SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM

INVESTIGATION OF ACTIVE EXPERIENCE
2003 THROUGH 2006

May 2, 2008

By

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May 2, 2008

Retirement Board
Seattle City Employees' Retirement System
720 Third Avenue., Suite 1000
Seattle, WA 98104

Dear Members of the Board:

It is a pleasure to submit this report of our investigation of the experience of the Seattle City Employees' Retirement System for the years 2003 through 2006. The results of this investigation are the basis for recommended changes in actuarial assumptions for the actuarial valuation to be performed as of January 1, 2008. Note that this report only covers the assumptions for active members. The mortality assumptions for retired members are scheduled to be reviewed in 2009.

The purpose of this report is to communicate the results of our review of the actuarial methods and the economic and demographic assumptions to be used in the completion of the upcoming valuation. Several of our recommendations represent changes from the prior methods or assumptions and are designed to better anticipate the emerging experience of the System.

We have provided financial information showing the estimated impact of the recommended assumptions, if they had been reflected in the April 30, 2007 special actuarial valuation. We believe the recommended assumptions provide a reasonable estimate of anticipated experience affecting SCERS. Nevertheless, the emerging costs will vary from those presented in this report to the extent that actual experience differs from that projected by the actuarial assumptions. Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as the following:

- Plan experience differing from the actuarial assumptions,
- Future changes in the actuarial assumptions,
- Increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as potential additional contribution requirements due to changes in the plan's funded status), and
- Changes in the plan provisions or accounting standards.

Due to the scope of this assignment, we did not perform an analysis of the potential range of such measurements.

In preparing this report, we relied without audit on information (some oral and some in writing) supplied by SCERS' staff. This information includes, but is not limited to, statutory provisions, employee data, and financial information. In our examination, after discussion with SCERS and

certain adjustments, we have found the data to be reasonably consistent and comparable with data used for other purposes. Since the experience study results are dependent on the integrity of the data supplied, the results can be expected to differ if the underlying data is incomplete or missing. It should be noted that if any data or other information is inaccurate or incomplete, our determinations might need to be revised.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Actuarial Standards of Practice promulgated by the Actuarial Standards Board and the applicable Guides to Professional Conduct, amplifying Opinions, and supporting Recommendations of the American Academy of Actuaries.

We further certify that the assumptions developed in this report satisfy ASB Standards of Practice, in particular, No. 27 (Selection of Economic Assumptions for Measuring Pension Obligations) and No. 35 (Selection of Demographic and Other Non-economic Assumptions for Measuring Pension Obligations).

Milliman has been engaged by SCERS as an independent actuary. Any distribution of this report must be in its entirety, including this cover letter, unless prior written consent is obtained from Milliman. Milliman's work product was prepared exclusively for SCERS for a specific and limited purpose. It is a complex, technical analysis that assumes a high level of knowledge concerning SCERS' operations, and uses SCERS' data, which Milliman has not audited. It is not for the use or benefit of any third party for any purpose. Any third party recipient of Milliman's work product who desires professional guidance should not rely upon Milliman's work product, but should engage qualified professionals for advice appropriate to its own specific needs.

We would like to acknowledge the help in the preparation of the data for this investigation given by the SCERS staff. We look forward to our discussions and the opportunity to respond to your questions and comments at your next meeting.

I, Karen Steffen, am a member of the American Academy of Actuaries and a Fellow of the Society of Actuaries, and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

I, Nick Collier, am a member of the American Academy of Actuaries and an Associate of the Society of Actuaries, and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,

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SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM
INVESTIGATION OF ACTIVE EXPERIENCE (2003-2006)

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SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM
INVESTIGATION OF ACTIVE EXPERIENCE (2003-2006)

Section 1: Executive Summary

Overview

Any actuarial valuation is based on certain underlying assumptions. Determining the adequacy of the contribution rate is highly dependent on these assumptions that the actuary uses to project the future benefit payments and then to discount the value of future benefits to determine the present values. Thus, the assumptions are critical in assisting the system in adequately pre-funding for the benefits prior to retirement.

To assess the reasonableness of the assumptions used in the valuation, they should be studied regularly. This process is called an investigation of experience (or experience study).

Summary of Results

This section describes the key findings of this investigation of active experience of the Seattle City Employees' Retirement System for the period January 1, 2003 through December 31, 2006. We are recommending several changes to the demographic assumptions. For the economic assumptions, we are recommending they remain the same, except for a minor revision to the administrative expense assumption. We will refer to our recommended assumptions as the "proposed" assumptions.

Note that in addition to these recommended changes we have shown an alternative set of economic assumptions that are based on a lower inflation assumption, as discussed later in this report. We would describe the current set of economic assumptions as middle-of-the-road (i.e., neither aggressive nor conservative). If the Board wished to move to the alternate set of economic assumptions, it would provide some conservatism.

The following table shows a summary of the results of the study.

Assumption	Recommendation
Inflation	No Change
Investment Return	No Change
Wage Growth	No Change
Admin. Expenses	Increase by 0.05%
Merit Salary Scale	Remove Male / Female distinction
Death while Active	No Change
Retirement	Reduce rates; New rates if 30 years of service
Disability	No Change
Termination	Reduce rates for longer service members
Probability of Refund	Reduce rates

Summary (Continued)

If adopted, the new assumptions would result in a small increase in the expected period to pay off the Unfunded Actuarial Accrued Liability. If the alternate set of economic assumptions were also adopted, this would result in a larger increase in the amortization period. This is discussed further in the Financial Impact section at the end of the Executive Summary.

Economic Assumptions

Section 2 discusses the economic assumptions: price inflation, general wage growth (includes price inflation and productivity) and the investment return assumption. We have recommended that the Board retain the current economic assumptions.

As discussed in Section 2, although inflation historically has averaged close to the current 3.50% assumption, forecasts for inflation in the future are much lower. In particular, the capital market assumptions of investment consultants are projecting inflation at around 2.50% to 2.75% over the next 10 years. We still believe the current assumption is reasonable, but there is evidence to support a lower inflation assumption.

We have recommended the Board retain the current assumptions; however, we have also shown an alternative set of economic assumptions based on a lower inflation assumption. If the Board adopts a lower inflation assumption, we would recommend a corresponding lower investment return and wage growth assumption. The alternate set of economic assumptions would provide a slightly more conservative basis for the valuation.

Individual Salary Increases due to Promotion and Longevity (Merit)

Section 3 discusses the individual salary increases due to promotion and longevity – the merit component of salaries. Overall, the results of our salary study show increases somewhat less than the current rates predicted. Our only recommended change is to revise the rates so that males and females are treated the same.

Death While Active

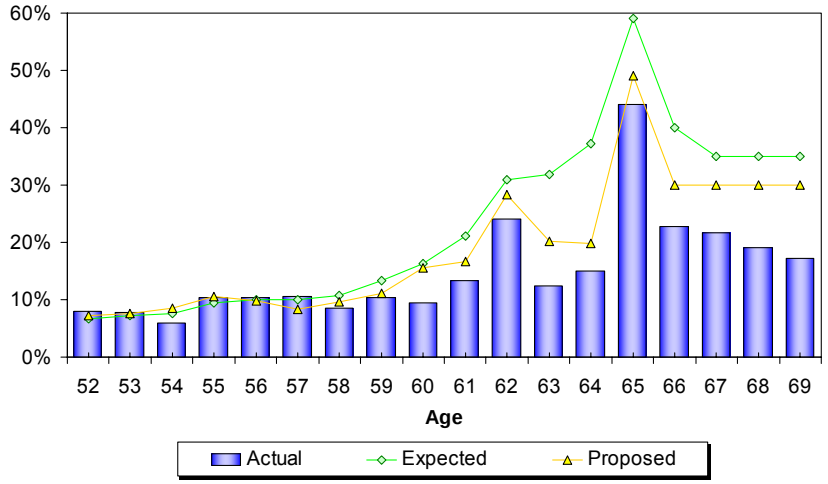
Overall, the actual number of deaths from active status was close to the assumptions. This is indicated by an actual-to-expected ratio of 102%. That is, there were 2% more deaths than the current assumptions would have predicted.

We are not recommending any changes to this assumption.

Deaths while Active		
Actual	**Expected**	**Actual / Expected**
54	53	102%

Retirement

Overall, the actual number of retirements was less than the assumptions predicted, in particular for unreduced retirement. The following graph shows the results for all members eligible for retirement in aggregate.



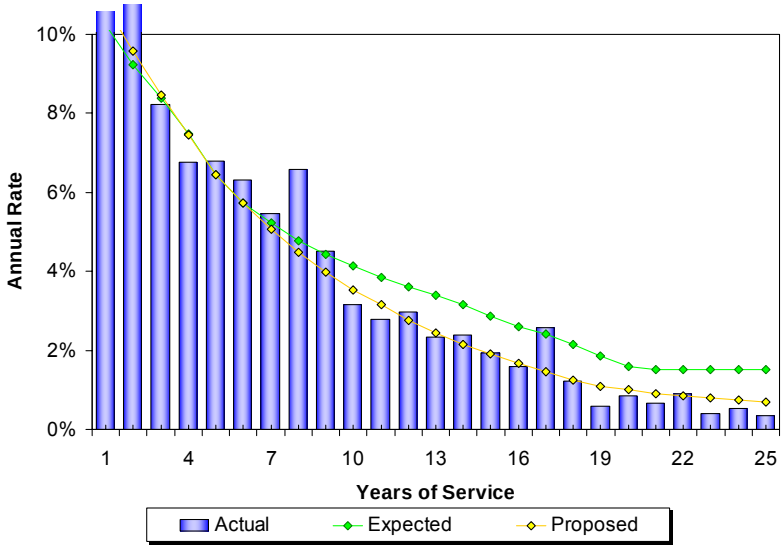
We are recommending minor changes to the rates of retirement with reduced benefits. For unreduced retirement, we are recommending larger decreases as shown in the previous graph. Additionally, we are recommending separate, higher rates for members who have 30 or more years of service.

Disability Retirement

Over the four-year study period, there were 16 disability retirements compared to 12 expected. We are not recommending a change.

Termination

Overall, the actual number of terminations was close to what the assumptions predicted; however, for longer-service members, the actual rates were significantly less than expected. We are recommending revised rates to reflect this as shown in the following graph (males and females combined).



Probability of Refund upon Vested Termination

The actual number of refunds for vested members at termination was less than the assumptions predicted. We are recommending lowering the rates.

Probability of Refund				
Actual	**Expected**	**Act / Exp**	**Proposed**	**Act / Prop**
317	455	70%	338	94%

Financial Impact of Recommended Assumptions

Overall, the estimated financial impact of the proposed changes in assumptions is somewhat small, as compared to the total liabilities. The following exhibit is designed to give the reader an idea of how the proposed changes would affect SCERS as a whole. Note that the proposed changes increase the expected annual cost of benefits (Normal Cost %) and increase the amortization period to pay off the Unfunded Actuarial Accrued Liability, but they have almost no effect on the Funded Ratio. Overall, the impact is relatively minor.

The financial impact was evaluated by performing additional valuations with the April 30, 2007 special valuation data and reflecting the proposed assumption changes. This allows us to assess the relative financial impact of the various proposed changes. Note that the relative impact of the various assumption changes by component is somewhat dependent on the order in which they are evaluated.

