



TOWN OF BRANFORD POLICE RETIREMENT FUND

ACTUARIAL VALUATION REPORT

JULY 1, 2017

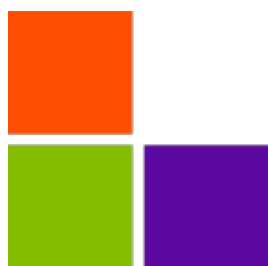




Table of Contents

Executive Summary	1
Valuation Results and Highlights	2
Purpose of the Valuation	2
Information Available in the Valuation Report.....	2
Changes Reflected in the Valuation.....	2
Cash Contribution for Fiscal Years Ending 2019 and 2020	2
Liability Experience During Period Under Review	2
Asset Experience During Period Under Review	3
Certification	4
Development of Unfunded Accrued Liability and Funded Ratio.....	5
Determination of Normal Cost and Actuarially Determined Employer Contribution.....	7
Determination of Actuarial Gain/Loss	9
Development of Asset Values.....	10
Target Allocation and Expected Rate of Return	16
Amortization of Unfunded Liability	17
Member Data	18
Active Member Count by Age and Years of Service	21
Expected Benefit Payments from Trust Fund.....	22
Description of Actuarial Methods	23
Description of Actuarial Assumptions	24
Summary of Plan Provisions	27

Report Prepared By:

Timothy A. Ryor
Senior Vice President and Consulting Actuary
860.856.2102
TRyor@hhconsultants.com

Jola Kolc
Actuarial Analyst
860.856.2124
JKolc@hhconsultants.com



Executive Summary

	July 1, 2017	July 1, 2015
Number of members		
Active employees	28	38
Terminated vested members	2	1
Employees in DROP	7	0
Retired, disabled and beneficiaries	48	45
Total	85	84
Covered employee payroll	2,599,740	3,444,852
Average plan salary	92,848	90,654
Actuarial present value of future benefits	37,297,166	33,865,074
Actuarial accrued liability	33,549,471	28,755,887
Plan assets		
Market value of assets	22,451,018	21,598,370
Actuarial value of assets	23,628,522	22,410,598
Unfunded accrued liability	9,920,949	6,345,289
Funded ratio	70.4%	77.9%
Actuarially determined employer contribution (ADEC)		
Fiscal year ending	2019	2017
ADEC	1,056,060	911,226
Fiscal year ending	2020	2018
ADEC	1,056,060	911,226



Valuation Results and Highlights

Purpose of the Valuation

The purpose of the valuation is to develop the Actuarially Determined Employer Contribution (ADEC).

The ultimate cost of a pension plan is based primarily on the level of benefits promised by the plan. The pension fund's investment earnings serve to reduce the cost of plan benefits and expenses. Thus,

$$\text{Ultimate cost} = \text{Benefits Paid} + \text{Expenses Incurred} - \text{Investment Return} - \text{Employee Contributions}$$

The actuarial cost method distributes this ultimate cost over the working lifetime of current plan participants. By means of this budgeting process, costs are allocated to both past and future years, and a cost is assigned to the current year. The current year's allocated cost, or normal cost, is the building block upon which the actuarially determined employer contribution is developed. The July 1, 2017 valuation produces the contributions for the fiscal years ending 2019 and 2020.

Information Available in the Valuation Report

The Executive Summary is intended to emphasize the notable results of the valuation from the perspective of the Plan Sponsor. Supporting technical detail is documented in Results of the Valuation, Supporting Exhibits and Description of Actuarial Methods and Assumptions. A concise summary of the principal provisions of the Plan is outlined in Summary of Plan Provisions.

Changes Reflected in the Valuation

- Mortality
- Inflation
- Retirement
- Investment rate of return

Cash Contribution for Fiscal Years Ending 2019 and 2020

The Town cost is:	2019 Fiscal Year	2020 Fiscal Year
	\$1,056,060	\$1,056,060

Liability Experience During Period Under Review

The plan experienced a net actuarial loss on liabilities of \$1,954,558 since the prior valuation.



