

**THE STATE POLICE RETIREMENT SYSTEM
OF NEW JERSEY
REPORT ON AN INVESTIGATION OF EXPERIENCE
PREPARED AS OF JUNE 30, 2011**

August 3, 2012

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, 2008 to June 30, 2011 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, such as the interest rate assumption.

Buck performed the experience review based on data supplied by the State of New Jersey Division of Pensions and Benefits. Buck Consultants did not audit the data, although it was reviewed for reasonableness and consistency with prior data. The results of this review are dependent on the accuracy of the data.

The recommended assumptions contained in this report are to be used to value the pension benefits for members in the State Police Retirement System. Use of these assumptions for any other purpose may not be appropriate. No one may make any representations or guarantees based on any statements or conclusions contained in this report without the written consent of Buck Consultants.

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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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 Actuary	16
IV	Summary of Proposed New Assumptions	22
V	Cost Impact of the Proposed Assumptions	45
VI	Complete Set of Proposed Assumptions	46

**REPORT ON AN INVESTIGATION OF THE EXPERIENCE OF THE
STATE POLICE RETIREMENT SYSTEM OF NEW JERSEY
PREPARED AS OF JUNE 30, 2011**

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 result in contributions either too large or too small to fund the actual accruing liabilities.

This report was prepared in accordance with Actuarial Standards of Practice No. 35 (ASOP 35). ASOP 35 provides guidance to actuaries in selecting demographic and other noneconomic assumptions (including, but not limited to retirement, mortality and mortality improvement, termination of employment and disability) for measuring obligations under defined benefit plans.

This report summarizes the Retirement System's experience for the period from July 1, 2008 to June 30, 2011. Experience for active male and female members were examined in total. Mortality experience among beneficiaries was 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, 2014 and proposed changes, if warranted, will be recommended at that time.

Also, 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, 2008 to June 30, 2011. 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	0	0	0.00	0.0000
	25	524	1	2.89	0.3460
	30	793	8	4.35	1.8391
	35	249	4	2.34	1.7094
	40	31	3	0.00	0.0000
	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	1,597	16	9.58	1.6701

Recommendation: No change.

Type	Central Age of Group	Exposures	Actual Withdrawals	Expected Withdrawals	Ratio of Actual to Expected
Five to Nineteen Years of Service	20	0	0	0.00	0.0000
	25	35	1	0.00	0.0000
	30	946	0	3.79	0.0000
	35	1,295	0	1.29	0.0000
	40	1,359	4	2.08	1.9231
	45	507	0	1.01	0.0000
	50	53	0	0.00	0.0000
	53	1	0	0.00	0.0000
	54	0	0	0.00	0.0000
	Total	4,196	5	8.17	0.6120

Recommendation: No change.

TABLE 2**COMPARISON OF ACTUAL AND EXPECTED SEPARATIONS
FROM ACTIVE SERVICE****DEATHS – ORDINARY CAUSE**

Sex	Central Age of Group	Exposures	Actual Deaths	Expected Deaths	Ratio of Actual to Expected
Male	20	0	0	0.00	0.0000
	25	531	0	0.20	0.0000
	30	1,670	0	0.65	0.0000
	35	1,456	1	0.82	1.2195
	40	1,502	1	1.35	0.7407
	45	2,223	0	2.73	0.0000
	50	1,055	1	1.78	0.5618
	53	100	0	0.21	0.0000
	54	70	0	0.17	0.0000
	Total	8,607	3	7.91	0.3793

Recommendation: No change to the base mortality table (RP-2000 Combined Healthy Mortality Table for Males with ages set back 3 years). However, provide for future improvements in mortality using a generational approach based on projection scale AA.

Sex	Central Age of Group	Exposures	Actual Deaths	Expected Deaths	Ratio of Actual to Expected
Female	20	0	0	0.00	0.0000
	25	28	0	0.01	0.0000
	30	69	0	0.02	0.0000
	35	88	0	0.04	0.0000
	40	65	0	0.04	0.0000
	45	72	0	0.08	0.0000
	50	23	0	0.04	0.0000
	53	2	0	0.00	0.0000
	54	1	0	0.00	0.0000
	Total	348	0	0.23	0.0000

Recommendation: No change to the base mortality table (RP-2000 Combined Healthy Mortality Table for Females). However, provide for future improvements in mortality using a generational approach based on projection scale AA.

TABLE 2

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

DEATHS – ACCIDENTAL CAUSE

Sex	Central Age of Group	Exposures	Actual Deaths	Expected Deaths	Ratio of Actual to Expected
Males and Females Combined	20	0	0	0.00	0.0000
	25	559	0	0.22	0.0000
	30	1,739	1	0.84	1.1905
	35	1,544	0	0.77	0.0000
	40	1,567	0	0.78	0.0000
	45	2,295	0	1.55	0.0000
	50	1,078	0	0.94	0.0000
	53	102	0	0.05	0.0000
	54	71	0	0.02	0.0000
	Total	8,955	1	5.17	0.1934

Recommendation: No change.

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	120	0	0.08	0.0000
	30	1,263	1	1.09	0.9174
	35	1,399	1	2.97	0.3367
	40	1,561	4	3.83	1.0444
	45	2,205	3	6.98	0.4298
	50	705	5	3.59	1.3928
	53	51	0	0.34	0.0000
	54	31	1	0.22	4.5455
	Total	7,335	15	19.10	0.7853

Recommendation: No change.

Type	Central Age of Group	Exposures	Actual Disability	Expected Disability	Ratio of Actual to Expected
Due to Accidental Causes	20	0	0	0.00	0.0000
	25	559	2	0.14	14.2857
	30	1,739	2	0.90	2.2222
	35	1,544	3	2.99	1.0033
	40	1,567	3	3.24	0.9259
	45	2,295	6	4.90	1.2245
	50	1,078	3	2.44	1.2295
	53	102	0	0.28	0.0000
	54	71	0	0.21	0.0000
	Total	8,955	19	15.10	1.2583

Recommendation: No change.

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	70	2	1.40	1.4286
	45	180	0	3.60	0.0000
	50	33	0	0.66	0.0000
	53	1	0	0.02	0.0000
	54	1	0	0.02	0.0000
	Total	285	2	5.70	0.3509

Recommendation: No change.

Type	Central Age of Group	Exposures	Actual Retirements	Expected Retirements	Ratio of Actual to Expected
Twenty-One Years of Service	40	73	0	0.36	0.0000
	45	376	0	1.88	0.0000
	50	85	1	0.42	2.3810
	53	7	0	0.03	0.0000
	54	3	0	0.01	0.0000
	Total	544	1	2.70	0.3704

Recommendation: No change.

Type	Central Age of Group	Exposures	Actual Retirements	Expected Retirements	Ratio of Actual to Expected
Twenty-Two to Twenty-Four Years of Service	40	35	0	0.00	0.0000
	45	1,092	0	0.00	0.0000
	50	475	0	0.00	0.0000
	53	36	0	0.00	0.0000
	54	22	0	0.00	0.0000
	Total	1,660	0	0.00	0.0000

Recommendation: No change.

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-Five Years of Service	40	0	0	0.00	0.0000
	45	90	50	36.00	1.3889
	50	132	59	52.80	1.1174
	53	9	6	3.60	1.6667
	54	6	5	2.40	2.0833
	Total		237	120	94.80

Recommendation: Increase the rates for all ages.

Type	Central Age of Group	Exposures	Actual Retirements	Expected Retirements	Ratio of Actual to Expected
Over Twenty-Five Years of Service	40	0	0	0.00	0.0000
	45	50	15	12.50	1.2000
	50	300	98	90.00	1.0889
	53	48	16	14.40	1.1111
	54	39	21	21.45	0.9790
	Total		437	150	138.35

Recommendation: No change.

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	\$ 10,042,037	\$ 10,439,867	\$ 10,589,328	0.986
30	103,751,461	107,731,170	109,405,916	0.985
35	134,444,231	139,957,025	141,771,442	0.987
40	143,809,354	146,898,403	151,646,964	0.969
45	204,414,714	207,198,141	215,555,316	0.961
50	167,723,107	169,970,164	176,864,016	0.961
Greater than 52	27,151,602	27,465,276	28,631,364	0.959
Total	\$ 791,336,506	\$ 809,660,046	\$ 834,464,346	0.970

Recommendation: Decrease the assumed future salary increases from 5.45% per annum to 3.45% per annum for fiscal year ending 2012 through fiscal year ending 2016 and 4.70% per annum for fiscal years ending 2017 and thereafter.

(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	92	1	0.1181	8.4674
	50	542	1	0.9795	1.0209
	55	906	2	2.4355	0.8212
	60	1,040	5	5.0438	0.9913
	65	1,245	8	11.0882	0.7215
	70	817	9	12.6873	0.7094
	75	362	4	9.9880	0.4005
	80	459	19	21.5756	0.8806
	85	217	23	16.8132	1.3680
	90	50	11	6.3666	1.7278
	Greater than 92	6	2	1.1500	1.7391
	Total		5,736	85	88.2458

Recommendation: No change to the base mortality table (RP-2000 Combined Healthy Mortality Table for Males with ages set back 3 years). However, provide for future improvements in mortality using a generational approach based on projection scale AA.

Sex	Central Age of Group	Exposures	Actual Deaths	Expected Deaths	Ratio of Actual to Expected
Female	Less than 48	4	0	0.0050	0.0000
	50	38	0	0.0662	0.0000
	55	22	0	0.0554	0.0000
	60	5	0	0.0278	0.0000
	65	1	0	0.0076	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		70	0	0.1620

Recommendation: No change to the base mortality table (RP-2000 Combined Healthy Mortality Table for Females). However, provide for future improvements in mortality using a generational approach based on projection scale AA.

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	0.0007	0.0000
	50	3	0	0.0056	0.0000
	55	0	0	0.0000	0.0000
	60	2	0	0.0112	0.0000
	65	3	0	0.0280	0.0000
	70	1	0	0.0127	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		12	0	0.0582

Recommendation: No change to the base mortality table (RP-2000 Combined Healthy Mortality Table for Males with ages set back 3 years). However, provide for future improvements in mortality using a generational approach based on projection scale AA.