	Normal Cost %	Amortization Period	Funding Ratio
April 30, 2007 Special Valuation*	**12.87%**	**7.7**	**95.3%**
Demographic Assumptions			
Termination Rates	0.26%	1.4	-0.2%
Probability of Refund	0.11%	0.6	-0.1%
Rates of Retirement	-0.14%	(1.8)	0.6%
Merit Salary	0.11%	0.5	-0.1%
Subtotal Demographic Change	0.34%	0.7	0.2%
Economic Changes			
Increase in Admin. Expense	0.05%	0.2	0.0%
Combined Change	**0.39%**	**0.9**	**0.2%**
Special Valuation with Changes	**13.26%**	**8.6**	**95.5%**

** All results reflect the new COLA (1.5% compounding for all and 65% floor) adopted in 2007.*

Financial Impact of Alternate Economic Assumptions

We have recommended the Board retain the current assumptions; however, as discussed later in this report, there is some argument for using a lower inflation assumption. For informational purposes, we have shown the financial impact of using an alternative set of economic assumptions based on a lower inflation assumption (3.25%). If the Board were to adopt a lower inflation assumption, we would recommend a corresponding lower investment return assumption (7.50%) and wage inflation assumption (3.75%).

This change would have a greater impact on SCERS' funding status than the proposed assumptions. In particular, the amortization period would increase from just under 8 years to over 15 years.

As with the proposed assumptions, the costs illustrated in the table below are based on the April 30, 2007 special valuation.

	Normal Cost %	Amortization Period	Funding Ratio
April 30, 2007 Special Valuation*	**12.87%**	**7.7**	**95.3%**
Proposed Changes	0.39%	0.9	0.2%
Alternative Economic Assumptions Inv. Ret. 7.5%, Wage Growth 3.75%	0.37%	6.7	-1.6%
Combined Change	**0.76%**	**7.6**	**-1.4%**
Special Valuation with Changes	**13.63%**	**15.3**	**93.9%**

** All results reflect the new COLA (1.5% compounding for all and 65% floor) adopted in 2007.*

It should be noted that if a new investment return assumption is adopted by the Board, it will impact the factors used in the calculation of member benefits under optional forms of payment. Additionally, the investment return assumption affects the calculation of the minimum benefit, which is equal to twice the member contributions with interest converted to a monthly annuity. A decrease in the investment return assumption would reduce the monthly annuities paid under this formula.

Section 2: Economic Assumptions

Actuarial Standard of Practice (ASOP) No. 27, *Selection of Economic Assumptions for Measuring Pension Obligations*, provides guidance to actuaries giving advice on selecting economic assumptions for measuring obligations under defined benefit plans. Because no one knows what the future holds, the best an actuary can do is to use professional judgment to estimate possible future economic outcomes. These estimates are based on a mixture of past experience, future expectations, and professional judgment. The actuary should consider a number of factors, including the purpose and nature of the measurement, and appropriate recent and long-term historical economic data. However, the standard explicitly advises the actuary not to give undue weight to recent experience.

Recognizing that there is not one "right answer", the standard calls for the actuary to develop a best estimate range for each economic assumption, and then recommend a specific point within that range. Each economic assumption should individually satisfy this standard. Furthermore, with respect to any particular valuation, each economic assumption should be consistent with every other economic assumption over the measurement period.

In our opinion, the economic assumptions recommended in this report have been developed in accordance with ASOP No. 27. The following table shows our recommendations.

This section will discuss the economic assumptions. In brief, they are as follows (changes are shown in bold):

Economic Assumption	Current Assumption (Annual Rate)	Proposed (Annual Rate)	Alternative (Annual Rate)
Consumer Price Inflation[(1)]	3.50%	3.50%	**3.25%**
Investment Return[(2)]	7.75%	7.75%	**7.50%**
Investment Expenses	0.30%	**0.25%**	0.25%
Administrative Expenses	0.35%	**0.40%**	0.40%
Wage Growth (includes inflation and productivity)	4.00%	4.00**%**	3.75%
Real Wage Inflation (wage growth less price inflation)	0.50%	0.50**%**	0.50**%**
Payroll Growth	Assumed to be the same as Wage Growth		

[(2)] Net of investment expenses.

1. Consumer Price Inflation

Use in the Valuation:

When we refer to inflation in this report, we are referring to price inflation. The inflation assumption has an indirect impact on the results of the actuarial valuation through the development of the assumptions for investment return, general wage increases and the payroll increase assumption. It also has a direct impact on the valuation results as it will be used to determine the expected floor COLA payment.

The long-term relationship between inflation and investment return has long been recognized by economists. The basic principle is that the investors demand a "real return" – the excess of actual investment returns over inflation. If inflation rates are expected to be high, investors will demand expected investment returns that are also expected to be high enough to exceed inflation, while lower inflation rates will result in lower demanded expected investment returns, at least in the long run.

The current assumption for inflation is 3.50% per year.

Historical Perspective:

The data for inflation shown below is based on the national Consumer Price Index, US City Average, All Urban Consumers (CPI-U) as published by the Bureau of Labor Statistics. The data for periods ending in December of each year is documented in Exhibit 1 at the end of this section.

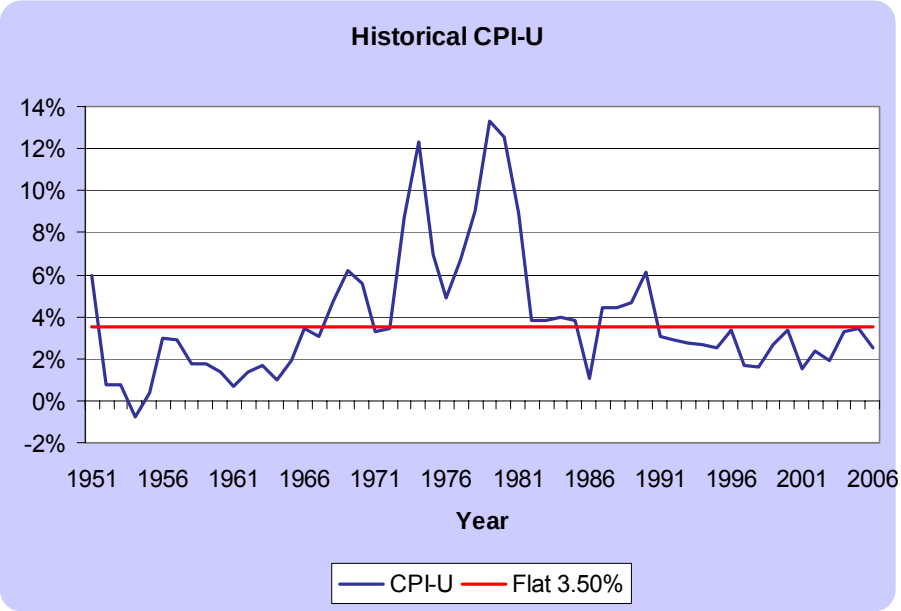
Although economic activities in general, and inflation in particular, do not lend themselves to prediction on the basis of historical analysis, historical patterns and-long term trends are a factor to be considered in developing the inflation assumption.

There are numerous ways to review historical data, with significantly differing results. The tables below show the compounded annual inflation rate for various 10-year periods, and for longer periods ended in December 2006.

Decade	CPI Increase
1997-2006	2.4%
1987-1996	3.7%
1977-1986	6.6%
1967-1986	5.9%
1957-1966	1.8%
Prior 75 Years	
1932-2006	3.6%

Historical Perspective (Continued)

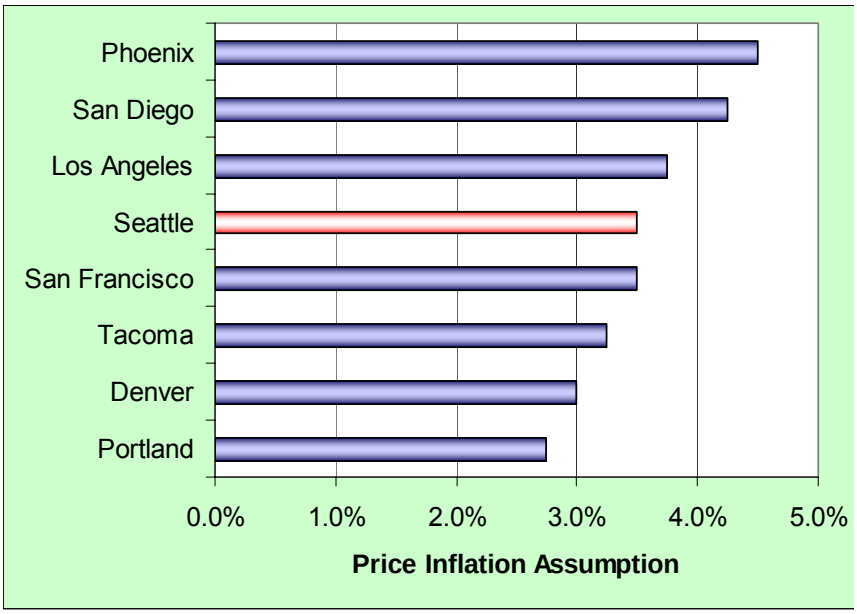
The following graph shows historical national CPI increases. Note that the actual CPI increase has been less than 3.50% for each of the last 15 years.



Peer System Comparison

According to the *Public Fund Survey* (a survey of approximately 100 statewide systems), the average inflation assumption for statewide systems has been steadily declining. As of the most recent study, the average rate is approximately 3.50%

Looking at SCERS' peer systems (major cities in the western US), the current inflation assumption is also in the mainstream.



Forecasts of Inflation:

Since the U.S. Treasury started issuing inflation indexed bonds, it is possible to determine the approximate rate of inflation anticipated by the financial markets by comparing the yields on inflation indexed bonds with traditional fixed government bonds. Current market prices as of March 2008 suggest investors expect inflation to be about 2.6% over the next 10 years. This rate is close to the amount forecast by Wurts & Associates in their 2007 asset allocation study performed for SCERS.

Many economists have been forecasting inflation lower than the current assumption of 3.50% for several years. Economists are generally considering shorter time periods (10 years or less) than may be appropriate for a pension valuation. To find an economic forecast with a time frame long enough to suit our purposes, we looked at the expected increase in the CPI by the Office of the Chief Actuary for the Social Security Administration. In the 2008 Trustees Report, the projected average annual increase in the CPI over the next 75 years under the intermediate cost assumptions was 2.80%. The reasonable range was stated as 1.80% to 3.80%.

Best Estimate Range and Recommendation:

The consumer price inflation assumption impacts SCERS' funding as it is used to project the Floor COLA payments. It is also used to determine both the investment return assumption and the wage growth assumptions. We believe that the current assumption of 3.50% per year is somewhat on the high side, although we believe it is still reasonable and are recommending making no change. Given the future expectations of inflation, the Board might consider lowering the assumption as shown in the alternative assumptions. If the assumption were lowered, we would recommend a small adjustment to 3.25% (and a corresponding decrease in the general wage growth and investment return assumptions, as discussed later).

