

**THE STATE POLICE RETIREMENT SYSTEM
OF NEW JERSEY
REPORT ON AN INVESTIGATION OF EXPERIENCE
PREPARED AS OF JUNE 30, 2008**

DOC: V02320JC.DOC

May 13, 2009

Board of Trustees
The State Police Retirement System
of New Jersey
Trenton, New Jersey 08625-0295

Members of the Board:

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 32 of Chapter 89, P.L. 1965. This Section specifies that such an investigation shall be made once in every three-year period. The results of this investigation, which examined the experience of the System from July 1, 2005 to June 30, 2008 are described in the attached report.

Please note that we have examined only the demographic and current salary increase assumptions and have not addressed the other economic assumptions, namely the interest rate assumption and the cost-of-living assumption.

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.

We are available at the Board's convenience to discuss this report.

Respectfully submitted,



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Principal, Consulting Actuary

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TABLE OF CONTENTS

<u>Section</u>	<u>Item</u>	<u>Page No.</u>
I	Introduction	1
II	Examination of Experience	2
III	Comments and General Recommendation of Actuaries	14
IV	Summary of Proposed New Assumptions	18
V	Cost Impact of the Proposed Assumptions	40
VI	Complete Set of Proposed Assumptions	41

**REPORT ON AN INVESTIGATION OF THE EXPERIENCE OF THE
STATE POLICE RETIREMENT SYSTEM OF NEW JERSEY
PREPARED AS OF JUNE 30, 2008**

I. INTRODUCTION

Section 32 of Chapter 89, P.L. 1965 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 assure 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 overstated or understated, and resulting contributions either too large or too small to fund the actual accruing liabilities.

This report summarizes the Retirement System's experience for the period from July 1, 2005 to June 30, 2008. Experience for active male and female members were examined in total. Mortality experience among beneficiaries were examined based on gender. Please note that, in instances where the data being examined appeared inconsistent with results of previous studies or incomplete, we made no current recommendations. These items will be reviewed closely when the next scheduled study is prepared as of June 30, 2011 and proposed changes, if warranted, will be recommended at that time.

Also, as noted earlier, we have included an examination of the current salary increase assumption in this study.

II. EXAMINATION OF EXPERIENCE

As noted earlier, the examination this year covers the period from July 1, 2005 to June 30, 2008. When appropriate, we have made reference to trends that were first identified in prior studies.

The experience among active members has been compared with the experience expected according to the active service tables and retirement tables adopted by the Board of Trustees following the previous study. The actual experience among beneficiaries has also been compared with the experience expected according to the current mortality tables.

In the case of withdrawals, since the Board has adopted different rates of withdrawal for the first four years of service and for five to nineteen years of service, the data for employees with less than five years of service were tabulated separately from the data for employees with five to nineteen years of service. Similarly, incidence of service retirement were examined separately for employees with twenty, twenty-one, twenty-two to twenty-four, twenty-five and more than twenty-five years of service. For purposes of the analysis of experience with respect to death and disability retirement, employees were treated as one group for each assumption.

The expected number of separations from service on account of withdrawal, death, disability and service retirement were calculated by multiplying the rates of separation used as a basis for the active service tables by the number of those exposed to risk. The actual number of those who had separated from service was then compared with the expected number. 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, in accordance with the current salary increase assumption, 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:

- 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

WITHDRAWALS

Type	Central Age of Group	Exposures	Actual Withdrawals	Expected Withdrawals	Ratio of Actual to Expected
Less than Five Years of Service	20	5	0	0.00	0.0000
	25	779	2	6.85	0.2920
	30	878	4	4.90	0.8163
	35	317	2	3.03	0.6601
	40	32	1	0.02	50.0000
	45	0	0	0.00	0.0000
	50	0	0	0.00	0.0000
	53	0	0	0.00	0.0000
	54	0	0	0.00	0.0000
	Total	2,011	9	14.80	0.6081
Five to Nineteen Years of Service	20	0	0	0.00	0.0000
	25	34	0	0.00	0.0000
	30	575	0	2.30	0.0000
	35	1,230	3	1.24	2.4213
	40	1,717	3	2.57	1.1673
	45	708	0	1.41	0.0000
	50	110	0	0.00	0.0000
	53	3	0	0.00	0.0000
	54	2	0	0.00	0.0000
	Total	4,379	6	7.52	0.7982

TABLE 2
COMPARISON OF ACTUAL AND EXPECTED SEPARATIONS
FROM ACTIVE SERVICE

DEATHS

Type	Central Age of Group	Exposures	Actual Deaths	Expected Deaths	Ratio of Actual to Expected
Due to Ordinary Causes	20	5	0	0.00	0.0000
	25	813	0	0.00	0.0000
	30	1,453	0	0.99	0.0000
	35	1,548	0	0.70	0.0000
	40	2,054	0	1.57	0.0000
	45	1,896	0	1.85	0.0000
	50	919	0	2.24	0.0000
	53	71	0	0.00	0.0000
	54	51	0	0.00	0.0000
		Total	8,810	0	7.35
Due to Accidental Causes	20	5	0	0.00	0.0000
	25	813	0	0.31	0.0000
	30	1,453	0	0.69	0.0000
	35	1,548	0	0.77	0.0000
	40	2,054	0	1.03	0.0000
	45	1,896	0	1.25	0.0000
	50	919	0	0.81	0.0000
	53	71	0	0.04	0.0000
	54	51	0	0.02	0.0000
		Total	8,810	0	4.92

TABLE 3
COMPARISON OF ACTUAL AND EXPECTED SEPARATIONS
FROM ACTIVE SERVICE
DISABILITY RETIREMENTS

Type	Central Age of Group	Exposures	Actual Disability	Expected Disability	Ratio of Actual to Expected
Due to Ordinary Causes	20	0	0	0.00	0.0000
	25	108	0	0.07	0.0000
	30	829	0	0.71	0.0000
	35	1,346	1	2.94	0.3401
	40	2,047	1	5.01	0.1996
	45	1,804	2	5.45	0.3670
	50	548	2	2.78	0.7194
	53	22	0	0.15	0.0000
	54	15	0	0.11	0.0000
	Total	6,719	6	17.22	0.3484
Due to Accidental Causes	20	5	0	0.00	0.0000
	25	813	1	0.20	5.0000
	30	1,453	2	0.49	4.0816
	35	1,548	7	2.04	3.4314
	40	2,054	5	3.30	1.5152
	45	1,896	4	3.22	1.2422
	50	919	0	1.94	0.0000
	53	71	0	0.20	0.0000
	54	51	0	0.15	0.0000
	Total	8,810	19	11.54	1.6464

TABLE 4
COMPARISON OF ACTUAL AND EXPECTED SEPARATIONS
FROM ACTIVE SERVICE
SERVICE RETIREMENTS

Type	Central Age of Group	Exposures	Actual Retirements	Expected Retirements	Ratio of Actual to Expected
Twenty Years of Service	40	216	4	4.32	0.9259
	45	369	1	7.38	0.1355
	50	65	0	1.30	0.0000
	53	2	0	0.04	0.0000
	54	3	1	0.06	16.6667
	Total	655	6	13.10	0.4580
Twenty-One Years of Service	40	66	1	0.33	3.0303
	45	275	0	1.37	0.0000
	50	75	0	0.37	0.0000
	53	2	0	0.01	0.0000
	54	1	0	0.00	0.0000
	Total	419	1	2.08	0.4808
Twenty-Two to Twenty-Four Years of Service	40	23	0	0.00	0.0000
	45	421	1	0.00	0.0000
	50	256	1	0.00	0.0000
	53	14	0	0.00	0.0000
	54	6	2	0.00	0.0000
	Total	720	4	0.00	0.0000
Twenty-Five Years of Service	40	0	0	0.00	0.0000
	45	77	35	23.10	1.5152
	50	146	68	43.80	1.5525
	53	10	3	3.00	1.0000
	54	9	6	2.70	2.2222
	Total	242	112	72.60	1.5427
Over Twenty-Five Years of Service	40	0	0	0.00	0.0000
	45	43	6	10.75	0.5581
	50	267	64	80.10	0.7990
	53	40	12	12.00	1.0000
	54	30	18	16.50	1.0909
	Total	380	100	119.35	0.8379

TABLE 5
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	
25	\$ 19,843,499	\$ 21,439,910	\$ 20,924,969	1.025
30	92,463,884	99,899,260	97,503,165	1.025
35	109,229,512	117,808,299	115,182,520	1.023
40	144,258,646	152,869,578	152,120,742	1.005
45	230,191,128	242,247,857	242,736,544	0.998
50	114,333,302	120,195,111	120,567,467	0.997
Greater than 52	21,625,069	22,740,477	22,803,635	0.997
Total	\$ 731,945,040	\$ 777,200,492	\$ 771,839,042	1.007

(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 6
COMPARISON OF ACTUAL AND EXPECTED CASES OF DEATH
AMONG HEALTHY RETIRED MEMBERS

Sex	Central Age of Group	Exposures	Actual Deaths	Expected Deaths	Ratio of Actual to Expected
Male	Less than 48	66	0	0.1605	0.0000
	50	454	1	1.8480	0.5411
	55	837	4	5.2185	0.7665
	60	1,232	4	11.4508	0.3493
	65	1,117	13	17.1969	0.7560
	70	471	3	12.5452	0.2391
	75	461	10	21.1702	0.4724
	80	400	25	28.9808	0.8626
	85	128	12	14.1146	0.8502
	90	23	2	3.6766	0.5440
	Greater than 92	11	6	2.7065	2.2169
	Total	5,200	80	119.0686	0.6719
Female	Less than 48	11	0	0.0124	0.0000
	50	24	0	0.0383	0.0000
	55	5	0	0.0123	0.0000
	60	4	0	0.0149	0.0000
	65	0	0	0.0000	0.0000
	70	0	0	0.0000	0.0000
	75	0	0	0.0000	0.0000
	80	0	0	0.0000	0.0000
	85	0	0	0.0000	0.0000
	90	0	0	0.0000	0.0000
	Greater than 92	0	0	0.0000	0.0000
	Total	44	0	0.0779	0.0000

TABLE 7

**COMPARISON OF ACTUAL AND EXPECTED CASES OF DEATH
AMONG BENEFICIARIES OF DECEASED ACTIVE AND RETIRED MEMBERS**

Sex	Central Age of Group	Exposures	Actual Deaths	Expected Deaths	Ratio of Actual to Expected
Male	Less than 48	3	0	0.0011	0.0000
	50	2	0	0.0067	0.0000
	55	0	0	0.0000	0.0000
	60	3	0	0.0253	0.0000
	65	3	0	0.0419	0.0000
	70	0	0	0.0000	0.0000
	75	0	0	0.0000	0.0000
	80	0	0	0.0000	0.0000
	85	0	0	0.0000	0.0000
	90	0	0	0.0000	0.0000
	Greater than 92	0	0	0.0000	0.0000
Total		11	0	0.0750	0.0000
Female	Less than 48	38	0	0.0264	0.0000
	50	17	0	0.0264	0.0000
	55	39	0	0.1027	0.0000
	60	89	0	0.3860	0.0000
	65	123	2	0.8816	2.2686
	70	100	3	1.2682	2.3656
	75	209	5	5.8577	0.8536
	80	172	5	8.7271	0.5729
	85	133	13	11.2505	1.1555
	90	76	15	9.9446	1.5084
	Greater than 92	21	7	5.0199	1.3945
Total		1,017	50	43.4911	1.1497

TABLE 8

**COMPARISON OF ACTUAL AND EXPECTED CASES
OF DEATH AMONG DISABLED MEMBERS**

Central Age of Group	Exposures	Actual Deaths	Expected Deaths	Ratio of Actual to Expected
Less than 48	301	0	1.4906	0.0000
50	74	2	0.5173	3.8662
55	51	0	0.4857	0.0000
60	55	3	0.7603	3.9458
65	82	2	1.6398	1.2197
70	19	0	0.4992	0.0000
75	5	0	0.2390	0.0000
80	22	2	1.5055	1.3285
85	0	0	0.0000	0.0000
90	0	0	0.0000	0.0000
Greater than 92	0	0	0.0000	0.0000
Total	609	9	7.1374	1.2610

COMMENTS AND GENERAL RECOMMENDATION OF ACTUARIES

RATES OF WITHDRAWAL

Table 1 presents a summary of the number of exposures, actual and expected withdrawals and the ratios of actual to expected withdrawals of members with less than 5 years of service and members with 5 to 19 years of service.

