	0.06	0.00	0.06
35 – 39	0.10	0.06	0.06
40 – 44	0.14	0.00	0.06
45 – 49	0.16	0.09	0.10
50 – 54	0.17	0.00	0.10
55 – 59	0.18	0.00	0.10
60 – 64	0.20	0.00	0.10

Rates of Service-Connected Disability Incidence (General Male)

<u>Age</u>	<u>Current Rate</u>	<u>Observed Rate</u>	<u>Proposed Rate</u>
20 – 24	0.01%	0.00%	0.01%
25 – 29	0.01	0.00	0.01
30 – 34	0.02	0.00	0.02
35 – 39	0.06	0.14	0.06
40 – 44	0.14	0.16	0.14
45 – 49	0.23	0.18	0.23
50 – 54	0.34	0.25	0.34
55 – 59	0.49	0.20	0.40
60 – 64	0.31	0.59	0.45
65 – 69	0.00	0.46	0.00

Rates of Service-Connected Disability Incidence (General Female)

<u>Age</u>	<u>Current Rate</u>	<u>Observed Rate</u>	<u>Proposed Rate</u>
20 – 24	0.00%	0.00%	0.00%
25 – 29	0.02	0.04	0.02
30 – 34	0.10	0.06	0.06
35 – 39	0.12	0.09	0.10
40 – 44	0.14	0.27	0.20
45 – 49	0.18	0.26	0.25
50 – 54	0.22	0.36	0.30
55 – 59	0.28	0.31	0.35
60 – 64	0.30	0.60	0.40
65 – 69	0.00	1.36	0.00

Rates of Service-Connected Disability Incidence (Safety)

<u>Age</u>	<u>Current Rate</u>	<u>Observed Rate</u>	<u>Proposed Rate</u>
20 – 24	0.02%	0.00%	0.05%
25 – 29	0.05	0.09	0.10
30 – 34	0.30	0.32	0.30
35 – 39	0.60	0.53	0.60
40 – 44	0.80	0.80	0.80
45 – 49	1.00	0.38	1.00
50 – 54	1.60	2.33	1.80
55 – 59	2.00	4.33	2.60
60 – 64	2.00	4.48	3.00

Chart 19 compares the actual number of non-service connected disabilities over the past three years to that expected under both the current and proposed assumptions. The current non-service disability rates were reduced to reflect the past three years experience.

Chart 20 shows actual non-service connected disablement rates, compared to the assumed and proposed rates for General male members.

Chart 21 graphs the same information as Chart 20, but for General female members.

Chart 22 graphs the same information as Chart 20, but for Safety members.

Chart 23 compares the actual number of service connected disabilities over the past three years to that expected under both the current and proposed assumptions. The duty disability rates were increased to reflect the past three years experience.

Chart 24 shows actual service connected disablement rates, compared to the assumed and proposed rates for General male members.

Chart 25 graphs the same information as Chart 24, but for General female members.

Chart 26 graphs the same information as Chart 24, but for Safety members.

Overall, the current and proposed assumptions predict about the same number of total ordinary and duty disabilities for General females. The proposed assumptions predict a higher number of total ordinary and duty disabilities for Safety but a lower number for General males.

Chart 19
Actual Number of Non-Service Connected Disabilities Compared to Expected

