



The City of Los Angeles Fire and Police Pension Systems

***Study of Plan Experience
July 1, 1998 to June 30, 2001***

November 29, 2001

Board of Fire and Police Pension Commissioners
City of Los Angeles
Fire and Police Pension Systems
Suite 600
360 East Second Street
Los Angeles, California 90012-4203

Members of the Board:

We are pleased to present the results of our study of plan experience during the period July 1, 1998 to June 30, 2001 for the City of Los Angeles Fire and Police Pension Systems.

The purpose of this report is to:

1. Present the results of our study of the non-economic experience of the Systems over the past three years, and compare that experience to the current actuarial assumptions. In addition, we have combined the results for 1998-2001 with the results from our prior studies of 1984-1998 to get a better indication of long term experience.
2. Discuss the current economic assumptions and their appropriateness for use in the future.

The report is divided into three sections:

- I. Summary of Results
- II. Detail of Our Study
- III. Exhibits

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We appreciate the opportunity to serve the City of Los Angeles and the Board of Fire and Police Pension Commissioners as actuary for the Fire and Police Pension Systems. We look forward to discussing the results of this study with you.

Sincerely,

A handwritten signature in cursive script that reads "Lawrence B. Di Fiore".

Lawrence B. Di Fiore, FSA
Consulting Actuary

A handwritten signature in cursive script that reads "Michael G. McMahan".

Michael G. McMahan, EA
Consultant

LBD:MGM:MC

CITY OF LOS ANGELES FIRE AND POLICE PENSION SYSTEMS

STUDY OF PLAN EXPERIENCE
JULY 1, 1998 TO JUNE 30, 2001

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CITY OF LOS ANGELES FIRE AND POLICE PENSION SYSTEMS

STUDY OF PLAN EXPERIENCE JULY 1, 1998 TO JUNE 30, 2001

PURPOSE OF THE STUDY

We have completed our study of the non-economic experience during the period July 1, 1998 to June 30, 2001 of the Fire and Police Pension Systems, in the following areas:

For Active Members:

- Ordinary Withdrawal
- Service-Related Death
- Ordinary Death
- Service-Related Disability
- Ordinary Disability
- Recovery From Disability
- Service Retirement
- Amount of Service-Related Disability Benefits

For Pensioners:

- Mortality for Members on Service Retirement
- Mortality for Members on Disability Retirement
- Mortality for Survivors

In addition, we have combined the experience results for 1998-2001 with the results for 1984-1998 from our prior studies. This will give a longer term look at the Systems' experience as compared to the assumptions.

Our study of demographic experience is based on Member data supplied by the Department of Fire and Police Pensions.

In addition to the study of non-economic assumptions, we have studied the economic assumptions applicable to the valuation of the assets and liabilities of the Fire and Police Pension Systems. These assumptions include:

- Investment Return on Assets
- Total System Payroll Increases
- Individual Salary Increases
- Cost-of-Living Adjustments
- Health Subsidy Benefit Increases

The purpose of examining plan experience is to measure the validity of the actuarial valuation assumptions and to set new assumptions, if actual experience indicates a need to do so. The experience over the last three years, analyzed along with that of the prior fourteen years indicates a need for new assumptions in the following areas:

PRE-RETIREMENT NON-ECONOMIC ASSUMPTIONS

- Service Retirement for Fire Members, Tier 2
- Ordinary Withdrawal for Police Members, Tiers 3 and 4
- Service-Related Disability for Fire Members
- Service-Related Disability for Police Members

Details of these new assumptions and their effect on System contributions can be found later in this report.

We have conferred with the Systems' administrative staff and have confirmed that the experience of the study period is indicative of expected future experience. Based on this, we have recommended new sets of assumptions for each of these areas.

ECONOMIC ASSUMPTIONS

We recommend no change to the economic assumptions.

CENSUS DATA

The information for this study is derived by comparing the Member data files for the June 30, 1998, 1999, 2000, and 2001 valuations. By tracing the changes in status from one year to the next, we are able to determine who retired, became disabled, or died during that year.

In general, we have studied the experience of all Tiers combined. However, because of experience variations over the years, for Members of Tiers 3 and 4, we have separately studied the Ordinary Withdrawal decrement for police Members and the Service Retirement decrement for both police and fire Members. In addition, we have also recognized the different eligibility conditions for service retirement under Tier 3.

RESULTS OF THE STUDY

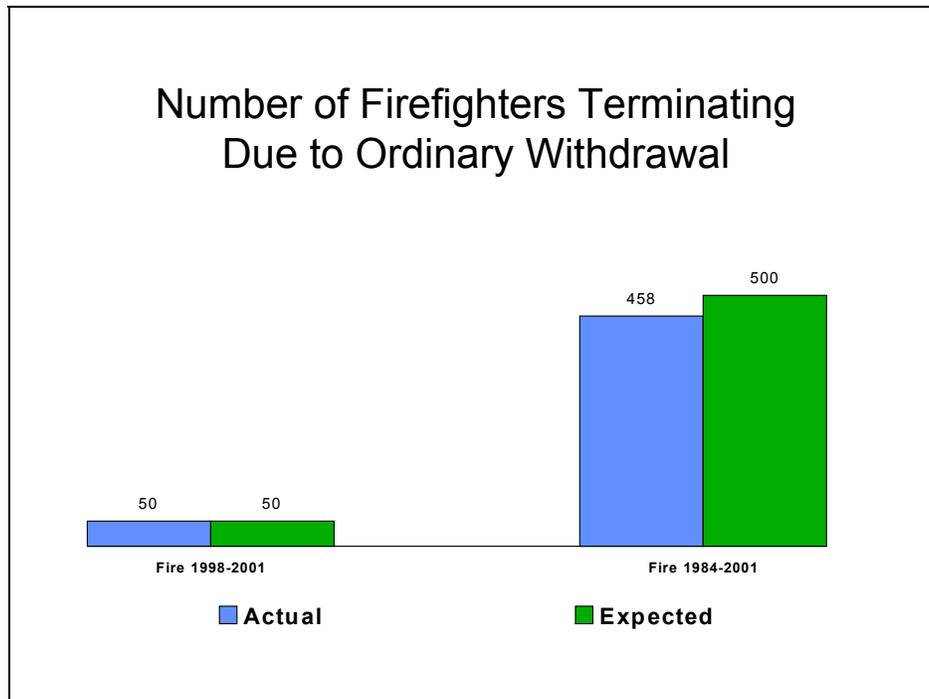
STUDY OF NON-ECONOMIC ASSUMPTIONS

The following is a summary of our study results. For a more detailed analysis, please refer to the Detail and Exhibits sections of this report.

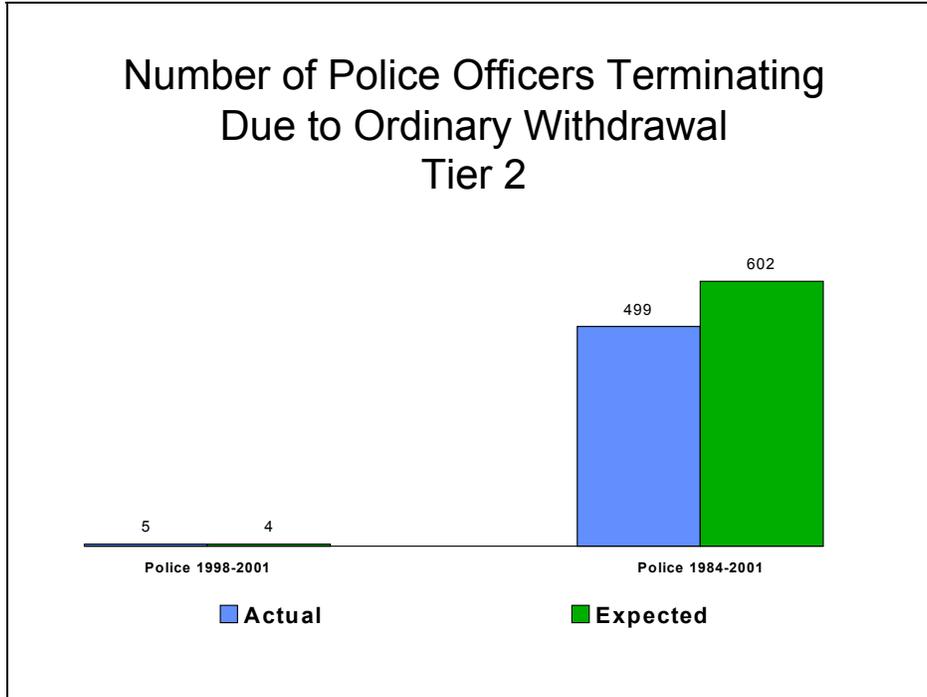
I. Terminations from Active Status

A. Ordinary Withdrawal

As a result of the previous Study of Plan Experience, the board adopted withdrawal rates for police officers of Tiers 3 that were greater than those of Tier 2. However because there is no material difference for firefighters in the two plans, the withdrawal assumptions for the firefighters are the same for all Articles. The following graphs for the groups studied show the actual and expected numbers of ordinary withdrawals.



