Public Pension
Professionals, Inc.

San Mateo County Employees' Retirement Association

Analysis of Plan Experience for the period from July 1, 2000 through June 30, 2005

August 16, 2005

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Section
1 Overview

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

A. Study Objectives

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

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

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

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

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

B. Recommended Changes

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

Economic Assumptions

- **Inflation Assumption**: We are recommending an inflation assumption of 3.75%, which is a reduction from the 4.0% previously assumed. This is in line with the interest assumption and current expectations.
- **Rate of Return Assumption**: We recommend that the nominal assumed rate of return on investments be reduced from 8.00% annually to 7.61% in order to remain consistent with the inflation assumption and reflect the Plan's asset allocation. We also recommend that the rate be compounded on a semi-annual basis to be consistent with the required interest crediting practice. This would create an effective rate of return assumption of 7.75%.
- **Salary Increases**: We are recommending a change in the salary increase assumption to rates based on service to better match the current compensation practices employed by the County.

Demographic Assumptions

- **Terminations**: This is the probability of leaving employment and receiving a refund of contributions or a deferred retirement benefit. We recommend increasing the previous rates slightly to reflect plan experience. We also recommend changes to the allocation of projected terminations between those members expected to withdraw their contributions with interest and those expected to take a deferred vested benefit.

- **Disability**: This is the probability of becoming disabled during the year. We recommend adjusting the incidence of disabilities at various ages for General Members to reflect plan experience and the distribution between service and non-service connected disability rates. For Safety Members, we assume all future disabilities are service-connected. For General Members, we assume that 60% of future disabilities will be service-connected.

- **Retirement**: This is the probability that a member will leave employment and immediately begin to receive a monthly pension benefit. We recommend a slight increase in the retirement rates for General Tier 3 Members to better match experience. We recommend keeping the other rates as adopted in prior valuations.

- **Mortality**: This is the probability that a member will die during the year. We split the assumption between those who are currently working and those that are receiving retirement benefits or entitled to future benefits.

- *Post-retirement mortality*: For valuation purposes, we recommend a change to a newer mortality table (RP-2000) reflecting the impact of the type of work performed by an individual during that person's career on post-retirement life expectancy.

- *Pre-retirement mortality*: For service-connected mortality, we recommend a change in the rate of service connected deaths to 0.1% per year for Safety Members and to 0% for General Members. For non-service connected mortality, we recommend using the same mortality table (RP-2000) as for post-retirement mortality.

- **Spouse Information**: SamCERA provides a continuance benefit to the spouse of a retiree. To value that benefit, we make assumptions regarding the likelihood that a member will be married at retirement and the age of his or her spouse.

  - *Percent Married*: We recommend making a slight reduction in the percentage of retiring members assumed to be married to reflect experience.

  - *Age Difference*: We recommend retaining the current assumption of a three year age difference between a member and his or her spouse.

C. Report Structure

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

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

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

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

The Prior Assumption section of the report contains a description of the assumptions used in the June 30, 2004 actuarial valuation.

The Proposed Assumption section of the report contains a description of our proposed assumptions. If adopted by the SamCERA Board, we will use these assumptions in the preparation of the June 30, 2005 actuarial valuation.

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

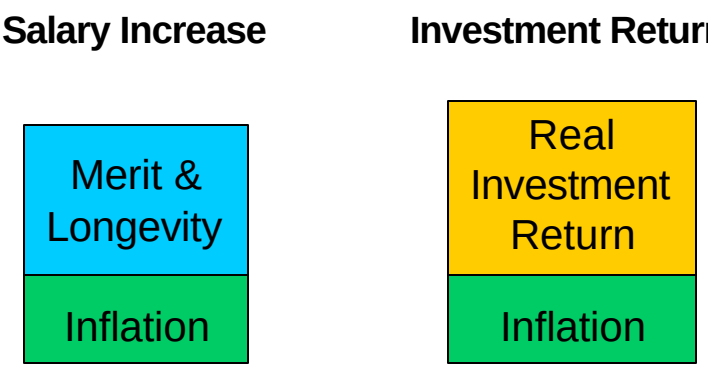
Section 2

Economic Assumptions

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

A. Inflation

Inflation is the rate of change in the cost of items over time. The rate of inflation is an underlying component of the salary increases provided to employees, and also of the investment return achieved by plan investments.

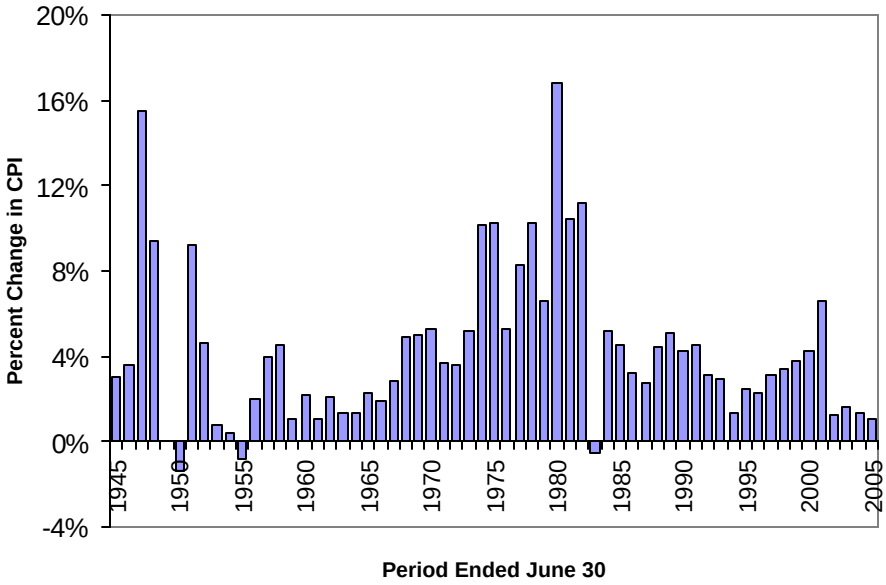


Methodology and Results

An actuarial valuation is a study of the benefits that are expected to be paid to all people who are currently members of SamCERA. As such, it is a long-term study. All of the assumptions used in the actuarial valuation are long-term in nature. For some, we can use recent experience as a guide. Others, like inflation, tend to fluctuate significantly over the short-term. Graph 1 below shows annual rates of inflation for the 12-month periods ended June 30 for each of the past 60 years based on the Annual Average Consumer Price Index for All Urban Consumers (CPI-U) for the San Francisco-Oakland-San Jose area (Base Period: 1982-84=100).

Graph 1

Annual Rates of Inflation

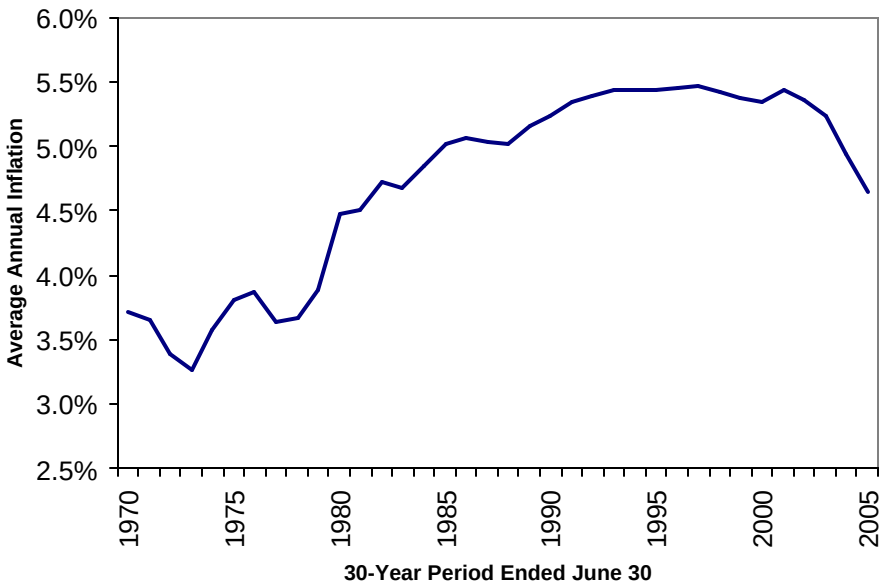


To eliminate short-term fluctuations while recognizing long-term trends, we studied average inflation rates over 30-year periods.

First, we looked at average inflation rates from the 30-year period ending June 30, 1970 to the 30-year period ending June 30, 2005. These average rates are shown in the Graph 2 below.

Graph 2

Average Inflation Rate

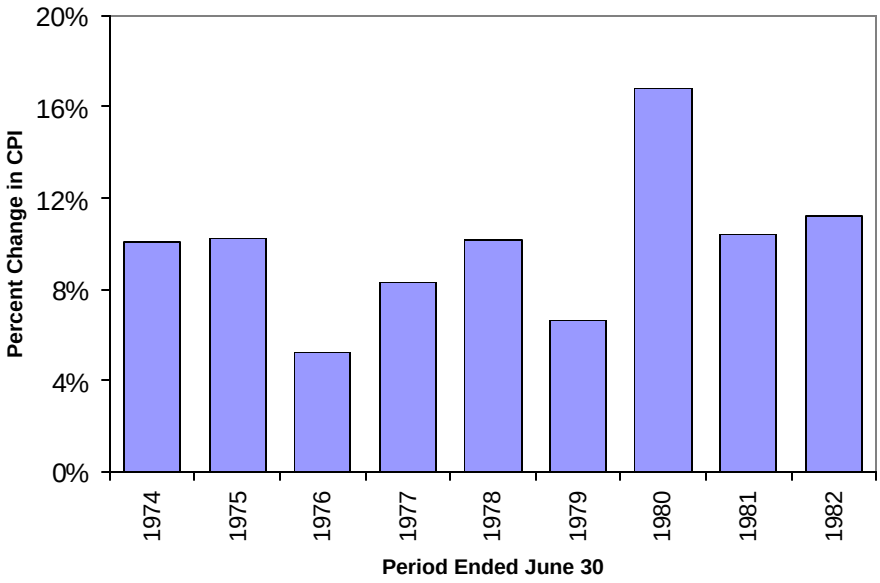


According to this data, inflation appears to have been increasing from the seventies through the nineties, reaching a peak of approximately 5.5%, and since then has begun to decline to the 4.5% range.

This strong rise in the inflation rate was fueled primarily by a spike in inflation that occurred during the late 70's and early 80's. That time period included two oil embargos, wage and price freezes, and transition from the gold standard. The rates of inflation during the 1974-82 period are shown in the Graph 3 below.

Graph 3

Rate of Inflation 1974-1982

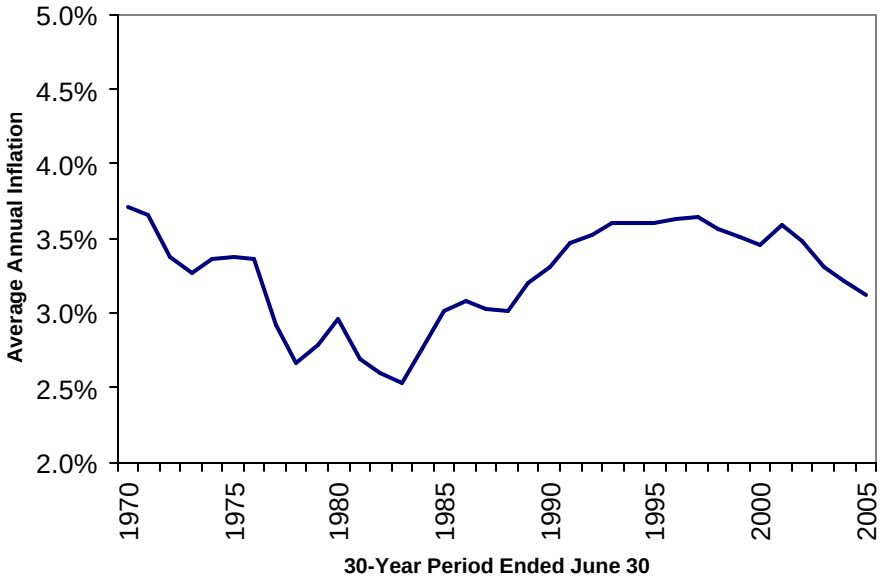


Removing this period from our analysis gives a very different picture of the long-term rate of inflation. Without an inflation spike to worry about, inflation appears to be settling down in the 3.0% to 3.5% range.

This can be seen in Graph 4 below, which shows the 30-year average rates of inflation modified by removal of the single period of high inflation from 1974 to 1982.

Graph 4

Average Inflation after Removing 1973-1981



Reasonable Range and Recommendation

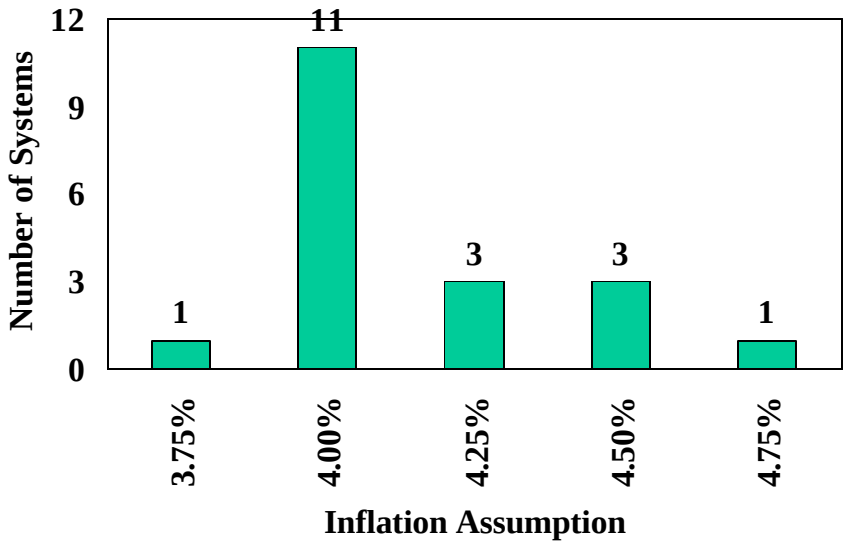
From the first graph, it looks like inflation is moving to a long-term average of around 4.5%. After pulling out the high inflationary period, we see a different picture, with inflation appearing to level out somewhere between 2.5 and 3.5%. With the Federal Reserve System's emphasis on controlling inflation, this range does not seem unreasonable if we assume that there will not be any more inflation spikes. Over the long term, it is probably reasonable to assume that inflation will average in this range for most of the time, and that there will be spikes every few decades that move the average higher. This modified range would depend on how often you expect the inflation spikes, how high you expect them to be and how long you expect them to last.

Our recommendation for the new inflation assumption is 3.75%. While we believe that it is overly optimistic to assume that there will be no periods with inflation spikes in the next 50 to 70 years, we believe these will not be too frequent or be allowed to get too far out of hand.

