

THE POLICE AND FIREMEN'S RETIREMENT SYSTEM
OF NEW JERSEY
REPORT ON AN INVESTIGATION OF EXPERIENCE
PREPARED AS OF JUNE 30, 2007

DOC:V00624JC.DOC

July 10, 2008

Board of Trustees
The Police and Firemen's Retirement System
of New Jersey
Trenton, New Jersey

Ladies and Gentlemen:

This year, an actuarial investigation of the mortality and service experience of the members and beneficiaries of the retirement system was made in accordance with the provisions of Section 13, Subsection (13) of Chapter 255, P.L. 1944 and amended by Chapter 157, P.L. 1972 of the New Jersey Statutes. This subsection specifies that such an investigation shall be made once in every three-year period. The results of this investigation are described in detail in the attached report. We are available at the Board's convenience to discuss this report.

To the best of our knowledge, this experience investigation report is complete and accurate. The experience investigation was performed by, and under the supervision of, independent qualified actuaries who are members of the American Academy of Actuaries with experience in performing experience investigations for public retirement systems.

Respectfully submitted,

(Signed) JANET H. CRANNA

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**REPORT ON AN INVESTIGATION OF THE EXPERIENCE OF THE
POLICE AND FIREMEN'S RETIREMENT SYSTEM OF NEW JERSEY
PREPARED AS OF JUNE 30, 2007**

I. INTRODUCTION

Section 13, Subsection (13) of Chapter 255, P.L. 1944, as amended by Chapter 157, P.L. 1972 of the New Jersey Statutes provides that once in every three-year period the actuary shall examine in detail the mortality and service experience of the members and beneficiaries of the Retirement System. This investigation is designed to ensure that the tables used for determining expected liabilities of the Retirement System are consistent with recent experience. If tables are not updated periodically, the liabilities of the System may be misstated and resulting contributions either too large or too small to fund the actual accruing liabilities.

This report summarizes the Retirement System experience for the period from July 1, 2004 through June 30, 2007. Experience for State employees and for employees of the various Municipalities & Local Groups participating in the System were examined in total. Please note that, in instances where the data being examined appeared inconsistent with prior results or incomplete, we made no current recommendation. These items will be reviewed closely when the next scheduled experience study is prepared as of June 30, 2010 and proposed changes, if warranted, will be recommended at that time.

To avoid inflating assumed future rates of retirement that are not representative of "normal" retirement experience, we removed the effects of Chapter 126, P.L. 2000 and Chapter 130, P.L. 2003 Early Retirement Incentive (ERI) programs. To remove the effect of the ERI's, all members

who elected to retire under one of the ERI programs were excluded from the examination of the active members' experience portion of the study.

Finally, we have included an examination of the current salary increase assumption in this study.

II. EXAMINATION OF EXPERIENCE

Although this study covers the period from July 1, 2004 to June 30, 2007, it will also make reference to the results from prior studies, where appropriate.

The experience among active members, retired members and beneficiaries has been compared with the experience expected according to the active service tables and retirement tables adopted by the Board of Trustees as a result of the July 1, 2001– June 30, 2004 experience study.

In the case of withdrawals, since the Board has adopted select rates of withdrawal, the data for employees with less than two years of service, exactly two years of service, exactly three years of service, exactly four years of service, five to nine years of service and ten or more years of service were tabulated separately. Similarly, rates of retirement were tabulated separately for employees with less than 21 years of service, 21 to 24 years of service, exactly 25 years of service and 26 or more years of service. However, in investigating the experience with respect to death and disability, the employees were treated in one group. The expected number of separations from service on account of withdrawal, death, disability and service retirement was calculated by multiplying the rates of separation used as a basis for the active service tables by the number of those exposed to risk. Similarly, the expected number of deaths among service retirees, beneficiaries of deceased

members and disability retirees was calculated by multiplying the rate of mortality used as a basis for the inactive tables by the number exposed to risk. The actual number was then compared with the expected number. The tables shown in Sections (A) and (B) of this section present the results of these comparisons. If the ratio of actual to expected is 1.000, the tables have exactly predicted what actually occurred. If the ratio of actual to expected is greater than 1.000, then the tables have underestimated actual experience. If the ratio is less than 1.000, then the tables have overstated actual experience.

Finally, the expected salaries of those members who remain in service from year to year were obtained and these expected salaries were compared with the actual salaries. Again, a ratio of actual to expected of 1.000 would indicate that actual salary increases were identical to anticipated increases while a ratio greater than 1.000 indicates that salaries have increased faster than anticipated and a ratio less than 1.000 indicates that salaries have increased slower than anticipated.

(A) ACTIVE PLAN EXPERIENCE

The first portion of this section contains a summary of active plan experience, which examines the following rates:

- Non-Vested Withdrawal Rates
- Vested Withdrawal Rates
- Ordinary Death Rates
- Accidental Death Rates
- Ordinary Disability Rates
- Accidental Disability Rates
- Service Retirement Rates
- Salary Increase Rates

TABLE 1

**COMPARISON OF ACTUAL AND EXPECTED SEPARATIONS
FROM ACTIVE SERVICE**

NON-VESTED WITHDRAWALS

SCHEDULE A: LESS THAN 2 YEARS OF SERVICE

CENTRAL AGE OF GROUP	NUMBER OF SEPARATIONS			Ratio of Actual to Expected
	Exposures	Actual	Expected	
20	394	11	9.86	1.116
25	2,703	127	104.06	1.220
30	1,767	118	77.75	1.518
35	1,016	69	45.72	1.509
40	127	15	6.35	2.362
45	4	1	0.14	7.143
50	0	0	0.00	0.000
54	0	0	0.00	0.000
Total	6,011	341	243.88	1.398

SCHEDULE B: 2 YEARS OF SERVICE

CENTRAL AGE OF GROUP	NUMBER OF SEPARATIONS			Ratio of Actual to Expected
	Exposures	Actual	Expected	
20	107	0	2.05	0.000
25	1,873	29	35.78	0.811
30	1,484	45	32.65	1.378
35	875	32	19.69	1.625
40	129	4	2.91	1.375
45	6	0	0.14	0.000
50	1	0	0.02	0.000
54	0	0	0.00	0.000
Total	4,475	110	93.24	1.180

TABLE 1

**COMPARISON OF ACTUAL AND EXPECTED SEPARATIONS
FROM ACTIVE SERVICE**

**NON-VESTED WITHDRAWALS
(Continued)**

SCHEDULE C: 3 YEARS OF SERVICE

CENTRAL AGE OF GROUP	NUMBER OF SEPARATIONS			
	Exposures	Actual	Expected	Ratio of Actual to Expected
20	56	0	0.88	0.000
25	1,671	18	26.23	0.686
30	1,858	36	32.70	1.101
35	1,109	13	19.52	0.666
40	267	7	4.94	1.417
45	10	1	0.18	5.556
50	0	0	0.00	0.000
54	2	0	0.04	0.000
Total	4,973	75	84.49	0.888

SCHEDULE D: 4 YEARS OF SERVICE

CENTRAL AGE OF GROUP	NUMBER OF SEPARATIONS			
	Exposures	Actual	Expected	Ratio of Actual to Expected
20	8	0	0.00	0.000
25	1,375	5	23.92	0.209
30	2,253	38	39.20	0.969
35	1,401	21	24.38	0.861
40	442	11	10.25	1.073
45	18	1	0.41	2.439
50	3	0	0.06	0.000
54	0	0	0.00	0.000
Total	5,500	76	98.22	0.774

TABLE 1

**COMPARISON OF ACTUAL AND EXPECTED SEPARATIONS
FROM ACTIVE SERVICE**

**NON-VESTED WITHDRAWALS
(Continued)**

SCHEDULE E: 5 - 9 YEARS OF SERVICE

CENTRAL AGE OF GROUP	NUMBER OF SEPARATIONS			
	Exposures	Actual	Expected	Ratio of Actual to Expected
20	0	0	0.00	0.000
25	1,540	5	10.79	0.463
30	10,310	45	111.35	0.404
35	10,916	67	139.72	0.480
40	4,586	30	68.79	0.436
45	1,087	13	16.30	0.798
50	248	3	4.96	0.605
54	63	0	1.26	0.000
Total	28,750	163	353.17	0.462

TABLE 2

**COMPARISON OF ACTUAL AND EXPECTED SEPARATIONS
FROM ACTIVE SERVICE**

VESTED WITHDRAWALS WITH 10 OR MORE YEARS OF SERVICE

CENTRAL AGE OF GROUP	NUMBER OF SEPARATIONS			Ratio of Actual to Expected
	Exposures	Actual	Expected	
20	0	0	0.00	0.000
25	0	0	0.00	0.000
30	1,450	1	7.83	0.128
35	14,148	33	43.86	0.752
40	20,220	52	64.71	0.804
45	10,563	30	33.81	0.887
50	4,243	17	12.73	1.335
54	794	4	2.38	1.681
Total	51,418	137	165.32	0.829

TABLE 3

**COMPARISON OF ACTUAL AND EXPECTED SEPARATIONS
FROM ACTIVE SERVICE**

ORDINARY DEATH

CENTRAL AGE OF GROUP	NUMBER OF SEPARATIONS			
	Exposures	Actual	Expected	Ratio of Actual to Expected
20	565	0	0.28	0.000
25	9,162	5	4.58	1.092
30	19,122	10	12.43	0.805
35	29,466	19	19.15	0.992
40	28,148	17	33.77	0.503
45	21,302	23	38.35	0.600
50	14,526	22	36.31	0.606
53	1,923	7	5.77	1.213
54	1,684	5	5.05	0.990
55	1,485	5	5.20	0.962
56	1,296	6	5.19	1.156
57	1,146	5	4.59	1.089
58	953	1	4.29	0.233
59	702	2	3.51	0.570
60	489	7	2.93	2.389
61	371	3	2.23	1.345
62	300	3	1.80	1.667
63	235	0	1.41	0.000
64	164	1	0.99	1.010
Total	133,039	141	187.83	0.751

TABLE 4

**COMPARISON OF ACTUAL AND EXPECTED SEPARATIONS
FROM ACTIVE SERVICE**

ACCIDENTAL DEATH

CENTRAL AGE OF GROUP	NUMBER OF SEPARATIONS			
	Exposures	Actual	Expected	Ratio of Actual to Expected
20	565	0	0.03	0.000
25	9,162	0	0.55	0.000
30	19,122	3	1.14	2.632
35	29,466	0	2.14	0.000
40	28,148	1	2.25	0.444
45	21,302	0	1.83	0.000
50	14,526	1	1.30	0.769
53	1,923	0	0.17	0.000
54	1,684	0	0.15	0.000
55	1,485	0	0.20	0.000
56	1,296	0	0.18	0.000
57	1,146	0	0.16	0.000
58	953	0	0.14	0.000
59	702	0	0.10	0.000
60	489	0	0.07	0.000
61	371	0	0.03	0.000
62	300	0	0.02	0.000
63	235	0	0.02	0.000
64	164	0	0.01	0.000
Total	133,039	5	10.49	0.477

TABLE 5

**COMPARISON OF ACTUAL AND EXPECTED SEPARATIONS
FROM ACTIVE SERVICE**

ORDINARY DISABILITY

CENTRAL AGE OF GROUP	NUMBER OF SEPARATIONS			
	Exposures	Actual	Expected	Ratio of Actual to Expected
20	565	0	0.40	0.000
25	9,162	3	9.16	0.328
30	19,122	33	31.55	1.046
35	29,466	120	88.40	1.357
40	28,148	138	130.05	1.061
45	21,302	115	106.94	1.075
50	14,526	95	79.17	1.200
53	1,923	14	12.69	1.103
54	1,684	10	10.00	1.000
55	1,485	17	13.36	1.272
56	1,296	5	11.67	0.428
57	1,146	9	9.17	0.981
58	953	9	7.63	1.180
59	702	8	5.62	1.423
60	489	6	7.82	0.767
61	371	4	6.67	0.600
62	300	9	5.40	1.667
63	235	3	6.35	0.472
64	164	5	4.92	1.016
Total	133,039	603	546.97	1.102

TABLE 6

**COMPARISON OF ACTUAL AND EXPECTED SEPARATIONS
FROM ACTIVE SERVICE**

ACCIDENTAL DISABILITY

CENTRAL AGE OF GROUP	NUMBER OF SEPARATIONS			
	Exposures	Actual	Expected	Ratio of Actual to Expected
20	565	0	0.14	0.000
25	9,162	3	2.94	1.020
30	19,122	33	21.12	1.563
35	29,466	78	54.09	1.442
40	28,148	112	63.71	1.758
45	21,302	69	47.97	1.438
50	14,526	28	26.63	1.051
53	1,923	6	3.09	1.942
54	1,684	1	2.71	0.369
55	1,485	1	2.39	0.418
56	1,296	7	2.09	3.349
57	1,146	2	1.22	1.639
58	953	2	1.02	1.961
59	702	0	0.75	0.000
60	489	2	0.52	3.846
61	371	0	0.40	0.000
62	300	2	0.32	6.250
63	235	1	0.25	4.000
64	164	1	0.18	5.556
Total	133,039	348	231.54	1.503

TABLE 7

**COMPARISON OF ACTUAL AND EXPECTED SEPARATIONS
FROM ACTIVE SERVICE**

SERVICE RETIREMENTS

SCHEDULE A: LESS THAN 21 YEARS OF SERVICE

CENTRAL AGE OF GROUP	NUMBER OF SEPARATIONS			Ratio of Actual to Expected
	Exposures	Actual	Expected	
40	1,251	39	30.61	1.274
45	2,066	51	51.66	0.987
50	945	33	35.43	0.931
53	110	5	5.50	0.909
54	120	14	6.00	2.333
55	391	10	16.62	0.602
56	328	7	13.94	0.502
57	279	3	11.86	0.253
58	240	2	10.21	0.196
59	176	7	7.48	0.936
60	144	3	6.12	0.490
61	111	7	4.72	1.483
62	97	10	12.37	0.808
63	66	9	8.41	1.070
64	49	13	18.37	0.708
Total	6,373	213	239.30	0.890

SCHEDULE B: 21 - 24 YEARS OF SERVICE

CENTRAL AGE OF GROUP	NUMBER OF SEPARATIONS			Ratio of Actual to Expected
	Exposures	Actual	Expected	
40	1,119	3	0.00	0.000
45	6,196	18	0.00	0.000
50	4,357	14	0.00	0.000
53	464	4	0.00	0.000
54	398	3	0.00	0.000
55	362	1	0.00	0.000
56	323	1	0.00	0.000
57	267	3	0.00	0.000
58	190	1	0.00	0.000
59	134	1	0.00	0.000
60	87	0	0.00	0.000
61	58	0	0.00	0.000
62	44	1	0.00	0.000
63	32	0	0.00	0.000
64	22	2	0.00	0.000
Total	14,053	52	0.00	0.000