Sex	Central Age of Group	Exposures	Actual Deaths	Expected Deaths	Ratio of Actual to Expected
Female	Less than 48	35	0	0.0292	0.0000
	50	27	0	0.0475	0.0000
	55	28	0	0.0814	0.0000
	60	73	0	0.3986	0.0000
	65	135	1	1.3529	0.7392
	70	130	3	2.1643	1.3861
	75	145	3	4.2997	0.6977
	80	244	8	11.2150	0.7133
	85	136	9	10.2796	0.8755
	90	82	12	10.5500	1.1374
	Greater than 92	23	4	4.2785	0.9349
	Total		1,058	40	44.6967

Recommendation: No change to the base mortality table (RP-2000 Combined Healthy Mortality Table for Females). However, provide for future improvements in mortality using a generational approach based on projection scale AA.

TABLE 8

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

Sex	Central Age of Group	Exposures	Actual Deaths	Expected Deaths	Ratio of Actual to Expected
Male	Less than 48	273	1	0.5189	1.9272
	50	99	2	0.3546	5.6402
	55	62	0	0.4230	0.0000
	60	39	0	0.4889	0.0000
	65	60	1	1.3640	0.7331
	70	64	2	2.3344	0.8568
	75	3	0	0.1847	0.0000
	80	6	2	0.6951	2.8773
	85	10	1	1.6518	0.6054
	90	0	0	0.0000	0.0000
	Greater than 92	0	0	0.0000	0.0000
	Total		616	9	8.0154

Recommendation: No change.

Sex	Central Age of Group	Exposures	Actual Deaths	Expected Deaths	Ratio of Actual to Expected
Female	Less than 48	30	0	0.0479	0.0000
	50	26	0	0.0716	0.0000
	55	3	0	0.0118	0.0000
	60	5	0	0.0491	0.0000
	65	1	0	0.0134	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		65	0	0.1938

Recommendation: No change.

III. COMMENTS AND GENERAL RECOMMENDATION OF ACTUARY

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 shows there were more actual withdrawals than expected. This is inconsistent with the trend identified in the three prior studies which resulted in a general decrease in the rates in the last study. We recommend that no changes be made to the rates at this time and this assumption will be closely monitored and analyzed in detail when the next study is completed.

The experience for members with 5 to 19 years of service show that actual terminations were within an acceptable range of that expected and 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 DISABILITY RETIREMENT

Table 3 presents the experience due to ordinary and accidental disabilities. Different benefits are payable upon disability due to ordinary and accidental causes. Therefore, experience with respect to these two causes were investigated separately.

The experience of ordinary disability indicates that actual disabilities were within an acceptable range of that expected during the measurement period and 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.

The data for accidental disabilities indicates that actual accidental disability retirements were within an acceptable range of that expected and 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 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 2 actual retirements compared to approximately 6 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 3 expected retirements. This is within an acceptable range and we recommend no changes to the assumption.

No retirements were assumed for members with 22 to 24 years of service and there were no actual retirements during the measurement period. We recommend no changes in the rates since the results of the study support 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 127% of those expected. This continues a trend observed in the prior study. Due to the continued higher than expected retirement incidence, we recommend a further increase in these retirement rates.

For retirements among members with more than 25 years of service, actual retirements were about 108% of those expected, reversing the trend of the prior study. 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.

RATES OF SALARY INCREASE

Table 5 shows that the salary increase assumption of 5.45% per year (prior to the July 1, 2011 actuarial valuation) is higher than the actual salary increase experience during the study period. The overall actual salary experience is 3% less than that expected. The Treasurer, upon recommendation from the Directors of the Division of Pensions and Benefits and the Division of Investments, has recommended, effective with the July 1, 2011 actuarial valuation, assumed future salary increases of 3.45% per annum for fiscal year ending 2012 through fiscal year ending 2016 and 4.70% per annum for fiscal years ending 2017 and thereafter. The Board approved this salary scale assumption at the June 20, 2012 Board meeting. We believe this is a reasonable assumption given the experience of the System.

MORTALITY IMPROVEMENT

As noted in prior experience studies, we have seen continued and steady improvement in mortality rates over time. This trend is expected to continue into the future. In fact, ASOP 35 states that the actuary should “include an assumption as to expected mortality improvement after the measurement date.” Accordingly, we recommend the use of a generational approach toward future mortality improvements for “ordinary” deaths among active members and deaths among all inactive members.

The projection of mortality improvements on a generational basis results in a separate table for each year of birth. The rates of mortality decrease as the year of birth increases. For example, a participant born in 1960 will have a higher rate of mortality at each age than a participant born in 1965. The mortality table for birth year 1965 will have five more years of mortality improvement than the table for birth year 1960.

To create this dynamic mortality table, we will select a base mortality table that represents the current experience of the plan. Each year after the measurement date, this base table will be projected with an additional year of improvement. The resulting generational mortality table will better reflect expected future

mortality improvements compared to a static table and should decrease the losses experienced by the plan over time.

We recommend the use of projection scale AA in the projection of the mortality tables.

The following table demonstrates the impact of the generational mortality improvement. It compares the expected age at death for members of various ages before and after incorporating the recommended mortality projections. The base table is the current mortality assumption for male members retired on account of service retirement which is the RP-2000 Combined Healthy Male Mortality Table with ages set back 3 years.

Age at Measurement Date	Expected Age at Death (Males)	
	Zero Future Mortality Improvement	Generational Mortality Improvement
50	83.6	85.7
55	83.9	85.6
60	84.3	85.6
65	85.0	85.9

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 there were 3 actual male deaths during the measurement period compared to 7.91 expected male deaths and no actual female deaths compared to 0.23 expected female deaths. We recommend the continued use of the RP-2000 Combined Healthy Mortality Tables with ages set back 3 years for males and unadjusted for females as the base mortality assumption at the measurement date. The base mortality table will then be projected on a generational basis using projection scale AA.

For accidental death, there was 1 actual death 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 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 96% of that expected for male retirees, which is within an acceptable range. For female retirees, there were no actual deaths during the three-year period, which is also within an acceptable range. Therefore, we recommend using the current mortality tables (RP-2000 Combined Healthy Mortality Tables with ages set back 3 years for males and unadjusted for females) as the base tables at the measurement date with respect to members retired on account of service retirements. This base table will be projected on a generational basis using projection scale AA.

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. Actual deaths among female beneficiaries were within a reasonable range of that expected. Therefore, we recommend using the current mortality tables (RP-2000 Combined Healthy Mortality Tables with ages set back 3 years for males and unadjusted for females) as the base tables at the measurement date. These base tables will be projected on a generational basis using projection scale AA.

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. Therefore, we recommend using the current mortality tables (RP-2000 Combined Healthy Mortality Tables with ages set forward 5 years for both males and females) as the base tables at the measurement date with respect to members retired on account of disability retirements. In addition, we recommend zero future mortality improvement for disabled members.

IV. SUMMARY OF PROPOSED ASSUMPTIONS

As noted earlier, the experience investigation for the period from July 1, 2008 to June 30, 2011 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	No Change
• Five to Nineteen years of service	No Change
Death	
• Ordinary	No Change *
• Accidental	No Change
Disability	
• Ordinary	No Change
• Accidental	No Change
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	Decrease **
Inactive Mortality	
• Male and Female Service Retirements	No Change *
• Male and Female Beneficiaries of Deceased Active and Retired Members	No Change *
• Disability Retirements	No Change

* No change to the base mortality tables (RP-2000 Combined Healthy Mortality Tables for Males and Females with ages set back 3 years for males and unadjusted for females). However, these base tables will be projected on a generational basis using projection scale AA.

** Effective with the July 1, 2011 actuarial valuation.

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: No Change
20	0.00000	0.00000	0.00000
25	0.00500	0.00191	0.00500
30	0.00500	0.01009	0.00500
35	0.00825	0.01606	0.00825
40	0.00000	0.09677	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	0.02857	0.00000
30	0.00400	0.00000	0.00400
35	0.00100	0.00000	0.00100
40	0.00150	0.00294	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 CAUSE****MALE**

Central Age of Group	Current Rates	Actual Rates	Proposed Rates: No Change*
20	0.00031	0.00000	0.00031
25	0.00036	0.00000	0.00036
30	0.00039	0.00000	0.00039
35	0.00057	0.00065	0.00057
40	0.00090	0.00064	0.00090
45	0.00123	0.00000	0.00123
50	0.00174	0.00093	0.00174
53	0.00214	0.00000	0.00214
54	0.00245	0.00000	0.00245

*No change to the base mortality table (RP-2000 Combined Healthy Mortality Table for Males with ages set back 3 years). However, provide for future improvements in mortality using a generational approach based on projection scale AA.

FEMALE

Central Age of Group	Current Rates	Actual Rates	Proposed Rates: No Change*
20	0.00019	0.00000	0.00019
25	0.00021	0.00000	0.00021
30	0.00028	0.00000	0.00028
35	0.00047	0.00000	0.00047
40	0.00072	0.00000	0.00072
45	0.00113	0.00000	0.00113
50	0.00171	0.00000	0.00171
53	0.00221	0.00000	0.00221
54	0.00242	0.00000	0.00242

*No change to the base mortality table (RP-2000 Combined Healthy Mortality Table for Females). However, provide for future improvements in mortality using a generational approach based on projection scale AA.