This recommendation is on the low end of the inflation assumptions adopted by the retirement systems that operate under the County Employees Retirement Law of 1937 (CERL), as illustrated in Graph 5 below.

Graph 5

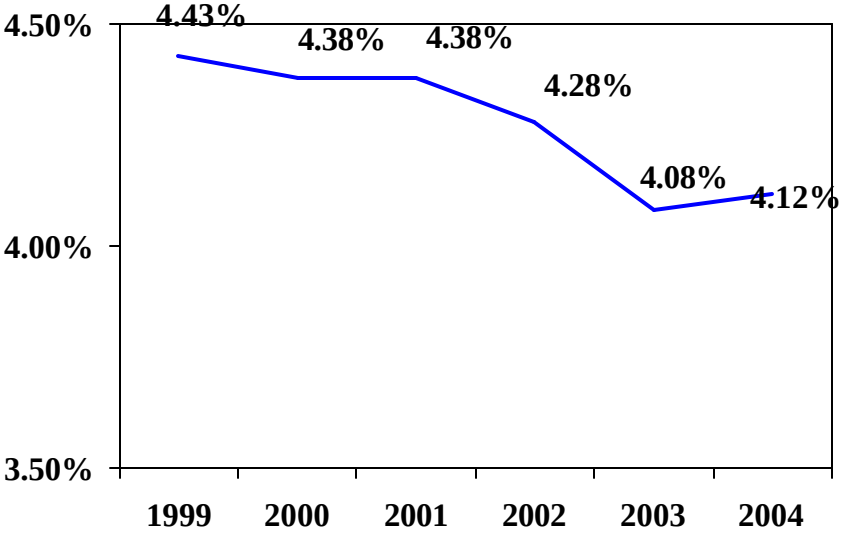
Inflation Assumptions Adopted by CERL Systems



We have seen inflation assumptions decreasing over the past few years. This is illustrated in Graph 6 below, which shows the average inflation assumption adopted by the retirement systems that operate under the CERL for the past five years. We expect this trend to continue as the average inflation rates decrease and trustees gain confidence that inflation spikes are less likely to occur.

Graph 6

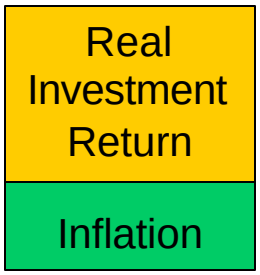
Average Inflation Assumptions Adopted by CERL Systems



B. Investment Return

The total investment return achieved by a retirement plan is made up of two components: inflation and the real investment return rate. The term "real" in this context refers to the investment return rate in excess of inflation. Using the inflation assumption discussed above, we next look at the real investment return.

Investment Return



Methodology and Results

According to a number of studies performed in the past two decades, over 90% of a fund's investment return can be attributed to the allocation of assets within the fund. In other words, the most important decision that you make in deciding how to invest your assets is what portion goes into stocks or bonds or cash (or whatever other classes you feel comfortable investing in).

As of June 30, 2005, the Retirement Plan's asset allocation was:

Stocks – Domestic	50%
Stocks – International	15%
Fixed Income	29%
Real Estate	6%

According to your investment consultant, Strategic Investment Solutions, the projected return in excess of inflation for these asset classes (as of May 2005) were:

US Large Company Stocks	5.9%
US Small Company Stocks	6.6%
Int'l Developing Market Stocks	6.3%
Int'l Emerging Market Stocks	7.3%
Fixed Income	2.3%
Real Estate	4.1%

Based on the correlation of these asset classes and strategic rebalancing to the allocation targets, Strategic Investment Solutions projected a return of 5.35% in excess of inflation, and an inflation assumption of 2.5%.

According to Ibbotson Associates, the average annualized rate of return on investment in excess of inflation for the major asset classes for the period from January 1, 1926 through June 30, 2005 were:

Large Company Stocks	7.3%
Small Company Stocks	9.6%
Long-term Corporate Bonds	3.0%
Long-term Government Bonds	2.5%
Intermediate-term Government Bonds	2.3%
Treasury Bills	0.7%

Reasonable Range and Recommendation

When looking at the average real rates of investment return above, we need to remember that the assumption that we are setting is the rate that is expected to be credited to valuation reserves. SamCERA has historically paid Medicare premiums for retirees from excess earnings, and is currently considering a policy that would continue that practice under certain circumstances. Over the long-term, this siphoning of excess earnings will diminish the portion credited to valuation reserves, as will the payment of investment fees and administrative expenses.

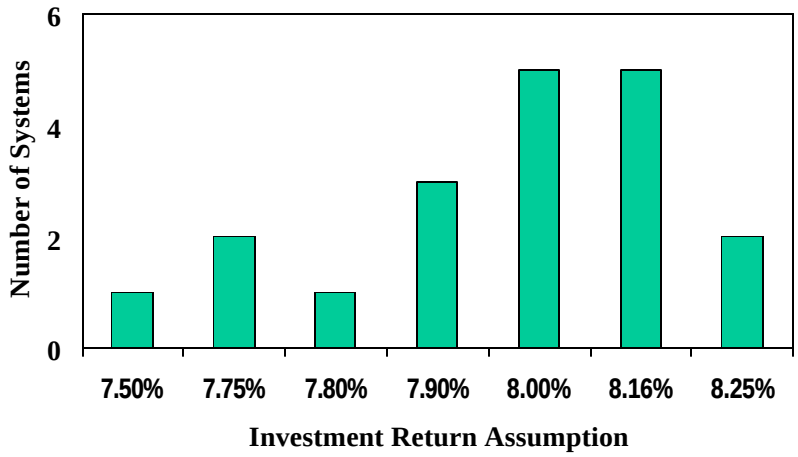
We believe that a reasonable range of real investment return for an asset allocation such as yours would fall between 3.5% and 4.5% per year. We recommend that you continue with the current real rate of investment return assumption of 4.00% per year. This would go along with an effective gross rate of investment return of 7.75% per year, which is the same as a nominal rate of return of 7.61% per year, compounded semi-annually.

Comparison with Other 37 Act Retirement Funds

As plan fiduciaries, you are held to a standard of what an informed person in a situation similar to yours would do. As such, it is useful to know what other public retirement funds operating under CERL have adopted for their assumed rate of return. Graph 7 below shows this information, taken from the most recent actuarial valuation reports available. Note that the rates shown below are the total investment return, which implicitly includes the rate of inflation.

Graph 7

Investment Return Assumptions in CERL Pension Funds

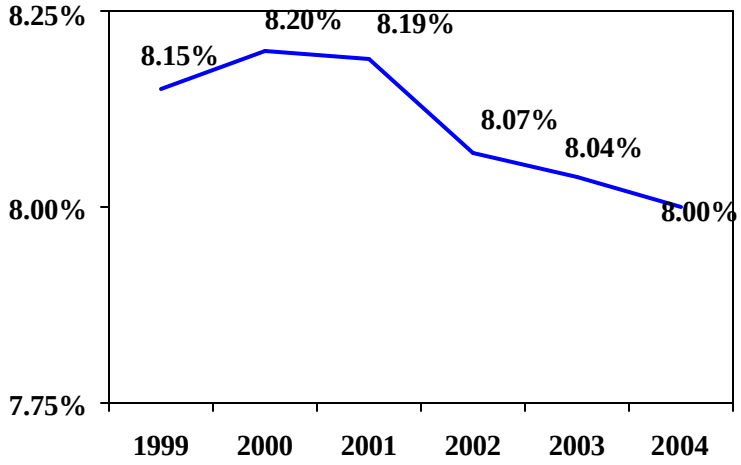


Your assumed rate of 7.75% (7.61% nominal, compounded semi-annually) falls at the conservative end of standard practice in the State of California in a manner consistent with your asset allocation.

Investment return assumptions have decreased over the past few years. This is illustrated in Graph 8 below, which shows the average inflation assumption adopted by the retirement systems that operate under the CERL for the past five years. We expect this trend to continue to reflect the cooling off of investment markets and more conservative asset allocations.

Graph 8

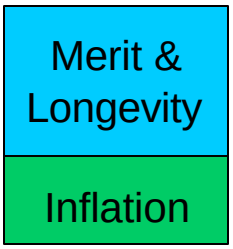
Average Investment Return Assumptions Adopted by CERL Systems



C. Individual Salary Increase

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

Salary Increase



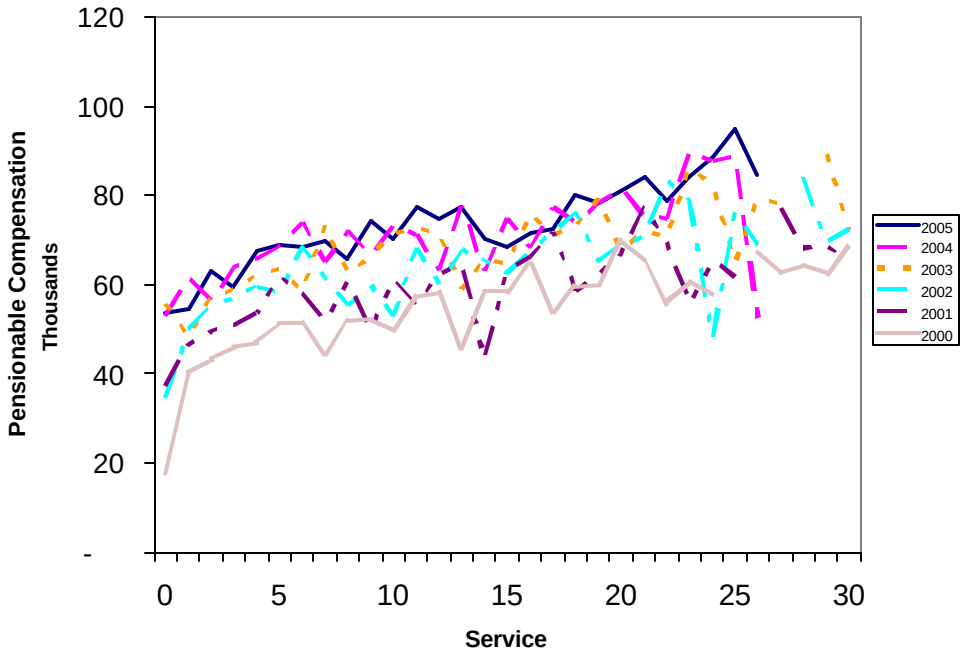
Methodology and Results

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

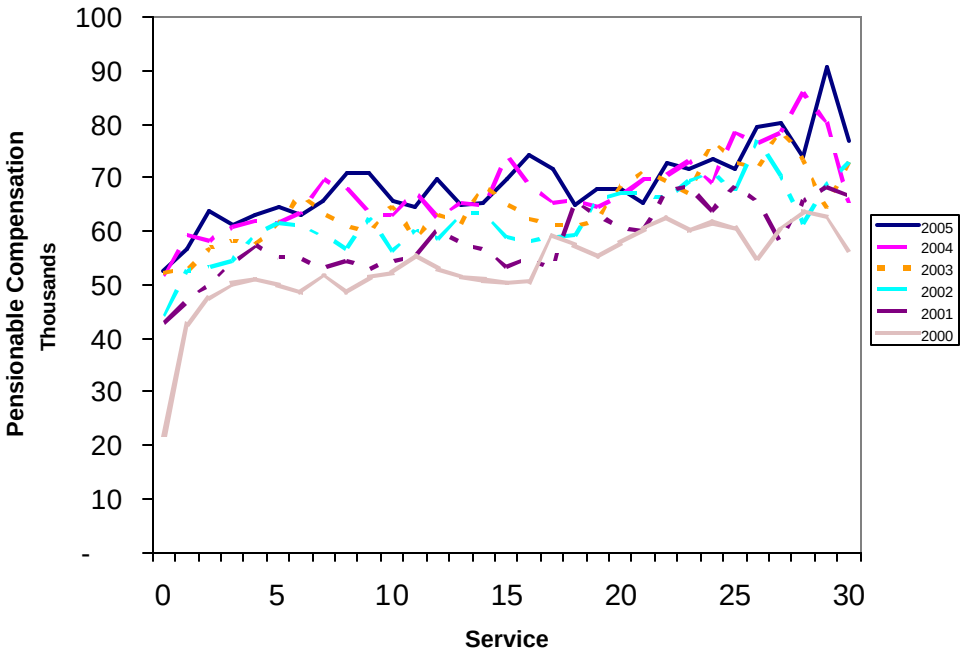
In public agencies, it is common for employees to experience large increases in pay early in their careers as they move through the early promotion levels. This tends to level off later in their careers, as the promotional levels get further apart.

To study this phenomenon, we performed a transverse analysis of the salary data. In other words, we compared the average pay rate for employees at each level of service for each of the past six years. The results are displayed graphically below. Graph 9 shows the results for Safety Members. Graph 10 shows the findings for General Members. Graph 11 shows the findings for Probation Members.