CONSUMER PRICE INFLATION	
Current Assumption	3.50%
Best Estimate Range	2.00% - 4.00%
Recommended Assumption	Proposed = 3.50%
	Alternative = 3.25%

SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM
INVESTIGATION OF ACTIVE EXPERIENCE (2003-2006)

Exhibit 2-1

US City Average, All Urban Consumers (CPI-U) - December

December of:	*INDEX*	*INCREASE*	December of:	Index	Increase
1928	17.1				
1929	17.2	0.6%	**1969**	37.7	6.2%
1930	16.1	-6.4	**1970**	39.8	5.6
1931	14.6	-9.3	**1971**	41.1	3.3
1932	13.1	-10.3	**1972**	42.5	3.4
1933	13.2	0.8	**1973**	46.2	8.7
1934	13.4	1.5	**1974**	51.9	12.3
1935	13.8	3.0	**1975**	55.5	6.9
1936	14.0	1.4	**1976**	58.2	4.9
1937	14.4	2.9	**1977**	62.1	6.7
1938	14.0	-2.8	**1978**	67.7	9.0
1939	14.0	0.0	**1979**	76.7	13.3
1940	14.1	0.7	**1980**	86.3	12.5
1941	15.5	9.9	**1981**	94.0	8.9
1942	16.9	9.0	**1982**	97.6	3.8
1943	17.4	3.0	**1983**	101.3	3.8
1944	17.8	2.3	**1984**	105.3	3.9
1945	18.2	2.2	**1985**	109.3	3.8
1946	21.5	18.1	**1986**	110.5	1.1
1947	23.4	8.8	**1987**	115.4	4.4
1948	24.1	3.0	**1988**	120.5	4.4
1949	23.6	-2.1	**1989**	126.1	4.6
1950	25.0	5.9	**1990**	133.8	6.1
1951	26.5	6.0	**1991**	137.9	3.1
1952	26.7	0.8	**1992**	141.9	2.9
1953	26.9	0.7	**1993**	145.8	2.7
1954	26.7	-0.7	**1994**	149.7	2.7
1955	26.8	0.4	**1995**	153.5	2.5
1956	27.6	3.0	**1996**	158.6	3.3
1957	28.4	2.9	**1997**	161.3	1.7
1958	28.9	1.8	**1998**	163.9	1.6
1959	29.4	1.7	**1999**	168.3	2.7
1960	29.8	1.4	**2000**	174.0	3.4
1961	30.0	0.7	**2001**	176.7	1.6
1962	30.4	1.3	**2002**	180.9	2.4
1963	30.9	1.6	**2003**	184.3	1.9
1964	31.2	1.0	**2004**	190.3	3.3
1965	31.8	1.9	**2005**	196.8	3.4
1966	32.9	3.5	**2006**	201.8	2.5
1967	33.9	3.0			
1968	35.5	4.7			

2. Investment Return

Use in the Valuation:

The investment return assumption is one of the primary determinants in the calculation of the expected cost of the System's benefits, providing a discount of the future benefit payments that reflects the time value of money. This assumption has a direct impact on the calculation of liabilities, normal costs, member contribution rates, and the factors for optional forms of benefits. The current investment return assumption for SCERS is 7.75% per year, net of investment-related expenses.

Method to Determine Best-Estimate Range for Investment Return

We have determined the best-estimate range for the investment return assumption based upon a model developed by Milliman's investment practice. As input to this model, we have used Milliman's assumptions for capital markets and the target asset allocation adopted by the SCERS Board. SCERS' target asset allocation is summarized in the following chart:

Asset Class	Target Allocation
US Large Cap Equity	38%
International Equity	20
US Core Fixed Income	14
Real Estate	12
Liquid Alternatives / Hedge Funds	10
Mezzanine Debt	5
Cash	1
Total	100%

This model is used to provide the range of assumptions appropriate for compliance with Actuarial Standard of Practice No. 27, "Selection of Economic Assumptions for Measuring Pension Obligations." The Standard defines the Best-Estimate Range as "the narrowest range within which the actuary reasonably anticipates that the actual results, compounded over the measurement period, are more likely than not to fall."

By assuming the portfolio is re-balanced annually and that annual returns are lognormally distributed and independent from year-to-year, we can develop expected percentiles for the long-term distribution of annualized returns.

Using properties of the lognormal distribution, we calculate the 25th and 75th percentiles of the long-term total return distribution. This becomes our best-estimate range because 50% of the outcomes are expected to fall within this range and it is centered about the mean.

Method to Determine Best-Estimate Range for Investment Return (Continued)

The capital market assumptions were combined with the target asset allocation policy to generate expected real rates of returns (total return less assumed inflation) which were then added to the current inflation assumption of 3.5%. The real rate of return is subject to significant year-to-year volatility as measured by the standard deviation. Volatility over time will lower the mean real rate of return but diversification by asset class will reduce the volatility and narrow the range of expected total returns for the entire portfolio. The results are summarized as follows:

Expected Investment Return with 3.50% Inflation
(before reflecting investment expenses)

Horizon	Percentile Results for Nominal Rate of Return				
In Years	5th	25th	50th	75th	95th
1	-8.9%	0.8%	8.1%	16.0%	28.4%
5	0.2%	4.8%	8.1%	11.6%	16.8%
10	2.4%	5.8%	8.1%	10.6%	14.2%
20	4.1%	6.5%	8.1%	9.9%	12.4%
50	**5.6%**	**7.1%**	**8.1%**	**9.2%**	**10.8%**

The geometric mean return is 8.1%, but due to the volatility associated with the asset allocation, the range of probable outcomes is quite large. For example, in the first year there is a 5% chance the rate of return will be less than -8.9% and a 5% chance it will be greater than 28.4%. As the time horizon lengthens, the range of the cumulative average results narrows. Note that these are gross returns, prior to adjusting for investment expenses.

Over a 50-year time horizon, we estimate there is a 25% chance the nominal rate of return will be less than 7.1% and a 25% chance the return will be greater than 9.2% (bold numbers on the bottom line in the table above). Therefore, we can say the return is just as likely to be within the range from 7.1% to 9.2% as not.

We also used the model with capital market assumptions from the asset allocation study performed by Wurts and the 3.50% inflation assumption. This produced a median return of 8.6% compared to our result of 8.1%. The difference in these results is that Wurts is projecting higher returns for equities and fixed income than Milliman. We have used Milliman's assumptions, since they are more current than those from the asset allocation study.

Investment-Related Expenses

The investment return used for the valuation is assumed to be net of all investment-related expenses. The following table shows the ratio of investment expenses to the fair market value of SCERS assets over the last eight fiscal years ending December 31. The expense ratio is calculated as the total expense divided by the ending asset balance at fair market value.

($million) Year	Market Assets	Inv. Expense	Expense Ratio
2000	$1,596	$4.07	0.26%
2001	1,493	2.89	0.19
2002	1,384	3.31	0.24
2003	1,255	3.67	0.29
2004	1,578	3.21	0.20
2005	1,684	3.88	0.23
2006	1,792	3.73	0.21
2007	2,011	4.20	0.21

The ratio of investment expenses to market assets has generally decreased over the last several years. The total expense ratio for the last year was 0.21% (less than the current assumption of 0.30%); however, it has been higher in prior years. Therefore, we recommend a reduction in the annual investment expense assumption from 0.30% to 0.25% of assets.

This assumption does not have a direct impact on the actuarial valuation results, but it does provide a measure of gross return on investments that will be needed to meet the actuarial assumption used for the valuation. For example, if the investment return assumption is set equal to 7.75%, then SCERS would need to earn a gross return on its assets of 8.00% in order to net the 7.75% for funding purposes.

Administrative Expenses

Future administrative expenses are recognized in the normal cost rate. The expected dollar amount is expressed as a percent of payroll. Based on the last eight years, the administrative expenses have been:

($million) Year	Covered Payroll	Admin. Expense	Expense Ratio
2000	$384	$1.30	0.34%
2001	405	1.45	0.36
2002	455	1.75	0.38
2003	425	1.84	0.43
2004	457	1.76	0.39
2005	447	2.00	0.45
2006	473	1.84	0.39
2007	500	1.83	0.37

The ratio of administrative expenses to covered payroll has increased slightly over the period. Therefore, we recommend a small increase in the administrative expense assumption from 0.35% to 0.40% of payroll.

Best Estimate Range and Recommendations Based on Current Market Expectations

Based on the ASOP No. 27 guidelines, we conclude that the reasonable range is the expected real rates of return between the 25th and 75th percentile projected out 50 years, plus the assumed inflation rate, less investment-related expenses.

Based upon our model and the current inflation assumption, we have the following results:

Components of Return	Percentile Results 25th	50th	75th
Real Rate of Return	3.58%	4.65%	5.73%
Assumed Inflation	3.50%	3.50%	3.50%
Investment Expenses	-0.25%	-0.25%	-0.25%
Net Investment Return	**6.83%**	**7.90%**	**8.98%**

Based upon this model, there is a 54% chance that the net return will be 7.75% or more over a 50-year period. In other words, a net return of 7.75% is at the 46th percentile for a 50-year investment horizon.

Generally we like to allow some room for conservatism when recommending the investment return assumption to provide a buffer against future adverse experience. Since the expected return of 7.90% exceeds the assumed investment return of 7.75%, there is currently a small buffer. Therefore, we believe the current assumption is reasonable.

Best Estimate Range and Recommendations Based on Current Market Expectations (Continued)

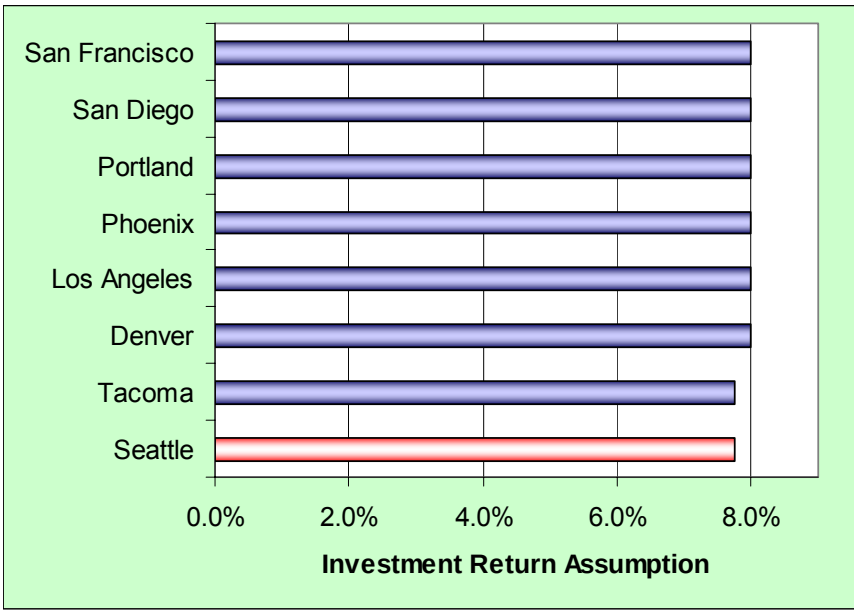
It should be noted that this analysis is based on a 3.50% inflation assumption. As discussed earlier, there is some argument for using a lower inflation assumption. If the inflation assumption were lowered to 3.25% (alternative assumption), the expected net investment return would be 7.65%, leaving no buffer for adverse experience.

Accordingly, if the 3.25% inflation assumption is adopted, we would recommend lowering the investment return assumption to 7.50%. We would describe the current set of economic assumptions as middle-of-the-road (i.e., neither aggressive nor conservative). Moving to the alternate set of economic assumptions would provide some conservatism.

Peer System Comparison

According to the *Public Fund Survey*, the average investment return assumption for statewide systems has been slowly declining. As of the most recent study, the average rate is just under 8.0%

Looking at SCERS' peer systems (major cities in the western United States), the current investment return assumption is also in the mainstream.



Other Factors for Board consideration

Since economic assumptions are subjective in nature, it is our recommendation that the Board be fully comfortable with the implications of the economic assumptions, particularly with the investment return assumption. There is an "actuarial risk" associated with the economic assumptions the same as there is an investment risk associated with a given portfolio mix.

Actuarial assumptions are used to measure and budget future costs. Changing assumptions will not change the actual cost of future benefits. Aggressive assumptions anticipate good future experience ahead of time and factor it into budget estimates. Conservative assumptions on the other hand tend to recognize good experience only after it happens.

The choice of assumptions depends on a system's risk tolerance. The final determination on whether or not a set of assumptions was either conservative or aggressive will only be born out by future experience.

As discussed earlier, we believe the current economic assumptions are neither aggressive nor conservative.