Asset Experience During Period Under Review

The plan's assets provided the following rates of return during the past two fiscal years:

	2016 Fiscal Year	2017 Fiscal Year
Market Value Basis	0.7%	7.3%
Actuarial Value Basis	4.2%	5.0%

The Actuarial Value of assets, rather than the Market Value, is used to determine plan contributions. The Actuarial Value spreads the asset volatility over 5 years, thereby smoothing out fluctuations that are inherent in the Market Value.



Certification

This report presents the results of the July 1, 2017 Actuarial Valuation for Town of Branford Police Retirement Fund (the Plan) for the purpose of estimating the funded status of the Plan and determining the Actuarially Determined Employer Contribution (ADEC) for the fiscal years ending June 30, 2019 and June 30, 2020. This report is intended to satisfy the requirements of Connecticut General Statute 7-450a. This report may not be appropriate for any other purpose.

The valuation has been performed in accordance with generally accepted actuarial principles and practices. It is intended to comply with all applicable Actuarial Standards of Practice.

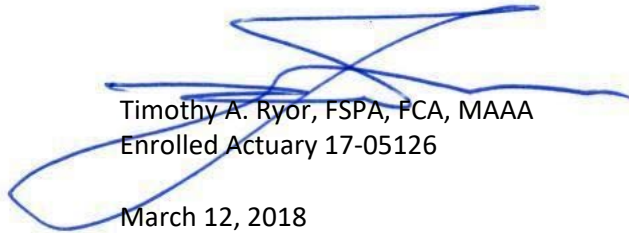
I certify that the actuarial assumptions and methods that were selected by me and represent my best estimate of anticipated actuarial experience under the Plan.

In preparing this valuation, I have relied on employee data provided by the Plan Sponsor, and on asset and contribution information provided by the Trustee. I have audited neither the employee data nor the financial information, although I have reviewed them for reasonableness.

The results in this valuation report are based on the Plan as summarized in the *Summary of Plan Provisions* section of this report and the actuarial assumptions and methods detailed in the *Description of Actuarial Methods and Assumptions* section of this report.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such 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.

I have no relationship with the employer or the Plan that would impair, or appear to impair, my objectivity in performing the work presented in this report. I am a member of the American Academy of Actuaries and meet its Qualification Standards to render the actuarial opinion contained herein.



