



RETIREMENT PLAN FOR EMPLOYEES OF THE TOWN OF WILTON

2022 EXPERIENCE STUDY

REVIEW PERIOD: JULY 1, 2016 – JUNE 30, 2021

DRAFT





Table of Contents

Executive Summary	1
Actuarial Certification	10
Exhibit I – Pro Forma Impact on Actuarial Valuation Results	11
Exhibit II – Supporting Analysis for Assumptions	
Section A – Mortality Rates	12
Section B – Retirement Rates	20
Section C – Turnover Rates	27
Section D – Disability Rates	31
Section E – Rate of Compensation Increase	33
Section F – Investment Return	37

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Retirement Plan for Employees of the Town of Wilton

Executive Summary

The following is an Executive Summary of our recommendations based on the results of the Experience Study for the review period July 1, 2016 to June 30, 2021. The impact on the valuation results is shown under four separate investment return assumptions to provide the information necessary to review the effect of that assumption. Exhibit I shows additional details of the impact on the actuarial valuation results under those seven scenarios. Exhibit II shows the data analysis used to develop the recommended assumption changes by employee group when appropriate.

Pro Forma Impact on Actuarial Valuation Results

	\$ millions				
Investment Return	6.875%	6.875%	6.75%	6.625%	6.50%
Other Assumptions	Current	Proposed	Proposed	Proposed	Proposed
Present Value of Benefits	\$151.2	\$151.3	\$154.0	\$156.7	\$159.5
Increase/(Decrease)		\$0.1	\$2.7	\$5.4	\$8.2
Actuarial Accrued Liability	\$132.0	\$131.2	\$133.3	\$135.4	\$137.6
Increase/(Decrease)		(\$0.8)	\$1.3	\$3.4	\$5.6
Actuarial Value of Assets	\$135.4	\$135.4	\$135.4	\$135.4	\$135.4
Increase/(Decrease)		\$0.0	\$0.0	\$0.0	\$0.0
Funded Ratio	102.6%	103.2%	101.6%	100.0%	98.4%
Increase/(Decrease)		0.6%	(1.0%)	(2.6%)	(4.2%)
Actuarially Determined Employer Contribution	\$1.53	\$1.49	\$1.74	\$2.00	\$2.26
Increase/(Decrease)		(\$0.04)	\$0.22	\$0.47	\$0.73

Mortality

Current Basis:

All Groups:

RP-2014 Adjusted to 2006 Total Dataset Mortality Table projected to measurement date with Scale MP-2018.

Mortality improvement

Current Basis:

All Groups:

Projected to date of decrement using Scale MP-2018 (generational).

Comment:

The mortality tables currently being used were supported by the experience study completed for the 10-year period ending June 30, 2015. We recommend updating the mortality tables to the latest published retirement study released by the Society of Actuaries, as they result in a better expected fit prospectively. Therefore, our recommendation is to use the Public Retirement Plan tables and to update the mortality improvement scale annually.



Mortality

Recommendation:

Police & Fire:

Retirees – Pub-2010 Public Retirement Plans Amount-Weighted Mortality Tables for Public Safety Employees, for non-annuitants and annuitants, projected to the valuation date with Scale MP-2021.

Disabled – Pub-2010 Public Retirement Plans Amount-Weighted Mortality Tables for Public Safety Disabled Retirees, projected to the valuation date with Scale MP-2021.

Survivors – Pub-2010 Public Retirement Plans Amount-Weighted Mortality Tables for Public Safety Contingent Survivors, projected to the valuation date with Scale MP-2021.

Town, Library & BOE:

Retirees – Pub-2010 Public Retirement Plans Amount-Weighted Mortality Tables for General Employees, for non-annuitants and annuitants, projected to the valuation date with Scale MP-2021.

Disabled – Pub-2010 Public Retirement Plans Amount-Weighted Mortality Tables for General Employees Disabled Retirees, projected to the valuation date with Scale MP-2021.

Survivors – Pub-2010 Public Retirement Plans Amount-Weighted Mortality Tables for General Employees Contingent Survivors, projected to the valuation date with Scale MP-2021.

Mortality improvement

Recommendation:

We recommend changing the mortality improvement scale to Scale MP-2021, which is the most recent scale published by the Society of Actuaries. In addition, we recommend automatically updating the mortality improvement scale annually based on the most recent scale available.



Retirement rates

Current Basis:

The assumed rates of retirement are as follows:

Police

Age	<30 Yrs. Svc.	> 30 Yrs. Svc.
<45	2.5%	0.0%
45-49	15.0%	5.0%
50-54	10.0%	25.0%
55-59	5.0%	10.0%
60-64	10.0%	10.0%
65	100.0%	100.0%

Town, Library & BOE

Age	Retirement Probability
<55	0.0%
55-59	6.0%
60-64	6.0%
65	30.0%
66-74	15.0%
75-78	33.3%
79	100.0%

Fire

Age	Retirement Probability
<50	5.0%
50-54	10.0%
55-59	10.0%
60-61	20.0%
62-64	10.0%
65	100.0%

Comment:

In general, participants are retiring earlier than previously assumed.

Recommendation:

The proposed tables were developed from the actual retirement experience. Our recommendation is to adopt the proposed tables.



Retirement rates (cont.)

The proposed rates of retirement are as follows:

Police:

< 30 Yrs. Svc		30+ Yrs. Svc	
Age	Rate	Age	Rate
45-47	0.0%	45-47	0.0%
48	20.0%	48-49	5.0%
49-54	15.0%	50-54	20.0%
55-61	10.0%	55-59	15.0%
62	15.0%	60-61	20.0%
63-64	10.0%	62	30.0%
65	100.0%	63-64	20.0%
		65	100.0%

Fire:

Age	Rate
50-51	10.0%
52-59	12.5%
60-61	20.0%
62	30.0%
63-64	20.0%
65	100.0%

BOE:

Age	Rate
55	8.0%
56-61	5.0%
62	15.0%
63-64	10.0%
65	25.0%
66-69	15.0%
70-74	30.0%
75	100.0%

Town Hall/Library:

Age	Rate
55	15.0%
56-57	5.0%
58-59	9.0%
60-61	12.0%
62	15.0%
63-64	5.0%
65-67	25.0%
68-74	20.0%
75	100.0%



Termination prior to retirement

Current Basis:

Police/Fire

Age	Male and Female
<30	5.00%
30-34	3.75%
35-39	2.50%
40-44	1.50%
45-49	0.75%
50+	0.00%

BOE

Service	Male and Female
≤ 1	13.00%
2	12.00%
3	8.00%
4	7.00%
5-9	5.00%
10-20	2.50%

Town/Library

Service	Male and Female
≤ 4	0.00%
5-20	1.50%

Comment:

Police and Fire employees are terminating at a lower rate than expected. Town/Library/BOE experience indicates that age based termination rates would be more appropriate than the current service based rates.