TABLE 7

**COMPARISON OF ACTUAL AND EXPECTED SEPARATIONS
FROM ACTIVE SERVICE**

**SERVICE RETIREMENTS
(Continued)**

SCHEDULE C: 25 YEARS OF SERVICE

CENTRAL AGE OF GROUP	NUMBER OF SEPARATIONS			Ratio of Actual to Expected
	Exposures	Actual	Expected	
45	932	421	498.19	0.845
50	1,714	739	970.64	0.761
53	197	98	116.31	0.843
54	159	85	93.87	0.906
55	141	71	83.25	0.853
56	119	77	79.04	0.974
57	114	69	88.33	0.781
58	86	53	66.63	0.795
59	59	42	45.71	0.919
60	34	23	26.34	0.873
61	27	26	20.91	1.243
62	18	17	13.95	1.219
63	16	10	12.39	0.807
64	12	11	9.29	1.184
Total	3,628	1,742	2,124.85	0.820

SCHEDULE D: GREATER THAN 25 YEARS OF SERVICE

CENTRAL AGE OF GROUP	NUMBER OF SEPARATIONS			Ratio of Actual to Expected
	Exposures	Actual	Expected	
45	420	39	64.68	0.603
50	3,013	457	464.00	0.985
53	668	120	116.76	1.028
54	633	102	110.65	0.922
55	591	113	103.31	1.094
56	526	84	91.95	0.914
57	486	94	84.95	1.107
58	437	86	76.38	1.126
59	333	70	75.86	0.923
60	224	43	51.03	0.843
61	175	36	39.87	0.903
62	141	28	32.12	0.872
63	121	27	27.57	0.979
64	81	47	30.62	1.535
Total	7,849	1,346	1,369.75	0.983

TABLE 8

**COMPARISON OF ACTUAL AND EXPECTED
ACTIVE SALARY INCREASES**

CENTRAL AGE OF GROUP	SALARY INCREASE			Ratio of Actual to Expected
	Actual Salary from Previous Year	Actual	Expected	
20	\$ 19,085,457	\$ 22,701,131	\$ 21,325,861	1.064
25	393,095,337	457,686,635	433,429,854	1.056
30	1,045,336,621	1,166,951,269	1,130,729,381	1.032
35	1,906,381,918	2,062,247,026	2,034,786,434	1.013
40	2,043,862,013	2,177,413,871	2,168,202,154	1.004
45	1,624,690,004	1,719,598,629	1,721,493,026	0.999
50	1,091,252,868	1,153,272,524	1,156,182,391	0.997
55	546,849,574	576,591,885	579,387,112	0.995
60	193,442,965	203,952,826	204,952,817	0.995
63 & 64	22,460,936	23,879,918	23,797,361	1.003
Total	\$ 8,886,457,693	\$ 9,564,295,714	\$ 9,474,286,391	1.010

(B) INACTIVE PLAN EXPERIENCE

The second portion of this section contains a summary of inactive plan experience which examines the following rates:

- Service Retirement Mortality Rates
- Beneficiary Mortality Rates
- Disability Mortality Rates

TABLE 9

**COMPARISON OF ACTUAL AND EXPECTED RATES
OF MORTALITY AFTER RETIREMENT**

SERVICE RETIREMENT

CENTRAL AGE OF GROUP	NUMBER OF MALE DEATHS			
	Exposures	Actual	Expected	Ratio of Actual to Expected
45	946	5	3.49	1.431
50	4,835	21	28.61	0.734
55	9,411	63	87.65	0.719
60	12,506	122	178.19	0.685
65	10,593	148	226.45	0.654
70	7,168	160	202.37	0.791
75	5,564	222	248.08	0.895
80	4,551	287	335.06	0.857
85	2,131	218	236.20	0.923
90	426	68	66.10	1.029
Total	58,131	1,314	1,612.20	0.815

CENTRAL AGE OF GROUP	NUMBER OF FEMALE DEATHS			
	Exposures	Actual	Expected	Ratio of Actual to Expected
45	104	1	0.11	9.302
50	227	0	0.38	0.000
55	196	1	0.51	1.978
60	161	3	0.69	4.368
65	180	1	1.29	0.774
70	124	1	1.52	0.659
75	61	1	1.46	0.684
80	44	4	1.89	2.117
85	19	2	1.28	1.562
90	5	0	0.53	0.000
Total	1,121	14	9.66	1.449

TABLE 10

**COMPARISON OF ACTUAL AND EXPECTED RATES
OF MORTALITY AFTER RETIREMENT**

BENEFICIARY OF DECEASED ACTIVE AND RETIRED MEMBERS

CENTRAL AGE OF GROUP	NUMBER OF MALE DEATHS			
	Exposures	Actual	Expected	Ratio of Actual to Expected
Under 45	47	0	0.11	0.000
50	11	0	0.06	0.000
55	10	0	0.09	0.000
60	15	0	0.21	0.000
65	12	0	0.25	0.000
70	3	0	0.10	0.000
75	6	0	0.27	0.000
80	9	0	0.66	0.000
85	0	0	0.00	0.000
90	0	0	0.00	0.000
95	0	0	0.00	0.000
97	0	0	0.00	0.000
Total	113	0	1.75	0.000

CENTRAL AGE OF GROUP	NUMBER OF FEMALE DEATHS			
	Exposures	Actual	Expected	Ratio of Actual to Expected
Under 45	676	2	1.58	1.266
50	533	3	2.51	1.196
55	870	4	6.20	0.645
60	1,227	12	12.86	0.933
65	1,537	13	23.63	0.550
70	1,914	42	38.03	1.104
75	2,637	90	74.88	1.202
80	2,958	139	139.27	0.998
85	1,744	122	130.24	0.937
90	365	47	41.90	1.122
95	36	7	7.69	0.910
97	0	0	0.00	0.000
Total	14,497	481	478.79	1.005

TABLE 11

**COMPARISON OF ACTUAL AND EXPECTED
DEATHS AFTER RETIREMENT**

DISABILITY RETIREMENT

CENTRAL AGE OF GROUP	NUMBER OF DEATHS			
	Exposures	Actual	Expected	Ratio of Actual to Expected
Under 45	4,225	39	67.45	0.578
50	1,827	22	32.23	0.683
55	1,870	40	37.80	1.058
60	1,631	24	38.54	0.623
65	1,165	29	31.58	0.918
70	669	21	22.55	0.931
75	393	23	19.33	1.190
80	336	28	26.32	1.064
85	112	16	12.60	1.269
90	9	1	1.35	0.741
Total	12,237	243	289.75	0.839

III. COMMENTS AND GENERAL RECOMMENDATION OF THE ACTUARY

RATES OF WITHDRAWAL

The actual and expected numbers of non-vested withdrawals have been summarized in Table 1.

Schedule A of Table 1 presents a summary of the number of exposures, actual and expected terminations and the ratios of actual to expected terminations of non-vested withdrawals with less than two years of service. Actual withdrawals were about 40% higher than those expected. This has been the trend during the prior three studies where the actual rates of withdrawal were greater than assumed. Therefore, we propose a further increase in the assumed rates of withdrawal in this category from ages 25 through 40 to more closely reflect this twelve-year trend.

Schedule B examines the non-vested withdrawal experience for members with two years of service. The total number of actual terminations was about 18% higher than that expected, mainly at the middle age groups. This is a reversal from the prior study, where actual terminations were lower than expected and a decrease in the rates was adopted. Therefore, we are recommending no change in the assumed rates of withdrawal at this time. We will closely monitor this assumption's experience during the next study to see if a new trend has developed.

Schedule C shows that we expected approximately ten more withdrawals than actual experience among non-vested members with three years of service. This result is consistent with the previous study. However, unlike the prior study where we recommended a decrease in the rates, there is no clear trend among the age groups with significant number of exposures (i.e., ages 25 through 40).

In addition, when compared to the 4,973 total members who were exposed to these rates, the difference falls within an acceptable range. We are not proposing a change to these assumed rates.

Schedule D examines the experience for non-vested withdrawals with four years of service. Actual terminations are about 23% less than expected due primarily to the assumed rate at age 25. This trend has continued since the two prior studies and we recommend a decrease in the assumed rate at age 25.

Schedule E shows that the rates assumed for non-vested withdrawals with 5 to 9 years of service are significantly greater than actual experience. This is consistent with the two prior studies. This continued pattern warrants a further reduction in the assumed rates.

Finally, Table 2 presents the experience for vested withdrawals with 10 or more years of service. As in the past five studies, actual terminations continue to be less than expected for ages 30 through 45. We believe that this continued pattern warrants a further reduction in the rates at these ages.

RATES OF DEATH AMONG ACTIVE MEMBERS

The experience for Ordinary and Accidental Death is presented in Tables 3 and 4, respectively. For Ordinary Death, actual deaths were about 25% lower than expected. In light of continued mortality improvement in the general population, we propose the use of a recently published mortality table. The incidence of Accidental Death is small and no change is recommended.

RATES OF DISABILITY RETIREMENT

The experience for Ordinary Disability is presented in Table 5. It indicates that actual disabilities were about 10% higher than that expected during the measurement period. This result is consistent with the results of the prior study. Therefore, we propose an increase in the assumed rates.

The data for Accidental Disabilities, as illustrated in Table 6, indicates that there were significantly more Accidental Disability retirements than expected during the measurement period (348 actual versus about 232 expected). This is consistent with the trend in the prior two studies and we propose a further increase in the rates.

RATES OF SERVICE RETIREMENT

Prior to the enactment of Chapter 428, P.L. 1999, the System provided an allowance upon attaining age 55, with no minimum service requirement, with retirement mandatory at age 65. A higher allowance was also provided upon completion of 25 years of service. Chapter 428 provided (a) a higher allowance for members who have 20 or more years of service and (b) enhanced benefits for members with 20 to 24 years of service who attain age 65. Due to the Chapter 428 changes, experience prior to age 55 was examined in the two prior studies. Table 7 presents the experience for service retirements during the study period.

The experience for retirements with less than 21 years of service is presented in Schedule A of Table 7. The data indicates that the number of actual retirements is still significantly less than expected during ages 55 through 60 during the measurement period, which follows the trend of the previous two studies. Therefore, we recommend a reduction in the rates for ages 55 through 60.

The experience for individuals retiring with between 21 and 24 years of service, as presented in Schedule B, is consistent with that expected. Current assumptions assume no terminations for this group and actual experience shows that less than .4% of those eligible retired during the measurement period. Therefore, no change is proposed at this time.

Examining the experience for retirements with exactly 25 years of service (the eligibility for Special Retirement), Schedule C indicates that there were 18% less actual retirements than expected. This is a reversal from the two prior studies, where there were more actual retirements than expected and an increase in the rates was adopted. Therefore, we are recommending no change in the assumed rates of retirement at this time. We will closely monitor this assumption's experience during the next study to see if a new trend has developed.

Finally, Schedule D presents the results of the retirement experience for members with greater than 25 years of service. In total, actual retirements were slightly less than expected but are well within an acceptable range. Therefore, we propose no change in the assumed rates.

RATES OF SALARY INCREASE

The current salary increase assumption varies by age and grades down from just under 12% at age 21 to a flat 5.95% per year for ages 45 and above. Table 8 shows that, in total, the current graded annual salary increase assumption is within an acceptable range of actual experience. Therefore, we recommend no changes to the assumed rates.

RATES OF MORTALITY AMONG SERVICE RETIREMENTS

Table 9 summarizes the mortality experience with respect to members retired on account of service retirement. The experience indicates that actual deaths were significantly less than expected for male retirees but within acceptable limits for female retirees based on their limited exposure. Since improvement in mortality is expected to continue, we recommend updating the assumptions for both males and females to use recently published mortality tables.

RATES OF MORTALITY AMONG BENEFICIARIES

Table 10 presents the mortality experience for beneficiaries in receipt of a benefit. The actual number of deaths was close to expected for both male and female beneficiaries. However, as mentioned above, general mortality improvement is expected. Therefore, we are recommending use of the same mortality tables recommended for service retirements.

RATES OF MORTALITY AMONG DISABILITY RETIREMENTS

Table 11 summarizes the mortality experience for disability retirements. The total actual deaths are about 16% less than expected. In particular, the actual number of deaths indicates that younger disability retirees are living longer. This is consistent with the results of the previous study. Therefore, we recommend a decrease in the mortality rates for ages prior to age 75 for all disabled pensioners.

IV. SUMMARY OF PROPOSED ASSUMPTIONS

As noted earlier in the report, the experience investigation for the period from July 1, 2004 to June 30, 2007 indicates the need for certain changes in the tables used for determining expected liabilities of the System. The proposed changes are summarized as follows:

<u>Rates</u>	<u>Proposed Changes</u>
Non-Vested Withdrawal	
• Less Than Two Years of Service	Increase
• Two Years of Service	No change
• Three Years of Service	No change
• Four Years of Service	Decrease
• Five to Nine Years of Service	Decrease
Vested Withdrawal	
• Ten or More Years of Service	Decrease
Death	
• Ordinary	RP-2000 Non-Annuitant Mortality Tables
• Accidental	No change
Disability	
• Ordinary	Increase
• Accidental	Increase
Service Retirement	
• Less Than 21 Years of Service	Decrease
• 21 to 24 Years of Service	No change
• 25 Years of Service	No change
• Greater Than 25 Years of Service	No change
Salary Increase	No change
Inactive Mortality	
• Service Retirements	RP-2000 Combined Healthy Mortality Tables
• Beneficiaries of Deceased Active and Retired Members	RP-2000 Combined Healthy Mortality Tables
• Disability Retirements	Decrease

*

The following tables give a comparison of the present, actual and proposed rates of separation from active service and rates of mortality for retired members at quinquennial ages.

In addition, we have prepared graphs that illustrate the actual current and proposed (if applicable) rates for each assumption. Please note that the experience for certain assumptions, such as accidental death that has a large exposed population and a rather small incidence, does not graph well because of the relative number of members.