The experience for members with less than 5 years of service show that were significantly less than expected withdrawals at 25 during the examination period (2 actual versus about 7 expected). This is consistent with the trend identified in the two prior studies. We, therefore, recommend decreasing the assumed rates within this age group.

The experience for members with 5 to 19 years of service show that actual terminations were within an acceptable range of that expected since their incidence is quite small in relation to the total number of members who were exposed. We recommend no change to these rates at this time.

RATES OF DEATH AMONG ACTIVE MEMBERS

The experience for ordinary and accidental death are presented in Table 2. Since different benefits are paid upon ordinary and accidental death, the mortality experience with respect to these two causes of death were investigated separately.

The experience for ordinary death indicates the actual deaths during the measurement period are less than that expected. In addition, due to the small number of members exposed and continued mortality improvement in the general population, we recommend the use of a recently published table.

For accidental death, there were no actual deaths compared to the approximately 5 expected during the study period. However, since this represents less than .1% of the group exposed, no changes are recommended at this time.

RATES OF DISABILITY RETIREMENT

Table 3 presents the experience due to ordinary and accidental disabilities. Similar to the death benefits provided by the System, different benefits are payable upon disability due to ordinary and accidental causes and experience with respect to these two causes were investigated separately.

The experience of ordinary disability indicates that actual disabilities were only about one-third of that expected during the measurement period. This is a reversal of the trend observed in the last study. Therefore, we recommend no change to the ordinary disability assumption at this time. This assumption will be closely monitored and analyzed in detail when the next study is completed in 2011.

The data for accidental disabilities indicates that there were significantly more accidental disability retirements at ages 30 through 45 than expected during the measurement period (18 actual versus about 9 expected). This is consistent with the trend identified in the prior two studies and we are proposing a further increase in the rates for ages 30 through 45.

RATES OF SERVICE RETIREMENT

The System provides for mandatory retirement upon attaining age 55 and voluntary retirement prior to age 55 with at least 20 years of credited service. Table 4 presents the experience for service retirements during the study period.

With regard to retirements with 20 years of service, there were 6 actual retirements compared to approximately 13 expected retirements. This is within an acceptable range and we recommend no changes to these rates at this time.

The results of the study show that there was 1 actual retirement among members with 21 years of service compared to about 2 expected retirements. This is within an acceptable range and we recommend no changes to the assumption.

Although no retirements were assumed for members with 22 to 24 years of service, there were 4 actual retirements during the measurement period. Since this represents less than 1% of the exposed population, we recommend the continued use of the current rates.

The results of the study show that actual retirements among members with 25 years of service were about 154% of those expected. This continues a trend first observed in the prior study. Due to the continued high incidence of retirement, we recommend a further increase in these retirement rates.

For retirements among members with more than 25 years of service, actual retirements were about 84% of those expected, reversing the trend of the prior two studies. Since there is no clear pattern at this time, we recommend no change to the assumption. We will continue to carefully monitor the experience in this assumption and determine whether changes are warranted during the next experience study in 2011.

RATES OF SALARY INCREASE

Table 5 shows that the overall actual salary experience is 0.7% greater than that expected, which is within acceptable limits. Therefore, we recommend no changes to the current salary increase assumption of 5.45% per year.

RATES OF MORTALITY AMONG SERVICE RETIREMENTS

Table 6 summarizes the mortality experience with respect to members retired on account of service retirement. The experience indicates that the number of actual deaths were about 67% of that expected for male retirees, which is consistent with the three prior studies. In light of these results and the continuing mortality improvement in the general population, we recommend the use of a recently published table.

For female retirees, there were no actual deaths during the three-year period. Due to the small number of members exposed and continued mortality improvement in the general population, we recommend updating the assumption to use a recently published table.

RATES OF MORTALITY AMONG BENEFICIARIES

Table 7 presents the mortality experience for beneficiaries in receipt of a benefit. The results indicate that there were no actual deaths among the relatively small population of male beneficiaries. Due to the small number of members exposed and continued mortality improvement in the general population, we recommend updating the assumption to use a recently published table.

Actual deaths among female beneficiaries were within a reasonable range of that expected. However, in order to remain consistent with the other mortality assumptions, we recommend updating the use of a recently published table that reflects a mortality pattern similar to the current assumption.

RATES OF MORTALITY AMONG DISABILITY RETIREMENTS

Table 8 summarizes the mortality experience for disability retirements. The data indicates that actual deaths are in line with expectations. However, we recommend the use of a recently published table to reflect the improved mortality of the general population.

IV. SUMMARY OF PROPOSED ASSUMPTIONS

As noted earlier, the experience investigation for the period from July 1, 2005 to June 30, 2008 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>
Withdrawal	
• Less than 5 years of service	Decrease
• Five to Nineteen years of service	No Change
Death	
• Ordinary	RP-2000 Combined Healthy Mortality Tables*
• Accidental	No Change
Disability	
• Ordinary	No Change
• Accidental	Increase
Service Retirement	
• 20 years of service	No Change
• 21 years of service	No Change
• 22 to 24 years of service	No Change
• 25 years of service	Increase
• Greater than 25 years of service	No Change
Salary Increase	No Change
Inactive Mortality	
• Male and Female Service Retirements	RP-2000 Combined Healthy Mortality Tables*
• Male and Female Beneficiaries of Deceased Active and Retired Members	RP-2000 Combined Health Mortality Tables*
• Disability Retirements	RP-2000 Combined Health Mortality Tables**

* With male ages set back 3 years and female ages unadjusted.

** With ages set forward 5 years.

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, which has a large population and a rather small incidence, does not graph well because of the relative size of the numbers.

TABLE 9
COMPARISON OF ACTUAL AND EXPECTED RATES OF SEPARATION
FROM ACTIVE SERVICE
WITHDRAWALS
LESS THAN FIVE YEARS OF SERVICE

Central Age of Group	Current Rates	Actual Rates	Proposed Rates
20	0.00000	0.00000	0.00000
25	0.00825	0.00257	0.00500
30	0.00500	0.00456	0.00500
35	0.00825	0.00631	0.00825
40	0.00000	0.03125	0.00000
45	0.00000	0.00000	0.00000
50	0.00000	0.00000	0.00000
53	0.00000	0.00000	0.00000
54	0.00000	0.00000	0.00000

FIVE TO NINETEEN YEARS OF SERVICE

Central Age of Group	Current Rates	Actual Rates	Proposed Rates: No Change
20	0.00000	0.00000	0.00000
25	0.00000	0.00000	0.00000
30	0.00400	0.00000	0.00400
35	0.00100	0.00244	0.00100
40	0.00150	0.00175	0.00150
45	0.00200	0.00000	0.00200
50	0.00000	0.00000	0.00000
53	0.00000	0.00000	0.00000
54	0.00000	0.00000	0.00000

TABLE 10

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

DEATHS

ORDINARY CAUSES

MALE

Central Age of Group	Current Rates	Actual Rates	Proposed Rates
20	0.00000	0.00000	0.00031
25	0.00000	0.00000	0.00036
30	0.00068	0.00000	0.00039
35	0.00045	0.00000	0.00057
40	0.00075	0.00000	0.00090
45	0.00100	0.00000	0.00123
50	0.00251	0.00000	0.00174
53	0.00000	0.00000	0.00214
54	0.00000	0.00000	0.00245

FEMALE

Central Age of Group	Current Rates	Actual Rates	Proposed Rates
20	0.00000	0.00000	0.00019
25	0.00000	0.00000	0.00021
30	0.00068	0.00000	0.00028
35	0.00045	0.00000	0.00047
40	0.00075	0.00000	0.00072
45	0.00100	0.00000	0.00113
50	0.00251	0.00000	0.00171
53	0.00000	0.00000	0.00221
54	0.00000	0.00000	0.00242

TABLE 10

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

**DEATHS
(Continued)**

ACCIDENTAL CAUSES

Central Age of Group	Current Rates	Actual Rates	Proposed Rates: No Change
20	0.00020	0.00000	0.00020
25	0.00034	0.00000	0.00034
30	0.00048	0.00000	0.00048
35	0.00050	0.00000	0.00050
40	0.00050	0.00000	0.00050
45	0.00068	0.00000	0.00068
50	0.00086	0.00000	0.00086
53	0.00050	0.00000	0.00050
54	0.00030	0.00000	0.00030

TABLE 11

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

DISABILITY RETIREMENTS

ORDINARY CAUSES

Central Age of Group	Current Rates	Actual Rates	Proposed Rates: No Change
20	0.00042	0.00000	0.00042
25	0.00057	0.00000	0.00057
30	0.00084	0.00000	0.00084
35	0.00214	0.00074	0.00214
40	0.00245	0.00049	0.00245
45	0.00318	0.00111	0.00318
50	0.00539	0.00365	0.00539
53	0.00672	0.00000	0.00672
54	0.00722	0.00000	0.00722

ACCIDENTAL CAUSES

Central Age of Group	Current Rates	Actual Rates	Proposed Rates
20	0.00017	0.00000	0.00016
25	0.00023	0.00123	0.00023
30	0.00034	0.00138	0.00051
35	0.00129	0.00452	0.00194
40	0.00160	0.00243	0.00207
45	0.00171	0.00211	0.00214
50	0.00220	0.00000	0.00220
53	0.00275	0.00000	0.00275
54	0.00295	0.00000	0.00295

TABLE 12
COMPARISON OF ACTUAL AND EXPECTED RATES OF SEPARATION
FROM ACTIVE SERVICE
SERVICE RETIREMENTS

TWENTY YEARS OF SERVICE

Central Age of Group	Current Rates	Actual Rates	Proposed Rates: No Change
40	0.02000	0.01852	0.02000
45	0.02000	0.00271	0.02000
50	0.02000	0.00000	0.02000
53	0.02000	0.00000	0.02000
54	0.02000	0.33333	0.02000

