



HOOKER & HOLCOMBE, INC.
Benefit Consultants and Actuaries

65 LaSalle Road
West Hartford, CT 06107-2397

860-521-8400 tel
860-521-3742 fax
www.hhconsultants.com

Westerly Police Pension Fund

2011 Experience Study

Timothy Ryor, FCA, FSPA
Senior Vice President
Consulting Actuary

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Town of Westerly Police Pension Fund

2011 Experience Study

Executive Summary

The following is an Executive Summary of our recommendations based on the results of the 2011 Experience Study. Exhibit A shows the details of the impact by on the actuarial valuation results. Since the proposed assumption changes will have an impact on the OPEB (GASB 43/45) results, those results are shown along side the pension results in Exhibit A. Exhibit B shows the analysis used to develop the recommendations.

Impact on Actuarial Valuation Results (Pension Only)

Current Basis*:
Present Value of Future Benefits = \$38.10 million
Actuarial Accrued Liability = \$
Actuarial Value of Assets* = \$21.28 million
Funded Ratio = 68.8%
Town Normal Cost = \$0.45 million
Amortization of Unfunded Liability =
Town's 2012-2013 Contribution* = \$ 1.27 million

Recommended Basis:
Present Value of Future Benefits = \$42.97 million
Actuarial Accrued Liability =
Actuarial Value of Assets* = \$21.28 million
Funded Ratio = **64.1%**
Town Normal Cost = \$0.76 million
Amortization of Unfunded Liability =
Town's 2012-2013 Contribution** = **\$1.73 million**

Impact:
Present Value of Future Benefits = \$4.87 million
Actuarial Accrued Liability = \$2.26 million
Funded Ratio = -4.7%
Town Normal Cost = \$0.31 million
Amortization of Unfunded Liability = \$0.14 million
Town's 2012-2013 Contribution** = \$0.45 million

* As shown in the July 1, 2011 Actuarial Valuation Report and reflecting the retroactive correction to OPEB (GASB 43/45) assets effective July 1, 2007.

** The increases in the ARC shown above are based on the July 1, 2011 Actuarial Valuation. The recommendations, if adopted, would first be reflected in the July 1, 2012 Actuarial Valuation which determines the 2013-2014 ARC.

Investment Return

Current Basis: Investment Return: 8.0% per year, net of investment expenses.

Comment: Based on long-term capital market expectations, industry trends and the current asset allocation we recommend lowering the investment return assumption.

Recommendation: 7.50% per year, net of investment expenses.

Mortality Basis

Current Basis: RP-2000 Combined (separate rates for annuitants and non-annuitants) with blue collar adjustment, fully projected (generational).

Comment: The plan is too small to develop credible data with regard to mortality. However recent experience combined with the results of the RI MERS experience study indicates that the removal of the blue collar adjustment is appropriate.

Recommendation: RP-2000 Combined with no collar adjustments, fully projected (generational), with separate male & female tables. No change recommended for disabled life mortality (currently RP-2000 disabled life mortality table).

Termination

Current Basis: 10% Vaughn Select & Ultimate.

Sample termination rates are as follows:

<u>Age</u>	<u>Ultimate Rates</u>
25	1.36%
30	1.01
35	0.79
40	0.65
45	0.55
50	0.45
55	0.00

Comment: There was not enough data during the study period to develop specific age or service based rates. However, the current assumption expected less than half of the actual terminations during the study period. A modified version of the table developed for RI MERS Police members produced expected results consistent with actual experience during the study period.

Termination

Recommendation: We recommend a change to a service based table that reflects rates similar to those developed for the RI MERS Police members, as follows:

<u>Service</u>	<u>Rate</u>
0	7.00%
1	5.50%
2	5.00%
3	4.50%
4	4.00%
5	3.50%
6	3.00%
7	2.50%
8	2.25%
9	2.00%
10	1.75%
11	1.50%
12	1.25%
13	1.00%
14	0.75%
15	0.50%
16+	0.00%

Disability

Current Basis: 33% of the 1985 Pension Disability Table Class 4 rates for males and females.

Comment: There was no experience during the study period that indicated a change in this assumption was necessary.

Recommendation: We recommend no change in this assumption.