TABLE 10

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

**DEATHS
(Continued)**

ACCIDENTAL CAUSE

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	0.00058	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	0.00079	0.00084
35	0.00214	0.00071	0.00214
40	0.00245	0.00256	0.00245
45	0.00318	0.00136	0.00318
50	0.00539	0.00709	0.00539
53	0.00672	0.00000	0.00672
54	0.00722	0.03226	0.00722

ACCIDENTAL CAUSES

Central Age of Group	Current Rates	Actual Rates	Proposed Rates: No Change
20	0.00016	0.00000	0.00016
25	0.00023	0.00358	0.00023
30	0.00051	0.00115	0.00051
35	0.00194	0.00194	0.00194
40	0.00207	0.00191	0.00207
45	0.00214	0.00261	0.00214
50	0.00220	0.00278	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	0.02857	0.02000
45	0.02000	0.00000	0.02000
50	0.02000	0.00000	0.02000
53	0.02000	0.00000	0.02000
54	0.02000	0.00000	0.02000

TWENTY-ONE YEARS OF SERVICE

Central Age of Group	Current Rates	Actual Rates	Proposed Rates: No Change
40	0.00500	0.00000	0.00500
45	0.00500	0.00000	0.00500
50	0.00500	0.01176	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	0.00000	0.00000	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

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	0.40000	0.00000	0.45500
45	0.40000	0.55556	0.45500
50	0.40000	0.44697	0.45500
53	0.40000	0.66667	0.45500
54	0.40000	0.83333	0.45500

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	0.03000	0.25000
50	0.30000	0.32667	0.30000
53	0.30000	0.33333	0.30000
54	0.55000	0.53846	0.55000

TABLE 13

**COMPARISON OF ACTUAL AND EXPECTED
SALARY INCREASES**

Central Age of Group	Current Rates	Actual Rates	Proposed Rates	
			Fiscal Year Ending 2012 through Fiscal Year Ending 2016	Fiscal Year Ending 2017 and thereafter
25	5.45%	3.96%	3.45%	4.70%
30	5.45%	3.84%	3.45%	4.70%
35	5.45%	4.10%	3.45%	4.70%
40	5.45%	2.15%	3.45%	4.70%
45	5.45%	1.36%	3.45%	4.70%
50	5.45%	1.34%	3.45%	4.70%
Greater than 52	5.45%	1.16%	3.45%	4.70%

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: No Change*
45	0.00123	0.01087	0.00123
50	0.00174	0.00185	0.00174
55	0.00268	0.00221	0.00268
60	0.00475	0.00481	0.00475
65	0.00890	0.00643	0.00890
70	0.01618	0.01102	0.01618
75	0.02767	0.01105	0.02767
80	0.04739	0.04139	0.04739
85	0.08128	0.10599	0.08128
90	0.13732	0.22000	0.13732
95	0.21683	0.33333	0.21683

* No change to the base mortality table (RP-2000 Combined Healthy Mortality Table for Males with ages set back 3 years). However, provide for future improvements in mortality using a generational approach based on projection scale AA.

FEMALE

Central Age of Group	Current Rates	Actual Rates	Proposed Rates: No Change*
45	0.00113	0.00000	0.00113
50	0.00171	0.00000	0.00171
55	0.00278	0.00000	0.00278
60	0.00518	0.00000	0.00518
65	0.00982	0.00000	0.00982
70	0.01686	0.00000	0.01686
75	0.02832	0.00000	0.02832
80	0.04641	0.00000	0.04641
85	0.07844	0.00000	0.07844
90	0.13207	0.00000	0.13207
95	0.19367	0.00000	0.19367

* No change to the base mortality table (RP-2000 Combined Healthy Mortality Table for Females). However, provide for future improvements in mortality using a generational approach based on projection scale AA.

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: No Change*
45	0.00123	0.00000	0.00123
50	0.00174	0.00000	0.00174
55	0.00268	0.00000	0.00268
60	0.00475	0.00000	0.00475
65	0.00890	0.00000	0.00890
70	0.01618	0.00000	0.01618
75	0.02767	0.00000	0.02767
80	0.04739	0.00000	0.04739
85	0.08128	0.00000	0.08128
90	0.13732	0.00000	0.13732
95	0.21683	0.00000	0.21683

* No change to the base mortality table (RP-2000 Combined Healthy Mortality Table for Males with ages set back 3 years). However, provide for future improvements in mortality using a generational approach based on projection scale AA.

FEMALE

Central Age of Group	Current Rates	Actual Rates	Proposed Rates: No Change*
45	0.00113	0.00000	0.00113
50	0.00171	0.00000	0.00171
55	0.00278	0.00000	0.00278
60	0.00518	0.00000	0.00518
65	0.00982	0.00741	0.00982
70	0.01686	0.02308	0.01686
75	0.02832	0.02069	0.02832
80	0.04641	0.03279	0.04641
85	0.07844	0.06618	0.07844
90	0.13207	0.14634	0.13207
95	0.19367	0.17391	0.19367

* No change to the base mortality table (RP-2000 Combined Healthy Mortality Table for Females). However, provide for future improvements in mortality using a generational approach based on projection scale AA.

TABLE 16

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

MALE

Central Age of Group	Current Rates	Actual Rates	Proposed Rates: No Change
45	0.00222	0.00366	0.00222
50	0.00373	0.02020	0.00373
55	0.00688	0.00000	0.00688
60	0.01290	0.00000	0.01290
65	0.02235	0.01667	0.02235
70	0.03824	0.03125	0.03824
75	0.06539	0.00000	0.06539
80	0.11182	0.33333	0.11182
85	0.18336	0.10000	0.18336
90	0.26712	0.00000	0.26712
95	0.34408	0.00000	0.34408

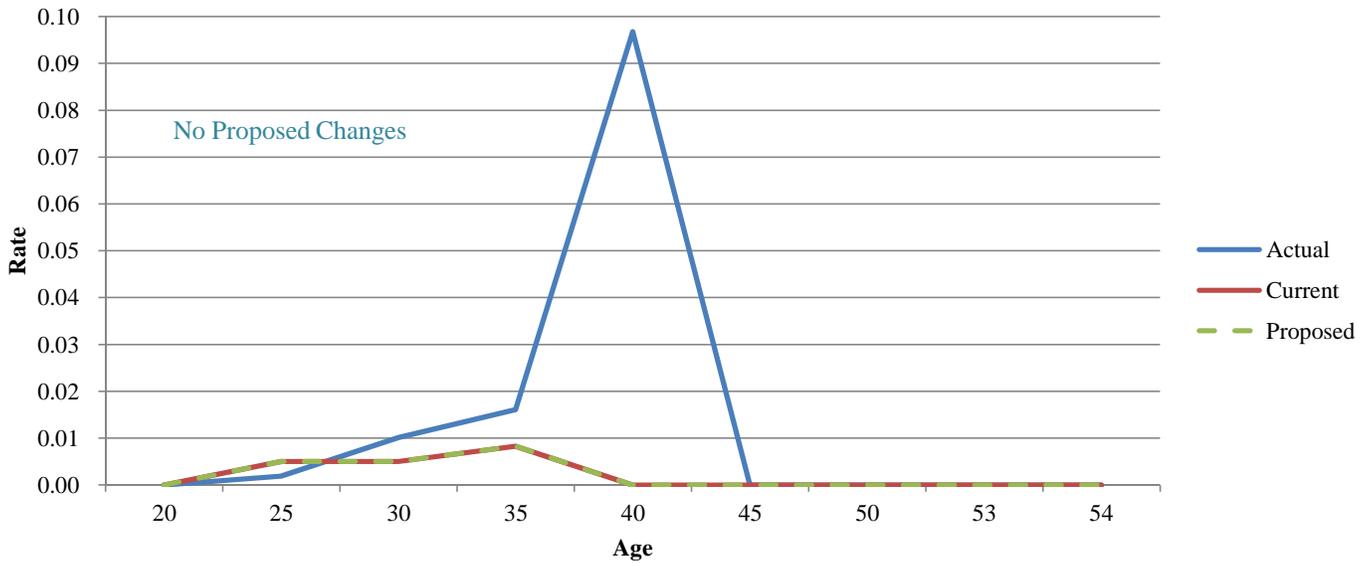
FEMALE

Central Age of Group	Current Rates	Actual Rates	Proposed Rates: No Change
45	0.00171	0.00000	0.00171
50	0.00278	0.00000	0.00278
55	0.00518	0.00000	0.00518
60	0.00982	0.00000	0.00982
65	0.01686	0.00000	0.01686
70	0.02832	0.00000	0.02832
75	0.04641	0.00000	0.04641
80	0.07884	0.00000	0.07884
85	0.13207	0.00000	0.13207
90	0.19367	0.00000	0.19367
95	0.29375	0.00000	0.29375

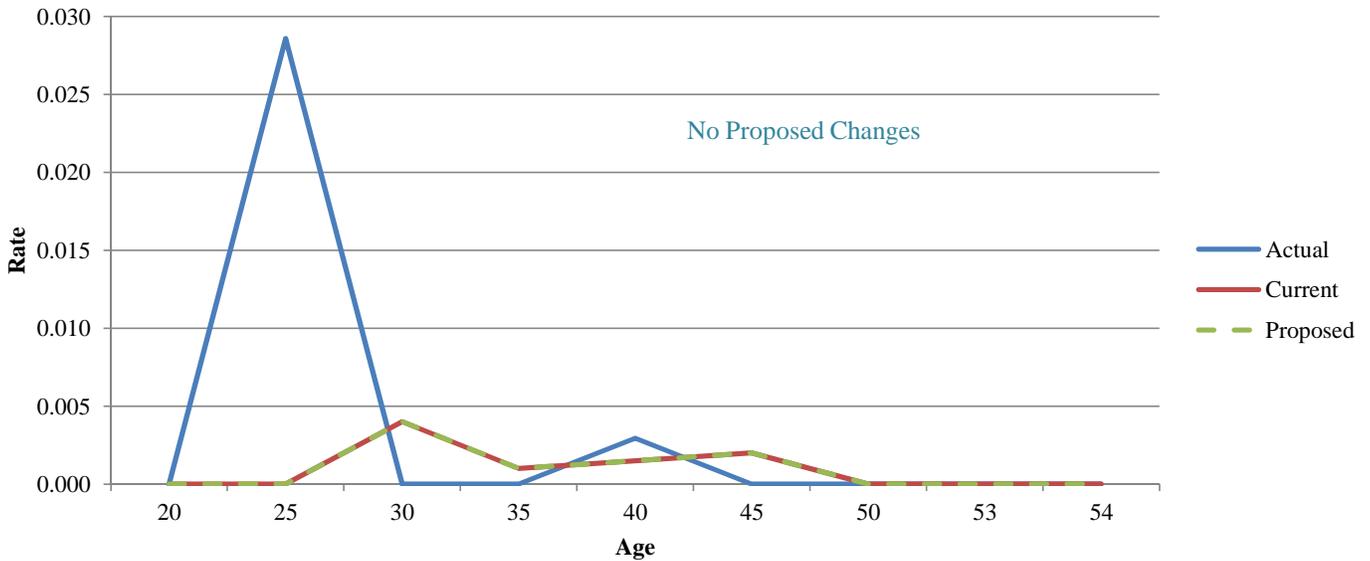
The State Police Retirement System of New Jersey