Recommendation:

We recommend decreasing the termination rates for Police and Fire. For Town/Library/BOE, we recommend a change to age based rates.



Termination prior to retirement (cont.)

The proposed rates of termination (sample rates) are as follows:

Police and Fire:

Age	Rate
20-30	3.0%
35	1.5%
40	1.0%
45+	0.0%

BOE:

Age	Rate
20	13.0%
25	10.5%
30	8.0%
35	5.5%
40	4.0%
45	3.0%
50	2.0%
55	1.0%
60+	0.0%

Town Hall/Library:

Age	Rate
20-45	2.0%
50	1.0%
55+	0.0%

Disability

Current Basis:

Spouse's and Disability Benefits

No service connected deaths are assumed to occur during the year. Actuarial liabilities are costed explicitly for non-service connected death benefits.

Service connected disabilities are assumed to occur at the following (sample) rates:

Age	Rate
30	0.00064
35	0.00098
40	0.00158
45	0.00259
50	0.00448

Comment:

Police and Fire experience indicates that there were fewer disabilities than expected and that lower disability rates would be appropriate.



Spouse's and Disability Benefits (cont.)

Recommendation:

We recommend decreasing disability rates for Police and Fire employees.

Police and Fire

Age	Rate
30	0.00032
35	0.00049
40	0.00079
45	0.00130
50	0.00224

Inflation

Current Basis:

2.60%.

Comment:

This assumption is based on long-term historical inflation numbers. While near term averages have been greater, we do not believe this trend will continue indefinitely and expect that there will be a reversion to the long-term average.

Recommendation:

We recommend that the assumption remain unchanged.

COLAs

Current Basis:

Pension benefits to retirees are assumed to increase by 2.5% each year.

Comment:

We suggest that this assumption be lowered based on historically lower COLA increases over the past 20 years.

	<u>Average COLA</u>
5 years (2016-21)	0.20%
10 years (2011-21)	0.67%
20 years (2001-21)	1.02%

Recommendation:

We recommend that the assumption be reduced to 2.0% per year.



Rate of compensation increase (including inflation)

Current Basis:

Annual increases:

Police/Fire Salary Scale

Service	Police	Fire
0	8.50%	8.00%
1	8.50%	8.00%
2	8.50%	8.00%
3	8.50%	8.00%
4	8.50%	8.00%
5	8.50%	8.00%
6	8.50%	3.00%
7	3.00%	

Town/Library/BOE Salary Scale

Service	Salary Scale*
1	5.50%
2	5.50%
3	5.50%
4	5.50%
5	5.50%
6	5.50%
7	5.50%
8	3.00%

* Board of Ed uses 3.50% salary scale for all service.

Comment:

Experience suggests that the rates generally should be decreased for shorter-service employees, and increased for longer-service employees.

Recommendation:

Adopt tables shown below:

Service	Police	Fire
0	8.00%	7.50%
1	8.00%	7.50%
2	8.00%	7.50%
3	8.00%	7.50%
4	8.00%	7.50%
5	8.00%	7.50%
6	8.00%	3.25%
7	3.25%	



Rate of compensation increase (including inflation) (cont.)

Town/Library/BOE

Service	Salary Scale*
0	5.00%
1	5.00%
2	5.00%
3	5.00%
4	5.00%
5	5.00%
6	5.00%
7	5.00%
8	3.25%

*Board of Ed uses 3.25% Salary Scale for all service.

Payroll growth

Current Basis:

3.50%.

Comment:

We suggest that this assumption is lowered.

Recommendation:

We recommend that the assumption be reduced to 3.25%.

Investment rate of return

Current Basis:

6.875% per year, net of investment-related and administrative expenses.

Comment:

See Section F for details.

Recommendation:

Based on updated capital market assumptions (H&H Investment Advisors, 2022), we believe that the current assumption of 6.875% is reasonable. However, the final assumed long-term rate of return should be selected in consultation with the plan's investment advisor.



Actuarial Certification

This report presents the results of the 2022 Experience Study of the Retirement Plan for Employees of the Town of Wilton and the pro forma impact that our recommendations for changes in assumptions have on the July 1, 2021 Actuarial Valuation results. It also provides the support for our recommendations. 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. We certify that the actuarial assumptions and methods were selected by us and represent our best estimate of anticipated actuarial experience under the plan.

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

The results in this report are based on the Plan as summarized in the July 1, 2021 Actuarial Valuation Report and unless otherwise specified in this report the actuarial assumptions and methods detailed in that same report.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as, but not limited to, the following: 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.

The signing actuary is independent of the Plan Sponsor. We are not aware of any relationship that would impact the objectivity of our work.

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

Steve A. Lemanski, FSA, FCA, MAAA
Vice President, Practice Leader, Consulting Actuary

October 14, 2022



Exhibit I – Pro Forma Impact on Actuarial Valuation Results

	\$ millions				
Investment Return	6.875%	6.875%	6.75%	6.625%	6.50%
Other Assumptions	Current	Proposed	Proposed	Proposed	Proposed
Present Value of Benefits - Actives	\$75.7	\$78.3	\$80.2	\$82.0	\$83.9
Present Value of Benefits - Inactives	\$75.5	\$73.0	\$73.8	\$74.7	\$75.6
Present Value of Benefits - Total	\$151.2	\$151.3	\$154.0	\$156.7	\$159.5
Increase/(Decrease)		\$0.1	\$2.7	\$5.4	\$8.2
Actuarial Accrued Liability - Actives	\$56.5	\$58.2	\$59.5	\$60.7	\$62.0
Actuarial Accrued Liability - Inactives	\$75.5	\$73.0	\$73.8	\$74.7	\$75.6
Actuarial Accrued Liability - Total	\$132.0	\$131.2	\$133.3	\$135.4	\$137.6
Increase/(Decrease)		(\$0.8)	\$1.3	\$3.4	\$5.6
Actuarial Value of Assets	\$135.4	\$135.4	\$135.4	\$135.4	\$135.4
Increase/(Decrease)		\$0.0	\$0.0	\$0.0	\$0.0
Funded Ratio	102.6%	103.2%	101.6%	100.0%	98.4%
Increase/(Decrease)		0.6%	(1.0%)	(2.6%)	(4.2%)
Actuarially Determined Employer Contribution	\$1.53	\$1.49	\$1.74	\$2.00	\$2.26
Increase/(Decrease)		(\$0.04)	\$0.22	\$0.47	\$0.73