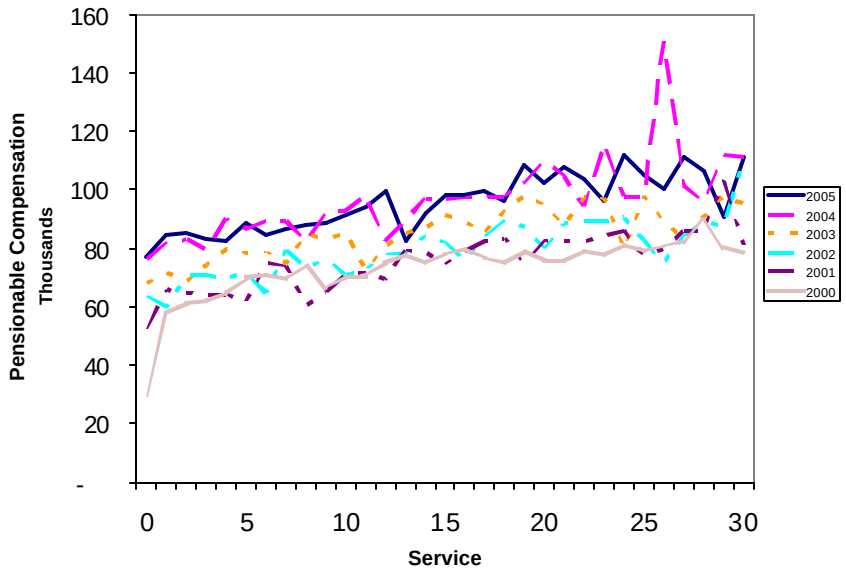
Graph 9
Comparison of Average Salary by Service
Safety Members



Graph 10
Comparison of Average Salary by Service
General Members

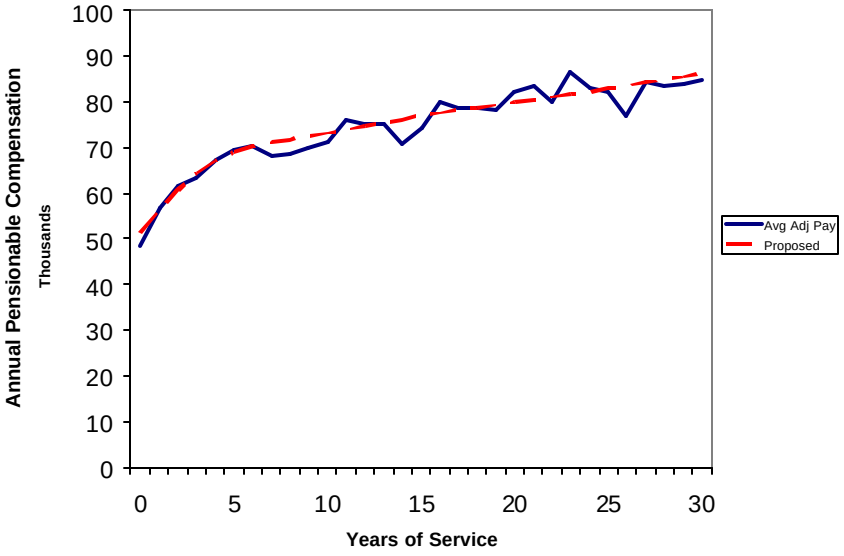


Graph 11
Comparison of Average Salary by Service
Probation Members

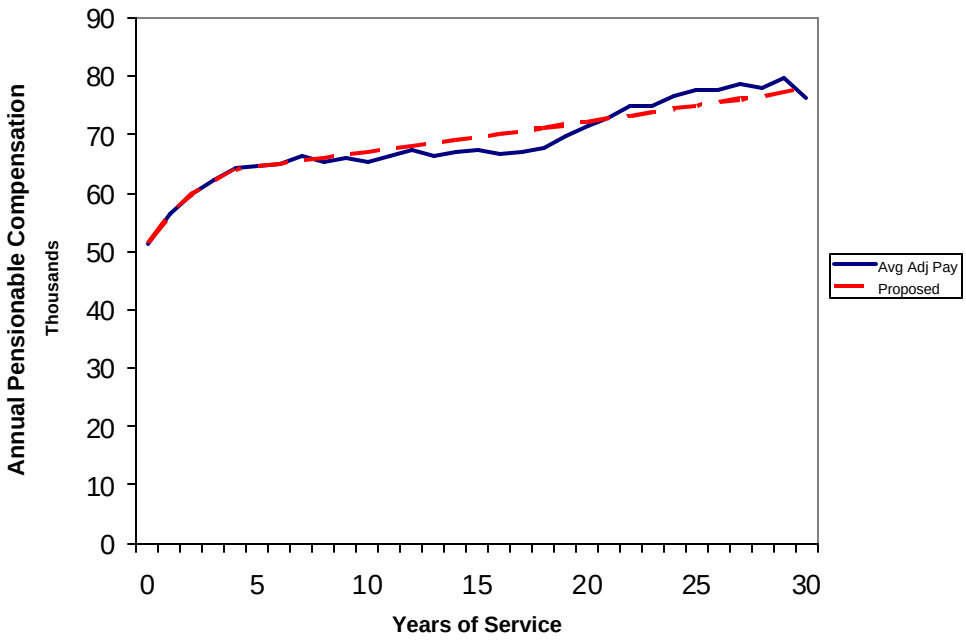


We next adjusted each year's salaries by the average increase for the group being studied. We removed the highest and lowest of the adjusted averages and took the mean of the remaining four. We used these adjusted means to develop our recommendations. The results are displayed graphically below. Graph 12 shows the results for Safety Members. Graph 13 shows the findings for General Members. Graph 14 shows the findings for Probation Members.

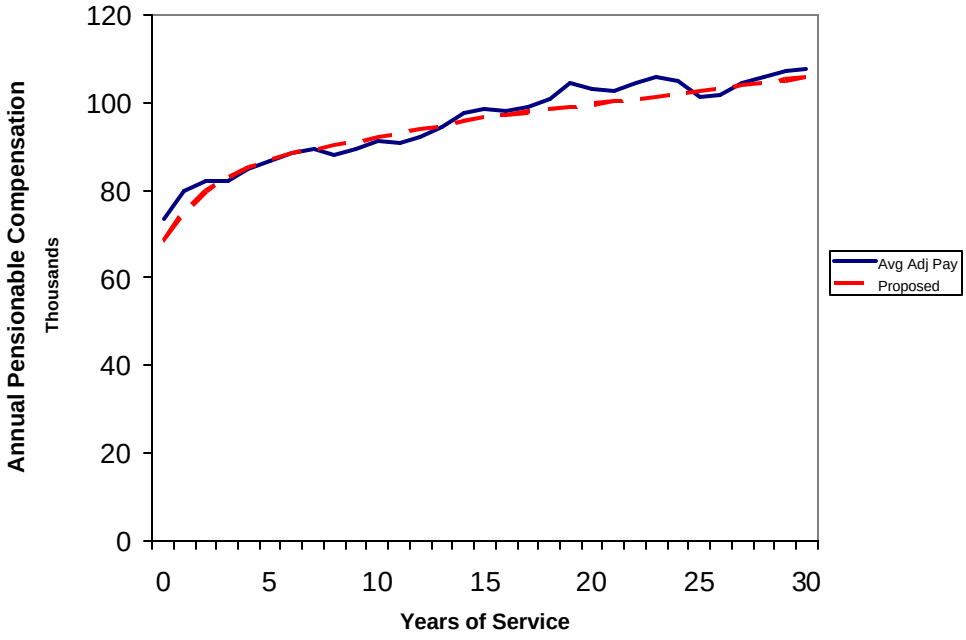
Graph 12
Comparison of Adjusted Average Salary by Service
Safety Members



Graph 13
Comparison of Adjusted Average Salary by Service
General Members



Graph 14
Comparison of Adjusted Average Salary by Service
Probation Members



Reasonable Range and Recommendation

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

Our recommended merit and longevity increases by years of service are summarized by classification in the table below.

Proposed Merit and Longevity Increases
By Classification and Years of Service

Years of Service	***Safety***	***General***	***Probation***
0	10.00%	10.00%	10.00%
1	8.00%	6.00%	6.00%
2	6.00%	4.00%	4.00%
3	4.00%	3.00%	3.00%
4	3.00%	0.75%	2.00%
5	2.00%	0.75%	1.50%
6-15 years	1.00%	0.75%	1.00%
16 years and over	0.75%	0.75%	0.60%

Section 3 Demographic Assumptions

Demographic assumptions are the second major category of actuarial assumptions used in the annual valuation. A plan's demographic assumptions are those related to the lives and behaviors of plan members. They generally have a smaller impact on plan cost than the economic assumptions (the assumptions related to money). The demographic assumptions include assumptions related to the rate at which active members will leave employment due to termination, disability, death, or retirement, as well as how long retirees, beneficiaries and disabled retirees are expected to live.

In this analysis, we reviewed the assumption expected to have a material impact on valuation results. An actuarial valuation includes other assumptions that are not expected to have much impact on overall results. An example of a less significant assumption relates to the timing of retirements throughout the year. We did not analyze most of these minor demographic assumptions as a part of this study. These minor assumptions may be examined at a later time if one or more of them are expected to have a material impact on future valuation results.

A. Termination

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

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

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

Total Terminations

Methodology

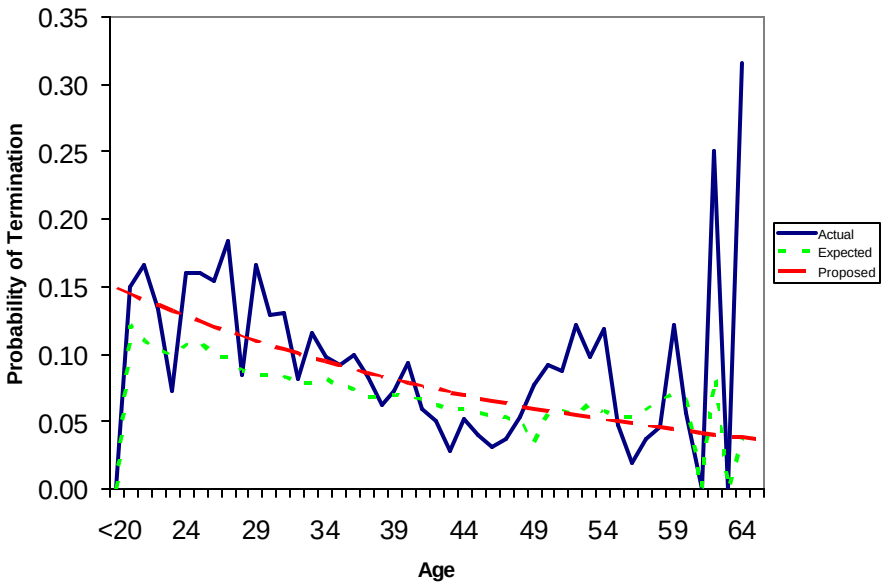
First we investigated the relationship between age and termination rates separately for General Members who are male, General Members who are female, Probation Members and Safety Members. We plotted the rates of termination against the employee's age at termination (the "Actual" line in the graphs below), and we also graphed the expected number of terminations based on the June 30, 2004 termination assumption used in the valuation (the "Expected" line below).

Results - General

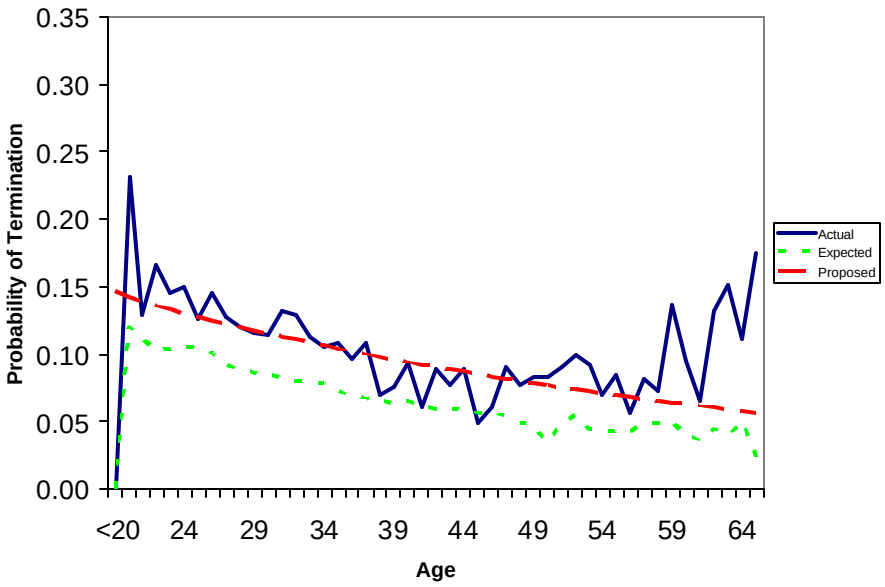
For General Members, both male and female, the total level of actual terminations was higher than projected. For male members, there were 390 members terminating compared with an expectation of 313.8 people projected to terminate. For female members, we expected 689.3 members to terminate. This was lower than the 1,011 female members who actually terminated during the period of the study.

The termination experience for General Members is separately summarized for male and females in Graphs 15 and 16 below.

Graph 15
Comparison of Terminations by Age
General Members - Male



Graph 16
Comparison of Terminations by Age
General Members - Female



Reasonable Range and Recommendation

We recommend that the withdrawal rates for General Members be adjusted to reflect the level of terminations being experienced by the County and to smooth out the relative rates between ages.

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

Results – Safety and Probation

We looked at termination rates for Safety and Probation Members separately, but found that the results for the two groups were similar.

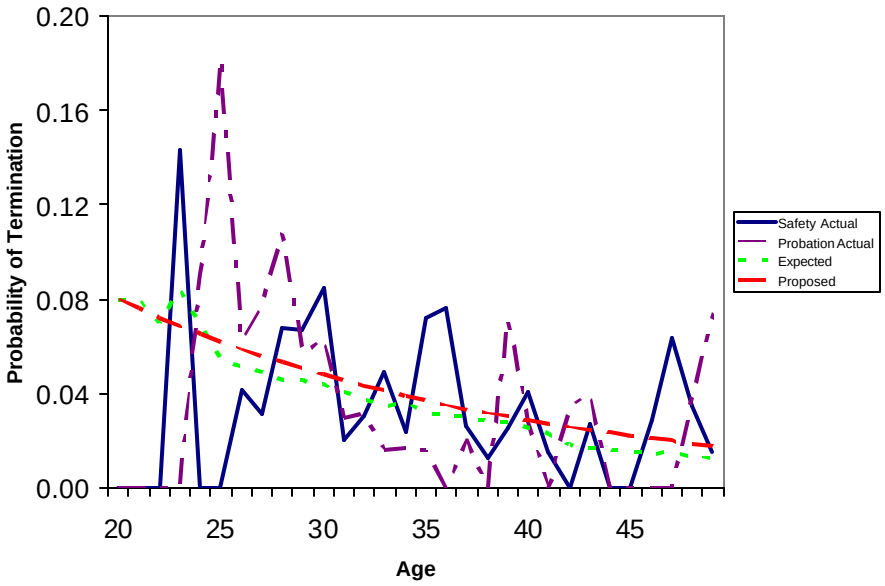
For Probation Members, we noticed that actual termination experience was generally higher than that assumed in the prior valuations. This was supported by a comparison of the number of terminations. During the years of the study, the plan experienced 49 terminations for Probation Members. This was significantly higher than the 38.1 terminations that were expected based on the assumptions used in the 2004 annual valuation.

For Safety Members, actual termination experience was similarly higher than that assumed in the prior valuations. During the years of the study, the plan experienced 57 terminations for Safety Members. This was significantly higher than the 45.4 terminations that were expected based on the assumptions used in the 2004 annual valuation.

The average age at termination for Probation Members was 34.4 compared with an average age at termination of 36.6 for Safety Members. This small difference is almost completely due to the fact that Safety Members were slightly older than Probation Members during this period.

The termination experience for Safety and Probation Members is summarized in Graph 17 below.

Graph 17
Comparison of Total Terminations by Age
Safety and Probation Members



Reasonable Range and Recommendation

We recommend that the pattern of termination rates for Safety and Probation Members, meaning the overall relationship between rates from one year to the next, remain the same. But we recommend that most of the rates be increased slightly, as shown in the graph above, to reflect the level of terminations being experienced by the County.

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

Deferred Vested versus Withdrawals

Methodology and Results

Next we studied the relationship between the amount of service a member has at termination against the likelihood that a member who was terminating would elect to

receive a refund of contributions, separately for General Members who are male, General Members who are female and Probation and Safety Members. The likelihood that a terminating member would elect to take a refund at a particular service level was slightly greater for Safety and Probation Members than it was for General Members.