July 1, 2008 through June 30, 2011

Withdrawals: Less than 5 Years of Service



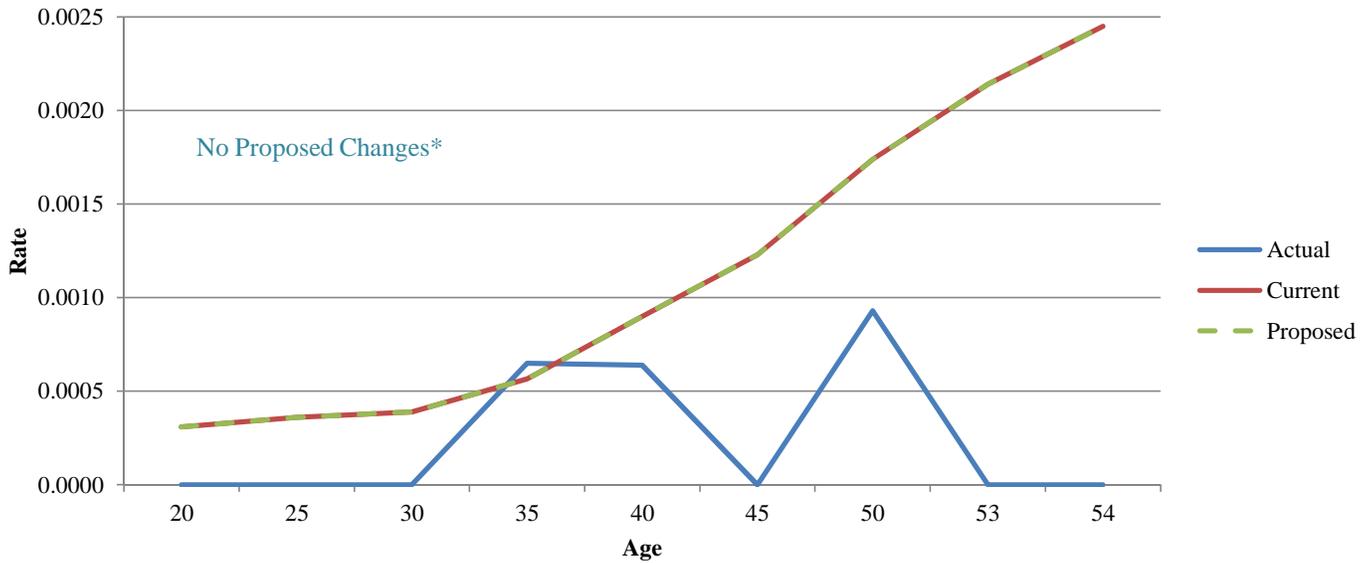
Withdrawals: 5 to 19 Years of Service



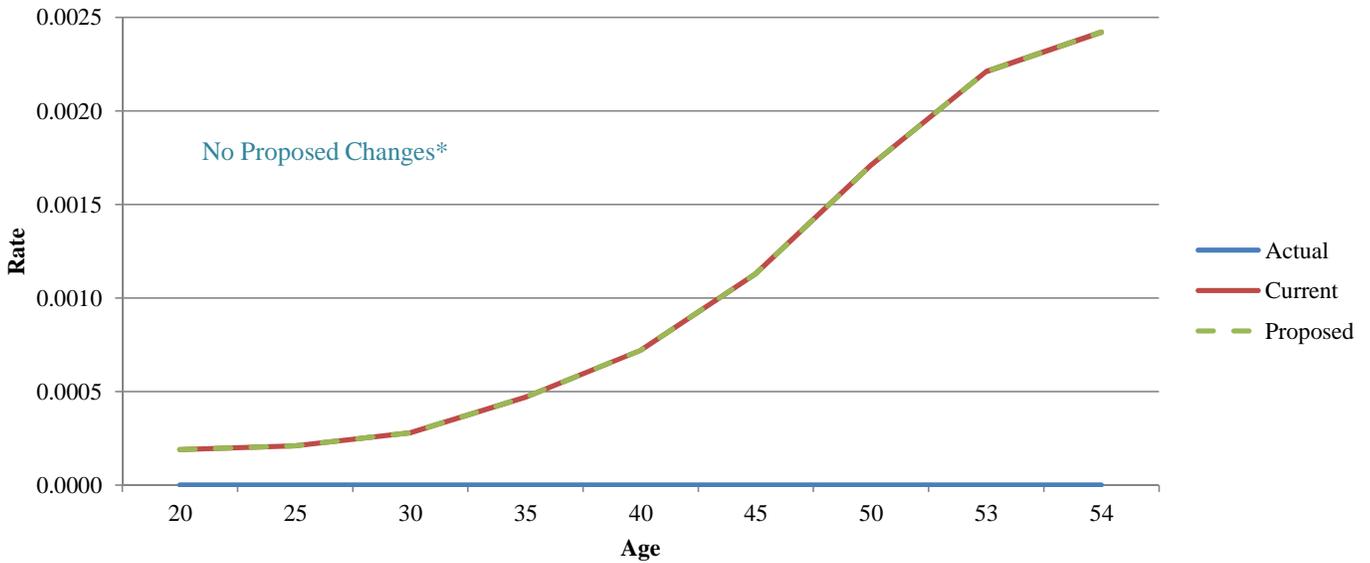
The State Police Retirement System of New Jersey

July 1, 2008 through June 30, 2011

Ordinary Death - Male



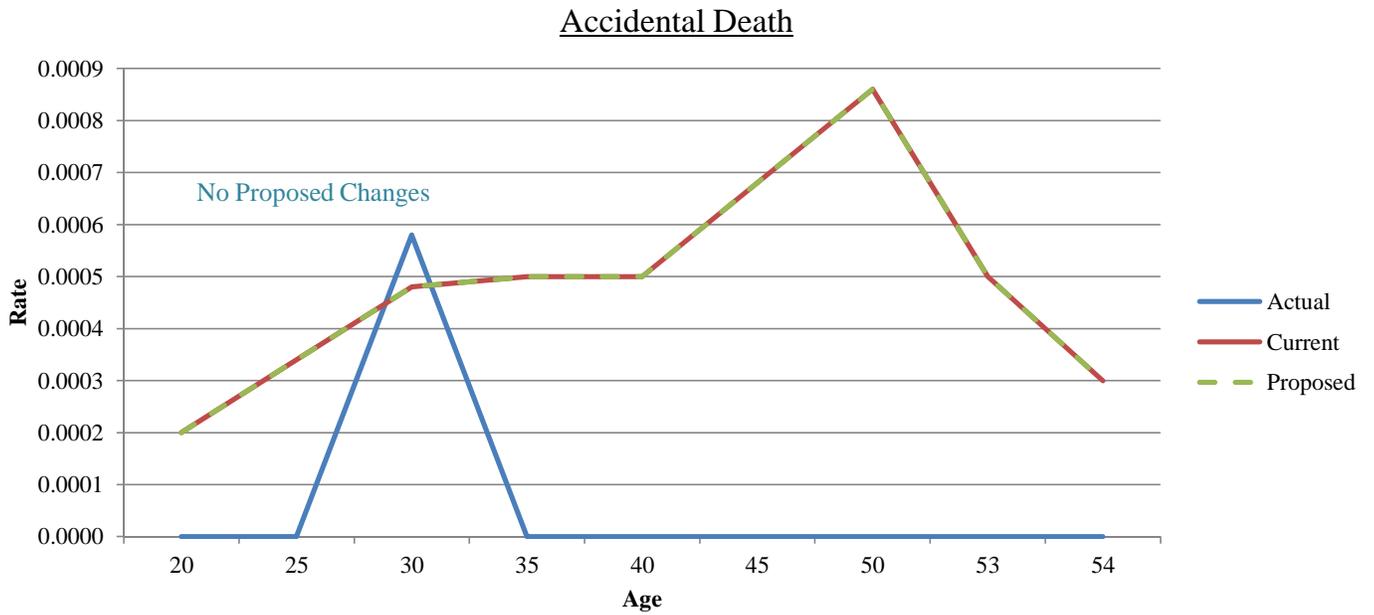
Ordinary Death - Female



* No change to the base mortality table (RP-2000 Combined Healthy Mortality Tables for Males with ages set back 3 years and unadjusted for Females). However, provide for future improvements in mortality using a generational approach based on projection scale AA.

