

nyhart

***Town of Narragansett
Pension Plan***

***Experience Study
July 1, 2007 - July 1, 2011***

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I. Objectives and Process

The primary objectives of this study are to measure the recent experience of the Town of Narragansett Pension Plan, recommend a new set of actuarial assumptions to be used starting with the 7/1/2012 valuation, and measure the impact on the plan's liabilities of changing to this new set of assumptions.

We gathered data from valuations spanning 7/1/2007 through 7/1/2011. After gathering the five necessary census files, we measured the experience for each of the four years individually. For instance, we determined the withdrawal rates during the period 7/1/2007 – 7/1/2008 by simply checking to see which members on the 7/1/2007 active file did not appear on the 7/1/2008 active file.

Each of the assumptions analyzed could potentially vary by age or service. We initially looked to see if the structure of the current tables made sense. Did termination rates really differ by age? Did pay increases follow a more predictable pattern when broken down by age or by service? We ultimately concluded that the structures of the current tables were appropriate.

Once satisfied with the structure of the tables, we charted both the current assumption and the recent actual experience. Our recommended assumption set was our attempt to blend the recent experience with both the current assumption and consideration for how things might change in the future, i.e. future expectations of pay increases. Finally, we “smoothed” our rates in order to iron out data anomalies.

Finally, we measured the impact on the plan's liabilities of reflecting the recommended assumptions.

There are a few key points to note:

- **Past experience doesn't necessarily predict future outcomes.** This is most often seen or heard in the investment arena. Just because employees behave a certain way over the past, doesn't mean their behavior will continue unchanged. Outside factors often have a significant impact on behavior.

I. Objectives and Process - Continued

- **Only a small number of exposures were present in this study.** To obtain credible and valid conclusions from a study such as this, large amounts of exposures or lives are required. The Town of Narragansett does not contain enough exposures for the results of this study to be highly credible. Thus, these results should be viewed with a lens that still focuses very much on the expectation of the Town and not just solely on the results of this study.
- **Plan provisions remained unchanged.** None of the results of this study have any impact on the actual benefits that will be paid out to participants. This study only deals with the underlying actuarial assumptions and thus only affects the timing of the contributions to the plan.

The actual assumptions that were reviewed are in the following list:

- **Economic**
 - Investment return
 - Investment expenses
 - Annual pay increases
 - Annual rate of inflation
 - Annual cost of living adjustments (COLA)
- **Demographic**
 - Rates of retirement
 - Rates of withdrawal
 - Rates of disability
 - Rates of mortality
 - Percentage of participants married

Please note, that not every assumption in this list was examined historically. There are a variety of reasons for not doing so, including materiality in the valuation, lack of historical data, and/or lack of exposures for analysis.

II. Certification

This report is prepared for the primary purposes of measuring the recent experience of the Town of Narragansett Pension Plan and recommending reasonable actuarial assumptions used in determining the annual funding requirements.

The information presented in this report is based on the information furnished to us by the Plan Administrator. In our opinion, the assumptions recommended are reasonable and represent a reasonable expectation of future experience under the plan. All calculations have been made in accordance with generally accepted actuarial principles and practice.

To our knowledge there have been no significant events prior to the current year's measurement date or as of the date of this report which could materially affect the results contained herein.

Neither Nyhart nor any of its employees have any relationship with the plan or its sponsor which could impair or appear to impair the objectivity of this report.

Nyhart

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March 29, 2012

Date

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III. Economic Assumptions

A. Investment Return

The assumption that has the largest impact on the measurement of pension liabilities is the interest rate used to discount benefit liabilities. The interest rate should be set at the expected long-term rate of return of the pension assets. The table to the left below shows historical rates of return of the pension trust fund for the period 7/1/2007 through 7/1/2011. While this is the only historical data available for this study, it is worth noting that this period is one of the lowest return periods in the last century. Again, historical performance doesn't guarantee future returns.

In addition to examining the plan specific data presented below, we also took a broader look at performance of other governmental plans over a longer period of time. Those results are summarized below on the right. These historical returns were obtained from Callan Associates.

The market value rate of return is based on annual market values with adjustments for cash inflows and outflows. The actuarial value rate of return is based on the annual smoothed actuarial values of assets adjusted for cash inflows and outflows.

The current interest rate assumption is 7.50%. Based on the past experience of the Town of Narragansett Pension Plan, past experience of governmental plans in general, and future expectations of market returns, we are recommending that the interest rate assumption be unchanged at 7.50%.

Town of Narragansett Pension Plan

Year Ending	Market Value Return	Actuarial Value Return
2008	-1.9%	5.7%
2009	-13.1%	1.4%
2010	12.9%	1.3%
2011	17.4%	3.7%
Average	3.1%	3.0%

Other Governmental Plans

Period	Market Value Return
5 Years	4.7%
10 Years	5.7%
20 Years	8.5%
25 Years	8.5%

III. Economic Assumptions - Continued

B. Investment Expenses

The current assumptions use an expected rate of return that is net of all expenses, both administrative and investment. As such, there is no assumption for investment expenses. Based on this current policy, there is no need for a historical analysis of the investment expenses. The plan will continue to operate using a net of expenses investment return assumption.