During the seventeen year period 1984-2001, we expected 500 firefighter withdrawals. There were 458 actual withdrawals, or 92% of expected. Therefore, we are proposing no change to the current rates.

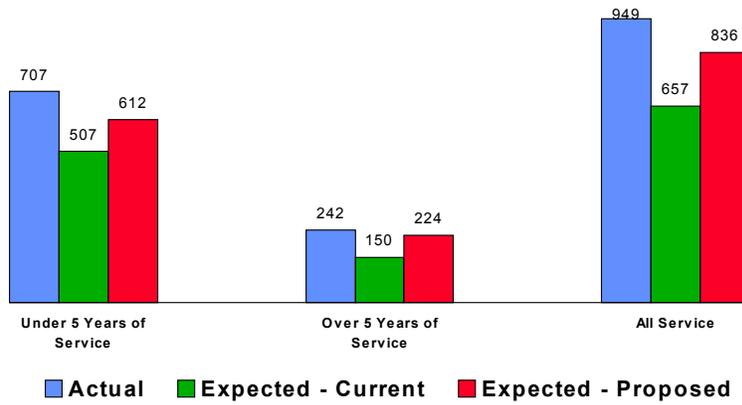


Over the study period, we expected 602 Tier 2 police officer withdrawals. There were 499 actual withdrawals, or 83% of expected. We recommend no change to the current assumption, as almost all the police officers of Tier 2 are currently eligible for service retirement, resulting in a relatively small population subject to ordinary withdrawal.

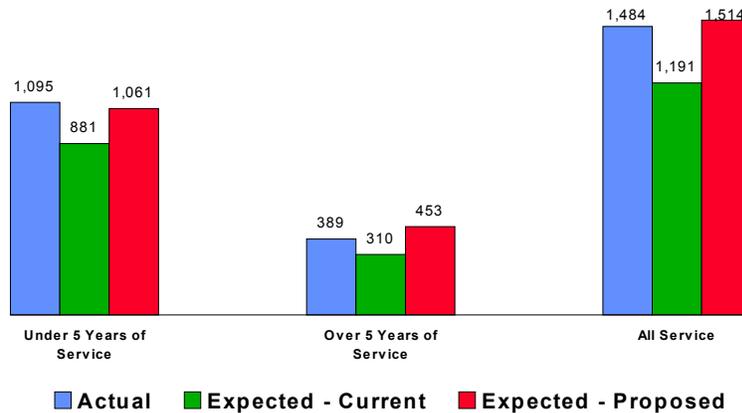
As of the prior study of plan experience, there are two sets of assumptions for rates of ordinary withdrawal for police officers of Tiers 3 and 4, rates for those with under 5 years of service, and rates for those with over 5 years of service. Experience continues to indicate that Members with less than 5 years of service terminated more frequently, regardless of age.

The following chart shows the actual and expected number of withdrawals under both current and proposed assumptions for those Members with under 5 years of service, over 5 years of service, and the two groups combined.

Number of Police Officers Terminating Due to Ordinary Withdrawal Tiers 3 and 4 1998-2001



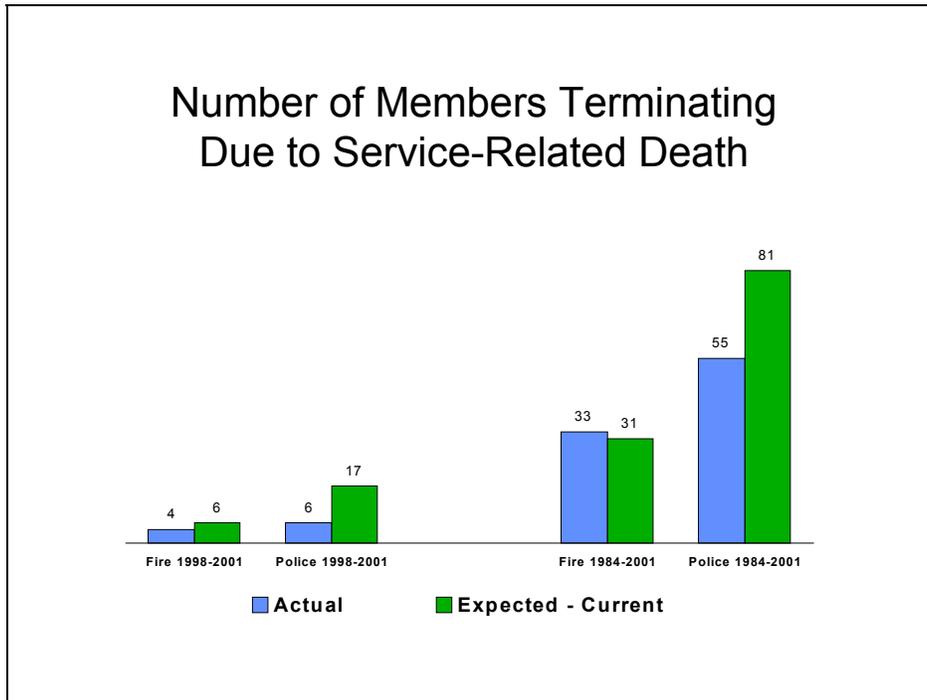
Number of Police Officers Terminating Due to Ordinary Withdrawal Tiers 3 and 4 1995-2001



B. Service-Related Death

Actual service-related deaths, as compared to expected, are illustrated below.

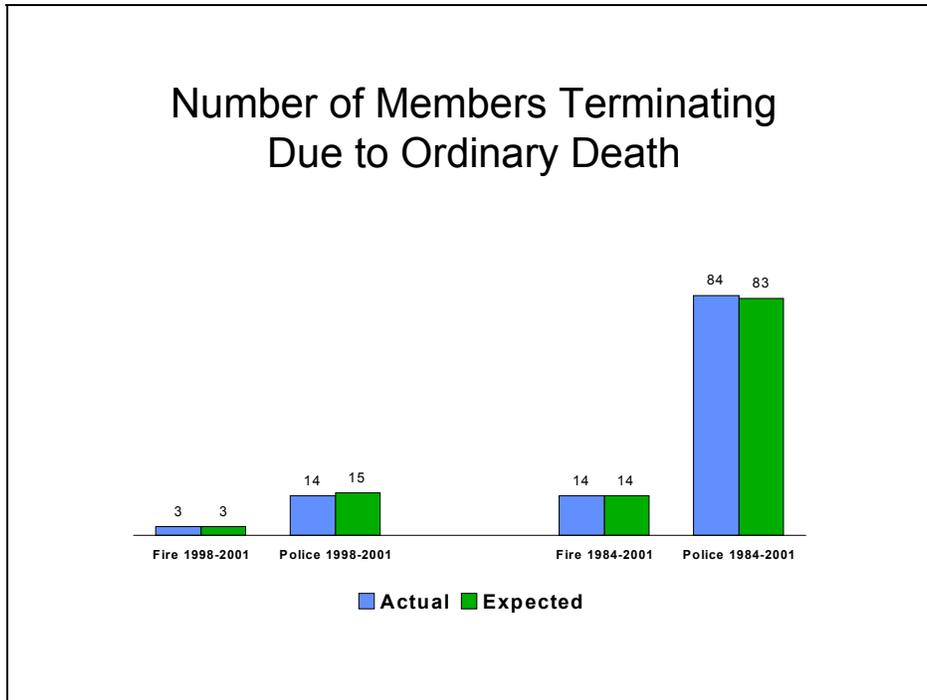
While experience differed from our assumption in 1998-2001, over the longer period of 1984-2001, experience was close to assumed.



There were 33 actual service-related deaths of firefighters during 1984-2001. This is 106% of the 31 expected for that period. There were 55 actual police service-related deaths during 1984-2001. This is 68% of the 81 expected under current assumptions. We recommend the service-related death rates for firefighters and police remain unchanged. If the trend of lower deaths in the police group continue, a change may be warranted in the future.

C. Ordinary Death

Deaths not related to the performance of duty are illustrated below.



There were 14 firefighters who died from non-duty related causes during the study period. Under our current assumptions, 14 firefighter deaths were expected.