Exhibit II – Section A-1 – Mortality Rates – Retirees and Survivors

Actual 2016-2021 Experience Compared to Current Assumption

Police & Fire – Retirees and Survivors

Age	# of Lives	Actual Deaths	Expected Deaths	Ratio:		
				Actual %	Expected %	Actual over Expected
<40	0	0	0.0	0.00%	0.00%	0.00%
40-44	0	0	0.0	0.00%	0.00%	0.00%
45-49	4	0	0.0	0.00%	0.25%	0.00%
50-54	28	0	0.1	0.00%	0.50%	0.00%
55-59	51	0	0.3	0.00%	0.61%	0.00%
60-64	55	0	0.5	0.00%	0.91%	0.00%
65-69	50	1	0.6	2.00%	1.24%	161.29%
70-74	36	1	0.8	2.78%	2.08%	133.33%
75-79	26	1	0.9	3.85%	3.31%	116.28%
80-84	20	3	1.1	15.00%	5.35%	280.37%
85-89	5	0	0.5	0.00%	9.40%	0.00%
90-94	0	0	0.0	0.00%	0.00%	0.00%
95-99	0	0	0.0	0.00%	0.00%	0.00%
100+	0	0	0.0	0.00%	0.00%	0.00%
Grand Total	275	6	4.7	2.18%	1.72%	126.58%



Exhibit II – Section A-1 – Mortality Rates – Retirees and Survivors

Actual 2016-2021 Experience Compared to Proposed Assumption

Police & Fire – Retirees and Survivors

Age	# of Lives	Actual Deaths	Expected Deaths	Ratio:		
				Actual %	Expected %	Actual over Expected
<40	0	0	0.0	0.00%	0.00%	0.00%
40-44	0	0	0.0	0.00%	0.00%	0.00%
45-49	4	0	0.0	0.00%	0.25%	0.00%
50-54	28	0	0.1	0.00%	0.21%	0.00%
55-59	51	0	0.2	0.00%	0.39%	0.00%
60-64	55	0	0.4	0.00%	0.71%	0.00%
65-69	50	1	0.5	2.00%	1.04%	192.31%
70-74	36	1	0.7	2.78%	1.83%	151.52%
75-79	26	1	0.8	3.85%	3.19%	120.48%
80-84	20	3	1.1	15.00%	5.35%	280.37%
85-89	5	0	0.5	0.00%	10.00%	0.00%
90-94	0	0	0.0	0.00%	0.00%	0.00%
95-99	0	0	0.0	0.00%	0.00%	0.00%
100+	0	0	0.0	0.00%	0.00%	0.00%
Grand Total	275	6	4.2	2.18%	1.54%	141.51%

Recommendation:

We recommend updating to Pub-2010 Public Retirement Plans Amount-Weighted Mortality Tables for Public Safety Employees, for non-annuitants and annuitants, projected to the valuation date with Scale MP-2021.



Exhibit II – Section A-1 – Mortality Rates – Retirees and Survivors

Actual 2016-2021 Experience Compared to Current Assumption

Town/Library/BOE – Retirees and Survivors

Age	# of Lives	Actual Deaths	Expected Deaths	Ratio:		
				Actual %	Expected %	Actual over Expected
<40	0	0	0.0	0.00%	0.00%	0.00%
40-44	0	0	0.0	0.00%	0.00%	0.00%
45-49	0	0	0.0	0.00%	0.00%	0.00%
50-54	7	1	0.0	14.29%	0.43%	3333.33%
55-59	40	1	0.2	2.50%	0.58%	434.78%
60-64	66	0	0.5	0.00%	0.80%	0.00%
65-69	186	2	2.1	1.08%	1.11%	96.62%
70-74	204	1	3.5	0.49%	1.74%	28.25%
75-79	138	3	3.9	2.17%	2.86%	76.14%
80-84	128	4	6.4	3.13%	5.02%	62.31%
85-89	69	5	6.2	7.25%	8.94%	81.04%
90-94	45	5	6.9	11.11%	15.29%	72.67%
95-99	9	0	2.0	0.00%	21.89%	0.00%
100+	0	0	0.0	0.00%	0.00%	0.00%
Grand Total	892	22	31.8	2.47%	3.56%	69.25%



Exhibit II – Section A-1 – Mortality Rates – Retirees and Survivors

Actual 2016-2021 Experience Compared to Proposed Assumption

Town/Library/BOE – Retirees and Survivors

Age	# of Lives	Actual Deaths	Expected Deaths	Ratio:		
				Actual %	Expected %	Actual over Expected
<40	0	0	0.0	0.00%	0.00%	0.00%
40-44	0	0	0.0	0.00%	0.00%	0.00%
45-49	0	0	0.0	0.00%	0.00%	0.00%
50-54	7	1	0.0	14.29%	0.43%	3333.33%
55-59	40	1	0.2	2.50%	0.45%	555.56%
60-64	66	0	0.4	0.00%	0.59%	0.00%
65-69	186	2	1.5	1.08%	0.82%	131.58%
70-74	204	1	2.8	0.49%	1.38%	35.59%
75-79	138	3	3.4	2.17%	2.46%	88.50%
80-84	128	4	5.9	3.13%	4.62%	67.68%
85-89	69	5	5.8	7.25%	8.42%	86.06%
90-94	45	5	6.5	11.11%	14.51%	76.57%
95-99	9	0	1.9	0.00%	20.78%	0.00%
100+	0	0	0.0	0.00%	0.00%	0.00%
Grand Total	892	22	28.5	2.47%	3.19%	77.33%

Recommendation:

We recommend updating to Pub-2010 Public Retirement Plans Amount-Weighted Mortality Tables for General Employees, for non-annuitants and annuitants, projected to the valuation date with Scale MP-2021.



