Los Angeles City Employees' Retirement System

ACTUARIAL EXPERIENCE STUDY

Analysis of Actuarial Experience During the Period July 1, 2005 through June 30, 2008

SEGAL

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October 9, 2008

Board of Administration
Los Angeles City Employees' Retirement System
360 East Second Street, 8th Floor
Los Angeles, CA 90012

Re: Review of Actuarial Assumptions for the June 30, 2008 Actuarial Valuation

Dear Members of the Board:

We are pleased to submit this report of our review of the actuarial experience of the Los Angeles City Employees' Retirement System. This study utilizes the census data of the last three actuarial valuations and includes the proposed actuarial assumptions, both demographic and economic, to be used in the June 30, 2008 and later actuarial valuations.

Please note that our recommended assumptions unique to the health program (e.g. healthcare inflation assumptions) are provided in a separate letter.

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

Sincerely,

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

Andy Yeung, ASA, MAAA, EA
Vice President and Associate Actuary

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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 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 review the economic and 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, 2005 through June 30, 2008. The study was performed in accordance with Actuarial Standard of Practice (ASOP) No. 27, "Selection of Economic Assumptions for Measuring Pension Obligations" and ASOP No. 35, "Selection of Demographic and Other Non-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: promotional and merit salary increases, across the board salary increases, retirement from active employment, inactive vested retirement age, pre-retirement mortality, healthy life mortality, disabled life mortality, termination, and disability incidence.

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

Inflation – Future increases in the cost-of-living index which drives investment returns and active member salary increases, as well as COLA increases to retired employees.
Recommendation: Maintain the rate at 3.75%.

Investment Return - The estimated average net rate of return on assets over the projected lifetime of the System as of the valuation date. This rate is used to discount liabilities.
Recommendation: Maintain the rate at 8.00%.

Individual Salary Increases - Increases in the salary of a member between the date of the valuation to the date of separation from active service. This assumption has three components:

- Inflationary salary increases.
- Real across the board salary increases.
- Promotional and merit increases.

Recommendation: Maintain the current inflationary salary increase at 3.75% but increase the real across the board salary increase from 0.25% to 0.50%. In addition to the combined inflationary and real across the board salary increases of 4.25%, change the promotional and merit increases to those developed in Section (III)(C). The net impact of these changes is to project somewhat greater salary increases.

Retirement Rates - The probability of retirement at each age at which participants are eligible to retire.
Recommendation: For active members, adjust the current retirement rates, based only on age, to those developed in Section (IV)(A) that are based on age as well as meeting eligibility for unreduced retirement benefit at age 55 with over 30 years of service. Overall, the recommended assumptions will anticipate later retirements for active members. For inactive vested members, reduce the assumed retirement age from age 58 to age 57.

Reciprocity – The probability that a terminated member will continue employment at a reciprocal system.
Recommendation: Maintain the current assumption that 10% of LACERS' members who terminate employment in the future will continue to work at a reciprocal system.

Mortality Rates - The probability of dying at each age. Mortality rates are used to project life expectancies.
Recommendation: Change the current 1994 Group Annuity Mortality Tables to the RP-2000 Combined Healthy Mortality Tables, with a one year setback for healthy pensioners. For disabled pensioners, use the RP-2000 Combined Healthy Mortality Tables, but with a seven year forward age adjustment. For pre-retirement mortality, use the same mortality as for healthy pensioners. The recommended assumption will anticipate slightly longer life expectancy.

Termination Rates - The probability of leaving employment at each age and receiving either a refund of contributions or a deferred vested retirement benefit.
Recommendation: Adjust the current termination rates to those developed in Section (IV)(D). The recommended assumption will anticipate more terminations.

Disability Incidence Rates - The probability of becoming disabled at each age.
Recommendation: Adjust the current disability rates to those developed in Section (IV)(E). The recommended assumption will anticipate more disability retirements.

Section II provides some background on basic principles and the methodology used for the experience study and for the review of economic and demographic actuarial assumptions. A detailed discussion of each assumption and reasons for the proposed changes are found in Section III for the economic assumptions and Section IV for the demographic assumptions.

II. BACKGROUND AND METHODOLOGY

In this report, we analyzed both economic and demographic ("non-economic") assumptions. The primary economic assumptions reviewed are inflation, investment return, and salary increases. 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.

Economic Assumptions

Economic assumptions consist of:

Inflation – Increases in the price of goods and services. The inflation assumption reflects the basic return that investors expect from securities markets. It also reflects the expected basic salary increase for active employees and drives increases in the allowances of retired members.

Investment Return – Expected long term rate of return on the System's investments after expenses. This assumption has a significant impact on contribution rates.

Salary Increases – In addition to inflationary increases, it is assumed that salaries will also grow by any "across the board" real pay increases in excess of price inflation. It is also assumed that employees will receive raises above these average increases as they advance in their careers. These are commonly referred to as promotional and merit increases. Payments to amortize any Unfunded Actuarial Accrued Liability (UAAL) are assumed to increase each year by the inflation rate plus any "across the board" pay increases that are assumed.

The setting of these economic assumptions is described in Section III.

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 terminate during the year, we would say the probability of termination in that age group is 50 ÷ 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. ECONOMIC ASSUMPTIONS

A. INFLATION

Unless an investment grows at least as fast as prices increase, investors will experience a reduction in the inflation-adjusted value of their investment. There may be times when "riskless" investments return more or less than inflation, but over the long term, investment market forces will generally require an issuer of fixed income securities to maintain a minimum return which protects investors from inflation.

The inflation assumption is long term in nature, so it is set using primarily historical information. Following is an analysis of 15 and 30 year moving averages of historical inflation rates:

Historical Consumer Price Index – 1930 to 2007
(U.S. City Average - All Urban Consumers)

	25th Percentile	Median	75th Percentile
15 year moving averages	2.7%	3.6%	4.9%
30 year moving averages	3.3%	4.3%	5.0%

The average inflation rates have continued to decline gradually over the last several years due to the relatively low inflationary period in the 1990s and early 2000s. However, the inflation rates for the past few years have started to show some increase. Also, the later of the 15-year averages during the period are lower as they do not include the high inflation years of the mid-1970s and early 1980s.

LACERS's investment consultant, Pension Consulting Alliance (PCA), anticipates an annual inflation rate of 3.00%. Note that in general, the investment consultants' time horizon for this assumption is shorter than the time horizon we use for the actuarial valuation.

In the 2007 public fund survey published by the National Association of State Retirement Administrators, the median inflation assumption used by 116 large public retirement funds in their 2006 valuations has remained unchanged from the 3.50% used in the 2005 valuations.

Based on all of the above information, we recommend that the current 3.75% annual inflation assumption be maintained for the June 30, 2008 valuation.

B. INVESTMENT RETURN

The investment return assumption is comprised of two components: (i) Inflation; and (ii) Real Rate of Return.

Real Rate of Investment Return

This component represents the portfolio's incremental investment market returns over inflation. Theory has it that, as an investor takes a greater investment risk, the return on the investment is expected to also be greater, at least in the long run. This additional return is expected to vary by asset class and empirical data supports that expectation. For that reason, the real rate of return assumptions are developed by asset class. Therefore, the real rate of return assumption for a retirement system's portfolio will vary with the Board's asset allocation among asset classes.

The next page shows the System's recent target asset allocation and the assumed real rate of return assumptions by asset class. The first column of real rate of return assumptions are determined by netting PCA's total return assumptions by their assumed 3.0% for inflation. The second column of returns represents the average of a broader sample of real rate of return assumptions. The sample includes the expected annual real rate of returns provided to us by PCA and by eight other investment advisory firms retained by Segal's public clients. We believe these assumptions reasonably reflect a consensus forecast of future market returns.

LACERS Target Asset Allocation and Assumed Real Rate of Return Assumptions by Asset Class and for the Portfolio

Asset Class	Percentage of Portfolio	PCA's Assumed Real Rate of Return*	Average Real Rate of Return from a Sample of Consultants to Segal's Public Clients'**
Domestic Equity	43.0%	6.25%	6.82%
Developed International Equity	17.2%	6.25%	7.14%
Emerging Market Equity	2.8%	6.25%	9.78%
Core Bonds	24.0%	2.50%	2.68%
Real Estate	5.0%	4.00%	4.87%
Alternative Investment	7.0%	8.75%	8.75%***
Cash and Cash Equivalents	1.0%	1.00%	1.08%
Total	100.0%	5.36%	5.94%

* Derived by netting PCA's 30-year arithmetic annual rate of return assumptions for 2008 by their assumed 3.0% inflation rate.

** Including the Cities of Los Angeles and Fresno and the County retirement systems of Alameda, Contra Costa, Imperial, Orange, Sacramento, San Bernardino and San Diego.

*** PCA's assumption is applied in lieu of the average because there is a larger disparity in returns for this asset class among the firms surveyed, and using PCA's assumption should more closely reflect the underlying investments made specifically for LACERS.

Please note that the above are representative of "indexed" returns and do not include any additional returns ("alpha") from active management. This is consistent with the Actuarial Standard of Practice No. 27, Section 3.6.3.e, which states:

> "Investment Manager Performance - Anticipating superior (or inferior) investment manager performance may be unduly optimistic (pessimistic). Few investment managers consistently achieve significant above-market returns net of expenses over long periods."

The following are some observations about the returns provided above:

1. The investment return assumptions utilized by PCA are lower than the average assumptions utilized by the investment consultants to Segal's public clients in the sample.

2. Using an average of expected real rate of returns allows the System's investment return assumption to include a broader range of capital market information and it should help reduce year to year volatility in the System's investment return assumption.

3. Therefore, we recommend that the 5.94% average real rate of return be used to determine the System's investment return assumption.

System Expenses

The real rate of return assumption for the portfolio needs to be adjusted for administrative and investment expenses to be paid from investment income.

The following table provides the available history of these expenses in relation to the market value of assets.

Administrative and Investment Expenses as a Percentage of Market Value of Assets (All dollars in 000's)

Year Ending June 30	Market Value of Assets at Beginning of Plan Year	Total Administrative and Investment Expenses*	Total %
2007	$9,285,478	$32,419	0.35%
2006	8,331,756	30,195	0.36%
2005	7,734,438	28,684	0.37%
2004	6,709,042	29,181	0.43%
2003	6,713,940	26,642	0.40%
Average			0.38%

*Net of securities lending expenses.

Based on this experience, we believe a future expense assumption of 0.40% is reasonable.