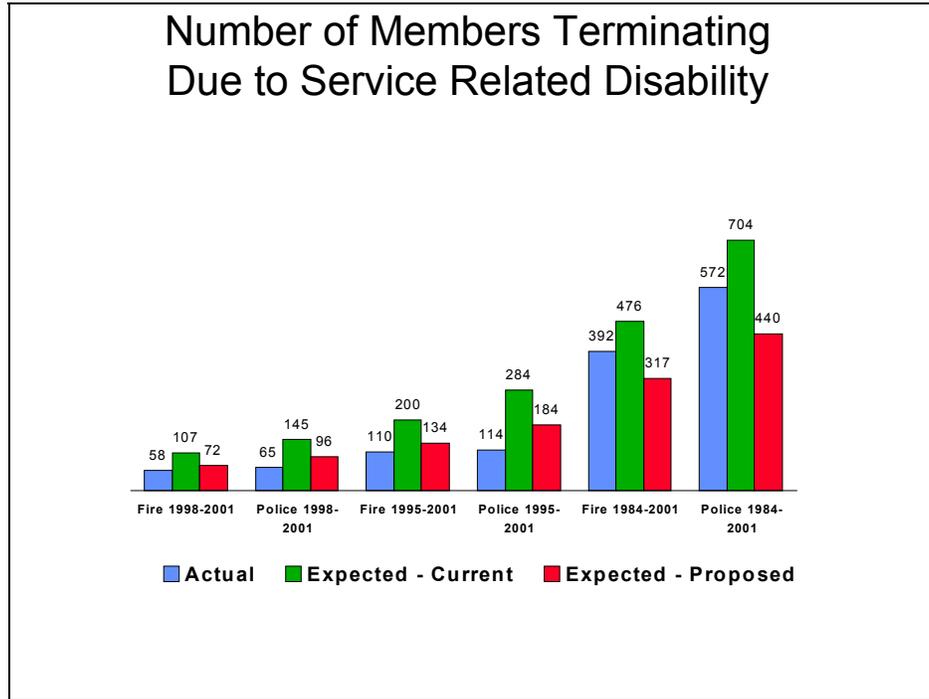
There were 84 actual police deaths, compared to the 83 expected.

We recommend no change in this assumption for both firefighters and police.

D. Service-Related Disability

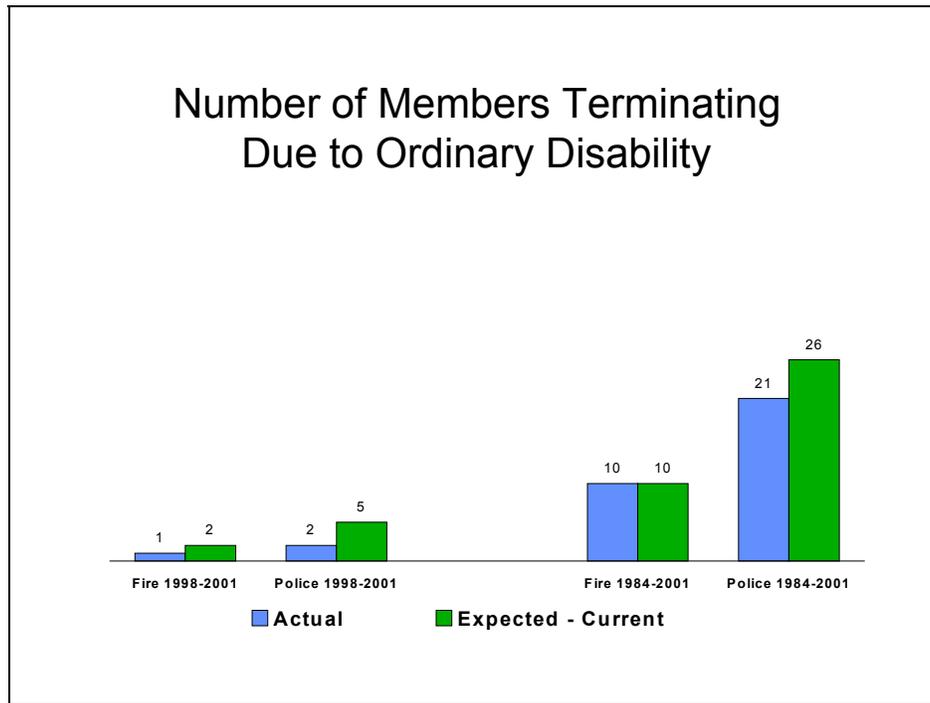
Actual service-related disabilities, as compared to expected, are shown below.

We have recommended new rates for both police and fire Members.



There has been a very pronounced decrease in the actual rates of service disabilities granted to both fire and police Members in the past six years compared to the eleven years prior to that. We feel that future rates of service connected disabilities are more accurately reflected by the experience of the past six years. We recommend new assumptions for both fire and police that reflect this decrease in service-connected disabilities.

E. Ordinary Disability



In 1984-2001, 10 firefighters and 21 police officers were disabled for non-duty related causes.

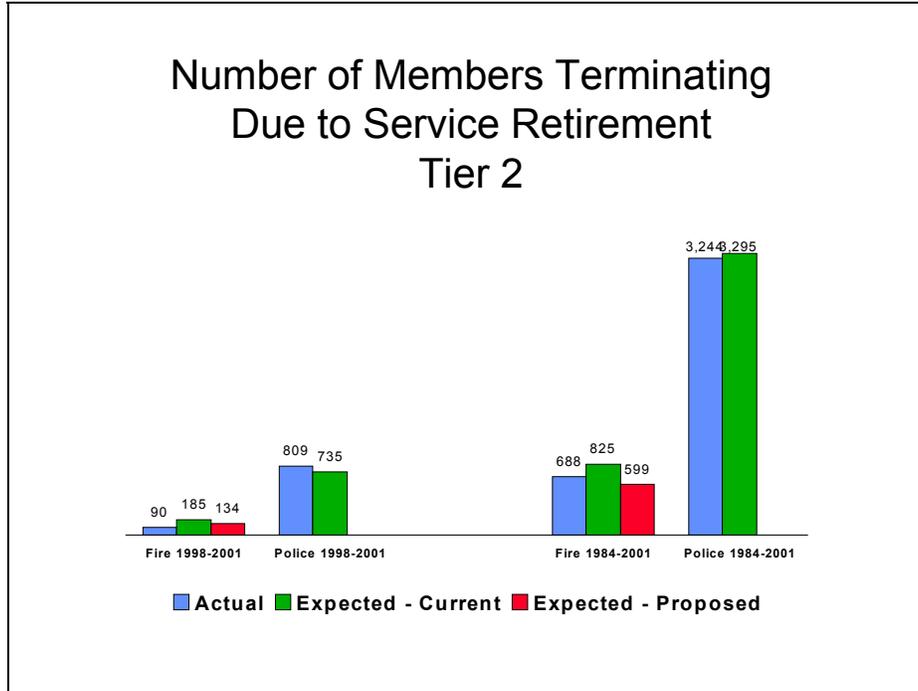
We expected 10 firefighter ordinary disabilities during 1984-2001 under our current assumptions. For police officers, 26 ordinary disabilities were expected. We recommend no changes to ordinary disability rates.

F. Recovery from Disability

We looked at the incidence of recovery from disability, as evidenced by a return to the active workforce. There were only 11 individuals who changed from disabled to active status in the period 1984-2001. Therefore, we recommend that we continue to assume that all disabilities are permanent.

G. Service Retirement

During the period 1984-2001, 688 firefighters and 3,244 police officers retired with a service retirement from Tier 2.



Under current assumptions for firefighters, we expected 825 service retirements during 1984-2001. Actual service retirements were 83% of expected as firefighters are retiring later than assumed. We are recommending a change to the assumptions for Tier 2 firefighters. Over the past six years actual retirements have been only half of what was expected. Under the proposed assumptions we would have expected 599 service retirements over the period 1984-2001.

For police officers, we expected 3,295 service retirements based on current assumptions. Actual service retirements were 98% of expected. We are recommending no change to the assumptions for Tier 2 police officers.

For Tiers 3 and 4, we expected 62 service retirements for police Members and 75 for fire Members. There were only 21 police officers and 20 firefighters who actually retired. Although this was much less than expected, there has not been sufficient experience due to the small numbers eligible for Service Retirement to warrant changes to assumptions at this time.