TWENTY-ONE YEARS OF SERVICE

Central Age of Group	Current Rates	Actual Rates	Proposed Rates: No Change
40	0.00500	0.01515	0.00500
45	0.00500	0.00000	0.00500
50	0.00500	0.00000	0.00500
53	0.00500	0.00000	0.00500
54	0.00500	0.00000	0.00500

TWENTY-TWO TO TWENTY-FOUR YEARS OF SERVICE

Central Age of Group	Current Rates	Actual Rates	Proposed Rates: No Change
40	0.0000	0.00000	0.00000
45	0.0000	0.00238	0.00000
50	0.0000	0.00391	0.00000
53	0.0000	0.00000	0.00000
54	0.0000	0.33333	0.00000

TABLE 12
COMPARISON OF ACTUAL AND EXPECTED RATES OF SEPARATION
FROM ACTIVE SERVICE
SERVICE RETIREMENTS
(Continued)

TWENTY-FIVE YEARS OF SERVICE

Central Age of Group	Current Rates	Actual Rates	Proposed Rates
40	0.30000	0.00000	0.40000
45	0.30000	0.45455	0.40000
50	0.30000	0.46575	0.40000
53	0.30000	0.30000	0.40000
54	0.30000	0.66667	0.40000

OVER TWENTY-FIVE YEARS OF SERVICE

Central Age of Group	Current Rates	Actual Rates	Proposed Rates: No Change
40	0.05000	0.00000	0.05000
45	0.25000	0.13950	0.25000
50	0.30000	0.23970	0.30000
53	0.30000	0.30000	0.30000
54	0.55000	0.60000	0.55000

TABLE 13
COMPARISON OF ACTUAL AND EXPECTED
SALARY INCREASES

Central Age of Group	Current Rates	Actual Rates	Proposed Rates: No Change
25	5.45%	8.05%	5.45%
30	5.45%	8.04%	5.45%
35	5.45%	7.85%	5.45%
40	5.45%	5.97%	5.45%
45	5.45%	5.24%	5.45%
50	5.45%	5.13%	5.45%
Greater than 52	5.45%	5.16%	5.45%

TABLE 14

**COMPARISON OF ACTUAL AND EXPECTED RATES OF MORTALITY
AMONG HEALTHY RETIRED MEMBERS**

MALE

Central Age of Group	Current Rates	Actual Rates	Proposed Rates
45	0.00177	0.00000	0.00123
50	0.00314	0.00220	0.00174
55	0.00492	0.00478	0.00268
60	0.00743	0.00325	0.00475
65	0.01268	0.01164	0.00890
70	0.02213	0.00637	0.01618
75	0.03613	0.02169	0.02767
80	0.05963	0.06250	0.04739
85	0.09223	0.09375	0.08128
90	0.13343	0.08696	0.13732
95	0.18678	0.54545	0.21683

FEMALE

Central Age of Group	Current Rates	Actual Rates	Proposed Rates
45	0.00103	0.00000	0.00113
50	0.00165	0.00000	0.00171
55	0.00257	0.00000	0.00278
60	0.00428	0.00000	0.00518
65	0.00714	0.00000	0.00982
70	0.01266	0.00000	0.01686
75	0.02428	0.00000	0.02832
80	0.04326	0.00000	0.04641
85	0.07045	0.00000	0.07844
90	0.11275	0.00000	0.13207
95	0.18418	0.00000	0.19367

TABLE 15
COMPARISON OF ACTUAL AND EXPECTED RATES OF MORTALITY
AMONG BENEFICIARIES OF DECEASED ACTIVE AND RETIRED MEMBERS
MALE

Central Age of Group	Current Rates	Actual Rates	Proposed Rates
45	0.00222	0.00000	0.00123
50	0.00393	0.00000	0.00174
55	0.00615	0.00000	0.00268
60	0.00929	0.00000	0.00475
65	0.01585	0.00000	0.00890
70	0.02766	0.00000	0.01618
75	0.04516	0.00000	0.02767
80	0.07454	0.00000	0.04739
85	0.11529	0.00000	0.08128
90	0.16678	0.00000	0.13732
95	0.23348	0.00000	0.21683

FEMALE

Central Age of Group	Current Rates	Actual Rates	Proposed Rates
45	0.00103	0.00000	0.00113
50	0.00165	0.00000	0.00171
55	0.00257	0.00000	0.00278
60	0.00428	0.00000	0.00518
65	0.00714	0.01626	0.00982
70	0.01266	0.03000	0.01686
75	0.02755	0.02392	0.02832
80	0.05191	0.02907	0.04641
85	0.08453	0.09774	0.07844
90	0.13530	0.19737	0.13207
95	0.22102	0.33333	0.19367

TABLE 16

**COMPARISON OF ACTUAL AND EXPECTED RATES OF MORTALITY
AMONG DISABLED MEMBERS**

MALE

Central Age of Group	Current Rates	Actual Rates	Proposed Rates
45	0.00555	0.00000	0.00222
50	0.00714	0.03226	0.00373
55	0.00970	0.00000	0.00688
60	0.01370	0.05769	0.01290
65	0.01998	0.02439	0.02235
70	0.02975	0.00000	0.03824
75	0.04484	0.00000	0.06539
80	0.06774	0.09091	0.11182
85	0.10167	0.00000	0.18336
90	0.14997	0.00000	0.26712
95	0.21465	0.00000	0.34408

FEMALE

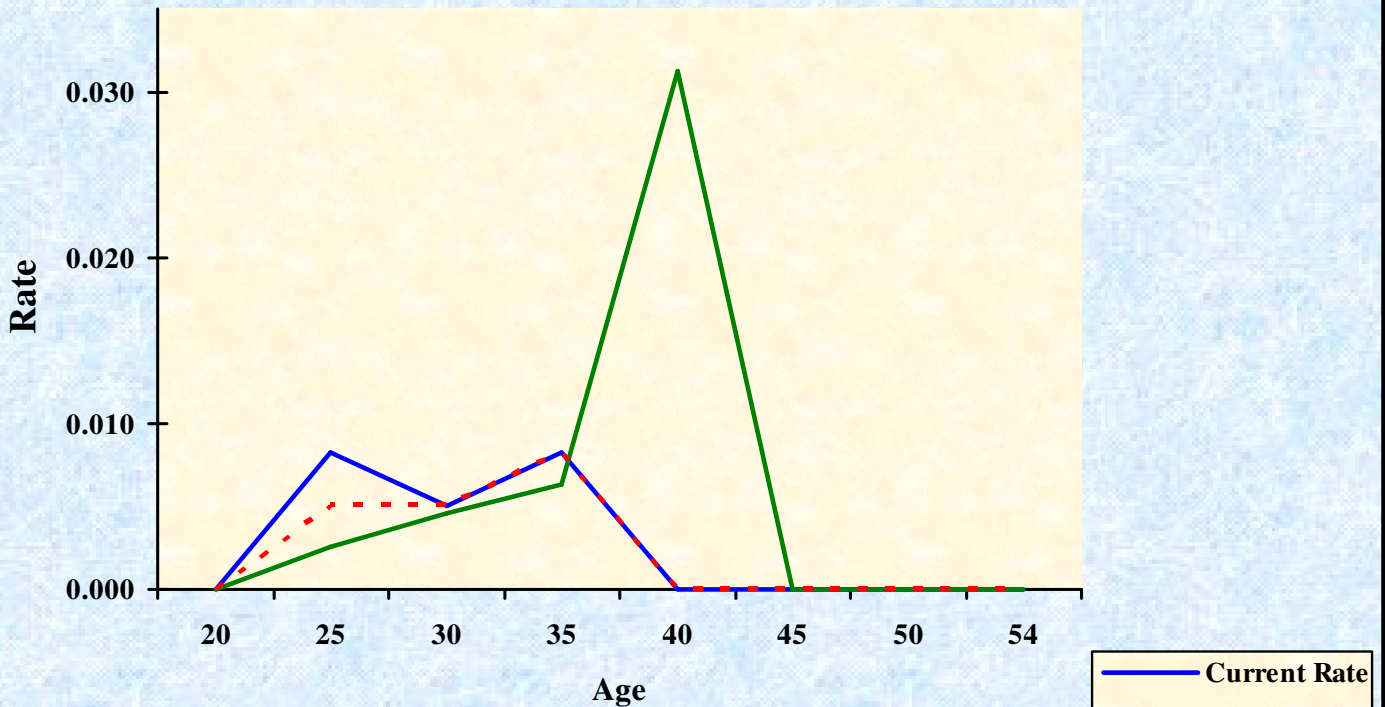
Central Age of Group	Current Rates	Actual Rates	Proposed Rates
45	0.00555	0.00000	0.00171
50	0.00714	0.00000	0.00278
55	0.00970	0.00000	0.00518
60	0.01370	0.00000	0.00982
65	0.01998	0.00000	0.01686
70	0.02975	0.00000	0.02832
75	0.04484	0.00000	0.04641
80	0.06774	0.00000	0.07884
85	0.10167	0.00000	0.13207
90	0.14997	0.00000	0.19367
95	0.21465	0.00000	0.29375

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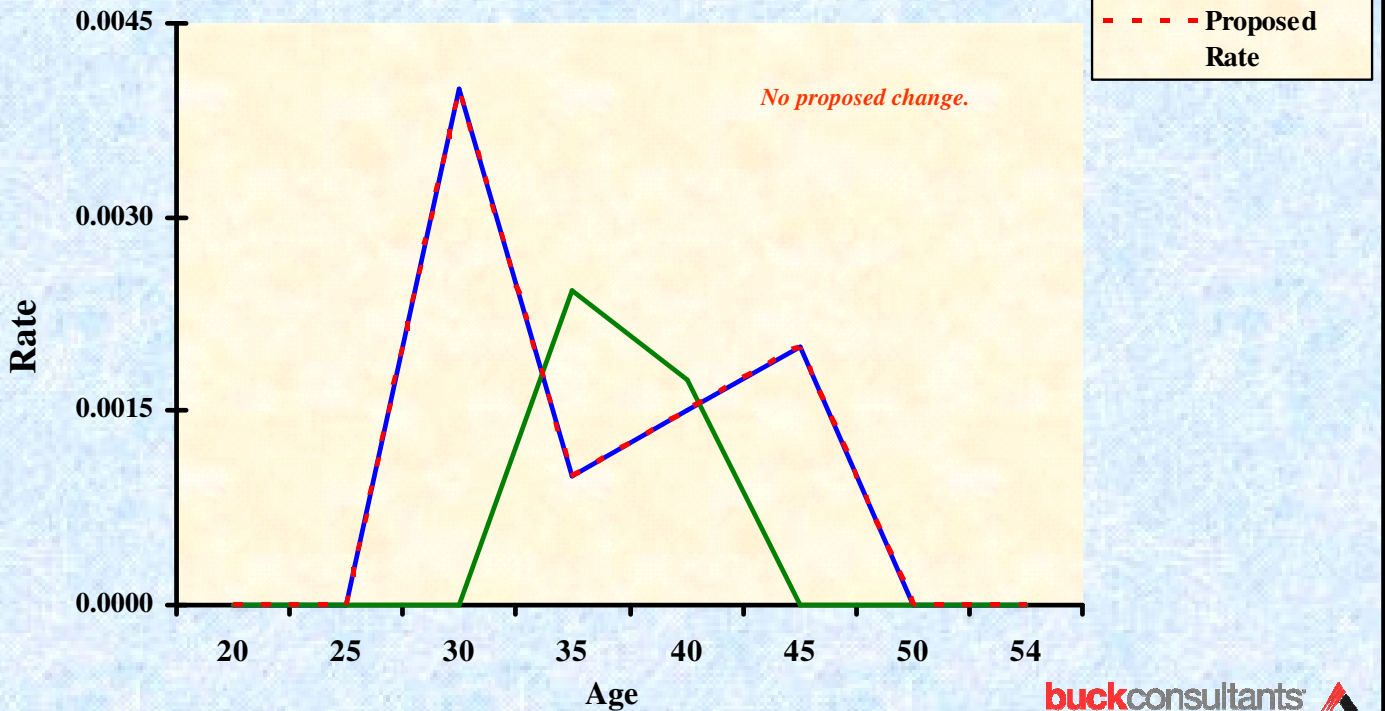
Withdrawals