Conclusion

Based on portfolio analysis and the current inflation assumption, we believe the 7.75% assumption is reasonable and has a small buffer for adverse experience. Nonetheless, the expected returns for the portfolio will still have a certain amount of volatility

In 2004, the Board adopted Mellon's recommendation to change the economic assumptions from an 8.00% investment return rate assumption with a 4.00% price inflation assumption to the current assumptions. The prior assumptions assumed a 4.00% net rate of return (investment return minus inflation) on the portfolio. Although the current assumptions have a more conservative (i.e., lower) investment return assumption, the net rate of return assumed is slightly higher at 4.25% (7.75% - 3.50%).

According to the economists and investment advisors, a decrease in the price inflation assumption to 3.0% or lower would be reasonable. If such low inflation is experienced over time, then it is likely SCERS' investment return will be lower than the current assumption of 7.75%.

As discussed in the inflation section, we are not recommending a change in the inflation assumption. Based on the 3.50%, we believe the 7.75% investment return assumption is appropriate and we are recommending the Board adopt it. However, we believe there is some justification to lower the inflation. If the inflation assumption were lowered, we would recommend lowering the investment return assumption to avoid increasing the net rate of return assumption. Therefore, we have also shown a lower investment return with the alternative assumptions.

INVESTMENT RETURN (NET OF INVESTMENT EXPENSES)	
Current Assumption	7.75%
Best Estimate Range*	6.8% - 9.0%
Recommended Assumption	Proposed = 7.75%*
	Alternative = 7.50%**

* *Based on a 3.5% inflation assumption,*

** *Based on a 3.25% inflation assumption,*

3. Wage Growth

Use in the Valuation:

Estimates of future salaries are based on two types of assumptions: 1) general wage increase and 2) merit increase. Rates of increase in the general wage level of the membership are directly related to inflation, while individual salary increases due to promotion and longevity occur even in the absence of inflation. The promotion and longevity assumptions, referred to as the merit scale, will be reviewed with the other demographic assumptions.

The current assumption is for 0.50% wage growth above the inflation assumption.

Historical Perspective:

We have used statistics from the Social Security Administration on the National Average Wage back to 1951. For years prior to 1951, we studied the Total Private Nonagricultural Wages as published in *Historical Statistics of the U.S., Colonial Times to 1970*.

There are numerous ways to review this data. For consistency with our observations of other indices, the table below shows the compounded annual rates of wage growth for various 10-year periods, and for longer periods ended in 2006. The excess of wage growth over price inflation represents "productivity" or the increase in the standard of living, (also called the real wage inflation rate).

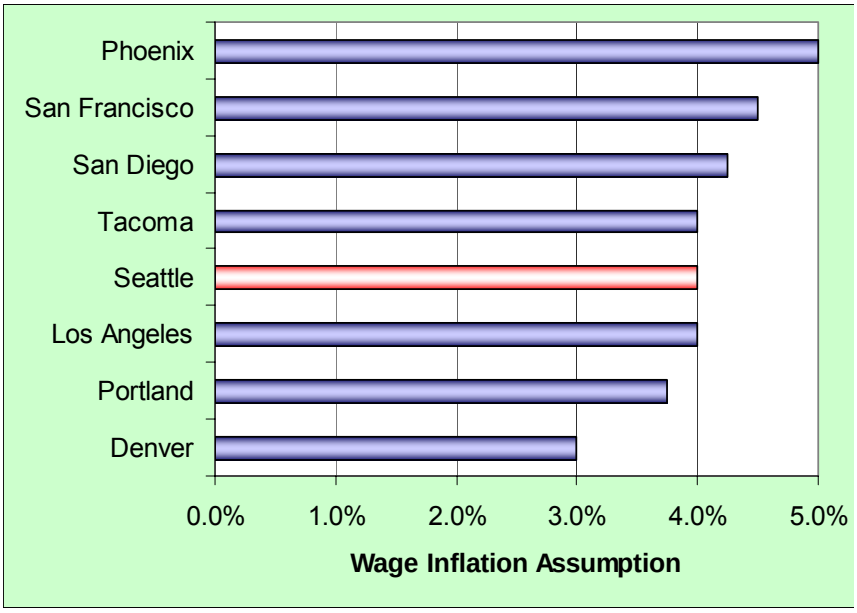
Decade	Wage Growth	CPI Increase	Real Wage Inflation
1997-2006	4.0%	2.4%	1.6%
1987-1996	4.1%	3.7%	0.4%
1977-1986	6.5%	6.6%	-0.1%
1967-1986	6.4%	5.9%	0.6%
1957-1966	3.4%	1.8%	1.6%
Prior 75 Years			
1932-2006	5.1%	3.6%	1.5%

The excess of wage growth over price inflation represents the increase in the standard of living, also called the real wage inflation rate.

Peer System Comparison

The *Public Fund Survey* does not report the average wage growth assumption. Based on our experience with other systems, we believe the average for this group would be slightly greater than SCERS' assumption of 4.0%.

Looking at SCERS' peer systems (major cities in the western United States), the current wage growth assumption is in the mainstream.



Forecasts of Future Wages:

Wage inflation has been projected by the Office of the Chief Actuary of the Social Security Administration. In the 2007 Trustees Report, the long-term annual increase in the National Average Wage is estimated to be 1.1% higher than the Social Security intermediate inflation assumption of 2.8% per year. The range of the assumed real wage growth in the 2008 Trustees Report was from 0.6% to 1.6% per year.

Reasonable Range and Recommendation:

We believe that a range between 0.50% and 1.50% is reasonable for the actuarial valuation. There has been a spike in the real wage inflation rate over the last 10 years; however, in each of the three prior decades, the actual experience was right about or less than the current assumption. We recommend that the long-term assumed real wage inflation rate remain at 0.50% per year.

REAL WAGE INFLATION RATE	
Current Assumption	0.50%
Best Estimate Range	0.50% - 1.50%
Recommended Assumption	0.50%

The wage growth assumption is the total of the consumer price inflation assumption and the real wage inflation rate. If the real wage inflation assumption remains 0.50% and the price inflation assumption remains at 3.50%, this would result in a total wage growth assumption of 4.00%.

Payroll Increase Assumption:

In addition to setting salary assumptions for individual members, the aggregate payroll of SCERS is expected to increase, without accounting for the possibility of an increase in membership (our current and recommended assumption is that no growth in membership is assumed).

The current payroll increase assumption is equal to the general wage growth assumption of 4.00%. It is our general recommendation to continue to set these two assumptions to be equal, unless there is a specific circumstance that would call for an alternative assumption. We are recommending that the payroll increase assumption remain at 4.0% if the inflation rate remains at 3.50%.

Section 3: Salary Increases Due to Promotion and Longevity (Merit)

Estimates of future salaries are based on assumptions for two types of increases:

1) Increases in each individual's salary due to promotion or longevity, which occur even in the absence of inflation (merit increases); and
2) Increases in the general wage level of the membership, which are directly related to inflation and increases in productivity.

Results

In Section 2 we recommend that the second of these rates, the general wage inflation, remain at 4.00%.

Exhibit 3-1 shows the actual merit increases, plus the general wage growth assumption, over the four-year study period. Increases were higher earlier in a member's career (lower service) and then decreased over time, consistent with the current assumptions; however, the actual increases were somewhat lower than the increases expected by the assumptions.

The current assumptions predict that females will receive slightly higher increases later in their career than males. It has been our observation with other retirement systems that increases in pay have very little long-term correlation with gender. We analyzed SCERS experience by gender and did not see a significant difference.

Recommendation

We are not recommending a change in the assumptions to reflect the lower-than-expected experience. It has been our observation that there is significant variability in merit increases from one study to the next, and we do not want to give undue weight to recent experience. If this trend continues in the future, we will recommend an adjustment at that time.

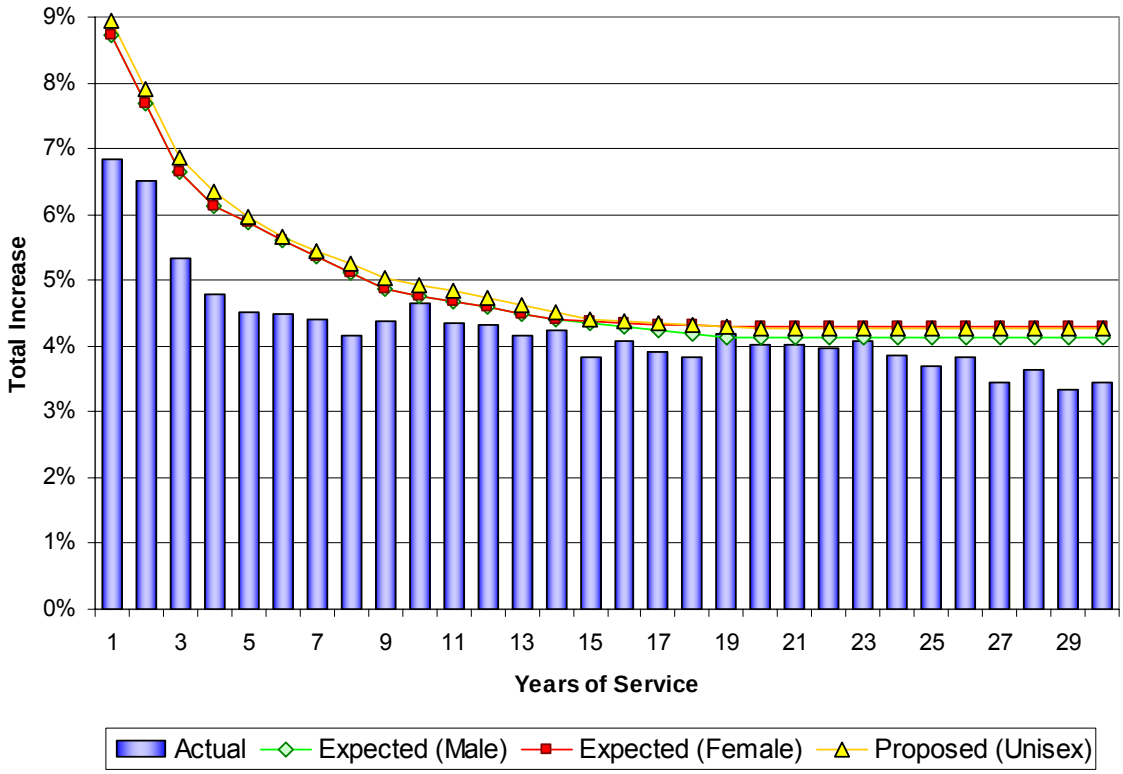
We are recommending a small modification to the assumption, so that males and females are treated similarly. The new proposed rates are shown on Exhibit 4-1. As can be seen on this exhibit, there is very little change between the current assumptions ("Expected" lines for males and female) and the recommended new assumptions ("Proposed" line). The proposed line is right in between the expected assumptions for males and females.

SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM
INVESTIGATION OF ACTIVE EXPERIENCE (2003-2006)

Exhibit 3-1

Total Annual Rates of Increase in Salary
Due to Merit and Longevity
(Including the General Wage Growth Assumption)

Males and Females



Section 4: Death while Active

In this section we look at the results of the study of actual and expected death rates of active members. Mortality among active members has only a very small financial impact upon the system's liabilities.

For current and future retired members, mortality has a much more significant impact. In this report, we are only looking at the experience of active members. Mortality for retired and disabled members was most recently studied in 2005 and will be reviewed again in 2009.

Results

For male members, there were more deaths than expected during the study period. For female members, less deaths than expected occurred. Overall, there were 54 deaths from active status while the assumptions predicted 53 deaths. The results are shown in the following table.

Deaths while Active			
Gender	**Actual**	**Expected**	**Act / Exp**
Male	38	31	123%
Female	16	22	73%
Total	54	53	102%

Recommendation

The current assumptions use an active mortality rate that is 50% of the retired men's mortality rates for active men and 75% of the retired women's mortality rates for active women. Based on the results of this study, we are recommending no change in the assumption.