The State Police Retirement System of New Jersey

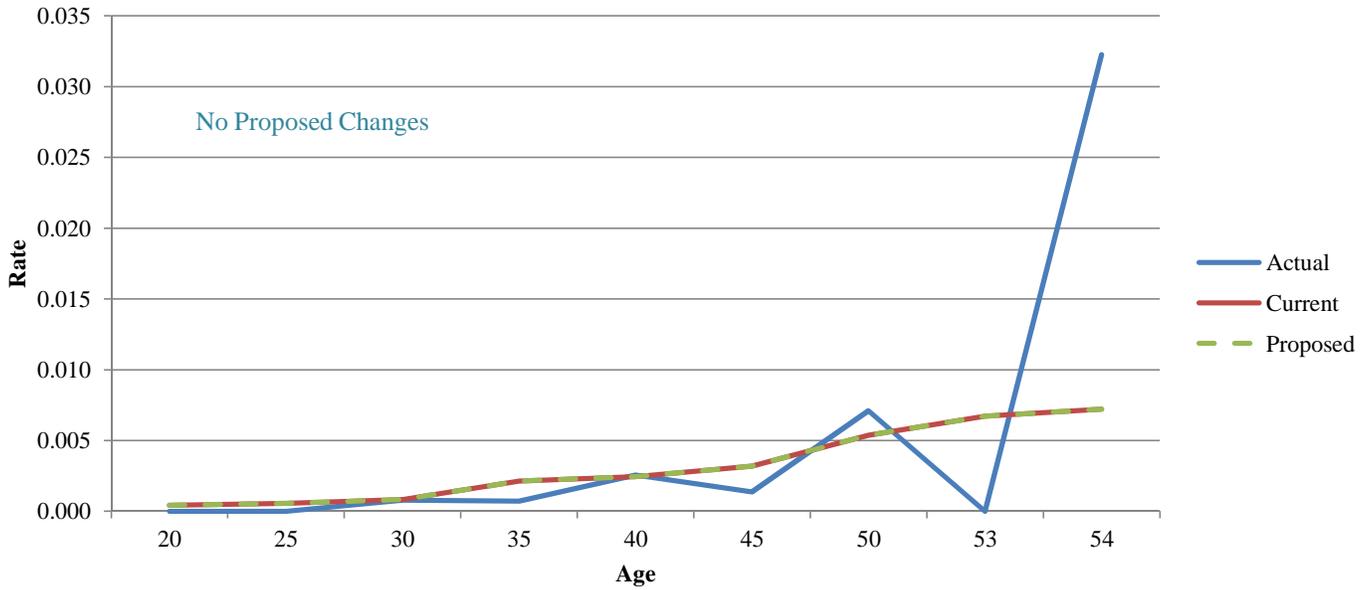
July 1, 2008 through June 30, 2011



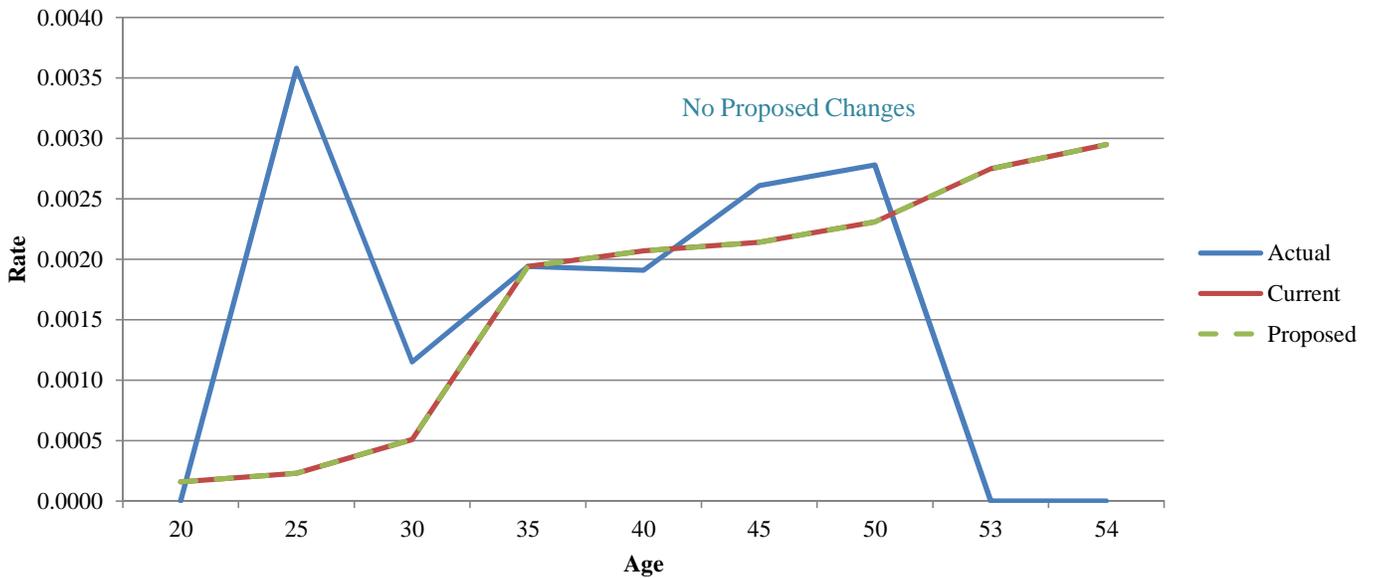
The State Police Retirement System of New Jersey

July 1, 2008 through June 30, 2011

Ordinary Disability



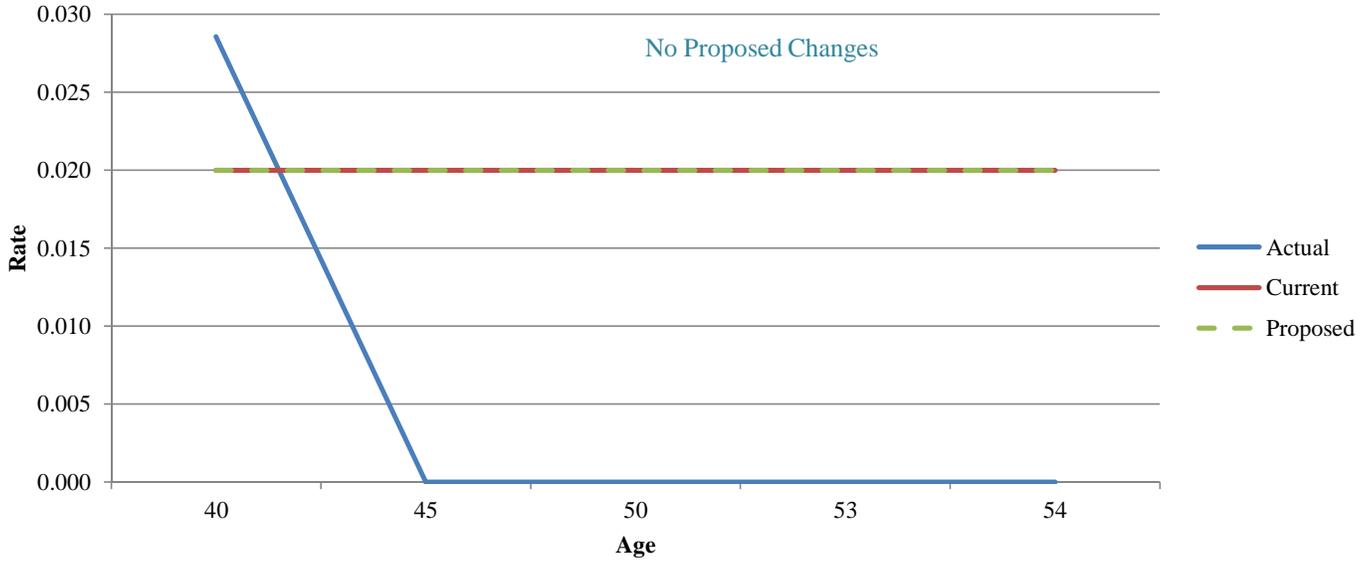
Accidental Disability



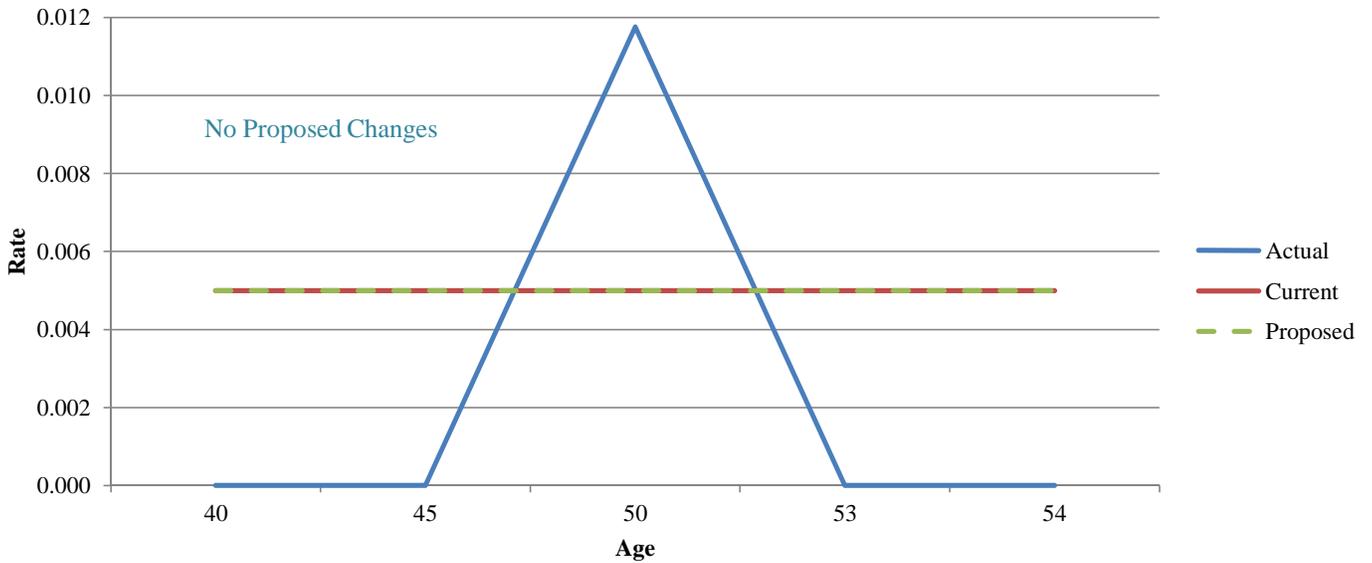
The State Police Retirement System of New Jersey