TABLE 12

**COMPARISON OF ACTUAL AND EXPECTED RATES OF SEPARATION
FROM ACTIVE SERVICE**

NON-VESTED WITHDRAWALS

SCHEDULE A: LESS THAN 2 YEARS OF SERVICE

CENTRAL AGE OF GROUP	CURRENT RATES	ACTUAL RATES	PROPOSED RATES
20	0.0250	0.0279	0.0250
25	0.0385	0.0470	0.0462
30	0.0440	0.0668	0.0528
35	0.0450	0.0679	0.0540
40	0.0500	0.1181	0.0600
45	0.0350	0.2500	0.0350
50	0.0000	0.0000	0.0000
54	0.0000	0.0000	0.0000

SCHEDULE B: 2 YEARS OF SERVICE

CENTRAL AGE OF GROUP	CURRENT RATES	ACTUAL RATES	PROPOSED RATES: NO CHANGE
20	0.0191	0.0000	0.0191
25	0.0191	0.0155	0.0191
30	0.0220	0.0303	0.0220
35	0.0225	0.0366	0.0225
40	0.0225	0.0310	0.0225
45	0.0225	0.0000	0.0225
50	0.0225	0.0000	0.0225
54	0.0225	0.0000	0.0225

TABLE 12

**COMPARISON OF ACTUAL AND EXPECTED RATES OF SEPARATION
FROM ACTIVE SERVICE**

**NON-VESTED WITHDRAWALS
(Continued)**

SCHEDULE C: 3 YEARS OF SERVICE

CENTRAL AGE OF GROUP	CURRENT RATES	ACTUAL RATES	PROPOSED RATES: NO CHANGE
20	0.0157	0.0000	0.0157
25	0.0157	0.0108	0.0157
30	0.0176	0.0194	0.0176
35	0.0176	0.0117	0.0176
40	0.0185	0.0262	0.0185
45	0.0185	0.1000	0.0185
50	0.0185	0.0000	0.0185
54	0.0185	0.0000	0.0185

SCHEDULE D: 4 YEARS OF SERVICE

CENTRAL AGE OF GROUP	CURRENT RATES	ACTUAL RATES	PROPOSED RATES
20	0.0000	0.0000	0.0000
25	0.0174	0.0036	0.0122
30	0.0174	0.0169	0.0174
35	0.0174	0.0150	0.0174
40	0.0232	0.0249	0.0232
45	0.0232	0.0556	0.0232
50	0.0200	0.0000	0.0200
54	0.0100	0.0000	0.0100

TABLE 12

**COMPARISON OF ACTUAL AND EXPECTED RATES OF SEPARATION
FROM ACTIVE SERVICE**

**NON-VESTED WITHDRAWALS
(Continued)**

SCHEDULE E: 5 - 9 YEARS OF SERVICE

CENTRAL AGE OF GROUP	CURRENT RATES	ACTUAL RATES	PROPOSED RATES
20	0.0000	0.0000	0.0000
25	0.0070	0.0032	0.0053
30	0.0108	0.0044	0.0065
35	0.0128	0.0061	0.0077
40	0.0150	0.0065	0.0090
45	0.0150	0.0120	0.0135
50	0.0200	0.0121	0.0160
54	0.0200	0.0000	0.0160

TABLE 13

**COMPARISON OF ACTUAL AND EXPECTED RATES OF SEPARATION
FROM ACTIVE SERVICE**

VESTED WITHDRAWALS WITH 10 OR MORE YEARS OF SERVICE

CENTRAL AGE OF GROUP	CURRENT RATES	ACTUAL RATES	PROPOSED RATES
20	0.0000	0.0000	0.0000
25	0.0000	0.0000	0.0000
30	0.0054	0.0007	0.0040
35	0.0031	0.0023	0.0030
40	0.0032	0.0026	0.0030
45	0.0032	0.0028	0.0030
50	0.0030	0.0040	0.0030
54	0.0030	0.0050	0.0030

TABLE 14
COMPARISON OF ACTUAL AND EXPECTED RATES OF SEPARATION
FROM ACTIVE SERVICE

ORDINARY DEATH

CENTRAL AGE OF GROUP	CURRENT RATES	ACTUAL RATES	PROPOSED RATES	
			Males	Females
20	0.00050	0.00000	0.00035	0.00019
25	0.00050	0.00055	0.00038	0.00021
30	0.00065	0.00052	0.00046	0.00028
35	0.00065	0.00065	0.00077	0.00047
40	0.00120	0.00060	0.00108	0.00072
45	0.00180	0.00108	0.00151	0.00113
50	0.00250	0.00152	0.00215	0.00169
53	0.00300	0.00364	0.00262	0.00214
54	0.00300	0.00297	0.00281	0.00232
55	0.00350	0.00337	0.00303	0.00253
56	0.00400	0.00463	0.00331	0.00276
57	0.00400	0.00436	0.00363	0.00301
58	0.00450	0.00105	0.00400	0.00329
59	0.00500	0.00285	0.00441	0.00360
60	0.00600	0.01432	0.00488	0.00393
61	0.00600	0.00809	0.00538	0.00429
62	0.00600	0.01000	0.00592	0.00466
63	0.00600	0.00000	0.00647	0.00504
64	0.00600	0.00610	0.00703	0.00543

TABLE 15

**COMPARISON OF ACTUAL AND EXPECTED RATES OF SEPARATION
FROM ACTIVE SERVICE**

ACCIDENTAL DEATH

CENTRAL AGE OF GROUP	CURRENT RATES	ACTUAL RATES	PROPOSED RATES: NO CHANGE
20	0.00006	0.00000	0.00006
25	0.00006	0.00000	0.00006
30	0.00006	0.00016	0.00006
35	0.00007	0.00000	0.00007
40	0.00008	0.00004	0.00008
45	0.00009	0.00000	0.00009
50	0.00009	0.00007	0.00009
53	0.00009	0.00000	0.00009
54	0.00009	0.00000	0.00009
55	0.00014	0.00000	0.00014
56	0.00014	0.00000	0.00014
57	0.00014	0.00000	0.00014
58	0.00014	0.00000	0.00014
59	0.00014	0.00000	0.00014
60	0.00013	0.00000	0.00013
61	0.00008	0.00000	0.00008
62	0.00008	0.00000	0.00008
63	0.00008	0.00000	0.00008
64	0.00008	0.00000	0.00008

TABLE 16
COMPARISON OF ACTUAL AND EXPECTED RATES OF SEPARATION
FROM ACTIVE SERVICE
ORDINARY DISABILITY

CENTRAL AGE OF GROUP	CURRENT RATES	ACTUAL RATES	PROPOSED RATES
20	0.00070	0.00000	0.00070
25	0.00100	0.00033	0.00100
30	0.00165	0.00173	0.00173
35	0.00300	0.00407	0.00360
40	0.00462	0.00490	0.00485
45	0.00502	0.00540	0.00527
50	0.00545	0.00654	0.00600
53	0.00660	0.00728	0.00693
54	0.00594	0.00594	0.00693
55	0.00900	0.01145	0.00900
56	0.00900	0.00386	0.00900
57	0.00800	0.00785	0.00900
58	0.00800	0.00944	0.00900
59	0.00800	0.01140	0.00900
60	0.01600	0.01227	0.01600
61	0.01800	0.01078	0.01800
62	0.01800	0.03000	0.01800
63	0.02700	0.01277	0.02700
64	0.03000	0.03049	0.03000

TABLE 17

**COMPARISON OF ACTUAL AND EXPECTED RATES OF SEPARATION
FROM ACTIVE SERVICE**

ACCIDENTAL DISABILITY

CENTRAL AGE OF GROUP	CURRENT RATES	ACTUAL RATES	PROPOSED RATES
20	0.00022	0.00000	0.00022
25	0.00031	0.00033	0.00031
30	0.00107	0.00173	0.00139
35	0.00183	0.00265	0.00238
40	0.00227	0.00398	0.00318
45	0.00224	0.00324	0.00291
50	0.00182	0.00193	0.00182
53	0.00161	0.00312	0.00161
54	0.00161	0.00059	0.00161
55	0.00161	0.00067	0.00161
56	0.00161	0.00540	0.00161
57	0.00107	0.00175	0.00161
58	0.00107	0.00210	0.00161
59	0.00107	0.00000	0.00161
60	0.00107	0.00409	0.00161
61	0.00107	0.00000	0.00161
62	0.00107	0.00667	0.00161
63	0.00107	0.00426	0.00161
64	0.00107	0.00610	0.00161

TABLE 18

**COMPARISON OF ACTUAL AND EXPECTED RATES OF SEPARATION
FROM ACTIVE SERVICE**

SERVICE RETIREMENTS

SCHEDULE A: LESS THAN 21 YEARS OF SERVICE

CENTRAL AGE OF GROUP	CURRENT RATES	ACTUAL RATES	PROPOSED RATES
40	0.0250	0.0312	0.0250
45	0.0250	0.0247	0.0250
50	0.0375	0.0349	0.0375
53	0.0500	0.0455	0.0500
54	0.0500	0.1167	0.0500
55	0.0425	0.0256	0.0320
56	0.0425	0.0213	0.0320
57	0.0425	0.0108	0.0320
58	0.0425	0.0083	0.0320
59	0.0425	0.0398	0.0320
60	0.0425	0.0208	0.0320
61	0.0425	0.0631	0.0425
62	0.1275	0.1031	0.1275
63	0.1275	0.1364	0.1275
64	0.3750	0.2653	0.3750

SCHEDULE B: 21 - 24 YEARS OF SERVICE

CENTRAL AGE OF GROUP	CURRENT RATES	ACTUAL RATES	PROPOSED RATES: NO CHANGE
40	0.0000	0.0027	0.0000
45	0.0000	0.0029	0.0000
50	0.0000	0.0032	0.0000
53	0.0000	0.0086	0.0000
54	0.0000	0.0075	0.0000
55	0.0000	0.0028	0.0000
56	0.0000	0.0031	0.0000
57	0.0000	0.0112	0.0000
58	0.0000	0.0053	0.0000
59	0.0000	0.0075	0.0000
60	0.0000	0.0000	0.0000
61	0.0000	0.0000	0.0000
62	0.0000	0.0227	0.0000
63	0.0000	0.0000	0.0000
64	0.0000	0.0909	0.0000

TABLE 18

**COMPARISON OF ACTUAL AND EXPECTED RATES OF SEPARATION
FROM ACTIVE SERVICE**

**SERVICE RETIREMENTS
(Continued)**

SCHEDULE C: 25 YEARS OF SERVICE

CENTRAL AGE OF GROUP	CURRENT RATES	ACTUAL RATES	PROPOSED RATES: NO CHANGE
45	0.5298	0.4517	0.5298
50	0.5677	0.4312	0.5677
53	0.5904	0.4975	0.5904
54	0.5904	0.5346	0.5904
55	0.5904	0.5035	0.5904
56	0.6642	0.6471	0.6642
57	0.7749	0.6053	0.7749
58	0.7749	0.6163	0.7749
59	0.7749	0.7119	0.7749
60	0.7749	0.6765	0.7749
61	0.7749	0.9630	0.7749
62	0.7749	0.9444	0.7749
63	0.7749	0.6250	0.7749
64	0.7749	0.9167	0.7749

SCHEDULE D: GREATER THAN 25 YEARS OF SERVICE

CENTRAL AGE OF GROUP	CURRENT RATES	ACTUAL RATES	PROPOSED RATES: NO CHANGE
45	0.1540	0.0929	0.1540
50	0.1540	0.1517	0.1540
53	0.1748	0.1796	0.1748
54	0.1748	0.1611	0.1748
55	0.1748	0.1912	0.1748
56	0.1748	0.1597	0.1748
57	0.1748	0.1934	0.1748
58	0.1748	0.1968	0.1748
59	0.2278	0.2102	0.2278
60	0.2278	0.1920	0.2278
61	0.2278	0.2057	0.2278
62	0.2278	0.1986	0.2278
63	0.2278	0.2231	0.2278
64	0.3780	0.5802	0.3780

TABLE 19
COMPARISON OF ACTUAL AND EXPECTED
SALARY INCREASES

CENTRAL AGE OF GROUP	CURRENT RATES	ACTUAL RATES	PROPOSED RATES: NO CHANGE
20	11.74%	18.95%	11.74%
25	10.26%	16.43%	10.26%
30	8.17%	11.63%	8.17%
35	6.74%	8.18%	6.74%
40	6.08%	6.53%	6.08%
45	5.96%	5.84%	5.96%
50	5.95%	5.68%	5.95%
55	5.95%	5.44%	5.95%
60	5.95%	5.43%	5.95%
63 & 64	5.95%	6.32%	5.95%

TABLE 20

**COMPARISON OF ACTUAL AND EXPECTED RATES
OF MORTALITY AFTER RETIREMENT**

MALE SERVICE RETIREMENT

CENTRAL AGE OF GROUP	CURRENT RATES	ACTUAL RATES	PROPOSED RATES
45	0.00345	0.00529	0.00151
50	0.00568	0.00434	0.00222
55	0.00911	0.00669	0.00373
60	0.01430	0.00976	0.00688
65	0.02155	0.01397	0.01290
70	0.02856	0.02232	0.02235
75	0.04516	0.03990	0.03824
80	0.07454	0.06306	0.06539
85	0.11529	0.10230	0.11182
90	0.16678	0.15962	0.18336

FEMALE SERVICE RETIREMENT

CENTRAL AGE OF GROUP	CURRENT RATES	ACTUAL RATES	PROPOSED RATES
45	0.00103	0.00962	0.00113
50	0.00165	0.00000	0.00171
55	0.00257	0.00512	0.00278
60	0.00428	0.01863	0.00518
65	0.00714	0.00557	0.00982
70	0.01266	0.00806	0.01686
75	0.02428	0.01639	0.02832
80	0.04326	0.09091	0.04641
85	0.07045	0.10526	0.07844
90	0.11275	0.00000	0.13207

TABLE 21

**COMPARISON OF ACTUAL AND EXPECTED RATES
OF MORTALITY AFTER RETIREMENT**

MALE BENEFICIARY OF DECEASED ACTIVE AND RETIRED MEMBERS

CENTRAL AGE OF GROUP	CURRENT RATES	ACTUAL RATES	PROPOSED RATES
20	0.00129	0.00000	0.00035
25	0.00113	0.00000	0.00038
30	0.00111	0.00000	0.00046
35	0.00141	0.00000	0.00077
40	0.00215	0.00000	0.00108
45	0.00345	0.00000	0.00151
50	0.00568	0.00000	0.00222
55	0.00911	0.00000	0.00373
60	0.01430	0.00000	0.00688
65	0.02155	0.00000	0.01290
70	0.02856	0.00000	0.02235
75	0.04516	0.00000	0.03824
80	0.07454	0.00000	0.06539
85	0.11529	0.00000	0.11182
90	0.16678	0.00000	0.18336
95	0.22586	0.00000	0.25894
97	0.26395	0.00000	0.29985

FEMALE BENEFICIARY OF DECEASED ACTIVE AND RETIRED MEMBERS

CENTRAL AGE OF GROUP	CURRENT RATES	ACTUAL RATES	PROPOSED RATES
20	0.00016	0.00000	0.00019
25	0.00069	0.00000	0.00021
30	0.00085	0.00000	0.00028
35	0.00124	0.00000	0.00047
40	0.00194	0.00000	0.00072
45	0.00309	0.00296	0.00113
50	0.00470	0.00563	0.00171
55	0.00704	0.00460	0.00278
60	0.01035	0.00978	0.00518
65	0.01536	0.00846	0.00982
70	0.01981	0.02194	0.01686
75	0.02801	0.03413	0.02832
80	0.04759	0.04699	0.04641
85	0.07749	0.06995	0.07844
90	0.12402	0.12877	0.13207
95	0.19219	0.19444	0.18828
97	0.24424	0.00000	0.21524