Reasonable Range and Recommendation

We recommend that the likelihood that a terminating member elects to take a refund (or a deferred vested benefit) be projected on a service related basis.

Our recommended likelihood of refund by years of service is summarized by classification in the table below.

Proposed Likelihood of Refund
By Classification and Years of Service

Years of Service	***General***	***Safety and Probation***
0 – 5 Years	100%	100%
5 – 10 Years	10%	20%
10 or more years	2%	5%

All General Tier 3 Members who are vested will be assumed to take a deferred benefit.

B. Disability

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

However, this benefit provision accounts for less than 2% of the total liability of the plan, and only about 4% of the total active liability. In other words, this assumption plays a relatively small role in determining liabilities and plan costs. Nonetheless, an accurate assumption regarding disability will enhance the accuracy of our cost projections in future years.

Our review of disability assumptions was done in two steps. First, we reviewed the overall level of disabilities separately for General Members who are male, General

Members who are female, Probation Members and Safety Members. We compared actual experience to the prior assumptions and determined whether to recommend any changes. Next, we reviewed the split between service related disabilities and non-service related disabilities separately for General Members, Probation Members and Safety Members, and determined whether to recommend any changes in the likelihood of a disability being service related.

Results

Overall Rates of Disability

For General Members, the pattern of disabilities closely followed the expected ages, but the total number was less than projected during the study period. For General Members who are male, there were 19 disabilities awarded, compared with 26.7 expected. For General Members who are female, there were 40 disabilities awarded, compared with 49.3 expected.

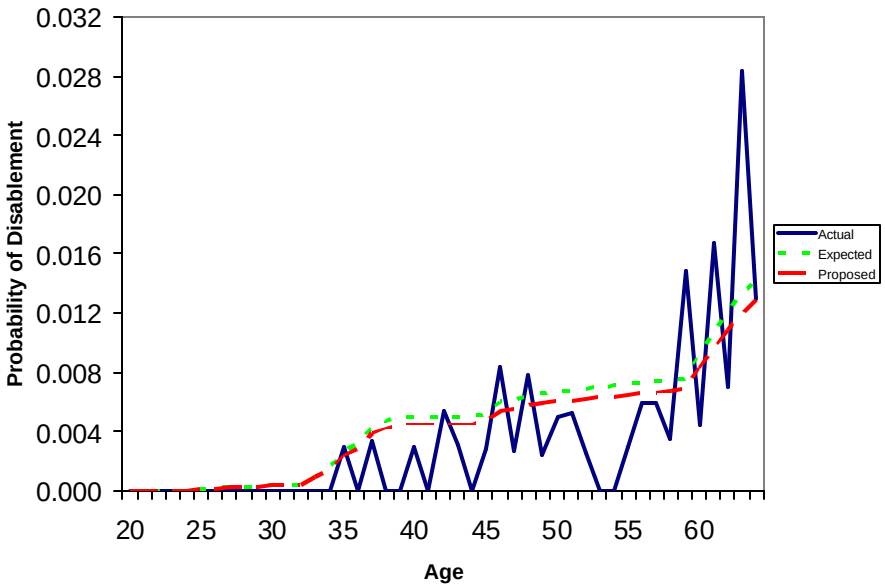
The expected level of disabilities for Probation and Safety Members were both relatively low, so the experience was combined for the purpose of this analysis. For the combined Probation and Safety Members, there were 23 disabilities awarded, very close to the 26.3 expected.

The distributions of disabilities by age for each of these groups are illustrated on Graphs 18, 19 and 20 below. We recommend decreasing the total rates of disability for General Males and Females to better match actual disabilities, and keeping the rates of disability for Probation and Safety Members at their current level. We recommend continuing to have no rate of disability for General Plan 3 Members.

Graph 18

Comparison of Disabilities by Age

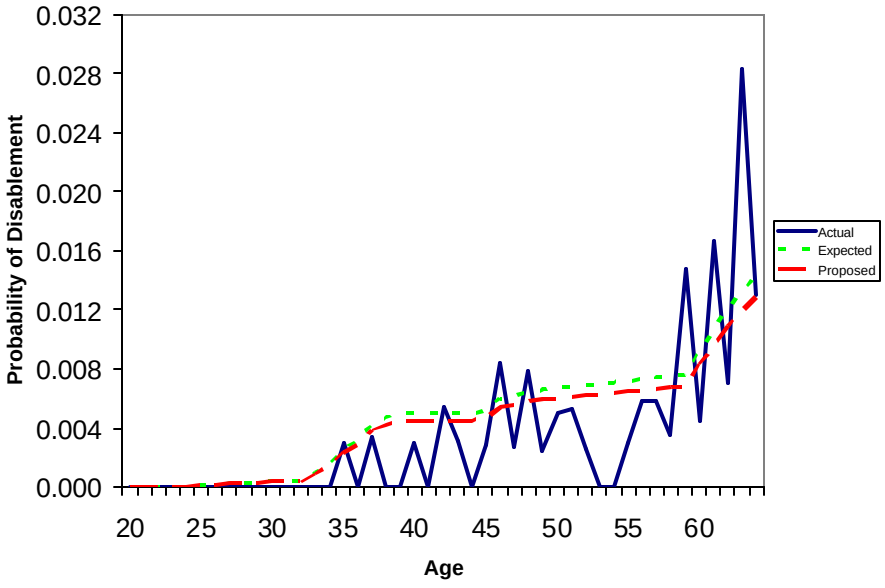
General Members - Male



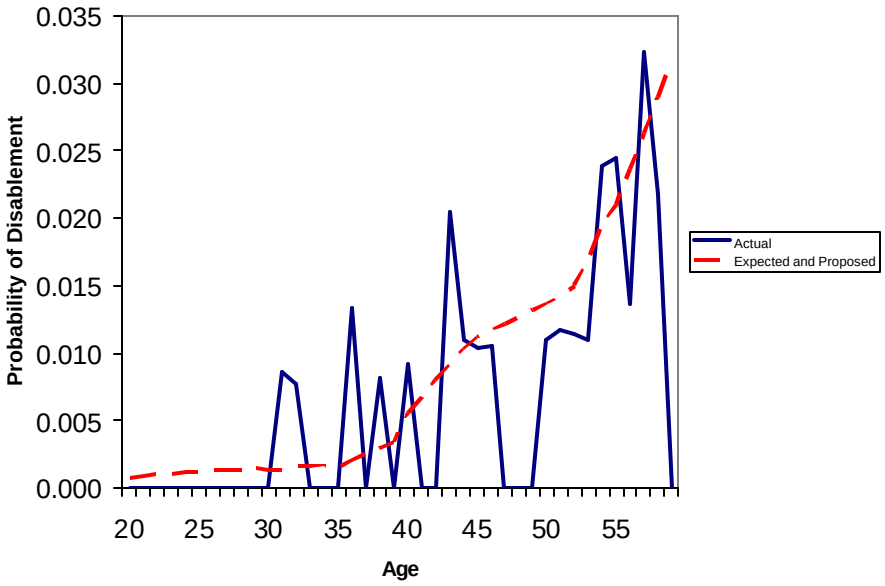
Graph 19

Comparison of Disabilities by Age

General Members - Female



Graph 20
Comparison of Disabilities by Age
Probation and Safety Members



Service Connected versus Non-Service Connected Disabilities

We collected information on the incidence of service and non-service connected disabilities awarded during the period of the study. For Probation and Safety Members, 21 of the 23 disabilities for whom this information was available were determined to be service connected. For General Members, 45 of the 75 disabilities for which this information was available were determined to be service connected.

Reasonable Range and Recommendation

We recommend that the disability rates for all members be adjusted to reflect the level of disabilities being experienced by the County. We recommend that all Safety and Probation disabilities are assumed to be service related and that 60% of all General disabilities are assumed to be service related.

C. Retirement

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

Methodology and Results

We reviewed the rates of retirement separately for General, Probation and Safety Members. For General Members, we separated out Tier 3 from the other tiers due to the significant difference in the level of retirement benefit provided.

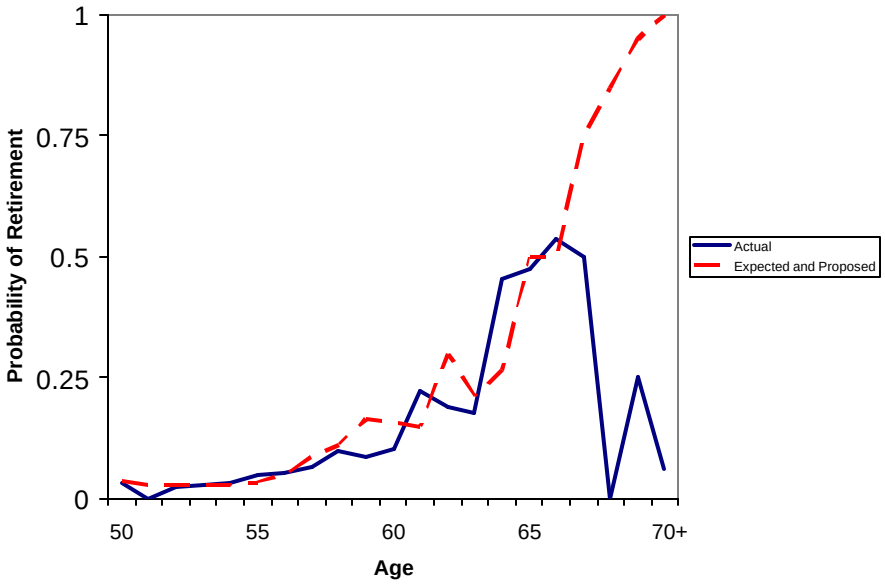
Due to the physical demands of their jobs, along with the larger retirement benefits available at earlier ages, Safety Members, as a rule, tend to retire at younger ages than General Members.

For male General Members in Tiers 1, 2 and 4, the actual number of retirements during the study (149) was less than the number projected under the prior assumptions (186.7). For female General Members in Tiers 1, 2 and 4, the actual number of retirements during the study (235) was also less than the number projected under the prior assumptions (284.4). The differences for both males and females were mostly due to lower retirement after age 66, and may also be related to the delay in implementing an improved benefit. We do not recommend any change in the retirement rates for these tiers at this time.

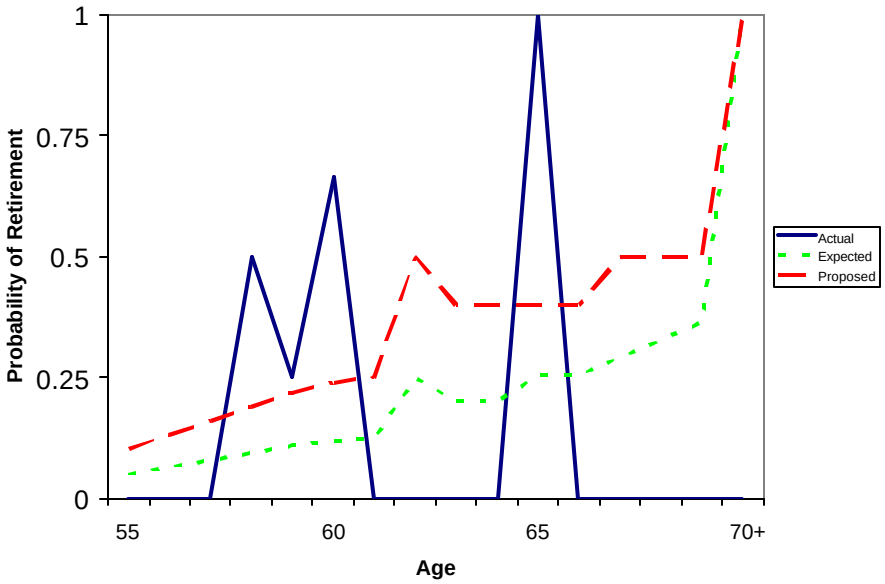
For males in General Tier 3, the actual number of retirements was much higher than expected, but still very low. We saw 6 retirements for Tier 3 males, compared with 1.9 expected retirements. For females in General Tier 3, the actual number of retirements was also low and higher than expected. We saw 11 retirements for Tier 3 females, compared with 7.6 expected retirements. We recommend slight increases in these rates.

This experience, broken down by age, is summarized on Graphs 21 and 22 for General males, and on Graphs 23 and 24 for General females.

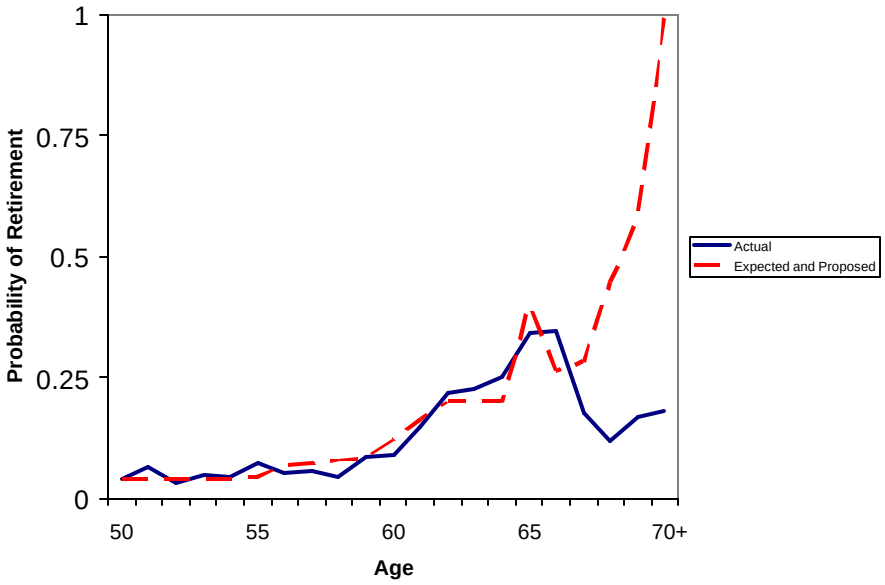
Graph 21
Comparison of Retirement by Age
General Members – Male Tier 1, 2 and 4