July 1, 2005 through June 30, 2008

Members with Less Than 5 Years of Service



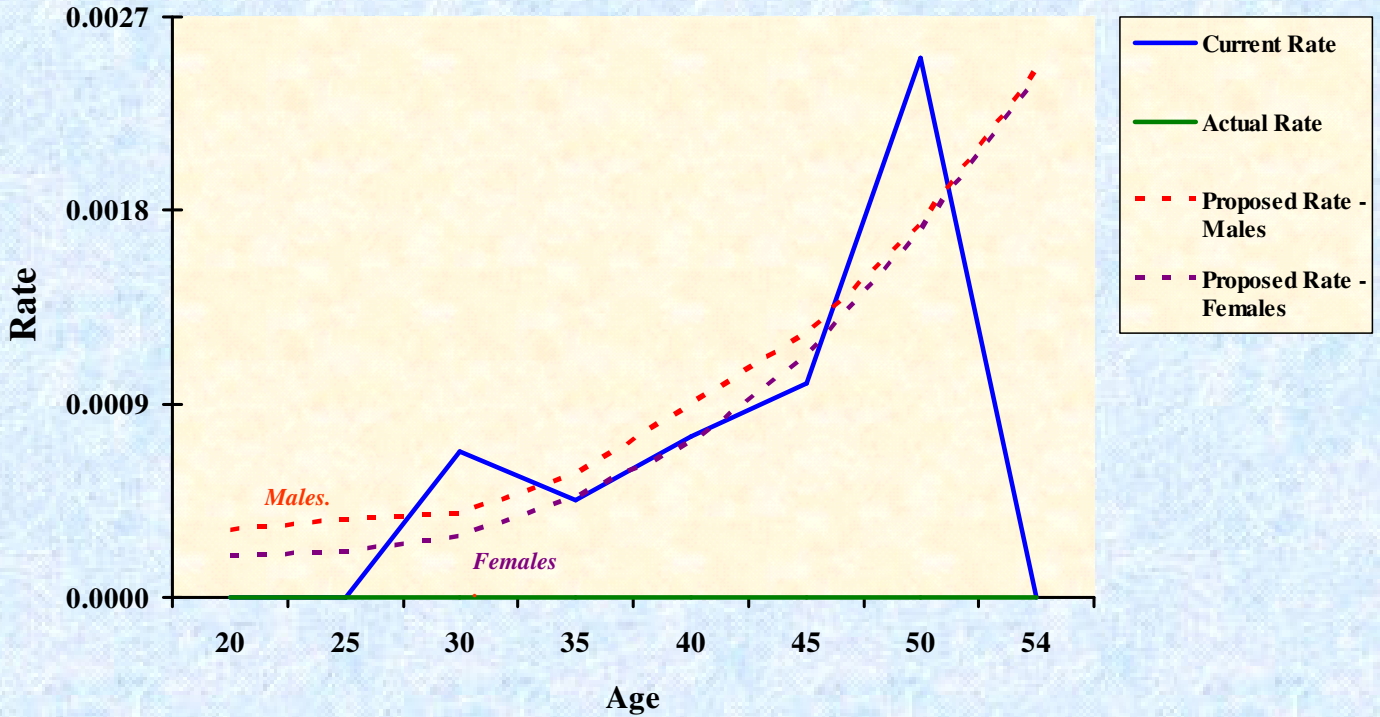
Members with 5 to 19 Years of Service



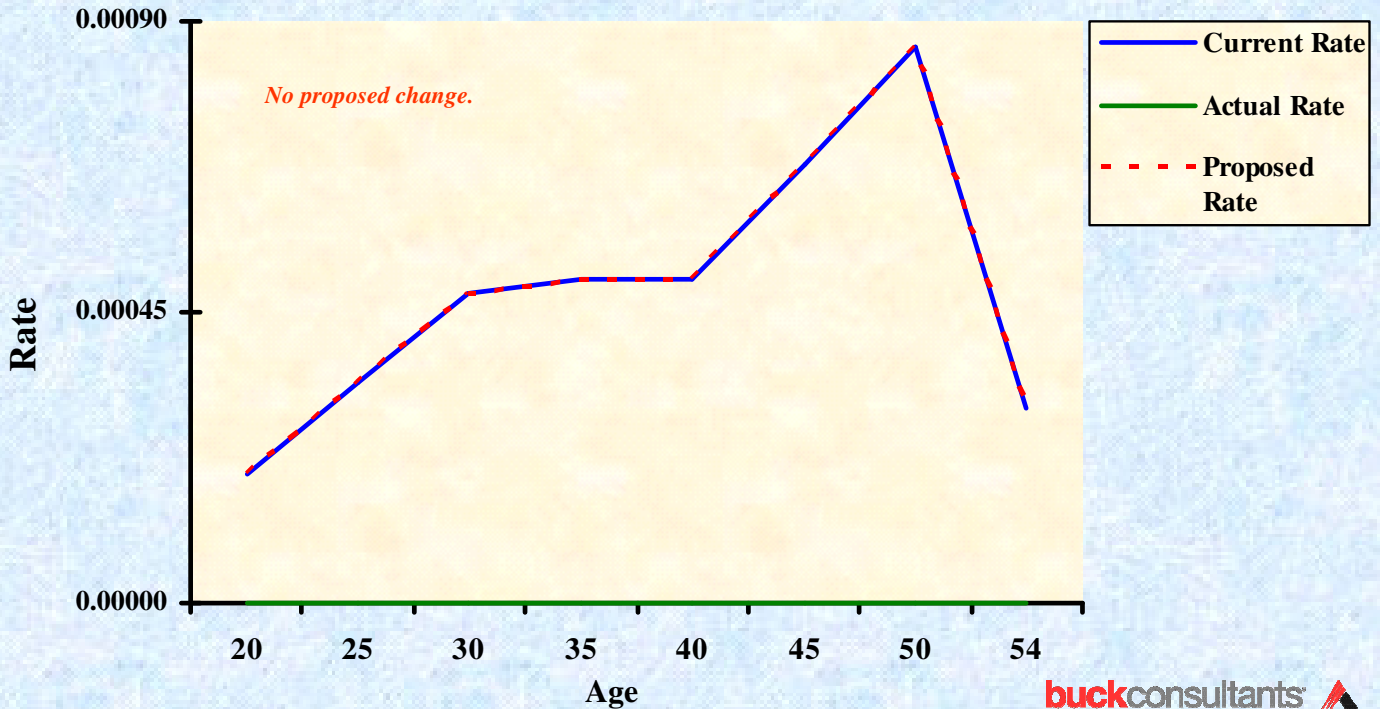
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Death Among Active Members
July 1, 2005 through June 30, 2008