July 1, 2008 through June 30, 2011

Retirement with 20 Years of Service



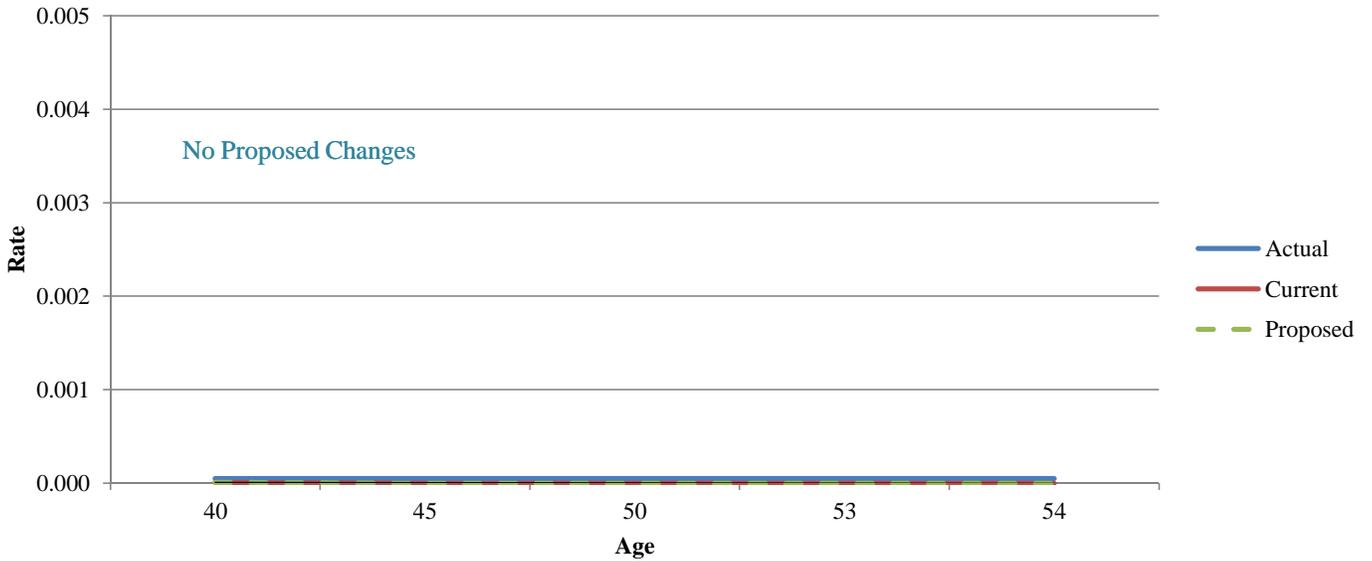
Retirement with 21 Years of Service



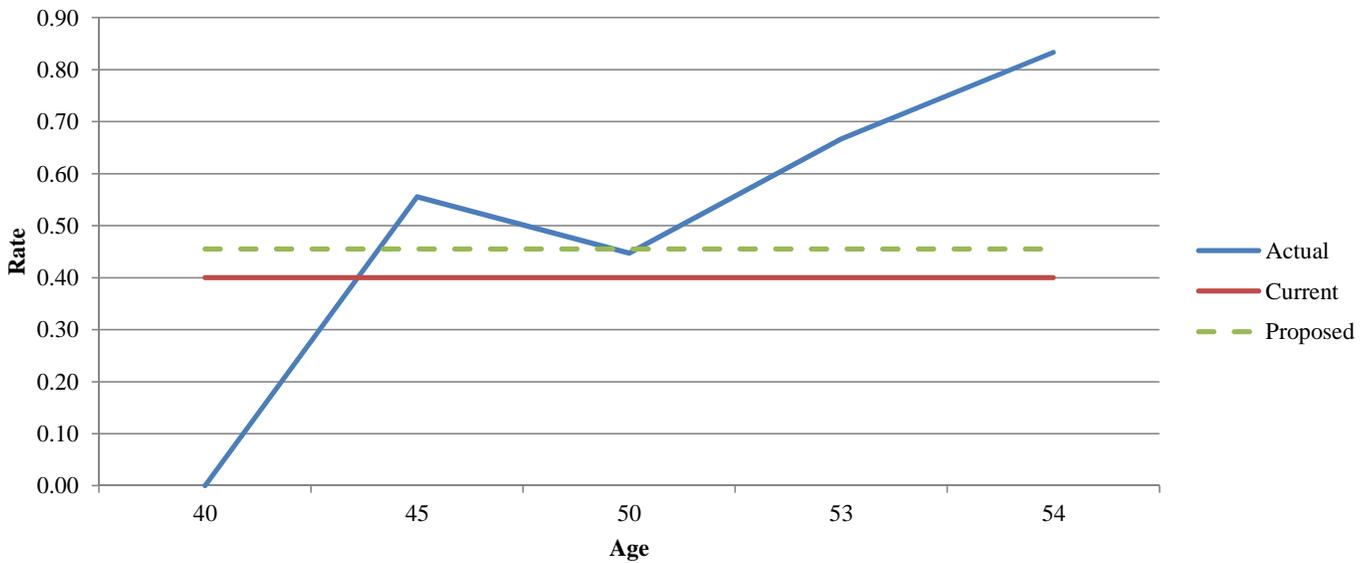
The State Police Retirement System of New Jersey

July 1, 2008 through June 30, 2011

Retirement with 22 to 24 Years of Service



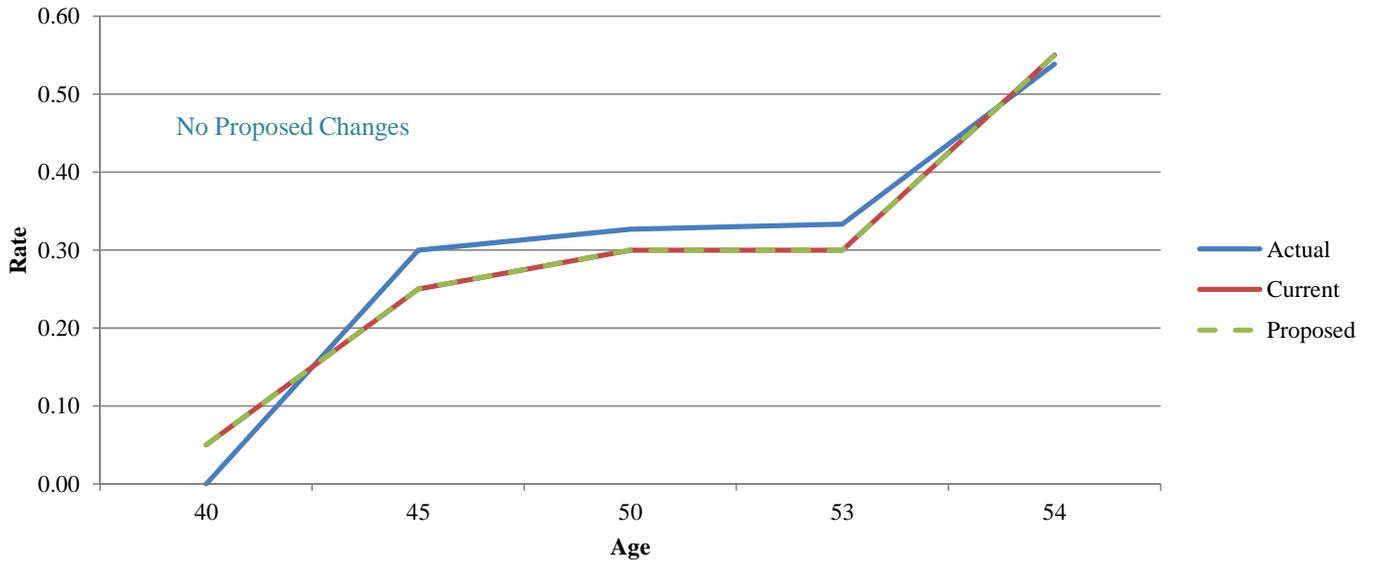
Retirement with 25 Years of Service



The State Police Retirement System of New Jersey

July 1, 2008 through June 30, 2011

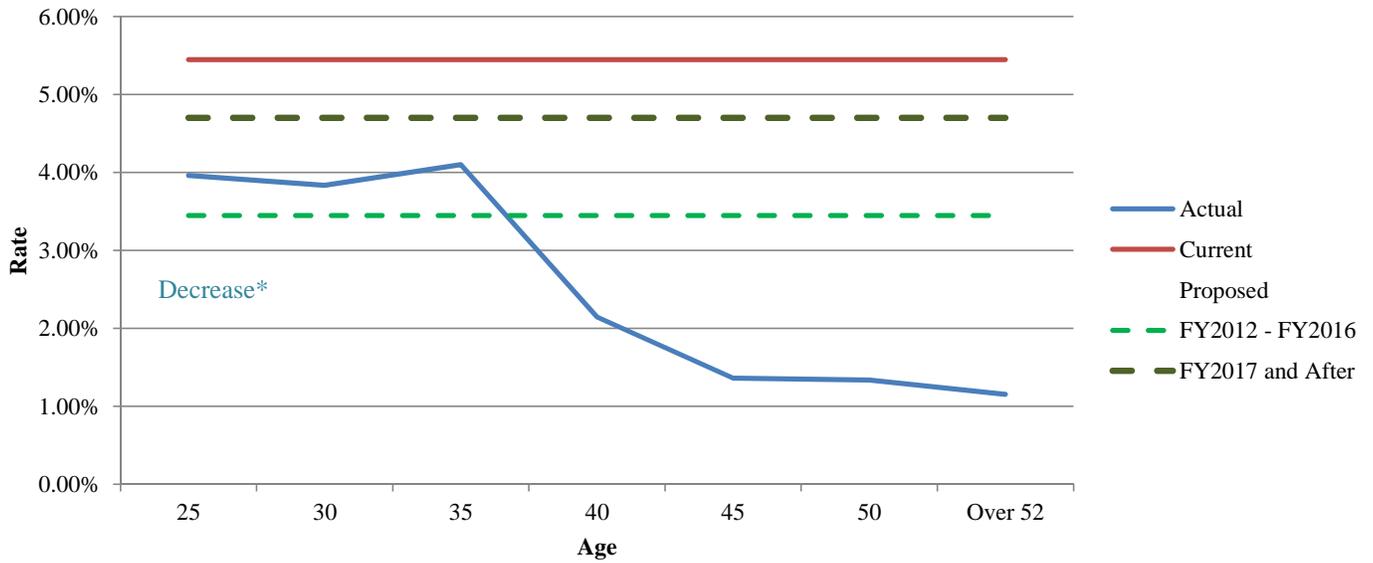
Retirement with Over 25 Years of Service