C. Annual Pay Increases

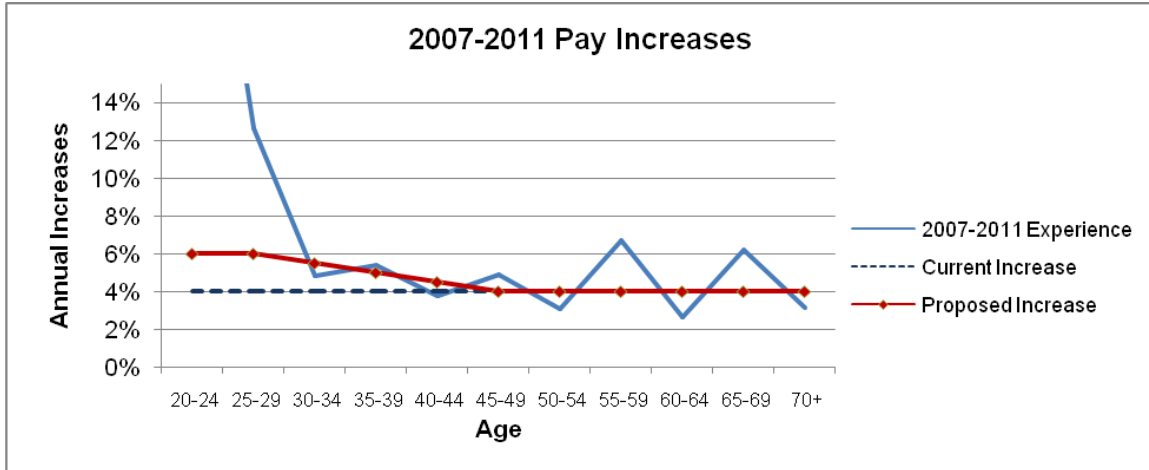
To examine the historical experience of pay increases, data from 2007 to 2011 was studied. Data was broken down between public safety and non public safety employees. However, the data indicated that there was no significant difference in those groups. Thus we aggregated the results to achieve higher credibility.

The data was charted separately for age and service. We found that the pattern was more consistent when charted by age. The data indicated that younger employees receive higher annual pay increases than older employees. The current pay increase assumption is 4.0%, regardless of age or service. As of the July 1, 2012 valuation, we recommend that this assumption be revised by replacing the flat 4.0% increase with a table of rates that vary by age from 6.0% to 4.0%. We arrived at this assumption by finding the best fit to the plan's experience from 2007 to 2011 and then slightly adjusting all the rates lower to account for future expectations. The following two pages show the results of the pay increase analysis charted by age and service separately. Please see the Appendix for a detailed description of the data.

Also, there is one piece of that data that is worth mentioning with regards to the salary increase analysis. It appears that the salary information we received for 2008 was missing some components of the total salary. Thus, the 2007-2008 experience shows a pay decrease, when, in fact that may not have been the case. That has been noted in our analysis.

III. Economic Assumptions - Continued

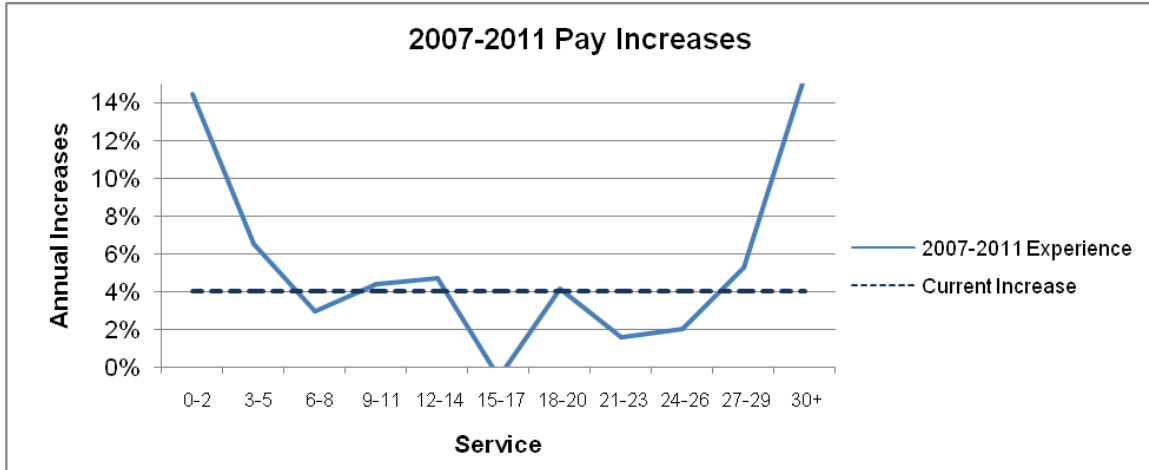
Pay Increases by Age



Age	2007-2011 Experience	Current Increases	Proposed Increases
20-24	33.32%	4.00%	6.00%
25-29	12.63%	4.00%	6.00%
30-34	4.83%	4.00%	5.50%
35-39	5.37%	4.00%	5.00%
40-44	3.80%	4.00%	4.50%
45-49	4.89%	4.00%	4.00%
50-54	3.05%	4.00%	4.00%
55-59	6.70%	4.00%	4.00%
60-64	2.66%	4.00%	4.00%
65-69	6.21%	4.00%	4.00%
70+	3.13%	4.00%	4.00%
Total	5.33%	4.00%	N/A

III. Economic Assumptions - Continued

Pay Increases by Service



Service	2007-2011 Experience	Current Increases	Proposed Increases
0-2	14.46%	4.00%	N/A
3-5	6.52%	4.00%	N/A
6-8	2.95%	4.00%	N/A
9-11	4.41%	4.00%	N/A
12-14	4.68%	4.00%	N/A
15-17	-0.57%	4.00%	N/A
18-20	4.16%	4.00%	N/A
21-23	1.60%	4.00%	N/A
24-26	2.01%	4.00%	N/A
27-29	5.29%	4.00%	N/A
30+	15.45%	4.00%	N/A
Total	5.33%	4.00%	N/A

III. Economic Assumptions - Continued

D. Annual Rate of Inflation

The annual rate of inflation assumption is not used directly in any of the actuarial valuation procedures. There is, however, an implied rate of inflation that is found in the assumed wage growth, expected return on assets, and the annual cost of living adjustment. As these rates are all remaining unchanged or nearly unchanged, the implied assumption for inflation will remain unchanged also. It is important to ensure that these assumptions all fit together and achieve the same implied inflation rate. At the proposed levels of these assumptions, the implied inflation rate is consistent.