Risk Adjustment

The real rate of return assumption for the portfolio needs to be adjusted to reflect the potential risk of shortfalls in the return assumptions. The System's asset allocation also determines this portfolio risk, since risk levels also are expected to vary by asset class. The portfolio standard deviation calculated by PCA for the current asset allocation was 11.71%. This portfolio risk is incorporated into the real rate of return assumption through a risk adjustment.

At the time of the last triennial experience study as of June 30, 2005, the Board adopted an investment return assumption of 8.00%. When combined with the real return, expense and inflation assumptions from that study, that return assumption implied a risk adjustment of 1.14%. Based on the portfolio standard deviation from that study of 11.18%, that reflected a confidence level (described below) of 65%. For this experience study, in combination with the inflation, expense and real return components developed above, the current 8.00% investment return would imply a risk adjustment of 1.29%. Based on the 11.71% portfolio standard deviation, that risk adjustment provides approximately a 66% confidence level that the actual average return over 15 years would not fall below the assumed return, assuming the distribution of returns over that period follows the Normal statistical distribution. That confidence level is consistent with our other California public sector clients. Note that while the theory that long term investment returns follow a Normal distribution is debatable, we believe the Normal distribution assumption is not unreasonable for purposes of setting the risk adjustment.

Recommended Investment Return Assumption

Based on our previous development and discussion, we recommend that the investment return assumption remain at 8.00%. The following table provides the component derivation of that recommended investment return assumption.

Calculation of Investment Return Assumption

Assumption Component	Recommended Value
Inflation	3.75%
Plus Average Real Rate of Return	5.94%
Minus Expense Adjustment	(0.40%)
Minus Risk Adjustment	(1.29%)
Total	8.00%

C. SALARY INCREASE

Salary increases impact plan costs in two ways: (i) by increasing members' benefits (since benefits are a function of the members' highest average pay) and future normal cost collections; and (ii) by increasing total active member payroll which in turn generates higher UAAL amortization payments (or greater rate credit demands if the UAAL is negative). These two impacts are discussed separately below.

As an employee progresses through his or her career, increases in pay are expected to come from three sources:

1. Inflation – Unless pay grows at least as fast as consumer prices grow, employees will experience a reduction in their standard of living. There may be times when pay increases lag or exceed inflation, but over the long term, labor market forces will require an employer to maintain its employees' standards of living.

   As discussed earlier in this report, we are recommending to maintain the inflation rate at 3.75%. This inflation component will be used as part of the salary increase assumption.

2. Real Across the Board Pay Increases – These increases are typically termed productivity increases since they are considered to be derived from an organization's ability to produce goods and services in a more efficient manner. As that occurs, some portion of the value of these improvements can provide a source for pay increases. These increases are typically assumed to extend to all employees across the board. The State and Local Government Workers Employment Cost Index produced by the Department of Labor provides evidence that real across the board pay increases have averaged about 0.7% - 1.0% annually during the last 10 - 20 years. However, this has generally been a period of low inflation and favorable investment markets, so there remains some questions as to whether this will sustain in the long run.

   We recommend increasing the real across the board salary increase assumption from 0.25% to 0.50% for the June 30, 2008 valuation. We note that a 0.50% assumption is consistent with the across the board salary increase assumption adopted by the two other City of Los Angeles retirement systems.

3. Promotional and Merit Increases – As the name implies, these increases come from an employee's career advances. This form of pay increase differs from the previous two, since it is specific to the individual. The assumption is typically structured as a function of an employee's age and/or service, and it is derived from employee-specific information as part of the triennial experience study. The promotional and merit increases are determined by measuring the actual salary increases by employees, net of inflationary and across the board components.

The following table compares the actual average promotional and merit increases by service over the three-year experience period from July 1, 2005 through June 30, 2008, with the current assumptions and our proposed assumptions. The actual average promotional and merit increases were determined by netting the actual average total salary increases by 4.00%. The 4.00% was the average inflation plus real across the board increases over the three-year period.

Promotional and Merit Increases

Years of Service	Current Assumptions	Actual Average Increase	Proposed Assumptions
0	6.00%	10.26%	8.00%
1	5.00%	8.60%	6.75%
2	4.50%	5.07%	4.75%
3	3.50%	3.94%	3.75%
4	2.75%	2.47%	2.50%
5+	2.75% to 0.75%	2.18% to 0.25%	2.25% to 0.50%

For members with over five years of service, our analysis on promotional and merit increases showed an age dependence in the triennial data. For this subgroup of members, we are recommending a promotional and merit increase assumption based on the following table.

Promotional and Merit Increases
Members with over Five Years of Service

Age	Current Assumptions	Actual Average Increases	Proposed Assumptions
20-24	2.75%	1.67%	2.25%
25-29	2.00%	2.18%	2.00%
30-34	1.50%	1.94%	1.75%
35-39	1.25%	1.59%	1.50%
40-44	1.00%	0.93%	1.00%
45-49	1.00%	0.61%	0.75%
50-54	0.75%	0.39%	0.50%
55-59	0.75%	0.29%	0.50%
60-64	0.75%	0.25%	0.50%
65-69	0.75%	0.50%	0.50%

Charts 1a and 1b provide a graphical comparison of the actual promotional and merit increases, compared to current and proposed assumptions. Chart 1a shows this information for members with less than five years of service and Chart 1b for members with five or more years of service.

Chart 1a
Promotional and Merit Salary Increase Rates
Less than Five Years of Service

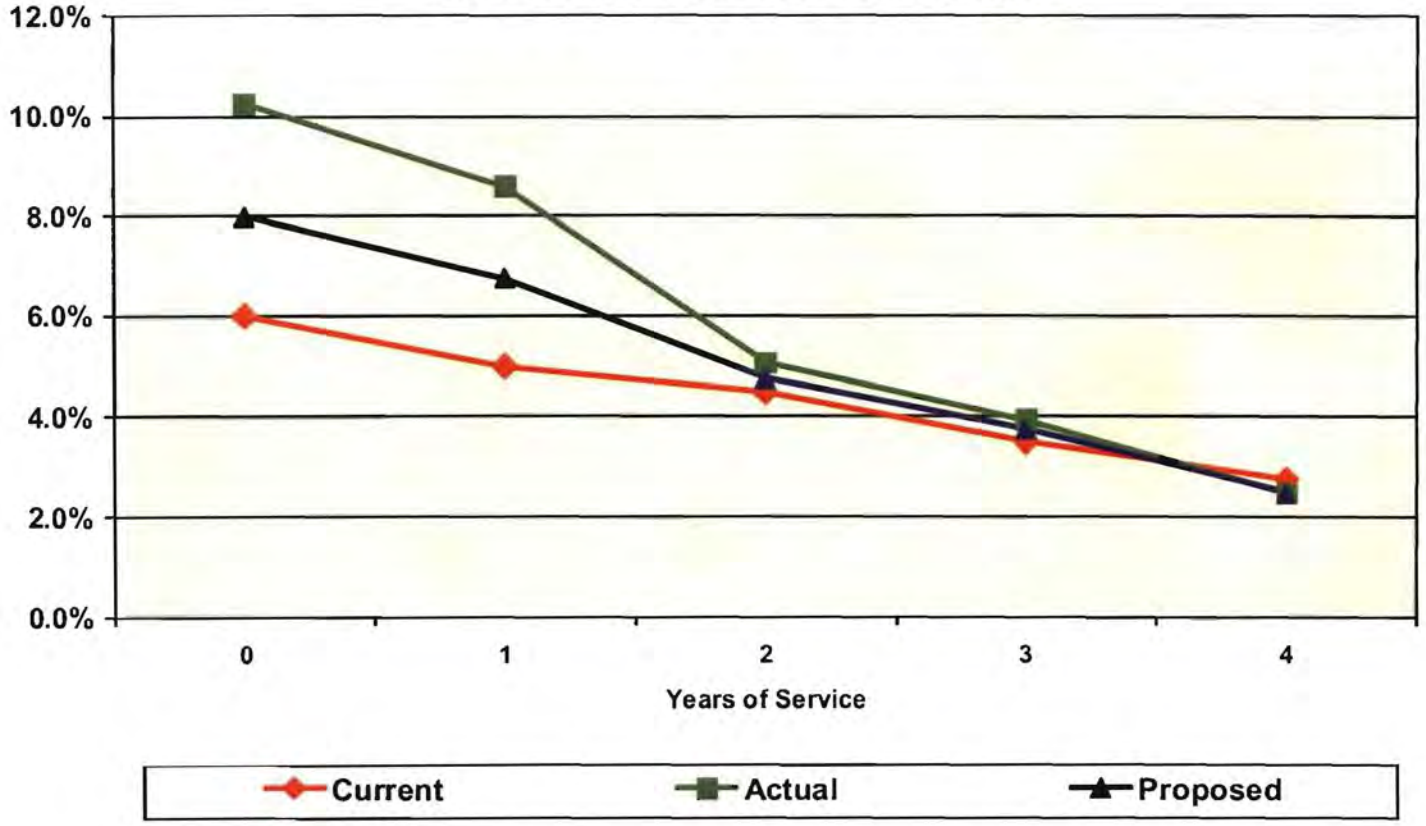
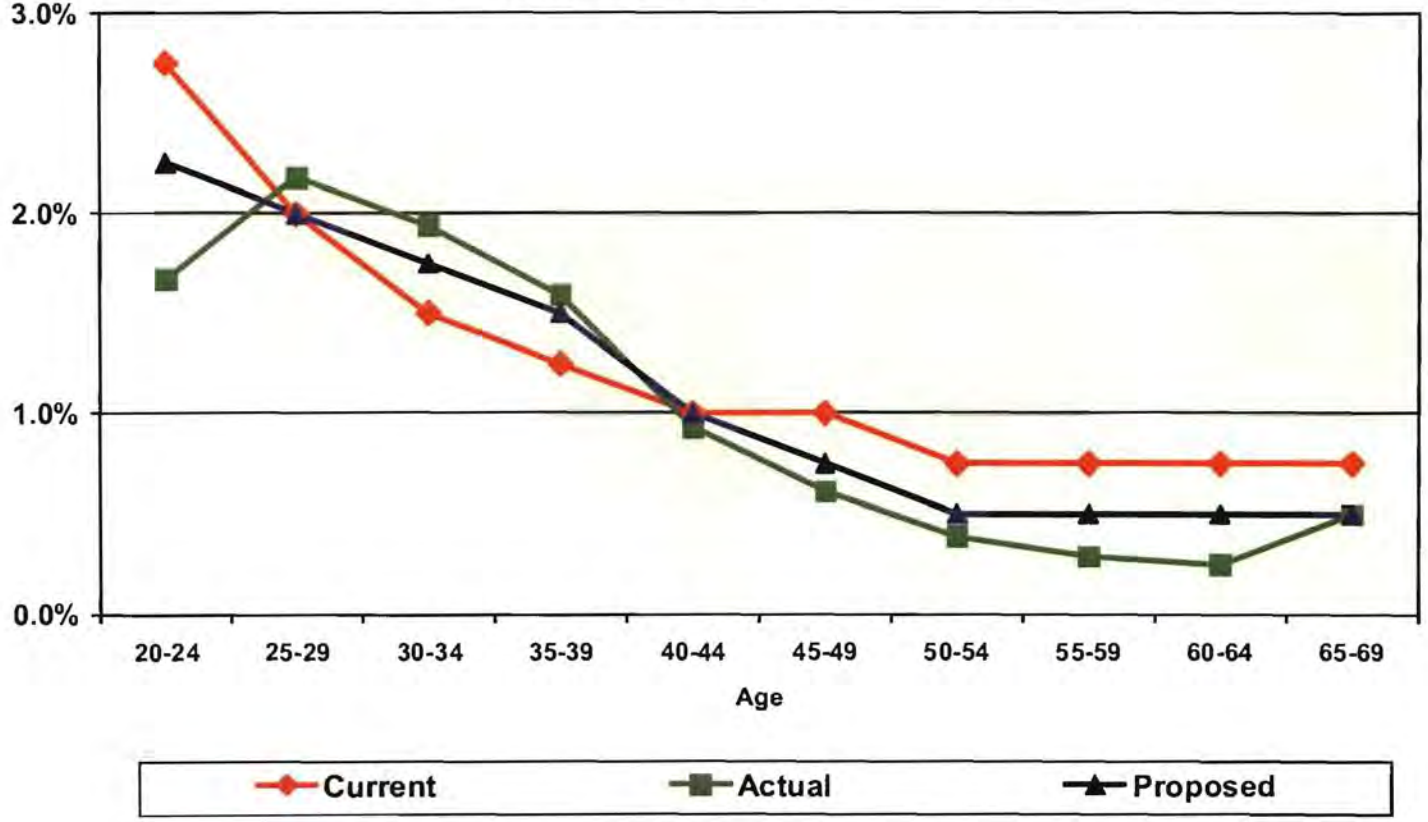