H. Amount of Service-Related Disability Benefits

We currently assume that future service-related disability benefits will be paid based on the following schedule:

<u>Years of Service</u>	<u>Percent of Salary Base</u>
0-20	50%
20-30	60%
Over 30	70%

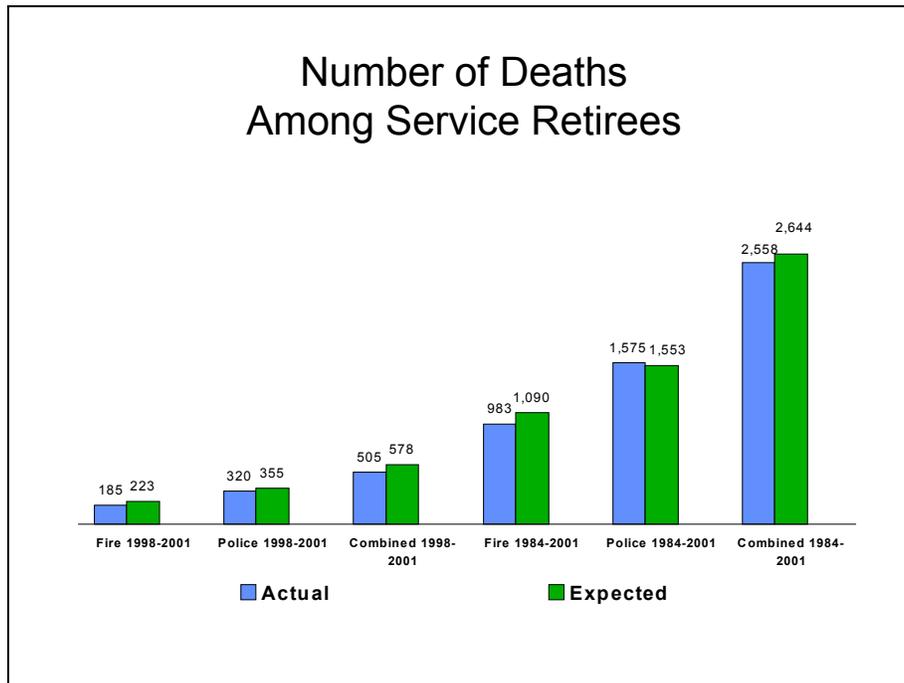
We have studied the actual incidence of service-related disability for 1988-2001 and found actual experience to be very close to these assumptions. Therefore, we recommend no change to our current assumptions.

II. Termination from Inactive Status

A. Mortality for Members on Service Retirement

During 1984-2001, 983 firefighters and 1,575 police officers on service retirement died. There were 1,090 firefighter pensioner deaths and 1,553 police pensioner deaths expected. Combining experience for firefighters and police officers, there were 2,558 actual deaths, where 2,644 were expected.

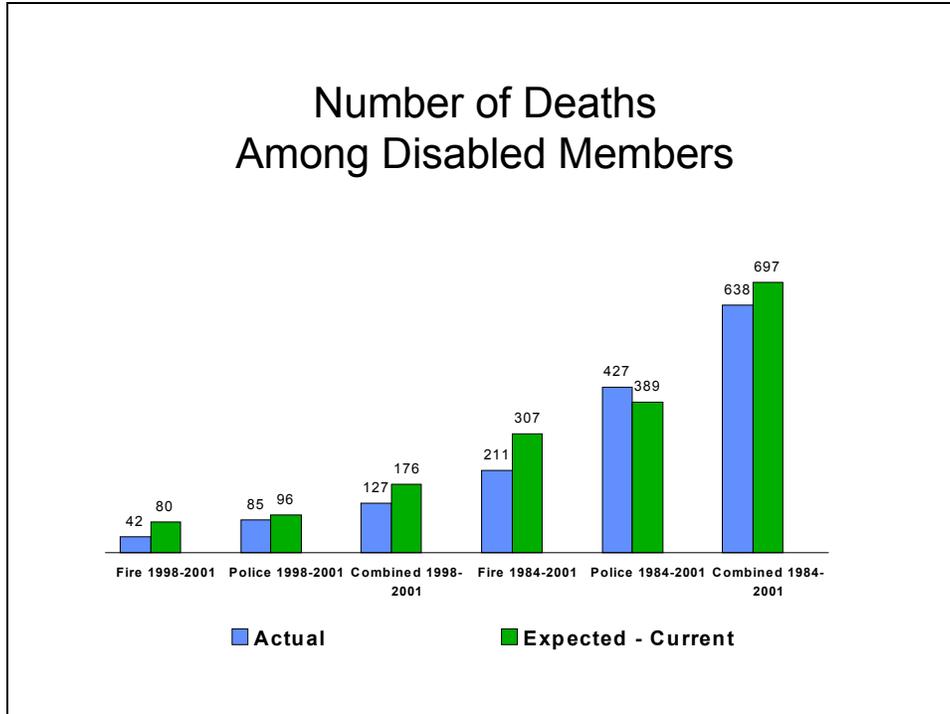
Currently, we use the 1994 Group Annuity Mortality Basic Table for mortality after service retirement. We recommend no change to this assumption.



B. Mortality for Members on Disability Retirement

During the study period, 638 disabled Members died (211 firefighters and 427 police officers).

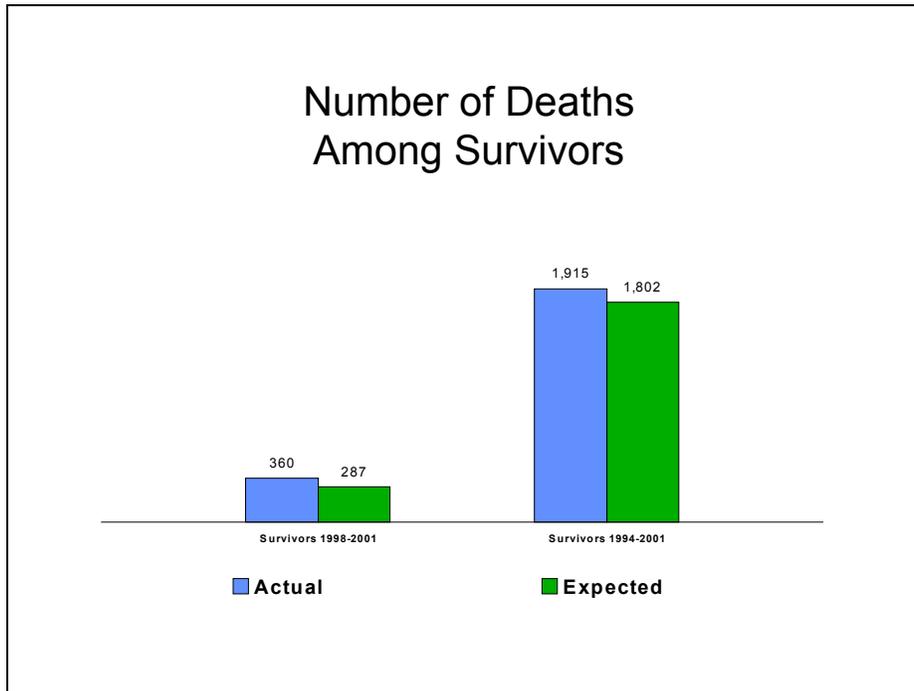
We expected 697 deaths of disabled Members (307 firefighters and 389 police officers).



Currently, we use the 1984 PBGC Disabled Life Mortality Table for males not receiving Social Security, with ages setback three years for mortality after disability retirement. We recommend using the same assumptions.

C. Mortality for Survivors

During 1984-2001, 1,915 survivors of police and firefighters died. We expected 1,802 survivor deaths. Currently we use the 1994 Group Annuity Basic Mortality Table with ages set back four years for survivors. We recommend using the current assumptions.



SUMMARY

In summary, we believe that the experience during our study period and expectations for the future indicate a need to revise assumptions in the areas of service retirement for fire Members of Tier 2, ordinary withdrawal for police Members of Tiers 3 and 4, and service-related disability for fire and police Members. We have developed new rate tables for these areas, which are described more fully in the Detail and Exhibits sections of this report.

WE HAVE RECALCULATED THE REQUIRED CONTRIBUTIONS TO THE SYSTEMS FOR THE FISCAL YEAR BEGINNING IN 2002 USING THESE NEW ASSUMPTIONS IN ORDER TO ILLUSTRATE THE EFFECT OF THESE CHANGES. THE CHANGES CAUSED DECREASES IN THE COST FOR ALL THREE ARTICLES. IF THESE CHANGES ARE ADOPTED BY THE BOARD, THEY WILL BE FIRST REFLECTED IN THE CONTRIBUTION FOR THE FISCAL

YEAR BEGINNING IN 2002. MORE DETAIL ON THESE SYSTEM COSTS
CAN BE FOUND ON PAGE 36. ***STUDY OF ECONOMIC
ASSUMPTIONS***

A. Pension Benefit Assumptions

Currently, we value the liabilities of the Fire and Police Pension Systems using the following economic assumptions:

- 8.5% Rate of Return
- 5.0% Cost-of-Living Adjustments
- 5.0% Total System Payroll Increases
- Individual Salary Increases ranging from 5.5% to 10%

We have examined historical experience and future trends and present our results in the Detail section of this report. We recommend no change to the above economic assumptions.

B. Health Subsidy Assumptions

In addition to the assumptions listed above, when valuing the post-retirement health subsidy benefits of the Systems, we currently assume there will be increases in medical inflation and Medicare premiums.

For pre-65 retirees, the medical inflation trend rate currently in use ranges from 7.50% in 2001 to 6.5% in 2005 and beyond. For post-65 retirees, the medical inflation trend rate ranges from 7.25% in 2001 to 6.5% in 2004 and beyond. The Medicare premium increase is 6.5% in 2001 and beyond.

We have studied past increases in health subsidy benefits, reviewed experience in postretirement health plans, in general, and analyzed expectations of the future. Based on our analysis, we recommend no change to the assumed medical trend rates for pre-65 and post-65 retirees and Medicare premiums.