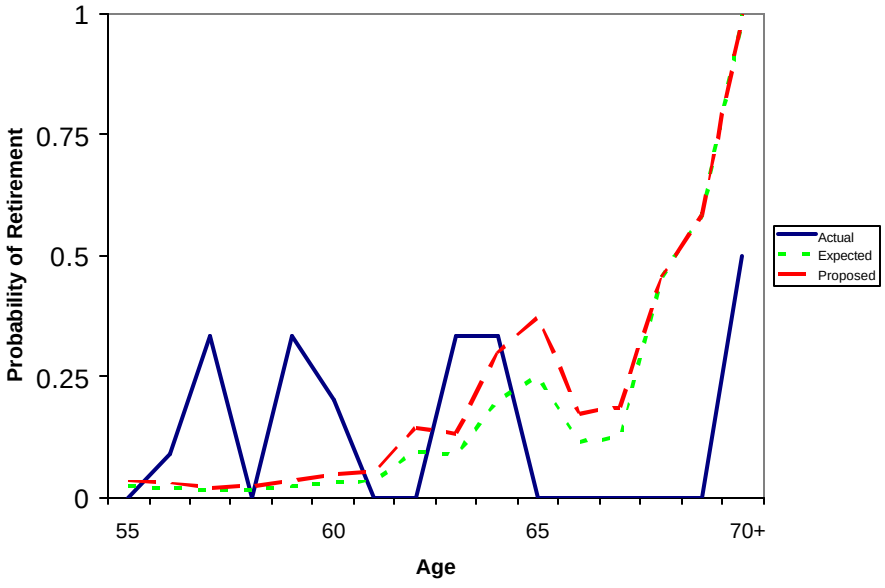
Graph 22
Comparison of Retirement by Age
General Members – Male Tier 3



Graph 23
Comparison of Retirement by Age
General Members – Female Tier 1, 2 and 4



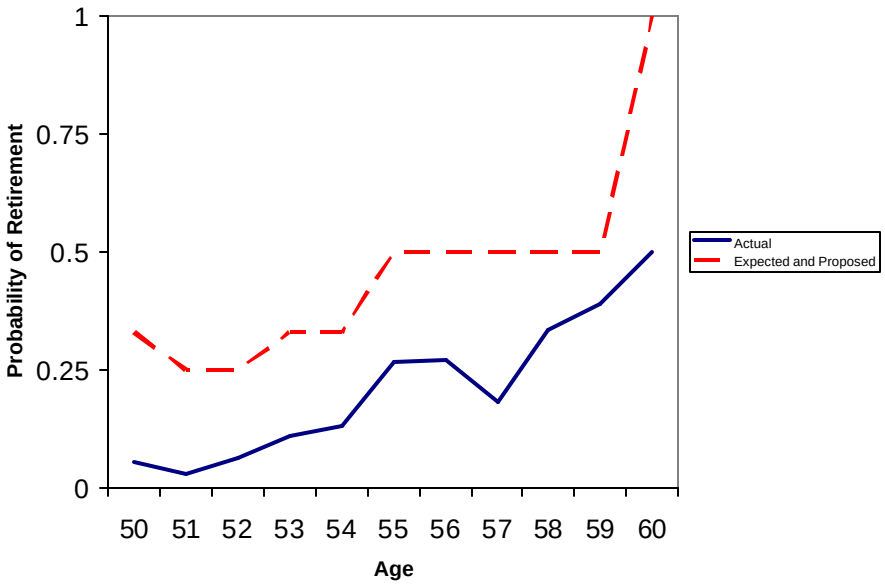
Graph 24
Comparison of Retirement by Age
General Members – Female Tier 3



For the period of our study, the actual number of retirements for Probation and Safety Members (118) was significantly lower than the expected number of retirements (280.0). This was likely related to the delayed implementation of the enhanced

retirement benefit. We recommend leaving the rates where they are until the next experience analysis. These results are illustrated in Graph 25 below.

Graph 25
Comparison of Retirement by Age
Probation and Safety Members



Reasonable Range and Recommendation

We recommend slight changes to the service retirement rates for General Tier 3 Members to better reflect recent experience. We recommend that all other rates remain where they are until the next experience analysis.

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

D. Service-Related Mortality

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

Methodology and Results

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

Reasonable Range and Recommendation

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

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

E. Post-Retirement Mortality

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

Methodology and Results

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

Reasonable Range and Recommendation

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

F. Spouse Information

As a final item, we reviewed the proportion of recent retirees who were married at the time of their retirement and the age difference between the member and his or her spouse. The results were relatively consistent across the years. We recommend that the percent of members who are expected to be married at retirement be decreased slightly to 80% for General Members who are male, Safety Members and Probation Members. We recommend that the percent of female General Members who are assumed to be married be reduced to 50%.

We recommend that the age difference between spouses continue to be assumed to be three years, with the husband assumed to be older than the wife.

Section 4 Prior Assumptions

This section of the report describes the assumptions, both economic and demographic, used in the June 30, 2004 annual valuation.

Economic Assumptions

Interest:	8.00% per year (7.85% compounded semi-annually).
Salary Increase – Total Payroll:	4.0 % per year.
Salary Increase – Individual:	Rates varying by age, for General, Safety and Probation members, as shown in Schedule 17.
Inflation:	4.00% per year.
Employee Contribution Interest Crediting Rate:	8.00% per year.

Demographic Assumptions

Post-retirement mortality:

- ***Service Retirement:***

General Males	1994 Group Annuity Mortality Table set back 1 year (Male).
General Females	1994 Group Annuity Mortality Table set back 2 years (Female).
Safety and Probation	1994 Group Annuity Mortality Table set forward 1 year (Male).
	Life Expectancies are shown in Schedule 1.

- ***Disability Retirement:***

General	1981 General Disability Mortality Table set back 4 years.
Safety	1981 Safety Disability Mortality Table set back 2 years. Life Expectancies are shown in Schedule 2.
• ***Beneficiaries:***	
General Males	1994 Group Annuity Mortality Table set back 1 year (Male).
General Females	1994 Group Annuity Mortality Table set back 1 year (Female).
Safety and Probation	1994 Group Annuity Mortality Table set back 1 year (Female).
• ***For Employee Contributions Rate Purposes:***	
General	1994 Group Annuity Mortality Table no set back (Female).
Safety	1994 Group Annuity Mortality Table set forward 1 year (Male).
Withdrawal (termination with refund of member contributions):	Rates varying by age and service, as shown in Schedule 3, 7 and 11 (for General males), 5, 9 and 13 (for General females) and 15 (for Safety and Probation).
Vested Termination (termination with retirement pension deferred to age 60 for General and age 50 for Safety members):	Rates varying by age, as shown in Schedule 3, 7 and 11 (for General males), 5, 9 and 13 (for General females) and 15 (for Safety and Probation). Half of all members are assumed to join a reciprocal agency immediately after termination.

Service Disability:	Rates varying by age, as shown in Schedule 4, 8 and 12 (for General males), 6, 10 and 14 (for General females) and 16 (for Safety and Probation).
Ordinary Disability:	Rates varying by age, as shown in Schedule 4, 8 and 12 (for General males), 6, 10 and 14 (for General females) and 16 (for Safety and Probation).
Service Retirement:	Rates varying by age, as shown in Schedule 4, 8 and 12 (for General males), 6, 10 and 14 (for General females) and 16 (for Safety and Probation).
Form of Payment:	Life annuity for single members. 60% contingent annuity for married members (100% contingent annuity if receiving service-related disability).
Percentage Married at Retirement:	85% for General male, Safety and Probation members. 55% for General female members.
Benefit Eligibility:	For decrement purposes, active members are considered potentially eligible for a benefit after meeting the age and service requirements. Prior to meeting those requirements, the demographic decrements are not applied.
Spouse Ages	For active members reaching retirement, wives are assumed to be three years younger than husbands. Where spousal information was included for retirees, that information was used. If no beneficiary information was present, it was assumed that there was no eligible beneficiary.

Schedule 1
Life Expectancies
Healthy Members after Service Retirement
Prior Assumptions

Age	General Male	General Female	Safety and Probation Male/Female	Age	General Male	General Female	Safety and Probation Male/Female
50	31.12	36.30	29.27	81	7.87	10.43	6.94
51	30.19	35.34	28.35	82	7.39	9.81	6.50
52	29.27	34.39	27.45	83	6.94	9.21	6.09
53	28.35	33.44	26.54	84	6.50	8.64	5.69
54	27.45	32.49	25.65	85	6.09	8.08	5.30
55	26.54	31.55	24.76	86	5.69	7.55	4.93
56	25.65	30.61	23.89	87	5.30	7.04	4.57
57	24.76	29.67	23.02	88	4.93	6.56	4.23
58	23.89	28.74	22.17	89	4.57	6.09	3.92
59	23.02	27.81	21.33	90	4.23	5.65	3.63
60	22.17	26.89	20.50	91	3.92	5.23	3.36
61	21.33	25.99	19.68	92	3.63	4.84	3.11
62	20.50	25.09	18.89	93	3.36	4.48	2.87
63	19.68	24.20	18.10	94	3.11	4.14	2.66
64	18.89	23.32	17.34	95	2.87	3.83	2.48
65	18.10	22.46	16.60	96	2.66	3.54	2.31
66	17.34	21.61	15.87	97	2.48	3.26	2.16
67	16.60	20.78	15.16	98	2.31	3.01	2.02
68	15.87	19.96	14.47	99	2.16	2.78	1.89
69	15.16	19.15	13.79	100	2.02	2.56	1.76
70	14.47	18.36	13.13	101	1.89	2.35	1.65
71	13.79	17.58	12.48	102	1.76	2.17	1.53
72	13.13	16.80	11.84	103	1.65	2.00	1.43
73	12.48	16.04	11.22	104	1.53	1.84	1.34
74	11.84	15.28	10.62	105	1.43	1.69	1.25
75	11.22	14.54	10.03	106	1.34	1.56	1.18
76	10.62	13.81	9.46	107	1.25	1.44	1.12
77	10.03	13.10	8.90	108	1.18	1.33	1.07
78	9.46	12.40	8.37	109	1.12	1.24	1.03
79	8.90	11.72	7.87	110	1.07	1.16	1.01
80	8.37	11.07	7.39				

General — Male Members – 1994 GAM Male Set Back 1 Year
Female Members – 1994 GAM Female Set Back 2 years

Safety — All Members – 1994 GAM Male Set Forward 1 year

Schedule 2
Life Expectancies
Disabled Members
Prior Assumptions

Age	General Members	Safety Members	Age	General Members	Safety Members
20	41.16	50.60	66	14.95	14.08
21	40.44	49.70	67	14.49	13.59
22	39.71	48.79	68	14.03	13.11
23	38.97	47.89	69	13.57	12.63
24	38.23	46.98	70	13.10	12.16
25	37.48	46.08	71	12.63	11.68
26	36.76	45.18	72	12.16	11.20
27	36.06	44.29	73	11.68	10.71
28	35.37	43.39	74	11.20	10.22
29	34.69	42.51	75	10.71	9.72
30	34.03	41.62	76	10.22	9.23
31	33.37	40.74	77	9.72	8.74
32	32.73	39.86	78	9.23	8.25
33	32.10	38.98	79	8.74	7.78
34	31.48	38.11	80	8.25	7.33
35	30.87	37.24	81	7.78	6.91
36	30.26	36.38	82	7.33	6.50
37	29.67	35.52	83	6.91	6.13
38	29.08	34.66	84	6.50	5.77
39	28.50	33.81	85	6.13	5.44
40	27.93	32.95	86	5.77	5.13
41	27.37	32.11	87	5.44	4.84
42	26.81	31.27	88	5.13	4.56
43	26.26	30.43	89	4.84	4.30
44	25.71	29.59	90	4.56	4.05
45	25.17	28.76	91	4.30	3.81
46	24.64	27.93	92	4.05	3.59
47	24.11	27.11	93	3.81	3.37
48	23.59	26.30	94	3.58	3.16
49	23.07	25.48	95	3.37	2.96
50	22.56	24.68	96	3.16	2.76
51	22.06	23.88	97	2.96	2.57
52	21.56	23.09	98	2.76	2.39
53	21.07	22.30	99	2.56	2.21
54	20.58	21.53	100	2.38	2.03
55	20.09	20.76	101	2.20	1.87
56	19.61	20.00	102	2.02	1.70
57	19.13	19.27	103	1.85	1.54
58	18.66	18.56	104	1.67	1.37
59	18.18	17.90	105	1.49	1.21
60	17.71	17.28	106	1.31	1.03
61	17.25	16.70	107	1.10	0.85
62	16.79	16.14	108	0.85	0.64
63	16.33	15.61	109	0.51	0.39
64	15.87	15.09	110	0.00	0.00
65	15.41	14.58			

General Members – 1981 General Disability Mortality Set Back 4 Years

Safety Members – 1981 Safety Disability Mortality Set Back 2 years

Schedule 3
Probability of Separation from Active Service
(Number separating at each age per 10,000 working at that age)
General Male Members – Plan 1
Prior Assumptions

Age	With (svc<1)	With (1<svc<2)	With (2<svc<3)	With (3<svc<4)	With (4<svc<5)	With (svc>5)	Vested Term
20	1,460	1,460	1,460	1,460	1,460	1,460	0
21	1,440	1,440	1,440	1,440	1,440	1,440	0
22	1,420	1,420	1,420	1,420	1,420	1,420	0
23	1,400	1,400	1,400	1,400	1,400	1,400	0
24	1,370	1,370	1,370	1,370	1,370	1,370	0
25	1,340	1,340	1,340	1,340	1,340	1,340	85
26	1,310	1,310	1,310	1,310	1,310	1,310	85
27	1,280	1,280	1,280	1,280	1,280	1,280	90
28	1,250	1,250	1,250	1,250	1,250	1,250	90
29	1,210	1,210	1,210	1,210	1,210	1,210	95
30	1,170	1,170	1,170	1,170	1,170	1,170	98
31	1,120	1,120	1,120	1,120	1,120	1,120	103
32	1,050	1,050	1,050	1,050	1,050	1,050	108
33	960	960	960	960	960	927	113
34	860	860	860	860	860	800	123
35	760	760	760	760	760	727	130
36	650	650	650	650	650	597	137
37	550	550	550	550	550	485	144
38	460	460	460	460	460	386	152
39	380	380	380	380	380	301	159
40	300	300	300	300	300	176	166
41	240	240	240	240	240	133	170
42	200	200	200	200	200	103	170
43	180	180	180	180	180	88	168
44	160	160	160	160	160	74	165
45	140	140	140	140	140	50	157
46	120	120	120	120	120	40	150
47	100	100	100	100	100	31	142
48	90	90	90	90	90	27	134
49	80	80	80	80	80	23	126
50	70	70	70	70	70	26	0
51	60	60	60	60	60	21	0
52	50	50	50	50	50	17	0
53	40	40	40	40	40	13	0
54	40	40	40	40	40	12	0
55	30	30	30	30	30	29	0
56	20	20	20	20	20	19	0
57	20	20	20	20	20	18	0
58	10	10	10	10	10	13	0
59	10	10	10	10	10	17	0
60	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0

Schedule 4
Probability of Separation from Active Service - continued
(Number separating at each age per 10,000 working at that age)
General Male Members – Plan 1
Prior Assumptions