Ordinary Death



Accidental Death

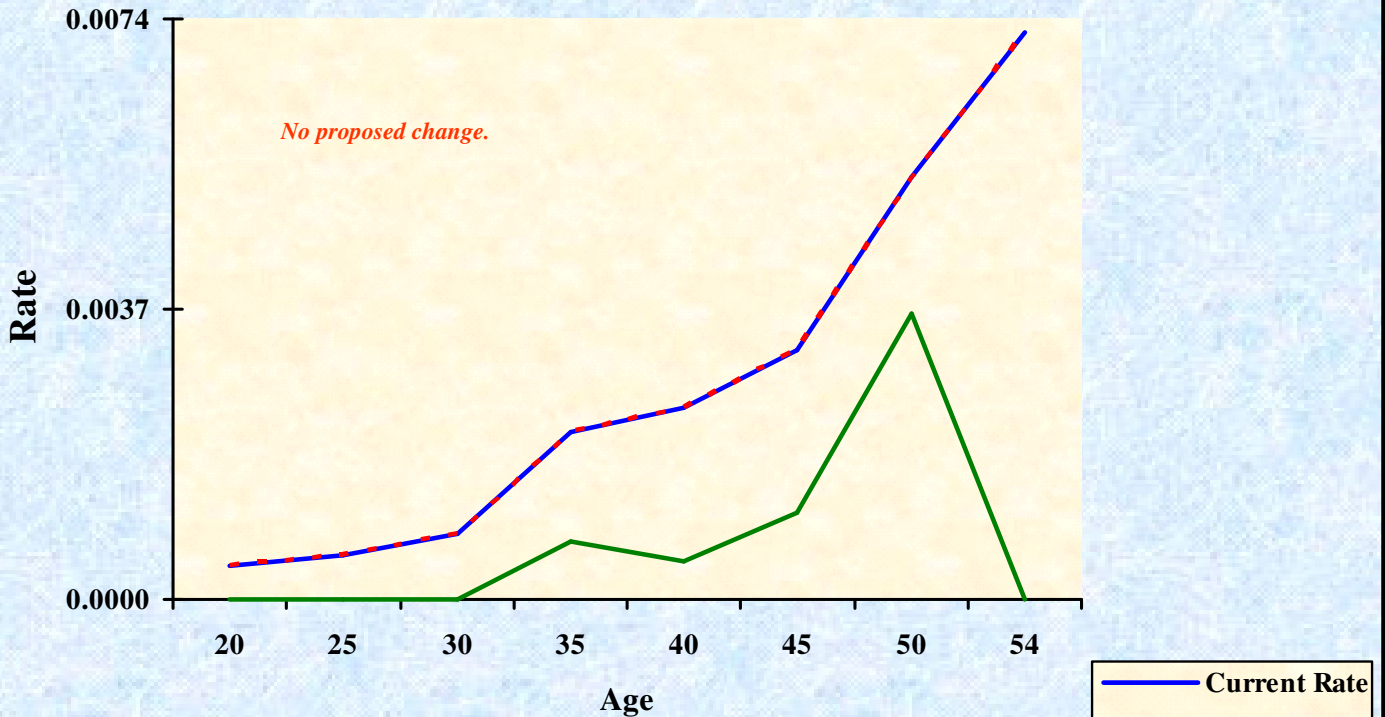


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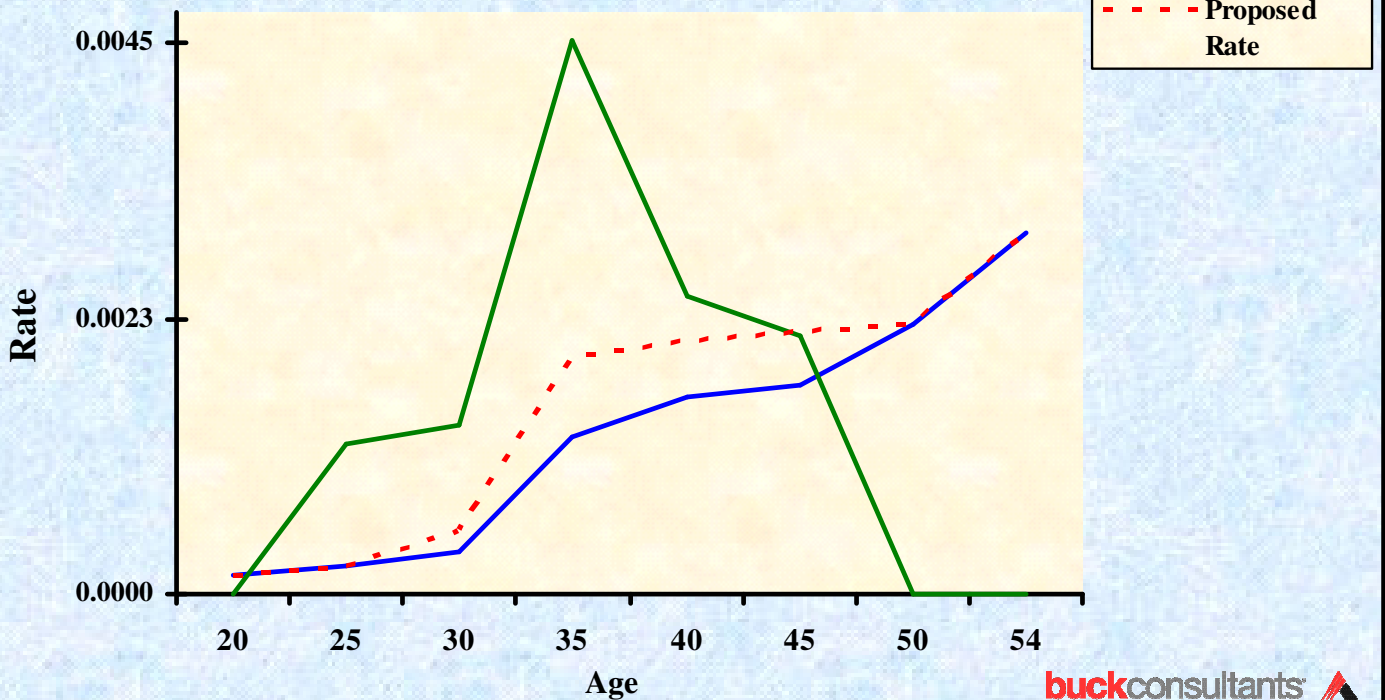
Disability Among Active Members