Assumed Retirement

Current Basis: Service based rates as follows:

<u>Service</u>	<u>Rate</u>
20	15.00%
21	17.50%
22	25.00%
23	35.00%
24	50.00%
25	66.67%
26	75.00%
27	100.00%

Assumed Retirement

Comment: Experience suggests significantly higher rates of retirement at 20 & 21 years of service. Based on a lack of retirements beyond age 25 years of service and the fact that service is not credited beyond 25 years, we recommend assuming a 100% probability of retirement at 25 years of service.

Recommendation: Service based tables developed from 2004-2011 experience. The assumed rates of retirement are as follows:

<u>Service</u>	<u>Rate</u>
20	25.00%
21	40.00%
22	30.00%
23	20.00%
24	50.00%
25	100.00%

Salary Scale

Current Basis: Service based table as follows:

<u>Service</u>	<u>Rate</u>
0	16.00%
1	14.00%
2	12.00%
3	10.00%
4	8.00%
5-9	6.50%
10-14	4.00%
15-19	3.50%
20+	3.00%

Comment: Experience suggests minor modifications to the gradation of the service based salary scale.

Recommendation: Service based table as follows:

<u>Service</u>	<u>Rate</u>
0	14.50%
1	12.50%
2	11.00%
3	9.50%
4	8.00%
5	7.00%
6	6.50%
7	6.00%
8-9	5.50%
10-11	5.25%
12-13	5.00%
14-15	4.75%
16	4.50%
17	4.25%
18	4.00%
19	3.75%
20+	3.50%

Actuarial Certification

This report presents the results of the 2011 Experience Study of the Town of Westerly Police Pension Fund and the impact our recommendations for changes in actuarial assumptions have on the July 1, 2011 Actuarial Valuation results. It also provides the support for our recommendations. It is intended to satisfy the requirements of § 45-65-6 of the Rhode Island Retirement Security Act. This report may not be appropriate for any other purpose.

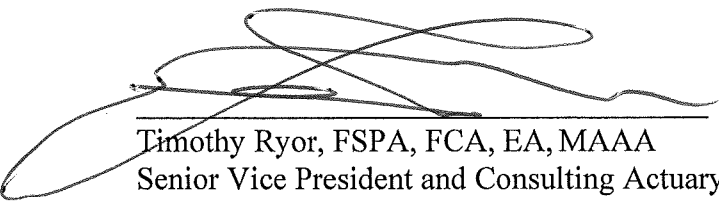
The valuation results present in this report have been calculated in accordance with generally accepted actuarial principles and practices. I certify that the actuarial assumptions and methods were selected by me and represent my best estimate of anticipated actuarial experience under the plan.

In preparing all related valuation results, I have relied on employee data provided by the Town, and on asset and contribution information also provided by the Town & its financial advisors. I have not audited the employee data or the financial information, although I have reviewed them for reasonableness.

The results in this report are based on the Plan as summarized in the *Plan Provisions* section of the July 1, 2011 Actuarial Valuation Report and unless otherwise specified in this report the actuarial assumptions and methods detailed in the *Description of Actuarial Methods and Assumptions* section of the July 1, 2011 Actuarial Valuation Report.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of this report, an analysis of the potential range of such future measurements has not been performed.

I am a member of the American Academy of Actuaries and meet its Qualification Standards to render the actuarial opinion contained herein.