Section 5: Service Retirements

Exhibits 5-1 through 5-6 show the actual and expected rates of service retirement. Our analysis of rates of service retirement was by attained age. We analyzed separately the rates for members eligible to retire with a reduced benefit and the rates for members eligible to retire with a full 2% formula benefit. Additionally, this year we also studied retirements for those with 30 or more years of service separately.

Exhibits 5-1 through 5-6 study retirements for the following eligibility groups:

- Exhibit 5-1: Reduced Benefits – Males
- Exhibit 5-2: Reduced Benefits – Females
- Exhibit 5-3: Full Benefits (< 30 Years of Service) – Males
- Exhibit 5-4: Full Benefits (< 30 Years of Service) – Females
- Exhibit 5-5: Full Benefits (≥ 30 Years of Service) – Males
- Exhibit 5-6: Full Benefits (≥ 30 Years of Service) – Females

Results – Reduced Benefits

The requirements for early retirement with a reduced benefit are age 52 with 20 years of service, age 57 with 10 years of service, or age 62 with 5 years of service. Exhibits 5-1 and 5-2 show the rates of retirement for members eligible to retire with a reduced benefit. The actual pattern and number of retirements fits reasonably well to the current assumptions, with the total number of reduced retirements equal to 89% of the expected amount. For males the proportion was somewhat less.

Retirements with Reduced Benefits			
Gender	**Actual**	**Expected**	**Act / Exp**
Male	119	155	77%
Female	134	129	104%
Total	253	284	89%

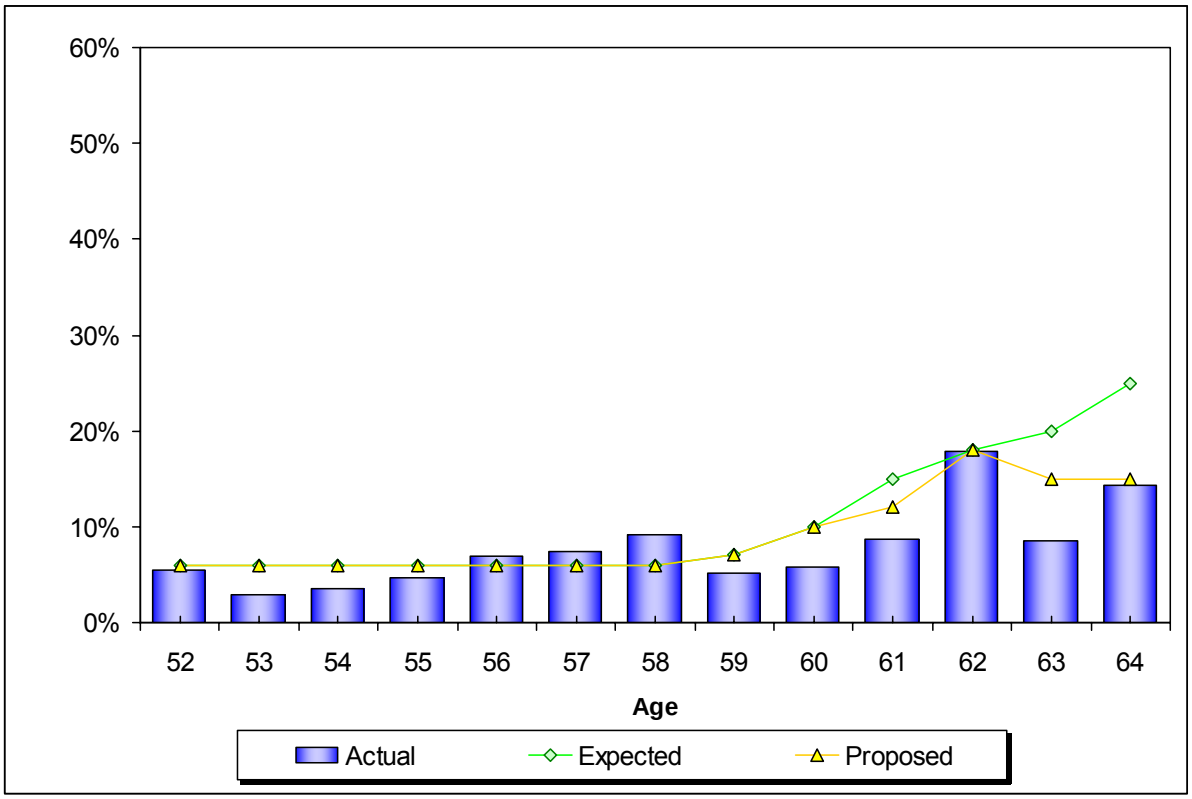
Recommendation – Reduced Benefits

Based on the results of the study, we are recommending a small reduction in the rates of reduced retirement for male members at ages 63 and 64. The revised rates are shown in Exhibit 5-1.

No changes are recommended to the female assumptions.

Exhibit 5-1

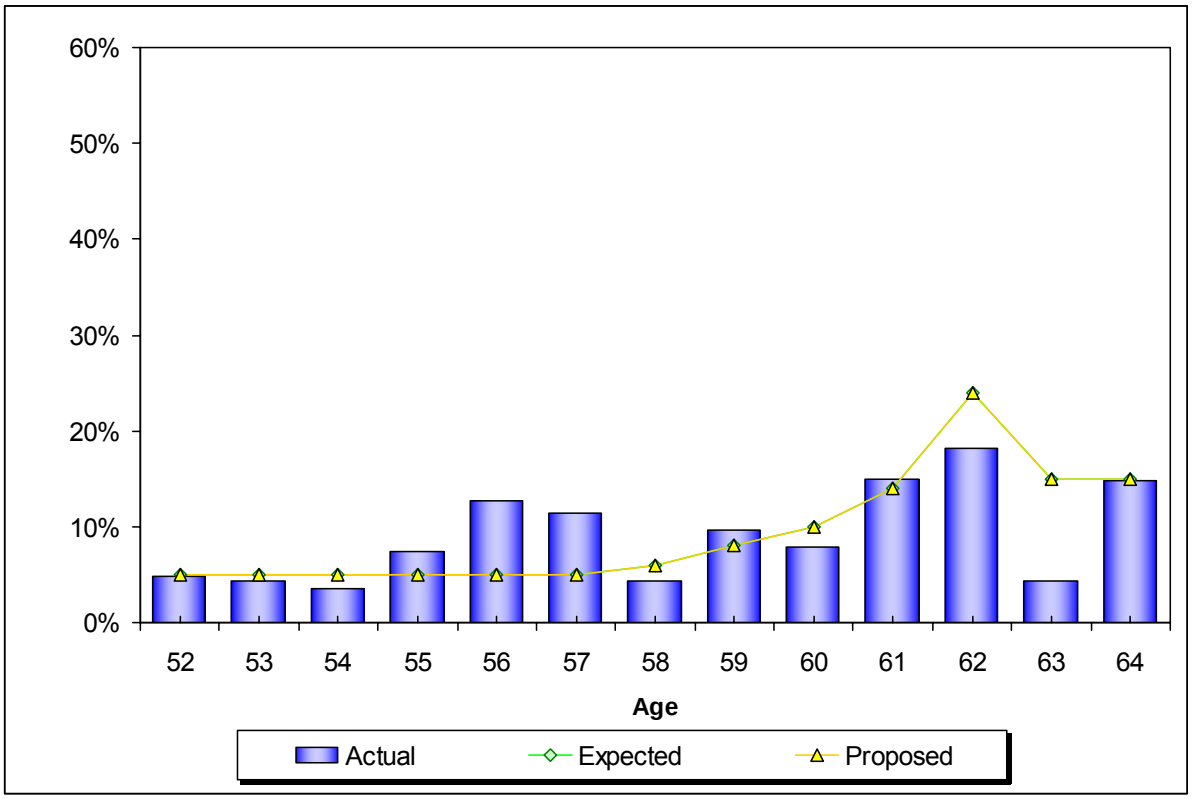
Retirement with Reduced Benefits -- Males



	2003-2006 Data		
	Expected	Actual	Proposed
Total Count	155	119	139
Actual / Expected	77%		86%

Exhibit 5-2

Retirement with Reduced Benefits -- Females



	2003-2006 Data		
	Expected	Actual	Proposed
Total Count	129	134	No
Actual / Expected	104%		Change

Results – Unreduced Benefits

Members who are eligible for the full 2% of service benefit with no reduction have higher assumed retirement rates than those only eligible for reduced benefits. This is consistent with the results of this study as shown in Exhibits 5-3 and 5-4 (full benefits) when compared to Exhibits 5-1 and 5-2 (reduced benefits).

For this study we split the group eligible for unreduced benefits into those with less than and those with more 30 years of service. We found that members with 30 years of service have a greater probability of retirement than those with less than 30 years of service. This is likely due to the fact that members who have 30 or more years of service are capped at 60% of pay under the benefit formula.

For all groups the actual number of retirements was significantly less than the current assumptions predicted, with the total number of retirements (634) being only 65% of the number expected (977).

Retirements with Unreduced Benefits				
Gender	**Service**	**Actual**	**Expected**	**Act / Exp**
Male	< 30 yrs	189	318	59%
Female	< 30 yrs	172	261	66%
Male	>= 30 yrs	183	291	63%
Female	>= 30 yrs	90	107	84%
Total		634	977	65%

Recommendation – Unreduced Benefits

We are recommending the rates of unreduced retirement be decreased for all groups to partially reflect the experience. Note that in cases like this where there is a significant deviation from current experience and the prior experience the assumptions are based on, our recommendation is usually to only make a partial adjustment for current experience.

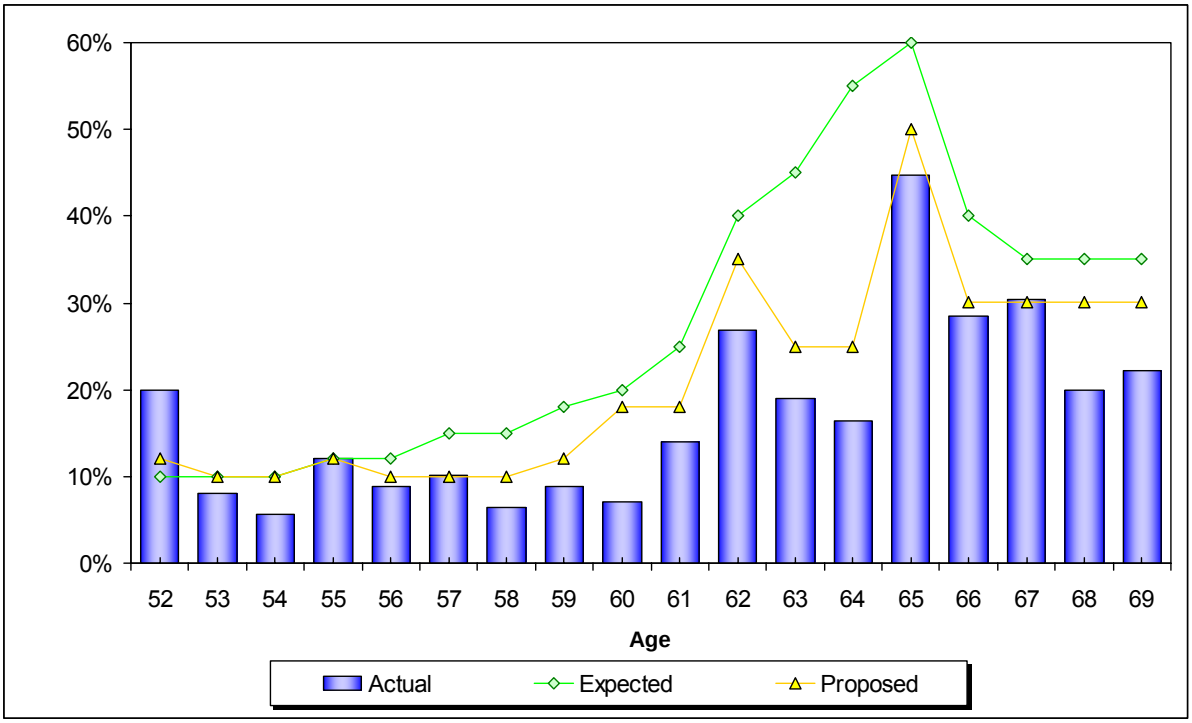
Additionally, we are recommending separate rates of retirement for members depending on whether they have 30 years of service, rather than the current assumption that retirement rates are higher in the first year of eligibility. We felt the impact of 30 years of service was more significant.