July 1, 2005 through June 30, 2008

Ordinary Disability



Accidental Disability

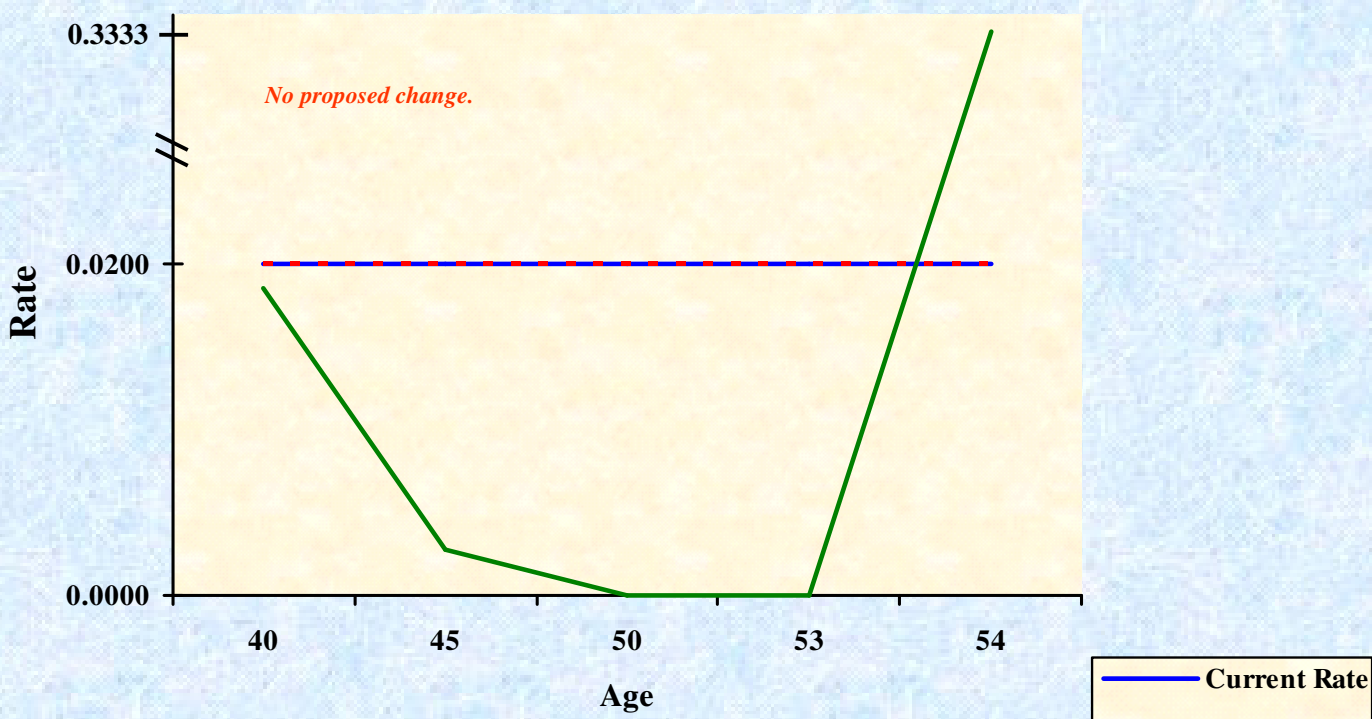


The State Police Retirement System of New Jersey

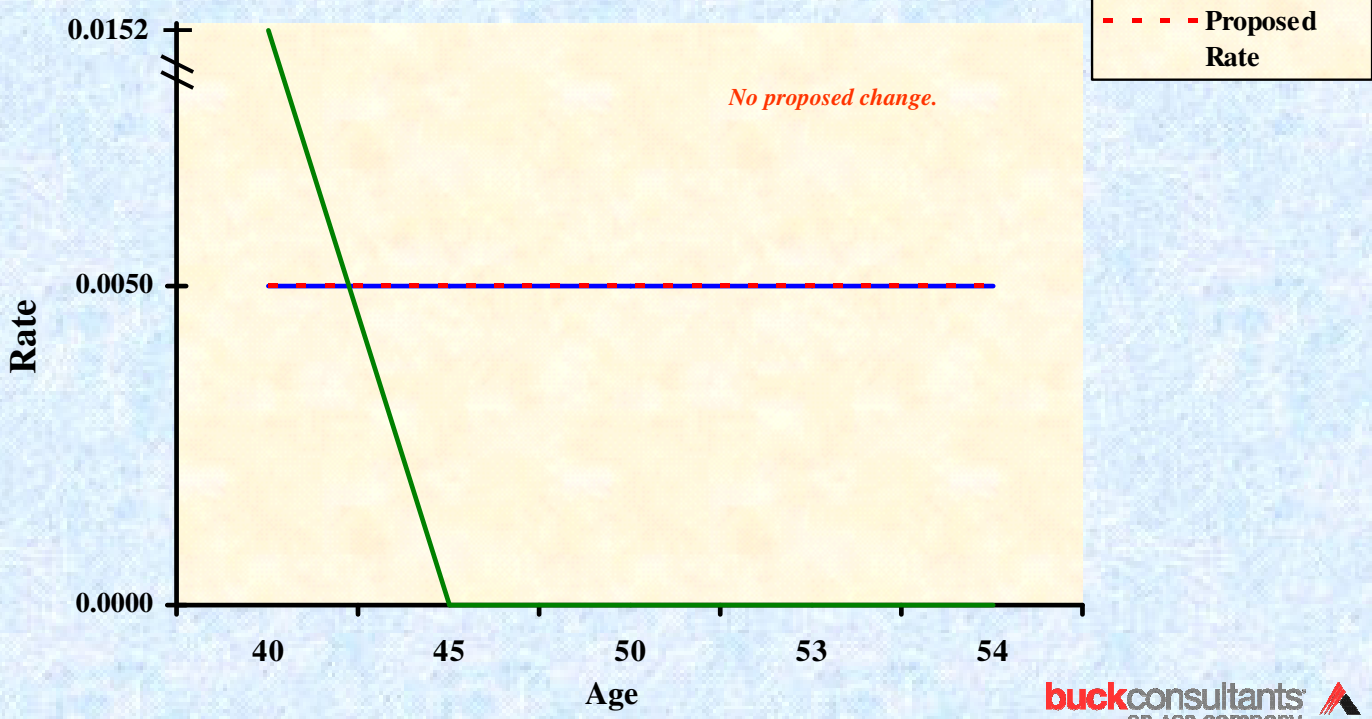
Service Retirements

July 1, 2005 through June 30, 2008

Retirement with 20 Years of Service



Retirement with 21 Years of Service

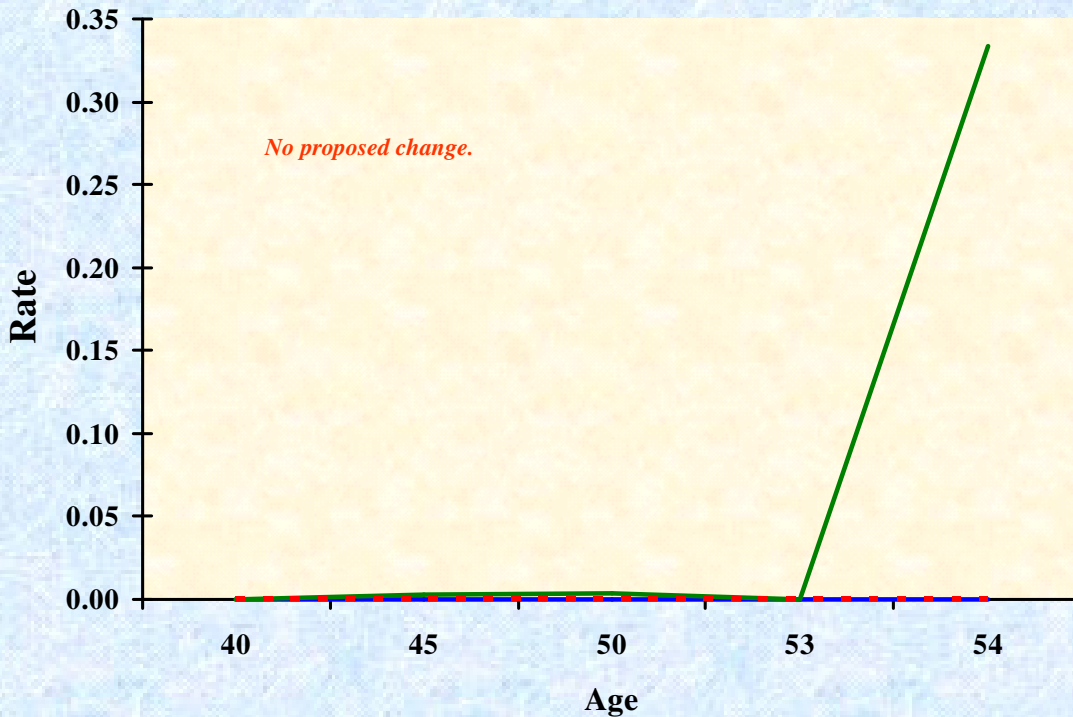


The State Police Retirement System of New Jersey

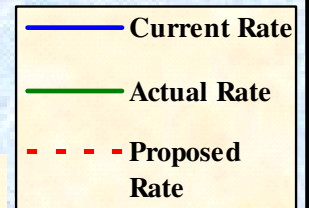
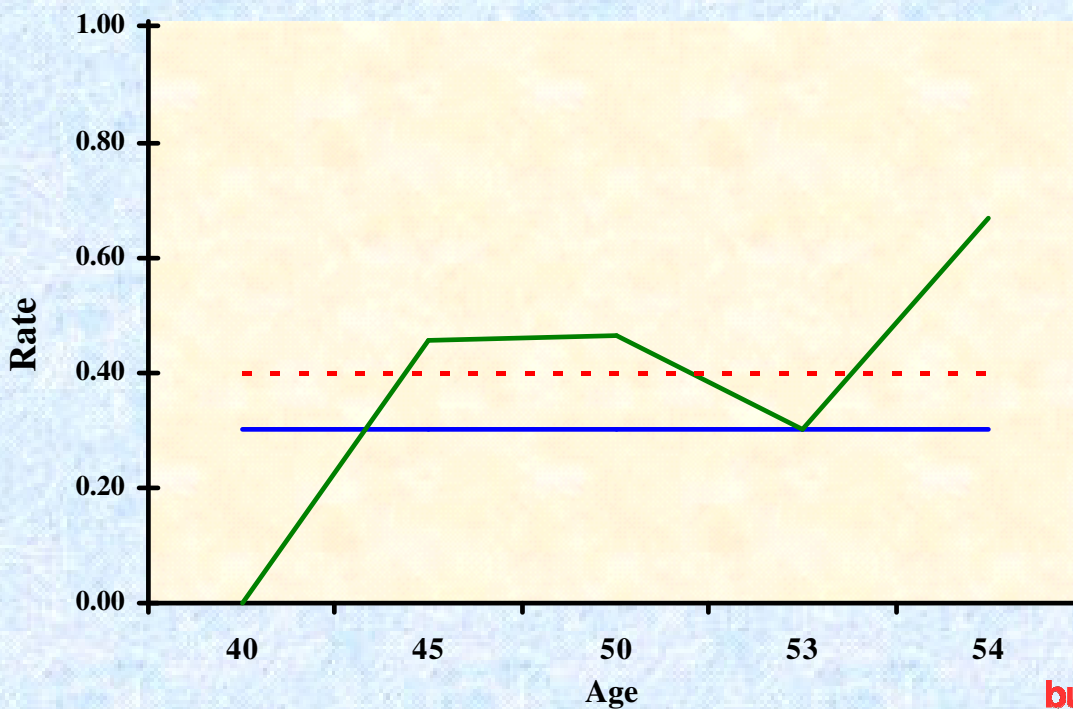
Service Retirements

July 1, 2005 through June 30, 2008

Retirement with 22 to 24 Years of Service



Retirement with 25 Years of Service

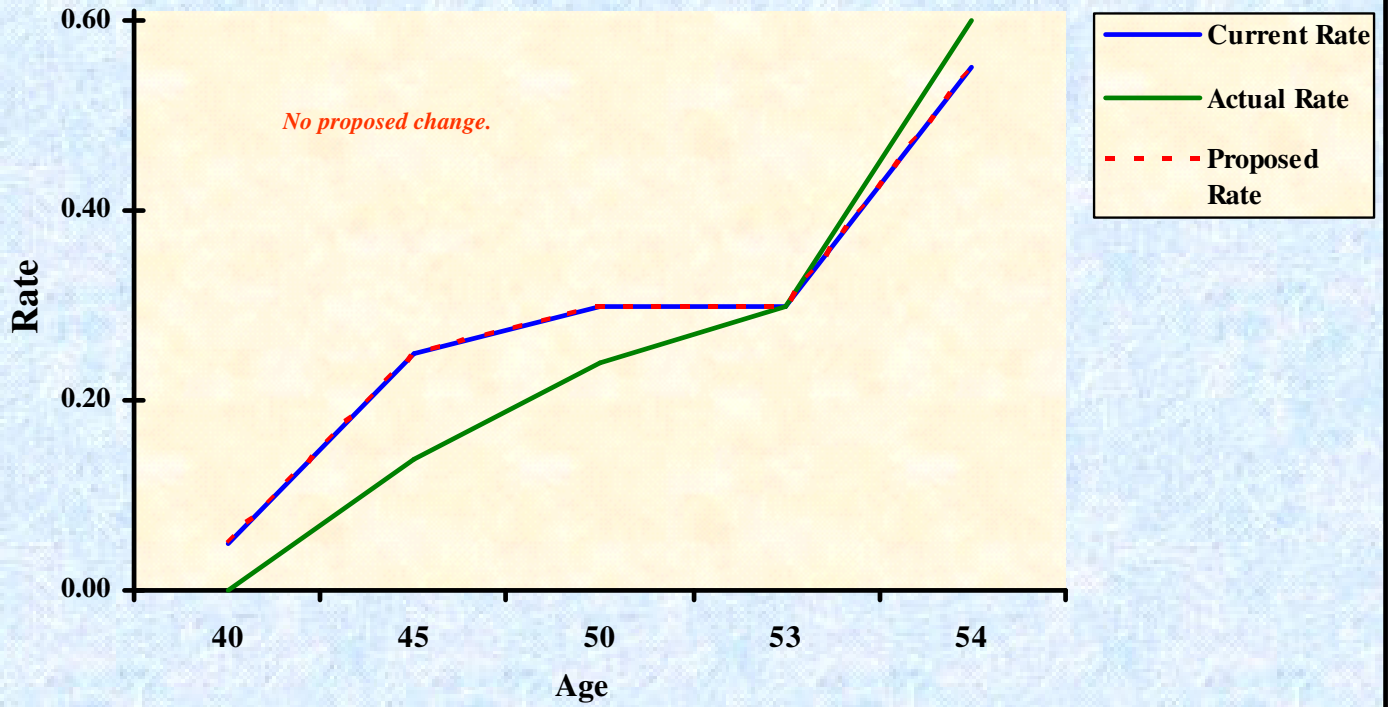


The State Police Retirement System of New Jersey

Service Retirements

July 1, 2005 through June 30, 2008

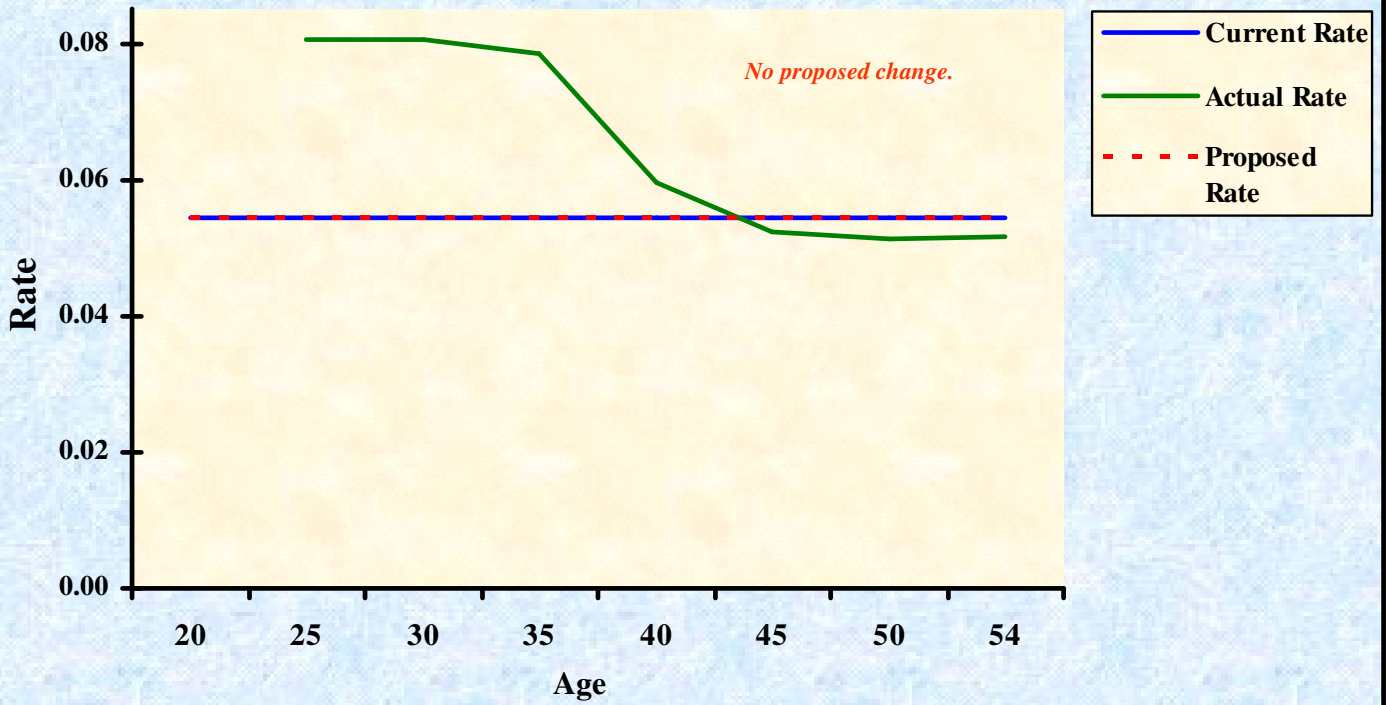
Retirement with more than 25 Years of Service