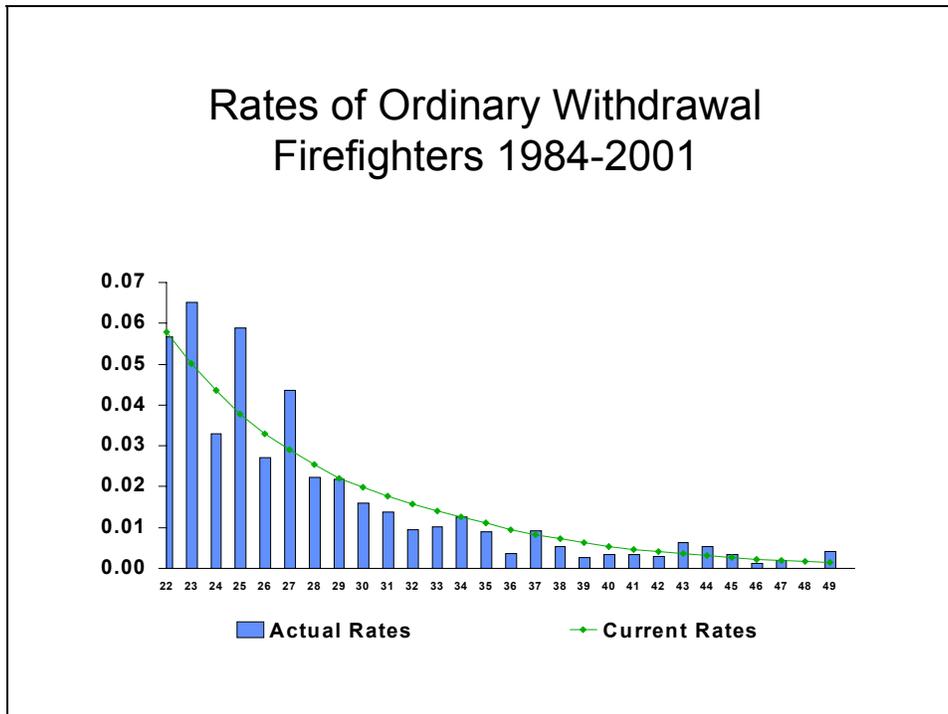
RESULTS OF STUDY OF Non-Economic Assumptions

The following sections detail the results of our study and our recommendations for new assumptions.

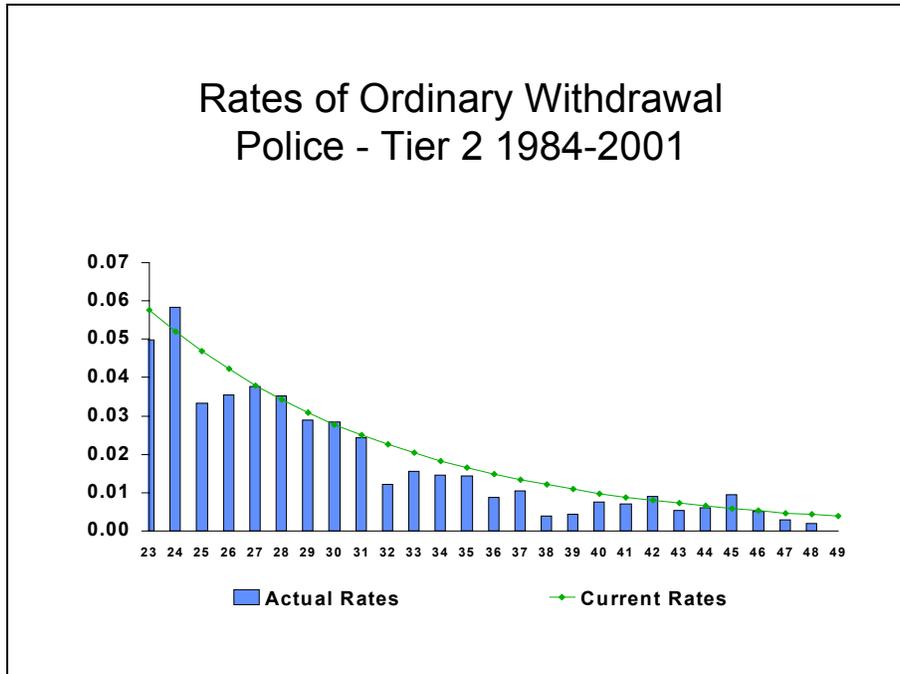
I. Terminations from Active Status

A. Ordinary Withdrawal

Ordinary withdrawal for firefighters rates were slightly less than expected at most ages, but followed the assumed rates quite closely. We recommend continued use of the current rates. The following graph illustrates the actual and expected rates of withdrawal.

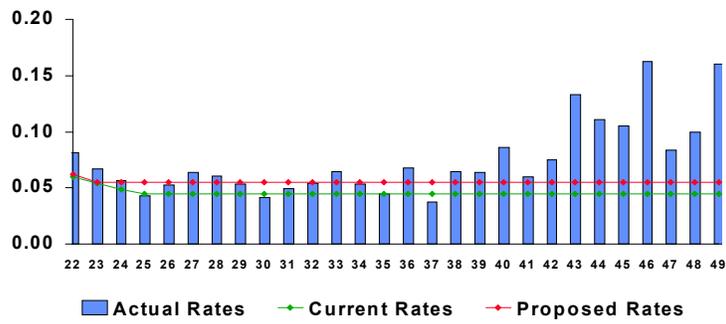


Ordinary withdrawal rates for Tier 2 police officers were slightly less than expected at most ages, but followed the assumed rates quite closely. We recommend the rates remain unchanged. The following graph shows the actual and expected rates of withdrawal.

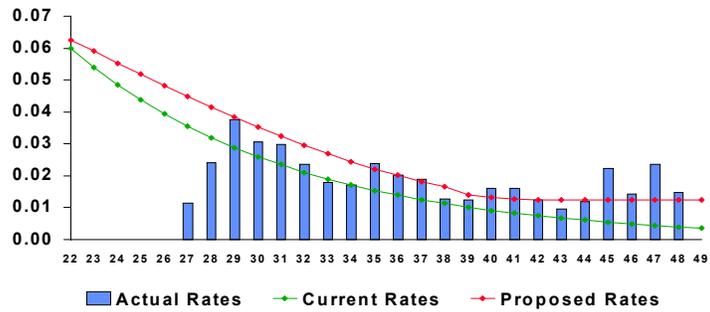


Tiers 3 and 4 police officers have experienced different rates of withdrawal depending on whether or not they had five years of service. (This service effect is not found in the firefighters group.) The following graphs show the actual rates of withdrawal, and the expected rates of withdrawal under current assumptions and proposed assumptions for both Members with less than five years of service and those with over five years of service.

Rates of Ordinary Withdrawal Police - Tiers 3 and 4 1995-2001 Under Five Years of Service



Rates of Ordinary Withdrawal Police - Tiers 3 and 4 1995-2001 Over Five Years of Service



The following charts illustrate the actual and our assumed withdrawals.

	<u>Police Tier 2</u>	<u>Fire (All Tiers)</u>
Actual Withdrawals 1984-2001	499	458
Expected – Current Assumptions	602	500

	<u>Police – Tiers 3 and 4</u>		<u>Total</u>
	<u>Under 5 Years</u>	<u>Over 5 Years</u>	
Actual Withdrawals 1995-2001	1,095	389	1,484
Expected – Current Assumptions	881	310	1,191
Expected – Proposed Assumptions	1,061	453	1,514

B. Service-Related Death

The rates were close to actual experience for both fire and police Members.

The actual service-related deaths and expected service-related deaths under current assumptions, are shown below.

	<u>Police</u>	<u>Fire</u>
Actual Deaths 1984-2001	55	33
Expected – Current Assumptions	81	31

We recommend no changes to these rates.

C. Ordinary Death

Ordinary deaths were very close to expected for firefighters and for police officers during 1984-2001. A summary of results follows:

	<u>Police</u>	<u>Fire</u>
Actual Ordinary Deaths 1984-2001	84	14
Expected - Current Assumptions	83	14

We recommend no change in the rates of ordinary death.

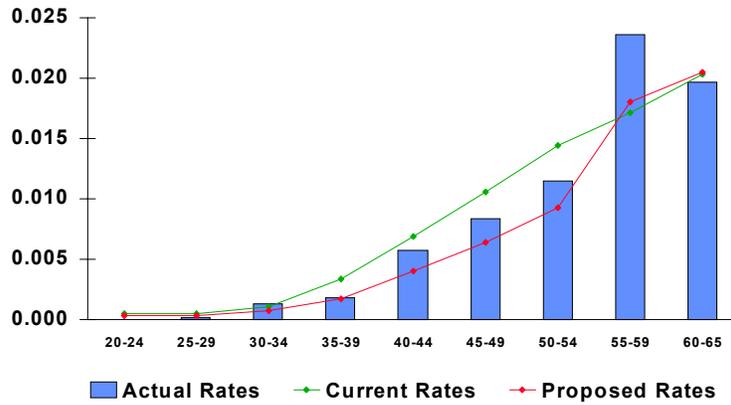
D. Service-Related Disability

In 1984-2001 the actual service-related disability rates were lower than expected. Actual rates were 81% of expected for police and 83% of expected for firefighters.