E. Annual Cost of Living Adjustments (COLA)

The current COLA assumption is 3.00%, compounded annually. There are certain groups that have caps on the amounts that the COLA applies to, and not every group is immediately eligible for the COLA. However, the COLA amount (3.00%) does not vary. As such, the current assumptions accurately reflect both the timing and the amount of the COLA. Therefore, we recommend that no changes be made to the COLA assumptions.

IV. Demographic Assumptions

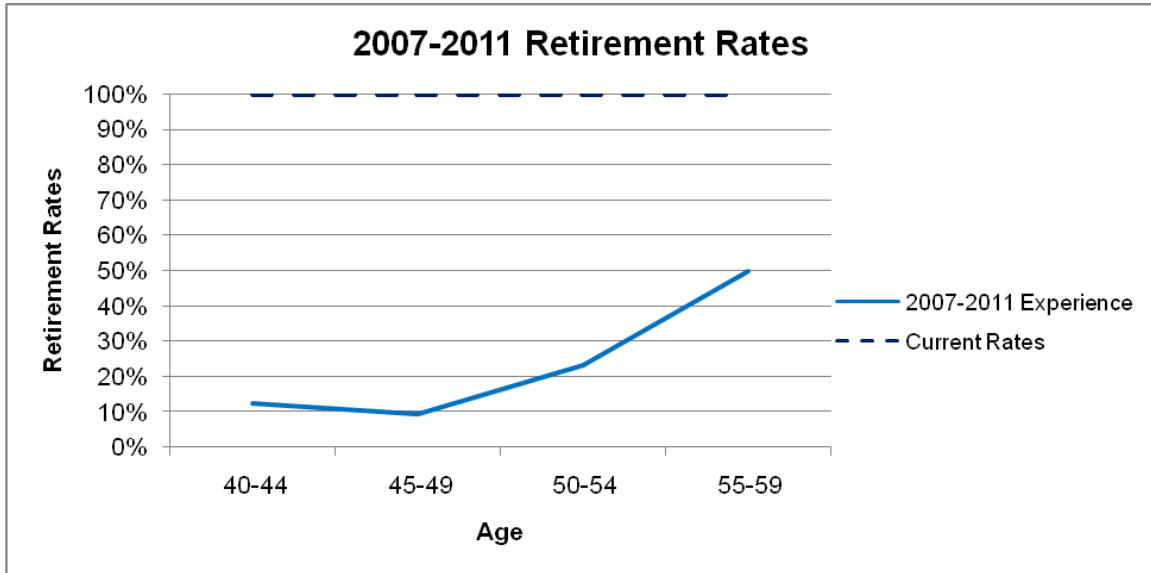
A. Rates of Retirement

Retirements over the period 2007-2011 were examined based on both age and service. Again, we looked at public safety employees and non public safety employees separately. After evaluating the data, there was not enough data to credibly determine retirement rates based on age or service.

The current retirement rates vary by age and service of the participant. Due to the small number of exposures in the data, we do not recommend making any changes to the current retirement rates based on this analysis. The following four pages show the results of the retirement analysis for both public safety employees and non public safety employees. Both groups are charted by age and service separately.

IV. Demographic Assumptions - Continued

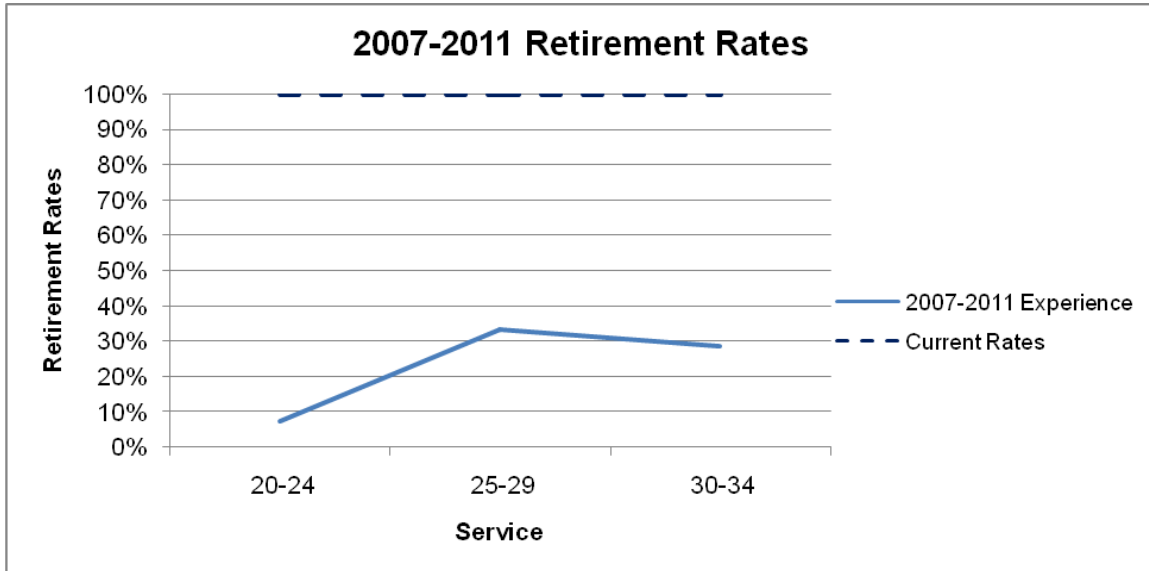
Public Safety - by Age



Age	2007-2011 Experience	Current Rates
40-44	12.50%	100.00%
45-49	9.52%	100.00%
50-54	23.08%	100.00%
55-59	50.00%	100.00%
Total	17.39%	100.00%