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Salary Increase

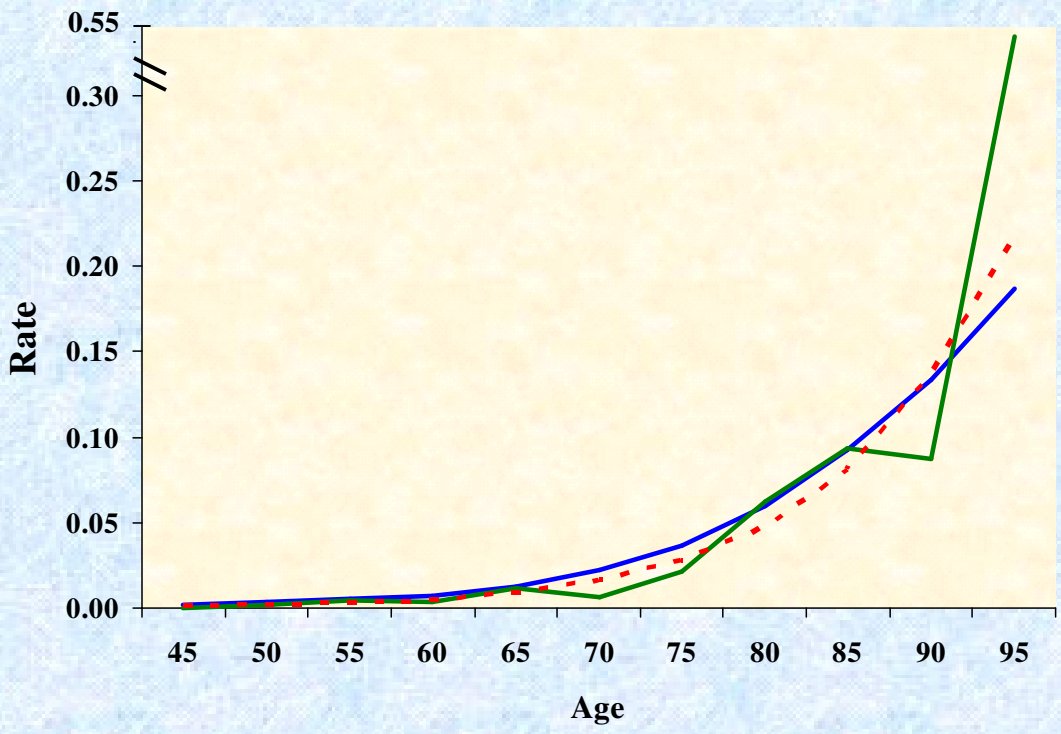
July 1, 2005 through June 30, 2008



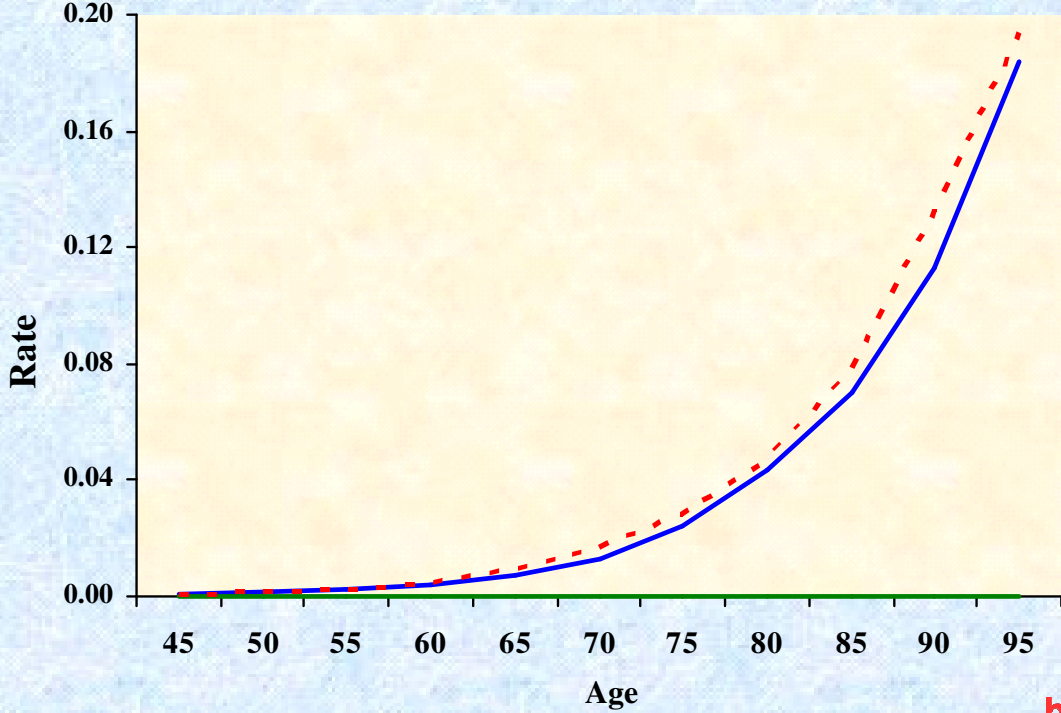
The State Police Retirement System of New Jersey

Post Retirement Mortality
 July 1, 2005 through June 30, 2008

Service Retirement Mortality - Male



Service Retirement Mortality - Female

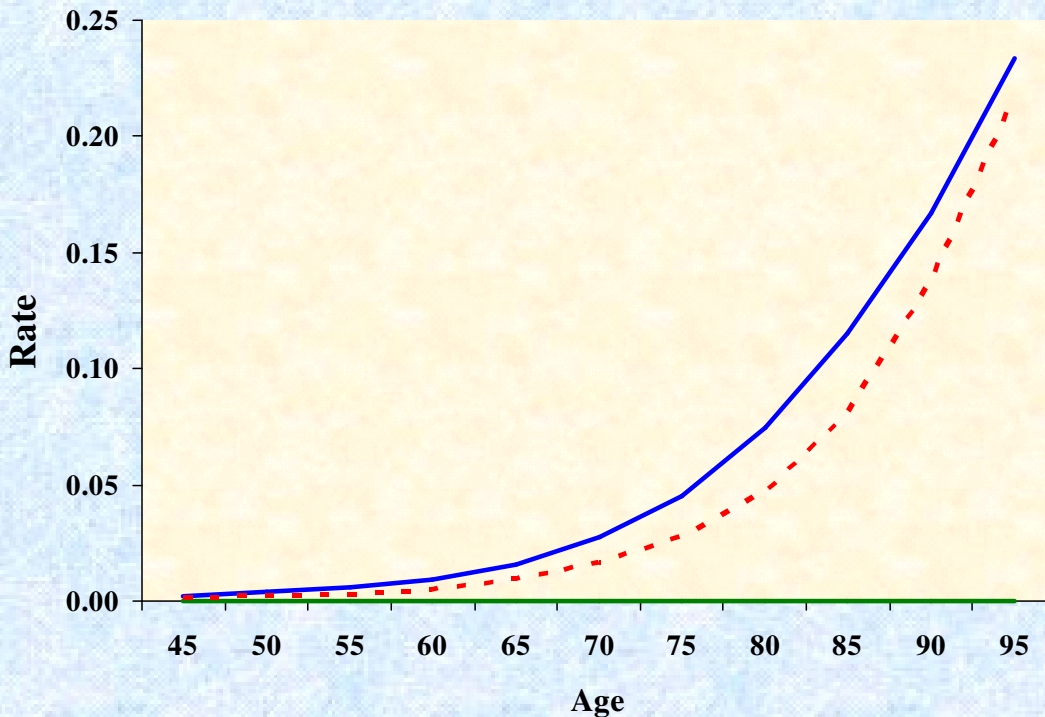


- Current Rate
- Actual Rate
- - - Proposed Rate

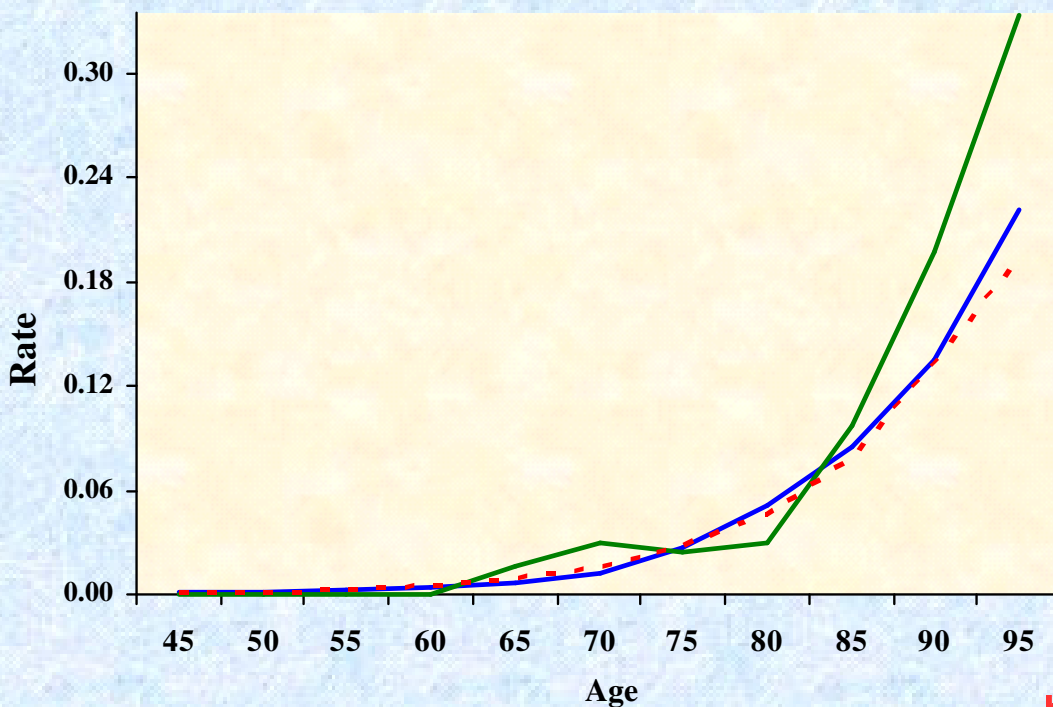
The State Police Retirement System of New Jersey

Post Retirement Mortality
 July 1, 2005 through June 30, 2008

Beneficiaries - Male



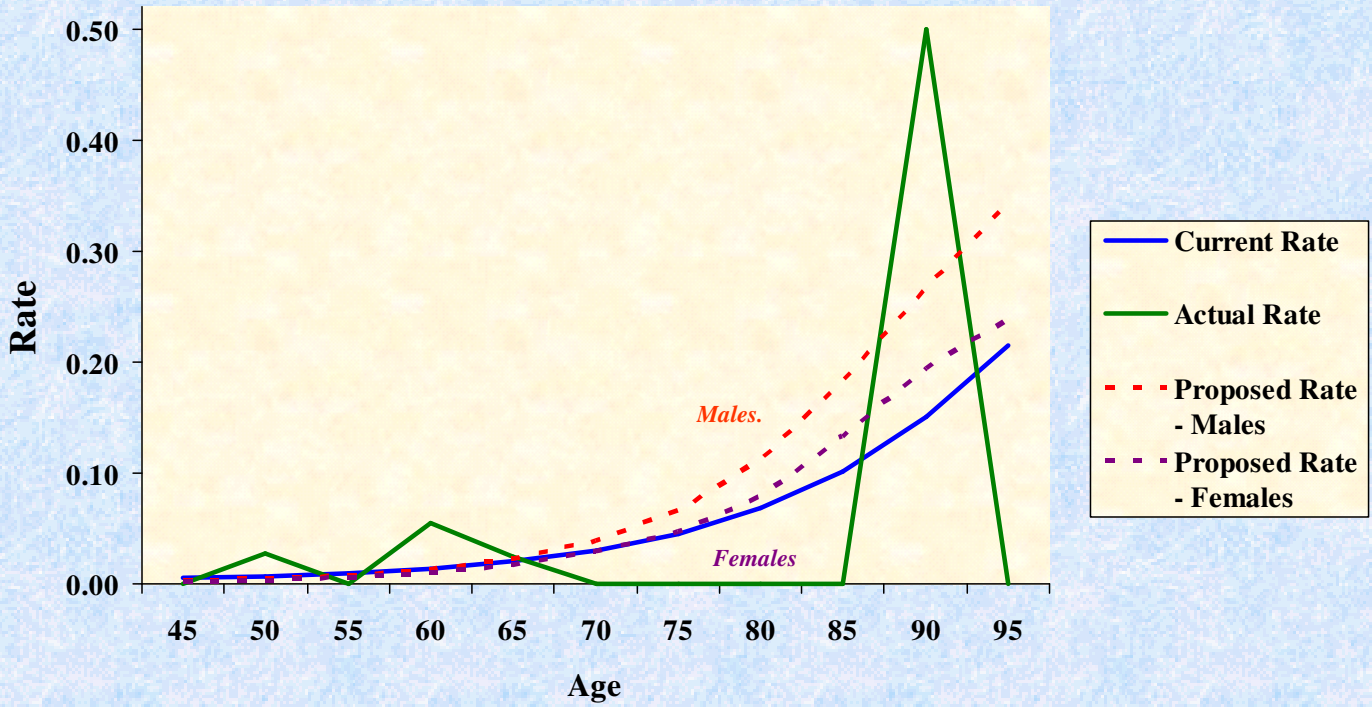
Beneficiaries - Female



	Current Rate
	Actual Rate
	Proposed Rate

The State Police Retirement System of New Jersey
Post Retirement Mortality
 July 1, 2005 through June 30, 2008