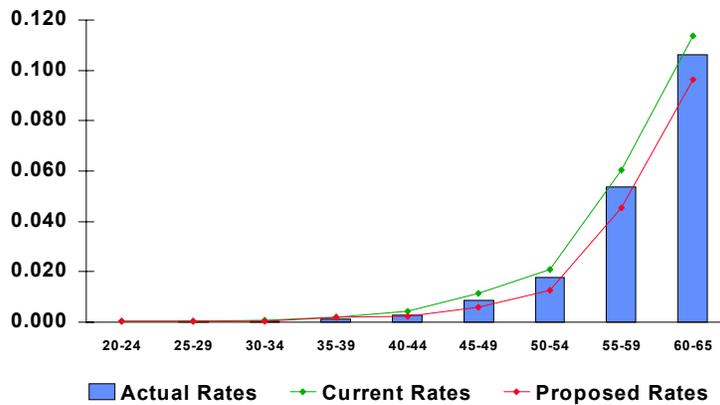
Although the actual experience rates for police Members are higher than expected for ages 55 to 59, this has very little effect on costs because of the small number of Members remaining in active status at those ages.

We have developed new rates for police and firefighters, which are compared to the actual and current assumed service-related disabilities in the graphs below.

Rates of Service-Related Disability Police 1984-2001



Rates of Service-Related Disability Firefighters 1984-2001



The new rates reflect fewer expected disabilities than the current rates for police officers and firefighters. Actual versus expected numbers are shown below.

	<u>Police</u>	<u>Fire</u>
Actual Service-Related Disabilities 1984-2001	572	392
Expected - Current Assumptions	704	476
Expected – Proposed Assumptions	440	317

E. Ordinary Disability

The actual disabilities and expected disabilities under current assumptions for ordinary disability are outlined below. There are no changes recommended for ordinary disability.

	<u>Police</u>	<u>Fire</u>
Actual Ordinary Disabilities 1984-2001	21	10
Expected - Current Assumptions	26	10

F. Recovery From Disability

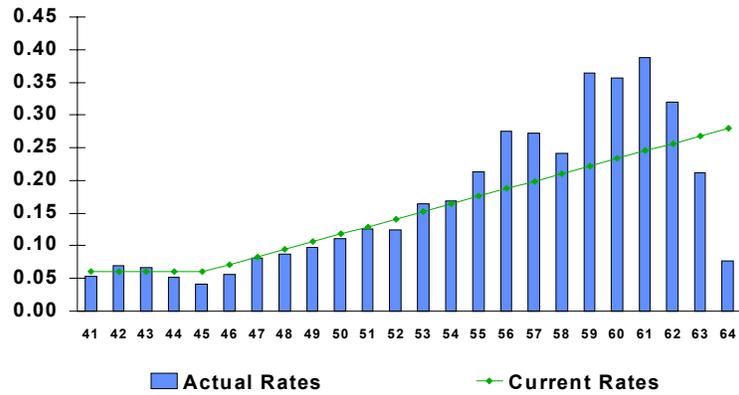
Because of the small numbers of disabled Members who return to the active workforce, we will continue to assume that Members who become disabled will not return to the active workforce. We will continue to monitor the assumptions as more data becomes available.

G. Service Retirement

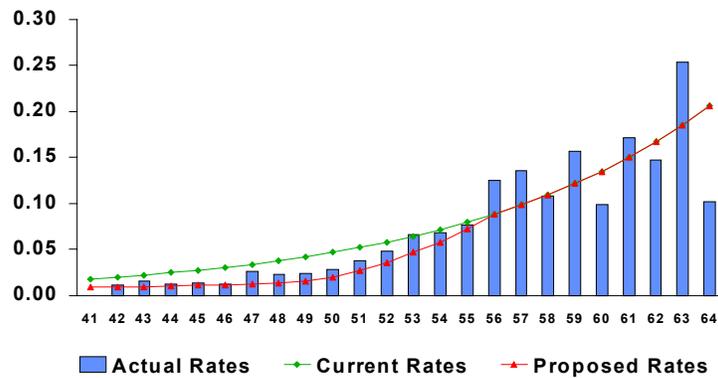
Under Tiers 1, 2 and 4, service retirement is available to Members with 20 years of service. Tier 3 Members are eligible for service retirement at age 50 with 10 years of service. We currently have separate rates for Tier 3 Members to reflect this difference.

At this time, there is very little retirement experience to test the assumptions for Tier 3. The graphs on the next page show the actual and expected service retirement experience for Tiers 1 and 2 only.

Rates of Service Retirement Police Tiers 1 and 2 1984-2001



Rates of Service Retirement Firefighters Tiers 1 and 2 1984-2001



At age 65 all remaining Members are assumed to retire.

The service retirements in 1984-2001, plus the expected numbers under current and proposed assumptions are:

	<u>Police</u>	<u>Fire</u>
Actual Service Retirements 1984-2001	3,244	688
Expected - Current Assumptions	3,295	825
Expected – Proposed Assumptions	N/A	599

H. Amount of Service-Related Disability Benefits

Service-related disability benefit can range between 50% to 90% of final salary for Tiers 1 and 2 and 30% to 90% of one year average salary for Tiers 3 and 4. (There is a minimum of 2% per year of service for Tiers 3 and 4.) When projecting future service-related disability benefits, we estimate the amount of the benefit based on the following schedule:

<u>Years of Service at Disability</u>	<u>Percent of Salary Base</u>
0-20	50%
20-30	60%
Over 30	70%

We have studied the actual service-related disability benefit granted for Tier 2 and Tiers 3 and 4 between 1988-2001. The average benefits granted have been very close to assumed:

<u>Years of Service at Disability</u>	<u>Average Benefits</u>
0-20	52%
20-30	59%
Over 30	70%

We recommend that the current assumptions remain unchanged.

II. Termination from Inactive Status

A. Mortality for Members on Service Retirement

Currently, we use the 1994 Group Annuity Mortality Basic Table to estimate mortality for Members on service retirement. This table resulted in 1,090 firefighter and 1,553 police pensioner deaths expected for 1984-2001. Actual deaths were 983 for firefighters and 1,575 for police. In total, the number of actual deaths was 97% of the expected number. We recommend no change be made to this assumption.

B. Mortality for Members on Disability Retirement

The 1984 PBGC Disabled Life Mortality Table for males not receiving Social Security, with ages set back three years, is currently being used to estimate the mortality for Members on disability retirement. This table resulted in 307 firefighters and 388 police disability pensioner deaths expected in 1984-2001. Actual deaths were 69% of expected, or 211 for firefighters, and 110% of expected, or 427 for police. In total, the number of actual deaths was 92% of expected. We recommend that this table continue to be used for disabled pensioner mortality.

C. Mortality for Survivors

Actual mortality rates were 106% of expected for police and fire survivors combined. There were 1,915 actual deaths, as compared to 1,802 expected. We recommend continued use of the 1994 Group Annuity Mortality Basic Table with ages setback 4 years to four years.

RESULTS OF STUDY OF Economic Assumptions

The economic assumptions used in the valuation of the liabilities and assets of the Fire and Police Pension Systems are:

- Future rate of return on assets
- Future cost-of-living increases
- Future total payroll increases
- Future individual salary increases
- Future increases in health subsidy benefit costs

Although separate economic assumptions are defined for investment return, individual salary increases, total payroll increases, and cost-of-living increases, and although each should be reasonable standing alone, the relationships between each of these assumptions is also important.

In studying these assumptions, it is desirable to look at them from a few different directions.

- What has been actual experience in comparison to the assumptions in past years?
- What are expected trends for the future, based on forecasted asset mix, trends in labor negotiations, etc.?
- What are other similar plans assuming?