IV. Demographic Assumptions - Continued

Public Safety - by Service



Service	2007-2011 Experience	Current Rates
20-24	7.41%	100.00%
25-29	33.33%	100.00%
30-34	28.57%	100.00%
Total	17.39%	100.00%

IV. Demographic Assumptions - Continued

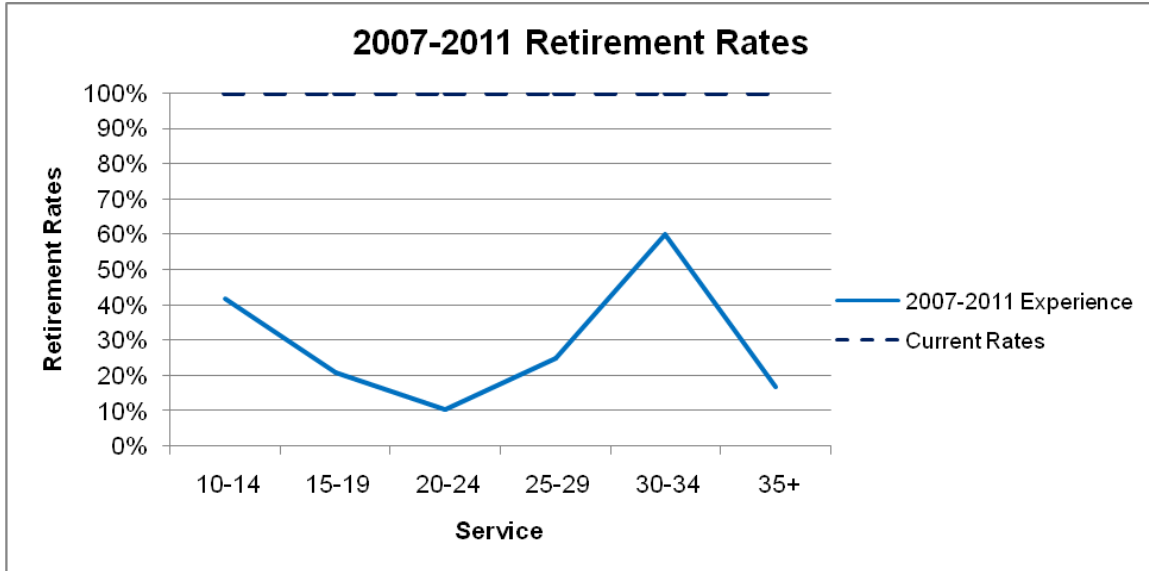
Non Public Safety - by Age



Age	2007-2011 Experience	Current Rates
40-44	0.00%	100.00%
45-49	0.00%	100.00%
50-54	26.32%	100.00%
55-59	14.29%	100.00%
60-64	29.63%	100.00%
65-69	40.00%	100.00%
70+	14.29%	100.00%
Total	21.35%	100.00%

IV. Demographic Assumptions - Continued

Non Public Safety - by Service



Service	2007-2011 Experience	Current Rates
10-14	41.67%	100.00%
15-19	20.83%	100.00%
20-24	10.53%	100.00%
25-29	25.00%	100.00%
30-34	60.00%	100.00%
35+	16.67%	100.00%
Total	21.35%	100.00%

IV. Demographic Assumptions - Continued

B. Rates of Withdrawal

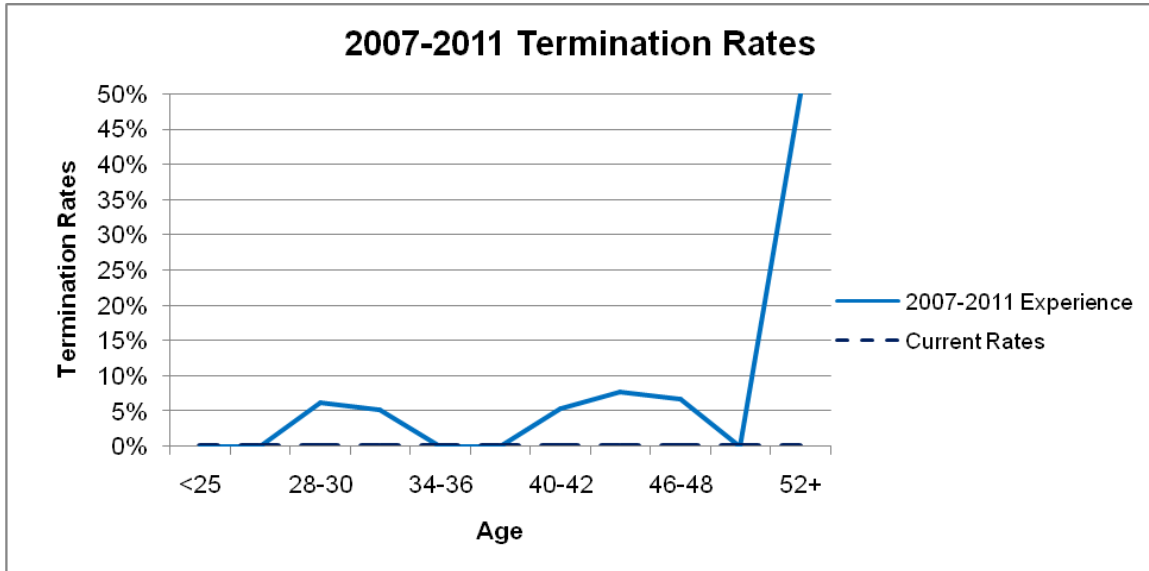
Withdrawal or termination rates were also studied. This assumption is applicable to people that are not yet eligible to retire. The assumption forecasts the rates at which people will leave prior to becoming eligible for retirement. Unlike the pay increase analysis, we kept public safety employees and non public safety employees separate. Again, data from 2007 to 2011 was studied. After evaluating the data for both employee groups, there were not enough exposures to credibly determine a pattern of termination rates based on either age or service.