Timothy Ryor, FSPA, FCA, EA, MAAA
Senior Vice President and Consulting Actuary

March 27, 2012

Exhibit A

Impact on Actuarial Valuation Results

	<i>Current Assumptions*</i>		<i>Proposed Assumptions**</i>		<i>Change from Current</i>	
	<u>Pension</u>	<u>OPEB</u>	<u>Pension</u>	<u>OPEB</u>	<u>Pension</u>	<u>OPEB</u>
1. Total normal cost for benefits	\$768,553	\$91,033	\$1,090,969	\$110,395	\$322,416	\$19,362
2. Employee contributions	\$313,788	\$0	\$331,828	\$0	\$18,040	\$0
3. Employer Normal Cost: (1) – (2) (rounded to nearest \$100)	\$454,800	\$91,000	\$759,100	\$110,400	\$304,300	\$19,400
4. Estimated Valuation Year Salary	\$3,010,489	\$3,010,489	\$3,016,618	\$3,016,618	\$6,129	\$6,129
5. Total employer cost as a percentage of plan salaries: (3) ÷ (4)	15.11%	3.02%	25.16%	3.66%	10.05%	0.64%
6. Expected ARC Year* Payroll: (4) x 1.04 (1.055 for Current)	\$3,176,066	\$3,176,066	\$3,137,283	\$3,137,283	(\$38,783)	(\$38,783)
7. ARC Year* Normal cost: (5) x (6) (rounded to nearest \$100)	\$479,900	\$95,900	\$789,300	\$114,800	\$309,400	\$18,900
8. Actuarial Accrued Liability (AAL)	\$30,919,908	\$13,390,915	\$33,177,116	\$14,786,692	\$2,257,208	\$1,395,777
9. Actuarial Value of Plan Assets	\$21,280,750	\$3,336,594	\$21,280,750	\$3,336,594	\$0	\$0
10. Unfunded AAL (UAAL) (8) - (9)	\$9,639,158	\$10,054,321	\$11,896,366	\$11,450,098	\$2,257,208	\$1,395,777
11. Funded Ratio (9) ÷ (8)	68.8%	24.9%	64.1%	22.6%	-4.7%	-2.4%
12. 30-year amortization of UAAL (rounded to nearest \$100)	\$792,800	\$826,900	\$937,000	\$901,900	\$144,200	\$75,000
13. Town's 2012-2013 Contribution	\$1,272,700	\$922,800	\$1,726,300	\$1,016,700	\$453,600	\$93,900

* As shown in the July 1, 2011 Actuarial Valuation Report and reflecting the retroactive correction to OPEB (GASB 43/45) assets effective July 1, 2007.

** The increases in the ARC shown above are based on the July 1, 2011 Actuarial Valuation. The recommendations, if adopted, would first be reflected in the July 1, 2012 Actuarial Valuation which determines the 2013-2014 ARC.

Exhibit B – Section I

Retirement Rates

Actual 2004-2011 Experience Compared to Current Assumption

Service	Near age	Exposed	Actual Retirements	Expected Retirements	Actual q's	Expected q's	Ratio: Actual over Expected
20	<40	1	0	0	0.00%	0.00%	0.00%
	40-44	9	3	1.05	33.33%	11.67%	285.70%
	45-49	1	0	0.15	0.00%	15.00%	0.00%
	50+	0	0	0	0.00%	0.00%	0.00%
	Total	11	3	1.2	27.27%	10.91%	250.00%
21-21	<40	0	0	0	0.00%	0.00%	0.00%
	40-44	5	2	0.87	40.00%	17.50%	228.60%
	45-49	2	1	0.35	50.00%	17.50%	285.70%
	50+	0	0	0	0.00%	0.00%	0.00%
	Total	7	3	1.22	42.86%	17.50%	244.90%
22-22	<40	0	0	0	0.00%	0.00%	0.00%
	40-44	2	1	0.5	50.00%	25.00%	200.00%
	45-49	1	0	0.25	0.00%	25.00%	0.00%
	50+	0	0	0	0.00%	0.00%	0.00%
	Total	3	1	0.75	33.33%	25.00%	133.30%
23-23	<40	0	0	0	0.00%	0.00%	0.00%
	40-44	1	0	0.35	0.00%	35.00%	0.00%
	45-49	1	0	0.35	0.00%	35.00%	0.00%
	50+	0	0	0	0.00%	0.00%	0.00%
	Total	2	0	0.7	0.00%	35.00%	0.00%
24-24	<40	0	0	0	0.00%	0.00%	0.00%
	40-44	0	0	0	0.00%	0.00%	0.00%
	45-49	1	1	0.5	100.00%	50.00%	200.00%
	50+	0	0	0	0.00%	0.00%	0.00%
	Total	1	1	0.5	100.00%	50.00%	200.00%
25+	<40	0	0	0	0.00%	0.00%	0.00%
	40-44	0	0	0	0.00%	0.00%	0.00%
	45-49	0	0	0	0.00%	0.00%	0.00%
	50+	0	0	0	0.00%	0.00%	0.00%
	Total	0	0	0	0.00%	0.00%	0.00%
All YOS	<40	1	0	0	0.00%	0.00%	0.00%
	40-44	17	6	2.78	35.29%	16.32%	216.20%
	45-49	6	2	1.6	33.33%	26.67%	125.00%
	50+	0	0	0	0.00%	0.00%	0.00%
	Total	24	8	4.38	33.33%	18.23%	182.90%