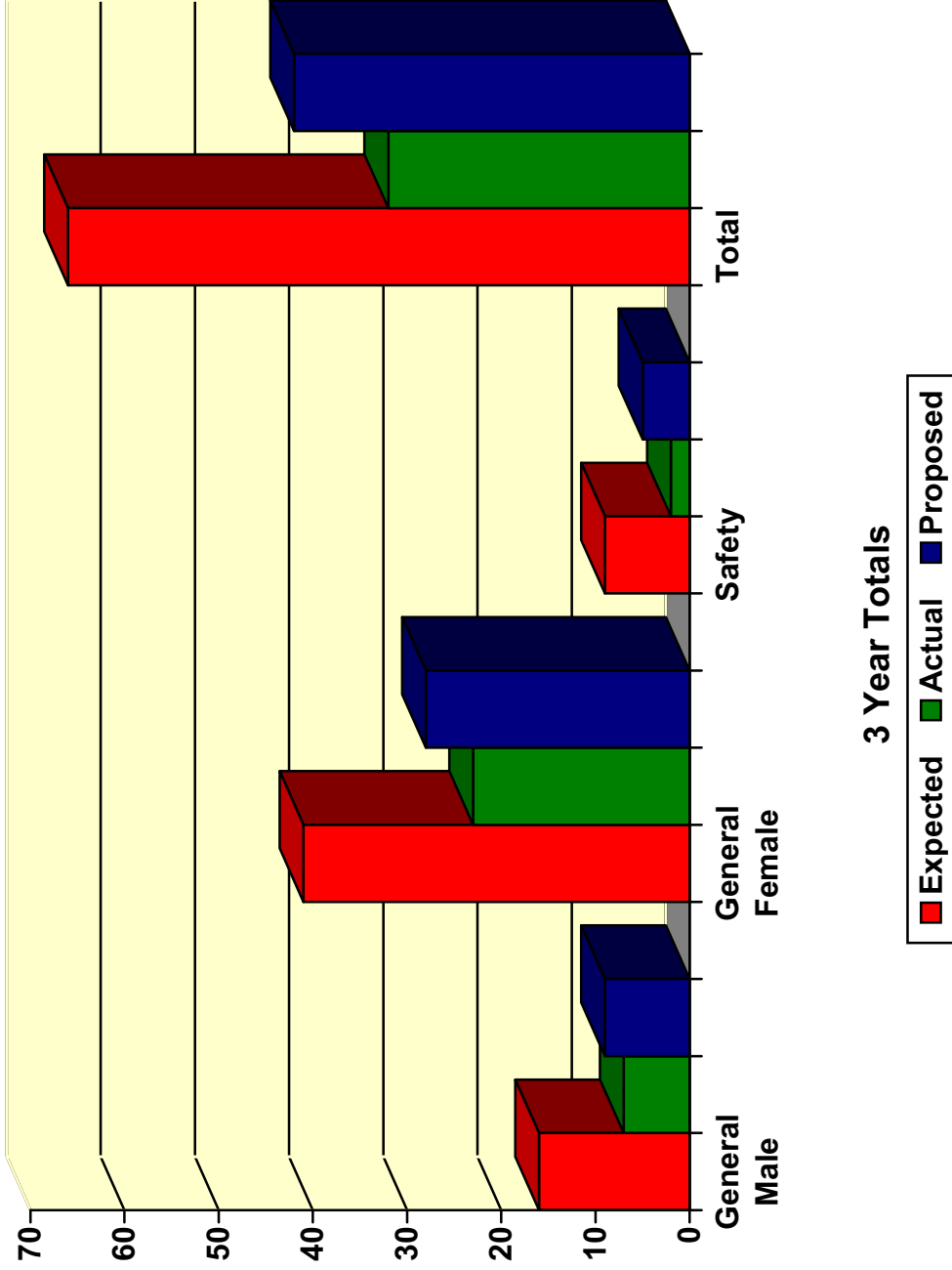


Chart 20
Non-Service Connected Disablement Rates
for General Males

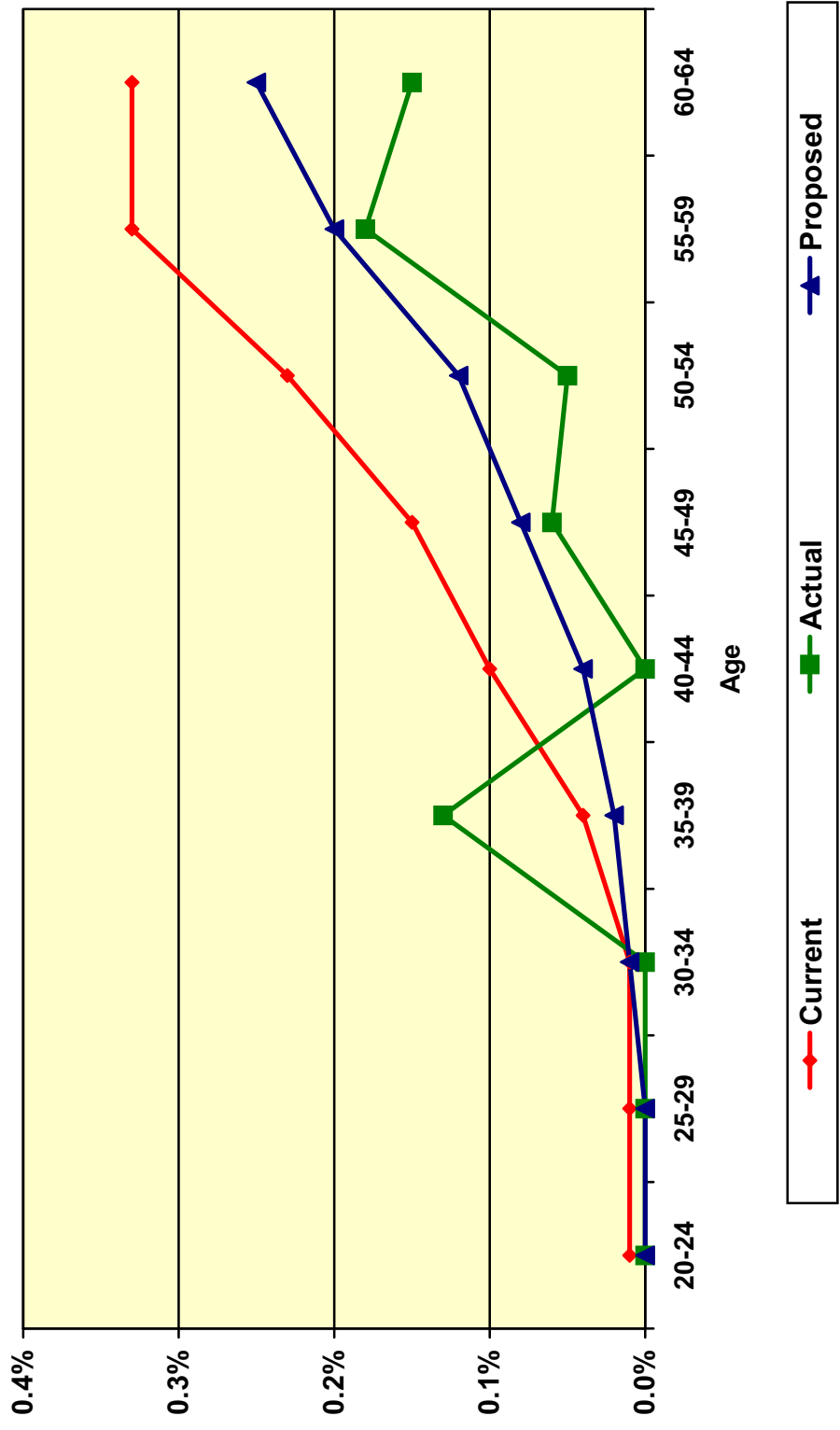


Chart 21
Non-Service Connected Disablement Rates
for General Females

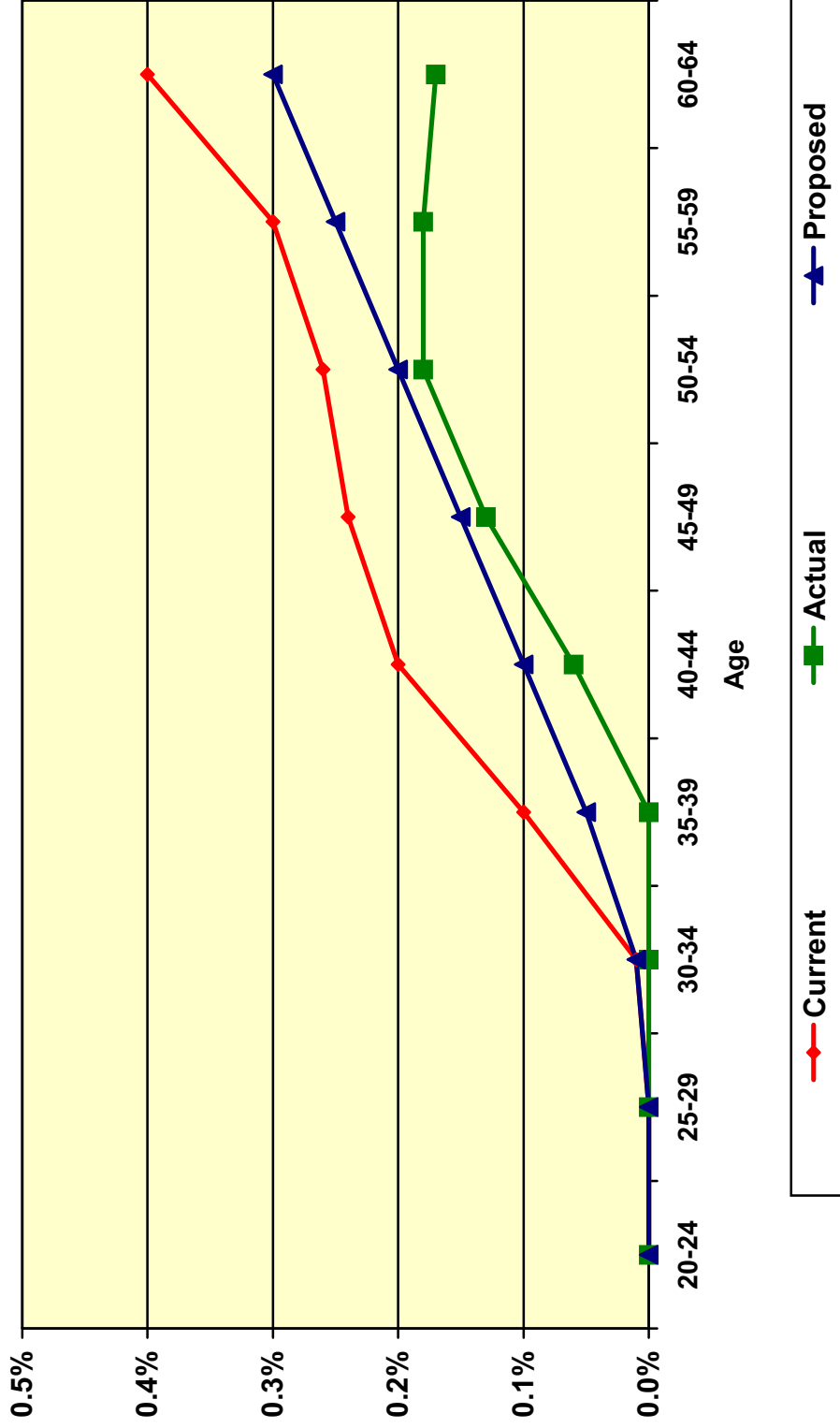


Chart 22
Non-Service Connected Disablement Rates