The current termination rates vary by age of the participant for non public safety employees. The current termination rates for public safety employees are zero. Due to the small number of exposures in the data, we do not recommend making any changes to the current termination rates. The following four pages show the results of the withdrawal analysis for both public safety employees and non public safety employees. Both groups are charted by age and service separately.

Note that the current rates shown in both age-based tables are at the mid-point of each age band studied. For example, the 1.78% non public safety rate shown for ages 21-25 is the current termination rate assumed for a 23-year-old.

IV. Demographic Assumptions - Continued

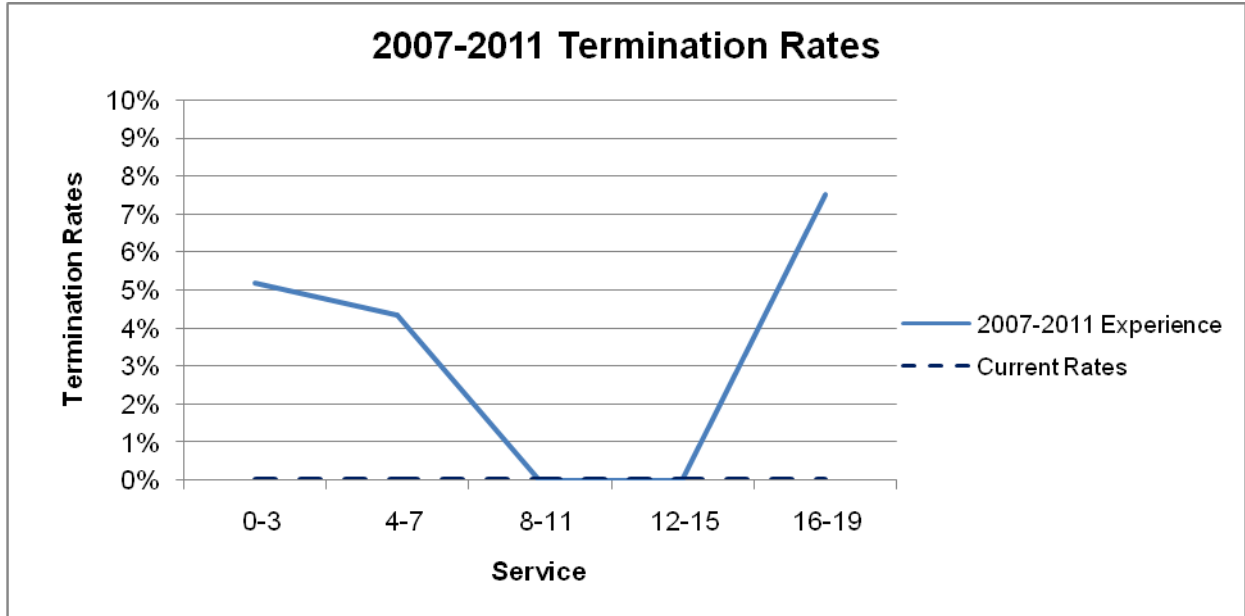
Public Safety - by Age



Age	2007-2011 Experience	Current Rates
<25	0.00%	0.00%
25-27	0.00%	0.00%
28-30	6.25%	0.00%
31-33	5.26%	0.00%
34-36	0.00%	0.00%
37-39	0.00%	0.00%
40-42	5.41%	0.00%
43-45	7.69%	0.00%
46-48	6.67%	0.00%
49-51	0.00%	0.00%
52+	50.00%	0.00%
Total	4.51%	0.00%