Chart 1b
Promotional and Merit Salary Increase Rates
Five or More Years of Service



Active Member Payroll

Projected active member payrolls are used to develop the UAAL contribution rate. Future values are determined as a product of the number of employees in the workforce and the average pay for all employees. The average pay for all employees increases only by inflation and real across the board pay increases. The promotional and merit increases are not an influence, because this average pay is not specific to an individual.

The active member payroll increase assumption recommended for use in the June 30, 2008 valuation is 4.25% annually, consistent with the combined 3.75% inflation assumption and the 0.50% across the board salary increase assumption.

IV. DEMOGRAPHIC 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.

The following table shows the observed retirement rates based on the actual experience from July 1, 2005 through June 30, 2008. Also shown are the current assumed rates, which are based only on age, plus the rates we propose to the Board that are based both on age and on eligibility for unreduced retirement benefits at age 55 with over 30 years of service:

		Actual Rate of Retirement		Proposed Rate of Retirement	
Age	Current Rate of Retirement	Non-55/30	55/30	Non-55/30	55/30
45-49	0.00%	10.00%	0.00%	0.00%	0.00%
50	10.00%	6.17%	0.00%	10.00%	0.00%
51	5.00%	3.31%	0.00%	5.00%	0.00%
52	5.00%	2.82%	0.00%	5.00%	0.00%
53	5.00%	2.37%	0.00%	5.00%	0.00%
54	5.00%	25.08%	0.00%	15.00%	0.00%
55	10.00%	6.87%	27.60%	10.00%	20.00%
56	11.00%	5.81%	16.96%	10.00%	15.00%
57	12.00%	5.07%	15.47%	10.00%	15.00%
58	13.00%	4.52%	15.25%	10.00%	15.00%
59	14.00%	6.19%	18.61%	10.00%	15.00%
60	15.00%	7.73%	17.23%	10.00%	15.00%
61	16.00%	7.57%	19.43%	10.00%	16.00%
62	17.00%	9.04%	14.67%	10.00%	17.00%
63	18.00%	7.86%	22.94%	10.00%	18.00%
64	19.00%	8.10%	13.14%	10.00%	19.00%
65	20.00%	16.72%	20.51%	15.00%	20.00%
66	20.00%	14.49%	16.88%	15.00%	20.00%
67	20.00%	13.76%	22.86%	15.00%	20.00%
68	20.00%	10.17%	24.59%	15.00%	20.00%
69	20.00%	11.18%	22.00%	15.00%	20.00%
70	100.00%	10.76%	18.13%	100.00%	100.00%

Chart 2 compares actual experience with the current and proposed rates of retirement, for members with less than 30 years of service or less than age 55. Chart 3 compares actual experience with the current and proposed rates of retirement for members with at least 30 years of service and at least age 55.

In prior valuations, inactive vested members were assumed to retire at age 58. The average age at retirement over the prior three years was 56.5. We recommend changing the assumed retirement age for inactive vested participants to age 57.

The System does not currently maintain complete automated data on inactive vested participants who go on to work for a reciprocal system. Without any additional information, we are recommending to maintain the assumption of 10% reciprocity for the June 30, 2008 valuation. We will continue to monitor this assumption in future valuations.

In prior retirement plan valuations, it was assumed that 76% of all active male members and 50% of all active female members would be married or have a domestic partner eligible for the 50% automatic retirement continuance benefit when they retired. According to the 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 marriage assumptions.

Based on observed experience for members who retired during the last three years, we also recommend maintaining the assumption that female spouses are four years younger than their male spouses. Spouses are assumed to be of the opposite sex to the member.

Chart 2
Retirement Rates
"Non-55/30"

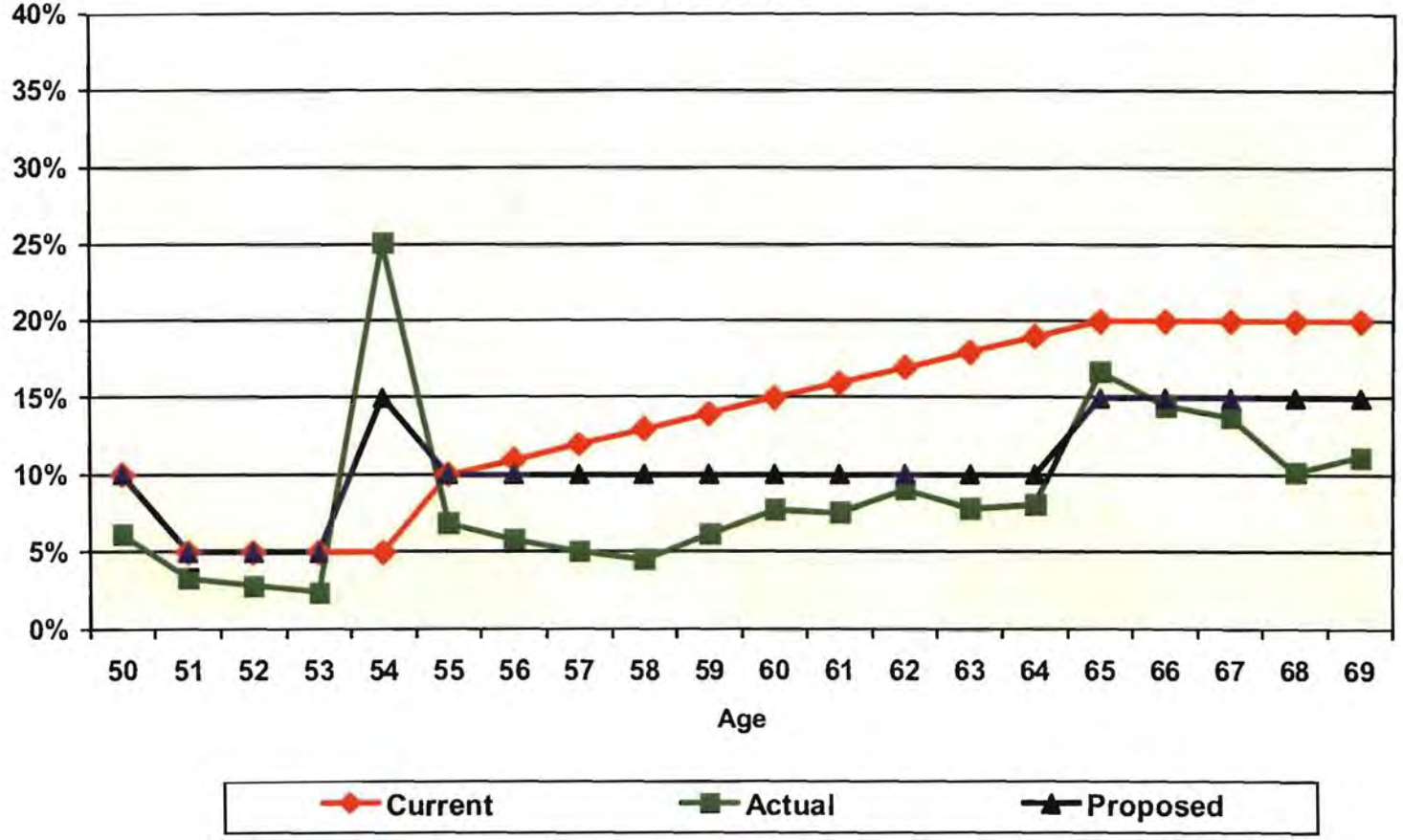
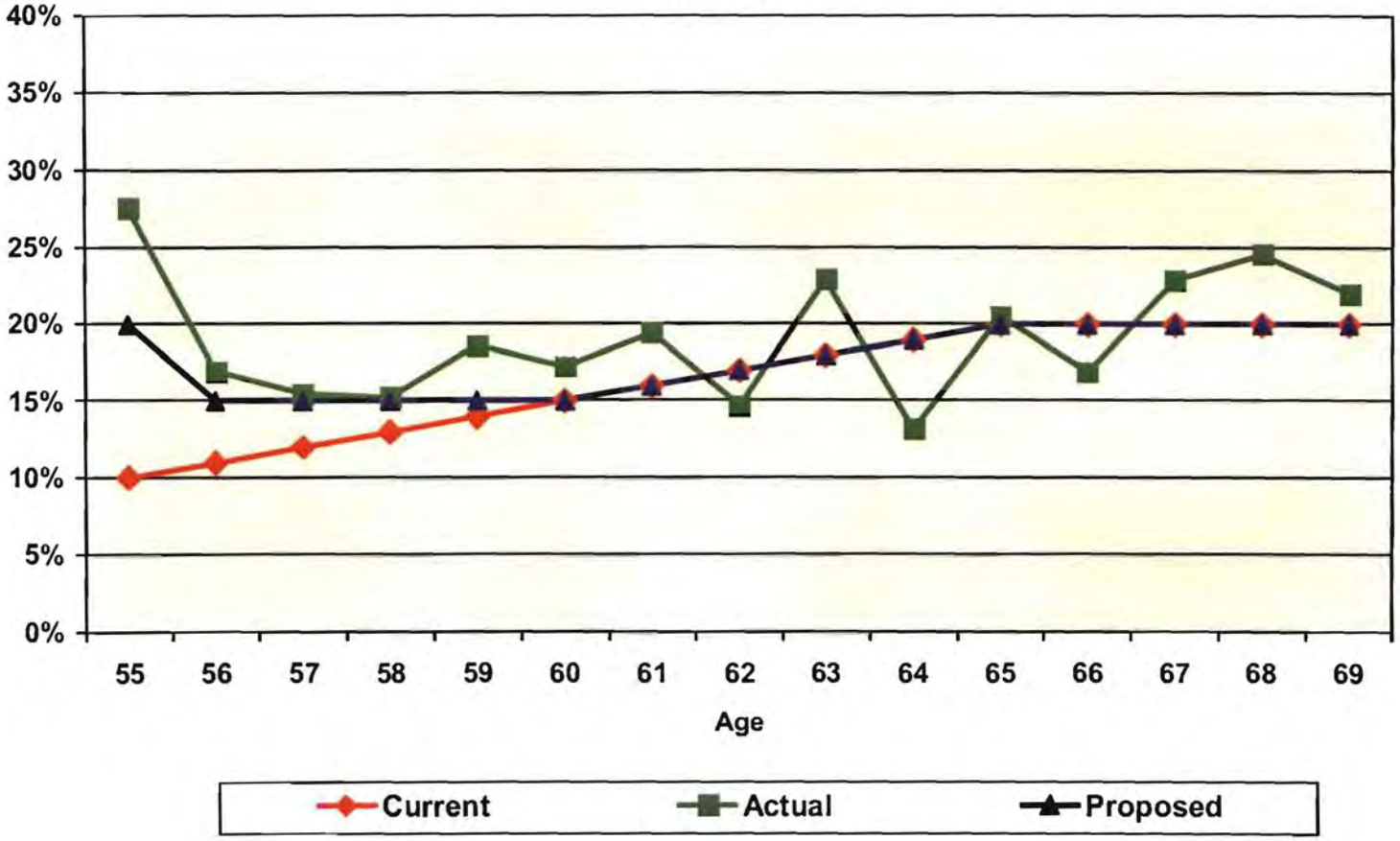