Timothy A. Ryor, FSPA, FCA, MAAA
Enrolled Actuary 17-05126

March 12, 2018

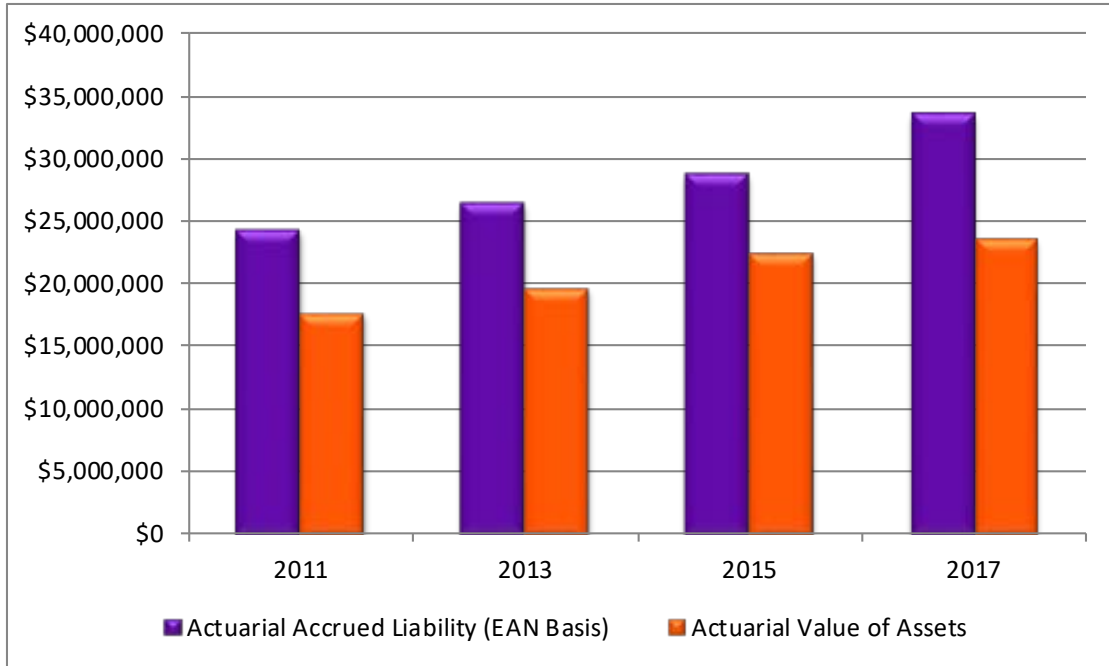


Development of Unfunded Accrued Liability and Funded Ratio

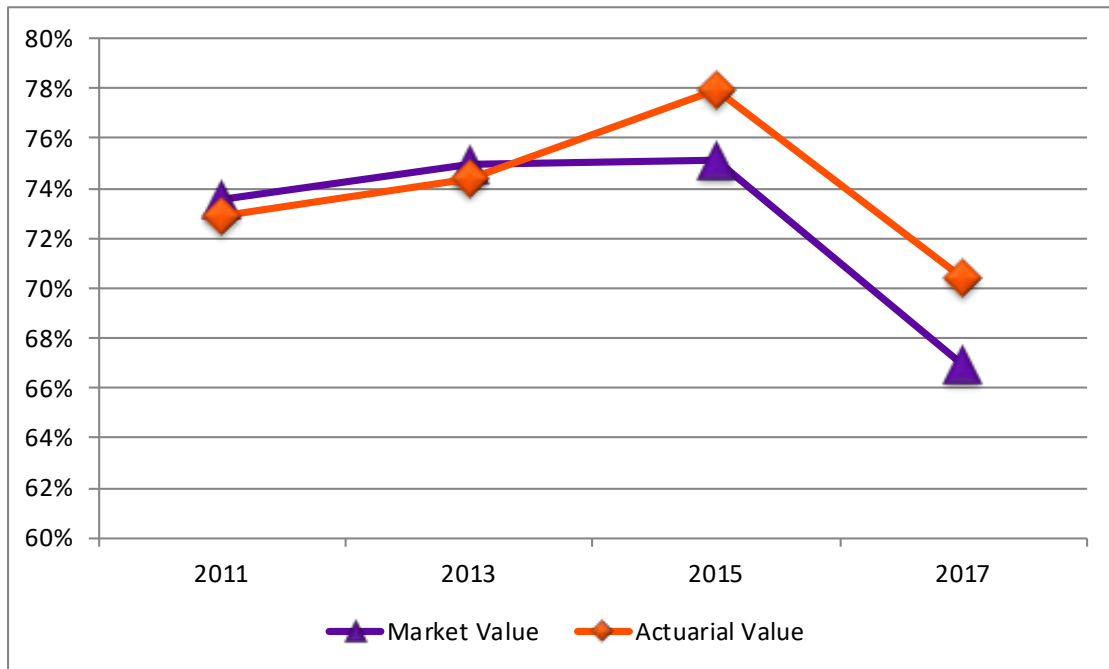
	July 1, 2017	July 1, 2015
Actuarial accrued liability for inactive members		
Retired, disabled and beneficiaries	\$17,187,120	\$15,942,564
Terminated vested members	148,746	23,795
Total	17,335,866	15,966,359
Actuarial accrued liability for employees in DROP	6,953,680	0
Actuarial accrued liability for active employees	9,259,925	12,789,528
Total actuarial accrued liability	33,549,471	28,755,887
Actuarial value of assets	23,628,522	22,410,598
Unfunded accrued liability	9,920,949	6,345,289
Funded ratio	70.4%	77.9%



