

**Sacramento County Employees'
Retirement System**

ACTUARIAL EXPERIENCE STUDY

**Analysis of Actuarial Experience
During the Period
July 1, 2004 through June 30, 2007**

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September 27, 2007

Board of Retirement
Sacramento County Employees' Retirement System
980 9th Street, Suite 1800
Sacramento, CA 95814

**Re: Review of Non-economic Actuarial Assumptions for the June 30, 2007
Actuarial Valuation**

Dear Members of the Board:

We are pleased to submit this report of our review of the actuarial experience of the Sacramento County Employees' Retirement System. This study utilizes the census data of the last three actuarial valuations and includes the proposed actuarial assumptions to be used in future actuarial valuations.

Please note that we have also reviewed the economic assumptions. The economic actuarial assumption recommendations for the June 30, 2007 valuation are provided in a separate report.

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

Sincerely,

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MYM/gxk

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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 projected experience, 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 recognizing gains or losses as they occur.

The use of realistic actuarial assumptions is important in maintaining adequate funding, while paying promised 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 review the demographic actuarial assumptions and to compare the actual experience with that expected under the current assumptions during the three year experience period from July 1, 2004 through June 30, 2007. 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" and ASOP No. 27 "Selection of Economic Assumptions for Measuring Pension Obligations". These Standards 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.

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, disability (ordinary and duty), salary increases, and service from unused sick leave conversion.

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: For Miscellaneous Tier 1 members, we recommend slightly increasing the current retirement rates. For the Miscellaneous Tiers 2 and 3 and Safety members, we recommend decreasing the current retirement rates.

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

Recommendation: The current post-retirement rates for Miscellaneous and Safety members who retire for service have been adjusted slightly to reflect decreased mortality rates. We recommend an adjustment to the current 1994 Group Annuity Mortality Tables with no set back to the 1994 Group Annuity Mortality Tables with a one year set back. The recommended pre-retirement mortality assumption is consistent with the table used for post-service retirement mortality. We recommend no change in the assumption that all pre-retirement deaths are ordinary (non-duty) for Miscellaneous members but for Safety members, we recommend only 25% are assumed to be ordinary and the remaining 75% are assumed to be duty. The disabled member mortality rates for Miscellaneous and Safety members have also been reduced to reflect a decrease in mortality rates.

Termination Rates - The probability of leaving employment at each age and receiving either a refund of member contributions or a deferred vested retirement benefit.

Recommendation: *The current termination rates have been increased. In addition, a higher proportion of members is expected to elect a refund of member contributions instead of a deferred vested benefit under the recommended assumptions.*

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

Recommendation: *The rates have been adjusted slightly to reflect recent experience.*

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 promotional rates have been increased at most ages to reflect recent years' experience.*

Service From Unused Sick Leave Conversion – Additional service that is expected to be received when the member retires due to conversion of unused sick leave.

Recommendation: *We recommend increasing the current assumption for Miscellaneous members to anticipate a higher level of conversions of unused sick leave at retirement.*

Section II provides some background on basic principles and the methodology used for the experience study and the review of the demographic actuarial assumptions. A detailed discussion of each assumption 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. Our analysis of the “economic” assumptions for the June 30, 2007 valuation is 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., termination from service, disability retirement, service retirement, and death after retirement. We also reviewed the individual salary increases net of inflation (i.e., the merit and promotional 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 termination from service, we compare the number of employees who actually terminate in a certain age and/or service category (i.e., the number of “decrements”) with those who could have terminated (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 termination 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 termination 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. ECONOMIC ASSUMPTIONS

The economic assumptions are currently reviewed on an annual basis. Our recommendations are provided in a separate report titled “Review of Economic Actuarial Assumptions for the June 30, 2007 Actuarial Valuation.”

B. 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 noted in the last triennial experience study from July 1, 2001 to June 30, 2004 that as the plan sponsor adopted improved benefits effective June 29, 2003, only retirement experience collected from the plan year after the benefit improvement (i.e. from June 29, 2003 to June 30, 2004) was used in setting the retirement probabilities. However, from reviewing the retirement experience during the 3-year period, July 1, 2001 to June 30, 2004, relatively few members had retired before the benefit enhancement, indicating that many members had decided to delay their retirement until after the benefit enhancement. That decision to delay retirement would have caused the retirement experience from June 29, 2003 to June 30, 2004 to be extraordinarily high. Thus, we did not recommend a change in the retirement rates in the last triennial experience study.

The retirement experience during the current three-year period indicated that there were slightly more actual retirements than expected from Miscellaneous Tier 1. However, there were significantly fewer actual retirements than expected for the Miscellaneous Tiers 2 and 3 and Safety member categories.

In this study, we have adjusted the retirement probabilities to reflect the current three-year experience. However, we have continued to leave some margins in the Miscellaneous Tiers 2 and 3 and Safety rates to make sure that the most recent three-year experience was not just a statistical fluctuation.

The following tables show the current, observed and proposed rates for Miscellaneous Tier 1, Miscellaneous Tiers 2 and 3 and Safety.

Retirement Rates for Miscellaneous Tier 1

Age	Rate (%)			
Current	Observed	Proposed		
45-49	0.00	30.00	0.00	
50	6.00	7.38	6.00	
51	6.00	4.14	5.00	
52	6.00	4.97	5.00	
53	6.00	4.81	5.00	
54	9.00	6.70	9.00	
55	10.00	12.89	10.00	
56	11.00	18.69	12.00	
57	15.00	19.27	16.00	
58	23.00	24.71	25.00	
59	26.00	25.71	27.00	
60	28.00	36.94	29.00	
61	31.00	36.84	32.00	
62	40.00	47.62	41.00	
63	45.00	45.45	46.00	
64	45.00	44.00	48.00	
65	52.00	50.00	52.00	
66	46.00	40.00	46.00	
67	52.00	0.00	52.00	
68	60.00	20.00	60.00	
69	75.00	33.33	75.00	
70	100.00	35.29	100.00	

Retirement Rates for Miscellaneous Tiers 2 and 3

Rate (%)

Age	Current	Observed	Proposed
45-49	0.00	0.00	0.00
50	3.00	2.95	3.00
51	3.00	1.78	2.00
52	3.00	1.32	2.00
53	5.00	3.21	4.00
54	6.00	3.32	5.00
55	8.00	6.59	6.00
56	10.00	6.64	8.00
57	13.00	7.88	10.00
58	22.00	10.68	20.00
59	22.00	13.64	20.00
60	23.00	8.86	22.00
61	27.00	18.46	23.00
62	47.00	32.45	41.00
63	56.00	19.57	46.00
64	56.00	30.12	48.00
65	71.00	45.61	52.00
66	54.00	28.95	46.00
67	58.00	21.43	52.00
68	66.00	28.00	60.00
69	83.00	76.92	75.00
70	100.00	16.81	100.00

Retirement Rates for Safety

Rate (%)

Age	Current	Observed	Proposed
45-49	0.00	4.38	0.00
50	33.00	24.66	30.00
51	25.00	17.24	20.00
52	25.00	10.75	20.00
53	33.00	22.08	30.00
54	33.00	19.40	30.00
55	50.00	28.57	30.00
56	50.00	25.93	30.00
57	50.00	22.45	30.00
58	50.00	28.89	30.00
59	50.00	22.73	30.00
60	100.00	27.27	100.00
61	100.00	43.75	100.00
62	100.00	40.00	100.00
63	100.00	0.00	100.00
64	100.00	50.00	100.00
65	100.00	100.00	100.00
66	100.00	0.00	100.00
67	100.00	100.00	100.00
68	100.00	0.00	100.00
69	100.00	100.00	100.00
70	100.00	0.00	100.00

Chart 1 compares actual experience with the current and proposed rates of retirement for Miscellaneous Tier 1 members. Chart 2 has the same data for Miscellaneous Tier 2 & 3 members and Chart 3 has the same data for Safety members.

In prior valuations, deferred vested Miscellaneous and Safety members were assumed to retire at age 58 and 55, respectively. The average age at retirement over the prior three years was 59 for Miscellaneous and 53 for Safety. We recommend changing the assumed retirement age for deferred vested members to age 59 for Miscellaneous members and to age 54 for Safety members.

It was also assumed that 55% of inactive Miscellaneous and 65% of inactive Safety deferred vested participants would be covered under a reciprocal retirement system and receive 5.45% salary increases

from termination until their date of retirement. Based on the actual experience that 52% of Miscellaneous and 66% Safety members went on to be covered by a reciprocal retirement system during the last three years, we recommend the continuation of the current 55% reciprocal assumption for Miscellaneous and the current 65% reciprocal assumption for Safety. Based on our average 2.1% recommended merit and longevity salary increase assumptions, we propose a 5.85% salary increase assumption be utilized to anticipate salary increases from the date of termination from SCERS to the expected date of retirement.

In prior valuations, it was assumed that 80% of all active male members and 50% of all active female members would be married or have an eligible domestic partner when they retired. According to the experience of members who retired during the last three years, about 80% of all male members and 58% of all female members were married or had a domestic partner at retirement. We recommend that 55% of all active female members are assumed to be married or have a domestic partner when they retire, and no change to the current 80% married or domestic partner assumption for male members.

Based on observed experience from members who retired during the last three years, we also recommend that we maintain the 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 - Miscellaneous Tier 1 Members