Chart 3
Retirement Rates
"55/30"



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 Tables for Males and Females, each without a setback.

We are recommending a change to the RP-2000 Combined Healthy Mortality Tables for Males and Females, each with a one year setback. We recommend these tables for both retirees and beneficiaries.

Post-service Retirement Mortality

Among healthy 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:

	Healthy Pensioners		
Year Ending June 30,	Expected Deaths - Current Assumptions	Actual Deaths	Expected Deaths - Proposed Assumptions
2006	377	500	366
2007	381	391	370
2008	394	330	383
Total	1,152	1,221	1,119
Actual / Expected	106%		109%

Chart 4 summarizes the above information. Experience shows that there were more deaths than predicted by the current tables primarily as a result of more deaths reported for the year ended in June 30, 2006. The proposed tables provide a margin for future improvements in life expectancy especially for the two other years included in the experience study. We will continue to monitor this assumption.

Chart 5 shows the life expectancies under both the current and proposed tables.

Pre-Retirement Mortality

The number of deaths among active members is not large enough to provide credible statistics to develop a unique table. Therefore, we propose pre-retirement mortality follow the tables used for post-service retirement mortality.

Post-service Retirement Mortality for Determining Actuarial Equivalences

For purposes of determining actuarial equivalences, such as for determining optional forms of benefits, the System is currently using the following mortality tables:

Service Retirement

For Members:	1994 Group Annuity Mortality Table, weighted 60% male and 40% female
For Beneficiaries:	1994 Group Annuity Mortality Table, weighted 40% male and 60% female

Disability Retirement

For Members:	1994 Group Annuity Mortality Table set forward eight years, weighted 60% male and 40% female
For Beneficiaries:	1994 Group Annuity Mortality Table, weighted 40% male and 60% female

Based on a mix of about 59% male and 41% female for the active population as of June 30, 2008, and on the post-retirement mortality tables we are recommending for service retirement and disability retirement (see Section C), we are recommending the following mortality tables be adopted for determining actuarial equivalences:

Service Retirement

For Members:	RP 2000 Combined Healthy Mortality Table set back one year, weighted 60% male and 40% female
For Beneficiaries:	RP 2000 Combined Healthy Mortality Table set back one year, weighted 40% male and 60% female

Disability Retirement

For Members:	RP 2000 Combined Healthy Mortality Table set forward seven years, weighted 60% male and 40% female
For Beneficiaries:	RP 2000 Combined Healthy Mortality Table set back one year, weighted 40% male and 60% female

Chart 4
Post-Retirement Deaths
Healthy/Non-disabled Pensioners

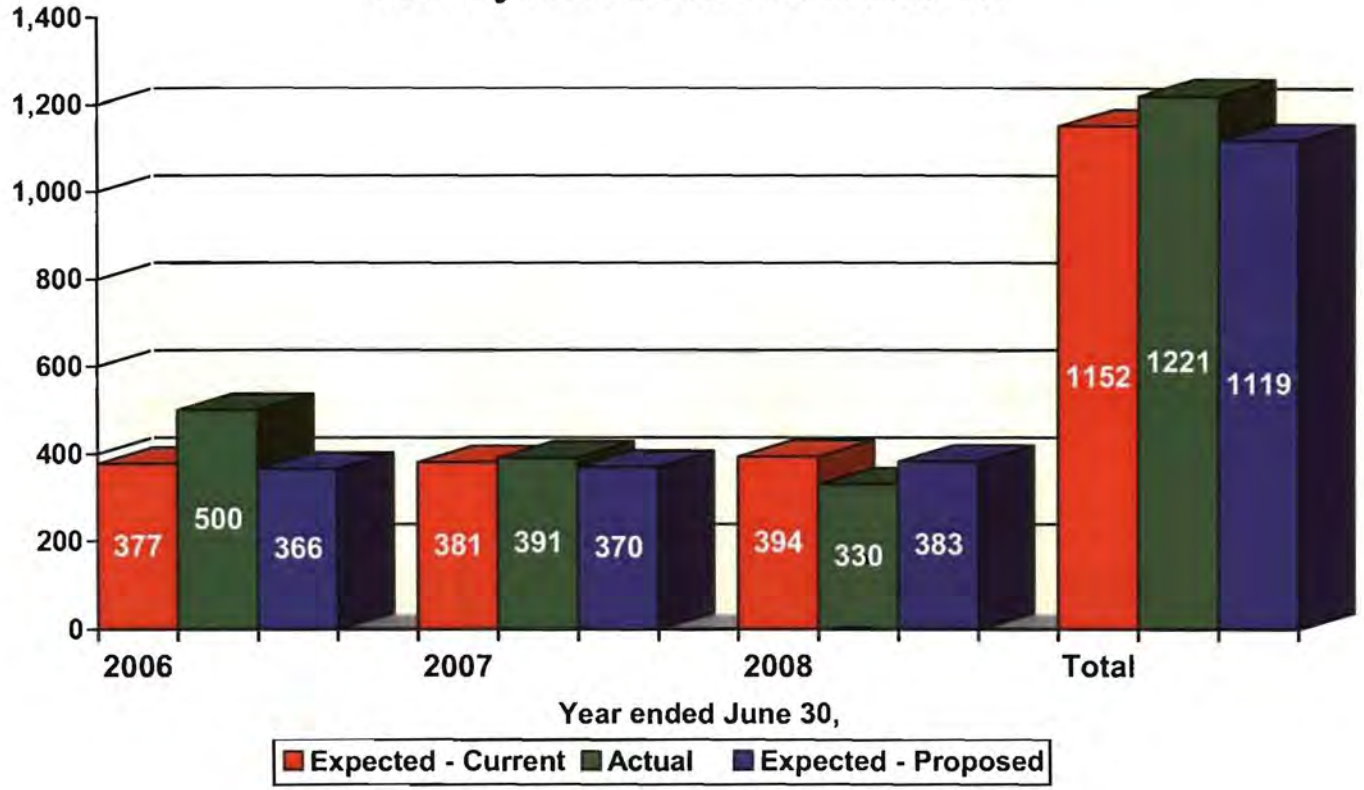
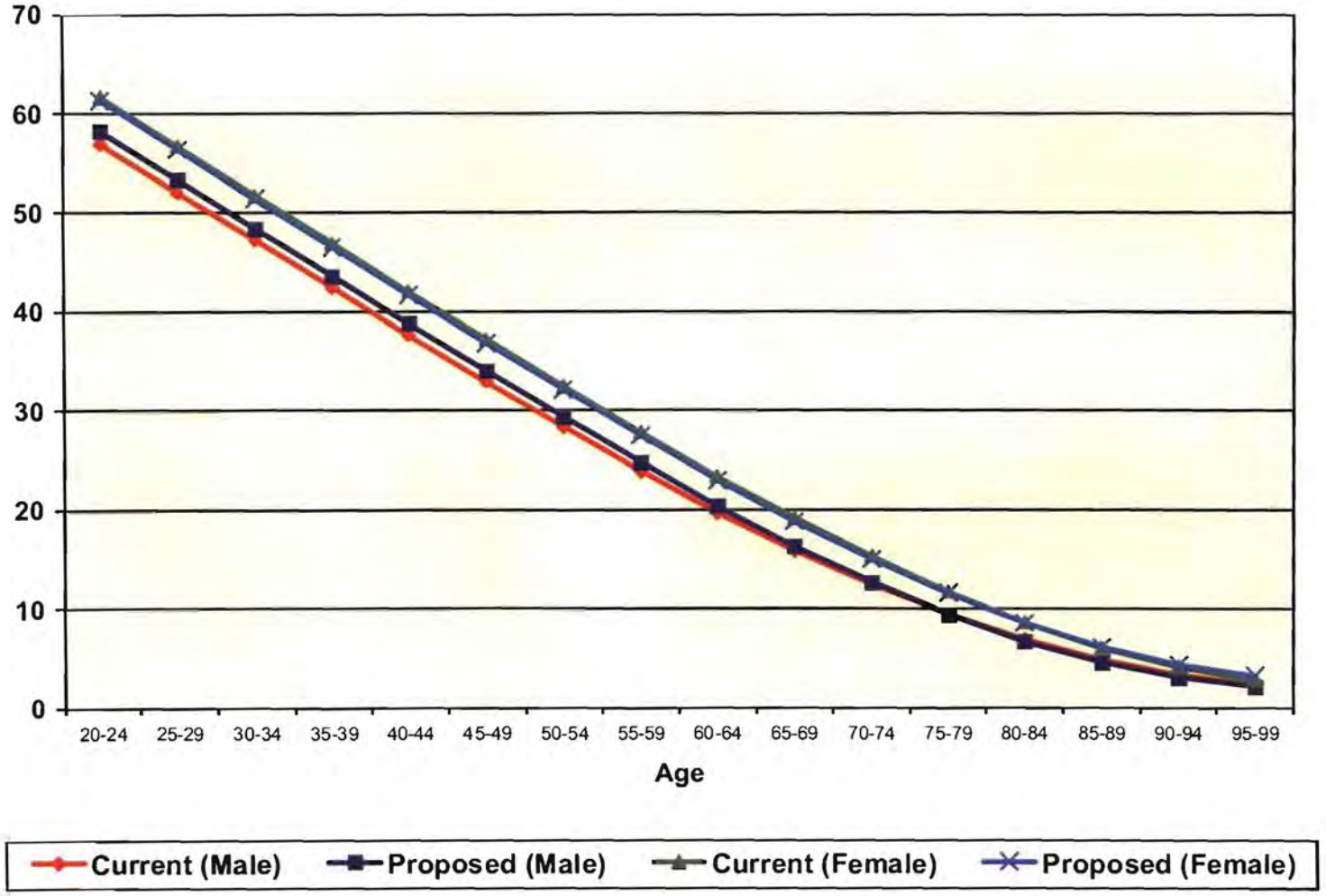