IV. Demographic Assumptions - Continued

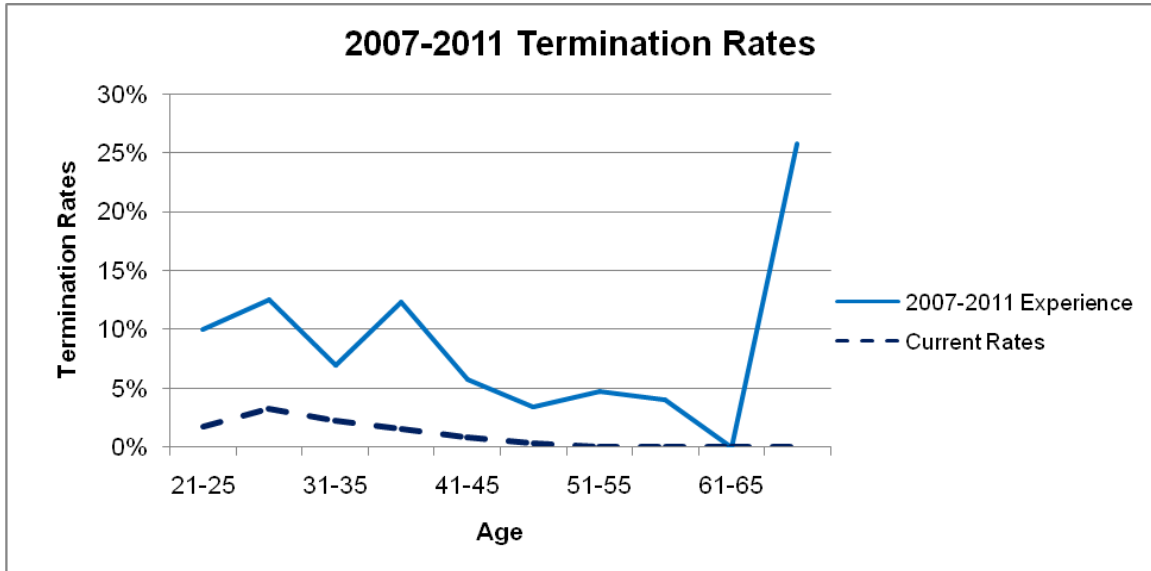
Public Safety - by Service



Service	2007-2011 Experience	Current Rates
0-3	5.17%	0.00%
4-7	4.35%	0.00%
8-11	0.00%	0.00%
12-15	0.00%	0.00%
16-19	7.50%	0.00%
Total	4.51%	0.00%

IV. Demographic Assumptions - Continued

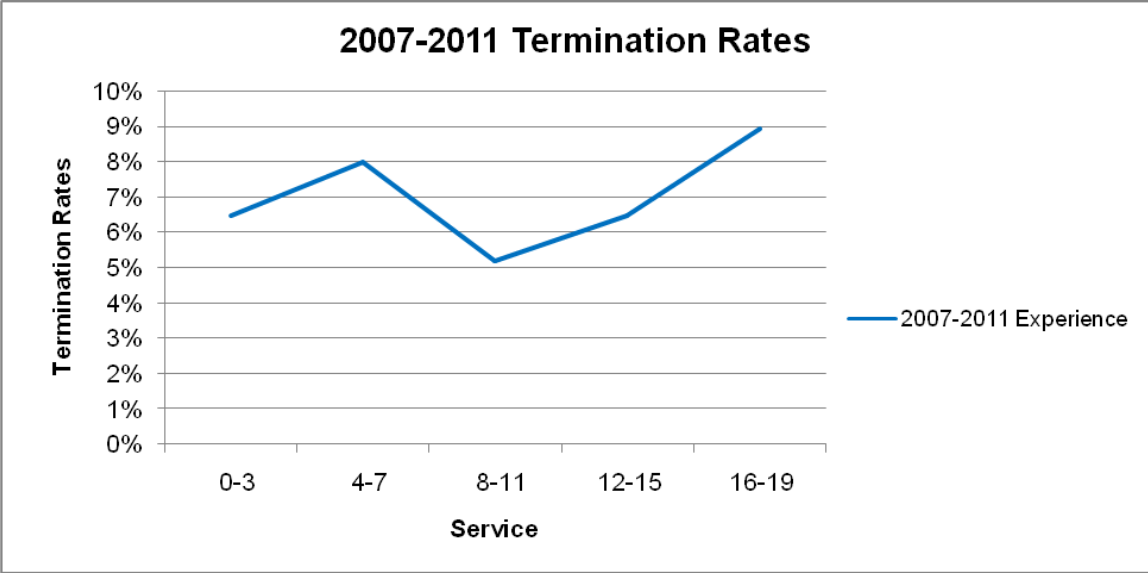
Non Public Safety - by Age



Age	2007-2011 Experience	Current Rates
21-25	10.00%	1.78%
26-30	12.50%	3.25%
31-35	6.98%	2.25%
36-40	12.33%	1.50%
41-45	5.71%	0.81%
46-50	3.42%	0.29%
51-55	4.76%	0.01%
56-60	4.05%	0.00%
61-65	0.00%	0.00%
66+	25.81%	0.00%
Total	6.86%	N/A

IV. Demographic Assumptions - Continued

Non Public Safety - by Service



Service	2007-2011 Experience	Current Rates
0-3	6.47%	N/A
4-7	8.00%	N/A
8-11	5.17%	N/A
12-15	6.45%	N/A
16-19	8.93%	N/A
Total	6.86%	N/A

IV. Demographic Assumptions - Continued

C. Rates of Disability

The current assumption is that no participants will become disabled. While the plan does provide for disability benefits, there have not been enough exposures over the past years to develop any type of assumption. Due to this lack of exposures and lack of actual historical experience, leaving the current assumption unchanged is the recommendation.

D. Rates of Mortality

Mortality is one of the most important assumptions made in an actuarial valuation. It has a very large impact on the overall plan liability and the annual contribution requirements. In order to perform an actual experience study on mortality, an extremely large number of exposures is required. Only a select few plans have enough participants to be able to do such a study. The Town of Narragansett Pension Plan is not one of those plans. The valuation has been using the RP-2000 mortality. We recommend changing to an RP-2000 fully generational table to more accurately reflect expected future mortality improvements.