Exhibit B – Section I

Retirement Rates

Actual 2004-2011 Experience Compared to Proposed Assumption

Years of Service	Age	Exposed	Actual Retirements	Expected Retirements	Actual %s	Expected %s	Ratio: Actual over Expected
20	<40	1	0	0.25	0.00%	25.00%	0.00%
	40-44	9	3	2.25	33.33%	25.00%	133.30%
	45-49	1	0	0.25	0.00%	25.00%	0.00%
	50+	0	0	0	0.00%	0.00%	0.00%
	Total	11	3	2.75	27.27%	25.00%	109.10%
21	<40	0	0	0	0.00%	0.00%	0.00%
	40-44	5	2	2	40.00%	40.00%	100.00%
	45-49	2	1	0.8	50.00%	40.00%	125.00%
	50+	0	0	0	0.00%	0.00%	0.00%
	Total	7	3	2.8	42.86%	40.00%	107.10%
22	<40	0	0	0	0.00%	0.00%	0.00%
	40-44	2	1	0.6	50.00%	30.00%	166.70%
	45-49	1	0	0.3	0.00%	30.00%	0.00%
	50+	0	0	0	0.00%	0.00%	0.00%
	Total	3	1	0.9	33.33%	30.00%	111.10%
23	<40	0	0	0	0.00%	0.00%	0.00%
	40-44	1	0	0.2	0.00%	20.00%	0.00%
	45-49	1	0	0.2	0.00%	20.00%	0.00%
	50+	0	0	0	0.00%	0.00%	0.00%
	Total	2	0	0.4	0.00%	20.00%	0.00%
24	<40	0	0	0	0.00%	0.00%	0.00%
	40-44	0	0	0	0.00%	0.00%	0.00%
	45-49	1	1	0.5	100.00%	50.00%	200.00%
	50+	0	0	0	0.00%	0.00%	0.00%
	Total	1	1	0.5	100.00%	50.00%	200.00%
25+	<40	0	0	0	0.00%	0.00%	0.00%
	40-44	0	0	0	0.00%	0.00%	0.00%
	45-49	0	0	0	0.00%	0.00%	0.00%
	50+	0	0	0	0.00%	0.00%	0.00%
	Total	0	0	0	0.00%	0.00%	0.00%
All YOS	<40	1	0	0.25	0.00%	25.00%	0.00%
	40-44	17	6	5.05	35.29%	29.71%	118.80%
	45-49	6	2	2.05	33.33%	34.17%	97.60%
	50+	0	0	0	0.00%	0.00%	0.00%
	Total	24	8	7.35	33.33%	30.63%	108.80%

Exhibit B – Section I

Retirement Rates

Recommendation:

The plan's current assumption estimated roughly half of the retirement that occurred during the 2004-2011 experience. The differences between actual and expected retirements were most significant at 20 and 21 years of service. Retirement rates were developed that better reflect the rates of retirement at those service levels and that would have produced a total of expected retirement closer to actual experience. Our recommendation is to adopt the proposed table.