for Safety Members

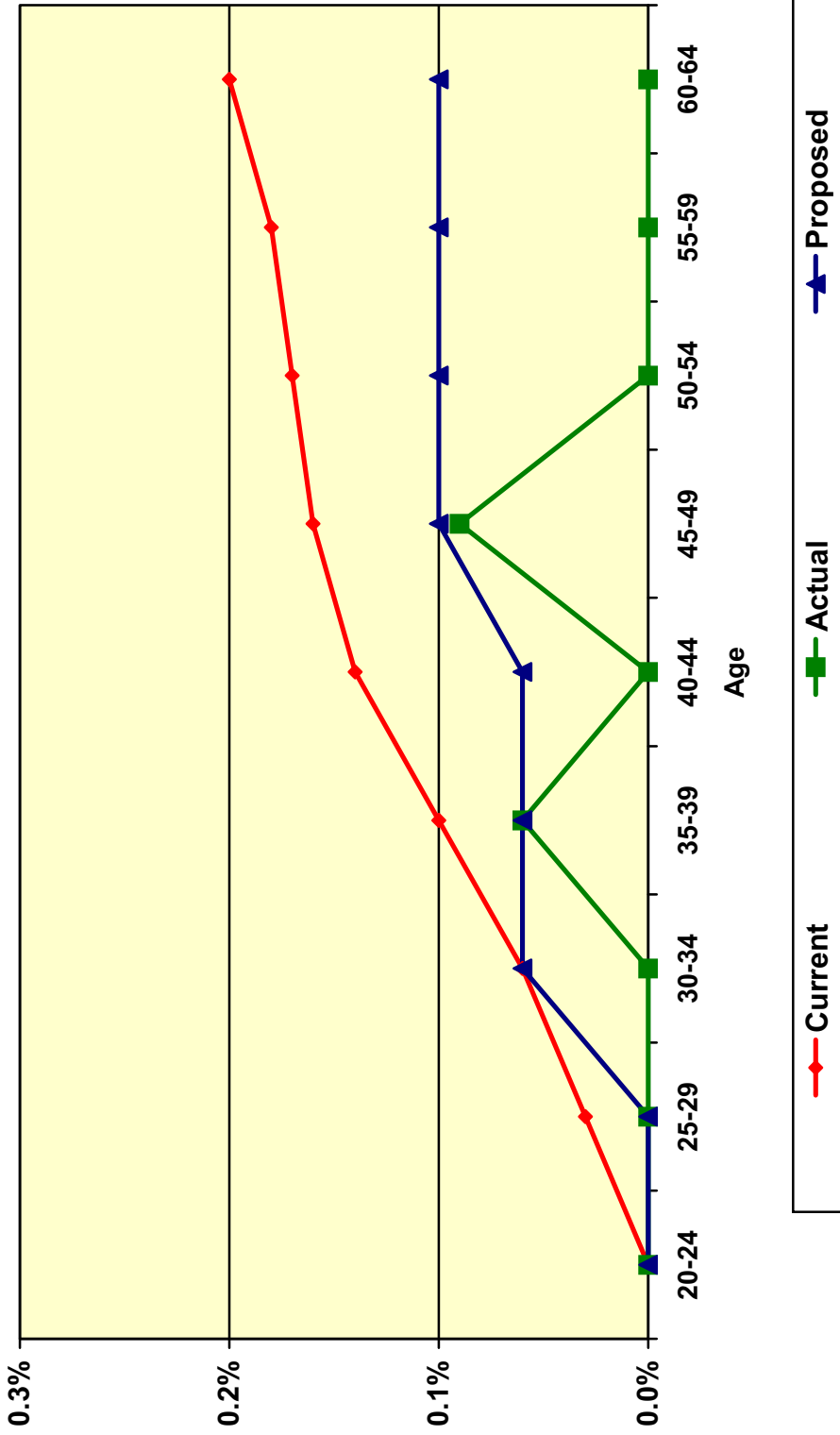


Chart 23
Actual Number of Service Connected Disabilities
Compared to Expected

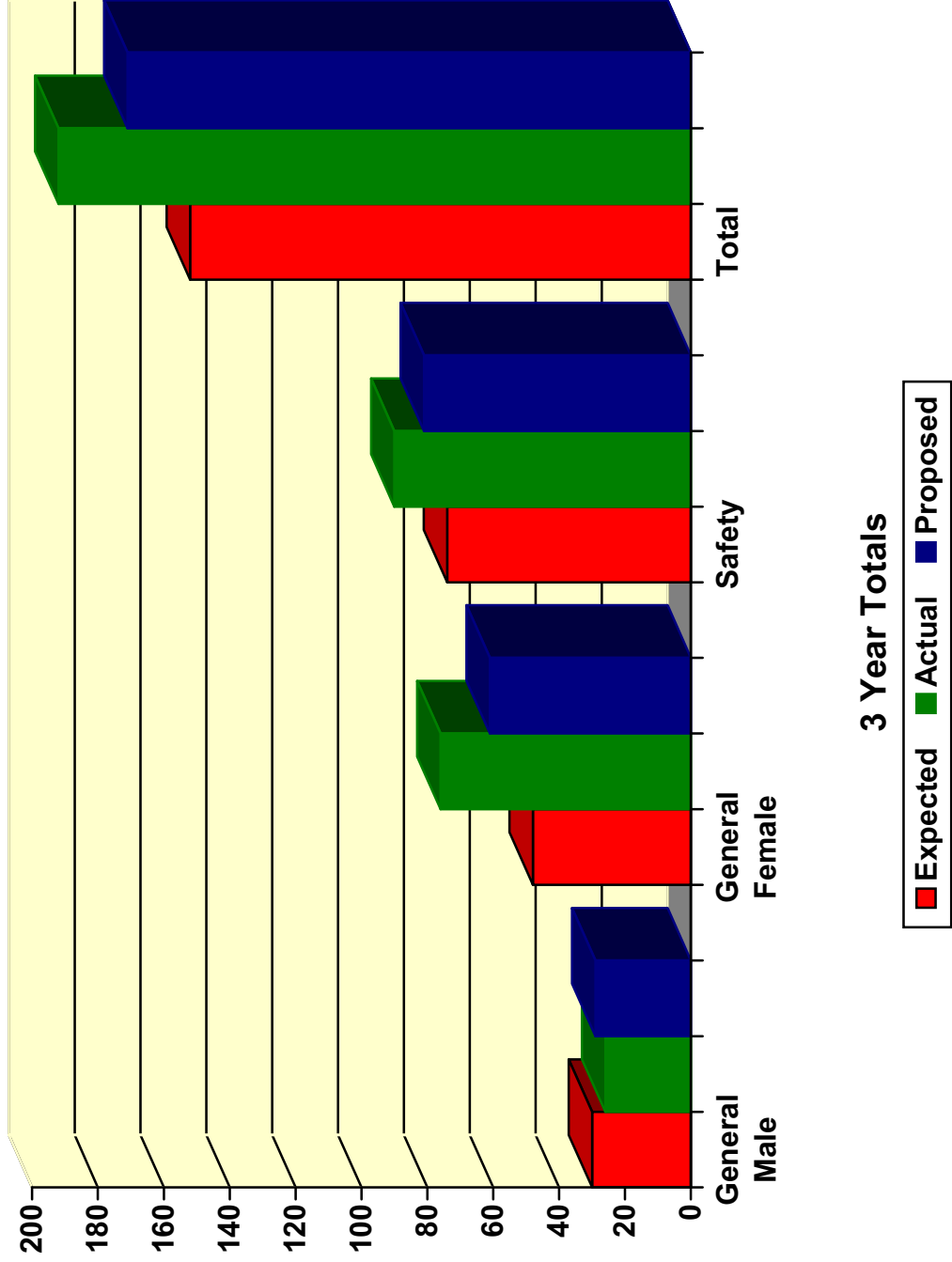


Chart 24
Service Connected Disablement Rates
for General Males

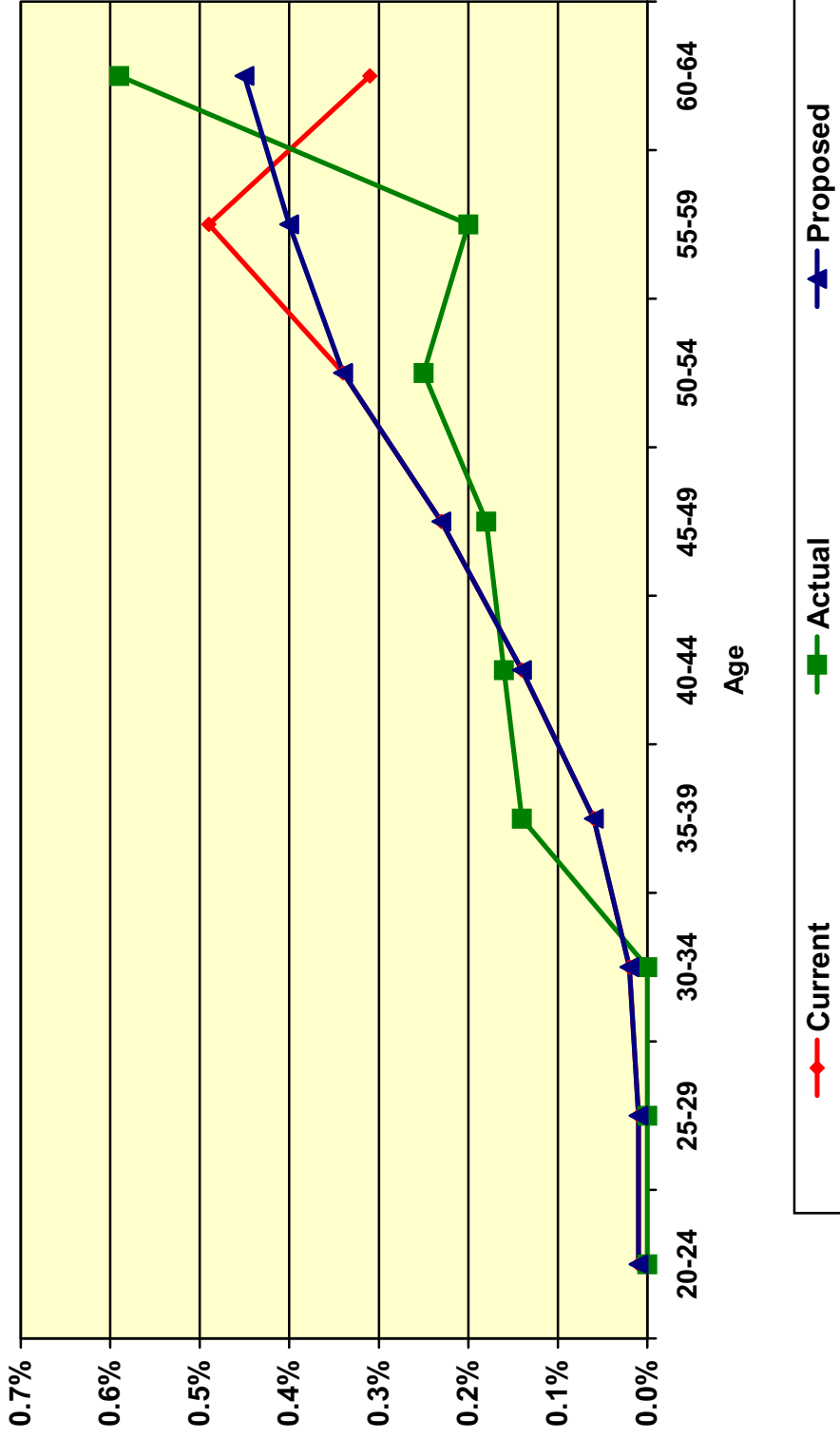


Chart 25