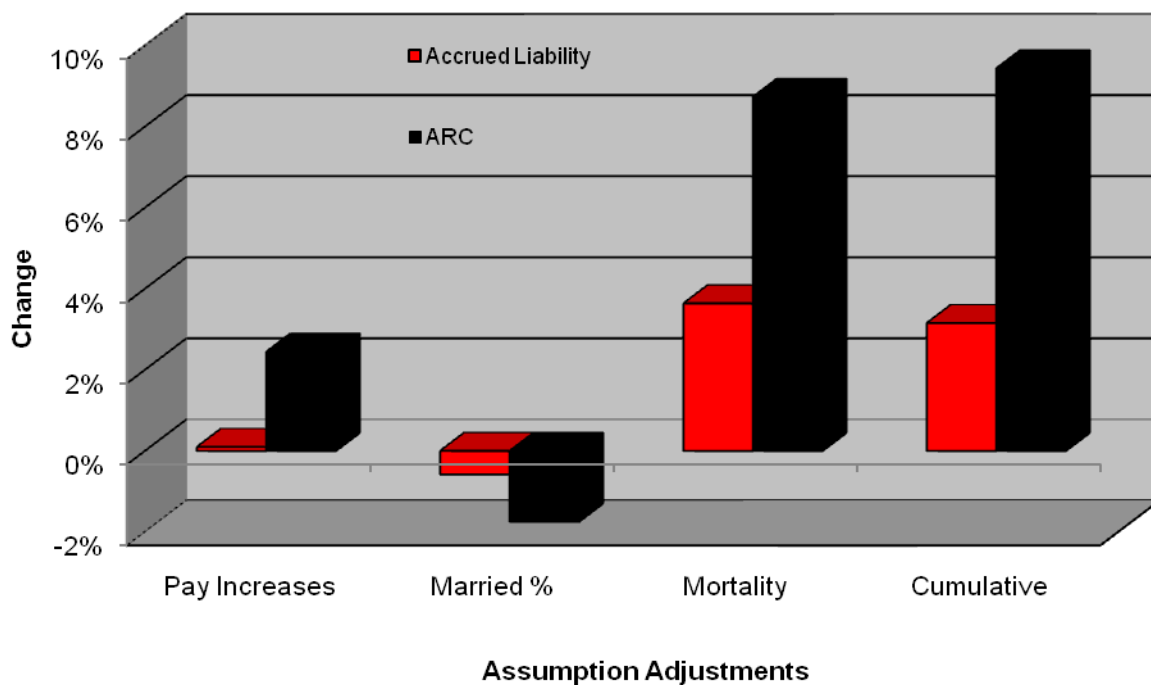
E. Percentage of Participants Married

Typically, the percentage married assumption has little impact on the results of the valuation. When the normal form of benefit is determined as a life annuity, the liability is based on only the participant's lifetime. However, in the case of the public safety employees for the Town of Narragansett, the normal form of payment is a 2/3 Joint and Survivor annuity. Thus, for married participants, the liability is based on both the participant and the spouse's lives. Currently, it is assumed that 100% of participants are married. This overstates the liability for the affected participants since not all participants are married. Thus, the assumption should be changed to 85% married. While not a major change in assumptions, it does better reflect the actual expected experience of the plan.

V. Liability Analysis

Each of the changes recommended earlier were examined to determine the impact on both the plan liability and contribution amount. These changes are all analyzed on the most recently completed valuation, the July 1, 2011 valuation. The results of the liability analysis are shown below.

Liability Changes



	2011 Valuation	Pay Increases	Married %	Mortality	Cumulative
Accrued Liability	87,849,253	87,934,505	87,423,716	90,620,397	90,620,397
% Change - AL		0.1%	-0.6%	3.6%	3.2%
ARC	4,359,974	4,466,610	4,390,631	4,771,453	4,771,453
% Change - ARC		2.4%	-1.7%	8.7%	9.4%

Implementing these changes will have a significant impact on the plan's overall liability and annual cost. As mentioned earlier in the study, mortality is one of the biggest assumptions made. It also has the largest impact on the liability and contribution requirement. While the remaining assumption changes do have an impact, collectively they have much less of an impact than mortality alone.

VI. APPENDIX

Pay Increase Data

Age	2007-2008 Experience	2008-2009 Experience	2009-2010 Experience	2010-2011 Experience	2007-2011 Total Experience
20-24	4.62%	35.15%	17.64%	378.32%	33.32%
25-29	-8.55%	29.04%	25.14%	9.80%	12.63%
30-34	-12.02%	28.72%	10.39%	-1.31%	4.83%
35-39	-14.20%	30.05%	6.31%	0.41%	5.37%
40-44	-11.23%	24.64%	7.32%	-3.69%	3.80%
45-49	-3.09%	18.33%	8.90%	-1.57%	4.89%
50-54	-6.49%	13.27%	6.75%	0.56%	3.05%
55-59	-4.89%	11.31%	16.23%	0.53%	6.70%
60-64	-8.38%	8.14%	11.96%	-0.78%	2.66%
65-69	3.02%	1.50%	21.99%	-1.42%	6.21%
70+	9.32%	-1.17%	-0.96%	4.92%	3.13%
Total	-8.31%	20.59%	10.02%	0.07%	5.33%

Service	2007-2008 Experience	2008-2009 Experience	2009-2010 Experience	2010-2011 Experience	2007-2011 Total Experience
0-2	-5.56%	23.80%	13.36%	25.45%	14.46%
3-5	-4.86%	19.92%	11.48%	1.52%	6.52%
6-8	-7.88%	15.06%	8.60%	-1.36%	2.95%
9-11	-5.29%	15.61%	9.68%	-1.05%	4.41%
12-14	-8.47%	19.40%	7.73%	-2.33%	4.68%
15-17	-15.89%	33.66%	4.89%	-4.98%	-0.57%
18-20	-10.57%	28.60%	6.77%	-9.21%	4.16%
21-23	2.90%	3.84%	7.65%	-5.80%	1.60%
24-26	-3.91%	0.00%	13.12%	3.12%	2.01%
27-29	-17.25%	12.09%	16.11%	0.00%	5.29%
30+	-20.78%	34.63%	50.60%	-10.05%	15.45%
Total	-8.31%	20.59%	10.02%	0.07%	5.33%