Exhibit B – Section II

Salary Scale

Actual 2004-2011 Experience Compared to Current Assumption

Service	Near age	Exposed	Prior Year Salaries	Actual Salaries	Expected Salaries	Actual Increase	Expected Increase	Ratio: Actual over Expected
<5	<20	0	0	0	0	0.0%	0.0%	0.0%
	20-29	51	\$ 1,996,295	\$ 2,233,358	\$ 2,236,522	111.9%	112.0%	99.9%
	30-39	56	\$ 2,414,965	\$ 2,558,659	\$ 2,676,427	106.0%	110.8%	95.6%
	40+	3	\$ 140,842	\$ 148,417	\$ 152,950	105.4%	108.6%	97.0%
	Total	110	\$ 4,552,103	\$ 4,940,435	\$ 5,065,899	108.5%	111.3%	97.5%
5-9	<20	0	\$ -	\$ -	\$ -	0.0%	0.0%	0.0%
	20-29	7	\$ 367,713	\$ 399,946	\$ 391,614	108.8%	106.5%	102.1%
	30-39	64	\$ 3,835,215	\$ 4,152,875	\$ 4,084,504	108.3%	106.5%	101.7%
	40+	11	\$ 702,898	\$ 739,576	\$ 748,586	105.2%	106.5%	98.8%
	Total	82	\$ 4,905,825	\$ 5,292,397	\$ 5,224,704	107.9%	106.5%	101.3%
10-19	<20	0	\$ -	\$ -	\$ -	0.0%	0.0%	0.0%
	20-29	0	\$ -	\$ -	\$ -	0.0%	0.0%	0.0%
	30-39	56	\$ 3,943,606	\$ 4,152,966	\$ 4,091,718	105.3%	103.8%	101.5%
	40+	43	\$ 3,140,608	\$ 3,293,068	\$ 3,258,015	104.9%	103.7%	101.1%
	Total	99	\$ 7,084,214	\$ 7,446,035	\$ 7,349,733	105.1%	103.7%	101.3%
20+	<20	0	\$ -	\$ -	\$ -	0.0%	0.0%	0.0%
	20-29	0	\$ -	\$ -	\$ -	0.0%	0.0%	0.0%
	30-39	0	\$ -	\$ -	\$ -	0.0%	0.0%	0.0%
	40+	8	\$ 698,546	\$ 726,259	\$ 719,503	104.0%	103.0%	100.9%
	Total	8	\$ 698,546	\$ 726,259	\$ 719,503	104.0%	103.0%	100.9%
All YOS	<20	0	\$ -	\$ -	\$ -	0.0%	0.0%	0.0%
	20-29	58	\$ 2,364,008	\$ 2,633,304	\$ 2,628,136	111.4%	111.2%	100.2%
	30-39	176	\$ 10,193,786	\$ 10,864,500	\$ 10,852,649	106.6%	106.5%	100.1%
	40+	65	\$ 4,682,894	\$ 4,907,320	\$ 4,879,053	104.8%	104.2%	100.6%
	Total	299	\$ 17,240,688	\$ 18,405,125	\$ 18,359,839	106.8%	106.5%	100.2%

Exhibit B – Section II

Salary Scale

Actual 2004-2011 Experience Compared to Proposed Assumption

Service	Age	Exposed	Prior Year Salaries	Actual Salaries	Expected Salaries	Actual Increase	Expected Increase	Ratio: Actual over Expected
<5	<20	0	0	0	0	0.0%	0.0%	0.0%
	20-29	51	\$ 1,996,295	\$ 2,233,358	\$ 2,216,739	111.9%	111.0%	100.7%
	30-39	56	\$ 2,414,965	\$ 2,558,659	\$ 2,659,900	106.0%	110.1%	96.2%
	40+	3	\$ 140,842	\$ 148,417	\$ 152,740	105.4%	108.4%	97.2%
	Total	110	\$ 4,552,103	\$ 4,940,435	\$ 5,029,378	108.5%	110.5%	98.2%
5-9	<20	0	\$ -	\$ -	\$ -	0.0%	0.0%	0.0%
	20-29	7	\$ 367,713	\$ 399,946	\$ 392,911	108.8%	106.9%	101.8%
	30-39	64	\$ 3,835,215	\$ 4,152,875	\$ 4,065,927	108.3%	106.0%	102.1%
	40+	11	\$ 702,898	\$ 739,576	\$ 744,211	105.2%	105.9%	99.4%
	Total	82	\$ 4,905,825	\$ 5,292,397	\$ 5,203,049	107.9%	106.1%	101.7%
10-19	<20	0	\$ -	\$ -	\$ -	0.0%	0.0%	0.0%
	20-29	0	\$ -	\$ -	\$ -	0.0%	0.0%	0.0%
	30-39	56	\$ 3,943,606	\$ 4,152,966	\$ 4,129,788	105.3%	104.7%	100.6%
	40+	43	\$ 3,140,608	\$ 3,293,068	\$ 3,283,019	104.9%	104.5%	100.3%
	Total	99	\$ 7,084,214	\$ 7,446,035	\$ 7,412,807	105.1%	104.6%	100.4%
20+	<20	0	\$ -	\$ -	\$ -	0.0%	0.0%	0.0%
	20-29	0	\$ -	\$ -	\$ -	0.0%	0.0%	0.0%
	30-39	0	\$ -	\$ -	\$ -	0.0%	0.0%	0.0%
	40+	8	\$ 698,546	\$ 726,259	\$ 722,996	104.0%	103.5%	100.5%
	Total	8	\$ 698,546	\$ 726,259	\$ 722,996	104.0%	103.5%	100.5%
All YOS	<20	0	\$ -	\$ -	\$ -	0.0%	0.0%	0.0%
	20-29	58	\$ 2,364,008	\$ 2,633,304	\$ 2,609,649	111.4%	110.4%	100.9%
	30-39	176	\$ 10,193,786	\$ 10,864,500	\$ 10,855,615	106.6%	106.5%	100.1%
	40+	65	\$ 4,682,894	\$ 4,907,320	\$ 4,902,966	104.8%	104.7%	100.1%
	Total	299	\$ 17,240,688	\$ 18,405,125	\$ 18,368,230	106.8%	106.5%	100.2%