Actuarial Accrued Liability vs. Actuarial Value of Assets



Funded Ratio



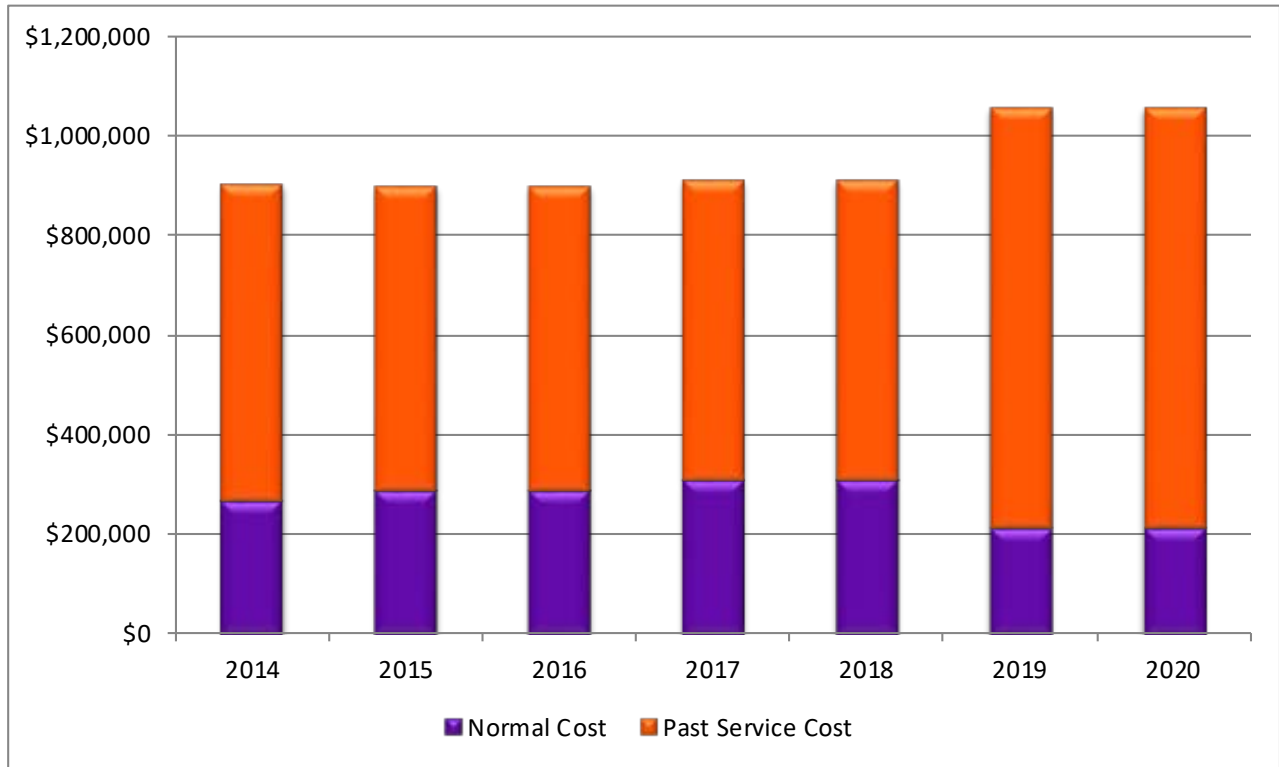


Determination of Normal Cost and Actuarially Determined Employer Contribution

	July 1, 2017		July 1, 2015	
	Cost	Percent of payroll	Cost	Percent of payroll
Gross normal cost	\$437,672	16.4%	\$586,875	16.4%
Estimated employee contributions	(227,046)	-8.5%	(283,048)	-7.9%
Town's normal cost	210,626	7.9%	303,827	8.5%
Amortization of unfunded accrued liability	845,436	31.6%	607,399	17.0%
Contribution before adjustment as of the valuation date	1,056,062	39.5%	911,226	25.5%
Contribution rounded to nearest \$10	1,056,060		911,230	
Estimated valuation year payroll for actives not yet at 100% assumed retirement age	2,671,132		3,576,246	
Fiscal year ending	2019		2017	
Adjustment for interest and inflation	0		(4)	
Actuarially determined employer contribution	1,056,060		911,226	
Fiscal year ending	2020		2018	
Adjustment for interest and inflation	0		0	
Actuarially determined employer contribution	1,056,060		911,226	



Actuarially Determined Employer Contribution





Determination of Actuarial Gain/Loss

The Actuarial Gain/Loss is the difference between the expected unfunded accrued liability and the actual unfunded accrued liability, without regard to any changes in actuarial methods, actuarial assumptions or plan provisions. This can also be referred to an Experience Gain/Loss, since it reflects the difference between what was expected and what was actually experienced.