Age	Ordinary Disability	Duty Disability	Ordinary Death	Duty Death	Service Retirement
20	0	0	2	1	0
21	0	0	2	1	0
22	0	0	2	1	0
23	0	0	2	1	0
24	0	0	2	1	0
25	3	0	3	1	0
26	3	0	3	1	0
27	3	1	3	1	0
28	3	1	3	1	0
29	3	1	3	1	0
30	3	2	3	1	0
31	3	2	4	1	0
32	4	2	4	1	0
33	4	3	5	1	0
34	5	3	5	1	0
35	6	3	5	1	0
36	7	4	6	1	0
37	8	5	6	1	0
38	9	6	6	1	0
39	10	7	6	1	0
40	10	8	6	1	0
41	11	9	7	1	0
42	13	10	8	1	0
43	14	10	9	1	0
44	16	11	10	2	0
45	18	12	12	2	0
46	20	12	14	2	0
47	21	13	16	2	0
48	23	13	18	2	0
49	25	13	20	2	0
50	56	13	22	2	362
51	28	13	24	2	300
52	30	13	26	3	300
53	31	13	28	3	300
54	33	13	30	3	300
55	35	14	32	3	340
56	36	12	34	3	490
57	38	16	36	4	865
58	40	19	38	4	1,121
59	42	22	40	4	1,650
60	43	25	42	4	1,570
61	45	28	44	4	1,489
62	47	32	46	5	3,000
63	48	38	48	5	2,121
64	50	44	50	5	2,656
65	0	0	52	5	5,000
66	0	0	56	5	5,000
67	0	0	60	6	7,500
68	0	0	65	6	8,500
69	0	0	70	6	9,500
70	0	0	0	0	10,000

Schedule 5
Probability of Separation from Active Service
(Number separating at each age per 10,000 working at that age)
General Female Members – Plan 1
Prior Assumptions

	With (0<svc<1)	With (1<svc<2)	With (2<svc<3)	With (3<svc<4)	With (4<svc<5)	With (svc>5)	Vested Term
20	1,540	1,540	1,540	1,540	1,540	1,540	0
21	1,471	1,471	1,471	1,471	1,471	1,471	0
22	1,410	1,410	1,410	1,410	1,410	1,410	0
23	1,332	1,332	1,332	1,332	1,332	1,332	0
24	1,263	1,263	1,263	1,263	1,263	1,263	0
25	1,194	1,194	1,194	1,194	1,194	1,194	35
26	1,124	1,124	1,124	1,124	1,124	1,124	40
27	1,055	1,055	1,055	1,055	1,055	1,055	45
28	986	986	986	986	986	986	55
29	916	916	916	916	916	916	70
30	847	847	847	847	847	847	80
31	762	762	762	762	762	762	94
32	676	676	676	676	676	676	113
33	591	591	591	591	591	565	132
34	520	520	520	520	520	474	151
35	431	431	431	431	431	400	180
36	402	402	402	402	402	331	190
37	344	344	344	344	344	268	200
38	285	285	285	285	285	202	200
39	227	227	227	227	227	145	190
40	168	168	168	168	168	96	188
41	157	157	157	157	157	79	172
42	145	145	145	145	145	63	156
43	138	138	138	138	138	67	144
44	134	134	134	134	134	71	132
45	126	126	126	126	126	73	119
46	118	118	118	118	118	75	107
47	107	107	107	107	107	73	94
48	99	99	99	99	99	75	89
49	92	92	92	92	92	76	80
50	84	84	84	84	84	0	79
51	76	76	76	76	76	0	76
52	69	69	69	69	69	0	75
53	61	61	61	61	61	0	74
54	54	54	54	54	54	0	72
55	46	46	46	46	46	0	71
56	38	38	38	38	38	0	68
57	31	31	31	31	31	0	61
58	23	23	23	23	23	0	54
59	19	19	19	19	19	0	47
60	0	0	0	0	0	0	32
61	0	0	0	0	0	0	26
62	0	0	0	0	0	0	21
63	0	0	0	0	0	0	16
64	0	0	0	0	0	0	11
65	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0

Schedule 6
Probability of Separation from Active Service - continued
(Number separating at each age per 10,000 working at that age)
General Female Members – Plan 1
Prior Assumptions

Age	Ordinary Disability	Duty Disability	Ordinary Death	Duty Death	Service Retirement
20	0	0	3	0	0
21	0	0	3	0	0
22	0	0	3	0	0
23	0	0	3	0	0
24	0	0	3	0	0
25	1	0	3	0	0
26	1	0	3	0	0
27	2	1	3	0	0
28	2	1	3	0	0
29	2	1	3	0	0
30	2	2	3	0	0
31	2	2	4	0	0
32	2	2	4	0	0
33	3	3	4	0	0
34	3	3	4	0	0
35	4	4	5	0	0
36	4	5	5	0	0
37	5	6	5	0	0
38	6	7	6	0	0
39	6	8	6	0	0
40	6	9	6	0	0
41	6	10	7	0	0
42	7	10	8	0	0
43	10	11	8	0	0
44	14	12	9	0	0
45	22	12	9	0	0
46	30	13	10	0	0
47	39	13	10	0	0
48	37	13	11	0	0
49	34	20	12	0	0
50	30	20	13	0	400
51	30	20	14	0	400
52	30	20	15	0	400
53	30	20	17	0	400
54	30	20	19	0	400
55	20	42	21	0	450
56	25	45	22	0	694
57	20	48	25	0	750
58	20	56	28	0	800
59	18	65	31	0	850
60	19	65	36	0	1,219
61	20	65	42	0	1,655
62	21	65	48	0	2,000
63	25	65	55	0	2,000
64	29	65	63	0	2,000
65	0	0	72	0	4,000
66	0	0	82	0	2,641
67	0	0	93	0	2,832
68	0	0	104	0	4,484
69	0	0	116	0	5,765
70	0	0	0	0	10,000

Schedule 7
Probability of Separation from Active Service
(Number separating at each age per 10,000 working at that age)
General Male Members – Plan 2 and Plan 4
Prior Assumptions

Age	With (svc<1)	With (1<svc<2)	With (2<svc<3)	With (3<svc<4)	With (4<svc<5)	With (svc>5)	Vested Term
20	1,360	1,100	1,000	700	400	400	0
21	1,360	1,100	1,000	700	400	400	0
22	1,360	1,100	1,000	700	400	400	0
23	1,360	1,100	1,000	700	400	400	0
24	1,360	1,100	1,000	700	400	400	0
25	1,360	1,100	1,000	700	400	400	90
26	1,360	1,100	1,000	700	400	400	100
27	1,360	1,100	1,000	700	400	400	110
28	1,360	1,100	1,000	700	400	400	120
29	1,360	1,100	1,000	700	400	400	130
30	1,360	1,100	1,000	700	400	400	160
31	1,360	1,100	1,000	700	400	400	144
32	1,360	1,100	1,000	700	400	400	190
33	1,360	1,100	1,000	700	400	400	174
34	1,360	1,100	1,000	700	400	400	220
35	1,360	1,100	1,000	700	400	400	260
36	1,360	1,100	1,000	700	400	400	222
37	1,360	1,100	1,000	700	400	350	300
38	1,360	1,100	1,000	700	400	300	260
39	1,360	1,100	1,000	700	400	250	340
40	1,360	1,100	1,000	700	400	200	380
41	1,360	1,100	1,000	700	400	175	380
42	1,360	1,100	1,000	700	400	150	380
43	1,360	1,100	1,000	700	400	150	300
44	1,360	1,100	1,000	700	400	150	280
45	1,360	1,100	1,000	700	400	150	260
46	1,360	1,100	1,000	700	400	150	260
47	1,360	1,100	1,000	700	400	150	240
48	1,360	1,100	1,000	700	400	150	240
49	1,360	1,100	1,000	700	400	150	240
50	1,360	1,100	1,000	700	400	0	220
51	1,360	1,100	1,000	700	400	0	220
52	1,360	1,100	1,000	700	400	0	220
53	1,360	1,100	1,000	700	400	0	200
54	1,360	1,100	1,000	700	400	0	180
55	1,360	1,100	1,000	700	400	0	120
56	1,360	1,100	1,000	700	400	0	110
57	1,360	1,100	1,000	700	400	0	100
58	1,360	1,100	1,000	700	400	0	90
59	1,360	1,100	1,000	700	400	0	80
60	1,360	1,100	1,000	700	400	0	70
61	1,360	1,100	1,000	700	400	0	60
62	1,360	1,100	1,000	700	400	0	50
63	1,360	1,100	1,000	700	400	0	40
64	1,360	1,100	1,000	700	400	0	30
65	1,360	1,100	1,000	700	400	0	0
66	1,360	1,100	1,000	700	400	0	0
67	1,360	1,100	1,000	700	400	0	0
68	1,360	1,100	1,000	700	400	0	0
69	1,360	1,100	1,000	700	400	0	0
70	0	0	0	0	0	0	0

Schedule 8
Probability of Separation from Active Service - continued
(Number separating at each age per 10,000 working at that age)
General Male Members – Plan 2 and Plan 4
Prior Assumptions

Age	Ordinary Disability	Duty Disability	Ordinary Death	Duty Death	Service Retirement
20	0	0	2	1	0
21	0	0	2	1	0
22	0	0	2	1	0
23	0	0	2	1	0
24	0	0	2	1	0
25	3	0	3	1	0
26	3	0	3	1	0
27	3	2	3	1	0
28	3	2	3	1	0
29	3	2	3	1	0
30	3	4	3	1	0
31	3	4	4	1	0
32	4	4	4	1	0
33	4	6	5	1	0
34	5	6	5	1	0
35	5	6	5	1	0
36	6	8	6	1	0
37	6	10	6	1	0
38	7	12	6	1	0
39	9	14	6	1	0
40	12	16	6	1	0
41	15	18	7	1	0
42	18	20	8	1	0
43	21	22	9	1	0
44	24	24	10	2	0
45	27	26	12	2	0
46	30	28	14	2	0
47	32	30	16	2	0
48	34	32	18	2	0
49	36	34	20	2	0
50	38	36	22	2	362
51	40	38	24	2	300
52	42	40	26	3	300
53	44	42	28	3	300
54	46	44	30	3	300
55	48	48	32	3	340
56	50	54	34	3	490
57	52	60	36	4	865
58	54	66	38	4	1,121
59	56	72	40	4	1,650
60	58	78	42	4	1,570
61	60	84	44	4	1,489
62	62	92	46	5	2,833
63	64	100	48	5	2,121
64	66	108	50	5	2,656
65	0	0	52	5	3,000
66	0	0	56	5	1,000
67	0	0	60	6	1,500
68	0	0	65	6	2,000
69	0	0	70	6	2,500
70	0	0	0	0	10,000

Schedule 9
Probability of Separation from Active Service
(Number separating at each age per 10,000 working at that age)
General Female Members – Plan 2 and Plan 4
Prior Assumptions

Age	With (svc<1)	With (1<svc<2)	With (2<svc<3)	With (3<svc<4)	With (4<svc<5)	With (svc>5)	Vested Term
20	1,300	1,097	882	700	400	400	0
21	1,300	1,097	882	700	400	400	0
22	1,300	1,097	882	700	400	400	0
23	1,300	1,097	882	700	400	400	0
24	1,300	1,097	882	700	400	400	0
25	1,300	1,097	882	700	400	400	128
26	1,300	1,097	882	700	400	400	128
27	1,300	1,097	882	700	400	400	135
28	1,300	1,097	882	700	400	400	135
29	1,300	1,097	882	700	400	400	143
30	1,300	1,097	882	700	400	349	188
31	1,300	1,097	882	700	400	349	225
32	1,300	1,097	882	700	400	349	240
33	1,300	1,097	882	700	400	349	255
34	1,300	1,097	882	700	400	349	263
35	1,300	1,097	882	700	400	240	300
36	1,300	1,097	882	700	400	240	300
37	1,300	1,097	882	700	400	240	300
38	1,300	1,097	882	700	400	240	263
39	1,300	1,097	882	700	400	240	225
40	1,300	1,097	882	700	400	240	225
41	1,300	1,097	882	700	400	240	225
42	1,300	1,097	882	700	400	240	225
43	1,300	1,097	882	700	400	240	225
44	1,300	1,097	882	700	400	240	225
45	1,300	1,097	882	700	400	227	210
46	1,300	1,097	882	700	400	211	200
47	1,300	1,097	882	700	400	195	190
48	1,300	1,097	882	700	400	180	180
49	1,300	1,097	882	700	400	166	170
50	1,300	1,097	882	700	400	0	160
51	1,300	1,097	882	700	400	0	150
52	1,300	1,097	882	700	400	0	140
53	1,300	1,097	882	700	400	0	130
54	1,300	1,097	882	700	400	0	125
55	1,300	1,097	882	700	400	0	120
56	1,300	1,097	882	700	400	0	110
57	1,300	1,097	882	700	400	0	100
58	1,300	1,097	882	700	400	0	50
59	1,300	1,097	882	700	400	0	25
60	1,300	1,097	882	700	400	0	0
61	1,300	1,097	882	700	400	0	0
62	1,300	1,097	882	700	400	0	0
63	1,300	1,097	882	700	400	0	0
64	1,300	1,097	882	700	400	0	0
65	1,300	1,097	882	700	400	0	0
66	1,300	1,097	882	700	400	0	0
67	1,300	1,097	882	700	400	0	0
68	1,300	1,097	882	700	400	0	0
69	1,300	1,097	882	700	400	0	0
70	0	0	0	0	0	0	0

Schedule 10
Probability of Separation from Active Service - continued
(Number separating at each age per 10,000 working at that age)
General Female Members – Plan 2 and Plan 4
Prior Assumptions

Age	Ordinary Disability	Duty Disability	Ordinary Death	Duty Death	Service Retirement
20	0	0	3	0	0
21	0	0	3	0	0
22	0	0	3	0	0
23	0	0	3	0	0
24	0	0	3	0	0
25	1	0	3	0	0
26	1	0	3	0	0
27	2	1	3	0	0
28	2	1	3	0	0
29	2	1	3	0	0
30	3	1	3	0	0
31	3	1	4	0	0
32	3	1	4	0	0
33	7	3	4	0	0
34	10	6	4	0	0
35	16	10	5	0	0
36	20	12	5	0	0
37	28	15	5	0	0
38	29	18	6	0	0
39	30	20	6	0	0
40	30	20	6	0	0
41	30	20	7	0	0
42	30	20	8	0	0
43	30	20	8	0	0
44	30	20	9	0	0
45	30	22	9	0	0
46	36	24	10	0	0
47	36	26	10	0	0
48	36	28	11	0	0
49	36	30	12	0	0
50	36	31	13	0	400
51	36	32	14	0	350
52	36	33	15	0	300
53	36	34	17	0	300
54	36	35	19	0	300
55	36	36	21	0	400
56	36	37	22	0	694
57	36	38	25	0	750
58	36	39	28	0	800
59	36	40	31	0	850
60	36	56	36	0	1,219
61	36	71	42	0	1,655
62	36	85	48	0	2,000
63	36	97	55	0	2,000
64	36	107	63	0	2,000
65	0	0	72	0	4,000
66	0	0	82	0	2,000
67	0	0	93	0	2,500
68	0	0	104	0	2,200
69	0	0	116	0	3,000
70	0	0	0	0	10,000