Exhibit II – Section A-3 – Mortality Rates – Disabilities

Actual 2016-2021 Experience Compared to Current Assumption

Police & Fire

Age	# of Lives	Actual Deaths	Expected Deaths	Actual %	Expected %	Ratio:
						Actual over Expected
<40	0	0	0.0	0.00%	0.00%	0.00%
40-44	0	0	0.0	0.00%	0.00%	0.00%
45-49	0	0	0.0	0.00%	0.00%	0.00%
50-54	0	0	0.0	0.00%	0.00%	0.00%
55-59	4	0	0.0	0.00%	0.70%	0.00%
60-64	19	0	0.2	0.00%	0.89%	0.00%
65-69	2	0	0.0	0.00%	1.23%	0.00%
70-74	0	0	0.0	0.00%	0.00%	0.00%
75-79	0	0	0.0	0.00%	0.00%	0.00%
80-84	0	0	0.0	0.00%	0.00%	0.00%
85-89	0	0	0.0	0.00%	0.00%	0.00%
90-94	0	0	0.0	0.00%	0.00%	0.00%
95-99	0	0	0.0	0.00%	0.00%	0.00%
100+	0	0	0.0	0.00%	0.00%	0.00%
Grand Total	25	0	0.2	0.00%	0.89%	0.00%



Exhibit II – Section A-3 – Mortality Rates – Disabilities

Actual 2016-2021 Experience Compared to Proposed Assumption

Police & Fire

Age	# of Lives	Actual Deaths	Expected Deaths	Ratio:		
				Actual %	Expected %	Actual over Expected
<40	0	0	0.0	0.00%	0.00%	0.00%
40-44	0	0	0.0	0.00%	0.00%	0.00%
45-49	0	0	0.0	0.00%	0.00%	0.00%
50-54	0	0	0.0	0.00%	0.00%	0.00%
55-59	4	0	0.0	0.00%	0.67%	0.00%
60-64	19	0	0.2	0.00%	0.89%	0.00%
65-69	2	0	0.0	0.00%	1.25%	0.00%
70-74	0	0	0.0	0.00%	0.00%	0.00%
75-79	0	0	0.0	0.00%	0.00%	0.00%
80-84	0	0	0.0	0.00%	0.00%	0.00%
85-89	0	0	0.0	0.00%	0.00%	0.00%
90-94	0	0	0.0	0.00%	0.00%	0.00%
95-99	0	0	0.0	0.00%	0.00%	0.00%
100+	0	0	0.0	0.00%	0.00%	0.00%
Grand Total	25	0	0.2	0.00%	0.89%	0.00%

Recommendation:

We recommend updating to Pub-2010 Public Retirement Plans Amount-Weighted Mortality Tables for Public Safety Disabled Retirees, projected to the valuation date with Scale MP-2021.



Exhibit II – Section A-3 – Mortality Rates – Disabilities

Actual 2016-2021 Experience Compared to Current Assumption

Town/Library/BOE

Age	# of Lives	Actual Deaths	Expected Deaths	Ratio:		
				Actual %	Expected %	Actual over Expected
<40	0	0	0.0	0.00%	0.00%	0.00%
40-44	0	0	0.0	0.00%	0.00%	0.00%
45-49	0	0	0.0	0.00%	0.00%	0.00%
50-54	0	0	0.0	0.00%	0.00%	0.00%
55-59	0	0	0.0	0.00%	0.00%	0.00%
60-64	0	0	0.0	0.00%	0.00%	0.00%
65-69	0	0	0.0	0.00%	0.00%	0.00%
70-74	0	0	0.0	0.00%	0.00%	0.00%
75-79	0	0	0.0	0.00%	0.00%	0.00%
80-84	0	0	0.0	0.00%	0.00%	0.00%
85-89	0	0	0.0	0.00%	0.00%	0.00%
90-94	0	0	0.0	0.00%	0.00%	0.00%
95-99	0	0	0.0	0.00%	0.00%	0.00%
100+	0	0	0.0	0.00%	0.00%	0.00%
Grand Total	0	0	0.0	0.00%	0.00%	0.00%



Exhibit II – Section A-3 – Mortality Rates – Disabilities

Actual 2016-2021 Experience Compared to Proposed Assumption

Town/Library/BOE

Age	# of Lives	Actual Deaths	Expected Deaths	Ratio:		
				Actual %	Expected %	Actual over Expected
<40	0	0	0.0	0.00%	0.00%	0.00%
40-44	0	0	0.0	0.00%	0.00%	0.00%
45-49	0	0	0.0	0.00%	0.00%	0.00%
50-54	0	0	0.0	0.00%	0.00%	0.00%
55-59	0	0	0.0	0.00%	0.00%	0.00%
60-64	0	0	0.0	0.00%	0.00%	0.00%
65-69	0	0	0.0	0.00%	0.00%	0.00%
70-74	0	0	0.0	0.00%	0.00%	0.00%
75-79	0	0	0.0	0.00%	0.00%	0.00%
80-84	0	0	0.0	0.00%	0.00%	0.00%
85-89	0	0	0.0	0.00%	0.00%	0.00%
90-94	0	0	0.0	0.00%	0.00%	0.00%
95-99	0	0	0.0	0.00%	0.00%	0.00%
100+	0	0	0.0	0.00%	0.00%	0.00%
Grand Total	0	0	0.0	0.00%	0.00%	0.00%

Recommendation:

We recommend updating to Pub-2010 Public Retirement Plans Amount-Weighted Mortality Tables for General Disabled Retirees, projected to the valuation date with Scale MP-2021.