Chart 5
Life Expectancies (Healthy Pensioners)



C. MORTALITY RATES - DISABLED

Since death rates for disabled members can be higher than for healthy members, a different mortality assumption is often used. The tables currently being used are the 1994 Group Annuity Mortality Tables for Males and Females, each set forward eight years.

We are recommending a change to the RP-2000 Combine Healthy Mortality Tables for Males and Females, each set forward seven years.

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

	Disabled Pensioners		
Year Ending June 30,	Expected Deaths - Current Assumptions	Actual Deaths	Expected Deaths - Proposed Assumptions
2006	28	32	27
2007	28	21	28
2008	30	28	29
Total	86	81	84
Actual / Expected	94%		96%

Experience shows that there were fewer deaths than predicted by the current tables. Even though the proposed disability tables are projecting more deaths than the actual experience, we believe the proposed healthy and disability tables in the aggregate should provide a margin for future improvement in life expectancy. We will continue to monitor this assumption. Chart 6 compares actual to expected deaths under both the current and proposed assumptions for disabled members over the last three years.

Please note that there may be some evidence to indicate that the mortality experience of disabled retirees has improved after they have been retired for a long period of time; however, we do not believe the improvement in mortality is material enough to justify a separate mortality table to anticipate such future improvement in our valuation.

Chart 7 shows the life expectancies under both the current and proposed tables.

Chart 6
Post - Retirement Deaths
Disabled Members

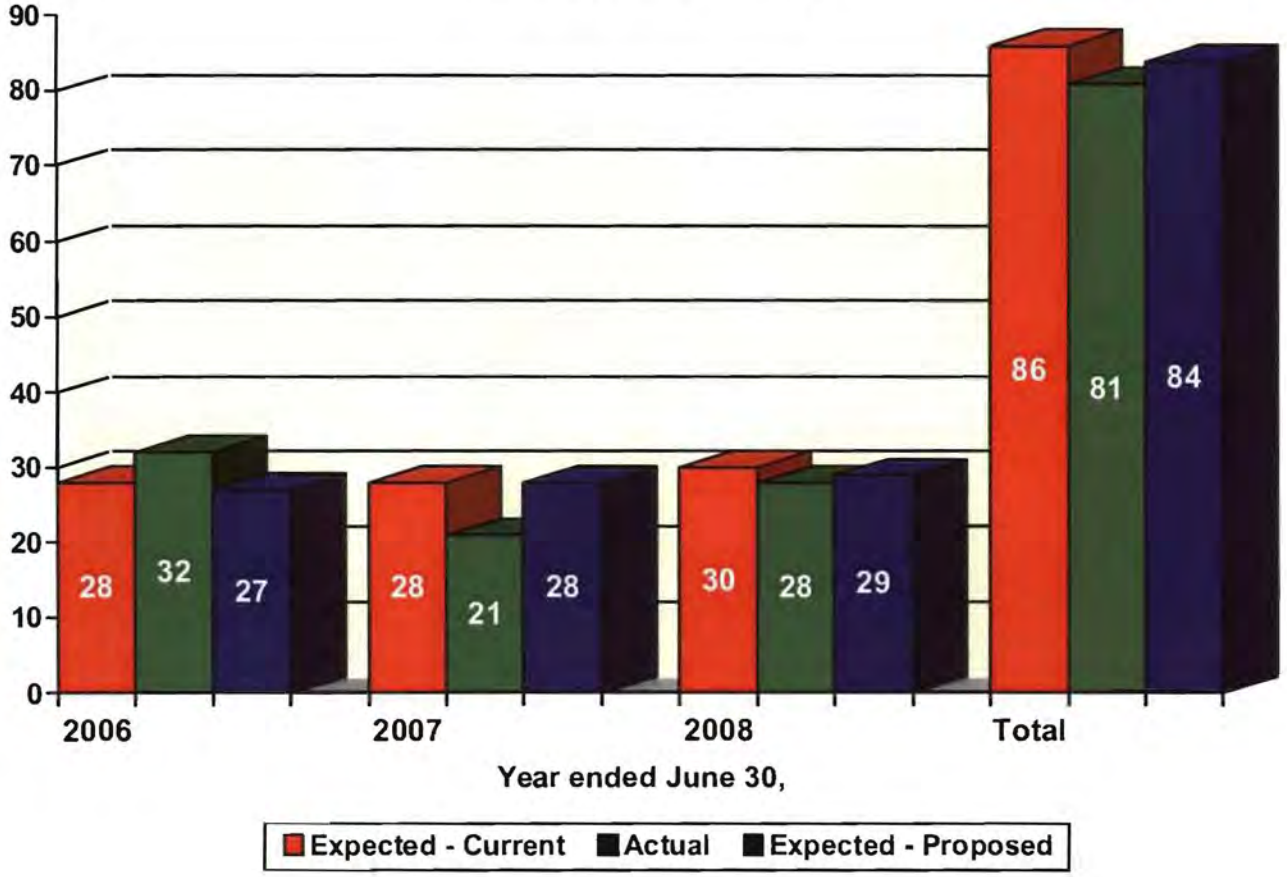
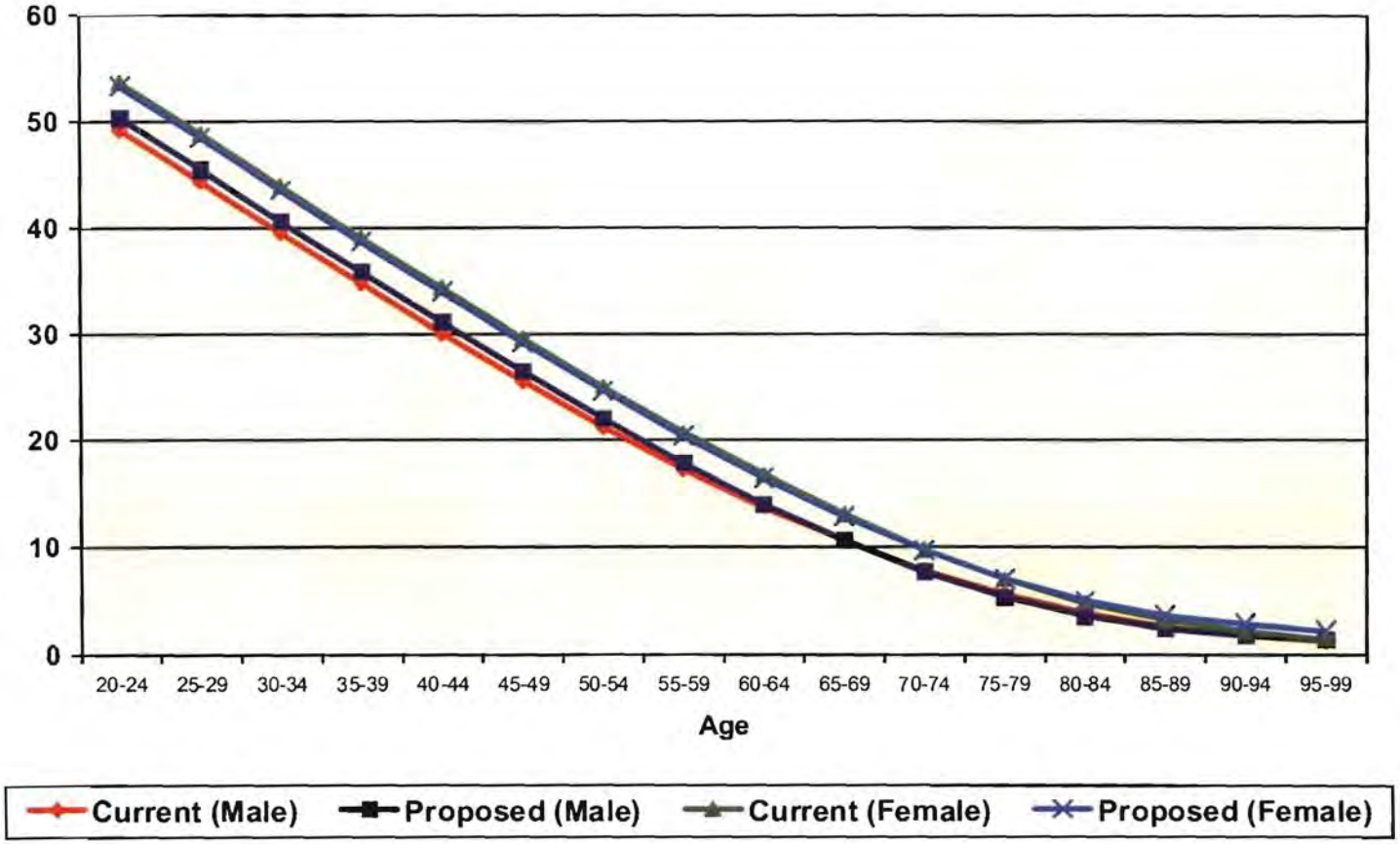