Retirement Data - Public Safety

Age	2007-2008 Experience	2008-2009 Experience	2009-2010 Experience	2010-2011 Experience	2007-2011 Total Experience
40-44	0.00%	0.00%	0.00%	25.00%	12.50%
45-49	33.33%	0.00%	16.67%	0.00%	9.52%
50-54	0.00%	25.00%	0.00%	100.00%	23.08%
55-59	50.00%	50.00%	0.00%	0.00%	50.00%
Total	18.18%	18.18%	10.00%	21.43%	17.39%

Service	2007-2008 Experience	2008-2009 Experience	2009-2010 Experience	2010-2011 Experience	2007-2011 Total Experience
20-24	0.00%	0.00%	12.50%	9.09%	7.41%
25-29	25.00%	33.33%	0.00%	66.67%	33.33%
30-34	25.00%	33.33%	0.00%	0.00%	28.57%
Total	18.18%	18.18%	10.00%	21.43%	17.39%

Retirement Data - Non Public Safety

Age	2007-2008 Experience	2008-2009 Experience	2009-2010 Experience	2010-2011 Experience	2007-2011 Total Experience
40-44	0.00%	0.00%	0.00%	0.00%	0.00%
45-49	0.00%	0.00%	0.00%	0.00%	0.00%
50-54	20.00%	20.00%	20.00%	50.00%	26.32%
55-59	16.67%	16.67%	0.00%	14.29%	14.29%
60-64	28.57%	20.00%	33.33%	33.33%	29.63%
65-69	100.00%	0.00%	0.00%	0.00%	40.00%
70+	0.00%	0.00%	50.00%	0.00%	14.29%
Total	25.00%	14.29%	23.81%	21.74%	21.35%

Service	2007-2008 Experience	2008-2009 Experience	2009-2010 Experience	2010-2011 Experience	2007-2011 Total Experience
10-14	25.00%	33.33%	66.67%	50.00%	41.67%
15-19	33.33%	0.00%	20.00%	25.00%	20.83%
20-24	0.00%	12.50%	10.00%	13.33%	10.53%
25-29	0.00%	50.00%	0.00%	0.00%	25.00%
30-34	66.67%	0.00%	100.00%	0.00%	60.00%
35+	0.00%	0.00%	0.00%	50.00%	16.67%
Total	25.00%	14.29%	23.81%	21.74%	21.35%

Withdrawal Data - Public Safety

Age	2007-2008 Experience	2008-2009 Experience	2009-2010 Experience	2010-2011 Experience	2007-2011 Total Experience
<25	0.00%	0.00%	0.00%	0.00%	0.00%
25-27	0.00%	0.00%	0.00%	0.00%	0.00%
28-30	0.00%	0.00%	11.11%	16.67%	6.25%
31-33	0.00%	33.33%	0.00%	0.00%	5.26%
34-36	0.00%	0.00%	0.00%	0.00%	0.00%
37-39	0.00%	0.00%	0.00%	0.00%	0.00%
40-42	0.00%	0.00%	0.00%	25.00%	5.41%
43-45	20.00%	0.00%	8.33%	0.00%	7.69%
46-48	0.00%	0.00%	0.00%	20.00%	6.67%
49-51	0.00%	0.00%	0.00%	0.00%	0.00%
52+	0.00%	0.00%	0.00%	100.00%	50.00%
Total	3.28%	1.59%	3.23%	10.34%	4.51%

Service	2007-2008 Experience	2008-2009 Experience	2009-2010 Experience	2010-2011 Experience	2007-2011 Total Experience
0-3	0.00%	0.00%	7.69%	16.67%	5.17%
4-7	0.00%	10.00%	0.00%	7.14%	4.35%
8-11	0.00%	0.00%	0.00%	0.00%	0.00%
12-15	0.00%	0.00%	0.00%	0.00%	0.00%
16-19	8.00%	0.00%	5.26%	21.43%	7.50%
Total	3.28%	1.59%	3.23%	10.34%	4.51%

Withdrawal Data - Non Public Safety

Age	2007-2008 Experience	2008-2009 Experience	2009-2010 Experience	2010-2011 Experience	2007-2011 Total Experience
21-25	0.00%	33.33%	0.00%	0.00%	10.00%
26-30	25.00%	9.09%	12.50%	0.00%	12.50%
31-35	9.09%	0.00%	10.00%	9.09%	6.98%
36-40	20.00%	5.88%	6.25%	15.00%	12.33%
41-45	7.69%	8.00%	3.85%	3.57%	5.71%
46-50	0.00%	9.68%	0.00%	3.33%	3.42%
51-55	0.00%	2.70%	7.14%	12.50%	4.76%
56-60	0.00%	6.67%	0.00%	6.67%	4.05%
61-65	0.00%	0.00%	0.00%	0.00%	0.00%
66+	0.00%	12.50%	40.00%	37.50%	25.81%
Total	5.96%	6.55%	6.41%	8.43%	6.86%

Service	2007-2008 Experience	2008-2009 Experience	2009-2010 Experience	2010-2011 Experience	2007-2011 Total Experience
0-3	7.14%	3.77%	6.38%	8.47%	6.47%
4-7	4.76%	10.87%	4.55%	11.63%	8.00%
8-11	2.86%	6.67%	7.69%	4.00%	5.17%
12-15	13.33%	0.00%	7.69%	7.14%	6.45%
16-19	5.88%	13.33%	7.69%	9.09%	8.93%
Total	5.96%	6.55%	6.41%	8.43%	6.86%