Exhibit II – Section B – Retirement Rates

Actual 2016-2021 Experience Compared to Current Assumption

Police

Service	Age	# of Lives	Actual Retirements	Expected Retirements	Actual %	Expected %	Ratio:
							Actual over Expected
<30 Yrs Svc	<45	0	0	0.0	0.00%	0.00%	0.00%
	45-46	0	0	0.0	0.00%	0.00%	0.00%
	47-48	4	1	0.6	25.00%	15.00%	166.70%
	49-50	7	1	0.9	14.29%	12.14%	117.60%
	51-52	0	0	0.0	0.00%	0.00%	0.00%
	53-54	1	1	0.1	100.00%	10.00%	1000.00%
	55-56	0	0	0.0	0.00%	0.00%	0.00%
	57-58	1	1	0.1	100.00%	5.00%	2000.00%
	59-60	0	0	0.0	0.00%	0.00%	0.00%
	61-62	0	0	0.0	0.00%	0.00%	0.00%
	63-64	0	0	0.0	0.00%	0.00%	0.00%
	65+	0	0	0.0	0.00%	0.00%	0.00%
	<Total>	13	4	1.6	30.77%	12.31%	250.00%
30+ Yrs Svc	<45	0	0	0.0	0.00%	0.00%	0.00%
	45-46	0	0	0.0	0.00%	0.00%	0.00%
	47-48	0	0	0.0	0.00%	0.00%	0.00%
	49-50	0	0	0.0	0.00%	0.00%	0.00%
	51-52	0	0	0.0	0.00%	0.00%	0.00%
	53-54	2	0	0.5	0.00%	25.00%	0.00%
	55-56	2	0	0.2	0.00%	10.00%	0.00%
	57-58	2	1	0.2	50.00%	10.00%	500.00%
	59-60	3	1	0.3	33.33%	10.00%	333.30%
	61-62	4	0	0.4	0.00%	10.00%	0.00%
	63-64	3	1	0.3	33.33%	10.00%	333.30%
	65+	0	0	0.0	0.00%	0.00%	0.00%
	<Total>	16	3	1.9	18.75%	11.88%	157.90%
Total	<45	0	0	0.0	0.00%	0.00%	0.00%
	45-46	0	0	0.0	0.00%	0.00%	0.00%
	47-48	4	1	0.6	25.00%	15.00%	166.70%
	49-50	7	1	0.9	14.29%	12.14%	117.60%
	51-52	0	0	0.0	0.00%	0.00%	0.00%
	53-54	3	1	0.6	33.33%	20.00%	166.70%
	55-56	2	0	0.2	0.00%	10.00%	0.00%
	57-58	3	2	0.3	66.67%	8.33%	800.00%
	59-60	3	1	0.3	33.33%	10.00%	333.30%
	61-62	4	0	0.4	0.00%	10.00%	0.00%
	63-64	3	1	0.3	33.33%	10.00%	333.30%
	65+	0	0	0.0	0.00%	0.00%	0.00%
	Grand Total		29	7	3.5	24.14%	12.07%



Exhibit II – Section B – Retirement Rates

Actual 2016-2021 Experience Compared to Proposed Assumption

Police

Service	Age	# of Lives	Actual Retirements	Expected Retirements	Actual %	Expected %	Ratio:
							Actual over Expected
<30 Yrs Svc	<45	0	0	0.0	0.00%	0.00%	0.00%
	45-46	0	0	0.0	0.00%	0.00%	0.00%
	47-48	4	1	0.6	25.00%	15.00%	166.70%
	49-50	7	1	1.1	14.29%	15.00%	95.20%
	51-52	0	0	0.0	0.00%	0.00%	0.00%
	53-54	1	1	0.2	100.00%	15.00%	666.70%
	55-56	0	0	0.0	0.00%	0.00%	0.00%
	57-58	1	1	0.1	100.00%	10.00%	1000.00%
	59-60	0	0	0.0	0.00%	0.00%	0.00%
	61-62	0	0	0.0	0.00%	0.00%	0.00%
	63-64	0	0	0.0	0.00%	0.00%	0.00%
	65+	0	0	0.0	0.00%	0.00%	0.00%
	<Total>	13	4	1.9	30.77%	14.62%	210.50%
30+ Yrs Svc	<45	0	0	0.0	0.00%	0.00%	0.00%
	45-46	0	0	0.0	0.00%	0.00%	0.00%
	47-48	0	0	0.0	0.00%	0.00%	0.00%
	49-50	0	0	0.0	0.00%	0.00%	0.00%
	51-52	0	0	0.0	0.00%	0.00%	0.00%
	53-54	2	0	0.4	0.00%	20.00%	0.00%
	55-56	2	0	0.3	0.00%	15.00%	0.00%
	57-58	2	1	0.3	50.00%	15.00%	333.30%
	59-60	3	1	0.6	33.33%	18.33%	181.80%
	61-62	4	0	1.0	0.00%	25.00%	0.00%
	63-64	3	1	0.6	33.33%	20.00%	166.70%
	65+	0	0	0.0	0.00%	0.00%	0.00%
	<Total>	16	3	3.2	18.75%	19.69%	95.20%
Total	<45	0	0	0.0	0.00%	0.00%	0.00%
	45-46	0	0	0.0	0.00%	0.00%	0.00%
	47-48	4	1	0.6	25.00%	15.00%	166.70%
	49-50	7	1	1.1	14.29%	15.00%	95.20%
	51-52	0	0	0.0	0.00%	0.00%	0.00%
	53-54	3	1	0.6	33.33%	18.33%	181.80%
	55-56	2	0	0.3	0.00%	15.00%	0.00%
	57-58	3	2	0.4	66.67%	13.33%	500.00%
	59-60	3	1	0.6	33.33%	18.33%	181.80%
	61-62	4	0	1.0	0.00%	25.00%	0.00%
	63-64	3	1	0.6	33.33%	20.00%	166.70%
	65+	0	0	0.0	0.00%	0.00%	0.00%
	Grand Total		29	7	5.1	24.14%	17.41%



Actual 2016-2021 Experience Compared to Proposed Assumption (cont.)

Police

Recommendation:

The proposed table was developed from actual experience. Our recommendation is to adopt the proposed table.

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Exhibit II – Section B – Retirement Rates

Actual 2016-2021 Experience Compared to Current Assumption

Fire

Age	# of Lives	Actual Retirements	Expected Retirements	Actual %	Expected %	Ratio: Actual over Expected
<55	0	0	0.0	0.00%	0.00%	0.00%
55	2	0	0.2	0.00%	10.00%	0.00%
56	2	0	0.2	0.00%	10.00%	0.00%
57	2	0	0.2	0.00%	10.00%	0.00%
58	2	0	0.2	0.00%	10.00%	0.00%
59	2	0	0.2	0.00%	10.00%	0.00%
60	1	0	0.2	0.00%	20.00%	0.00%
61	1	0	0.2	0.00%	20.00%	0.00%
62	1	1	0.1	100.00%	10.00%	1000.00%
63	0	0	0.0	0.00%	0.00%	0.00%
64	0	0	0.0	0.00%	0.00%	0.00%
65	0	0	0.0	0.00%	0.00%	0.00%
Grand Total	13	1	1.5	7.69%	11.54%	66.70%

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Exhibit II – Section B – Retirement Rates

Actual 2016-2021 Experience Compared to Proposed Assumption

Fire

Service	# of Lives	Actual Retirements	Expected Retirements	Actual %	Expected %	Ratio:
						Actual over Expected
<55	0	0	0.0	0.00%	0.00%	0.00%
55	2	0	0.3	0.00%	12.50%	0.00%
56	2	0	0.3	0.00%	12.50%	0.00%
57	2	0	0.3	0.00%	12.50%	0.00%
58	2	0	0.3	0.00%	12.50%	0.00%
59	2	0	0.3	0.00%	12.50%	0.00%
60	1	0	0.2	0.00%	20.00%	0.00%
61	1	0	0.2	0.00%	20.00%	0.00%
62	1	1	0.3	100.00%	30.00%	333.30%
63	0	0	0.0	0.00%	0.00%	0.00%
64	0	0	0.0	0.00%	0.00%	0.00%
65	0	0	0.0	0.00%	0.00%	0.00%
Grand Total	13	1	2.0	7.69%	15.00%	51.30%

Recommendation:

The proposed table was developed from actual experience. Our recommendation is to adopt the proposed table.