The State Police Retirement System of New Jersey

July 1, 2008 through June 30, 2011

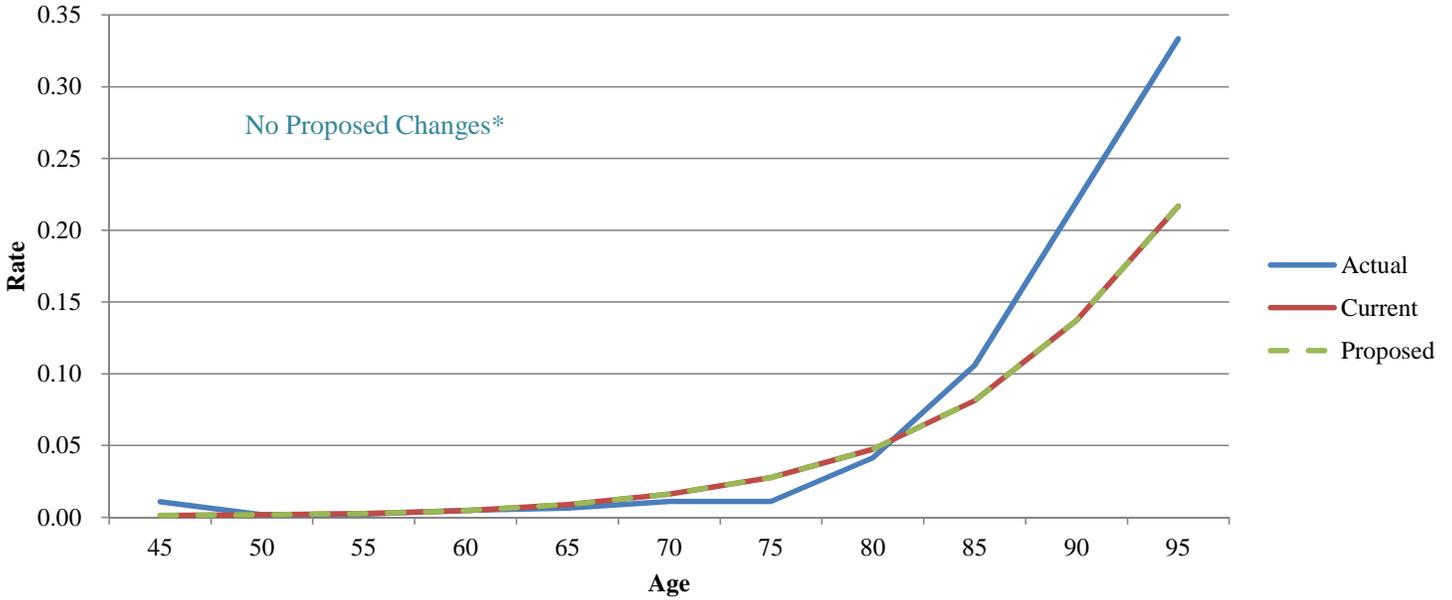
Salary Increase



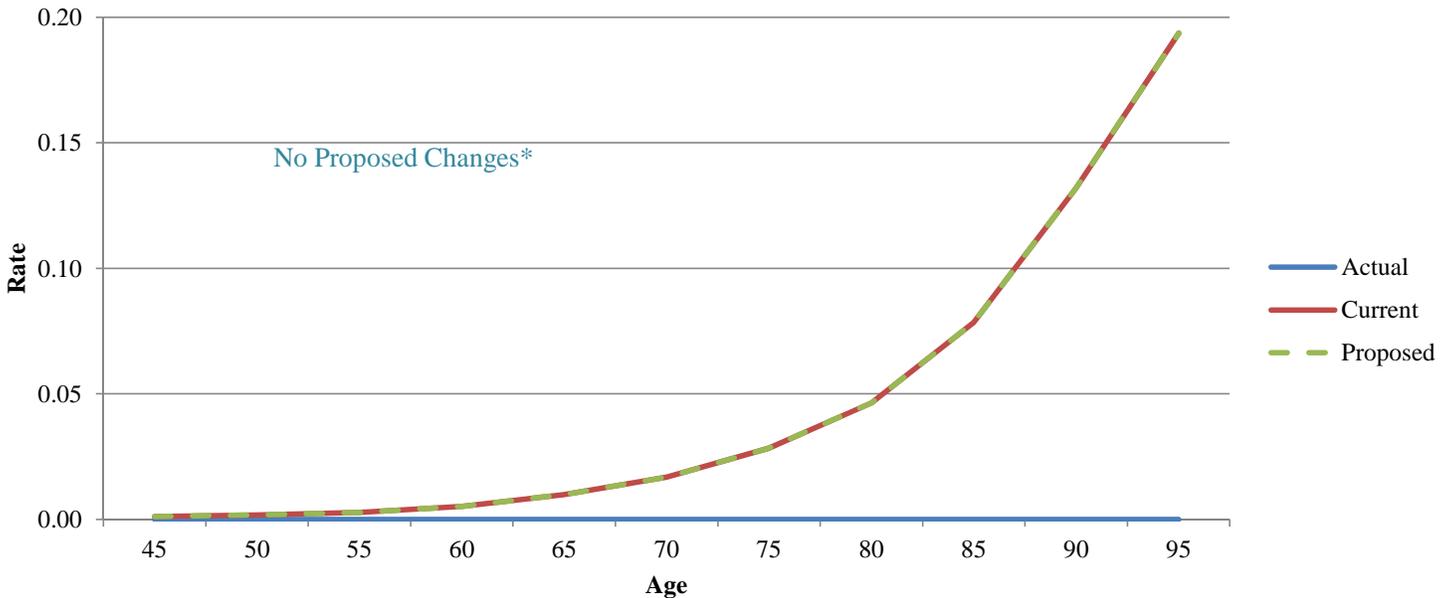
* Effective with the July 1, 2011 actuarial valuation, 3.45% per annum for fiscal year ending 2012 through fiscal year ending 2016 and 4.70% per annum for fiscal years ending 2017 and thereafter.

The State Police Retirement System
of New Jersey
Postretirement Mortality
July 1, 2008 through June 30, 2011

Service Retirement - Male



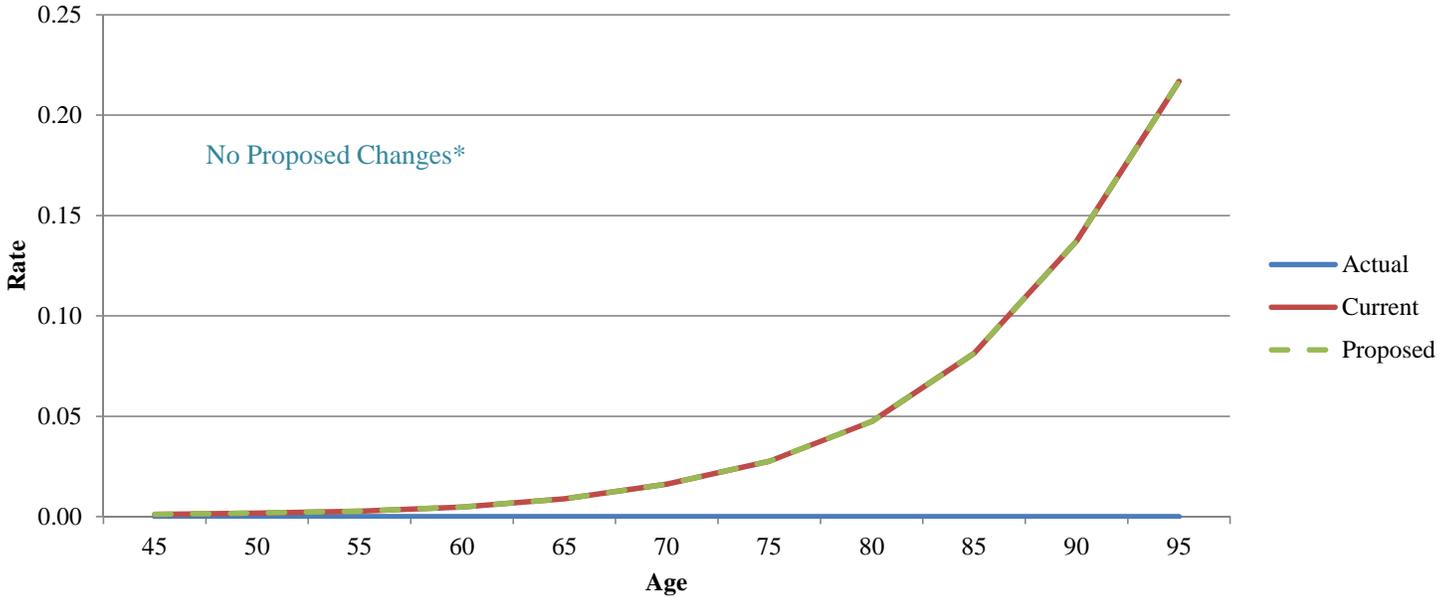
Service Retirement - Female



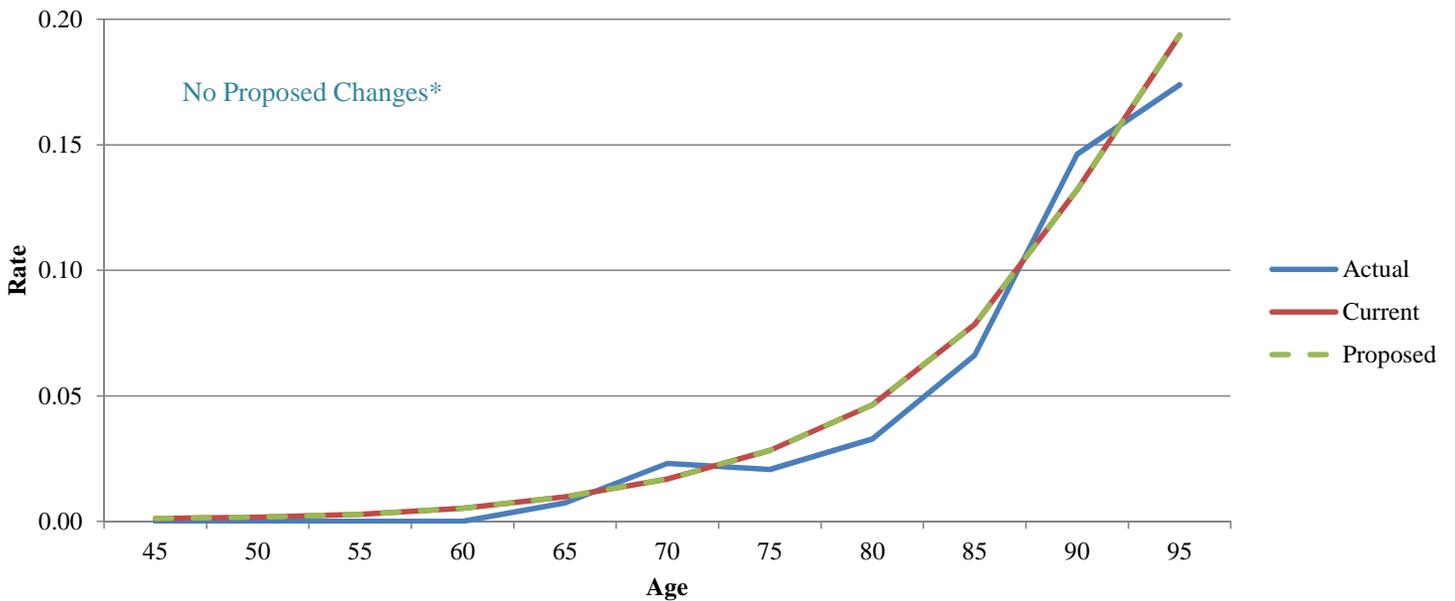
* No change to the base mortality table (RP-2000 Combined Healthy Mortality Tables for Males and Females with ages set back 3 years for males and unadjusted for females). However, provide for future improvements in mortality using a generational approach based on projection scale AA.