Service Connected Disablement Rates
for General Females

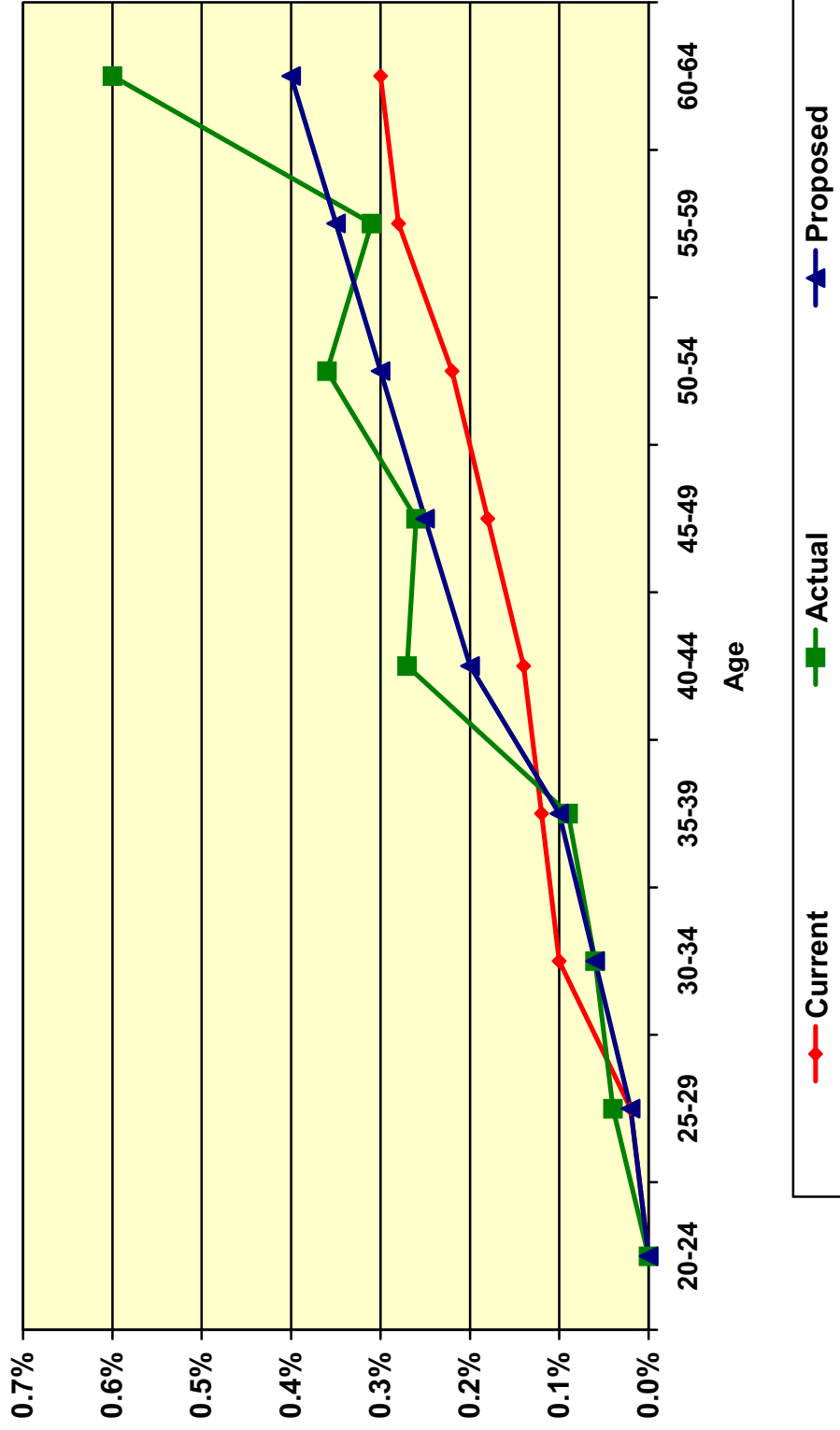
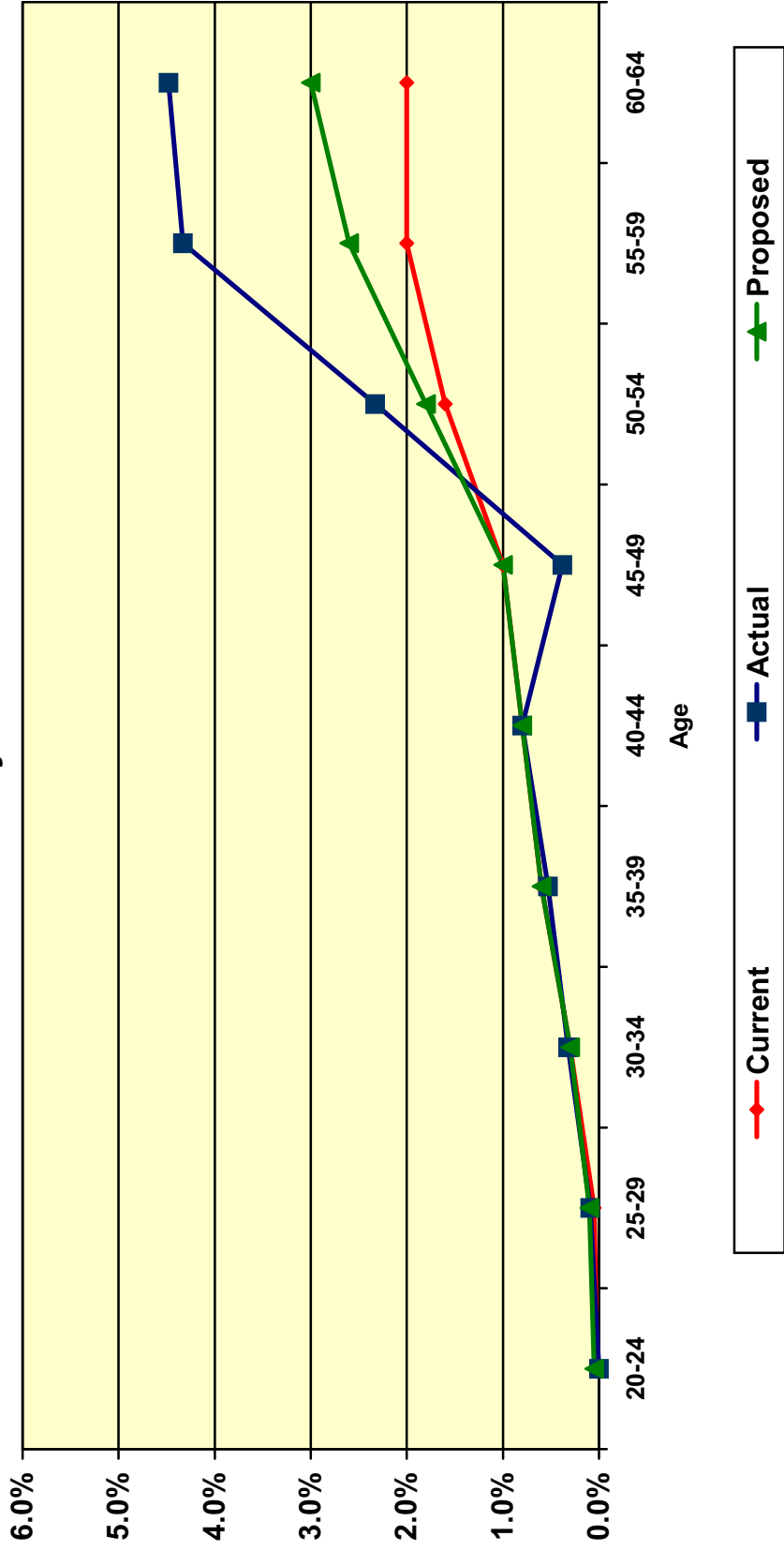


Chart 26
Service Connected Disablement Rates
for Safety Members



F. MERIT AND LONGEVITY SALARY INCREASES

The Association's retirement benefits are determined in large part by a member's compensation just prior to retirement. For that reason it is important to anticipate salary increases that employees will receive over their careers. These salary increases are made up of three components:

- Inflationary increases;
- Real "across the board" increases; and
- Merit and longevity increases.