Exhibit II – Section B – Retirement Rates

Actual 2016-2021 Experience Compared to Current Assumption

Town/Library/BOE

Age	# of Lives	Actual Retirements	Expected Retirements	Actual %	Expected %	Ratio: Actual over Expected
<55	96	3	0.0	3.13%	0.00%	0.00%
55	31	4	1.9	12.90%	6.00%	215.05%
56	39	2	2.3	5.13%	6.00%	85.47%
57	41	1	2.5	2.44%	6.00%	40.65%
58	51	2	3.1	3.92%	6.00%	65.36%
59	46	4	2.8	8.70%	6.00%	144.93%
60	46	3	2.8	6.52%	6.00%	108.70%
61	44	2	2.6	4.55%	6.00%	75.76%
62	47	6	2.8	12.77%	6.00%	212.77%
63	48	4	2.9	8.33%	6.00%	138.89%
64	37	3	2.2	8.11%	6.00%	135.14%
65	34	7	10.2	20.59%	30.00%	68.63%
66	24	4	3.6	16.67%	15.00%	111.11%
67	19	2	2.9	10.53%	15.00%	70.18%
68	16	3	2.4	18.75%	15.00%	125.00%
69	15	5	2.3	33.33%	15.00%	222.22%
70	13	2	2.0	15.38%	15.00%	102.56%
71	12	4	1.8	33.33%	15.00%	222.22%
72	7	3	1.1	42.86%	15.00%	285.71%
73	4	3	0.6	75.00%	15.00%	500.00%
74	2	0	0.3	0.00%	15.00%	0.00%
75+	19	3	10.3	15.79%	54.37%	29.04%
Grand Total	691	70	63.1	10.13%	9.14%	110.88%



Exhibit II – Section B – Retirement Rates

Actual 2016-2021 Experience Compared to Proposed Assumption

Town/Library/BOE

Service	# of Lives	Actual Retirements	Expected Retirements	Actual %	Expected %	Ratio: Actual over Expected
<55	96	3	0.0	3.13%	0.00%	0.00%
55	31	4	3.0	12.90%	9.81%	131.58%
56	39	2	2.0	5.13%	5.00%	102.56%
57	41	1	2.1	2.44%	5.00%	48.78%
58	51	2	3.1	3.92%	6.02%	65.15%
59	46	4	2.7	8.70%	5.96%	145.99%
60	46	3	3.1	6.52%	6.83%	95.54%
61	44	2	3.1	4.55%	7.07%	64.31%
62	47	6	7.1	12.77%	15.00%	85.11%
63	48	4	4.2	8.33%	8.65%	96.39%
64	37	3	3.2	8.11%	8.65%	93.75%
65	34	7	8.5	20.59%	25.00%	82.35%
66	24	4	4.4	16.67%	18.33%	90.91%
67	19	2	3.6	10.53%	18.68%	56.34%
68	16	3	2.7	18.75%	16.88%	111.11%
69	15	5	2.6	33.33%	17.33%	192.31%
70	13	2	3.6	15.38%	27.69%	55.56%
71	12	4	3.3	33.33%	27.50%	121.21%
72	7	3	1.8	42.86%	25.71%	166.67%
73	4	3	1.0	75.00%	25.00%	300.00%
74	2	0	0.5	0.00%	25.00%	0.00%
75+	19	3	19.0	15.79%	100.00%	15.79%
Grand Total	691	70	84.5	10.13%	12.22%	82.89%

Recommendation:

The proposed table was developed from the actual turnover experience. Our recommendation is to adopt the proposed table.



Exhibit II – Section C – Turnover Rates

Actual 2016-2021 Experience Compared to Current Assumption

Police & Fire

Age	# of Lives	Actual Terminations	Expected Terminations	Actual %	Expected %	Ratio: Actual over Expected
<20	0	0	0.0	0.00%	0.00%	0.00%
20-24	0	0	0.0	0.00%	0.00%	0.00%
25-29	15	0	0.8	0.00%	5.00%	0.00%
30-34	38	0	1.4	0.00%	3.74%	0.00%
35-39	40	1	1.0	2.50%	2.50%	100.00%
40-44	53	0	0.8	0.00%	1.51%	0.00%
45-49	47	0	0.4	0.00%	0.74%	0.00%
50-54	38	0	0.0	0.00%	0.00%	0.00%
55-59	34	0	0.0	0.00%	0.00%	0.00%
60-64	10	2	0.0	20.00%	0.00%	0.00%
65+	0	0	0.0	0.00%	0.00%	0.00%
Grand Total	275	3	4.3	1.09%	1.57%	69.44%

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Exhibit II – Section C – Turnover Rates

Actual 2016-2021 Experience Compared to Proposed Assumption

Police & Fire

Age	# of Lives	Actual Terminations	Expected Terminations	Actual %	Expected %	Ratio: Actual over Expected
<20	0	0	0.0	0.00%	0.00%	0.00%
20-24	0	0	0.0	0.00%	0.00%	0.00%
25-29	15	0	0.5	0.00%	3.00%	0.00%
30-34	38	0	0.9	0.00%	2.34%	0.00%
35-39	40	1	0.5	2.50%	1.30%	192.31%
40-44	53	0	0.3	0.00%	0.60%	0.00%
45-49	47	0	0.0	0.00%	0.00%	0.00%
50-54	38	0	0.0	0.00%	0.00%	0.00%
55-59	34	0	0.0	0.00%	0.00%	0.00%
60-64	10	2	0.0	20.00%	0.00%	0.00%
65+	0	0	0.0	0.00%	0.00%	0.00%
Grand Total	275	3	2.2	1.09%	0.80%	136.99%

Recommendation:

The proposed table was developed from the actual turnover experience. Our recommendation is to adopt the proposed table.