Chart 7
Life Expectancies (Disabled Pensioners)



D. TERMINATION RATES

Termination rates include all terminations for reasons other than death, disability, or retirement. Under the current assumptions, all members who terminate with less the five years of service are assumed to receive a refund of contributions. For members who terminate with over five years of service, the member is assumed to choose between a refund of contributions or a deferred vested benefit, whichever option is more valuable. The termination experience over the last three years between those members with under five years of service and those with five or more years of service is as follows:

Rates of Termination
(Under Five Years of Service)

Years of Service	Current Assumption	Actual Rate	Proposed Assumption
0	8.75%	11.22%	9.75%
1	7.00%	8.96%	8.00%
2	5.75%	7.15%	6.25%
3	5.25%	6.19%	5.50%
4	4.75%	4.99%	4.75%

Rates of Termination
(Five or More Years of Service)

Age	Current Assumption	Actual Rate	Proposed Assumption
20 – 24	4.75%	7.69%	4.75%
25 – 29	4.25%	6.45%	4.75%
30 – 34	3.50%	5.17%	4.75%
35 – 39	2.75%	3.97%	3.50%
40 – 44	2.25%	2.52%	2.40%
45 – 49	2.00%	1.67%	1.75%
50 – 54	1.50%	1.88%	1.50%
55 – 59	1.25%	1.70%	1.25%
60 – 64	1.25%	1.46%	1.25%
65 - 69	0.00%	0.93%	0.00%

Chart 8 compares actual to expected terminations of the past three years for both the current and proposed assumptions.

Chart 9 shows the current and proposed termination rates for members with less than five years of service.

Chart 10 shows the current and proposed termination rates for members with five or more years of service.

Based upon the recent experience, the proposed termination rates have been increased at most services and ages. We continue to assume that members who terminate with over five years of service will choose between a refund of contributions or a deferred vested benefit, whichever is more valuable. We also continue to assume that all termination rates are zero for all members eligible to retire, that is, members eligible to retire at termination will retire rather than defer their benefit.

Chart 8
Actual Number of Terminations Compared to Expected

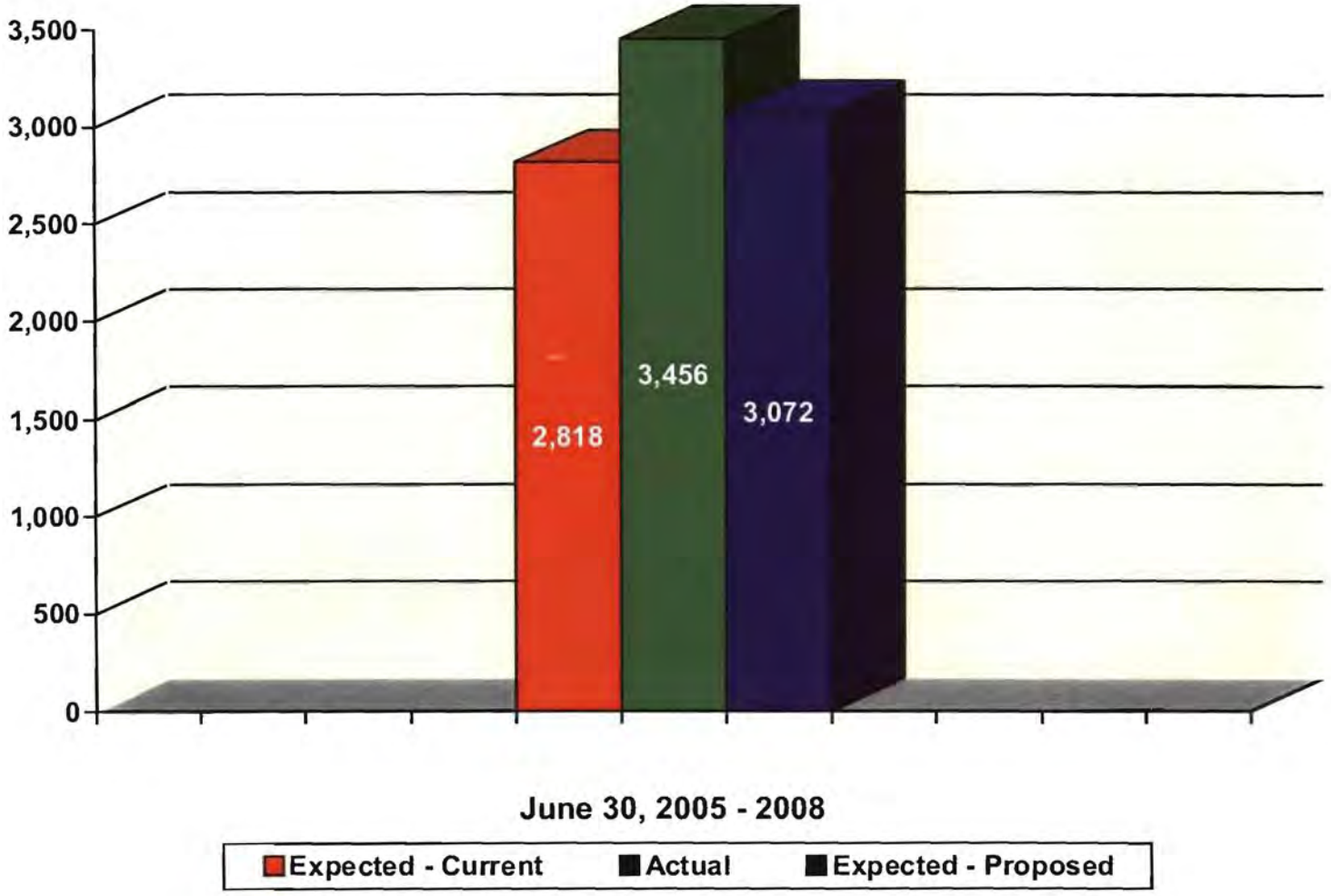


Chart 9
Termination Rates
(Under Five Years of Service)

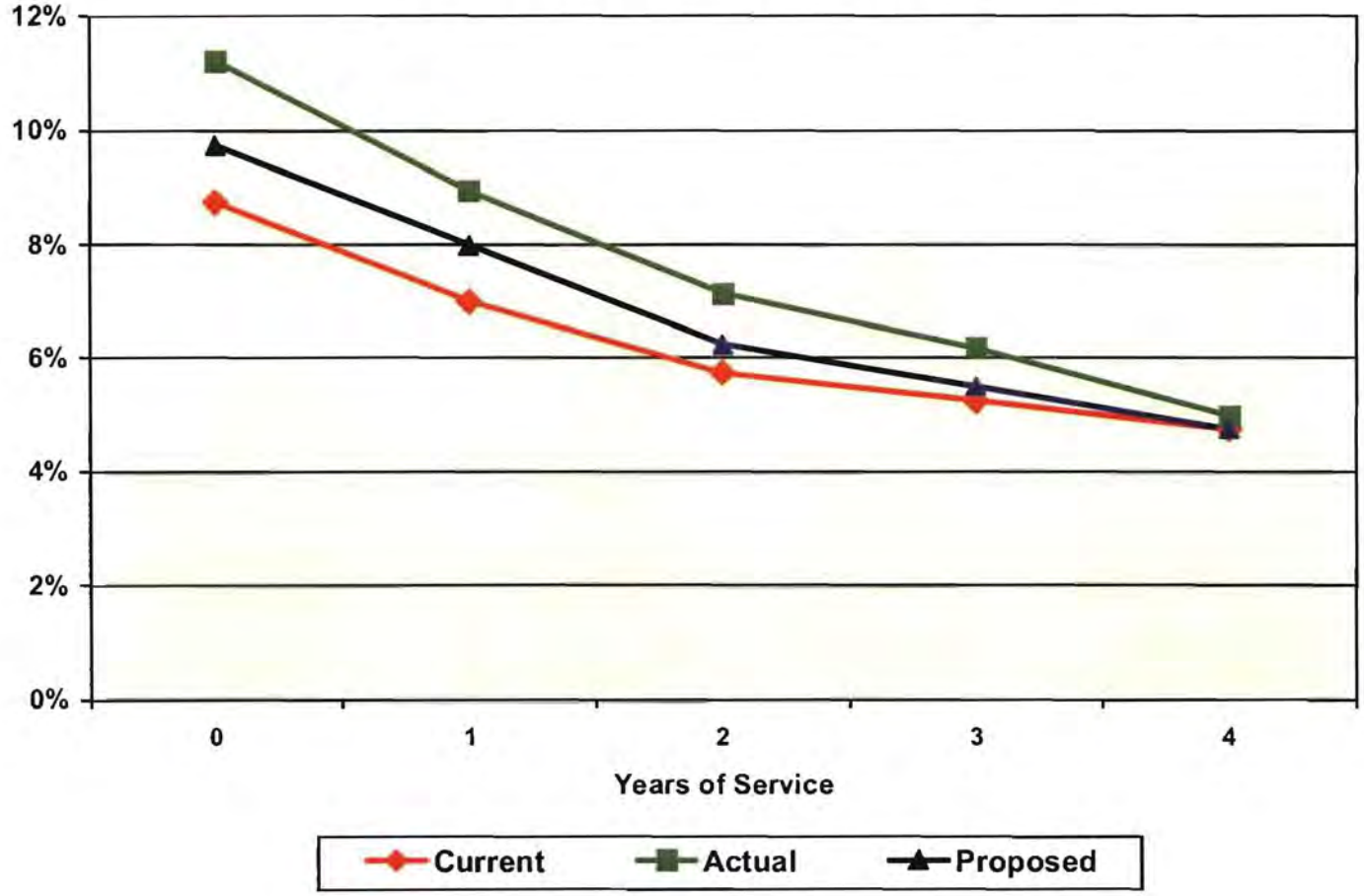
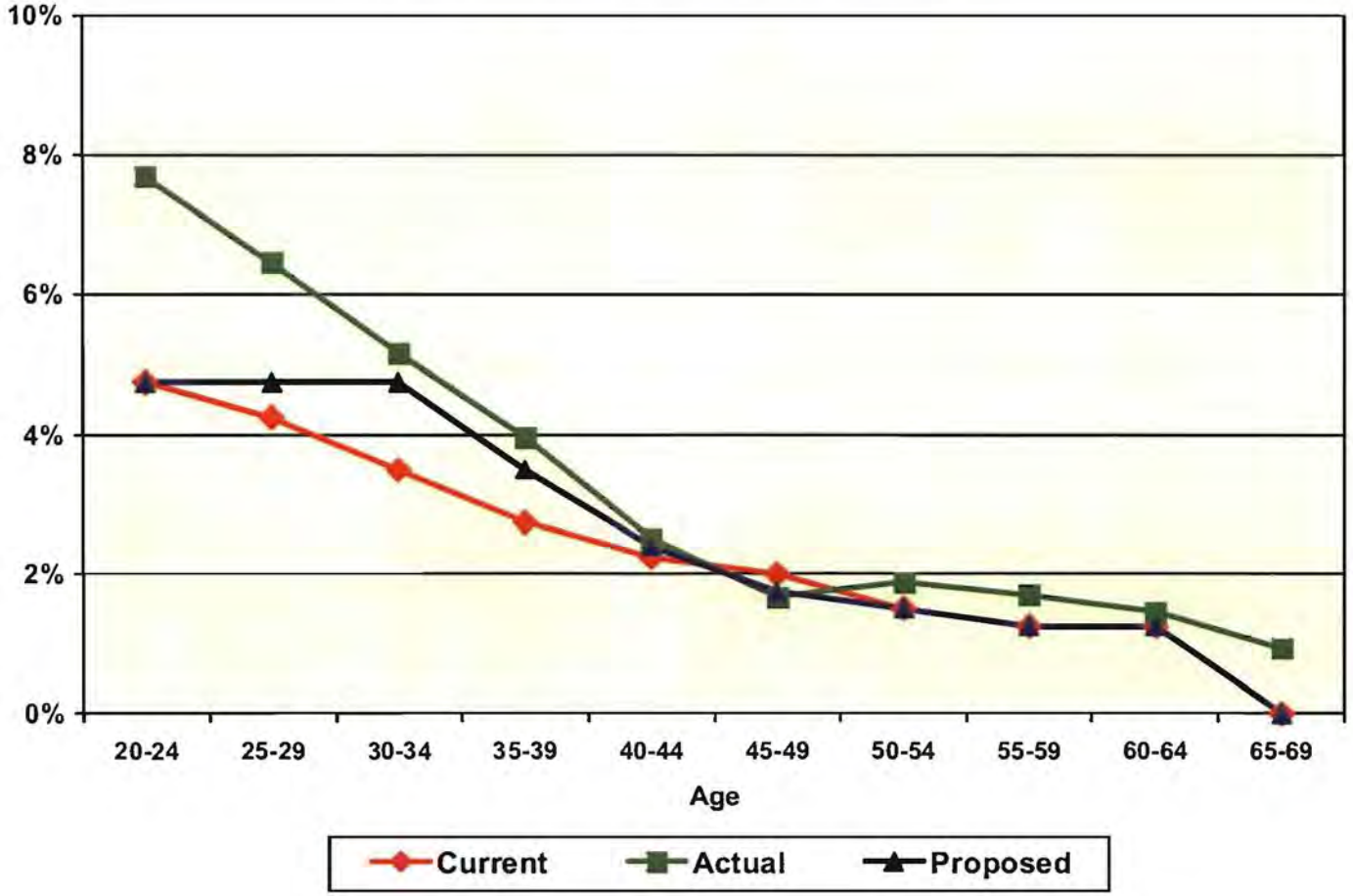