TABLE 22
COMPARISON OF ACTUAL AND EXPECTED RATES
OF MORTALITY AFTER RETIREMENT

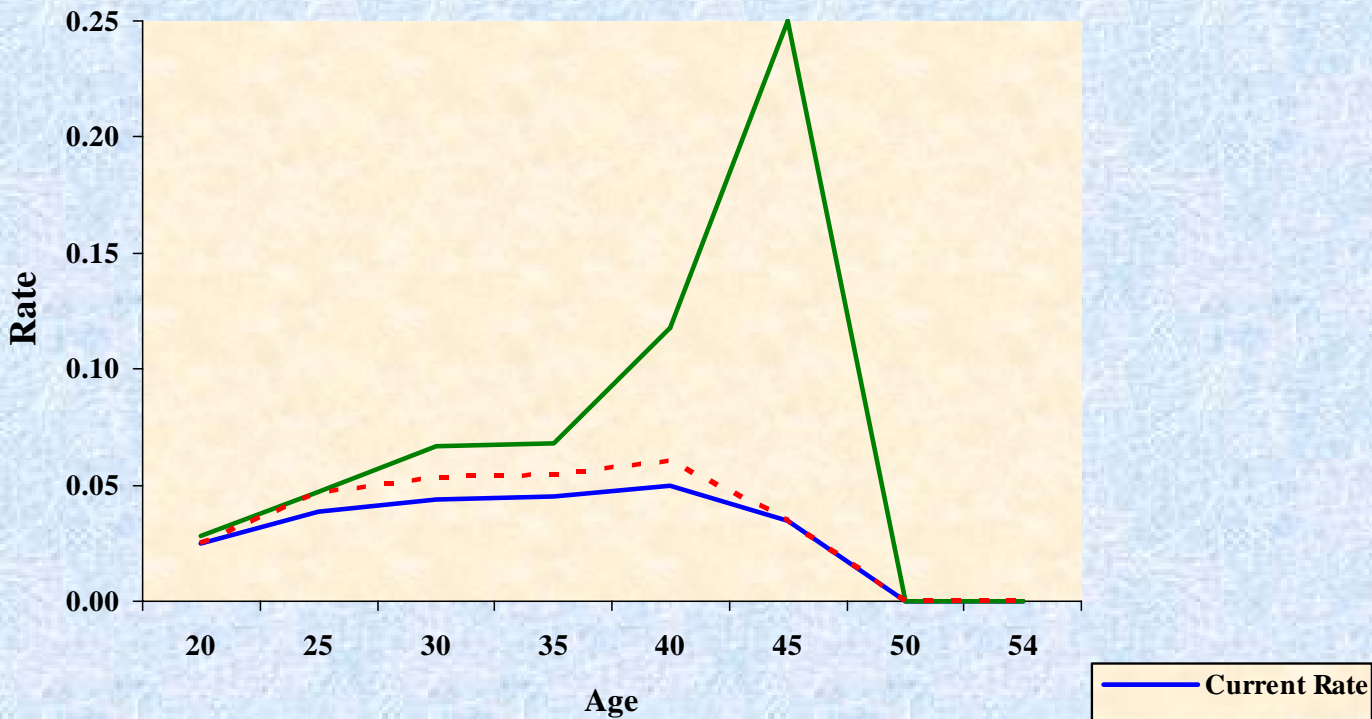
DISABILITY

CENTRAL AGE OF GROUP	CURRENT RATES	ACTUAL RATES	PROPOSED RATES
25	0.00810	0.00000	0.00648
30	0.01404	0.00000	0.01123
35	0.01494	0.00000	0.01195
40	0.01584	0.00000	0.01267
45	0.01674	0.00923	0.01339
50	0.01764	0.01204	0.01411
55	0.02016	0.02140	0.01613
60	0.02376	0.01472	0.01901
65	0.02736	0.02490	0.02599
70	0.03385	0.03139	0.03216
75	0.05040	0.05852	0.05040
80	0.07899	0.08333	0.07899
85	0.11728	0.14286	0.11728

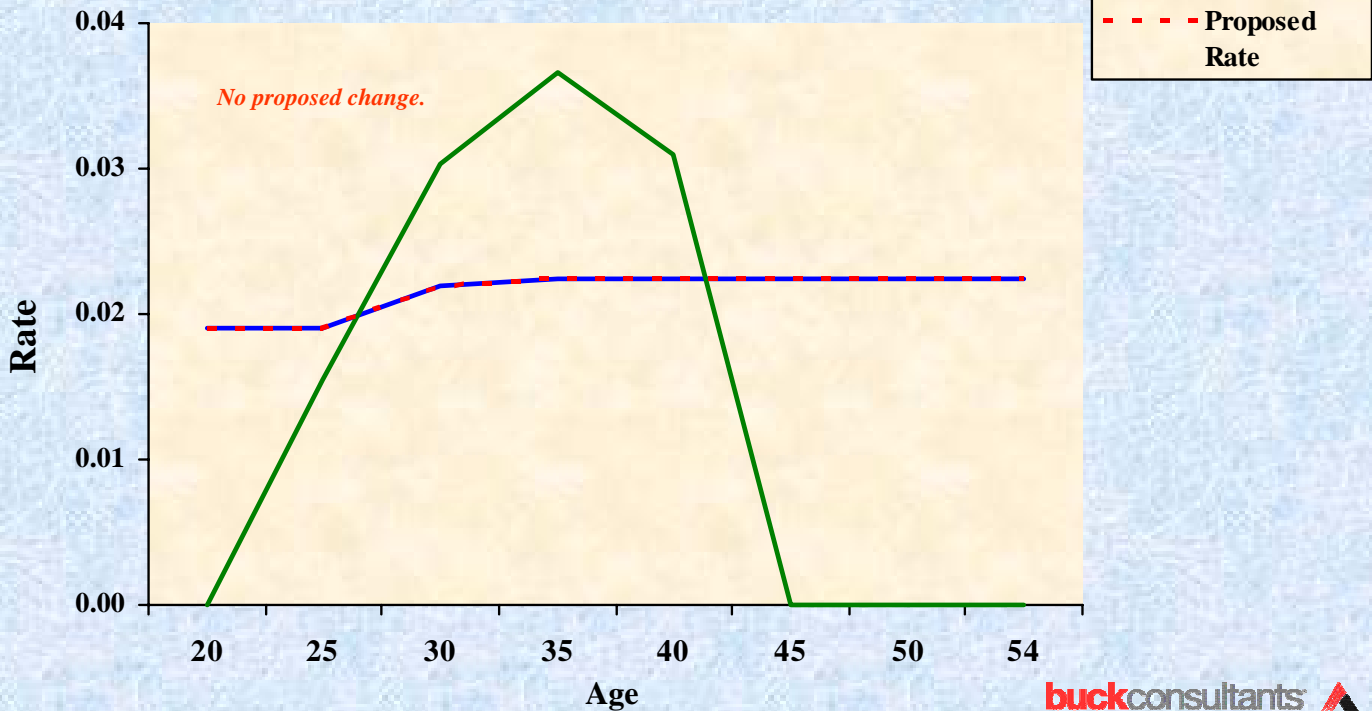
The Police and Firemen's Retirement System of New Jersey Withdrawals

July 1, 2004 through June 30, 2007

Non-Vested with Less Than 2 Years of Service



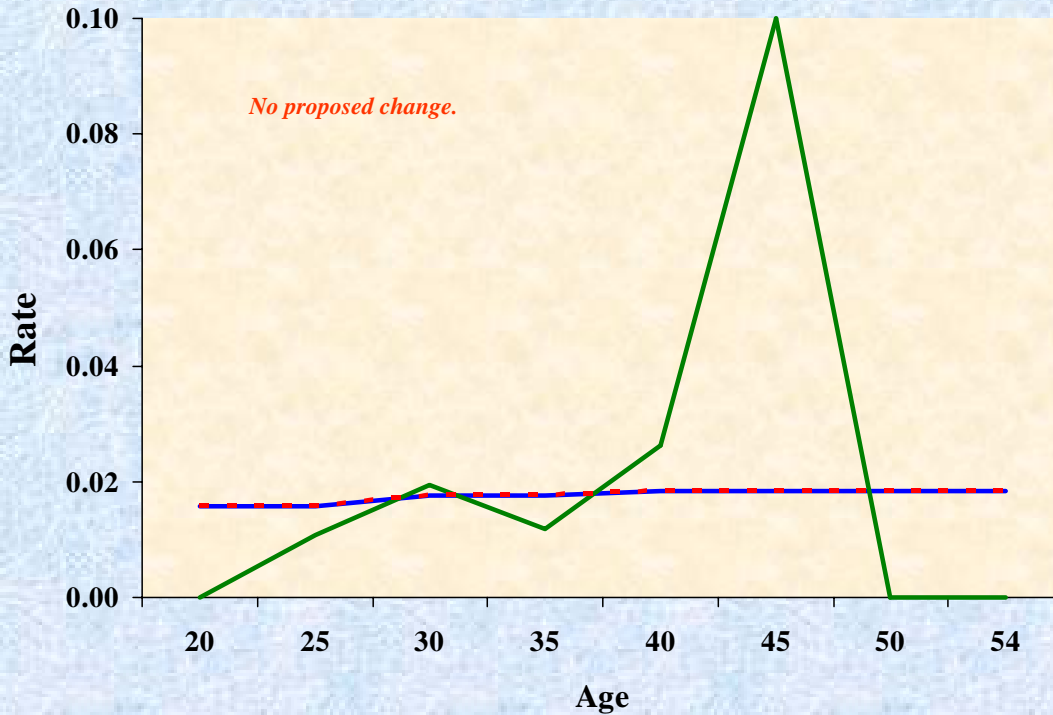
Non-Vested with 2 Years of Service



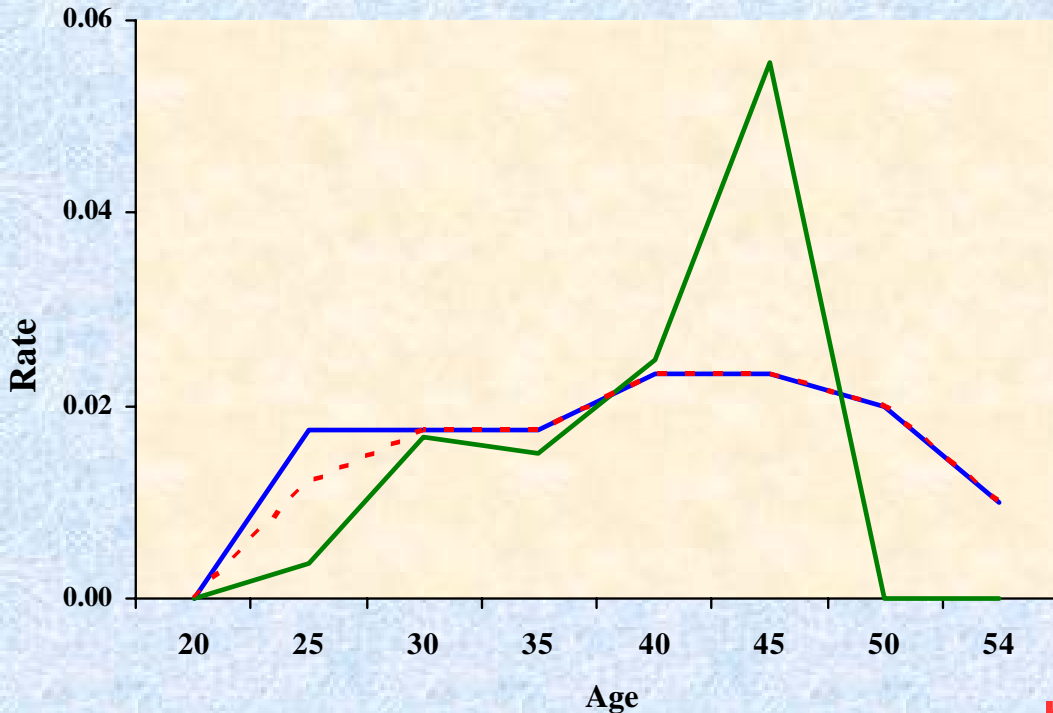
The Police and Firemen's Retirement System of New Jersey Withdrawals