The State Police Retirement System
of New Jersey
Postretirement Mortality
July 1, 2008 through June 30, 2011

Beneficiaries - Male



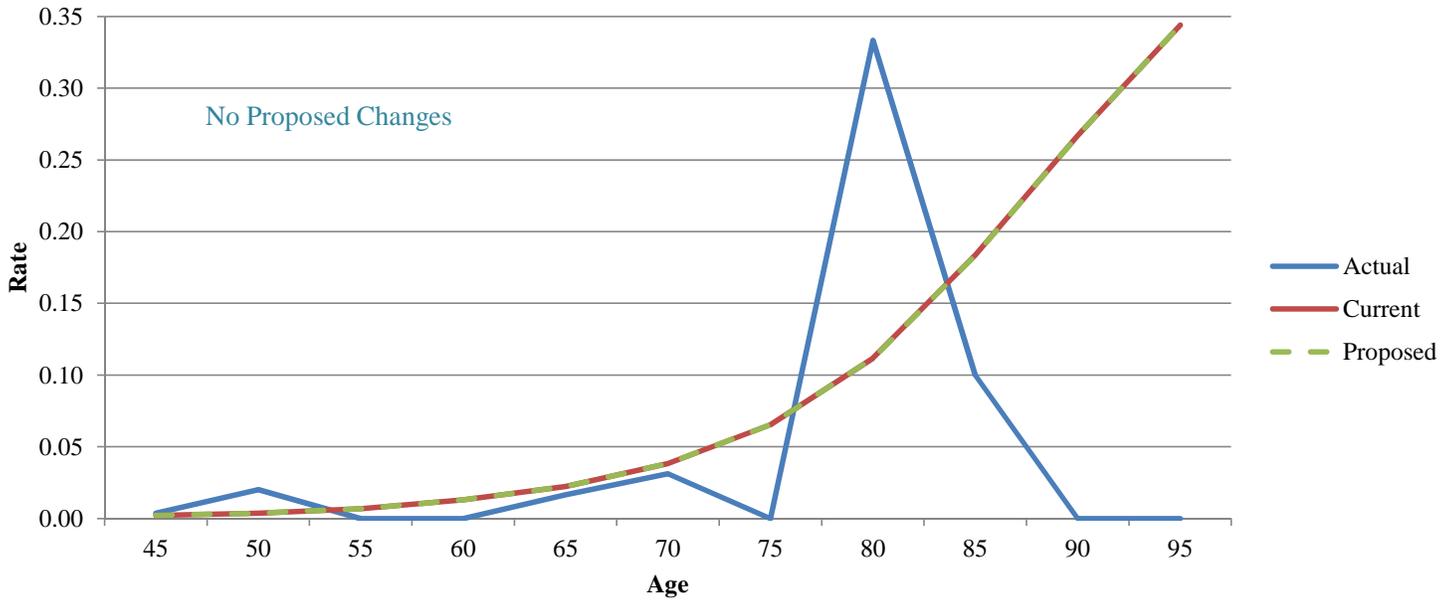
Beneficiaries - Female



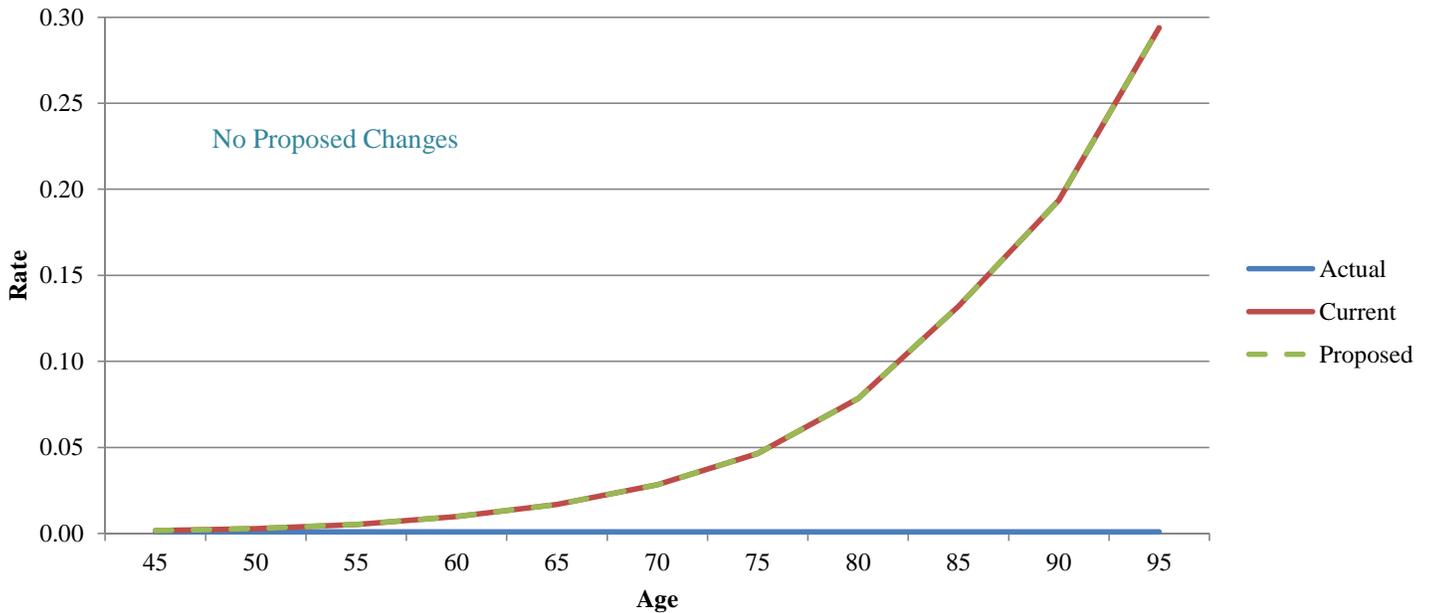
* No change to the base mortality table (RP-2000 Combined Healthy Mortality Tables for Males and Females with ages set back 3 years for males and unadjusted for females). However, provide for future improvements in mortality using a generational approach based on projection scale AA.

The State Police Retirement System
of New Jersey
Postretirement Mortality
July 1, 2008 through June 30, 2011

Disability Retirement - Male



Disability Retirement - Female



V. COST IMPACT OF THE PROPOSED ASSUMPTIONS

The overall effect of the proposed changes would be an increase in the normal contribution and the accrued liability payment. The following chart presents a summary of the liabilities and contributions under the current and proposed assumptions as of July 1, 2011:

	Current	Proposed
Actuarial Accrued Liability	\$ 2,581,950,846	\$ 2,615,657,740
Additional Accrued Liability		\$ 33,706,894
Unfunded Accrued Liability/(Surplus)	\$ 566,326,716	\$ 600,033,610
<u>Funded Ratios:</u>		
• Actuarial Value of Assets	78.1%	77.1%
• Market Value of Assets	70.5%	69.6%
<u>Recommended Contribution*:</u>		
• Normal Cost	\$ 39,467,678	\$ 40,386,175
• Accrued Liability	<u>50,068,225</u>	<u>53,048,209</u>
• Total Contribution	\$ 89,535,903	\$ 93,434,384
Additional Annual Contribution		\$ 3,898,481

* Recommended contribution for the fiscal year ending June 30, 2013; does not reflect the phase in under Chapter 1, P.L. 2010.

The calculations were based on the same data and actuarial methods as were used in the July 1, 2011 valuation. Note that the July 1, 2011 valuation reflects the revised economic assumptions which include a 7.95% per annum interest rate and a salary increase assumption of 3.45% per annum for fiscal year ending 2012 through fiscal year ending 2016 and 4.70% per annum for fiscal years ending 2017 and thereafter.

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	0.00185	0.00090
52	0.00200	0.00202	0.00070
53	0.00214	0.00221	0.00050
54	0.00245	0.00242	0.00030

* RP-2000 Combined Healthy Mortality Tables for Males and Females with ages set back 3 years for males and unadjusted for females. These base tables will be projected on a generational basis using projection scale AA.

TABLE 3**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	0.45500	0.05000
41	0.02000	0.00500	0.00000	0.45500	0.05000
42	0.02000	0.00500	0.00000	0.45500	0.05000
43	0.02000	0.00500	0.00000	0.45500	0.25000
44	0.02000	0.00500	0.00000	0.45500	0.25000
45	0.02000	0.00500	0.00000	0.45500	0.25000
46	0.02000	0.00500	0.00000	0.45500	0.25000
47	0.02000	0.00500	0.00000	0.45500	0.25000
48	0.02000	0.00500	0.00000	0.45500	0.30000
49	0.02000	0.00500	0.00000	0.45500	0.30000
50	0.02000	0.00500	0.00000	0.45500	0.30000
51	0.02000	0.00500	0.00000	0.45500	0.30000
52	0.02000	0.00500	0.00000	0.45500	0.30000
53	0.02000	0.00500	0.00000	0.45500	0.30000
54	0.02000	0.00500	0.00000	0.45500	0.55000

TABLE 5**SALARY INCREASES**

AGE	Fiscal Year Ending 2012 through Fiscal Year Ending 2016	Fiscal Year Ending 2017 and Thereafter
20	0.0345	0.0470
21	0.0345	0.0470
22	0.0345	0.0470
23	0.0345	0.0470
24	0.0345	0.0470
25	0.0345	0.0470
26	0.0345	0.0470
27	0.0345	0.0470
28	0.0345	0.0470
29	0.0345	0.0470
30	0.0345	0.0470
31	0.0345	0.0470
32	0.0345	0.0470
33	0.0345	0.0470
34	0.0345	0.0470
35	0.0345	0.0470
36	0.0345	0.0470
37	0.0345	0.0470
38	0.0345	0.0470
39	0.0345	0.0470
40	0.0345	0.0470
41	0.0345	0.0470
42	0.0345	0.0470
43	0.0345	0.0470
44	0.0345	0.0470
45	0.0345	0.0470
46	0.0345	0.0470
47	0.0345	0.0470
48	0.0345	0.0470
49	0.0345	0.0470
50	0.0345	0.0470
51	0.0345	0.0470
52	0.0345	0.0470
53	0.0345	0.0470
54	0.0345	0.0470

TABLE 6

**MORTALITY TABLES FOR SERVICE 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

RP-2000 Combined Healthy Mortality Tables for Males and Females with ages set back 3 years for males and unadjusted for females. These base tables will be projected on a generational basis using projection scale AA.

TABLE 7

MORTALITY TABLES FOR DISABILITY RETIREMENTS

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	0.03039	0.02297	108	0.40000	0.39351
69	0.03390	0.02546	109	0.40000	0.39831

RP-2000 Combined Healthy Mortality Tables for Males and Females with ages set forward 5 years for both males and females.