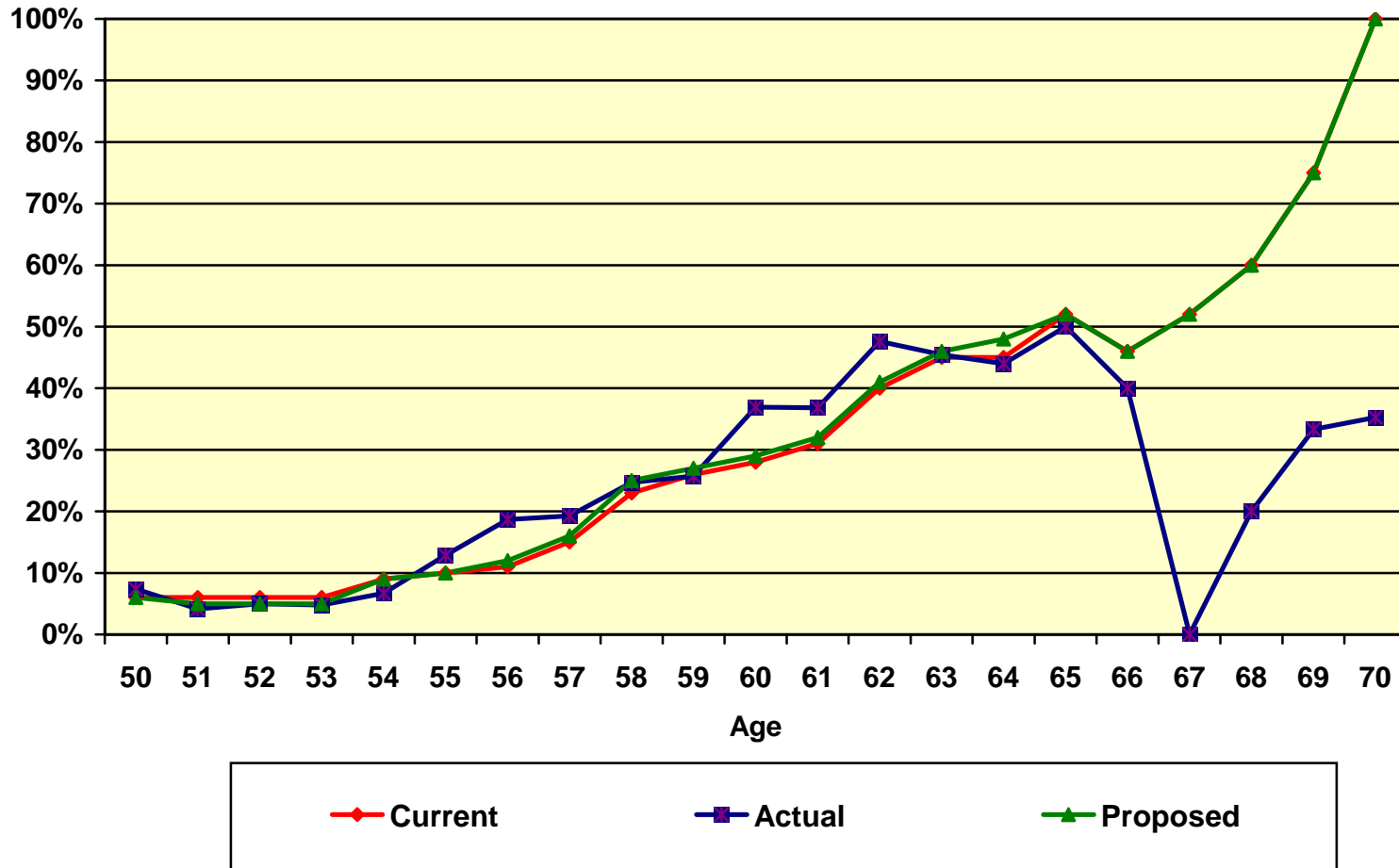


Chart 2
Retirement Rates - Miscellaneous Tier 2 & 3 Members

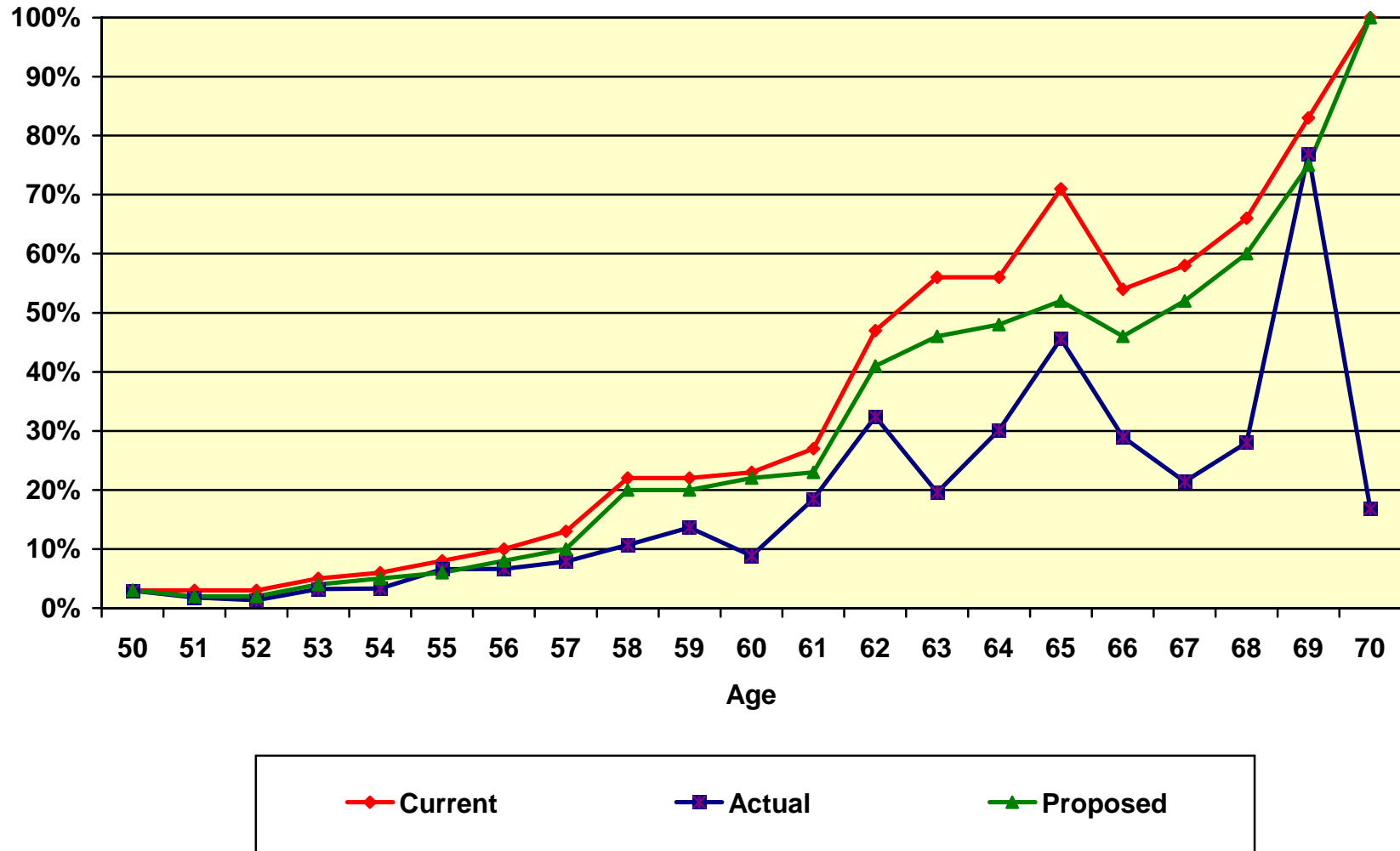
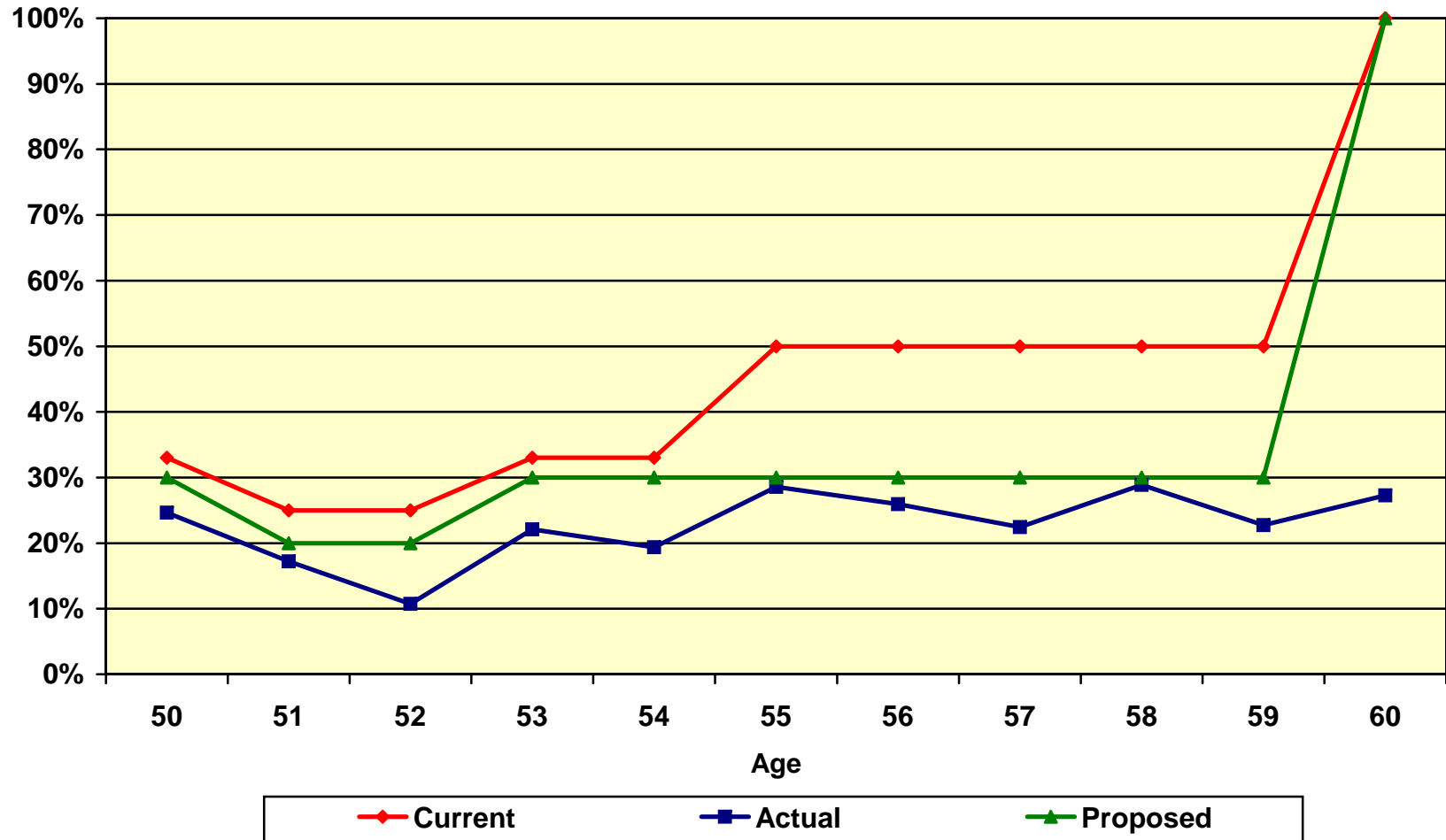


Chart 3 Retirement Rates - Safety Members



C. 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 from 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 Tables for Males and Females.

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 follows the same tables used for post-retirement mortality. Based on actual deaths during the last three years, all Miscellaneous pre-retirement deaths are assumed to be ordinary (non-duty) while only 25% of Safety pre-retirement deaths are assumed to be ordinary and the rest are assumed to be duty deaths.

Post-Retirement Mortality (Service Retirements)

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

Year Ending 6/30	Miscellaneous - Healthy			Safety – Healthy		
	Current Expected Deaths	Proposed Expected Deaths	Actual Deaths	Current Expected Deaths	Proposed Expected Deaths	Actual Deaths
2005	104	94	116	11	10	10
2006	112	101	104	12	11	12
2007	119	108	111	13	12	6
Total	335	303	331	36	33	28
Actual / Expected	99%	109%		78%	85%	

The tables that we recommend for the Miscellaneous and Safety members and beneficiaries are the same 1994 Group Annuity Mortality Tables for Males and Females but set back one year to reflect the mortality experience during the current three-year period.

Chart 4 compares actual to expected deaths for Miscellaneous members under the current and proposed assumptions for all pensioners over the last three years. Experience shows that there were fewer deaths than predicted by the current table over two of the last three years. The one

year difference in proposed versus actual life expectancy should provide some margin for future improvements in life expectancy.

Chart 5 has the same comparison for Safety members. Please note that we are not recommending a more conservative life expectancy table for Safety because, with the exception of 2007, the System's actual deaths were close to those expected under the current assumptions.

Chart 6 shows the life expectancies under the current and the proposed tables for Miscellaneous Members.

Chart 7 has the same information for Safety members.

Mortality Table for Member Contributions

We recommend that the mortality table used for determining contributions for Miscellaneous members be changed from the 1994 Group Annuity Mortality Table weighted 40% male and 60% female to the 1994 Group Annuity Mortality Table set back one year weighted 40% male and 60% female. This is based on the proposed mortality table for Miscellaneous members and the actual gender distribution for the current Miscellaneous members.

For Safety members, we recommend the mortality table be changed from the 1994 Group Annuity Mortality Table weighted 75% male and 25% female to the 1994 Group Annuity Mortality Table set back one year weighted 75% male and 25% female. This is based on the proposed mortality table for Safety members and the actual gender distribution for the current Safety members.