A comparison of the actual and expected retirements under the recommended assumptions is shown in the table below.

Retirements with Unreduced Benefits				
Gender	**Service**	**Actual**	**Proposed**	**Act / Prop**
Male	< 30 yrs	189	233	81%
Female	< 30 yrs	172	207	83%
Male	>= 30 yrs	183	226	81%
Female	>= 30 yrs	90	99	91%
Total		634	765	83%

Exhibit 5-3

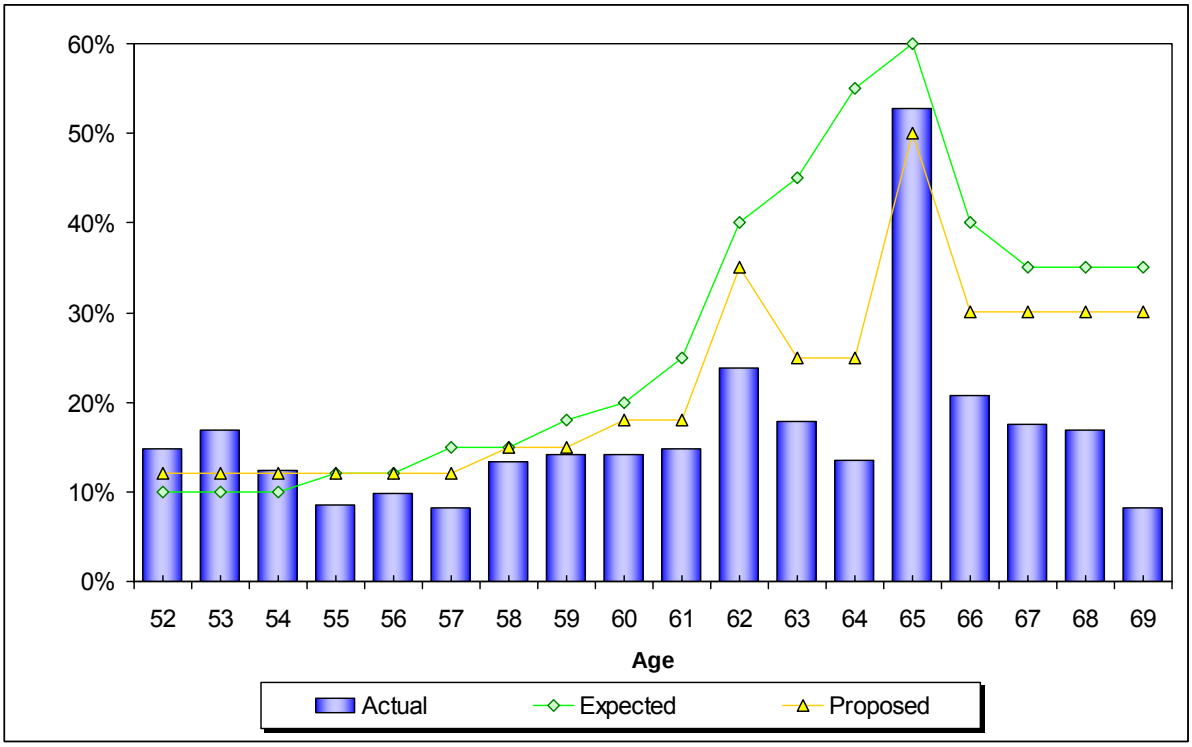
Retirement with Unreduced Benefits
Males with Less than 30 Years of Service



	2003-2006 Data		
	Expected	Actual	Proposed
Total Count	318	189	233
Actual / Expected	59%		81%

Exhibit 5-4

Retirement with Unreduced Benefits
Females with Less than 30 Years of Service

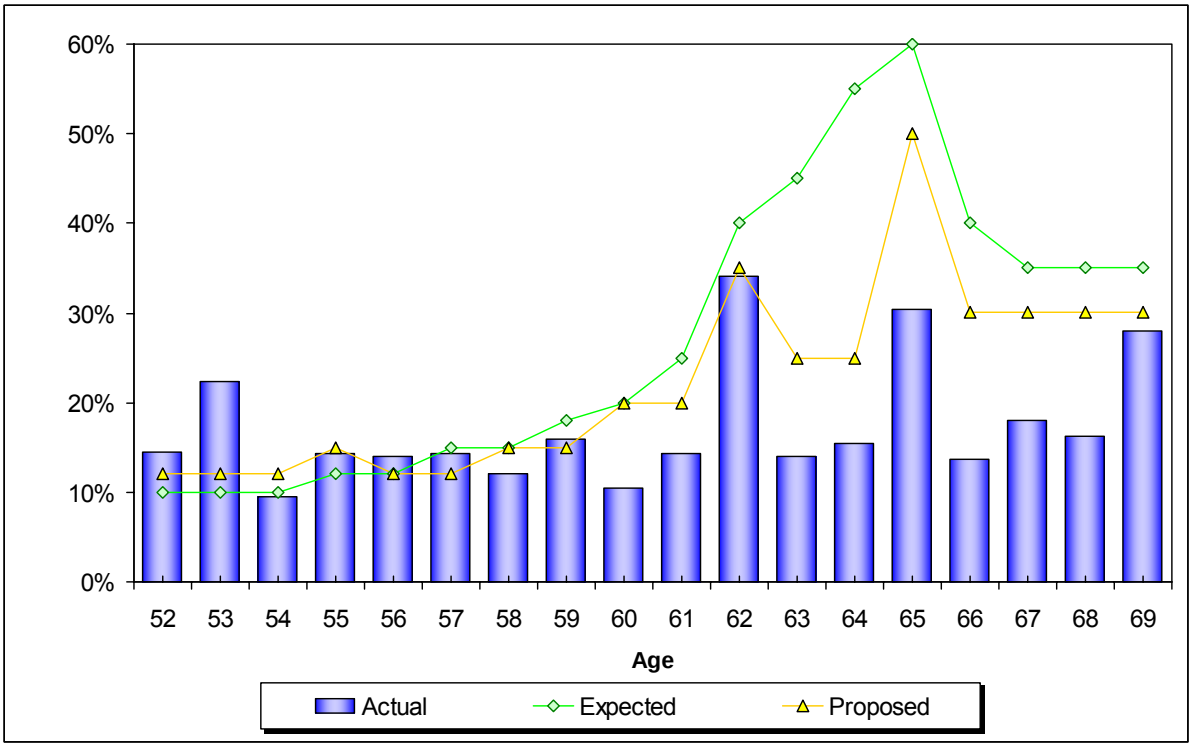


	2003-2006 Data		
	Expected	Actual	Proposed
Total Count	261	172	207
Actual / Expected	66%		83%

SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM
INVESTIGATION OF ACTIVE EXPERIENCE (2003-2006)

Exhibit 5-5

Retirement with Unreduced Benefits
Males with 30 Years of Service or More

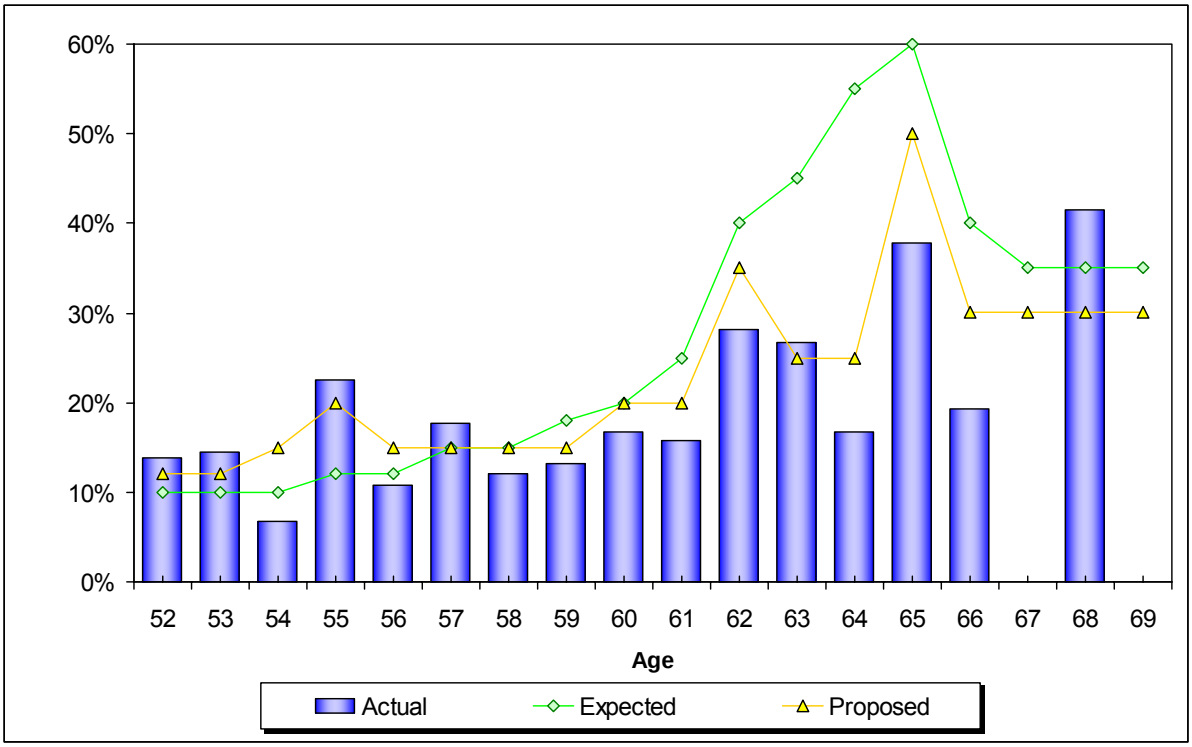


	2003-2006 Data		
	Expected	Actual	Proposed
Total Count	291	183	226
Actual / Expected	63%		81%

SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM
INVESTIGATION OF ACTIVE EXPERIENCE (2003-2006)

Exhibit 5-6

Retirement with Unreduced Benefits
Females with 30 Years of Service or More



	2003-2006 Data		
	Expected	Actual	Proposed
Total Count	107	90	99
Actual / Expected	84%		91%

Section 6: Disability Retirement

The City's Long-Term Disability (LTD) Insurance benefits are reduced by any disability retirement benefits payable by the System. As a result, almost all disabled members elect to receive full 100% (LTD) benefits and delay receiving retirement benefits until normal service retirement age is reached. The result is very few disabilities occur within SCERS and the overall financial impact of this assumption on the System is very small.

Results

Over the four-year study period, there were 16 disability retirements compared to 12 expected.

Disability Retirement			
Gender	**Actual**	**Expected**	**Act / Exp**
Male	4	6	67%
Female	12	6	200%
Total	16	12	133%

Recommendation

We are recommending no changes to the disability assumption.

Section 7: Other Terminations of Employment

This section of the report summarizes the results of our study of terminations of employment for reasons other than death, service retirement, or disability. Rates of termination vary by years of service – the greater the years of service the less likely a member is to terminate employment.