July 1, 2004 through June 30, 2007

Non-Vested with 3 Years of Service



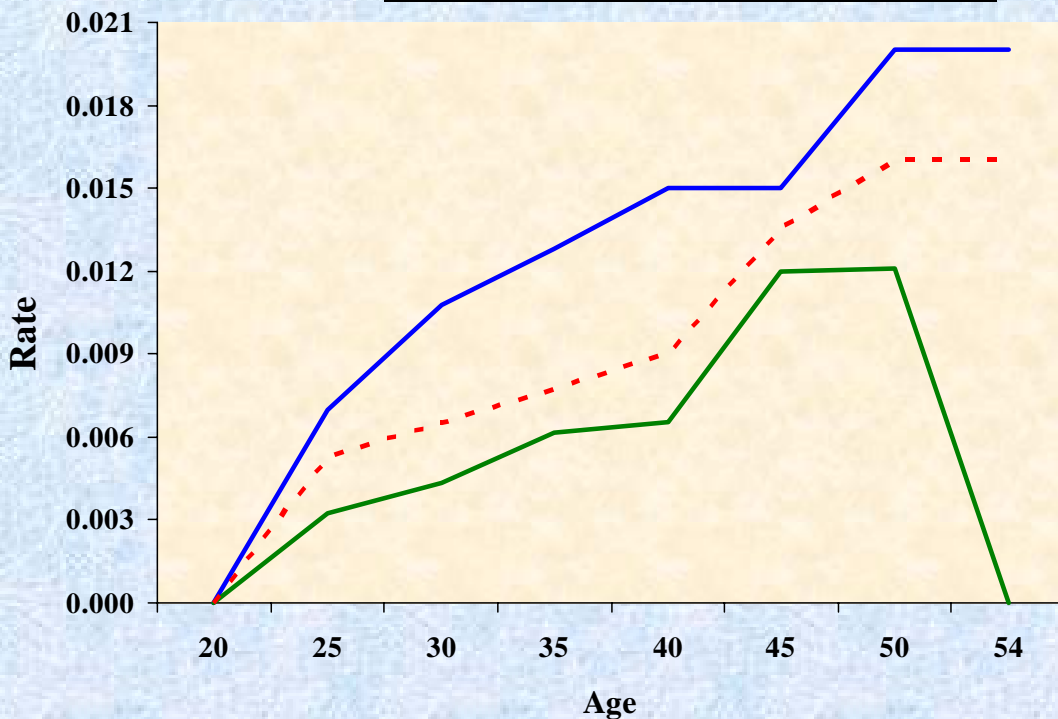
Non-Vested with 4 Years of Service



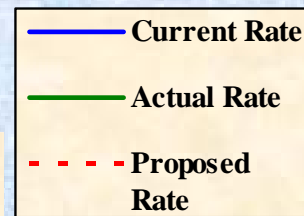
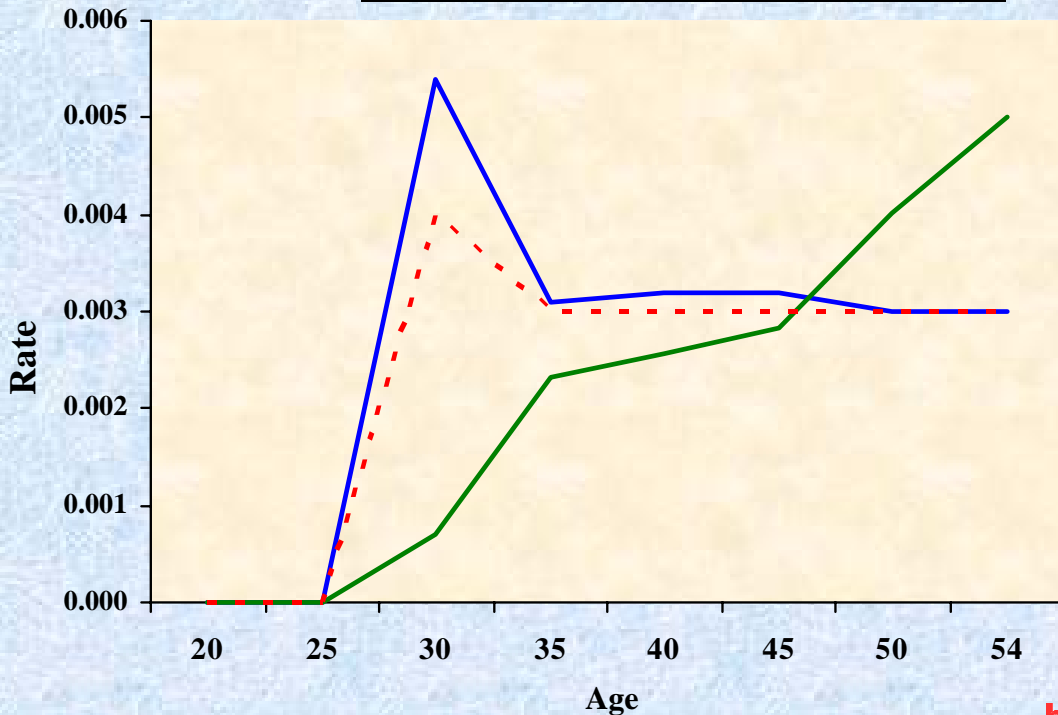
The Police and Firemen's Retirement System of New Jersey Withdrawals

July 1, 2004 through June 30, 2007

Non-Vested with 5 - 9 Years of Service



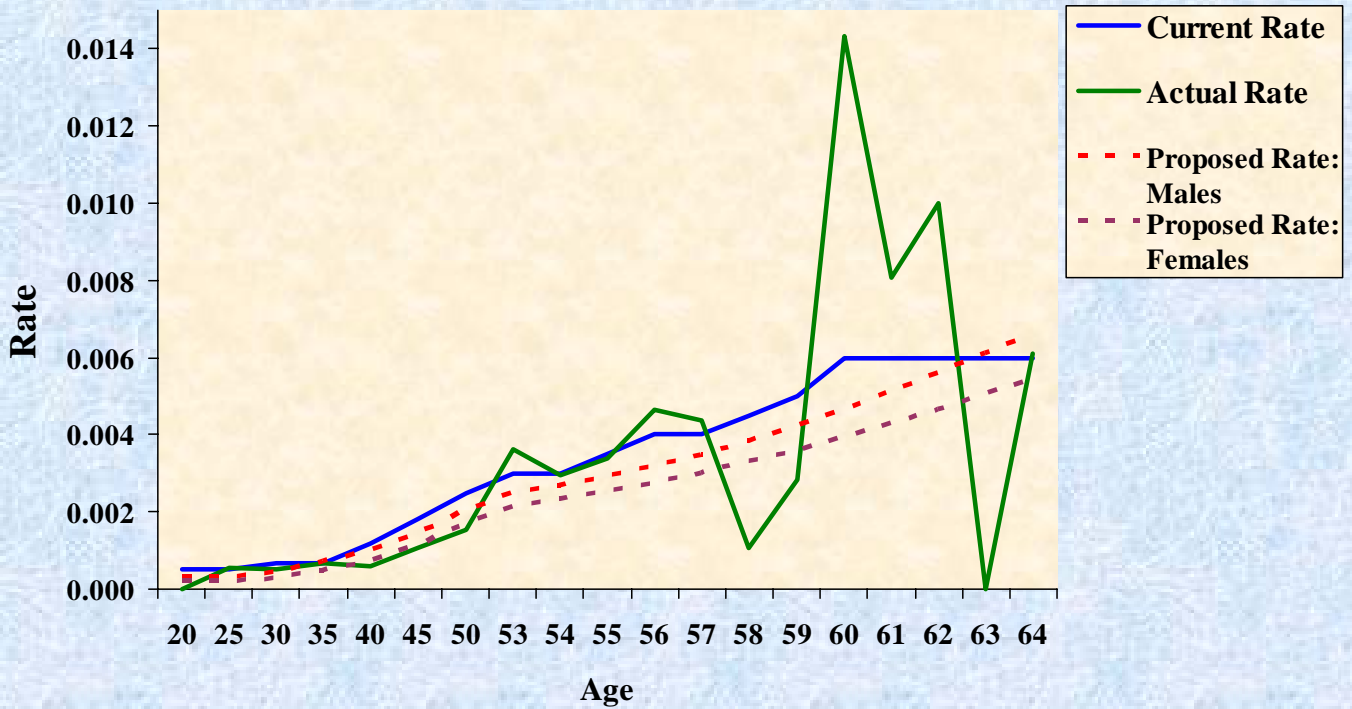
Vested with 10 or More Years of Service



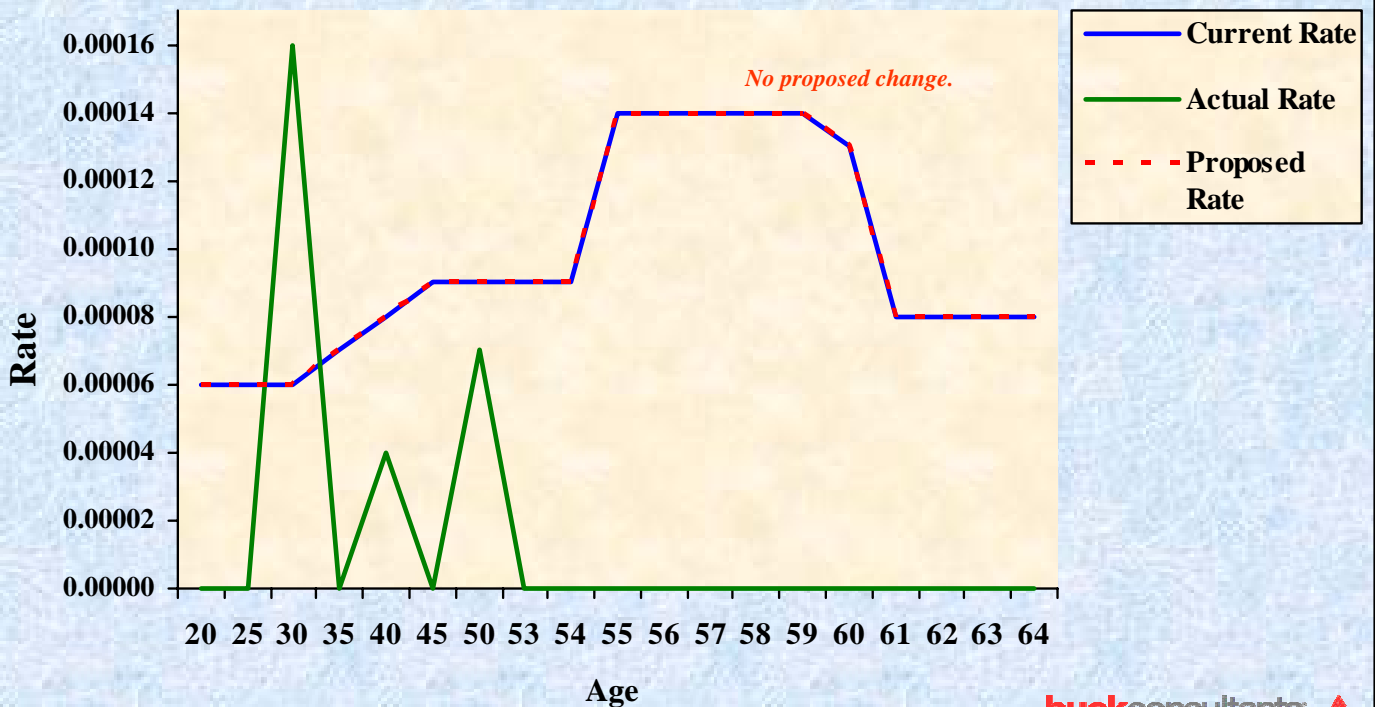
The Police and Firemen's Retirement System of New Jersey Deaths

July 1, 2004 through June 30, 2007

Ordinary Death



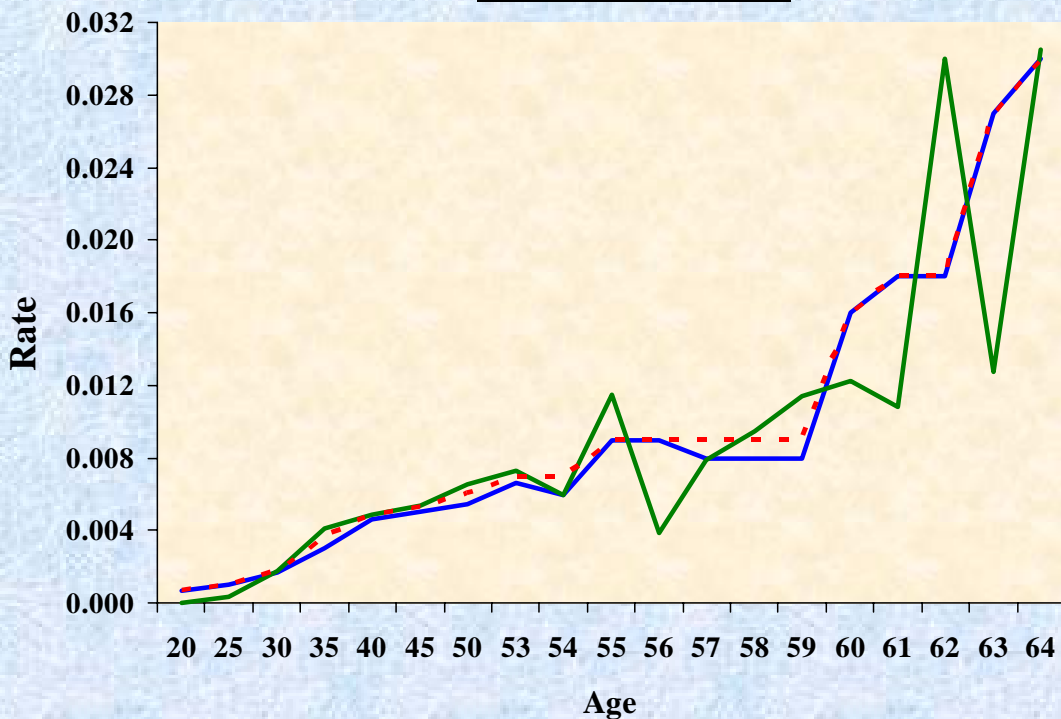
Accidental Death



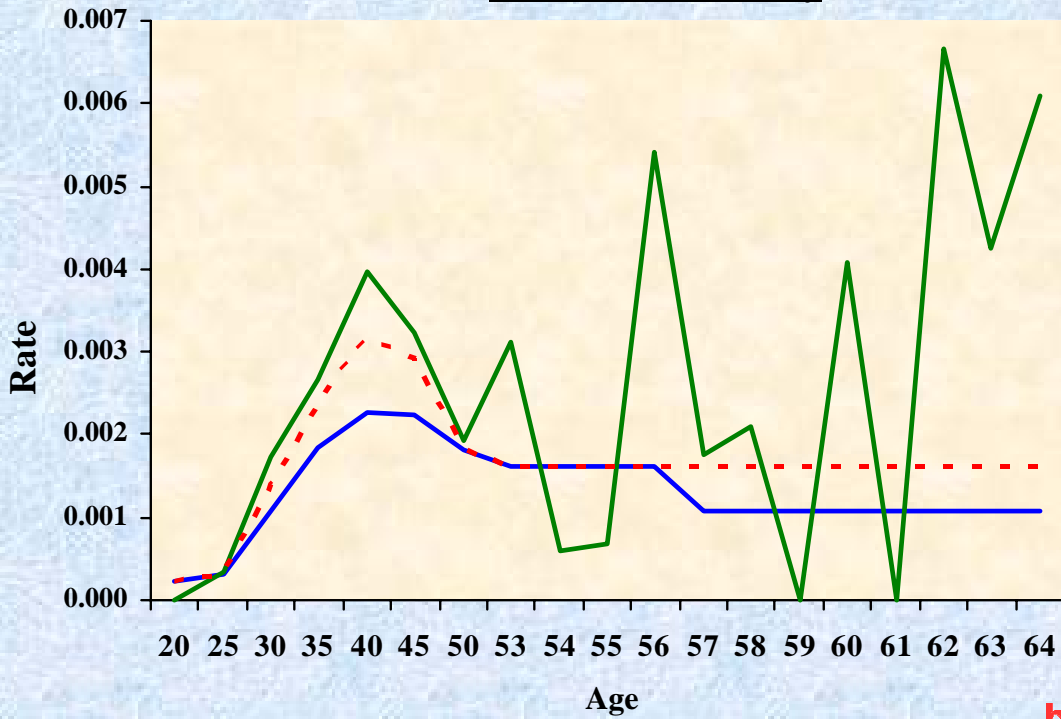
The Police and Firemen's Retirement System of New Jersey Disabilities