Schedule 11
Probability of Separation from Active Service
(Number separating at each age per 10,000 working at that age)
General Male Members – Plan 3
Prior Assumptions

Age	With (svc<1)	With (1<svc<2)	With (2<svc<3)	With (3<svc<4)	With (4<svc<5)	With (svc>5)	Vested Term
20	3,000	1,387	1,387	1,387	600	0	0
21	3,000	1,387	1,387	1,387	600	0	0
22	3,000	1,387	1,387	1,387	600	0	0
23	3,000	1,387	1,387	1,387	600	0	0
24	3,000	1,387	1,387	1,387	600	0	0
25	3,000	1,387	1,387	1,387	600	0	85
26	3,000	1,387	1,387	1,387	600	0	85
27	3,000	1,387	1,387	1,387	600	0	90
28	3,000	1,387	1,387	1,387	600	0	90
29	3,000	1,387	1,387	1,387	600	0	95
30	3,000	1,387	1,387	1,387	600	0	100
31	3,000	1,387	1,387	1,387	600	0	105
32	3,000	1,387	1,387	1,387	600	0	110
33	3,000	1,387	1,387	1,387	600	0	115
34	3,000	1,387	1,387	1,387	600	0	125
35	3,000	1,387	1,387	1,387	600	0	135
36	3,000	1,387	1,387	1,387	600	0	160
37	3,000	1,387	1,387	1,387	600	0	180
38	3,000	1,387	1,387	1,387	600	0	195
39	3,000	1,387	1,387	1,387	600	0	205
40	3,000	1,387	1,387	1,387	600	0	210
41	3,000	1,387	1,387	1,387	600	0	215
42	3,000	1,387	1,387	1,387	600	0	215
43	3,000	1,387	1,387	1,387	600	0	220
44	3,000	1,387	1,387	1,387	600	0	230
45	3,000	1,387	1,387	1,387	600	0	240
46	3,000	1,387	1,387	1,387	600	0	250
47	3,000	1,387	1,387	1,387	600	0	260
48	3,000	1,387	1,387	1,387	600	0	250
49	3,000	1,387	1,387	1,387	600	0	245
50	3,000	1,387	1,387	1,387	600	0	245
51	3,000	1,387	1,387	1,387	600	0	225
52	3,000	1,387	1,387	1,387	600	0	200
53	3,000	1,387	1,387	1,387	600	0	175
54	3,000	1,387	1,387	1,387	600	0	140
55	3,000	1,387	1,387	1,387	600	0	120
56	3,000	1,387	1,387	1,387	600	0	110
57	3,000	1,387	1,387	1,387	600	0	100
58	3,000	1,387	1,387	1,387	600	0	90
59	3,000	1,387	1,387	1,387	600	0	80
60	3,000	1,387	1,387	1,387	600	0	70
61	3,000	1,387	1,387	1,387	600	0	60
62	3,000	1,387	1,387	1,387	600	0	50
63	3,000	1,387	1,387	1,387	600	0	40
64	3,000	1,387	1,387	1,387	600	0	30
65	3,000	1,387	1,387	1,387	600	0	0
66	3,000	1,387	1,387	1,387	600	0	0
67	3,000	1,387	1,387	1,387	600	0	0
68	3,000	1,387	1,387	1,387	600	0	0
69	3,000	1,387	1,387	1,387	600	0	0
70	0	0	0	0	0	0	0

Schedule 12
Probability of Separation from Active Service - continued
(Number separating at each age per 10,000 working at that age)
General Male Members – Plan 3
Prior Assumptions

Age	Ordinary Disability	Duty Disability	Ordinary Death	Duty Death	Service Retirement
20	0	0	2	1	0
21	0	0	2	1	0
22	0	0	2	1	0
23	0	0	2	1	0
24	0	0	2	1	0
25	2	0	3	1	0
26	2	0	3	1	0
27	2	0	3	1	0
28	2	0	3	1	0
29	2	0	3	1	0
30	2	0	3	1	0
31	2	0	4	1	0
32	2	0	4	1	0
33	2	0	5	1	0
34	2	0	5	1	0
35	3	1	5	1	0
36	4	1	6	1	0
37	4	1	6	1	0
38	5	1	6	1	0
39	5	1	6	1	0
40	6	1	6	1	0
41	6	1	7	1	0
42	7	1	8	1	0
43	8	1	9	1	0
44	9	1	10	2	0
45	10	2	12	2	0
46	11	2	14	2	0
47	12	2	16	2	0
48	14	2	18	2	0
49	15	2	20	2	0
50	16	2	22	2	0
51	18	3	24	2	0
52	19	4	26	3	0
53	21	4	28	3	0
54	23	5	30	3	0
55	25	5	32	3	513
56	27	6	34	3	660
57	29	6	36	4	806
58	32	7	38	4	953
59	34	8	40	4	1,099
60	38	9	42	4	1,200
61	40	10	44	4	1,250
62	42	11	46	5	2,500
63	45	12	48	5	2,000
64	47	13	50	5	2,000
65	0	0	52	5	2,553
66	0	0	56	5	2,553
67	0	0	60	6	2,918
68	0	0	65	6	3,283
69	0	0	70	6	3,647
70	0	0	0	0	10,000

Schedule 13
Probability of Separation from Active Service
(Number separating at each age per 10,000 working at that age)
General Female Members – Plan 3
Prior Assumptions

Age	With (svc<1)	With (1<svc<2)	With (2<svc<3)	With (3<svc<4)	With (4<svc<5)	With (svc>5)	Vested Term
20	2,000	2,000	1,000	1,000	800	0	0
21	2,000	2,000	1,000	1,000	800	0	0
22	2,000	2,000	1,000	1,000	800	0	0
23	2,000	2,000	1,000	1,000	800	0	0
24	2,000	2,000	1,000	1,000	800	0	0
25	2,000	2,000	1,000	1,000	800	0	0
26	2,000	2,000	1,000	1,000	800	0	0
27	2,000	2,000	1,000	1,000	800	0	0
28	2,000	2,000	1,000	1,000	800	0	0
29	2,000	2,000	1,000	1,000	800	0	0
30	2,000	2,000	1,000	1,000	800	0	400
31	2,000	2,000	1,000	1,000	800	0	400
32	2,000	2,000	1,000	1,000	800	0	400
33	2,000	2,000	1,000	1,000	800	0	400
34	2,000	2,000	1,000	1,000	800	0	400
35	2,000	2,000	1,000	1,000	800	0	400
36	2,000	2,000	1,000	1,000	800	0	400
37	2,000	2,000	1,000	1,000	800	0	400
38	2,000	2,000	1,000	1,000	800	0	400
39	2,000	2,000	1,000	1,000	800	0	400
40	2,000	2,000	1,000	1,000	800	0	300
41	2,000	2,000	1,000	1,000	800	0	280
42	2,000	2,000	1,000	1,000	800	0	240
43	2,000	2,000	1,000	1,000	800	0	200
44	2,000	2,000	1,000	1,000	800	0	180
45	2,000	2,000	1,000	1,000	800	0	175
46	2,000	2,000	1,000	1,000	800	0	170
47	2,000	2,000	1,000	1,000	800	0	165
48	2,000	2,000	1,000	1,000	800	0	155
49	2,000	2,000	1,000	1,000	800	0	140
50	2,000	2,000	1,000	1,000	800	0	130
51	2,000	2,000	1,000	1,000	800	0	125
52	2,000	2,000	1,000	1,000	800	0	120
53	2,000	2,000	1,000	1,000	800	0	115
54	2,000	2,000	1,000	1,000	800	0	100
55	2,000	2,000	1,000	1,000	800	0	105
56	2,000	2,000	1,000	1,000	800	0	100
57	2,000	2,000	1,000	1,000	800	0	90
58	2,000	2,000	1,000	1,000	800	0	80
59	2,000	2,000	1,000	1,000	800	0	70
60	2,000	2,000	1,000	1,000	800	0	60
61	2,000	2,000	1,000	1,000	800	0	50
62	2,000	2,000	1,000	1,000	800	0	40
63	2,000	2,000	1,000	1,000	800	0	30
64	2,000	2,000	1,000	1,000	800	0	20
65	2,000	2,000	1,000	1,000	800	0	0
66	2,000	2,000	1,000	1,000	800	0	0
67	2,000	2,000	1,000	1,000	800	0	0
68	2,000	2,000	1,000	1,000	800	0	0
69	2,000	2,000	1,000	1,000	800	0	0
70	0	0	0	0	0	0	0

Schedule 14
Probability of Separation from Active Service - continued
(Number separating at each age per 10,000 working at that age)
General Female Members – Plan 3
Prior Assumptions

Age	Ordinary Disability	Duty Disability	Ordinary Death	Duty Death	Service Retirement
20	0	0	3	0	0
21	0	0	3	0	0
22	0	0	3	0	0
23	0	0	3	0	0
24	0	0	3	0	0
25	0	0	3	0	0
26	0	0	3	0	0
27	0	0	3	0	0
28	0	0	3	0	0
29	0	0	3	0	0
30	1	0	3	0	0
31	1	0	4	0	0
32	1	0	4	0	0
33	1	0	4	0	0
34	1	0	4	0	0
35	2	1	5	0	0
36	2	1	5	0	0
37	2	1	5	0	0
38	2	1	6	0	0
39	2	1	6	0	0
40	2	1	6	0	0
41	2	1	7	0	0
42	3	1	8	0	0
43	4	1	8	0	0
44	5	1	9	0	0
45	6	2	9	0	0
46	6	2	10	0	0
47	8	2	10	0	0
48	8	2	11	0	0
49	9	2	12	0	0
50	10	3	13	0	0
51	11	3	14	0	0
52	12	4	15	0	0
53	14	4	17	0	0
54	17	5	19	0	0
55	18	5	21	0	229
56	21	6	22	0	204
57	22	6	25	0	137
58	23	6	28	0	166
59	25	7	31	0	225
60	27	8	36	0	317
61	28	8	42	0	350
62	29	8	48	0	957
63	31	9	55	0	886
64	33	9	63	0	2,000
65	0	0	72	0	2,500
66	0	0	82	0	1,158
67	0	0	93	0	1,244
68	0	0	104	0	4,540
69	0	0	116	0	5,837
70	0	0	0	0	10,000

Schedule 15
Probability of Separation from Active Service
(Number separating at each age per 10,000 working at that age)
Safety and Probation Members
Prior Assumptions

Age	With (0<svc<1)	With (1<svc<2)	With (2<svc<3)	With (3<svc<4)	With (4<svc<5)	With (svc>5)	Vested Term
20	1,000	799	799	799	799	78	500
21	1,000	754	754	754	754	78	500
22	1,000	709	709	709	709	78	500
23	1,000	663	663	663	663	78	500
24	1,000	618	618	618	618	78	500
25	1,000	474	474	474	474	78	400
26	1,000	449	449	449	449	78	400
27	1,000	424	424	424	424	78	400
28	1,000	411	411	411	411	78	400
29	1,000	399	399	399	399	78	400
30	1,000	369	369	369	369	78	400
31	1,000	357	357	357	357	78	300
32	1,000	345	345	345	345	77	250
33	1,000	333	333	333	333	77	250
34	1,000	321	321	321	321	77	250
35	1,000	310	310	310	310	77	225
36	1,000	299	299	299	299	77	200
37	1,000	289	289	289	289	77	200
38	1,000	278	278	278	278	77	200
39	1,000	267	267	267	267	77	175
40	1,000	257	257	257	257	76	150
41	1,000	214	214	214	214	76	125
42	1,000	172	172	172	172	76	100
43	1,000	129	129	129	129	66	100
44	1,000	86	86	86	86	61	100
45	1,000	56	56	56	56	56	100
46	1,000	51	51	51	51	51	100
47	1,000	46	46	46	46	46	100
48	1,000	41	41	41	41	41	100
49	1,000	36	36	36	36	36	100
50	1,000	13	13	13	13	0	75
51	1,000	13	13	13	13	0	65
52	1,000	7	7	7	7	0	55
53	1,000	7	7	7	7	0	50
54	1,000	7	7	7	7	0	50
55	1,000	0	0	0	0	0	50
56	1,000	0	0	0	0	0	50
57	1,000	0	0	0	0	0	50
58	1,000	0	0	0	0	0	50
59	1,000	0	0	0	0	0	50
60	0	0	0	0	0	0	0

Schedule 16
Probability of Separation from Active Service - continued
(Number separating at each age per 10,000 working at that age)
Safety and Probation Members
Prior Assumptions

Age	Ordinary Disability	Duty Disability	Ordinary Death	Duty Death	Service Retirement
20	0	8	2	5	0
21	0	9	2	5	0
22	0	10	2	5	0
23	0	11	2	5	0
24	0	12	2	5	0
25	2	10	3	5	0
26	2	11	3	5	0
27	2	11	4	5	0
28	2	12	4	4	0
29	2	13	4	4	0
30	3	11	3	5	0
31	3	11	4	5	0
32	4	12	3	5	0
33	4	12	4	5	0
34	5	12	4	5	0
35	4	12	4	5	0
36	5	16	4	5	0
37	6	20	4	5	0
38	7	23	4	5	0
39	8	26	4	6	0
40	9	47	4	6	0
41	10	57	4	6	0
42	10	70	5	7	0
43	11	81	5	7	0
44	11	92	6	7	0
45	12	100	6	7	0
46	12	105	7	7	0
47	12	110	8	7	0
48	12	115	8	7	0
49	12	120	8	7	0
50	12	125	9	7	3,300
51	12	130	9	7	2,500
52	15	135	9	7	2,500
53	20	150	10	7	3,300
54	30	167	12	10	3,300
55	35	175	13	11	5,000
56	36	200	14	11	5,000
57	38	225	15	12	5,000
58	40	250	17	15	5,000
59	41	275	19	0	5,000
60	0	0	0	0	10,000

Schedule 17
Rate of Salary Increase
Prior Assumptions

Age	General Unisex	Safety Unisex	Age	General Unisex	Safety Unisex
20	9.74%	8.84%	46	5.60%	5.10%
21	9.49%	8.79%	47	5.50%	5.00%
22	9.24%	8.74%	48	5.36%	4.95%
23	9.24%	8.69%	49	5.22%	4.90%
24	8.99%	8.64%	50	5.08%	4.85%
25	8.74%	8.59%	51	4.94%	4.80%
26	8.49%	8.54%	52	4.80%	4.75%
27	8.24%	8.49%	53	4.78%	4.70%
28	8.19%	8.29%	54	4.76%	4.65%
29	8.14%	8.09%	55	4.74%	4.60%
30	8.09%	7.89%	56	4.72%	4.55%
31	8.04%	7.69%	57	4.70%	4.50%
32	7.99%	7.49%	58	4.68%	4.48%
33	7.74%	7.24%	59	4.66%	4.46%
34	7.49%	6.99%	60	4.64%	4.00%
35	7.24%	6.74%	61	4.62%	4.00%
36	6.99%	6.49%	62	4.60%	4.00%
37	6.74%	6.24%	63	4.58%	4.00%
38	6.59%	6.09%	64	4.56%	4.00%
39	6.44%	5.94%	65	4.54%	4.00%
40	6.29%	5.80%	66	4.52%	4.00%
41	6.14%	5.65%	67	4.50%	4.00%
42	5.99%	5.50%	68	4.48%	4.00%
43	5.89%	5.40%	69	4.46%	4.00%
44	5.80%	5.30%	>=70	4.00%	4.00%
45	5.70%	5.20%			

Section 5 Proposed Assumptions

The proposed assumptions are based upon the current analysis of the experience of the plan. Upon Board approval, all economic and demographic assumptions listed below will be used in the June 30, 2005 annual valuation of the pension plan.