Chart 10
Termination Rates
(5 or More Years of Service)



E. DISABILITY INCIDENCE RATES

When a member becomes disabled, he or she is generally entitled to a monthly benefit equal to 1/3 of their final average monthly compensation. The following summarizes the actual incidence of disabilities over the past three years compared to the current and proposed assumptions:

Rates Disability Incidence

Age	Current Assumption	Actual Rate	Proposed Assumption
20 – 24	0.00%	0.00%	0.00%
25 – 29	0.01%	0.00%	0.01%
30 – 34	0.06%	0.03%	0.05%
35 – 39	0.15%	0.02%	0.08%
40 – 44	0.20%	0.17%	0.19%
45 – 49	0.22%	0.27%	0.24%
50 – 54	0.25%	0.31%	0.28%
55 – 59	0.22%	0.21%	0.22%
60 – 64	0.00%	0.32%	0.22%
65 – 69	0.00%	0.65%	0.22%

Chart 11 compares the actual number of 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 12 shows actual disablement rates, compared to the assumed and proposed rates for all members.

Chart 11
Actual Number of Disabilities Compared to Expected

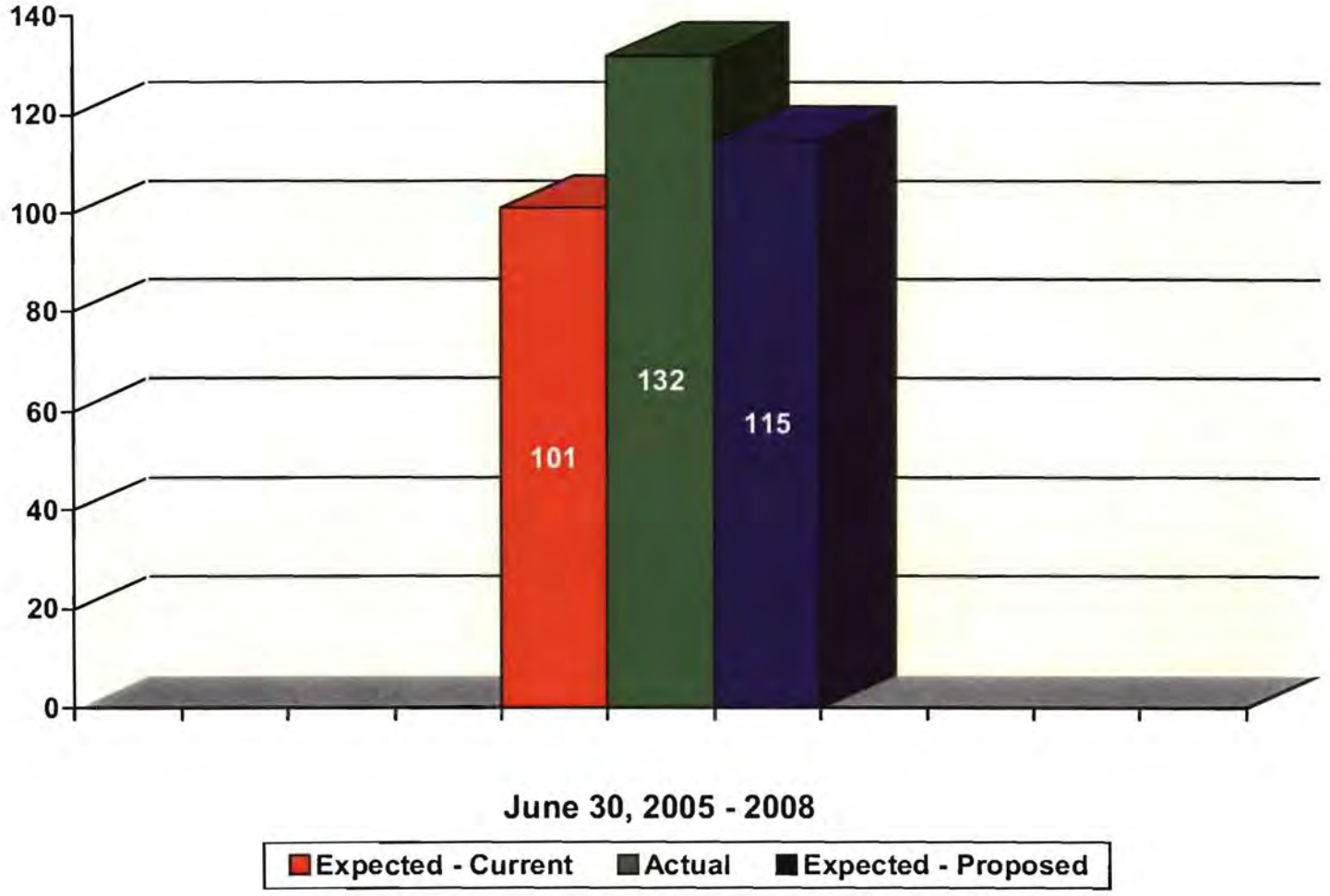
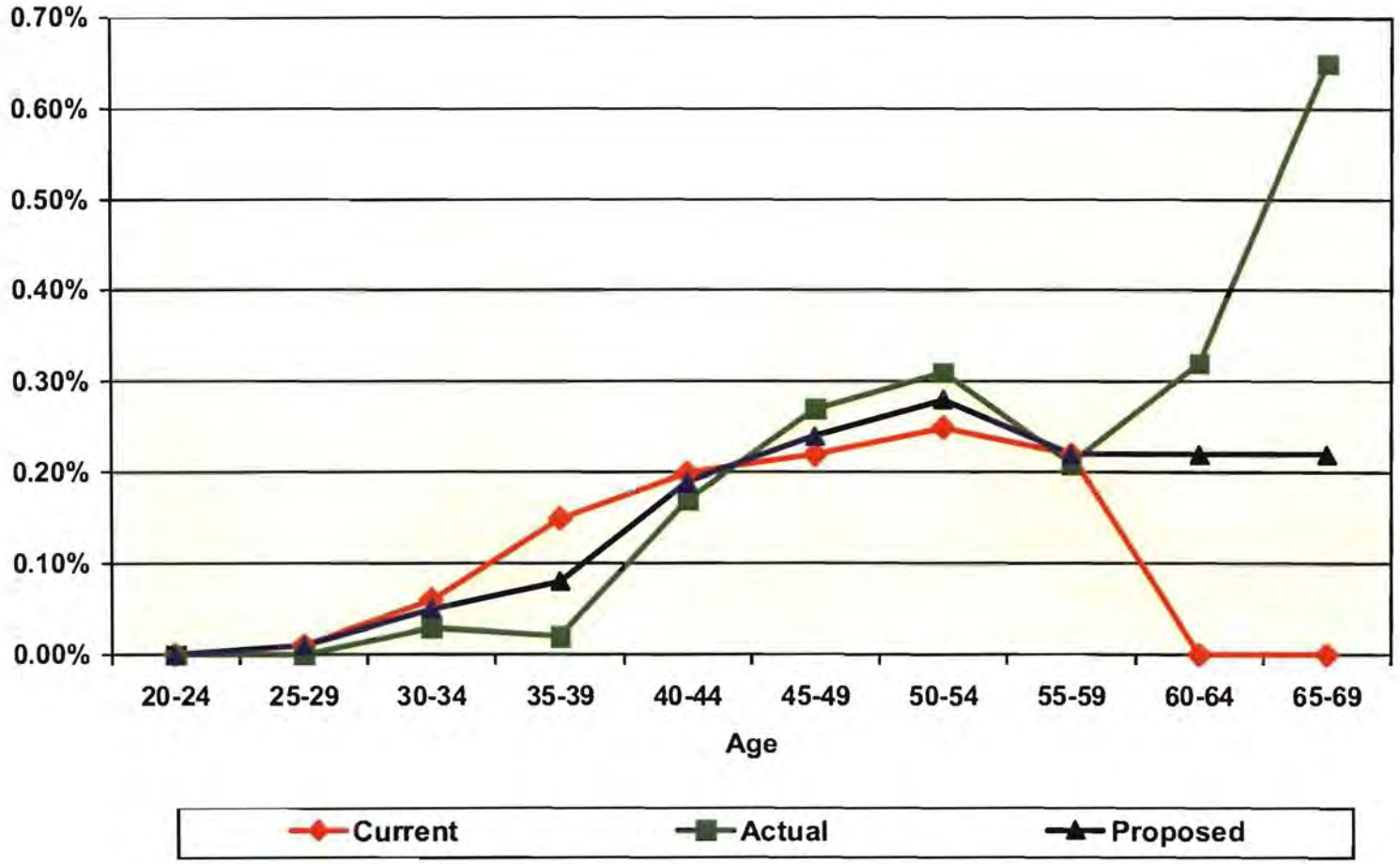