Recommendation:

Actual experience from 2004-2011 suggests only minor modification to the existing rates. Our recommendation is to adopt the proposed table.

Exhibit B – Section III
Investment Return Assumption
16-Year Asset Return History

Period Ending June 30	1-Year Market Return
1996	11.64%
1997	17.34%
1998	22.31%
1999	11.41%
2000	3.01%
2001	2.22%
2002	1.08%
2003	12.20%
2004	6.60%
2005	4.90%
2006	4.30%
2007	12.70%
2008	-0.60%
2009	-8.00%
2010	11.30%
2011	15.20%

Annualized 16-Year Return	7.72%
Annualized Inflation over 16 years	2.48%
16-year Real Return	5.11%

Exhibit B – Section III

Investment Return Assumption (continued)

Expected Long-Term Return Based on Asset Allocation

	Asset Class Weight*	Expected Real Return for Asset Class**	Weighted Expected Real Return
Equities:			
US Large Cap	35.00%	6.00%	2.10%
US Mid/Small Cap	5.00%	7.00%	0.35%
International Developed	6.50%	6.50%	0.42%
International Emerging	3.50%	7.50%	0.26%
Fixed Income:			
Cash & Cash Equivalents	1.50%	1.00%	0.02%
US Govt Intermediate	5.00%	2.00%	0.10%
US Corp Intermediate	41.00%	3.00%	1.23%
MBS /ABS	0.00%	3.00%	0.00%
High Yield	1.00%	4.50%	0.05%
International	0.00%	3.50%	0.00%
Alternatives:			
Commodities	0.00%	6.00%	0.00%
Real Estate	1.50%	5.00%	0.08%
Other (hedge fund, etc.)	0.00%	5.25%	0.00%
Total	100.00%		4.60%
Long Term Inflation Expectation**			3.00%
Long Term Expected Nominal Return***			7.60%

* Actual Asset Allocation as of 6/30/2011 for the Westerly Police Pension Fund

** Based on H&H's 2009 long-term (20+ yrs) capital market expectations.

*** No offset for management fees. Assumes active management will exactly cover fees.

Exhibit B – Section III

Investment Return Assumption (continued)

Investment Return Assumption Used by Other Municipal Plans

Investment Return Assumption**	State Plans**
7.00%	1
7.25%	5
7.50%	12
7.75%	11
7.80%	1
8.00%	34
8.25%	11
8.50%	10
Average: 7.93%	Total Plans: 85

** 2008 Comparative Study of Major Public Employee Police Pension Funds, Wisconsin Legislative Council.

Recommendation:

The plan's current asset allocation combined with long term capital market expectations that assume 3% inflation supports an investment return assumption in the range of **7.2% to 8.0%**. The current average investment return assumption for U.S. state plans is under 8%. The state of Rhode Island recently lowered the assumption it uses for state run pension plans to 7.5%. The current trend is toward downward adjustments and we expect that the number of plans using 8.0% will continue to decline. While 8.0% remains in our range of reasonable assumptions it is the highest rate in that range. As a result, we recommend that the investment return assumption be lowered to **7.5%**.

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