In the June 30, 2006 valuation, the inflationary increases are assumed to follow the general annual inflation assumption of 3.75% and the annual "across the board" pay increase assumptions of 0.5%. Therefore, the total annual inflation and real "across the board" increase of 4.25% is used as the assumed annual rate of payroll growth at which payments toward the UAAL are assumed to increase.

The annual merit and longevity increases are determined by measuring the actual increases received by members over the experience period, net of the inflationary and real "across the board" pay increases. Increases are measured separately for General and Safety members. This is accomplished by:

- Measuring each member's actual salary increase over each year of the experience period;
- Categorizing these increases into service groups;
- Removing the inflation component from these increases (equal to the increase in the members' average salary during the year);
- Averaging these annual increases over the three year experience period; and
- Modifying current assumptions to reflect some portion of these measured increases reflective of their "credibility."

Based on our analysis, we are recommending relatively small adjustments in the merit and longevity assumptions for both General and Safety members who have less than 5 years of service.

The following table shows the average annual increases over the three-year experience period (July 1, 2003 to June 30, 2006) before removing the inflationary component:

<u>Service Group</u>	<u>General Members</u>	<u>Safety Members</u>
0-1	12.25%	16.34%
1-2	10.42%	10.50%
2-3	9.14%	9.89%
3-4	7.88%	9.31%
4-5	6.86%	8.75%
5+	5.21%	5.31%

The increase in average salary over this three-year period was 4.68% for General members and 4.34% for Safety members. The following table shows the average annual merit and longevity increases for the three-year period after removing the average wage increase of 4.68% and 4.34% for General and Safety, respectively:

<u>Service Group</u>	<u>General Members</u>	<u>Safety Members</u>
0-1	7.25%	11.49%
1-2	5.51%	5.91%
2-3	4.28%	5.32%
3-4	3.07%	4.77%
4-5	2.10%	4.23%
5+	0.52%	0.94%

We also observed that if the average annual merit and longevity increases are calculated only over the last two years, the average for each service group is higher by about 0.5%.

The following table shows the current and recommended annual merit and longevity assumptions based on this recent experience:

<u>Service Group</u>	<u>General Members</u>		<u>Safety Members</u>	
	<u>Current</u>	<u>Recommended</u>	<u>Current</u>	<u>Recommended</u>
0-1	4.00%	4.50%	7.00%	7.50%
1-2	3.50%	4.00%	6.00%	6.00%
2-3	3.00%	3.25%	4.75%	5.00%
3-4	2.50%	2.50%	3.50%	4.00%
4-5	2.00%	2.00%	2.50%	3.00%
5+	1.00%	1.00%	1.00%	1.00%

Charts 27 and 28 provide a graphical comparison of the current, actual experience and recommended merit and longevity increases.

Chart 27
Merit and Longevity Salary Increase Rates
for General Members

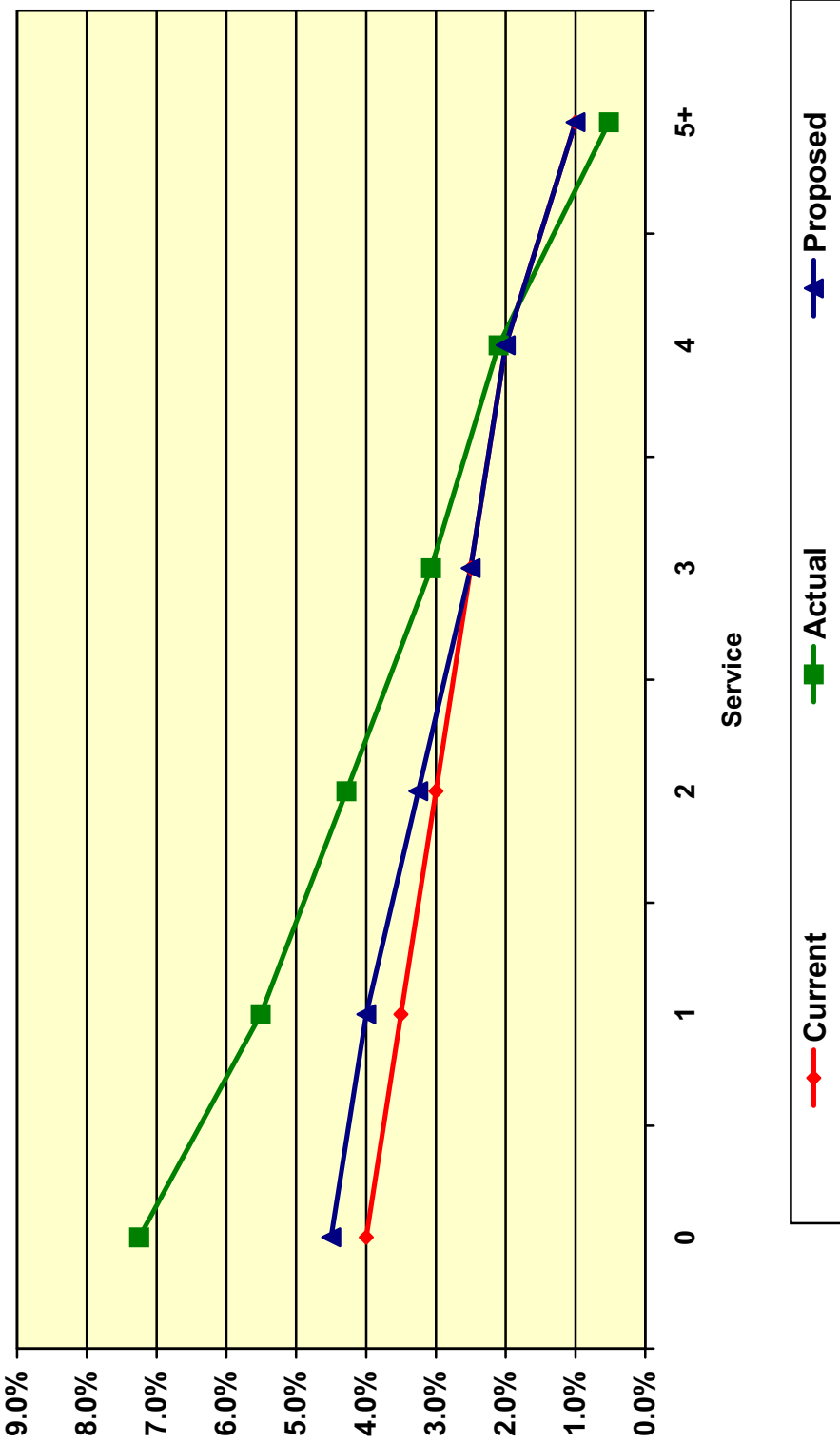
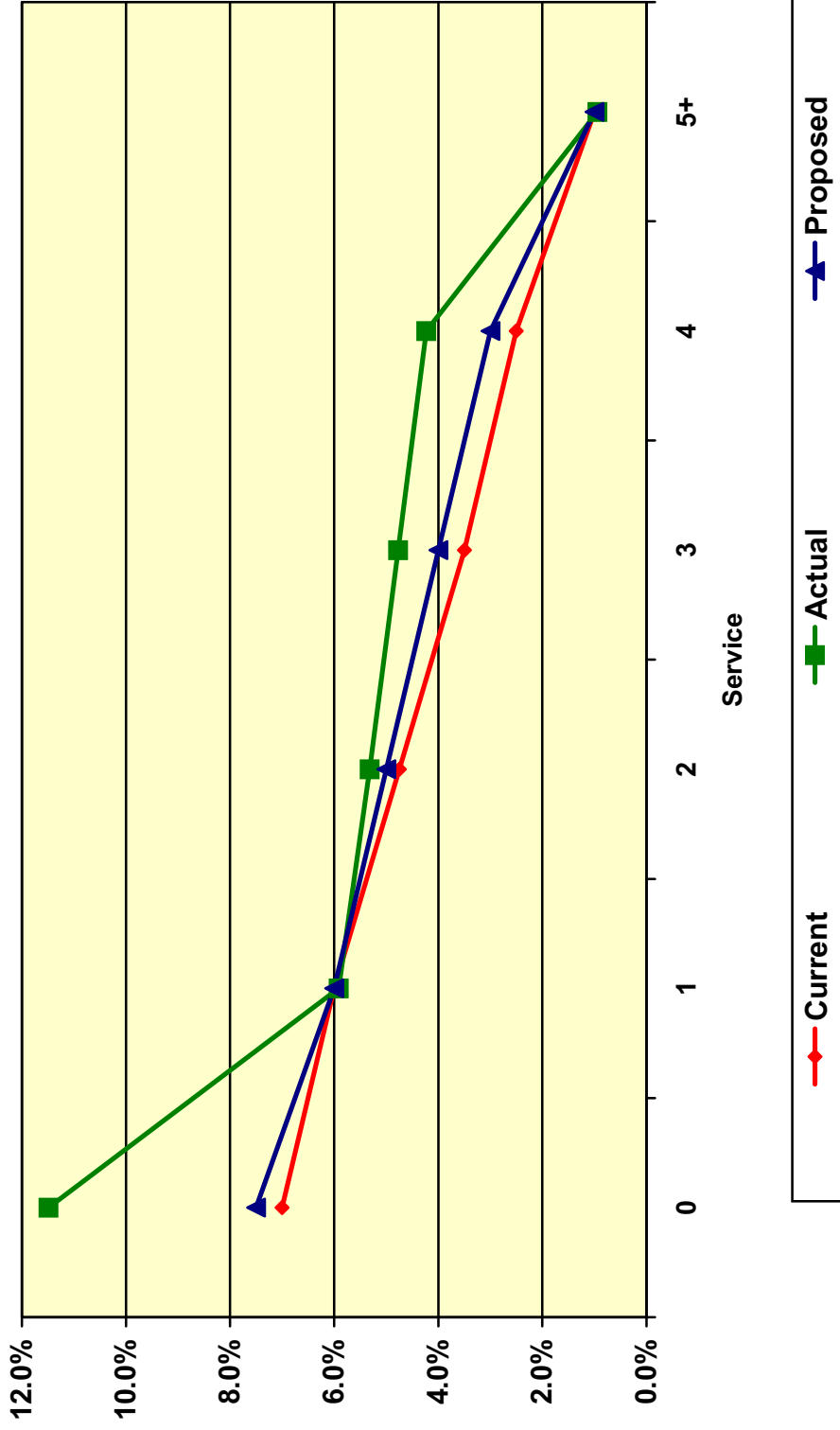