Chart 12
Disablement Rates



V. COST IMPACT

After all of the proposed assumption changes are implemented, the Retirement Plan's normal cost decreased by $335,375 and the actuarial accrued liability increased by $25,605,618. For the Health Plan, the normal cost decreased by $582,990 and the actuarial accrued liability increased by $8,859,094. These liabilities were determined as of June 30, 2008, using the June 30, 2008 valuation data. The following tables show the change in the liability by member status and separately by Plan.

RETIREMENT PLAN

	Change in Plan Liabilities, as of June 30, 2008		
	Current Assumptions	Proposed Assumptions	Increase/(Decrease)
Total normal cost	$312,084,595	$311,749,220	$(335,375)
Expected member contribution	125,667,345	125,667,345	0
Net employer normal cost	$186,417,250	$186,081,875	$(335,375)
Actuarial accrued liability			
Active members	$5,430,062,953	$5,445,417,850	$15,354,897
Terminated vested members	171,595,674	183,168,779	11,573,105
Retired members	5,559,139,496	5,557,817,112	(1,322,384)
Total	$11,160,798,123	$11,186,403,741	$25,605,618

HEALTH PLAN

	Change in Plan Liabilities, as of June 30, 2008		
	Current Assumptions	Proposed Assumptions	Increase/(Decrease)
Total normal cost	$71,723,035	$71,140,045	$(582,990)
Expected member contribution	0	0	0
Net employer normal cost	$71,723,035	$71,140,045	$(582,990)
Actuarial accrued liability			
Active members	$1,046,467,053	$1,052,137,552	$5,670,499
Terminated vested members	24,205,026	25,933,079	1,728,053
Retired members	848,511,728	849,972,270	1,460,542
Total	$1,919,183,807	$1,928,042,901	$8,859,094

Chart 13 details the change in the cost due to the proposed assumption changes. The plan costs are shown with the increase in actuarial accrued liability being amortized as a percentage of pay over 30 years for the Retirement Plan and over 27 years for the Health Plan.

The cost changes for the Retirement Plan were due mainly to the recommended changes in the across the board salary increase assumption offset somewhat by the reduction in the promotional and merit salary increase assumptions.

As shown on Chart 13, the total percent of pay cost decrease based on the amortization periods mentioned above is approximately 0.10% for the Retirement Plan and 0.05% for the Health Plan. This includes the effect of a decrease in the rates due to a re-amortization of the June 30, 2007 amortization bases resulting from the recommended change in the across the board salary increase assumption.

The expected payroll for Plan Year beginning June 30, 2008 is $1,977,644,000.

CHART 13

COST IMPACT OF ASSUMPTION CHANGES

RETIREMENT PLAN

	Change in Plan Costs, 30-Year Amortization	
	% of pay, beginning of year	% of pay, middle of year
Decrease in employer normal cost	(0.02)%	(0.02)%
Decrease in UAAL*	(0.08)%	(0.08)%
Total decrease in employer costs	(0.10)%	(0.10)%

HEALTH PLAN

	Change in Plan Costs, 27-Year Amortization	
	% of pay, beginning of year	% of pay, middle of year
Decrease in employer normal cost	(0.03)%	(0.03)%
Decrease in UAAL*	(0.02)%	(0.02)%
Total decrease in employer costs	(0.05)%	(0.05)%

* Due to the recommended change in the across the board salary increase assumption, the outstanding amortization bases as of 6/30/2007 are being re-amortized over a larger projected payroll base in the future. This causes a decrease in the UAAL contribution rate, which is expressed as a percentage of pay. This decrease is partially offset by the increase in the UAAL rate resulting from all other proposed changes in actuarial assumptions.

APPENDIX A

CURRENT ACTUARIAL ASSUMPTIONS

Post-Retirement Mortality Rates:

Healthy: 1994 Group Annuity Mortality Table.
Disabled: 1994 Group Annuity Mortality Table, set forward 8 years.

Termination Rates Before Retirement:

Pre-Retirement Mortality: 1994 Group Annuity Mortality Table.

	Rate (%)	
Age	Disability	Termination *
25	0.01	4.45
30	0.04	3.80
35	0.11	3.05
40	0.18	2.45
45	0.21	2.10
50	0.24	1.70
55	0.23	1.35
60	0.00	1.25

** Termination rates are zero for members eligible to retire.*

Rates of Termination for members with less than 5 years of service are as follows:

	Rate (%)
Service	Termination (Based on Service)
0	8.75
1	7.00
2	5.75
3	5.25
4	4.75

CURRENT ACTUARIAL ASSUMPTIONS

(continued)

Retirement Rates:

Age	Retirement Probability
50	10%
51	5
52	5
53	5
54	5
55	10
56	11
57	12
58	13
59	14
60	15
61	16
62	17
63	18
64	19
65	20
66	20
67	20
68	20
69	20
70	100

Retirement Age and Benefit for Inactive Vested Members: Assume pension benefit will be paid at the later of age 58 or the current attained age.

Exclusion of Inactive Vesteds: All inactive participants are included in the valuation.

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/Domestic Partner: 76% of male members; 50% of female members.

Age of Spouse: Females are 4 years younger than their spouses.

Future Benefit Accruals: 1.0 year of service per year.

Other Reciprocal Service: 10% of future inactive vested members will work at a reciprocal system.

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

Employee Contribution and Matching Account Crediting Rate: 6.50%

Net Investment Return: 8.00%

CURRENT ACTUARIAL ASSUMPTIONS

(continued)

Salary Increases:

According to the following schedules:

For members with under 5 years of service,

Service	Percentage Increase*
0	6.00%
1	5.00%
2	4.50%
3	3.50%
4	2.75%

For members with over 5 years of service,

Age	Percentage Increase*
20 – 24	2.75%
25 – 29	2.00%
30 – 34	1.50%
35 – 39	1.25%
40 – 44	1.00%
45 – 49	1.00%
50 – 69	0.75%

* *Before including a 3.75% inflation increase and a 0.25% across the board increase.*

APPENDIX B

PROPOSED ACTUARIAL ASSUMPTIONS

Post-Retirement Mortality Rates:

Healthy: RP-2000 Combined Healthy Mortality Table, set back one year.
Disabled: RP-2000 Combined Healthy Mortality Table, set forward 7 years.

Termination Rates Before Retirement:

Pre-Retirement Mortality: RP-2000 Combined Healthy Mortality Table, set back one year.

	Rate (%)	
Age	Disability	Termination*
25	0.01	4.75
30	0.03	4.75
35	0.07	4.00
40	0.15	2.84
45	0.22	2.01
50	0.26	1.60
55	0.24	1.35
60	0.22	1.25

* *Termination rates are zero for members eligible to retire.*

Rates of Termination for members with less than 5 years of service are as follows:

	Rate (%)
Service	Termination (Based on Service)
0	9.75
1	8.00
2	6.25
3	5.50
4	4.75

PROPOSED ACTUARIAL ASSUMPTIONS
(continued)

Retirement Rates:

Age	Retirement Probability	
	Non-55/30	55/30
50	10%	0%
51	5	0
52	5	0
53	5	0
54	15	0
55	10	20
56	10	15
57	10	15
58	10	15
59	10	15
60	10	15
61	10	16
62	10	17
63	10	18
64	10	19
65	15	20
66	15	20
67	15	20
68	15	20
69	15	20
70	100	100

Retirement Age and Benefit for Inactive Vested Members: Assume pension benefit will be paid at the later of age 57 or the current attained age.

Exclusion of Inactive Vesteds: All inactive participants are included in the valuation.

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/Domestic Partner: 76% of male members; 50% of female members.

Age of Spouse: Females are 4 years younger than their spouses.

Future Benefit Accruals: 1.0 year of service per year.

Other Reciprocal Service: 10% of future inactive vested members will work at a reciprocal system.

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

Employee Contribution and Matching Account Crediting Rate: 6.50%

Net Investment Return: 8.00%

PROPOSED ACTUARIAL ASSUMPTIONS

(continued)

Salary Increases: According to the following schedules:

For members with under 5 years of service,

Service	Percentage Increase*
0	8.00%
1	6.75%
2	4.75%
3	3.75%
4	2.50%

For members with over 5 years of service,

Age	Percentage Increase*
20 – 24	2.25%
25 – 29	2.00%
30 – 34	1.75%
35 – 39	1.50%
40 – 44	1.00%
45 – 49	0.75%
50 – 54	0.50%
55 – 69	0.50%

* *Before including a 3.75% inflation increase and a 0.50% across the board increase.*