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

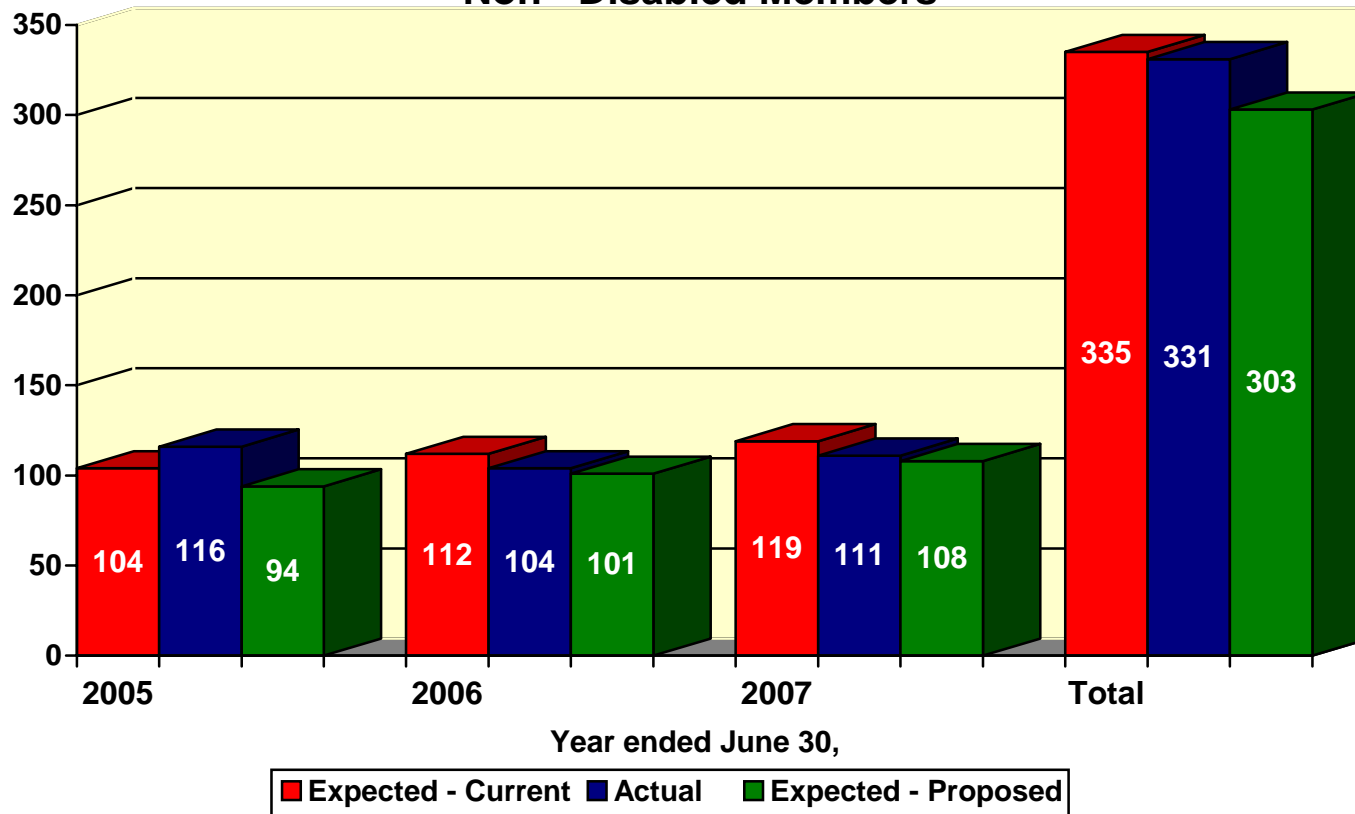


Chart 5
Post - Retirement Deaths (Safety)
Non - Disabled Members

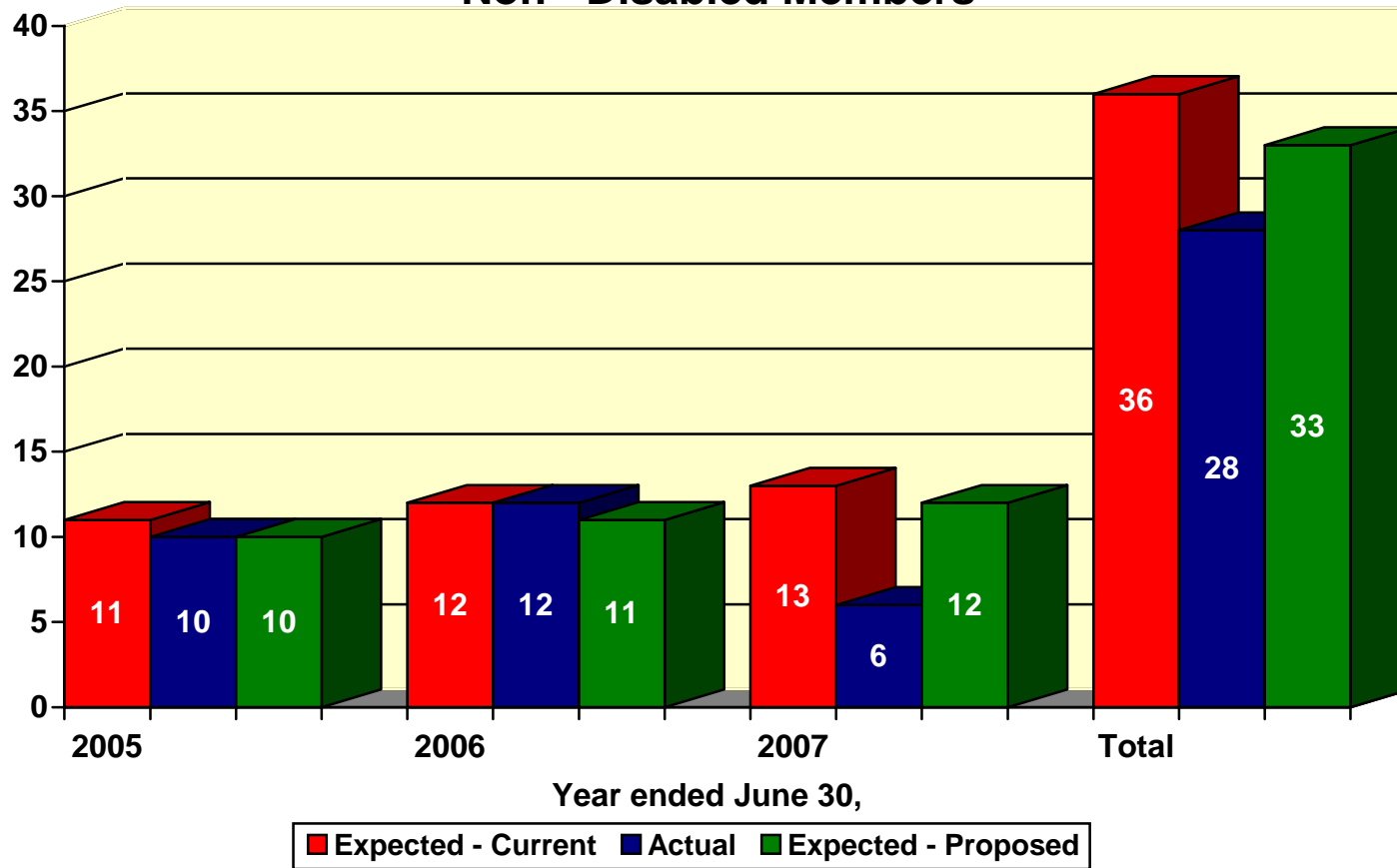
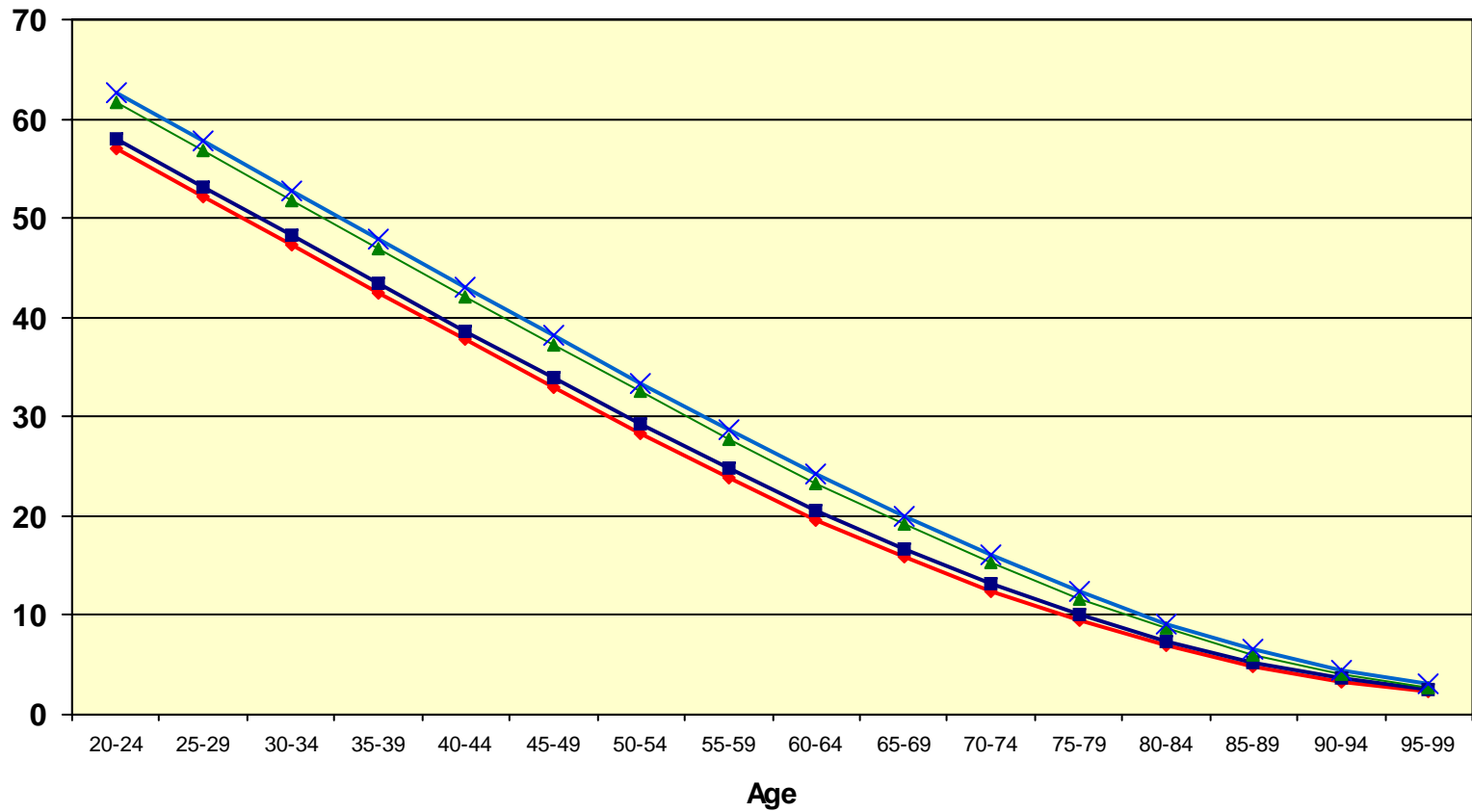


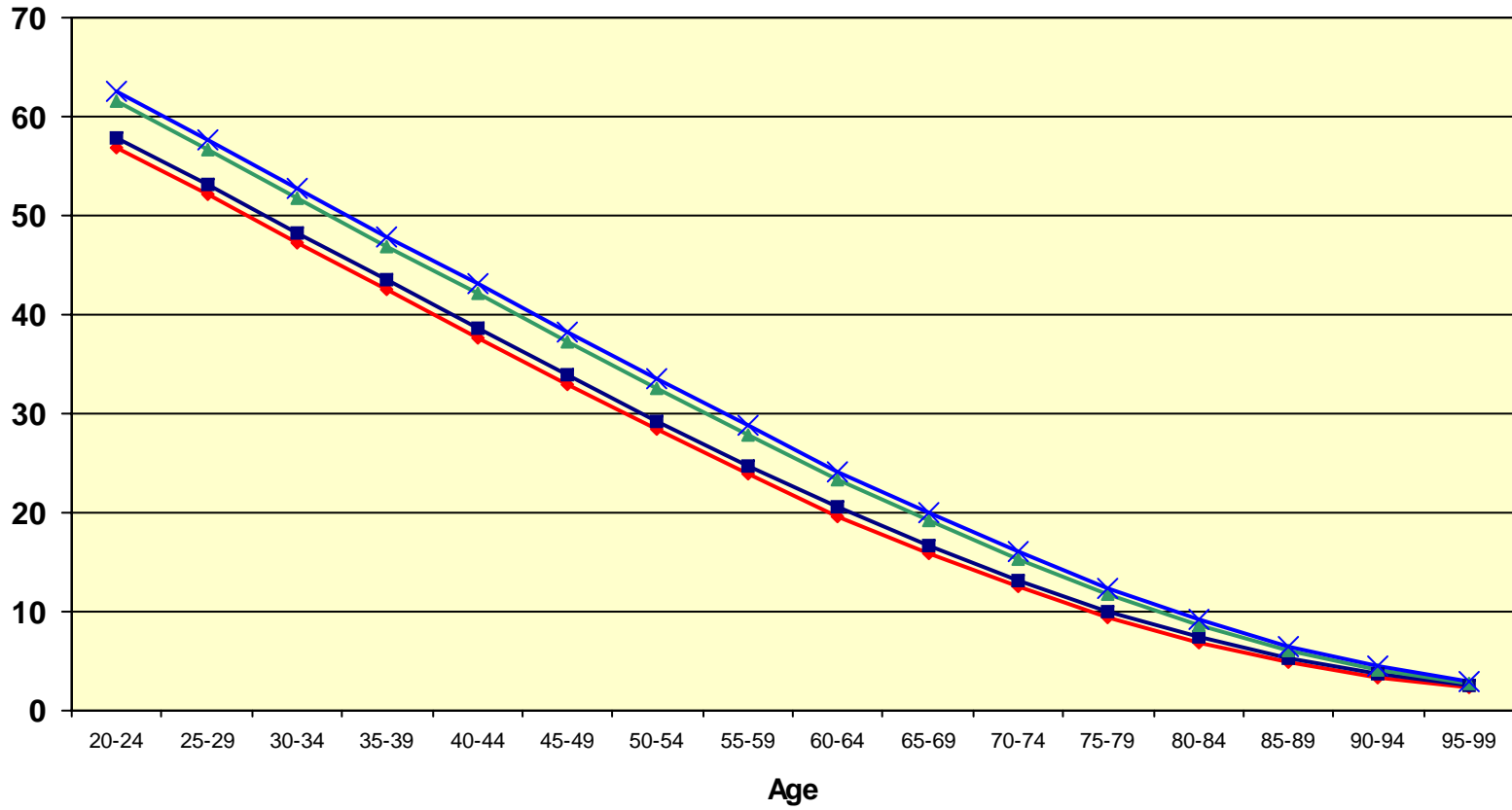
Chart 6
Life Expectancies (Miscellaneous)



—◆— Current (Male) —■— Proposed (Male) —▲— Current (Female) —×— Proposed (Female)

Chart 7

Life Expectancies (Safety)



◆ Current (Male) ■ Proposed (Male) ▲ Current (Female) ✕ Proposed (Female)

D. MORTALITY RATES - DISABLED

Since death rates for disabled members can vary from those of healthy members, a different mortality assumption is often used. The table currently being used for Miscellaneous members is the 1981 Disability Mortality Table (Miscellaneous) with a two year set back. For Safety members, the 1994 Group Annuity Mortality Table is used, which is the same as the “healthy” mortality assumption.

The number of actual deaths compared to the number expected for the last three years has been as follows:

Ending 6/30	Miscellaneous – Disability			Safety – Disability		
	Expected Deaths	Proposed Expected Deaths	Actual Deaths	Expected Deaths	Proposed Expected Deaths	Actual Deaths
2005	21	20	15	2	2	4
2006	22	21	20	2	2	2
2007	22	21	16	3	2	4
Total	65	62	51	7	6	10
Actual / Expected	78%	82%		143%	165%	

We recommend that the mortality table for disabled Miscellaneous members be changed from the 1981 Disability Mortality Table (Miscellaneous) with a two year set back to the same table but with a three year set back. Please note that 66 deaths were observed in the last experience study. We will continue to monitor this assumption.

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

We are recommending a change in the mortality table for active Safety members to the 1994 Group Annuity Mortality Tables for males and females with one year set back. These tables are the same tables we are recommending for the Safety healthy retirees. Please note that 7 deaths were observed in the last experience study. The proposed assumption will allow for some margin if mortality were to improve in the future. We will continue to monitor this assumption.

Chart 9 compares actual to expected deaths under both the current and proposed assumptions for disabled Safety members over the last three years.

Chart 10 and 11 show the life expectancies under both the current and proposed tables for Miscellaneous and Safety, respectively.