July 1, 2004 through June 30, 2007

Ordinary Disability



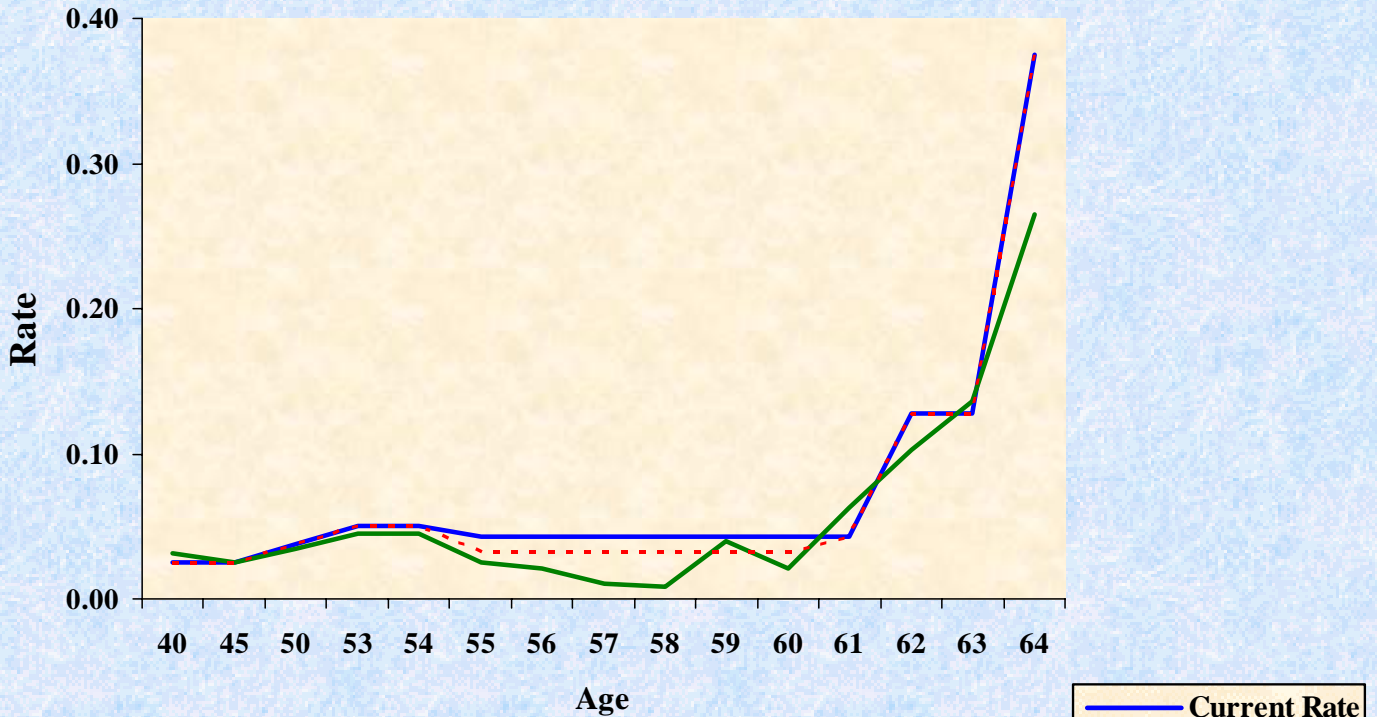
Accidental Disability



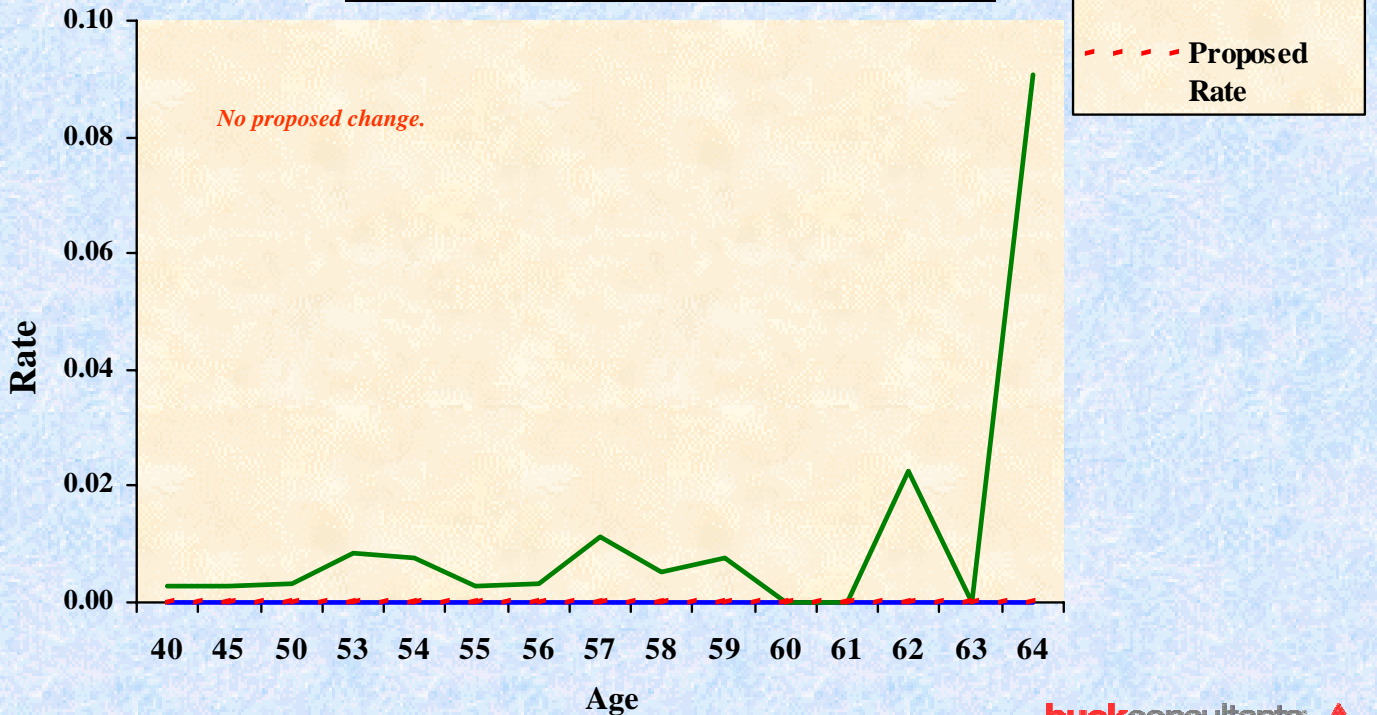
The Police and Firemen's Retirement System of New Jersey Service Retirements

July 1, 2004 through June 30, 2007

Retirement with Less Than 21 Years of Service



Retirement with 21 – 24 Years of Service

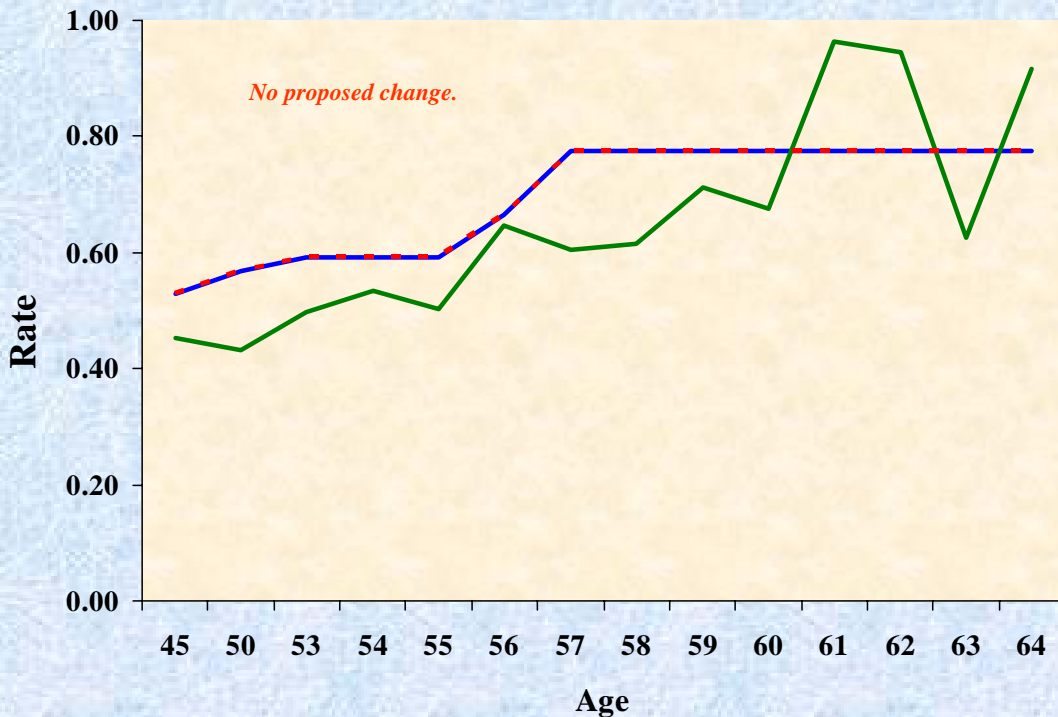


The Police and Firemen's Retirement System of New Jersey

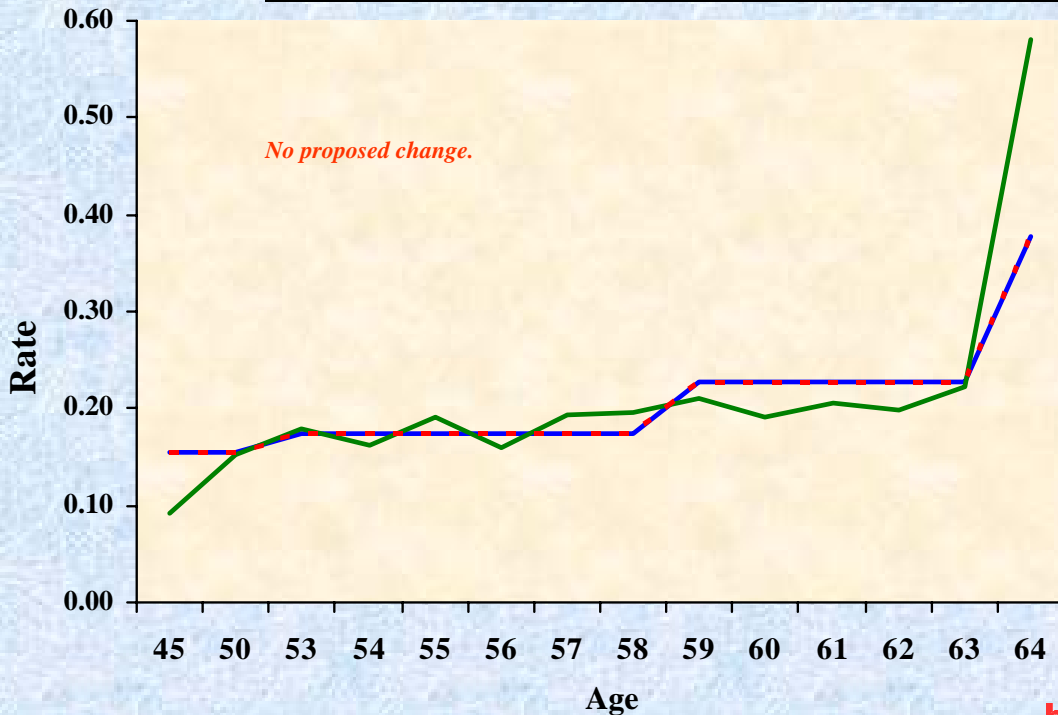
Service Retirements

July 1, 2004 through June 30, 2007

Retirement with 25 Years of Service



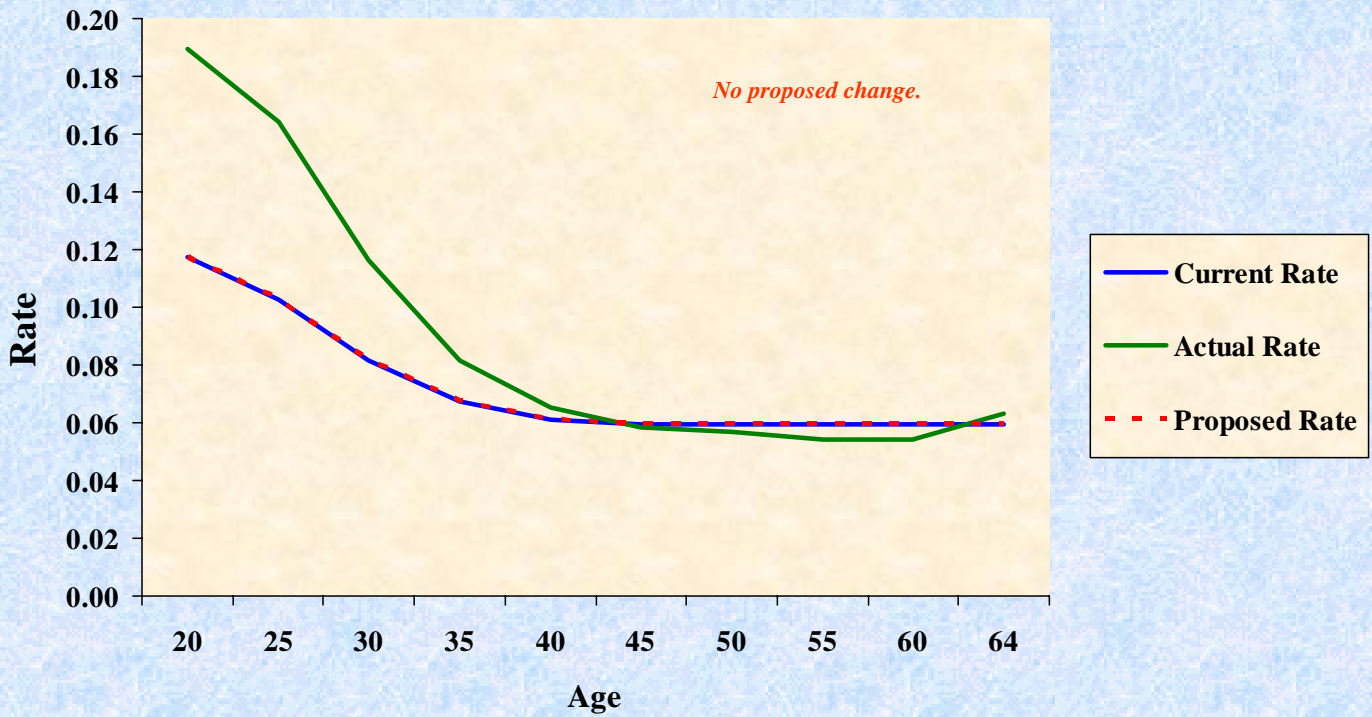
Retirement with Greater than 25 Years of Service