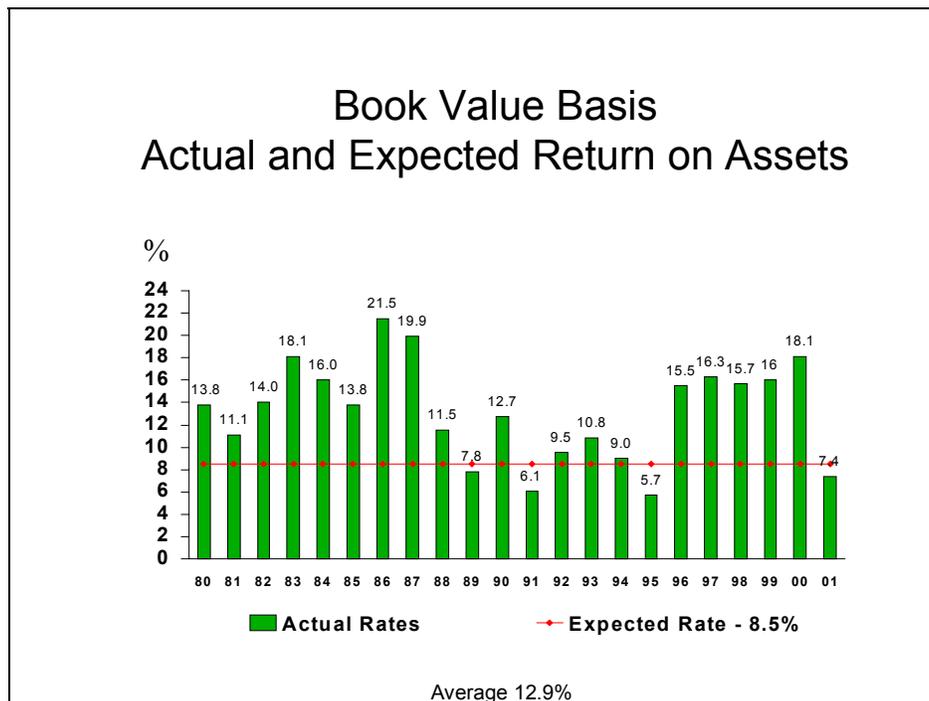
The rest of this section discusses these questions.

I. Rate of Return on Assets

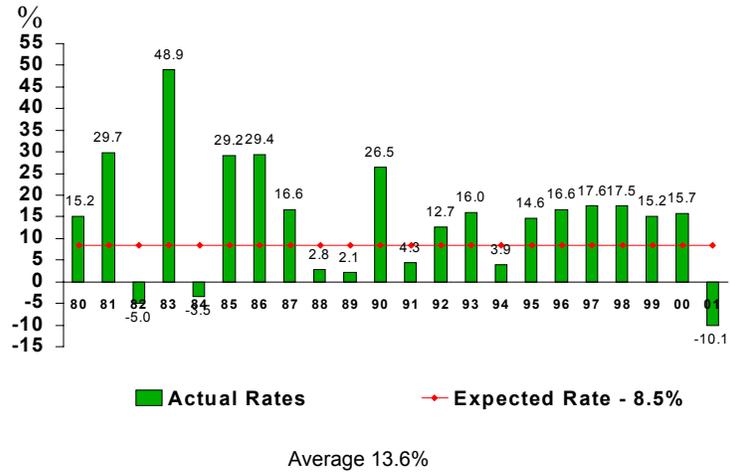
Currently, we assume an 8.5% annual rate of return on System assets.

Although the historical rates of return are higher than the 8.5% assumed, the results for the long term periods continue to support the use of the current assumption. When choosing this assumption, it is desirable to have a small "cushion" of conservatism in the rate assumed. Also, this assumption should be "net of expenses" since certain administrative expenses are paid from System assets. This is another reason for a "cushion" on the expected rate.

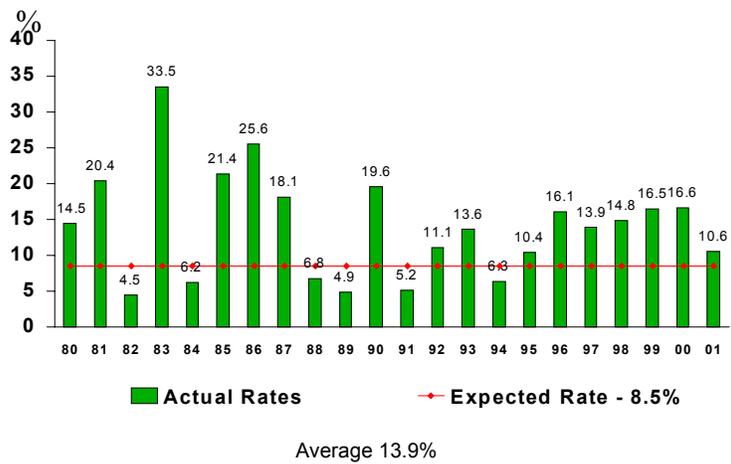
The rate of return on System assets have averaged higher than 8.5% over the recent past. The following three graphs show historical data on rates of return for book value, market value, and actuarial value. (The definition of actuarial value of assets has changed over the years. Actuarial values prior to July 1, 1995 were based upon the average of book and market value. For years after July 1, 1995 the rate of return on actuarial value shown are based upon the current definition reflecting smoothed market value.)



Market Value Basis Actual and Expected Return on Assets



Actuarial Value Basis Actual and Expected Return on Assets

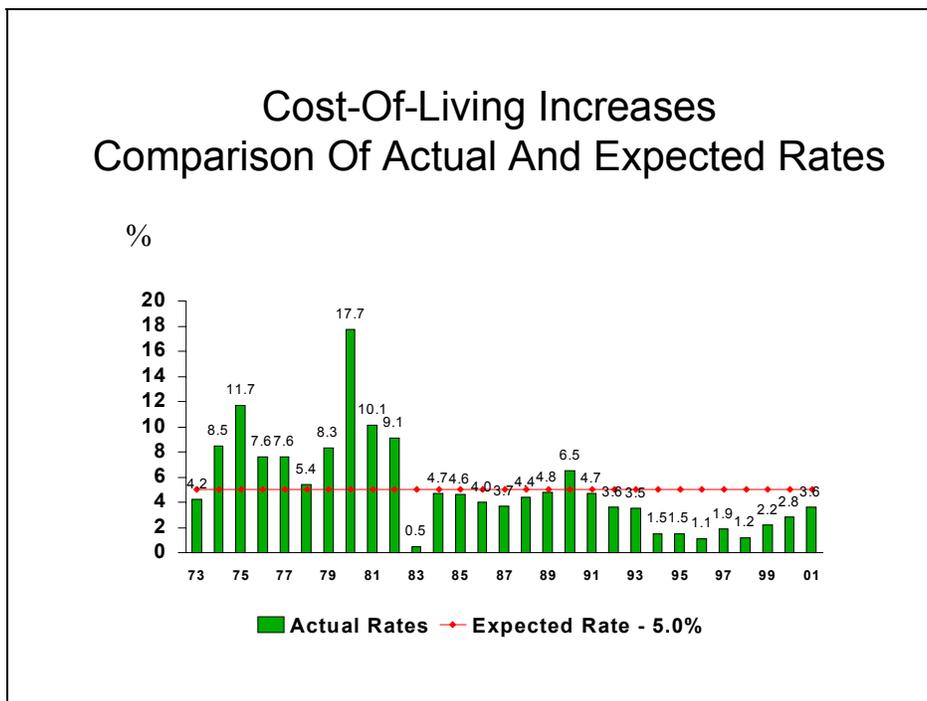


Over these twenty-two years, the average is about 12.9% per year on book value, 13.6% per year on market value, and about 13.9% per year on actuarial value.

II. Cost-of-Living Increases

Currently, we assume a 5.0% annual cost-of-living increase in Tiers 1 and Tier 2 benefits. Tiers 3 and 4 increases are currently capped at 3%.

Cost-of-living adjustments to System pensions over the last 29 years are illustrated below:



These increases are based on the consumer price index for the greater Los Angeles area. For the 26 period, the increases averaged 5.3% per year. Removing the exceptionally large increase for 1980, the average becomes 4.9%. Over the last ten years, the average has been 2.3%. Since 1983 only one year has been above the current assumption of 5.0%.

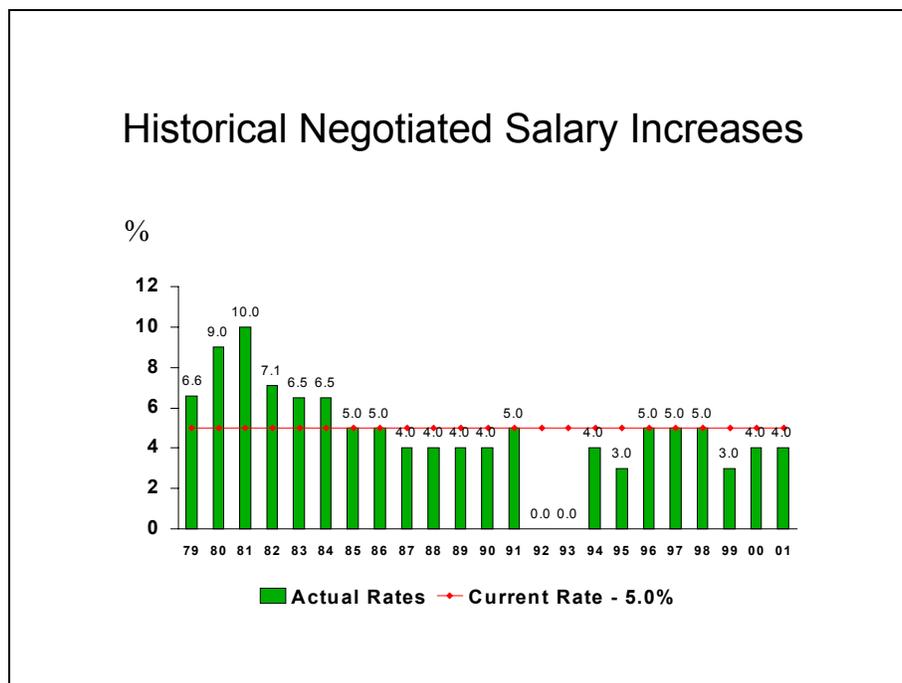
The appropriate time frame to examine for cost-of-living increases is similar to that of the rate of return. However, the real cost effect will be for current Tiers 1 and 2 Members, whose cost-of-living increases are not capped. The time frame to look at for these Members is about twenty-five to thirty years.