Chart 8
Post - Retirement Deaths
Disabled Miscellaneous Members

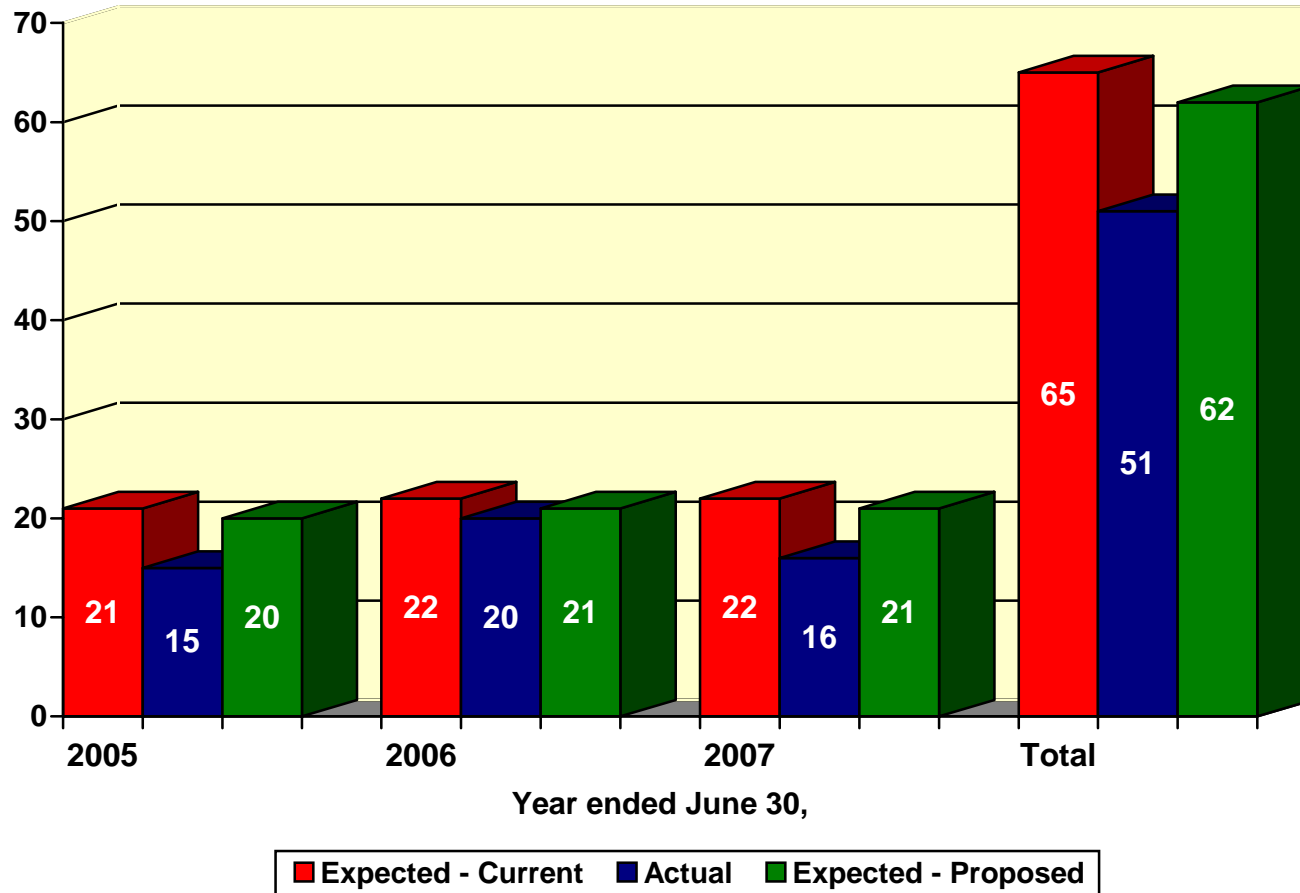


Chart 9
Post - Retirement Deaths
Disabled Safety Members

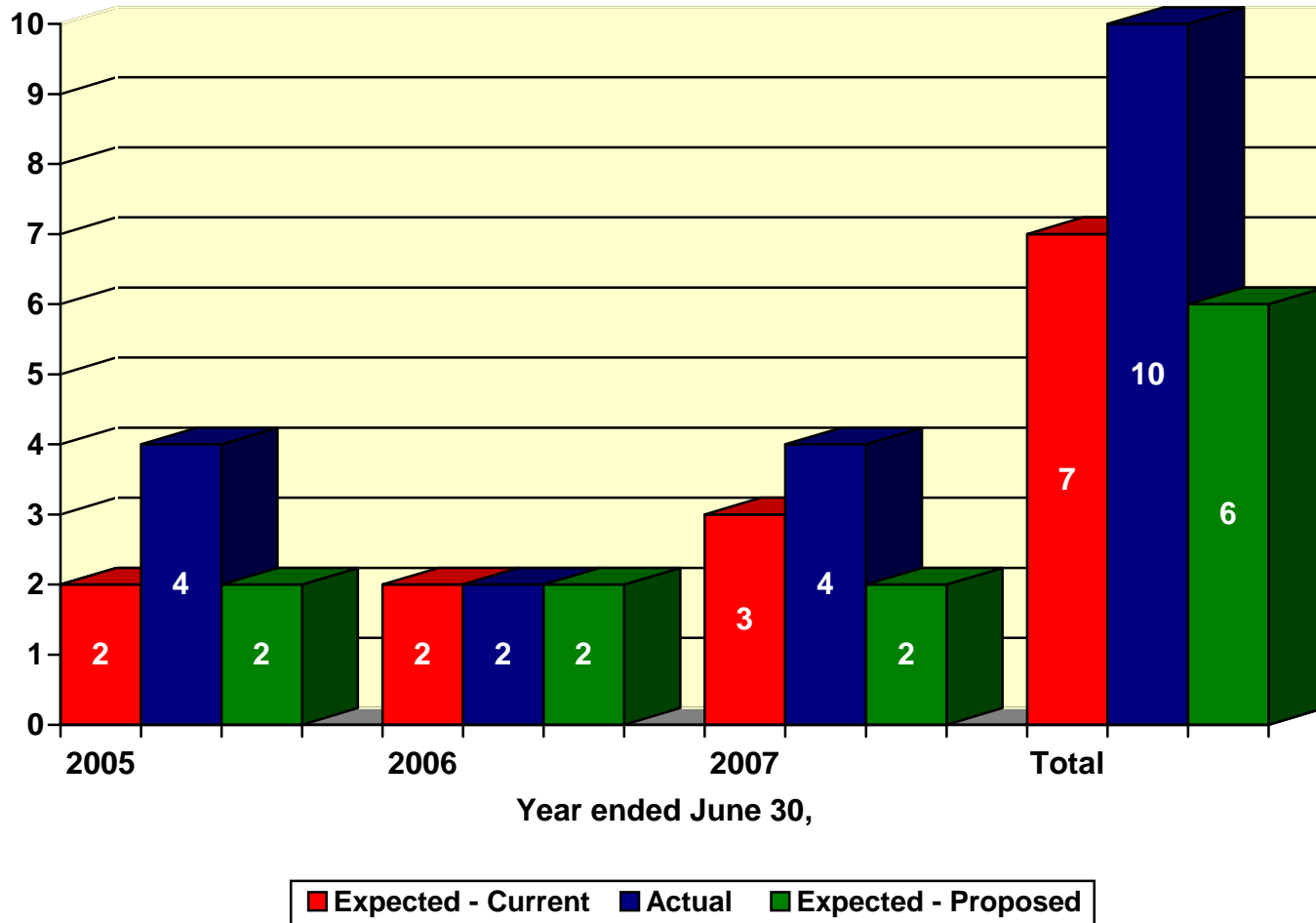


Chart 10
Life Expectancies (Miscellaneous Disabled)

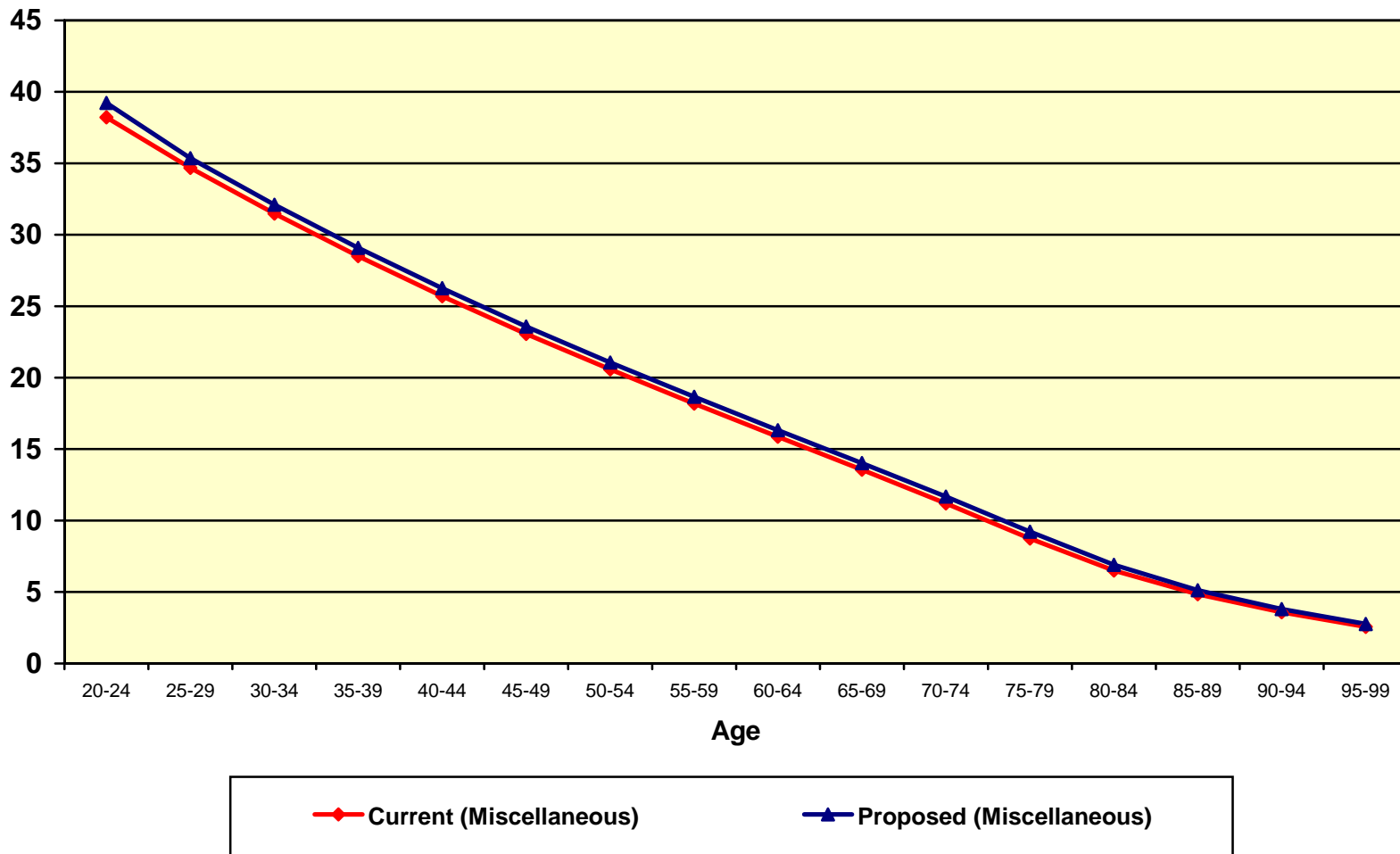
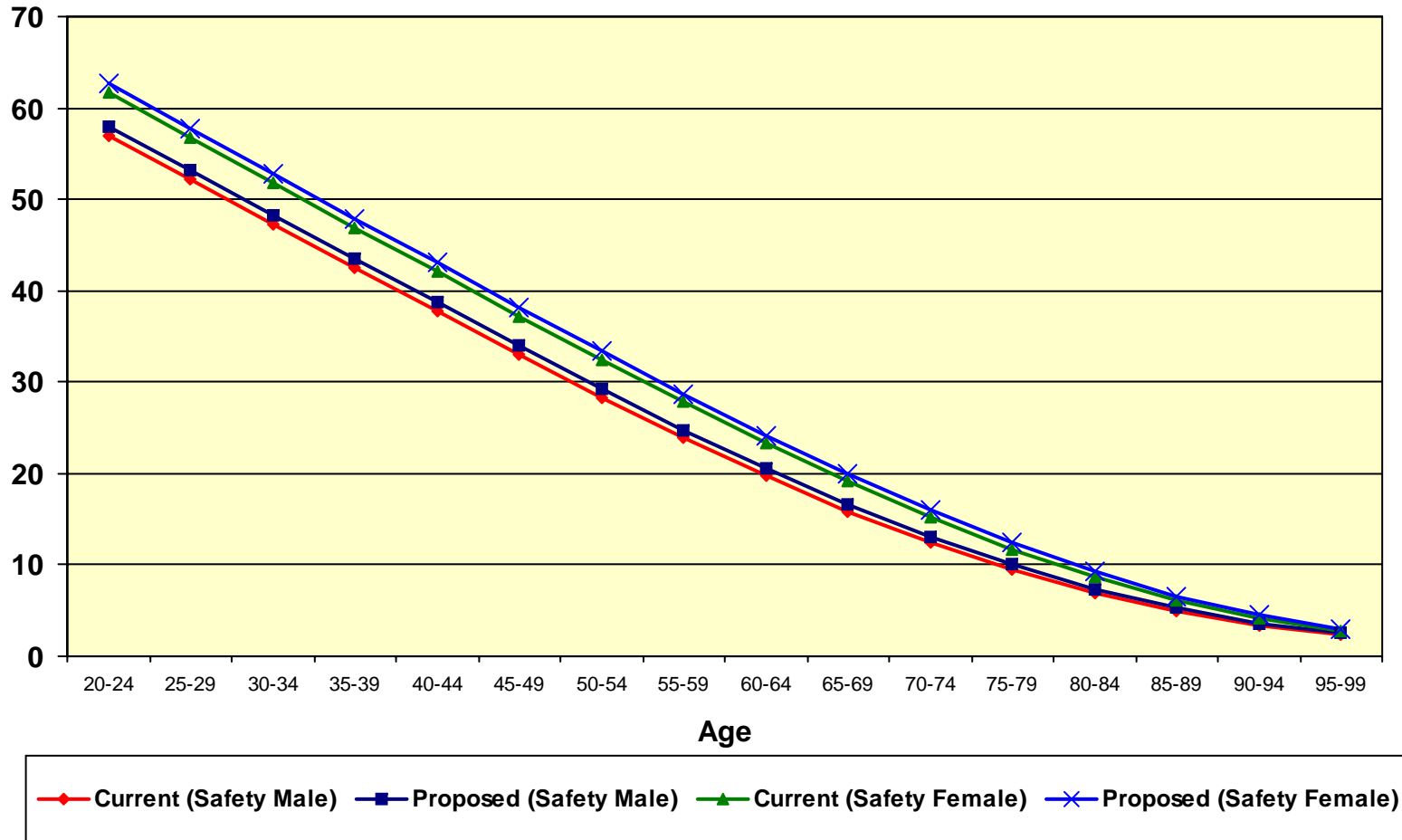


Chart 11 Life Expectancies (Safety Disabled)



E. TERMINATION RATES

Termination rates include all terminations for reasons other than death, disability, or retirement. Under the current assumptions there is an overall incidence of termination assumed combined with an assumption that 25% of members would elect a refund of contributions while 75% would elect a deferred retirement benefit. The termination experience over the last three years for Miscellaneous and Safety members separated between those members with under five years of service and those with five or more years of service is as follows:

Rates of Termination (Miscellaneous) (Fewer than Five Years of Service)

<u>Years of Service</u>	<u>Current Rate</u>	<u>Observed Rate</u>	<u>Proposed Rate</u>
0	13.00%	15.44%	15.00%
1	7.00	9.57	9.00
2	6.00	8.52	8.00
3	5.00	6.08	6.00
4	4.00	5.73	5.00

Rates of Termination (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	8.00%	11.26%	10.00%
1	4.00	6.50	6.00
2	3.00	5.00	5.00
3	2.00	4.56	4.00
4	2.00	4.29	3.00

Rates of Termination (Miscellaneous)
(Five or More Years of Service)

<u>Age</u>	<u>Current Rate</u>	<u>Observed Rate</u>	<u>Proposed Rate</u>
20 – 24	4.00%	22.22%	5.00%
25 – 29	4.00	8.46	4.75
30 – 34	4.00	5.08	4.50
35 – 39	4.00	4.43	4.25
40 – 44	3.00	3.79	3.50
45 – 49	2.30	2.62	2.50
50 – 54	1.80	1.55	1.70
55 – 59	1.50	2.42	1.50
60 – 64	0.00	2.94	0.00
65 – 69	0.00	6.20	0.00

Rates of 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	2.00%	0.00%	3.00%
25 – 29	2.00	5.30	3.00
30 – 34	2.00	3.62	3.00
35 – 39	1.80	2.75	2.50
40 – 44	1.50	2.74	2.00
45 – 49	1.20	1.58	1.50
50 – 54	0.00	1.17	0.00
55 – 59	0.00	2.00	0.00
60 – 64	0.00	0.00	0.00

Chart 12 compares actual to expected terminations of the past three years for both the current and proposed assumptions for Miscellaneous members and Safety members.