The current assumptions also vary by gender, with females having a slightly higher probability of terminating than males.

Results

Overall, the actual number of terminations was fairly consistent with the number predicted (94% of expected). Males were slightly lower than expected, and females were close to the assumption.

Termination -- All Years of Service			
Gender	**Actual**	**Expected**	**Act / Exp**
Male	676	781	87%
Female	769	760	101%
Total	1,445	1,541	94%

However, when looking at members with 10 or more years of service (where most of the liabilities are), we find that the actual number is significantly less than expected (only 63% of expected).

Termination -- 10 or More Years of Service			
Gender	**Actual**	**Expected**	**Act / Exp**
Male	118	205	58%
Female	150	218	69%
Total	268	423	63%

Recommendation

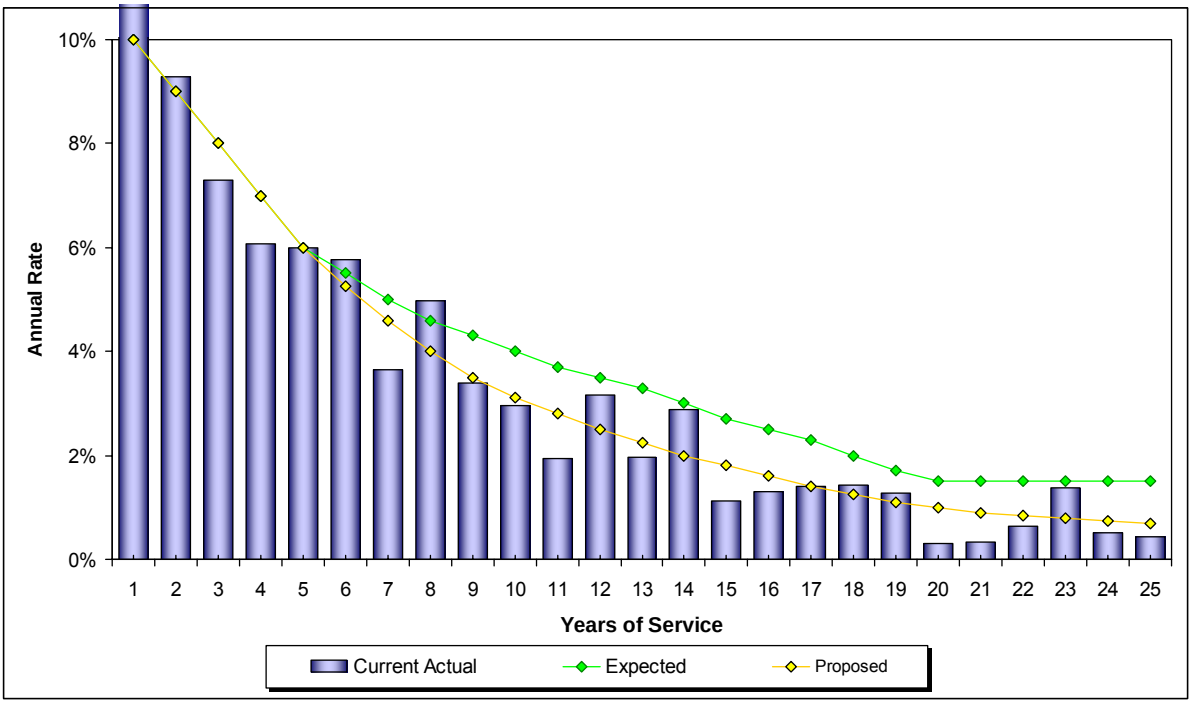
We have recommended lowering the termination assumptions, particularly later in the member's career, as shown in Exhibits 7-1 and 7-2. A summary of the revised results under the recommended assumptions is shown in the following table.

Termination -- 10 or More Years of Service			
Gender	**Actual**	**Proposed**	**Act / Prop**
Male	118	129	91%
Female	150	147	102%
Total	268	276	97%

SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM
INVESTIGATION OF ACTIVE EXPERIENCE (2003-2006)

Exhibit 7-1

Termination by Years of Service – Males

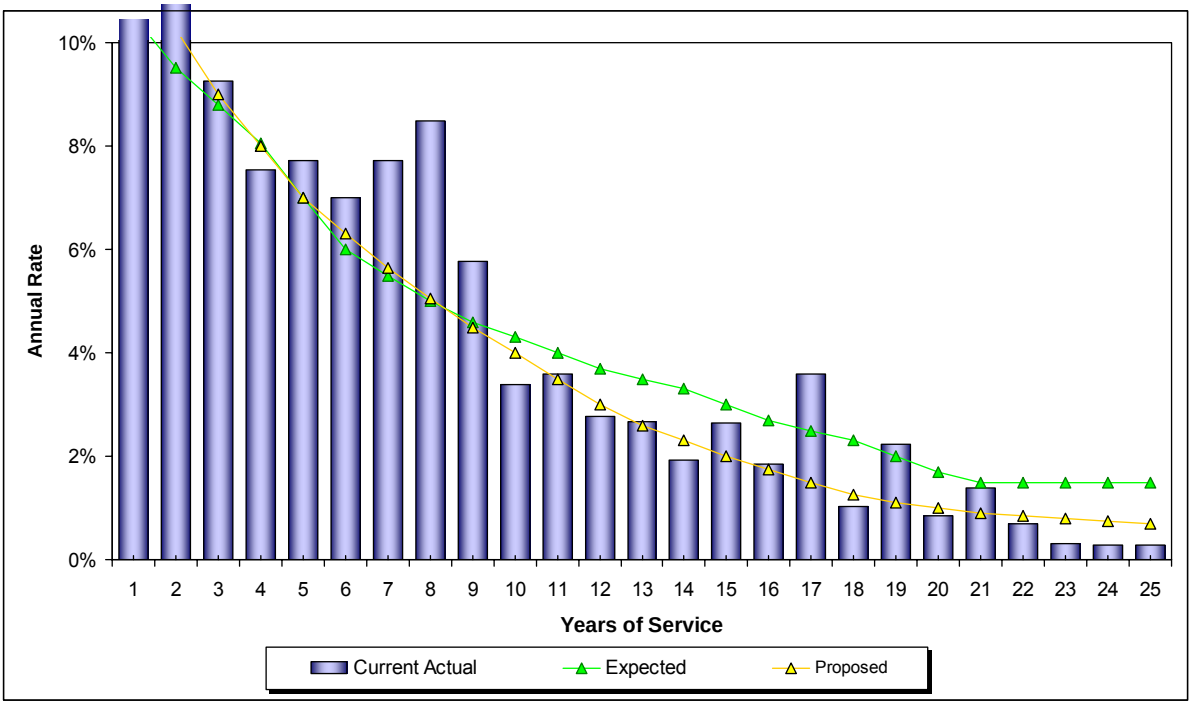


	All Years (Excludes First Year)		
	Expected	Actual	Proposed
Total Count	781	676	693
Actual / Expected	87%		98%

	Service of 10 Years or More		
	Expected	Actual	Proposed
Total Count	205	118	129
Actual / Expected	58%		91%

Exhibit 7-2

Termination by Years of Service – Females



	All Years (Excludes First Year)		
	Expected	Actual	Proposed
Total Count	760	769	712
Actual / Expected	101%		108%

	Service of 10 Years or More		
	Expected	Actual	Proposed
Total Count	218	150	147
Actual / Expected	69%		102%

Section 8: Probability of Refund Upon Vested Termination

This section of the report deals with the rates at which employees elect a refund of their contributions upon termination of service. It only considers vested members who are not yet eligible for service retirement. Under the current assumptions, members who terminate at younger ages have a greater probability of electing to withdraw their contributions. All non-vested members are assumed to take a refund at termination.

Results

Exhibit 8-1 summarizes the results of our study. The results are consistent with our assumptions in that members have a higher likelihood of electing a refund at younger ages; however, the actual rates are lower for all age groups. Overall, the number of refunds is 71% of what the assumptions predicted

The disparity between actual and expected refunds is particularly significant for longer-service members. Of those members who terminated with 20 or more years of service, the actual number of refunds was only 40% of the expected number.

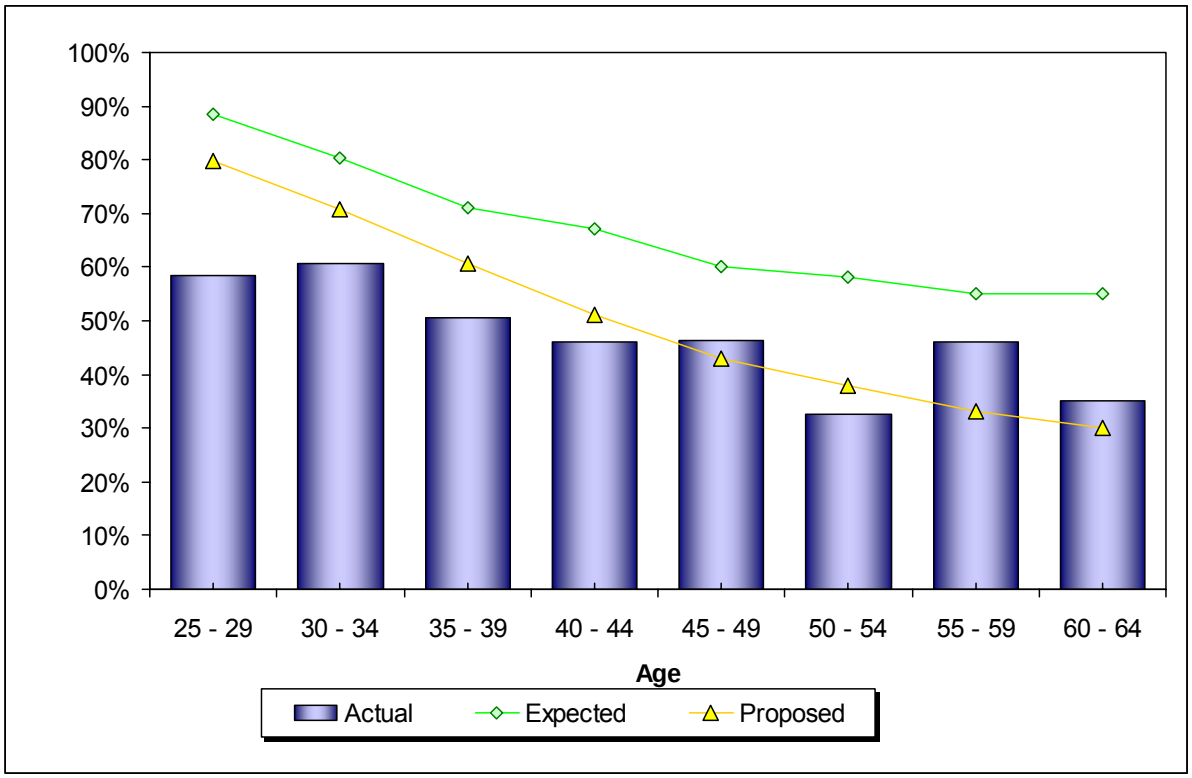
Recommendation

Based on the experience from 2003-2006, we recommend decreases in the assumed rates at which members withdraw their contributions in the System. The lower rates of refund are reflective an increased awareness of the value of saving for retirement. This trend towards a much higher probability of leaving the contributions with the System is consistent with what we have observed with other retirement systems.

For members with 20 or more years of service, we are recommending a reduction to a 20% probability of refund at all ages.

Exhibit 8-1

Probability of Refund upon Vested Termination – Males & Females



	Less than 20 Years of Service		
	Expected	Actual	Proposed
Total Count	435	308	330
Actual / Expected	71%		93%

	20 Years or More of Service		
	Expected	Actual	Proposed
Total Count	22	9	8
Actual / Expected	40%		118%

SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM
INVESTIGATION OF ACTIVE EXPERIENCE (2003-2006)

Appendix A: Summary of Proposed Assumptions

This section of the report describes the actuarial procedures and assumptions used in this valuation. The assumptions used in this valuation were adopted by the SCERS Board at their May, 2008 meeting.