We propose no change to the current cost-of-living increase assumption of 5.0%.

III. Total Payroll Increases

This amount is used only for amortizing unfunded actuarial liability. It has no effect on actual liabilities.

Currently, we assume a 5.0% average annual increase in total System payroll. This assumption should reflect only increases in payroll due to wage inflation and not include growth from population increases. For the Fire and Police Systems, this is related to the annual negotiated salary increases granted to the Members.



Over the last 23 years, the negotiated increases averaged 4.7% per year for police and 4.7% per year for firefighters. Since 1957, the first year for which data was available, increases averaged about 5.0% per year for both groups.

We recommend continued use of the current assumption.

IV. Individual Salary Increase

Annual salary increases for individuals are assumed to vary by age according to the following schedule:

Age	Annual Salary Increase
Under 25	10.00%
25-29	9.00%
30-34	8.00%
35-39	7.00%
40-44	6.00%
45-49	5.75%
50 and Over	5.50%

We have analyzed the actual individual increase in salaries for the period 1989 to 2001. Over that period total individual salaries increase were less than expected. However, during that period there were two years in which negotiated salary increase were 0%, which distorts the results. By removing those two years, the total individuals salary increases for the period would have been within 15% of the assumed increases for all age groups.

We have also analyzed the total individual salary increases if the negotiated increases had matched our total payroll increase of 5.0%. Under this method the adjusted individual salary increase would have been very close to the assumed increases for all age groups, as shown on the following chart.

Age	Assumed Annual Salary Increase	Actual Annual Salary Increases 1989-2001*
Under 25	10.00%	11.50%
25 - 29	9.00	10.03%
30 – 34	8.00	7.99%
35 – 39	7.00	6.94%
40 – 44	6.00	6.33%
45 – 49	5.75	5.85%
50 and over	5.50%	5.59%

* Adjusted for negotiated increases of 5.0%.

Therefore, we recommend no change in the rates of individual salary increases.

V. Health Subsidy Increases

When valuing the health subsidy liabilities of the Systems, we need to make economic assumptions regarding the future increases in the cost of medical care, the future changes in the proportion of medical costs covered by Medicare, future changes in medical care utilization, and future changes in Medicare premiums.

These assumptions must be reasonable on their own, and in conjunction with each other and with our other economic assumptions such as the rate of return on assets. They also must result in a realistic relationship of future medical care costs with the economy as a whole.

Currently we use assumptions for medical cost increases and increases in Medicare premiums, as follows:

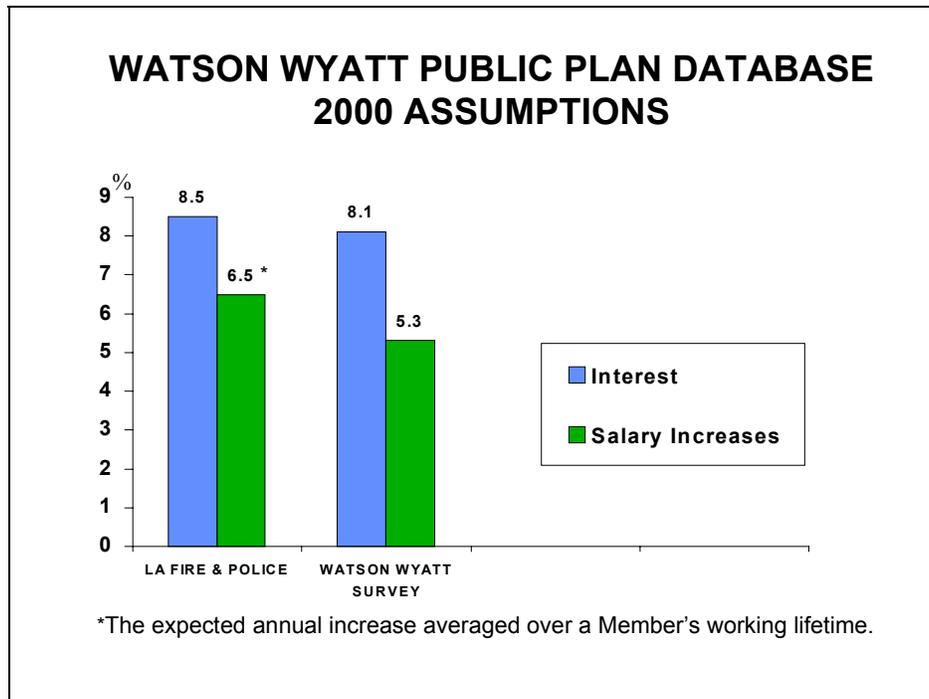
	Medical Inflation		Medicare Premium Increases
	Pre-65	Post-65	
2001-2002	7.50%	7.25%	6.5%
2002-2003	7.25%	7.00%	6.5%
2003-2004	7.00%	6.75%	6.5%
2004-2005	6.75%	6.50%	6.5%
2005 +	6.50%	6.50%	6.5%

We have studied past increases in the Systems' health subsidy benefits and analyzed future expectations. The average annual increase in total average subsidies paid for since 1989, representing the years in which we have data, is 3.5% for pre-65 premiums and 4.2% for post-65 premiums. We have, however, been in a short period of flat or declining premiums, which we do not foresee continuing.

We recommend no change in the above health subsidy increase assumptions.

ECONOMIC ASSUMPTIONS OF PLANS IN PUBLIC PLAN DATABASE

Watson Wyatt's Annual Survey of Actuarial Assumptions and Methods includes statistics regarding the rate of return and salary increase assumptions used by large public plans around the country. In the 2000 study, the average rate of return assumed for public plans in the database was 8.1%. The average salary increase was 5.3%.



The Fire and Police assumptions are slightly higher than these averages.

Recommendations For Economic Assumptions

Currently, the Fire and Police Systems use the following economic assumptions in the valuation of System liabilities:

- 8.5% Rate of Return
- Individual Salary Increases varying from 5.5% to 10%
- 5.0% Total System Payroll Increases
- 5.0% Cost-of-Living Adjustments

Based on the results of our analysis, we recommend that the rate of return and individual and total salary increase assumptions continue to be used. We recommend decreasing the cost-of-living increase assumption from 5.0% to 4.5%. We believe these proposed assumptions standing alone, and in relationship with each other, provide a good estimate of the long term economic experience that can be expected by the Systems.

For health subsidy benefits, we recommend no changes to the current assumptions. The following section shows the effect of these proposed economic assumption changes on System costs.

Effect Of Changes In Assumptions On System Costs

The following exhibit shows the effect on system costs of the proposed assumption changes.

EFFECT OF CHANGES IN ASSUMPTIONS ON SYSTEM COSTS

We have calculated what the fiscal 2002-2003 System contributions for pension benefits will be if the new economic and demographic assumptions recommended in this report are in effect for the June 30, 2001 valuation.

	Current Assumptions	Under Recommended Demographic Assumptions	Percent Change
TIER 1			
City's Normal Cost			
As a Percent of Tier 1 Payroll	18.427%	17.548%	-5%
Amortization of the UAAL	\$26.5 million	\$26.5 million	0%
TIER 2			
City's Normal Cost			
As a Percent of Tier 2 Payroll	22.626%	21.016%	-7%
Amortization of the UAAL/(Surplus)			
As a Percent of Total System Payroll	(9.968%)	(10.156%)	-2%
TIER 3			
City's Normal Cost			
As a Percent of Tier 3 Payroll	14.504%	12.826%	-12%
Amortization of the UAAL/(Surplus)			
As a Percent of Tiers 3 Payroll	(5.319%)	(5.680%)	-7%
TIER 4			
City's Normal Cost			
As a Percent of Tier 4 Payroll	13.462%	11.875%	-12%
Amortization of the UAAL/(Surplus)			
As a Percent of Tiers 4 Payroll	(4.185%)	(4.315%)	-3%

The recommended change in demographic assumptions causes a small decrease for Tiers 1 and 2, but a larger decrease for Tiers 3 and 4.

We estimate that these changes will result in approximately a \$18 million decrease in the actual dollar contribution for 2002-2003.