Chart 13 shows the current, along with the proposed withdrawal rates for Miscellaneous members with less than five years of service.

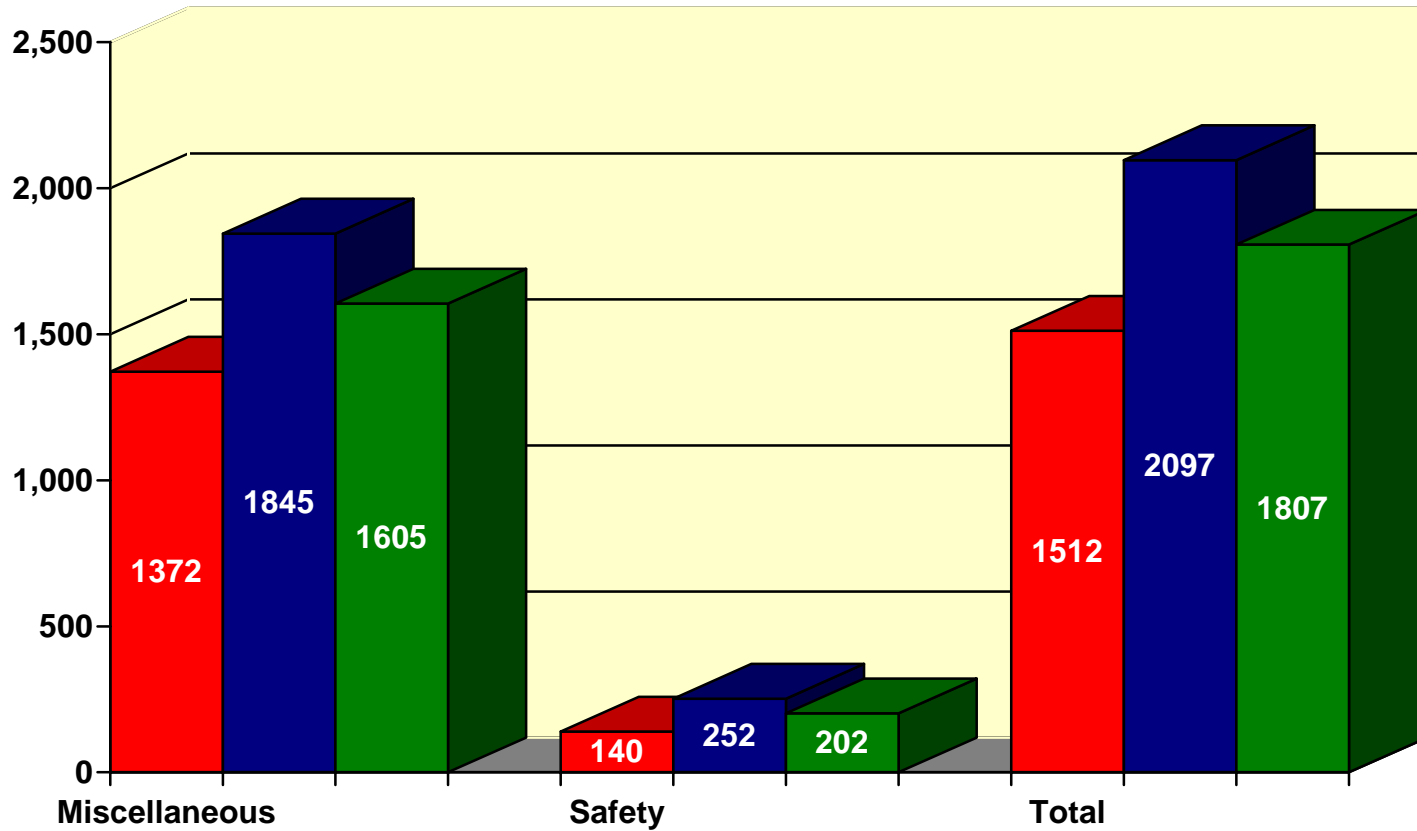
Chart 14 shows the same information as Chart 13, but for Safety members.

Chart 15 shows the current, along with the proposed termination rates for Miscellaneous members with five or more years of service.

Chart 16 shows the same information as Chart 15, but for Safety members.

Based upon the recent experience, the withdrawal rates for Miscellaneous and Safety members have been increased in most cases. Based on the experience that only 30% of the vested Miscellaneous and 52% of the vested Safety members who terminate employment actually elected to leave their contributions on deposit so that they would be eligible to receive a deferred retirement benefit, we recommend that a 50% and a 60% assumption be used to anticipate deferred retirement benefits for Miscellaneous and Safety, respectively. We will also continue to assume that all termination rates are zero at any age where members are assumed to retire. That means that, at these ages, the members will either retire (and commence receiving a benefit) or continue working.

Chart 12
Actual Number of Terminations Compared to Expected



June 30, 2004 - 2007

Expected Actual Proposed

Chart 13
Termination Rates - Miscellaneous Members
(Less than Five Years of Service)

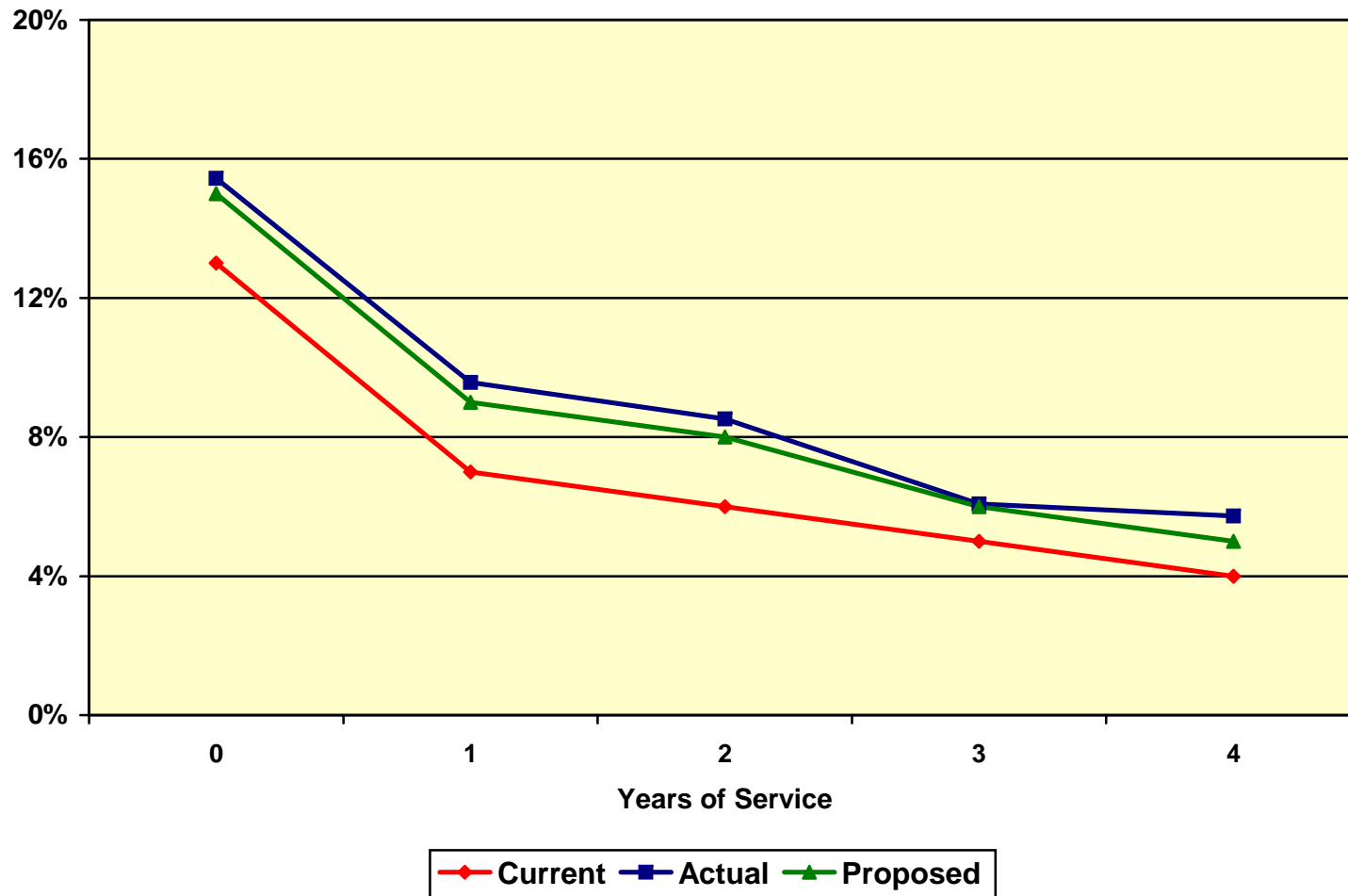


Chart 14
Termination Rates - Safety Members
(Less Than Five Years of Service)

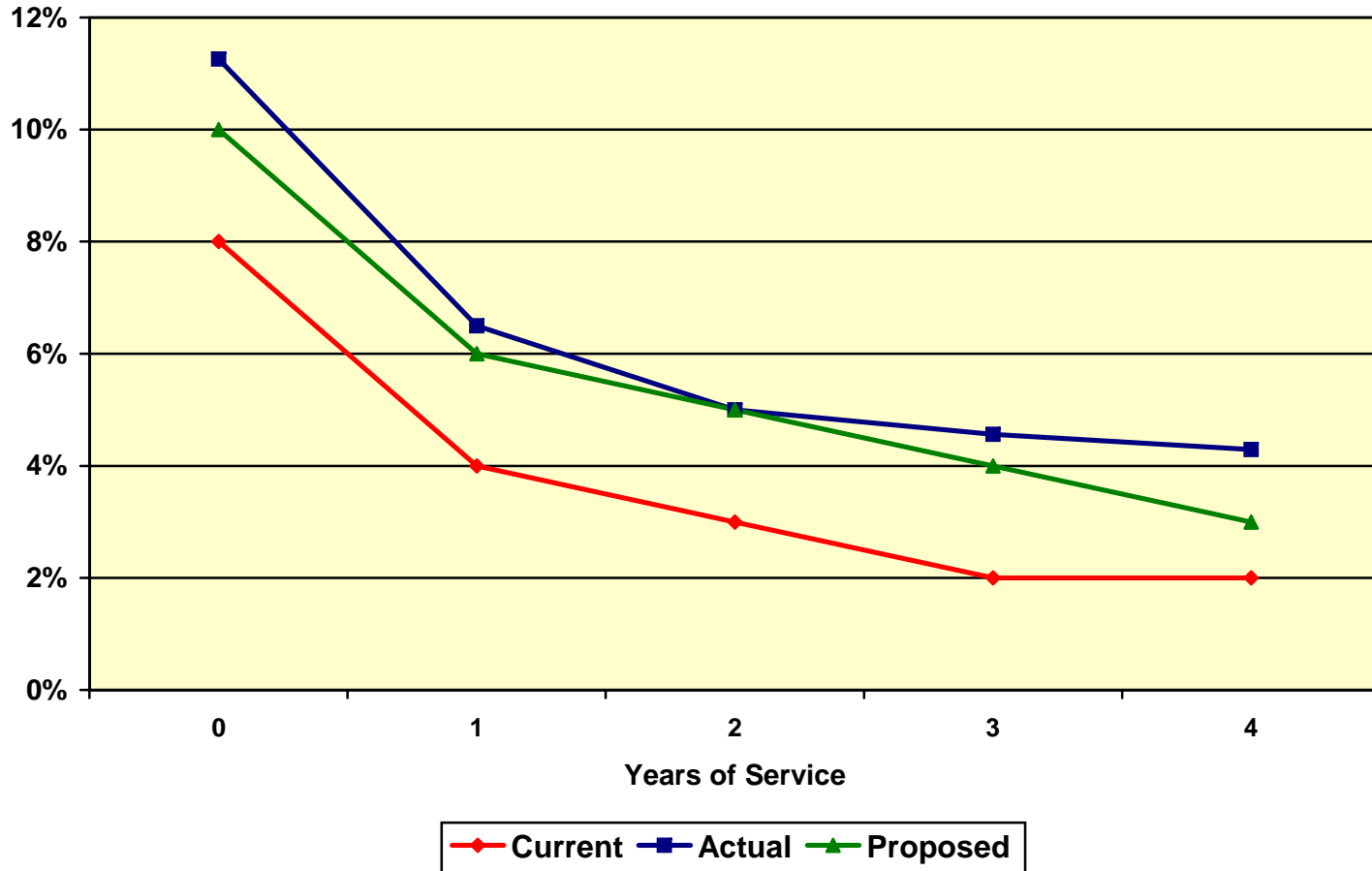


Chart 15
Termination Rates - Miscellaneous Members
(Five or More Years of Service)