Disability



III. COST IMPACT OF THE PROPOSED ASSUMPTIONS

The overall effect of the proposed changes in assumptions would be an increase in the accrued liability of the System of \$74,989,447 and an increase in the total contribution of the System of \$6,625,499. This increase is the net result of the proposed decrease in withdrawals prior to five years of service, increase in the Accidental Disability and Service Retirement rates, coupled with the proposed longer life expectancy rates for the retirees and deaths while in active service. The following chart presents a summary of the liabilities and contributions under the current and proposed assumptions as of July 1, 2008:

	Current	Proposed
Actuarial Accrued Liability	\$ 2,609,164,869	\$ 2,684,154,316
Additional Accrued Liability		\$ 74,989,447
Unfunded Accrued Liability/(Surplus)	\$ 473,158,360	\$ 548,147,807
<u>Required Contribution:</u>		
• Normal Cost	\$ 53,727,942	\$ 55,795,818
• Accrued Liability	<u>28,757,070</u>	<u>33,314,693</u>
• Total Contribution	\$ 82,485,012	\$ 89,110,511
Additional Annual Contribution		\$ 6,625,499

The calculations were based on the same data and actuarial methods, including an 8.25% interest rate, as were used in the July 1, 2008 valuation.

VI. COMPLETE SET OF PROPOSED ASSUMPTIONS

TABLE 1
ACTIVE WITHDRAWAL TABLES

AGE	RATES OF WITHDRAWAL	
	Less than 5 Years of Service	5 to 19 Years of Service
20	0.00000	0.00000
21	0.00000	0.00000
22	0.00000	0.00000
23	0.00500	0.00000
24	0.00500	0.00000
25	0.00500	0.00000
26	0.00500	0.00000
27	0.00500	0.00000
28	0.00500	0.00400
29	0.00500	0.00400
30	0.00500	0.00400
31	0.00500	0.00400
32	0.00500	0.00400
33	0.00825	0.00100
34	0.00825	0.00100
35	0.00825	0.00100
36	0.00825	0.00100
37	0.00825	0.00100
38	0.00000	0.00150
39	0.00000	0.00150
40	0.00000	0.00150
41	0.00000	0.00150
42	0.00000	0.00150
43	0.00000	0.00200
44	0.00000	0.00200
45	0.00000	0.00200
46	0.00000	0.00200
47	0.00000	0.00200
48	0.00000	0.00000
49	0.00000	0.00000
50	0.00000	0.00000
51	0.00000	0.00000
52	0.00000	0.00000
53	0.00000	0.00000
54	0.00000	0.00000

TABLE 2
ACTIVE DEATH TABLES

AGE	RATES OF DEATH		
	Ordinary		Accidental
	Male	Female	
20	0.00030	0.00019	0.00020
21	0.00032	0.00019	0.00020
22	0.00033	0.00019	0.00020
23	0.00034	0.00020	0.00020
24	0.00036	0.00020	0.00030
25	0.00037	0.00021	0.00040
26	0.00037	0.00021	0.00040
27	0.00038	0.00022	0.00040
28	0.00038	0.00024	0.00040
29	0.00038	0.00025	0.00050
30	0.00038	0.00026	0.00050
31	0.00039	0.00031	0.00050
32	0.00041	0.00035	0.00050
33	0.00044	0.00039	0.00050
34	0.00050	0.00043	0.00050
35	0.00056	0.00047	0.00050
36	0.00063	0.00051	0.00050
37	0.00070	0.00055	0.00050
38	0.00077	0.00060	0.00050
39	0.00084	0.00065	0.00050
40	0.00090	0.00071	0.00050
41	0.00096	0.00077	0.00050
42	0.00102	0.00085	0.00050
43	0.00108	0.00094	0.00060
44	0.00114	0.00103	0.00060
45	0.00121	0.00112	0.00060
46	0.00130	0.00122	0.00070
47	0.00140	0.00133	0.00090
48	0.00151	0.00143	0.00090
49	0.00162	0.00155	0.00090
50	0.00173	0.00168	0.00090
51	0.00186	0.00181	0.00090
52	0.00200	0.00197	0.00070
53	0.00214	0.00213	0.00050
54	0.00245	0.00232	0.00030

ACTIVE DISABILITY TABLES

AGE	RATES OF DISABILITY	
	Ordinary	Accidental
20	0.00039	0.00015
21	0.00039	0.00015
22	0.00050	0.00020
23	0.00050	0.00020
24	0.00050	0.00020
25	0.00059	0.00025
26	0.00059	0.00025
27	0.00069	0.00025
28	0.00069	0.00045
29	0.00078	0.00045
30	0.00087	0.00053
31	0.00087	0.00053
32	0.00098	0.00060
33	0.00146	0.00188
34	0.00194	0.00191
35	0.00242	0.00194
36	0.00243	0.00196
37	0.00244	0.00199
38	0.00245	0.00202
39	0.00245	0.00205
40	0.00245	0.00208
41	0.00245	0.00209
42	0.00245	0.00210
43	0.00245	0.00211
44	0.00273	0.00212
45	0.00312	0.00214
46	0.00360	0.00215
47	0.00401	0.00216
48	0.00449	0.00217
49	0.00488	0.00218
50	0.00536	0.00220
51	0.00585	0.00240
52	0.00633	0.00260
53	0.00672	0.00275
54	0.00722	0.00295

TABLE 4

ACTIVE SERVICE RETIREMENT TABLES

AGE	RATES OF SERVICE RETIREMENTS				
	20 Years of Service	21 Years of Service	22 - 24 Years of Service	25 Years of Service	Greater Than 25 Years of Service
40	0.02000	0.00500	0.00000	0.40000	0.05000
41	0.02000	0.00500	0.00000	0.40000	0.05000
42	0.02000	0.00500	0.00000	0.40000	0.05000
43	0.02000	0.00500	0.00000	0.40000	0.25000
44	0.02000	0.00500	0.00000	0.40000	0.25000
45	0.02000	0.00500	0.00000	0.40000	0.25000
46	0.02000	0.00500	0.00000	0.40000	0.25000
47	0.02000	0.00500	0.00000	0.40000	0.25000
48	0.02000	0.00500	0.00000	0.40000	0.30000
49	0.02000	0.00500	0.00000	0.40000	0.30000
50	0.02000	0.00500	0.00000	0.40000	0.30000
51	0.02000	0.00500	0.00000	0.40000	0.30000
52	0.02000	0.00500	0.00000	0.40000	0.30000
53	0.02000	0.00500	0.00000	0.40000	0.30000
54	0.02000	0.00500	0.00000	0.40000	0.55000

TABLE 5

SALARY INCREASES

AGE	Increase
21	0.0545
22	0.0545
23	0.0545
24	0.0545
25	0.0545
26	0.0545
27	0.0545
28	0.0545
29	0.0545
30	0.0545
31	0.0545
32	0.0545
33	0.0545
34	0.0545
35	0.0545
36	0.0545
37	0.0545
38	0.0545
39	0.0545
40	0.0545
41	0.0545
42	0.0545
43	0.0545
44	0.0545
45	0.0545
46	0.0545
47	0.0545
48	0.0545
49	0.0545
50	0.0545
51	0.0545
52	0.0545
53	0.0545
54	0.0545

TABLE 6

**MORTALITY TABLES FOR SEVICE RETIREMENTS AND
BENEFICIARIES OF DECEASED ACTIVE AND RETIRED MEMBERS**

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

TABLE 7
MORTALITY TABLES FOR DISABILITY RETIREMENT

AGE	RATES OF MORTALITY		AGE	RATES OF MORTALITY	
	MEN	WOMEN		MEN	WOMEN
30	0.00077	0.00047	70	0.03783	0.02811
31	0.00084	0.00051	71	0.04217	0.03097
32	0.00090	0.00055	72	0.04691	0.03411
33	0.00096	0.00060	73	0.05212	0.03759
34	0.00102	0.00065	74	0.05793	0.04151
35	0.00108	0.00071	75	0.06437	0.04588
36	0.00114	0.00077	76	0.07204	0.05078
37	0.00121	0.00085	77	0.08049	0.05629
38	0.00130	0.00094	78	0.08972	0.06251
39	0.00140	0.00103	79	0.09978	0.06952
40	0.00151	0.00112	80	0.11076	0.07745
41	0.00162	0.00122	81	0.12280	0.08638
42	0.00173	0.00133	82	0.13604	0.09634
43	0.00186	0.00143	83	0.15059	0.10730
44	0.00200	0.00155	84	0.16642	0.11915
45	0.00214	0.00168	85	0.18341	0.13168
46	0.00245	0.00185	86	0.19977	0.14460
47	0.00267	0.00202	87	0.21661	0.15762
48	0.00292	0.00221	88	0.23366	0.17043
49	0.00320	0.00242	89	0.25069	0.18280
50	0.00362	0.00272	90	0.26749	0.19451
51	0.00420	0.00309	91	0.28391	0.20538
52	0.00469	0.00348	92	0.29985	0.21524
53	0.00527	0.00392	93	0.31530	0.22395
54	0.00595	0.00444	94	0.33021	0.23139
55	0.00675	0.00506	95	0.34456	0.23747
56	0.00768	0.00581	96	0.35863	0.24483
57	0.00876	0.00666	97	0.37169	0.25450
58	0.01001	0.00765	98	0.38304	0.26604
59	0.01128	0.00862	99	0.39200	0.27905
60	0.01274	0.00971	100	0.39789	0.29312
61	0.01441	0.01095	101	0.40000	0.30781
62	0.01608	0.01216	102	0.40000	0.32272
63	0.01787	0.01345	103	0.40000	0.33744
64	0.01980	0.01486	104	0.40000	0.35154
65	0.02221	0.01674	105	0.40000	0.36462
66	0.02457	0.01858	106	0.40000	0.37625
67	0.02728	0.02066	107	0.40000	0.38601
68	0.01274	0.02297	108	0.40000	0.39351
69	0.01441	0.02546	109	0.40000	0.39831