	Current Rate
	Actual Rate
	Proposed Rate

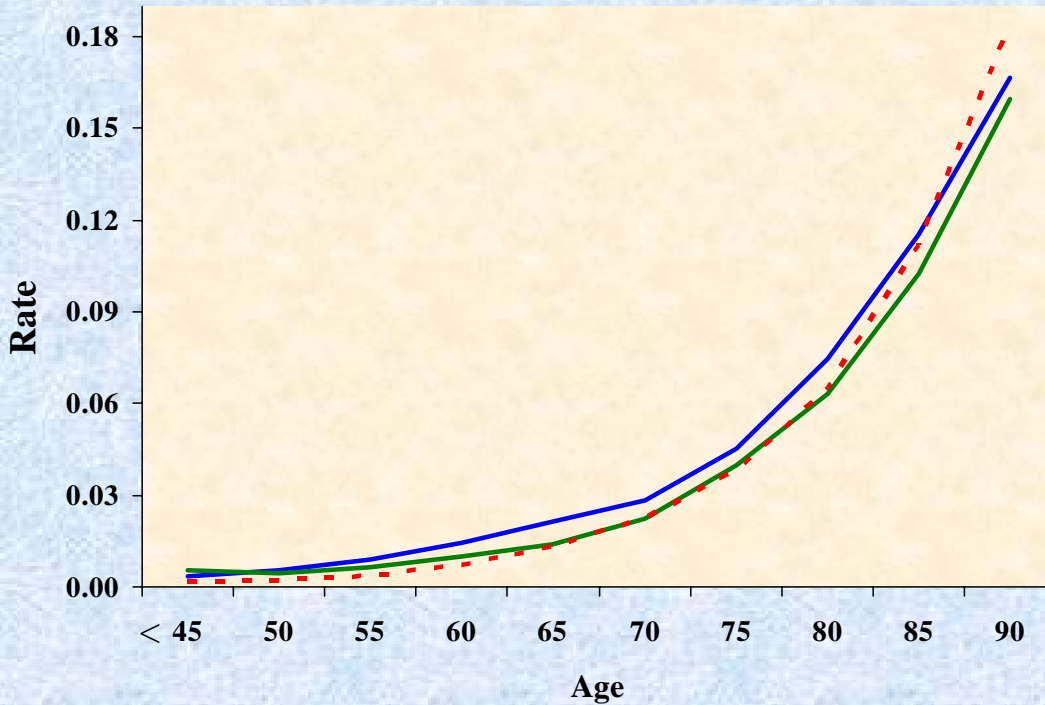
The Police and Firemen's Retirement System of New Jersey
Post Retirement Mortality
July 1, 2004 through June 30, 2007

Salary Increase

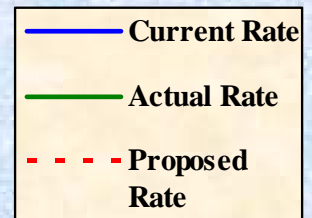
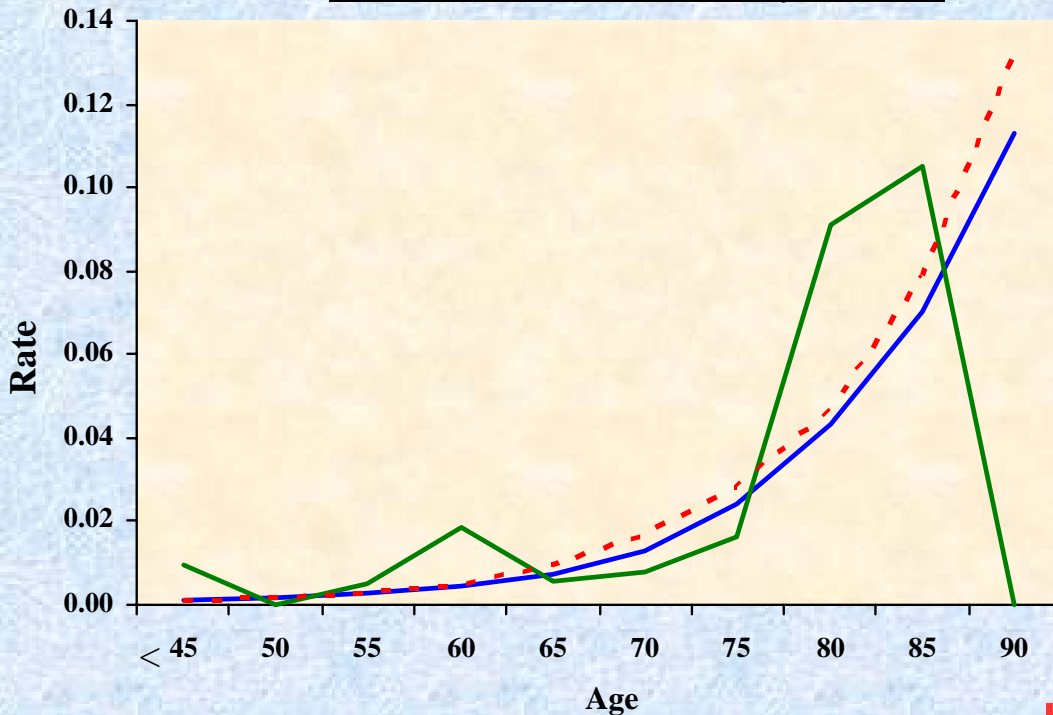


The Police and Firemen's Retirement System of New Jersey
Post Retirement Mortality
July 1, 2004 through June 30, 2007

Service Retirement Mortality - Male

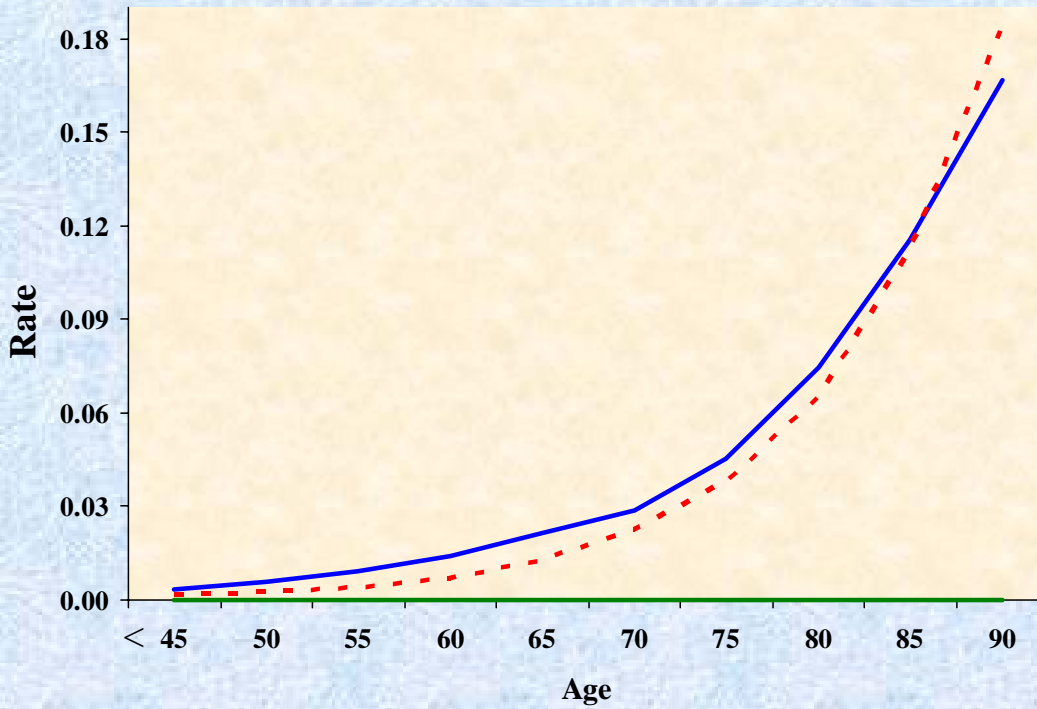


Service Retirement Mortality - Female

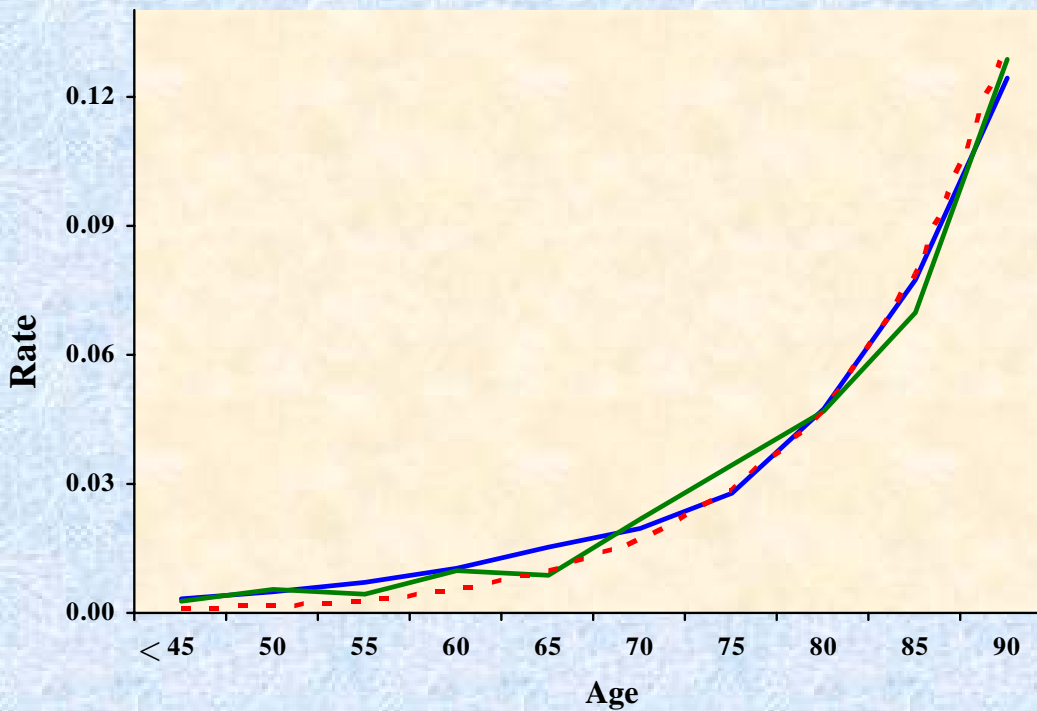


The Police and Firemen's Retirement System of New Jersey
Post Retirement Mortality
July 1, 2004 through June 30, 2007

Beneficiary Mortality - Male



Beneficiary Mortality - Female

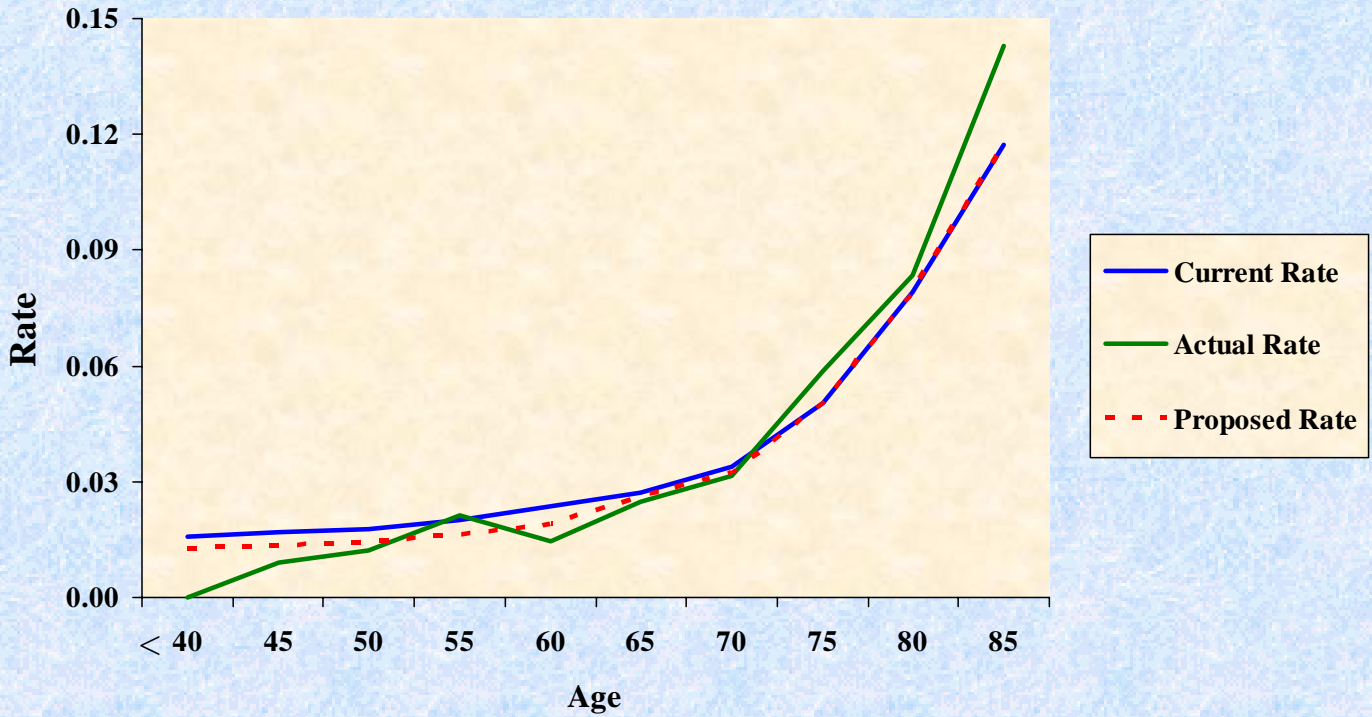


Legend:

- Current Rate
- Actual Rate
- - - Proposed Rate

The Police and Firemen's Retirement System of New Jersey
Post Retirement Mortality
July 1, 2004 through June 30, 2007

Disability



V. COST IMPACT OF THE PROPOSED ASSUMPTIONS

The overall effect of the proposed changes in assumptions would be an increase in the normal contribution and the accrued liability payment for both State and Municipalities & Local Groups. The following chart presents a summary of the liabilities and contributions under the current and proposed assumptions:

	State		Local Employers	
	Current	Proposed	Current	Proposed
Actuarial Accrued Liability	\$ 3,426,631,813	\$ 3,517,986,852	\$ 24,562,195,443	\$ 25,249,662,298
Additional Accrued Liability		\$ 91,355,039		\$ 687,466,855
Unfunded Accrued Liability/(Surplus)	\$ 1,058,421,92	\$ 1,149,776,964	\$ 4,986,945,636	\$ 5,674,412,491
<u>Required Contribution:</u>				
• Normal Cost	\$ 197,793,763	\$ 197,950,121	\$ 418,225,400	\$ 453,110,865
• Accrued Liability	<u>101,337,865</u>	<u>108,934,012</u>	<u>296,447,811</u>	<u>340,091,081</u>
• Total Contribution	\$ 299,131,628	\$ 306,884,133	\$ 714,673,211	\$ 793,201,946
Additional Annual Contribution		\$ 7,752,505		\$ 78,528,735

The calculations were based on the same data and actuarial methods as were used in the July 1, 2007 valuation, including an 8-1/4% interest rate.