Chart 28
Merit and Longevity Salary Increase Rates
for Safety Members



APPENDIX A

CURRENT ACTUARIAL ASSUMPTIONS

Post-Retirement Mortality Rates

Healthy Retirement: 1994 Group Annuity Mortality Table.

Disabled Retirement: For General – 1994 Group Annuity Mortality Table set forward seven years. For Safety – same as Healthy Retirement.

Employee Contribution Rates:

General – 1994 Group Annuity Mortality Table for Females set forward two years.

Safety – 1994 Group Annuity Mortality Table for Males set back one year.

Termination Rates Before Retirement:

Mortality Rates: 1994 Group Annuity Mortality Table.

For General members, out of the total probability of mortality before retirement, 100% is assumed to be ordinary death and death while eligible for service retirement or disability retirement.

For Safety members, 100% is assumed to be service connected death.

The following are sample rates (%).

Mortality Rates		
General and Safety		
Age	Male	Female
30	0.08	0.04
35	0.09	0.05
40	0.11	0.07
45	0.16	0.10
50	0.26	0.14
55	0.44	0.23
60	0.80	0.44

Disability Rates:

Age	Rate (%)					
	Non Service Connected Disability			Service Connected Disability		
	General		Safety	General		Safety
	Male	Female		Males	Female	
20	0.01	0.00	0.00	0.01	0.00	0.01
25	0.01	0.00	0.02	0.01	0.01	0.04
30	0.01	0.01	0.05	0.02	0.07	0.20
35	0.03	0.06	0.08	0.04	0.11	0.48
40	0.08	0.16	0.12	0.11	0.13	0.72
45	0.13	0.22	0.15	0.19	0.16	0.92
50	0.20	0.25	0.17	0.30	0.20	1.36
55	0.29	0.28	0.18	0.43	0.26	1.84
60	0.33	0.36	0.19	0.38	0.29	2.00

Withdrawal Rates:

Years of Service	Rate (%)		
	Ordinary Withdrawals (< 5 Years of Service)		
	General		
	Male	Female	Safety
0	17.00	19.00	12.00
1	11.00	12.00	11.00
2	7.00	8.00	5.00
3	6.00	7.00	4.50
4	5.00	6.50	4.00

Age	Rate (%)		
	Ordinary Withdrawal (5+ Years of Service) *		
	General		
	Male	Female	Safety
20	1.80	1.80	1.66
25	1.80	1.80	1.50
30	1.69	1.53	1.30
35	1.51	1.19	1.06
40	1.33	0.86	0.86
45	1.04	0.61	0.70
50	0.79	0.54	0.54
55	0.61	0.54	0.48
60	0.54	0.54	0.19

* No withdrawal is assumed after a member is eligible for retirement.

Age	Rate (%)		
	Vested Termination (5+ Years of Service) *		
	General-Male	General-Female	Safety
20	7.95	9.33	3.56
25	7.27	8.22	2.99
30	6.39	6.44	2.41
35	5.36	4.89	1.67
40	4.33	3.78	1.30
45	3.18	2.67	1.11
50	2.09	1.56	0.53
55	1.01	0.78	0.21
60	0.56	0.56	0.08

*No vested termination is assumed after a member is eligible for retirement.