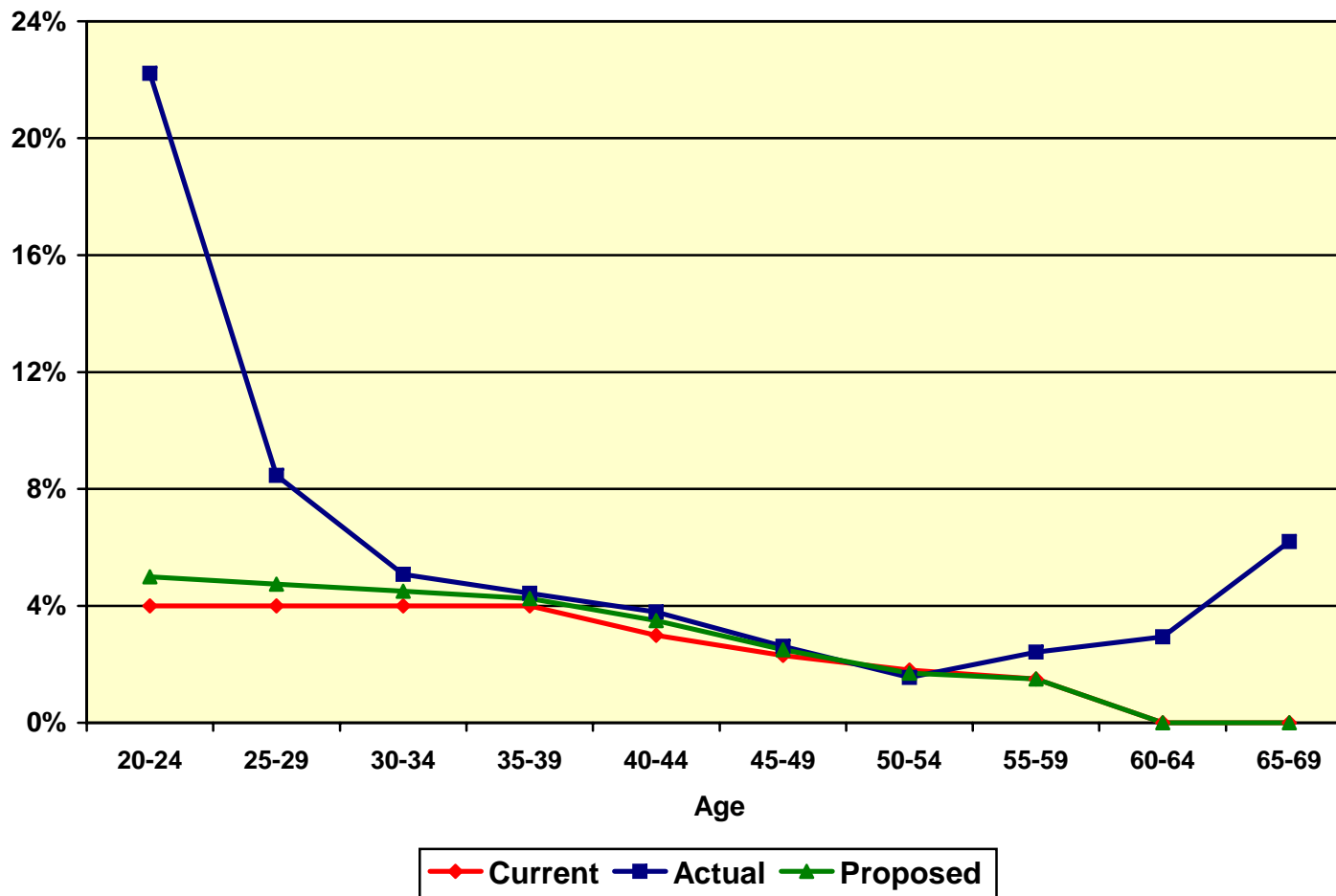
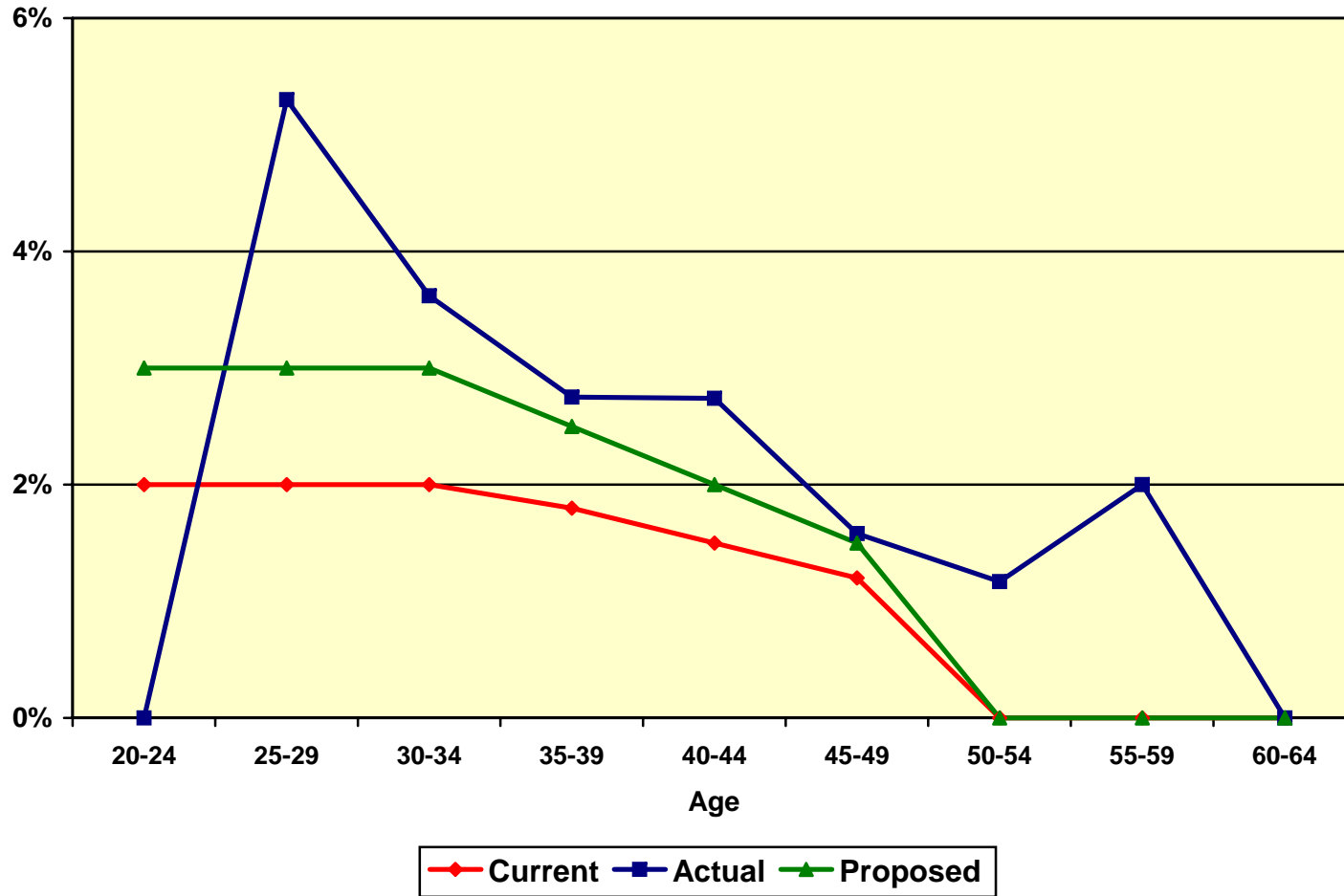


Chart 16
Termination Rates - Safety Members
(Five or More Years of Service)



F. DISABILITY INCIDENCE RATES

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

Rates of Disability Incidence (Miscellaneous)

<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	0.02	0.00	0.02
30 – 34	0.04	0.00	0.04
35 – 39	0.08	0.05	0.08
40 – 44	0.16	0.09	0.12
45 – 49	0.26	0.19	0.20
50 – 54	0.36	0.21	0.30
55 – 59	0.56	0.39	0.50
60 – 64	1.00	0.78	1.00
65 – 69	1.20	1.35	1.20

Rates of Disability Incidence (Safety)

<u>Age</u>	<u>Current Rate</u>	<u>Observed Rate</u>	<u>Proposed Rate</u>
20 – 24	0.20%	0.00%	0.20%
25 – 29	0.20	0.00	0.20
30 – 34	0.30	0.12	0.30
35 – 39	0.50	0.62	0.50
40 – 44	0.60	0.18	0.60
45 – 49	0.80	0.34	0.80
50 – 54	1.00	1.56	1.00
55 – 59	1.50	6.80	2.50
60 – 64	0.00	1.70	0.00

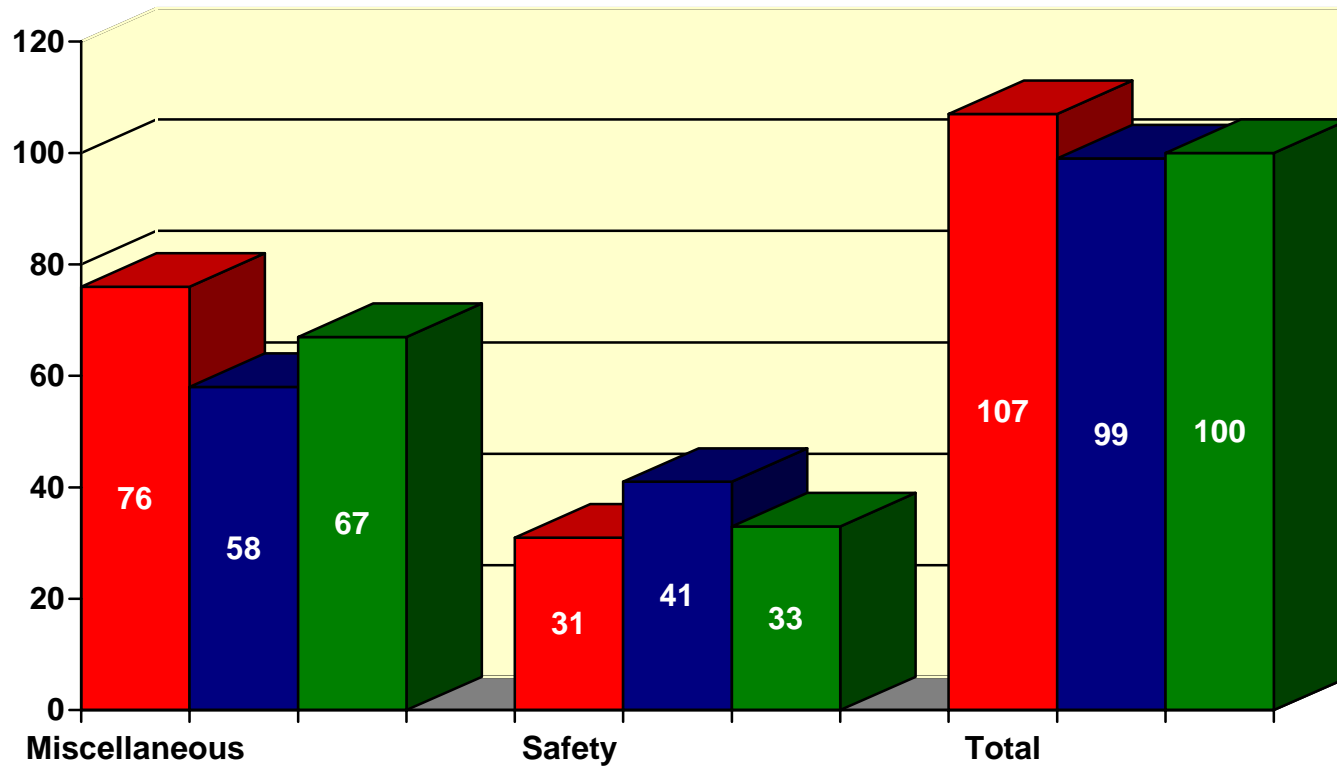
Chart 17 compares the actual number of non-duty and duty disabilities over the past three years to that expected under both the current and proposed assumptions. The proposed disability rates were adjusted to reflect the past three years experience.

Chart 18 shows actual disablement rates, compared to the assumed and proposed rates for Miscellaneous members.

Since 24% of disabled Miscellaneous members received a duty disability, we recommend that the current 15% assumption used to anticipate duty disability retirement be increased to 20%. The remaining 80% of Miscellaneous disabled members will be assumed to receive a non-duty disability.

Chart 19 graphs the same information as Chart 18, but for Safety members. Since 80% of disabled Safety members received a duty disability, we recommend that the current 85% assumption used to anticipate duty disability retirement be decreased to 80%. The remaining 20% of Safety disabled members will be assumed to receive a non-duty disability.