VI. COMPLETE SET OF PROPOSED ASSUMPTIONS

TABLE 1

ACTIVE WITHDRAWAL TABLES

AGE	RATE OF WITHDRAWAL					
	Less Than 2 Years	2 Years of Service	3 Years of Service	4 Years of Service	5 -9 Years of Service	10 or More Years of Service
20	0.02500	0.01910	0.01570	0.00000	0.00000	0.00000
21	0.02500	0.01910	0.01570	0.00000	0.00000	0.00000
22	0.02500	0.01910	0.01570	0.00000	0.00000	0.00000
23	0.04620	0.01910	0.01570	0.01218	0.00525	0.00000
24	0.04620	0.01910	0.01570	0.01218	0.00525	0.00000
25	0.04620	0.01910	0.01570	0.01218	0.00525	0.00000
26	0.04620	0.01910	0.01570	0.01218	0.00525	0.00000
27	0.04620	0.01910	0.01570	0.01218	0.00525	0.00000
28	0.05280	0.02200	0.01760	0.01740	0.00648	0.00400
29	0.05280	0.02200	0.01760	0.01740	0.00648	0.00400
30	0.05280	0.02200	0.01760	0.01740	0.00648	0.00400
31	0.05280	0.02200	0.01760	0.01740	0.00648	0.00400
32	0.05280	0.02200	0.01760	0.01740	0.00648	0.00400
33	0.05400	0.02250	0.01760	0.01740	0.00768	0.00300
34	0.05400	0.02250	0.01760	0.01740	0.00768	0.00300
35	0.05400	0.02250	0.01760	0.01740	0.00768	0.00300
36	0.05400	0.02250	0.01760	0.01740	0.00768	0.00300
37	0.05400	0.02250	0.01760	0.01740	0.00768	0.00300
38	0.06000	0.02250	0.01850	0.02320	0.00900	0.00300
39	0.06000	0.02250	0.01850	0.02320	0.00900	0.00300
40	0.06000	0.02250	0.01850	0.02320	0.00900	0.00300
41	0.06000	0.02250	0.01850	0.02320	0.00900	0.00300
42	0.06000	0.02250	0.01850	0.02320	0.00900	0.00300
43	0.03500	0.02250	0.01850	0.02320	0.01350	0.00300
44	0.03500	0.02250	0.01850	0.02320	0.01350	0.00300
45	0.03500	0.02250	0.01850	0.02320	0.01350	0.00300
46	0.03500	0.02250	0.01850	0.02320	0.01350	0.00300
47	0.03500	0.02250	0.01850	0.02320	0.01350	0.00300
48	0.00000	0.02250	0.01850	0.02000	0.01600	0.00300
49	0.00000	0.02250	0.01850	0.02000	0.01600	0.00300
50	0.00000	0.02250	0.01850	0.02000	0.01600	0.00300
51	0.00000	0.02250	0.01850	0.02000	0.01600	0.00300
52	0.00000	0.02250	0.01850	0.02000	0.01600	0.00300
53	0.00000	0.02250	0.01850	0.01000	0.01600	0.00300
54	0.00000	0.02250	0.01850	0.01000	0.01600	0.00300

TABLE 2

ACTIVE DEATH AND DISABILITY TABLES

AGE	RATES OF DEATH			RATES OF DISABILITY	
	Ordinary		Accidental	Ordinary	Accidental
	Male	Female			
20	0.00035	0.00019	0.00006	0.00070	0.00021
21	0.00036	0.00019	0.00006	0.00070	0.00021
22	0.00037	0.00019	0.00006	0.00070	0.00025
23	0.00037	0.00020	0.00006	0.00100	0.00025
24	0.00038	0.00020	0.00006	0.00100	0.00029
25	0.00038	0.00021	0.00006	0.00100	0.00029
26	0.00038	0.00021	0.00006	0.00100	0.00033
27	0.00038	0.00022	0.00006	0.00100	0.00037
28	0.00039	0.00024	0.00006	0.00125	0.00087
29	0.00041	0.00025	0.00006	0.00149	0.00113
30	0.00044	0.00026	0.00006	0.00173	0.00139
31	0.00050	0.00031	0.00006	0.00197	0.00165
32	0.00056	0.00035	0.00006	0.00220	0.00190
33	0.00063	0.00039	0.00006	0.00290	0.00216
34	0.00070	0.00044	0.00006	0.00325	0.00227
35	0.00077	0.00048	0.00008	0.00360	0.00238
36	0.00084	0.00051	0.00008	0.00395	0.00249
37	0.00090	0.00055	0.00008	0.00430	0.00260
38	0.00096	0.00060	0.00008	0.00465	0.00266
39	0.00102	0.00065	0.00008	0.00475	0.00292
40	0.00108	0.00071	0.00008	0.00485	0.00318
41	0.00114	0.00077	0.00008	0.00495	0.00344
42	0.00122	0.00085	0.00008	0.00504	0.00370
43	0.00130	0.00094	0.00008	0.00507	0.00367
44	0.00140	0.00103	0.00008	0.00517	0.00329
45	0.00151	0.00112	0.00009	0.00527	0.00291
46	0.00162	0.00122	0.00009	0.00537	0.00253
47	0.00173	0.00133	0.00009	0.00547	0.00215
48	0.00186	0.00143	0.00009	0.00550	0.00197
49	0.00200	0.00155	0.00009	0.00575	0.00191
50	0.00214	0.00168	0.00009	0.00600	0.00179
51	0.00229	0.00181	0.00009	0.00625	0.00173
52	0.00245	0.00197	0.00009	0.00650	0.00168
53	0.00262	0.00214	0.00009	0.00693	0.00161
54	0.00281	0.00232	0.00009	0.00693	0.00161
55	0.00303	0.00253	0.00014	0.00900	0.00161
56	0.00331	0.00276	0.00014	0.00900	0.00161
57	0.00363	0.00301	0.00014	0.00900	0.00161
58	0.00400	0.00329	0.00014	0.00900	0.00161
59	0.00441	0.00360	0.00014	0.00900	0.00161
60	0.00488	0.00393	0.00013	0.01600	0.00161
61	0.00538	0.00429	0.00008	0.01800	0.00161
62	0.00592	0.00466	0.00008	0.01800	0.00161
63	0.00647	0.00504	0.00008	0.02700	0.00161
64	0.00703	0.00543	0.00008	0.03000	0.00161

TABLE 3

ACTIVE SERVICE RETIREMENT TABLES

AGE	RATES OF SERVICE RETIREMENTS			
	Less Than 21 Years of Service	21- 24 Years of Service	25 Years of Service	Greater Than 25 Years of Service
40	0.0250	0.0000	0.4557	0.1540
41	0.0250	0.0000	0.4557	0.1540
42	0.0250	0.0000	0.4557	0.1540
43	0.0250	0.0000	0.5298	0.1540
44	0.0250	0.0000	0.5298	0.1540
45	0.0250	0.0000	0.5298	0.1540
46	0.0250	0.0000	0.5298	0.1540
47	0.0250	0.0000	0.5298	0.1540
48	0.0375	0.0000	0.5677	0.1540
49	0.0375	0.0000	0.5677	0.1540
50	0.0375	0.0000	0.5677	0.1540
51	0.0375	0.0000	0.5677	0.1540
52	0.0375	0.0000	0.5677	0.1540
53	0.0500	0.0000	0.5904	0.1748
54	0.0500	0.0000	0.5904	0.1748
55	0.0320	0.0000	0.5904	0.1748
56	0.0320	0.0000	0.6642	0.1748
57	0.0320	0.0000	0.7749	0.1748
58	0.0320	0.0000	0.7749	0.1748
59	0.0320	0.0000	0.7749	0.2278
60	0.0320	0.0000	0.7749	0.2278
61	0.0425	0.0000	0.7749	0.2278
62	0.1275	0.0000	0.7749	0.2278
63	0.1275	0.0000	0.7749	0.2278
64	0.3750	0.0000	0.7749	0.3780
65	1.0000	1.0000	1.0000	1.0000

TABLE 4

ACTIVE SALARY INCREASE TABLE

AGE	RATE	AGE	RATE
19	0.12655	42	0.05987
20	0.12316	43	0.05975
21	0.11977	44	0.05963
22	0.11638	45	0.05950
23	0.11299	46	0.05950
24	0.10960	47	0.05950
25	0.10622	48	0.05950
26	0.10130	49	0.05950
27	0.09638	50	0.05950
28	0.09146	51	0.05950
29	0.08654	52	0.05950
30	0.08162	53	0.05950
31	0.07863	54	0.05950
32	0.07564	55	0.05950
33	0.07265	56	0.05950
34	0.06966	57	0.05950
35	0.06666	58	0.05950
36	0.06535	59	0.05950
37	0.06404	60	0.05950
38	0.06273	61	0.05950
39	0.06142	62	0.05950
40	0.06011	63	0.05950
41	0.05999	64	0.05950

TABLE 5

MORTALITY TABLES FOR SERVICE RETIREMENTS

AGE	RATES OF MORTALITY		AGE	RATES OF MORTALITY	
	MEN	WOMEN		MEN	WOMEN
40	0.00108	0.00071	75	0.03783	0.02811
41	0.00114	0.00077	76	0.04217	0.03097
42	0.00121	0.00085	77	0.04691	0.03411
43	0.00130	0.00094	78	0.05212	0.03759
44	0.00140	0.00103	79	0.05793	0.04151
45	0.00151	0.00112	80	0.06437	0.04588
46	0.00162	0.00122	81	0.07204	0.05078
47	0.00173	0.00133	82	0.08049	0.05629
48	0.00186	0.00143	83	0.08972	0.06251
49	0.00200	0.00155	84	0.09978	0.06952
50	0.00214	0.00168	85	0.11076	0.07745
51	0.00245	0.00185	86	0.12280	0.08638
52	0.00267	0.00202	87	0.13604	0.09634
53	0.00292	0.00221	88	0.15059	0.10730
54	0.00320	0.00242	89	0.16642	0.11915
55	0.00362	0.00272	90	0.18341	0.13168
56	0.00420	0.00309	91	0.19977	0.14460
57	0.00469	0.00348	92	0.21661	0.15762
58	0.00527	0.00392	93	0.23366	0.17043
59	0.00595	0.00444	94	0.25069	0.18280
60	0.00675	0.00506	95	0.26749	0.19451
61	0.00768	0.00581	96	0.28391	0.20538
62	0.00876	0.00666	97	0.29985	0.21524
63	0.01001	0.00765	98	0.31530	0.22395
64	0.01128	0.00862	99	0.33021	0.23139
65	0.01274	0.00971	100	0.34456	0.23747
66	0.01441	0.01095	101	0.35863	0.24483
67	0.01608	0.01216	102	0.37169	0.25450
68	0.01787	0.01345	103	0.38304	0.26604
69	0.01980	0.01486	104	0.39200	0.27905
70	0.02221	0.01674	105	0.39789	0.29312
71	0.02457	0.01858	106	0.40000	0.30781
72	0.02728	0.02066	107	0.40000	0.32272
73	0.03039	0.02297	108	0.40000	0.33744
74	0.03390	0.02546	109	0.40000	0.35154

TABLE 6

**MORTALITY TABLES FOR BENEFICIARIES OF
DECEASED ACTIVES AND PENSIONERS**

AGE	RATES OF MORTALITY:		AGE	RATES OF MORTALITY:	
	MEN	WOMEN		MEN	WOMEN
20	0.00034	0.00019	65	0.01274	0.00971
21	0.00036	0.00019	66	0.01441	0.01095
22	0.00037	0.00019	67	0.01608	0.01216
23	0.00037	0.00020	68	0.01787	0.01345
24	0.00038	0.00020	69	0.01980	0.01486
25	0.00038	0.00021	70	0.02221	0.01674
26	0.00038	0.00021	71	0.02457	0.01858
27	0.00038	0.00022	72	0.02728	0.02066
28	0.00039	0.00024	73	0.03039	0.02297
29	0.00041	0.00025	74	0.03390	0.02546
30	0.00044	0.00026	75	0.03783	0.02811
31	0.00050	0.00031	76	0.04217	0.03097
32	0.00056	0.00035	77	0.04691	0.03411
33	0.00063	0.00039	78	0.05212	0.03759
34	0.00070	0.00043	79	0.05793	0.04151
35	0.00077	0.00047	80	0.06437	0.04588
36	0.00084	0.00051	81	0.07204	0.05078
37	0.00090	0.00055	82	0.08049	0.05629
38	0.00096	0.00060	83	0.08972	0.06251
39	0.00102	0.00065	84	0.09978	0.06952
40	0.00108	0.00071	85	0.11076	0.07745
41	0.00114	0.00077	86	0.12280	0.08638
42	0.00121	0.00085	87	0.13604	0.09634
43	0.00130	0.00094	88	0.15059	0.10730
44	0.00140	0.00103	89	0.16642	0.11915
45	0.00151	0.00112	90	0.18341	0.13168
46	0.00162	0.00122	91	0.19977	0.14460
47	0.00173	0.00133	92	0.21661	0.15762
48	0.00186	0.00143	93	0.23366	0.17043
49	0.00200	0.00155	94	0.25069	0.18280
50	0.00214	0.00168	95	0.26749	0.19451
51	0.00245	0.00185	96	0.28391	0.20538
52	0.00267	0.00202	97	0.29985	0.21524
53	0.00292	0.00221	98	0.31530	0.22395
54	0.00320	0.00242	99	0.33021	0.23139
55	0.00362	0.00272	100	0.34456	0.23747
56	0.00420	0.00309	101	0.35863	0.24483
57	0.00469	0.00348	102	0.37169	0.25450
58	0.00527	0.00392	103	0.38304	0.26604
59	0.00595	0.00444	104	0.39200	0.27905
60	0.00675	0.00506	105	0.39789	0.29312
61	0.00768	0.00581	106	0.40000	0.30781
62	0.00876	0.00666	107	0.40000	0.32272
63	0.01001	0.00765	108	0.40000	0.33744
64	0.01128	0.00862	109	0.40000	0.35154

TABLE 7

UNISEX MORTALITY TABLE FOR DISABILITIES

RATES OF MORTALITY			
AGE	RATE	AGE	RATE
25	0.01080	68	0.02853
26	0.01080	69	0.02970
27	0.01080	70	0.03088
28	0.01094	71	0.03421
29	0.01109	72	0.03747
30	0.01123	73	0.04274
31	0.01138	74	0.04610
32	0.01152	75	0.04976
33	0.01166	76	0.05406
34	0.01181	77	0.05933
35	0.01195	78	0.06534
36	0.01210	79	0.07172
37	0.01224	80	0.07869
38	0.01238	81	0.08590
39	0.01253	82	0.09332
40	0.01267	83	0.10107
41	0.01282	84	0.10900
42	0.01296	85	0.11709
43	0.01310	86	0.12538
44	0.01325	87	0.13384
45	0.01339	88	0.14264
46	0.01354	89	0.15184
47	0.01368	90	0.16151
48	0.01382	91	0.17144
49	0.01397	92	0.18151
50	0.01411	93	0.19169
51	0.01426	94	0.20388
52	0.01440	95	0.21705
53	0.01498	96	0.23058
54	0.01555	97	0.24523
55	0.01613	98	0.26115
56	0.01670	99	0.27821
57	0.01728	100	0.29684
58	0.01786	101	0.31721
59	0.01843	102	0.33950
60	0.01901	103	0.36558
61	0.01958	104	0.39735
62	0.02016	105	0.43666
63	0.02462	106	0.48541
64	0.02531	107	0.54546
65	0.02599	108	0.61870
66	0.02668	109	0.70700
67	0.02736		