The actuarial assumptions used in the valuation are intended to estimate the future experience of the members of the System and of the System itself in areas that affect the projected benefit flow and anticipated investment earnings. Any variations in future experience from that expected from these assumptions will result in corresponding changes in the estimated costs of the System's benefits. Table A-1 summarizes the actuarial assumptions.

Table A-2 presents expected annual salary increases for various years of service. Tables A-3 through A-6 show rates of decrement for service retirement, disablement, mortality, and other terminations of employment. Table A-7 shows probabilities of vesting upon termination.

Changes from Prior Assumptions

Where we have proposed changes from the prior assumptions, these changes are highlighted in yellow.

Actuarial Cost Method

The actuarial valuation was prepared using the entry age actuarial cost method. Under this method, the actuarial present value of the projected benefits of each individual included in the valuation is allocated as a level percentage of the individual's projected compensation between entry age and assumed exit. The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided for at a valuation date by the sum of (a) the actuarial value of the assets, and (b) the actuarial present value of future normal costs is called the unfunded actuarial accrued liability or UAAL. The UAAL is amortized as a level percentage of the projected salaries of present and future members of the System.

Records and Data

The data used in the valuation consist of financial information; records of age, sex, service, salary, and contribution rates and account balances of contributing members; and records of age, sex, and amount of benefit for retired members and beneficiaries. All of the data were supplied by the System and are accepted for valuation purposes without audit.

Replacement of Terminated Members

The ages at entry and distribution by sex of future members are assumed to average the same as those of the present members they replace. If the number of active members should increase, it is further assumed that the average entry age of the larger group will be the same, from an actuarial standpoint, as that of the present group. Under these assumptions, the normal cost rates for active members will not vary with the termination of present members.

Employer Contributions

At the time of this valuation, the total employer contribution rate for normal costs and amortization of the UAAL was 8.03% of members' salaries.

Administrative Expense

The annual contribution assumed to be necessary to meet general administrative expenses of the system, excluding investment expenses, is 0.40% of members' salaries. This figure is included in the calculation of the normal cost rate.

Valuation of Assets

All assets are valued at market as of the valuation date, January 1, 2008.

Investment Earnings

The annual rate of investment earnings of the assets of the System is assumed to be 7.75% (alternate assumption of 7.50%). This rate is compounded annually and is net of investment expenses.

Postretirement Benefit Increases

Postretirement benefit increases include:

- Automatic 1.5% Annual COLA – This benefit applies to all members.
- 65% Restoration of Purchasing Power (ROPP) – The member's benefit is the greater of 65% of the annual initial benefit adjusted for CPI or their applicable benefit. This minimum benefit is available to all retirees and beneficiaries. The financial impact of the ROPP benefit is valued assuming an annual price inflation rate of 3.5% (alternate assumption of 3.25%).

Postretirement Benefit Increases (continued)	Additional contingent COLA increases that were adopted in 2001, but not effective until the System reaches at least a 100% funding ratio, are not included in the valuation results.
Future Salaries	Table A-2 illustrates the rates of future salary increases assumed for the purpose of the valuation. In addition to increases in salary due to promotions and longevity, this scale includes an assumed 4.0% (alternate assumption of 3.75%)per annum rate of increase in the general wage level of the membership.
Service Retirement	Table A-3 shows the annual assumed rates of retirement among members eligible for service retirement or reduced retirement. Separate rates are also used during the first year a member is eligible for service retirement.
Disablement	The rates of disablement used in this valuation are illustrated in Table A-4. It is assumed that one-third of all disabilities are duty related and two-thirds occur while off duty.
Mortality	The mortality rates used in this valuation are illustrated in Table A-5. A written description of each table used is included in Table A-1.
Other Terminations of Employment	The rates of assumed future withdrawal from active service for reasons other than death, disability or retirement are shown for representative ages in Table A-6. Note that this assumption only applies to members who terminate and are not yet eligible for retirement.
Probability of Refund	Terminating members may forfeit a vested right to a deferred benefit if they elect a refund of their accumulated contributions. Table A-7 gives the assumed probability, at selected ages, that a terminating member will elect to receive a refund of his accumulated contributions instead of a deferred benefit. If a member terminates with more than 20 years of service, there is assumed to be a 20% probability that the member will elect a refund. Note that the probability of refund assumption only applies to members who terminate with a vested benefit and are not yet eligible for retirement.
Interest on Member Contributions	Interest on member contributions is assumed to accrue at a rate of 5.75% per annum, compounded annually.

Portability	The cost of portability with other public retirement systems is not included in this valuation.
Probability of Marriage	We assumed 60% of the active members are married or have a registered domestic partner.
Commencement for Terminated Vested Members	Vested members who terminate but elect to leave their contributions in the System are assumed to commence receiving benefits at age 62.

SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM
INVESTIGATION OF ACTIVE EXPERIENCE (2003-2006)

Table A-1

Summary of Valuation Assumptions

January 1, 2008

I.	Economic assumptions	
	A. Price inflation	3.50%
	B. General wage increases	4.00
	C. Investment return	7.75
	D. Increase in membership	0.00
	E. Interest on member accounts	5.75
II.	Demographic assumptions	
	A. Salary increases due to promotion and longevity	Table A-2
	B. Retirement	Table A-3
	C. Disablement	Table A-4
	D. Mortality among contributing members Men 50% of the rates from the 1994 Group Annuity Mortality (GAM) Table for Males, with ages set forward one year. Women 75% of the rates from the 1994 GAM Table for Females, with ages set forward one year.	Table A-5
	E. Mortality among service retired members and beneficiaries Men 1994 GAM Table for Males, with ages set forward one year. Women 1994 GAM Table for Females, with no age adjustment.	Table A-5
	F. Mortality among disabled members 1992 Railroad Retirement Board Disabled Annuitants Ultimate Mortality Table, with ages set back four years (minimum rate of 2%).	Table A-5
	G. Other terminations of employment	Table A-6
	H. Probabilities of vesting on termination	Table A-7

SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM
INVESTIGATION OF ACTIVE EXPERIENCE (2003-2006)

Table A-2

Future Salaries

Annual Rate of Increase

Years of Service	Promotion and Longevity	Total
0 to 1	5.75%	9.98%
1 to 2	4.75	8.94
2 to 3	3.75	7.90
3 to 4	2.75	6.86
4 to 5	2.25	6.34
9 to 10	1.00	5.04
14 to 15	0.50	4.52
19 to 20	0.29	4.30
24 to 25	0.25	4.26
29 to 30	0.25	4.26
35 or more	0.25	4.26

SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM
INVESTIGATION OF ACTIVE EXPERIENCE (2003-2006)

Table A-3

Retirement

	Annual Probability					
	Men			Women		
		Eligible for Full Benefits			Eligible for Full Benefits	
Age	Eligible for Reduced Benefits	Less than 30 years of service	30 years or more of service	Eligible for Reduced Benefits	Less than 30 years of service	30 years or more of service
Less than 50	0.0%	10.0%	8.0%	0.0%	10.0%	10.0%
50	6.0	10.0	10.0	5.0	10.0	12.0
51	6.0	10.0	10.0	5.0	10.0	12.0
52	6.0	12.0	12.0	5.0	12.0	12.0
53	6.0	10.0	12.0	5.0	12.0	12.0
54	6.0	10.0	12.0	5.0	12.0	15.0
55	6.0	12.0	15.0	5.0	12.0	20.0
56	6.0	10.0	12.0	5.0	12.0	15.0
57	6.0	10.0	12.0	5.0	12.0	15.0
58	6.0	10.0	15.0	6.0	15.0	15.0
59	7.0	12.0	15.0	8.0	15.0	15.0
60	10.0	18.0	20.0	10.0	18.0	20.0
61	15.0	18.0	20.0	14.0	18.0	20.0
62	18.0	35.0	35.0	24.0	35.0	35.0
63	15.0	25.0	25.0	15.0	25.0	25.0
64	15.0	25.0	25.0	15.0	25.0	25.0
65		50.0	50.0		50.0	50.0
66		30.0	30.0		30.0	30.0
67		30.0	30.0		30.0	30.0
68		30.0	30.0		30.0	30.0
69		30.0	30.0		30.0	30.0
70		*	*		*	*

* *Immediate retirement is assumed for every person age 70 or over.*

SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM
INVESTIGATION OF ACTIVE EXPERIENCE (2003-2006)

Table A-4

Disablement*

	Annual Rates	
Age	Men	Women
20	.00%	.00%
25	.00	.00
30	.05	.05
35	.05	.05
40	.07	.07
45	.07	.07
50	.10	.10
55	.10	.10
60	.10	.10
65	.00	.00

**It is assumed that one-third of all disabilities are duty related and two-thirds are non-duty related.*

SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM
INVESTIGATION OF ACTIVE EXPERIENCE (2003-2006)

Table A-5

Mortality

	Annual Probability				
	Contributing Members		Members Retired for Service and Beneficiaries of Members		Disabled Members
Age	Men	Women	Men	Women	Men & Women
22	.03%	.02%	.06%	.03%	2.00%
27	.04	.02	.08	.03	2.00
32	.04	.03	.08	.04	2.00
37	.05	.04	.09	.06	2.00
42	.07	.07	.14	.08	2.00
47	.11	.09	.21	.11	2.00
52	.18	.14	.36	.17	2.00
57	.32	.25	.63	.29	2.00
62	.58	.50	1.15	.58	2.00
67	1.00	.89	1.99	1.08	3.40
72	N/A	N/A	3.12	1.65	5.52
77	N/A	N/A	5.02	2.84	8.56
82	N/A	N/A	8.25	4.92	12.75
87	N/A	N/A	12.70	8.40	18.30
92	N/A	N/A	19.84	14.20	25.43

SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM
INVESTIGATION OF ACTIVE EXPERIENCE (2003-2006)

Table A-6

Other Terminations of Employment Among Members Not Eligible to Retire

Years of Service	Annual Rates for Men	Annual Rates for Women
0 to 1	11.0%	13.0%
1 to 2	10.0	12.0
2 to 3	9.0	10.0
3 to 4	8.0	9.0
4 to 5	7.0	8.0
5 to 6	6.0	7.0
6 to 7	5.3	6.3
7 to 8	4.6	5.7
8 to 9	4.0	5.1
9 to 10	3.5	4.5
10 to 11	3.1	4.0
11 to 12	2.8	3.5
12 to 13	2.5	3.0
13 to 14	2.3	2.6
14 to 15	2.0	2.3
15 to 16	1.8	2.0
16 to 17	1.6	1.8
17 to 18	1.4	1.5
18 to 19	1.3	1.3
19 to 20	1.1	1.1
20 to 21	1.0	1.0
21 to 22	0.9	0.9
22 to 23	0.9	0.9
23 to 24	0.8	0.8
24 to 25	0.8	0.8
25 to 26	0.7	0.7
26 to 27	0.7	0.7
27 to 28	0.6	0.6
28 to 29	0.6	0.6
29 to 30	0.5	0.5
30 and up	0.5	0.5

SEATTLE CITY EMPLOYEES' RETIREMENT SYSTEM
INVESTIGATION OF ACTIVE EXPERIENCE (2003-2006)

Table A-7

Probability of Refund

Age	Probabilities of Refund upon Termination*
25	85.0%
30	75.0
35	65.0
40	55.0
45	45.0
50	40.0
55	35.0
60	30.0

**If service is 20 or more years at termination, probability of refund is equal to 20%.*