Retirement Rates:

Age	Rate (%)	
	Retirement Probability	
	General	Safety
48	-	4.0
49	-	4.0
50	6.0	15.0
51	3.0	15.0
52	5.0	15.0
53	6.0	15.0
54	6.0	15.0
55	12.0	25.0
56	13.0	30.0
57	15.0	30.0
58	17.0	35.0
59	20.0	35.0
60	20.0	45.0
61	25.0	45.0
62	25.0	50.0
63	25.0	50.0
64	25.0	50.0
65	30.0	100.0
66	30.0	100.0
67	30.0	100.0
68	30.0	100.0
69	40.0	100.0
70	100.0	100.0

Retirement Age and Benefit for Deferred Vested Members:

Reciprocal and Non-Reciprocal Members

General: Age 58; Safety: Age 53

35% of General and 40% of Safety deferred vested members are assumed to be reciprocal. For reciprocals, we assume 5.25% compensation increases per annum.

Future Benefit Accruals:

1.0 year of service per year.

Percent Married:

80% of male members; 65% of female members.

Age of Spouse:

Females (or male) spouses are 3 years younger (older) than their spouses

Net Investment Return:

8.25%; net of administration and investment expenses.

Employee Contribution Crediting Rate:

½ of the net investment return credited semi-annually.

Consumer Price Index:

Increase of 3.75% per year; benefit increases due to CPI subject to 3.0% maximum.

Salary Scale:

Annual Rate of Compensation Increase

Inflation: 3.75% per year; plus “Across the Board” salary increases of 0.50% per year; plus Merit and Longevity as follows:

Years of Service	General	Safety
0	4.00%	7.00%
1	3.50	6.00
2	3.00	4.75
3	2.50	3.50
4	2.00	2.50
5+	1.00	1.00

APPENDIX B

PROPOSED ACTUARIAL ASSUMPTIONS

Post-Retirement Mortality Rates

Healthy: For General members, 1994 Group Annuity Mortality Table.
For Safety members, 1994 Group annuity Mortality Table set back one year.

Disabled: For General members, 1994 Group Annuity Mortality Table set forward seven years. For Safety members, 1994 Group Annuity Mortality Table set back one year.

Employee Contribution Rates: For General members, 1994 Group Annuity Mortality Table for males weighted 30% and 1994 Group Annuity Mortality Table for females weighted 70%.
For Safety members, 1994 Group Annuity Mortality Table for males set back one year weighted 75% and 1994 Group Annuity Mortality Table for females set back one year weighted 25%.

Termination Rates Before Retirement:

Mortality Rates:

Rate (%)				
Mortality				
Age	General		Safety	
	Male	Female	Male	Female
25	0.07	0.03	0.06	0.03
30	0.08	0.04	0.08	0.03
35	0.09	0.05	0.08	0.04
40	0.11	0.07	0.10	0.07
45	0.16	0.10	0.15	0.09
50	0.26	0.14	0.23	0.13
55	0.44	0.23	0.40	0.21
60	0.80	0.44	0.71	0.39
65	1.45	0.86	1.29	0.76

For General members, all pre-retirement deaths are assumed to be non-service connected. For Safety members, all pre-retirement deaths are assumed to be service connected.

Disability Rates:

Age	Rate (%)					
	Non Service Connected Disability			Service Connected Disability		
	General		Safety	General		Safety
Male	Female	Males		Female		
20	0.00	0.00	0.00	0.01	0.00	0.03
25	0.00	0.00	0.00	0.01	0.01	0.08
30	0.01	0.01	0.04	0.02	0.04	0.22
35	0.02	0.03	0.06	0.04	0.08	0.48
40	0.03	0.08	0.06	0.11	0.16	0.72
45	0.06	0.13	0.08	0.19	0.23	0.92
50	0.10	0.18	0.10	0.30	0.28	1.48
55	0.17	0.23	0.10	0.38	0.33	2.28
60	0.23	0.28	0.10	0.43	0.38	2.84

Withdrawal Rates:

Years of Service	Rate (%)		
	Ordinary Withdrawals (< 5 Years of Service)		
	General-Male	General-Female	Safety
0	16.00	17.00	12.00
1	10.00	11.00	11.00
2	7.50	8.00	6.00
3	6.00	7.00	4.50
4	5.50	6.50	4.00

Age	Rate (%)		
	Ordinary Withdrawal (5+ Years of Service) *		
	General-Male	General-Female	Safety
20	1.00	1.80	0.83
25	1.00	1.80	0.75
30	0.94	1.53	0.65
35	0.84	1.02	0.67
40	0.74	0.68	0.65
45	0.58	0.42	0.53
50	0.44	0.30	0.41
55	0.34	0.30	0.36
60	0.30	0.30	0.14

* No withdrawal is assumed after a member is eligible for retirement.

Age	Rate (%)		
	Vested Termination (5+ Years of Service) *		
	General-Male	General-Female	Safety
20	8.40	8.40	3.56
25	7.40	7.40	2.99
30	6.40	5.80	2.41
35	5.10	4.40	1.91
40	3.60	3.40	1.46
45	2.70	2.40	0.99
50	2.20	2.00	0.68
55	1.40	1.40	0.48
60	1.00	1.00	0.16

* No vested termination is assumed after a member is eligible for retirement.

Retirement Rates:

Rate (%)

Age	Retirement Probability	
	General	Safety
48	-	4.0
49	-	4.0
50	8.0	15.0
51	5.0	15.0
52	5.0	15.0
53	6.0	15.0
54	8.0	15.0
55	12.0	20.0
56	13.0	25.0
57	15.0	30.0
58	17.0	35.0
59	20.0	35.0
60	20.0	45.0
61	25.0	45.0
62	27.0	45.0
63	29.0	45.0
64	30.0	45.0
65	30.0	100.0
66	30.0	100.0
67	30.0	100.0
68	40.0	100.0
69	40.0	100.0
70	100.0	100.0

**Retirement Age and Benefit for
Deferred Vested Members:**

Reciprocal and Non-Reciprocal Members:

General: Age 57
Safety: Age 53

35% of General and 40% of Safety future deferred vested members are assumed to be reciprocal. For reciprocals, we assume 5.25% compensation increases per annum.

Future Benefit Accruals: 1.0 year of service per year.

Percent Married: 80% of male members; 55% of female members.

Age of Spouse: Females (or male) spouses are 3 years younger (older) than their spouses

Net Investment Return: 8.25%, net of administration and investment expenses.

Employee Contribution Crediting Rate: ½ of the net investment return credited semi-annually.

Consumer Price Index: Increase of 3.75% per year; benefit increases due to CPI subject to 3.0% maximum.

Salary Scale:

Annual Rate of Compensation Increase

Inflation: 3.75% per year; plus “Across the Board” salary increases of 0.50% per year; plus Merit and Longevity as follows:

Years of Service	General	Safety
0	4.50%	7.50%
1	4.00	6.00
2	3.25	5.00
3	2.50	4.00
4	2.00	3.00
5+	1.00	1.00