Chart 17
Actual Number of Disabilities Compared to Expected



June 30, 2004 - 2007

Expected Actual Proposed

Chart 18
Disablement Rates for Miscellaneous Members

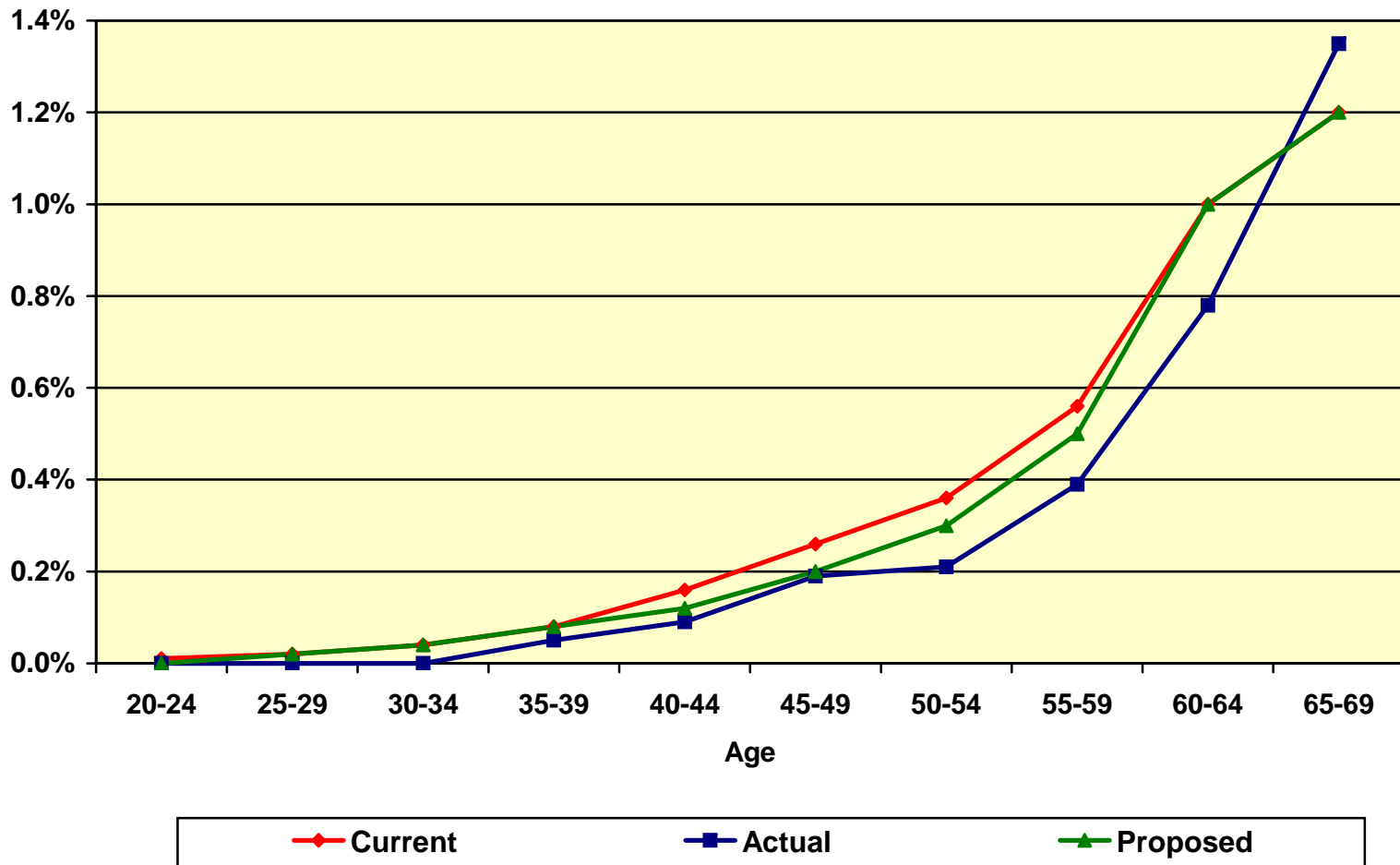
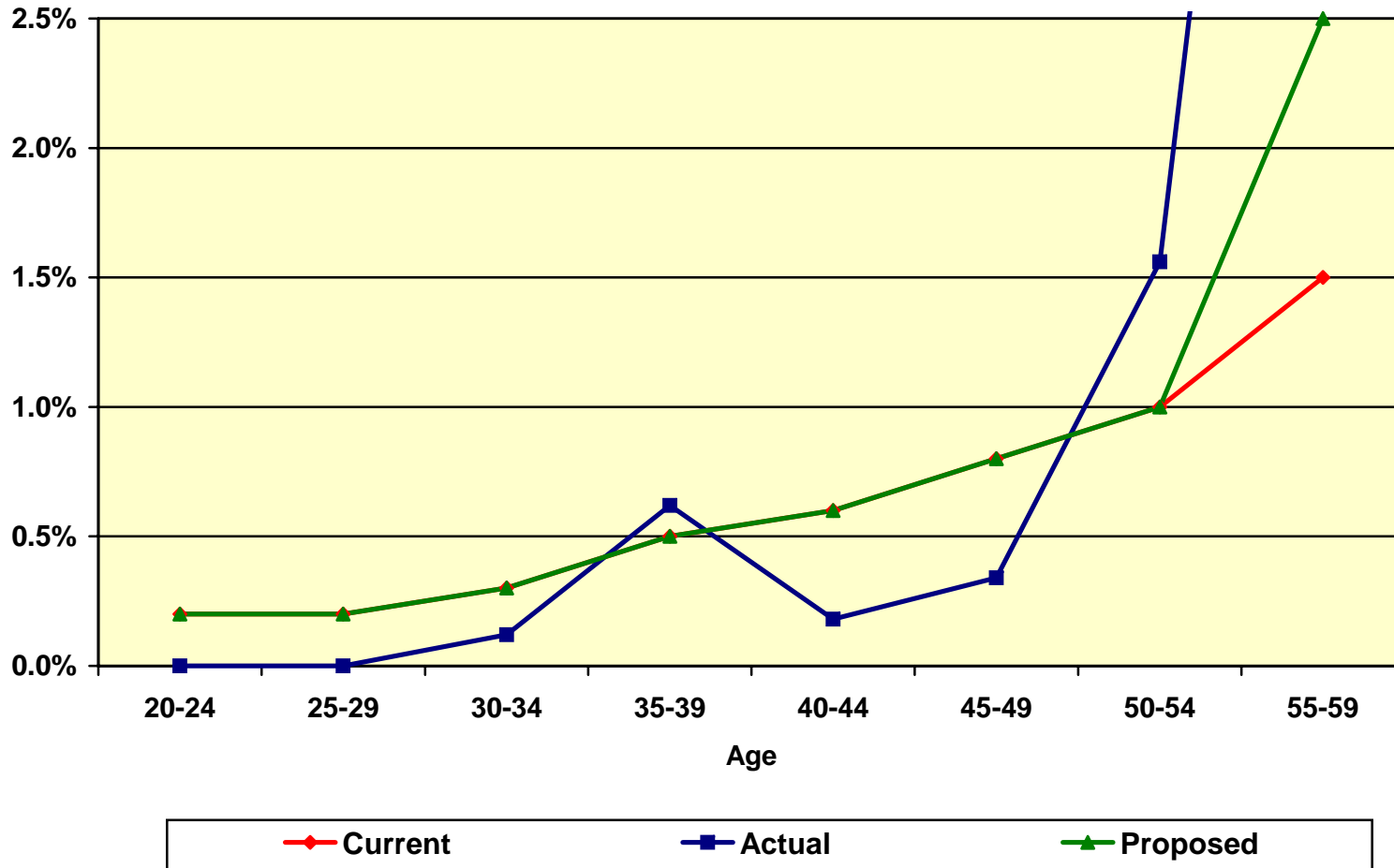


Chart 19
Disablement Rates for Safety Members



G. MERIT AND PROMOTIONAL SALARY INCREASES

The System'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 promotional increases.

The inflationary increases are assumed to follow the general inflation assumption discussed in our separate economic assumption report, where we recommended a 3.50% inflation assumption. We also discussed in that report our recommended assumption of 0.25% "across the board" pay increases. Therefore, the total inflation and real "across the board" increase of 3.75% is used as the assumed annual rate of payroll growth at which payments to the UAAL are assumed to increase.

The merit and promotional 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 Miscellaneous 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 age groups;*
- Removing the wage 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."

** Please note that as part of this study, we have examined whether age or service may be used as a better predictor of a member's future merit and promotional salary increase. After examining the data we believe using age is still appropriate.*

We are recommending increases in the merit and promotional assumptions for both Miscellaneous and Safety members. The new assumptions increase the merit and promotional increase from an average of about 1.7% per year to an average of about 2.1% per year.

The following table shows the average increases over the three-year experience period (July 1, 2004 through June 30, 2007) before removing the inflationary component:

Age Group	Average Increase (%)	
	Miscellaneous Members	Safety Members
20-24	9.59	14.57
25-29	9.64	11.66
30-34	8.40	8.80
35-39	7.31	8.32
40-44	6.77	7.86
45-49	6.19	7.51
50-54	5.81	6.96
55-59	5.58	6.60
60-64	5.32	5.98
65-69	5.18	-
70+	4.06	-

The increase in average salary for all ages over this three-year period was about 2.40% for Miscellaneous members and 4.16% for Safety members. The following table shows the average merit and promotional increases for the three-year period:

Age Group	Average Merit and Promotional Increase (%)	
	Miscellaneous Members	Safety Members
20-24	7.03	10.09
25-29	7.06	7.26
30-34	5.86	4.51
35-39	4.80	4.04
40-44	4.26	3.59
45-49	3.70	3.26
50-54	3.33	2.74
55-59	3.10	2.40
60-64	2.85	1.82
65-69	2.71	-
70+	1.62	-

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

Age Group	Current vs. Proposed Merit and Promotional Salary Increase (%)			
	Miscellaneous Members		Safety Members	
	Current	Proposed	Current	Proposed
20-24	6.60	6.60	5.50	5.70
25-29	4.10	4.20	4.70	5.10
30-34	3.20	3.80	3.20	3.50
35-39	2.60	3.20	2.00	2.60
40-44	2.30	2.90	1.80	2.40
45-49	2.00	2.60	1.50	2.10
50-54	1.60	2.10	1.50	1.90
55-59	1.20	1.70	1.40	1.70
60-64	1.10	1.50	-	-
65-69	1.00	1.20	-	-

Charts 20 and 21 provide a graphical comparison of the current, actual experience and proposed merit and longevity increases.

Chart 20
Merit and Promotional Salary Increase Rates
for Miscellaneous Members

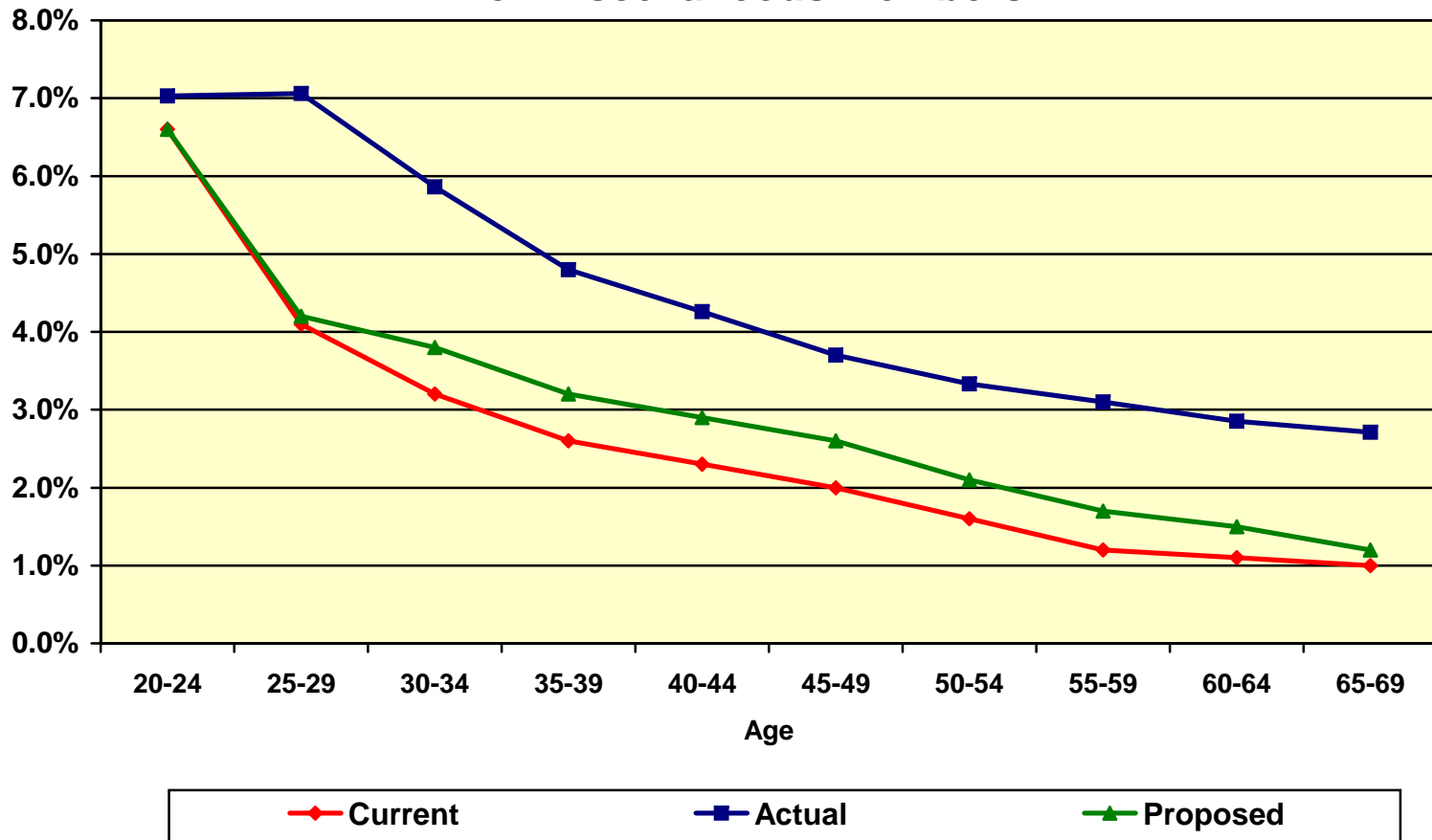
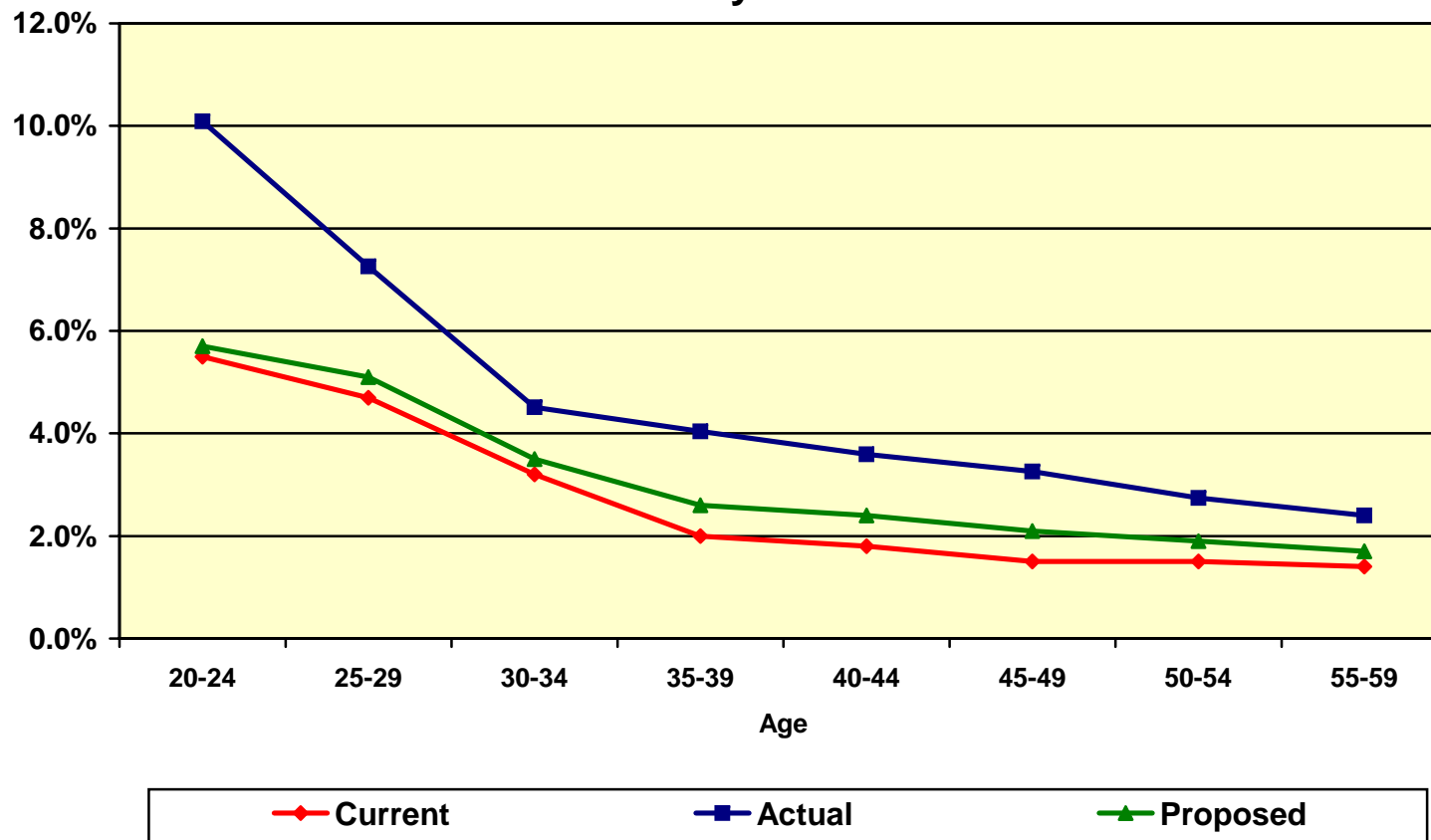


Chart 21
Merit and Promotional Salary Increase Rates
for Safety Members



H. SERVICE FROM UNUSED SICK LEAVE CONVERSION

At retirement, members can convert their unused sick leave to increase the service credit used in the calculation of their retirement benefit. The actuarial valuation anticipates this additional benefit using an assumption to estimate the proportional increase in service that will occur due to unused sick leave conversions.