Exhibit II – Section C – Turnover Rates

Actual 2016-2021 Experience Compared to Current Assumption

Town/Library/BOE

Service	# of Lives	Actual Terminations	Expected Terminations	Actual %	Expected %	Ratio:
						Actual over Expected
<20	0	0	0.0	0.00%	0.00%	0.00%
20-24	0	0	0.0	0.00%	0.00%	0.00%
25-29	3	0	0.1	0.00%	3.33%	0.00%
30-34	3	1	0.1	33.33%	4.33%	769.23%
35-39	21	0	0.6	0.00%	2.67%	0.00%
40-44	56	2	1.5	3.57%	2.64%	135.14%
45-49	49	2	1.5	4.08%	3.12%	130.72%
50-54	63	1	2.1	1.59%	3.29%	48.31%
55-59	16	0	0.7	0.00%	4.56%	0.00%
60-64	0	0	0.0	0.00%	0.00%	0.00%
65+	0	0	0.0	0.00%	0.00%	0.00%
Grand Total	211	6	6.6	2.84%	3.11%	91.32%

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Exhibit II – Section C – Turnover Rates

Actual 2016-2021 Experience Compared to Proposed Assumption

Town/Library/BOE

Service	# of Lives	Actual Terminations	Expected Terminations	Actual %	Expected %	Ratio: Actual over Expected
<20	0	0	0.0	0.00%	0.00%	0.00%
20-24	0	0	0.0	0.00%	0.00%	0.00%
25-29	3	0	0.3	0.00%	9.00%	0.00%
30-34	3	1	0.2	33.33%	7.00%	476.19%
35-39	21	0	0.8	0.00%	3.86%	0.00%
40-44	56	2	1.8	3.57%	3.29%	108.70%
45-49	49	2	1.1	4.08%	2.27%	180.18%
50-54	63	1	0.9	1.59%	1.49%	106.38%
55-59	16	0	0.1	0.00%	0.88%	0.00%
60-64	0	0	0.0	0.00%	0.00%	0.00%
65+	0	0	0.0	0.00%	0.00%	0.00%
Grand Total	211	6	5.3	2.84%	2.52%	112.78%

Recommendation:

The proposed table was developed from the actual turnover experience. Our recommendation is to adopt the proposed table.



Exhibit II – Section D – Disability Rates

Actual 2016-2021 Experience Compared to Current Assumption

Police & Fire

Age	# of Lives	Actual Disabilities	Expected Disabilities	Actual %	Expected %	Ratio: Actual over Expected
<20	0	0	0.0	0.00%	0.00%	0.00%
20-24	0	0	0.0	0.00%	0.00%	0.00%
25-29	15	0	0.0	0.00%	0.00%	0.00%
30-34	38	0	0.0	0.00%	0.00%	0.00%
35-39	40	0	0.0	0.00%	0.00%	0.00%
40-44	53	0	0.1	0.00%	0.00%	0.00%
45-49	54	0	0.2	0.00%	0.00%	0.00%
50-54	45	0	0.3	0.00%	0.00%	0.00%
55-59	50	0	0.5	0.00%	0.00%	0.00%
60-64	22	0	0.3	0.00%	0.00%	0.00%
65+	0	0	0.0	0.00%	0.00%	0.00%
Grand Total	317	0	1.4	0.00%	0.00%	0.00%

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Exhibit II – Section D – Disability Rates

Actual 2016-2021 Experience Compared to Proposed Assumption

Police & Fire

Age	# of Lives	Actual Disabilities	Expected Disabilities	Actual %	Expected %	Ratio: Actual over Expected
<20	0	0	0.0	0.00%	0.00%	0.00%
20-24	0	0	0.0	0.00%	0.00%	0.00%
25-29	15	0	0.0	0.00%	0.00%	0.00%
30-34	38	0	0.0	0.00%	0.03%	0.00%
35-39	40	0	0.0	0.00%	0.08%	0.00%
40-44	53	0	0.1	0.00%	0.09%	0.00%
45-49	54	0	0.1	0.00%	0.17%	0.00%
50+	45	0	0.1	0.00%	0.29%	0.00%
55-59	50	0	0.3	0.00%	0.50%	0.00%
60-64	22	0	0.2	0.00%	0.68%	0.00%
65+	0	0	0.0	0.00%	0.00%	0.00%
Grand Total	317	0	0.7	0.00%	0.22%	0.00%

Recommendation:

We recommend decreasing disability rates for Police and Fire employees.



Exhibit II – Section E – Rate of Compensation Increase

Actual 2016-2021 Experience Compared to Current Assumption

Police & Fire

Service	# of Lives	Prior Year Salaries	Actual Salaries	Expected Salaries	Ratio: Actual over Expected
<0	1	63,888	69,098	68,998	100.14%
0	8	492,654	538,105	532,984	100.96%
1	10	713,757	773,896	772,500	100.18%
2	14	1,040,038	1,098,679	1,126,012	97.57%
3	14	1,042,161	1,113,644	1,128,144	98.71%
4	14	1,113,644	1,200,343	1,205,554	99.57%
5	10	814,123	874,401	882,097	99.13%
6-9	27	2,479,090	2,589,476	2,577,465	100.47%
7-14	67	6,048,337	6,322,125	6,229,788	101.48%
15-19	97	9,245,266	9,573,164	9,522,624	100.53%
20+	44	4,229,840	4,371,293	4,356,735	100.33%
Grand Total	306	27,282,797	28,524,225	28,402,902	100.43%

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Exhibit II – Section E – Rate of Compensation Increase

Actual 2016-2021 Experience Compared to Proposed Assumption

Police & Fire

Service	# of Lives	Prior Year Salaries	Actual Salaries	Expected Salaries	Ratio:
					Actual over Expected
<0	1	63,888	69,098	68,679	100.61%
0	8	492,654	538,105	530,520	101.43%
1	10	713,757	773,896	768,930	100.65%
2	14	1,040,038	1,098,679	1,120,808	98.03%
3	14	1,042,161	1,113,644	1,122,930	99.17%
4	14	1,113,644	1,200,343	1,199,982	100.03%
5	10	814,123	874,401	878,024	99.59%
6-9	27	2,479,090	2,589,476	2,580,387	100.35%
7-14	67	6,048,337	6,322,125	6,244,908	101.24%
15-19	97	9,245,266	9,573,164	9,545,737	100.29%
20+	44	4,229,840	4,371,293	4,367,310	100.09%
Grand Total	306	27,282,797	28,524,225	28,428,215	100.34%

Recommendation:

Our recommendation is to adopt the proposed table.