Economic Assumptions

Interest:	7.75% per year (7.61% nominal compounded semi-annually). This is a change from 8.00% in the previous valuation.
Salary Increase – Total Payroll:	3.75 % per year. This is a change from 4.00% in the previous valuation.
Salary Increase – Individual:	Rates varying by service, for General and Safety members, as shown in Schedule 18. This is a change from the previous valuation in which the annual rate of compensation increase was 4.00% for inflation plus an assumption for merit and longevity varying by age. See Schedule 17 for the total salary increase factors varying by age used in the prior valuation.
Inflation:	3.75% per year. This is a change from 4.00% in the previous valuation.
Employee Contribution Interest Crediting Rate:	7.75% per year (7.61% nominal compounded semi-annually). This is a change from 8.00% in the previous valuation.

Demographic Assumptions

Post-retirement mortality:

- ***Service Retirement-General:*** RP-2000 Healthy Annuitant Mortality, with adjustment for white collar workers. Life Expectancies are shown in Schedule 19.

  This is a change from the prior valuation which used the 1994 Group Annuity Mortality table set back one year for males and two years for females, as shown in Schedule 1.

- ***Service Retirement-Safety:*** RP-2000 Healthy Annuitant Mortality, with adjustment for blue collar workers. Life expectancies are shown in Schedule 20.

  This is a change from the prior valuation, which used 1994 Group Annuity Mortality for males set forward one year, as shown in Schedule 1.

- ***Disability Retirement:*** RP-2000 Disabled Annuitant Mortality table. Life expectancies are shown in Schedule 21.

  This is a change from the prior valuation, which used 1981 Disability Mortality (General) for General members set back four years and the 1981 Disability Mortality (Safety) set back two years for Safety. Life Expectancies are shown in Schedule 2.

- ***Spouse:*** RP-2000 Healthy Annuitant Mortality, with adjustment for white collar workers for General members. Life Expectancies are shown in Schedule 19.

  This is a change from the prior valuation which used the 1994 Group Annuity Mortality table set back one year.

Pre-retirement mortality:

- ***Ordinary Death-General:*** RP-2000 Healthy Annuitant Mortality, with adjustment for white collar workers, as shown in Schedule 22. This is a change from the prior valuation, which used a scale of rates varying by age, as shown in Schedules 4, 6, 8, 10, 12 and 14.

- ***Ordinary Death-Safety:*** RP-2000 Healthy Annuitant Mortality, with adjustment for blue collar workers, as shown in Schedule 22. This is a change from the prior valuation, which used a scale of rates varying by age, as shown in Schedule 16.

- ***Duty Death-General:*** No deaths are assumed, as shown in Schedule 22. This is a change from the prior valuation which used a scale of rates varying by age, as shown in Schedule 4, 6, 8, 10, 12 and 14.

- ***Duty Death-Safety:*** Deaths are assumed to occur at 0.1% per year for all ages, as shown in Schedule 22. This is a change from the prior valuation which used a scale of rates varying by age, as shown in Schedule 16.

Termination: Total terminations are projected using a scale of rates varying by age, as shown in Schedule 23. Total terminations are split between withdrawals and deferred terminations using probabilities varying by service as described below.

This is a change from the prior valuation which used a separate scale of rates for withdrawals and deferred terminations varying by age and service, as shown in Schedules 3, 5, 7, 9, 13 and 15.

- ***Withdrawal (Refund of Member Contributions):*** The proportion of total terminations assumed to withdraw their contributions vary by service based on the following probabilities:

Years of Service	General Rate	Safety and Probation Rate
<5	100%	100%
5 to 9	10%	20%
10 +	2%	5%

- ***Vested Termination (Retirement Pension Deferred to Age 55 for General members and Age 50 for Safety members):***

The proportion of total terminations assumed to elect to receive a deferred pension vary by service based on the following probabilities:

Years of Service	General Rate	Safety and Probation Rate
<5	0%	0%
5 to 9	90%	80%
10 +	98%	95%

66% of all members electing to receive a deferred pension are assumed to join a reciprocal agency immediately after termination as a deferred vested member.

Service Disability:

Rates varying by age. Current rates are shown in Schedule 24. Rates from the prior valuation are shown in Schedules 4, 6, 8, 10, 12, 14 and 16.

Ordinary Disability:

Members eligible for ordinary disability benefits are assumed to become disabled based on rates varying by age. Current rates are shown in Schedule 24. Rates from the prior valuation are shown in Schedules 4, 6, 8, 10, 12, 14 and 16.

Service Retirement:

Members eligible for service retirement are assumed to retired based on rates varying by age. Current rates are shown in Schedule 25. Rates from the prior valuation are shown in Schedules 4, 6, 8, 10, 12, 14 and 16.

Form of Payment:	Life annuity for single members. 60% contingent annuity for married members (100% contingent annuity if receiving service-related disability).
Percentage Married at Retirement:	80% for General male, Safety and Probation members. 50% for General female members. These are changes from the prior valuation when the percentages were 85% and 55%.
Benefit Eligibility:	For decrement purposes, active members are considered potentially eligible for a benefit after meeting the age and service requirements. Prior to meeting those requirements, the demographic decrements are not applied.
Spouse Ages	For active members reaching retirement, wives are assumed to be three years younger than husbands. Where spousal information was included for retirees, that information was used. If no beneficiary information was present, it was assumed that there was no eligible beneficiary.

Schedule 18

Assumed Rate of Salary Increase
(Merit and Longevity Only)
Proposed

Years of Service	Safety Members	General Members	Probation Members
0	10.00%	10.00%	10.00%
1	8.00%	6.00%	6.00%
2	6.00%	4.00%	4.00%
3	4.00%	3.00%	3.00%
4	3.00%	0.75%	2.00%
5	2.00%	0.75%	1.50%
6-15	1.00%	0.75%	1.00%
16 or more	0.75%	0.75%	0.60%

Schedule 19

Life Expectancies at Sample Ages

Healthy General Members

Proposed

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

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

Schedule 20

Life Expectancies at Sample Ages

Healthy Safety Members

Proposed

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

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

Schedule 21

Life Expectancies at Sample Ages

Disabled General and Safety Members

Proposed

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

Disabled Members – RP-2000 Disabled Mortality

Schedule 22

Probability of Separation from Active Service Due to Death

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

Proposed

	General Members				Safety Members	
	Ordinary Death		Duty Death		Ordinary Death	Duty Death
Age	Male	Female	Male	Female	Unisex	Unisex
20	2	3	0	0	2	10
21	2	3	0	0	2	10
22	2	3	0	0	2	10
23	2	3	0	0	2	10
24	2	3	0	0	2	10
25	3	3	0	0	3	10
26	3	3	0	0	3	10
27	3	3	0	0	4	10
28	3	3	0	0	4	10
29	3	3	0	0	4	10
30	3	3	0	0	3	10
31	4	4	0	0	4	10
32	4	4	0	0	3	10
33	5	4	0	0	4	10
34	5	4	0	0	4	10
35	5	5	0	0	4	10
36	6	5	0	0	4	10
37	6	5	0	0	4	10
38	6	6	0	0	4	10
39	6	6	0	0	4	10
40	6	6	0	0	4	10
41	7	7	0	0	4	10
42	8	8	0	0	5	10
43	9	8	0	0	5	10
44	10	9	0	0	6	10
45	12	9	0	0	6	10
46	14	10	0	0	7	10
47	16	10	0	0	8	10
48	18	11	0	0	8	10
49	20	12	0	0	8	10
50	22	13	0	0	9	10
51	24	14	0	0	9	10
52	26	15	0	0	9	10
53	28	17	0	0	10	10
54	30	19	0	0	12	10
55	32	21	0	0	13	10
56	34	22	0	0	14	10
57	36	25	0	0	15	10
58	38	28	0	0	17	10
59	40	31	0	0	19	10
60	42	36	0	0	0	0
61	44	42	0	0	0	0
62	46	48	0	0	0	0
63	48	55	0	0	0	0
64	50	63	0	0	0	0
65	52	72	0	0	0	0
66	56	82	0	0	0	0
67	60	93	0	0	0	0
68	65	104	0	0	0	0
69	70	116	0	0	0	0
70	0	0	0	0	0	0

Schedule 23

Probability of Separation from Active Service Due to Termination

(Number separating at each age per 1,000 working at that age)

Proposed

General Members			Safety and Probation Members	
Age	**Male**	**Female**	**Age**	**Unisex**
20	145	143	20	80
21	140	138	21	76
22	136	136	22	72
23	132	133	23	69
24	128	130	24	65
25	124	128	25	62
26	120	125	26	59
27	117	123	27	56
28	113	120	28	53
29	110	118	29	50
30	107	115	30	48
31	103	113	31	46
32	100	111	32	43
33	97	109	33	41
34	94	106	34	39
35	92	104	35	37
36	89	102	36	35
37	86	100	37	33
38	84	98	38	32
39	81	96	39	30
40	79	94	40	29
41	76	92	41	27
42	74	90	42	26
43	72	89	43	25
44	70	87	44	23
45	68	85	45	22
46	66	83	46	21
47	64	82	47	20
48	62	80	48	19
49	60	79	49	18
50	58	77	50	0
51	56	75	51	0
52	55	74	52	0
53	53	72	53	0
54	51	71	54	0
55	50	70	55	0
56	48	68	56	0
57	47	67	57	0
58	45	65	58	0
59	44	64	59	0
60	43	63	60	0
61	41	62	61	0
62	40	60	62	0
63	39	59	63	0
64	38	58	64	0
65	37	57	65	0
66	0	0	66	0
67	0	0	67	0
68	0	0	68	0
69	0	0	69	0
70	0	0	70	0

Note: These are total rates of termination which account for members who withdraw and receive a refund of contributions and members who have a deferred benefit under the Plan.

Schedule 24

Probability of Separation from Active Service Due to Disability

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

Proposed

	General Members		Safety and Probation Members	
	Disability		Disability	
Age	Male	Female	Age	Unisex
20	0	0	20	8
21	0	0	21	9
22	0	0	22	10
23	0	0	23	11
24	0	0	24	12
25	2	1	25	12
26	2	1	26	13
27	4	3	27	13
28	4	3	28	14
29	4	3	29	15
30	6	4	30	14
31	6	4	31	14
32	6	4	32	16
33	8	9	33	16
34	9	14	34	17
35	9	23	35	16
36	11	29	36	21
37	13	39	37	26
38	15	42	38	30
39	18	45	39	34
40	22	45	40	56
41	26	45	41	67
42	30	45	42	80
43	34	45	43	92
44	38	45	44	103
45	42	47	45	112
46	46	54	46	117
47	50	56	47	122
48	53	58	48	127
49	56	59	49	132
50	59	60	50	137
51	62	61	51	142
52	66	62	52	150
53	69	63	53	170
54	72	64	54	197
55	77	65	55	210
56	83	66	56	236
57	90	67	57	263
58	96	68	58	290
59	102	68	59	316
60	109	83	60	0
61	115	96	61	0
62	123	109	62	0
63	131	120	63	0
64	139	129	64	0
65	0	0	65	0
66	0	0	66	0
67	0	0	67	0
68	0	0	68	0
69	0	0	69	0
70	0	0	70	0

Schedule 25

Probability of Separation from Active Service Due to Retirement

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

Proposed

Age	General Tier 1, 2 and 4 Members Male	General Tier 1, 2 and 4 Members Female	General Tier 3 Members Male	General Tier 3 Members Female	Probation and Safety Members Unisex
20	0	0	0	0	0
21	0	0	0	0	0
22	0	0	0	0	0
23	0	0	0	0	0
24	0	0	0	0	0
25	0	0	0	0	0
26	0	0	0	0	0
27	0	0	0	0	0
28	0	0	0	0	0
29	0	0	0	0	0
30	0	0	0	0	0
31	0	0	0	0	0
32	0	0	0	0	0
33	0	0	0	0	0
34	0	0	0	0	0
35	0	0	0	0	0
36	0	0	0	0	0
37	0	0	0	0	0
38	0	0	0	0	0
39	0	0	0	0	0
40	0	0	0	0	0
41	0	0	0	0	0
42	0	0	0	0	0
43	0	0	0	0	0
44	0	0	0	0	0
45	0	0	0	0	0
46	0	0	0	0	0
47	0	0	0	0	0
48	0	0	0	0	0
49	0	0	0	0	0
50	362	400	0	0	3,300
51	300	350	0	0	2,500
52	300	300	0	0	2,500
53	300	300	0	0	3,300
54	300	300	0	0	3,300
55	340	400	1,026	344	5,000
56	490	694	1,320	306	5,000
57	865	750	1,612	206	5,000
58	1,121	800	1,906	249	5,000
59	1,650	850	2,198	338	5,000
60	1,570	1,219	2,400	476	10,000
61	1,489	1,655	2,500	525	10,000
62	2,833	2,000	5,000	1,436	10,000
63	2,121	2,000	4,000	1,329	10,000
64	2,656	2,000	4,000	3,000	10,000
65	3,000	4,000	4,000	3,750	10,000
66	1,000	2,000	4,000	1,737	10,000
67	1,500	2,500	5,000	1,866	10,000
68	2,000	2,200	5,000	4,540	10,000
69	2,500	3,000	5,000	5,837	10,000
70	10,000	10,000	10,000	10,000	10,000

Section 6

Actuarial Methodology

A. Actuarial Methods and Procedures

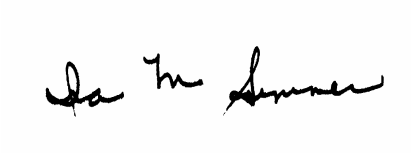
The actuarial methods and procedures followed in this experience study were consistent with standard actuarial principles and practice. The age of participants was calculated on an age-last-birthday basis. Decrements were assumed to occur in the middle of the year. No exposure was given unless the participant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

B. Participant Data

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

C. Certification

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



Ira M. Summer, F.S.A, E.A.
Public Pension Professionals, Inc.
August 16, 2005