We collected information on the actual amount of sick leave converted to service credit for retirees during the three year period studied. Consistent with the format of the current assumption, the actual converted sick leave was expressed as a percentage of members’ total service credit (before including the unused sick leave credit).

The tables below show the actual sick leave converted to service credit as a percentage of total service credit (before including the sick leave converted to service credit) at retirement separately for Miscellaneous and Safety members as well as non-disabled and disabled members.

Miscellaneous New Retirees (Non-Disabled)

Year of Retirement	Current Assumption	Actual Rate	Proposed Assumption
2004 - 2007	1.00%	1.54%	1.50%

Safety New Retirees (Non-Disabled)

Year of Retirement	Current Assumption	Actual Rate	Proposed Assumption
2004 - 2007	2.00%	2.25%	2.00%

Miscellaneous New Retirees (Disabled)

Year of Retirement	Current Assumption	Actual Rate	Proposed Assumption
2004 - 2007	0.00%	0.11%	0.00%

Safety New Retirees (Disabled)

Year of Retirement	Current Assumption	Actual Rate	Proposed Assumption
2004 - 2007	0.00%	0.07%	0.00%

Based on this experience we recommend increasing the assumption to 1.50% for Miscellaneous healthy retirees. We recommend no change to the assumption for Safety healthy retirees and Miscellaneous and Safety disabled retirees.

Pursuant to Section 31641.01, the cost of this benefit will be charged only to employers and will not affect member contribution rates.

I. AVERAGE ENTRY AGES

SCERS members who entered the plan after January 1, 1975 pay member contribution rates based on an average entry age of all members in the Miscellaneous or the Safety plan.

Based on the plan's experience, we are recommending no change in the average entry age of 36 and 29 for Miscellaneous and Safety, respectively.

APPENDIX A

CURRENT ACTUARIAL ASSUMPTIONS

Mortality Rates

Healthy: For Miscellaneous Members and Beneficiaries: 1994 Group Annuity Mortality Table.

For Safety Members and Beneficiaries: 1994 Group Annuity Mortality Table.

Disabled: For Miscellaneous Members: 1981 Miscellaneous Disability Mortality Table set back two years.

For Safety members: 1994 Group Annuity Mortality Table.

Member Contribution Rates: For Miscellaneous members: 1994 Group Annuity Mortality Table weighted 40% male and 60% female.

For Safety members: 1994 Group Annuity Mortality Table weighted 75% male and 25% female.

Termination Rates Before Retirement:

Age	Rate (%)			
	Mortality			
	Miscellaneous		Safety	
	Male	Female	Male	Female
25	0.07	0.03	0.07	0.03
30	0.08	0.04	0.08	0.04
35	0.09	0.05	0.09	0.05
40	0.11	0.07	0.11	0.07
45	0.16	0.10	0.16	0.10
50	0.26	0.14	0.26	0.14
55	0.44	0.23	0.44	0.23
60	0.80	0.44	0.80	0.44
65	1.45	0.86	1.45	0.86

All pre-retirement deaths are assumed to be non-duty.

Termination Rates Before Retirement (continued):

Age	Rate (%)	
	Disability	
	Miscellaneous⁽¹⁾	Safety⁽²⁾
20	0.00	0.20
25	0.01	0.20
30	0.03	0.26
35	0.06	0.42
40	0.13	0.56
45	0.22	0.72
50	0.32	0.92
55	0.48	1.30
60	0.82	0.00

⁽¹⁾ 15% of Miscellaneous disabilities are assumed to be duty disabilities. The other 85% are assumed to be ordinary disabilities.

⁽²⁾ 85% of Safety disabilities are assumed to be duty disabilities. The other 15% are assumed to be ordinary disabilities.

Termination Rates Before Retirement (continued):

Rate (%)		
Termination (< 5 Years of Service)		
Years of Service	Miscellaneous	Safety
0	13.00	8.00
1	7.00	4.00
2	6.00	3.00
3	5.00	2.00
4	4.00	2.00
Termination (5+ Years of Service) *		
Age	Miscellaneous	Safety
20	4.00	2.00
25	4.00	2.00
30	4.00	2.00
35	4.00	1.88
40	3.40	1.62
45	2.58	1.32
50	2.00	0.00
55	1.62	0.00
60	0.00	0.00

* 25% of the members are assumed to elect a refund of member contribution balance while the remaining 75% are assumed to elect a deferred retirement benefit.

Retirement Rates:

Age	Rate (%)		
	Miscellaneous Tier 1	Miscellaneous Tiers 2 & 3	Safety
50	6.00	3.00	33.00
51	6.00	3.00	25.00
52	6.00	3.00	25.00
53	6.00	5.00	33.00
54	9.00	6.00	33.00
55	10.00	8.00	50.00
56	11.00	10.00	50.00
57	15.00	13.00	50.00
58	23.00	22.00	50.00
59	26.00	22.00	50.00
60	28.00	23.00	100.00
61	31.00	27.00	100.00
62	40.00	47.00	100.00
63	45.00	56.00	100.00
64	45.00	56.00	100.00
65	52.00	71.00	100.00
66	46.00	54.00	100.00
67	52.00	58.00	100.00
68	60.00	66.00	100.00
69	75.00	83.00	100.00
70	100.00	100.00	100.00

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

For deferred vested members, we make the following retirement assumption:

Miscellaneous Age:	58
Safety Age:	55

We assume that 55% of future Miscellaneous and 65% of future Safety deferred vested members will continue to work for a reciprocal employer. For reciprocals, we assume 5.45% compensation increases per annum.

Future Benefit Accruals:

1.0 year of service per year for the full-time employees. Continuation of current partial service accrual for part-time employees.

Unknown Data for Members:

Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.

Percent Married:

80% of male members; 50% of female members.

Age of Spouse:

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

**Service From Unused
Sick Leave Conversion:**

The following assumptions for service converted from unused sick leave as a percentage of service at retirement are used:

Service Retirements:

Miscellaneous:	1.0%
Safety:	2.0%

Disability Retirements:

Miscellaneous:	0.0%
Safety:	0.0%

Pursuant to Section 31641.01, the cost of this benefit will be charged only to employers and will not affect member contribution rates.

Net Investment Return:

7.75%; net of administration and investment expenses.

**Employee Contribution
Crediting Rate:**

3.50% (assumed rate of inflation), compounded semi-annually.

Consumer Price Index:

Miscellaneous and Safety Tier 1 benefits are assumed to increase at 3.40% per year. Miscellaneous Tier 3 and Safety Tier 2 benefits are assumed to increase at 2.0% per year. Miscellaneous Tier 2 receive no COLA increases.

Salary Increases:

Annual Rate of Compensation Increase (%)

Inflation: 3.50%, plus “across the board” salary increases of 0.25% per year; plus the following merit and promotional increases.

<u>Age</u>	<u>Miscellaneous</u>	<u>Safety</u>
20	7.80	5.90
25	5.10	4.90
30	3.50	3.80
35	2.90	2.60
40	2.30	2.00
45	2.00	1.50
50	1.70	1.50
55	1.30	1.50
60	1.20	0.00

APPENDIX B

PROPOSED ACTUARIAL ASSUMPTIONS

Mortality Rates:

Healthy: For Miscellaneous Members and Beneficiaries: 1994 Group Annuity Mortality Table set back one year.

For Safety Members and Beneficiaries: 1994 Group Annuity Mortality Table set back one year.

Disabled: For Miscellaneous Members: 1981 Miscellaneous Disability Mortality Table set back three years.

For Safety members: 1994 Group Annuity Mortality Table set back one year.

Member Contribution Rates: For Miscellaneous members: 1994 Group Annuity Mortality Table set back one year weighted 40% male and 60% female.

For Safety members: 1994 Group Annuity Mortality Table set back one year weighted 75% male and 25% female.

Termination Rates Before Retirement:

Rate (%)				
Mortality				
Age	Miscellaneous		Safety	
	Male	Female	Male	Female
25	0.06	0.03	0.06	0.03
30	0.08	0.03	0.08	0.03
35	0.08	0.04	0.08	0.04
40	0.10	0.07	0.10	0.07
45	0.15	0.09	0.15	0.09
50	0.23	0.13	0.23	0.13
55	0.40	0.21	0.40	0.21
60	0.71	0.39	0.71	0.39
65	1.29	0.76	1.29	0.76

All Miscellaneous pre-retirement deaths are assumed to be non-duty. For Safety, 25% pre-retirement deaths are assumed to be non-duty and the rest are assumed to be duty.

Termination Rates Before Retirement (continued):

Age	Rate (%)	
	Disability	
	Miscellaneous⁽¹⁾	Safety⁽²⁾
20	0.00	0.20
25	0.01	0.20
30	0.03	0.26
35	0.06	0.42
40	0.10	0.56
45	0.17	0.72
50	0.26	0.92
55	0.42	1.90
60	0.80	0.00

⁽¹⁾ 20% of Miscellaneous disabilities are assumed to be duty disabilities. The other 80% are assumed to be ordinary disabilities.

⁽²⁾ 80% of Safety disabilities are assumed to be duty disabilities. The other 20% are assumed to be ordinary disabilities.

Termination Rates Before Retirement (continued):

Rate (%)		
Termination (< 5 Years of Service)		
Years of Service	Miscellaneous	Safety
0	15.00	10.00
1	9.00	6.00
2	8.00	5.00
3	6.00	4.00
4	5.00	3.00
Termination (5+ Years of Service) *		
Age	Miscellaneous	Safety
20	5.10	3.00
25	4.85	3.00
30	4.60	3.00
35	4.35	2.70
40	3.80	2.20
45	2.90	1.70
50	2.02	0.00
55	1.58	0.00
60	0.00	0.00

* 50% of the Miscellaneous members and 40% of the Safety members are assumed to elect a refund of contribution balance while the remaining 50% and 60% of Miscellaneous and Safety members, respectively are assumed to elect a deferred retirement benefit. No withdrawal is assumed after a member is assumed to retire.

Retirement Rates:

Age	Rate (%)		
	Miscellaneous Tier 1	Miscellaneous Tiers 2 & 3	Safety
50	6.00	3.00	30.00
51	5.00	2.00	20.00
52	5.00	2.00	20.00
53	5.00	4.00	30.00
54	9.00	5.00	30.00
55	10.00	6.00	30.00
56	12.00	8.00	30.00
57	16.00	10.00	30.00
58	25.00	20.00	30.00
59	27.00	20.00	30.00
60	29.00	22.00	100.00
61	32.00	23.00	100.00
62	41.00	41.00	100.00
63	46.00	46.00	100.00
64	48.00	48.00	100.00
65	52.00	52.00	100.00
66	46.00	46.00	100.00
67	52.00	52.00	100.00
68	60.00	60.00	100.00
69	75.00	75.00	100.00
70	100.00	100.00	100.00

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

For deferred vested members, we make the following retirement assumption:

Miscellaneous Age:	59
Safety Age:	54

We assume that 55% of future Miscellaneous and 65% of future Safety deferred vested members will continue to work for a reciprocal employer. For reciprocals, we assume 5.85% compensation increases per annum.

Future Benefit Accruals:

1.0 year of service per year for the full-time employees. Continuation of current partial service accrual for part-time employees.

Unknown Data for Members:

Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.

Percent Married:

80% of male members; 55% of female members.

Age of Spouse:

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

**Service From Unused
Sick Leave Conversion:**

The following assumptions for service converted from unused sick leave as a percentage of service at retirement are used:

Service Retirements:

Miscellaneous:	1.5%
Safety:	2.0%

Disability Retirements:

Miscellaneous:	0.0%
Safety:	0.0%

Pursuant to Section 31641.01, the cost of this benefit will be charged only to employers and will not affect member contribution rates.

Net Investment Return:

7.75%; net of administration and investment expenses.

**Employee Contribution
Crediting Rate:**

3.50% (assumed rate of inflation), compounded semi-annually.

Consumer Price Index:

Miscellaneous and Safety Tier 1 benefits are assumed to increase at 3.40% per year. Miscellaneous Tier 3 and Safety Tier 2 benefits are assumed to increase at 2.0% per year. Miscellaneous Tier 2 receive no COLA increases.

Salary Increases:

Annual Rate of Compensation Increase (%)

Inflation: 3.50%, plus “across the board” salary increases of 0.25% per year; plus the following merit and promotional increases.

<u>Age</u>	<u>Miscellaneous</u>	<u>Safety</u>
20	7.80	6.12
25	5.16	5.34
30	3.96	4.14
35	3.44	2.96
40	3.02	2.48
45	2.72	2.22
50	2.30	1.98
55	1.86	1.78
60	1.58	0.00

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