Exhibit II – Section E – Rate of Compensation Increase

Actual 2016-2021 Experience Compared to Current Assumption

Town/Library/BOE

Service	# of Lives	Prior Year Salaries	Actual Salaries	Expected Salaries	Ratio:
					Actual over Expected
<0	0	0	0	0	0.00%
0	0	0	0	0	0.00%
1	0	0	0	0	0.00%
2	0	0	0	0	0.00%
3	0	0	0	0	0.00%
4	3	230,522	223,756	238,590	93.78%
5	10	486,612	534,168	503,644	106.06%
6-9	141	6,779,779	7,074,943	7,017,752	100.81%
7-14	256	12,856,752	13,142,753	13,285,132	98.93%
15-19	236	13,239,265	13,561,852	13,678,748	99.15%
20+	177	10,803,647	11,027,904	11,157,175	98.84%
Grand Total	823	44,396,577	45,565,375	45,881,040	99.31%

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Exhibit II – Section E – Rate of Compensation Increase

Actual 2016-2021 Experience Compared to Proposed Assumption

Town/Library/BOE

Service	# of Lives	Prior Year Salaries	Actual Salaries	Expected Salaries	Ratio:
					Actual over Expected
<0	0	0	0	0	0.00%
0	0	0	0	0	0.00%
1	0	0	0	0	0.00%
2	0	0	0	0	0.00%
3	0	0	0	0	0.00%
4	3	230,522	223,756	238,014	94.01%
5	10	486,612	534,168	502,427	106.32%
6-9	141	6,779,779	7,074,943	7,004,851	101.00%
7-14	256	12,856,752	13,142,753	13,274,596	99.01%
15-19	236	13,239,265	13,561,852	13,669,542	99.21%
20+	177	10,803,647	11,027,904	11,154,766	98.86%
Grand Total	823	44,396,577	45,565,375	45,844,194	99.39%

Recommendation:

Our recommendation is to adopt the proposed table.



Exhibit II – Section F – Investment Return Assumption

Expected Long-Term Return Based on Asset Allocation

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return*	Weighting
Core Fixed Income	21.00%	1.05%	0.22%
Global Fixed Income	5.00%	1.00%	0.05%
High Yield Fixed Income	2.50%	3.30%	0.08%
U.S. Large Cap	22.00%	4.60%	1.01%
U.S. Small Cap	8.00%	5.20%	0.42%
International Developed	20.00%	5.80%	1.16%
Emerging Markets	10.00%	7.55%	0.76%
Inflation Protection Fixed Income	1.50%	1.00%	0.02%
Private Debt	5.00%	3.90%	0.20%
Real Estate	5.00%	5.00%	0.25%
	100.00%		4.17%
Long-Term Inflation Expectation			2.60%
Long-Term Expected Nominal Return			6.77%

**Long-Term Real Returns are provided by HHIA. The returns are geometric means.*

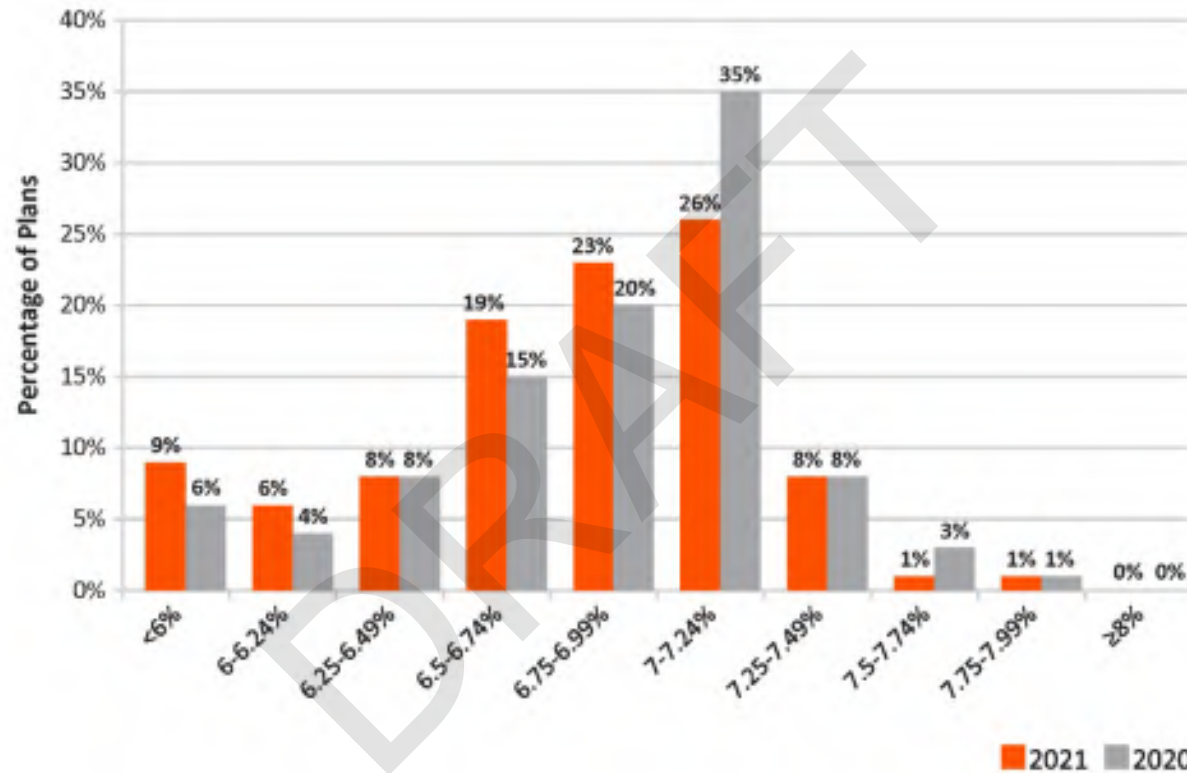
The long-term expected rate of return on pension plan investments was determined using a building block method in which best-estimate ranges of expected future real rates of return are developed. Best estimates of the real rates of return for each major asset class are included in the pension plan's target asset allocation.

The information above is based on geometric means and does not reflect additional returns through investment selection, asset allocation and rebalancing.



Exhibit II – Section F – Investment Return Assumption

Survey of Long-Term Rate of Return Assumption, based on FYE 2021 CAFRs*



* This information comes from approximately 200 Connecticut plans that we gathered data on.

Recommendation:

The plan's current asset allocation combined with updated long term capital market expectations (H&H Investment Advisors, 2022) and assuming 2.60% inflation supports an investment return assumption in the range of 6.75% to 7.00%.

The current assumption of 6.875% falls within the range noted above. However, the final rate should be selected in consultation with the plan's investment advisor.