Actuarial Gain / Loss	
Expected unfunded accrued liability July 1, 2017	
Expected unfunded accrued liability July 1, 2016	
Unfunded accrued liability July 1, 2015	\$6,345,289
Gross normal cost July 1, 2015	586,875
Town and employee contributions for 2015-2016	(1,191,350)
Interest at 7.00% to July 1, 2016	<u>444,487</u>
Expected unfunded accrued liability July 1, 2016	6,185,301
Expected unfunded accrued liability July 1, 2017	
Expected unfunded accrued liability July 1, 2016	6,185,301
Expected gross normal cost July 1, 2016	604,481
Town and employee contributions for 2016-2017	(1,173,524)
Interest at 7.00% to July 1, 2017	<u>435,244</u>
Expected unfunded accrued liability July 1, 2017	6,051,502
Actuarial (gain) / loss July 1, 2017	<u>3,050,843</u>
Actual unfunded accrued liability July 1, 2017, prior to plan provision, assumption and method changes	9,102,345
Sources of (gain) / loss	
Assets	1,096,285
Liabilities	<u>1,954,558</u>
Total (gain) / loss	3,050,843
Assumption and method changes since prior valuation	<u>818,604</u>
Actual unfunded accrued liability July 1, 2017, after plan provision, assumption and method changes	9,920,949



Development of Asset Values

Summary of Fund Activity		
	Market Value	Actuarial Value
1. Beginning value of assets July 1, 2016		
Trust assets	\$21,369,193	\$22,968,969
2. Contributions		
Town contributions during year	914,742	914,742
Employee contributions during year	258,782	258,782
Other income	10,896	10,896
Total for plan year	1,184,420	1,184,420
3. Disbursements		
Benefit payments during year	1,644,784	1,644,784
Administrative expenses during year	0	0
Total for plan year	1,644,784	1,644,784
4. Net investment return		
Interest and dividends	0	N/A
Realized and unrealized gain / (loss)	1,651,266	N/A
Expected return	N/A	1,479,764
Recognized gain / (loss)	N/A	(359,847)
Required adjustment due to corridor	N/A	0
Reversal of prior year required adjustment	N/A	0
Investment-related expenses	(109,077)	N/A
Total for plan year	1,542,189	1,119,917
5. Ending value of assets July 1, 2017		
Trust assets: (1) + (2) - (3) + (4)	22,451,018	23,628,522
6. Approximate rate of return	7.3%	5.0%



Relationship of Actuarial Value to Market Value

1. Market value 7/1/2017	\$22,451,018
2. Gain / (loss) not recognized in actuarial value 7/1/2017	<u>(1,177,504)</u>
3. Preliminary actuarial value 7/1/2017: (1) - (2)	23,628,522
4. Preliminary actuarial value as a percentage of market value: (3) ÷ (1)	105.2%
5. Gain / (loss) recognized for corridor minimum / maximum	N/A
6. Actuarial value 7/1/2017 after corridor minimum / maximum: (3) + (5)	23,628,522
7. Actuarial value as a percentage of market value: (6) ÷ (1)	105.2%

Development of Market Value Gain / Loss for 2016-2017 Plan Year

1. Market value 7/1/2016	\$21,369,193
2. Town contributions and other income	925,638
3. Employee contributions	258,782
4. Benefit payments	1,644,784
5. Administrative expenses	0
6. Expected return at 7.00%	<u>1,479,764</u>
7. Expected value 7/1/2017: (1) + (2) + (3) - (4) - (5) + (6)	22,388,593
8. Market value 7/1/2017	<u>22,451,018</u>
9. Market value gain / (loss) for 2016-2017 plan year: (8) - (7)	62,425

Recognition of Gain / Loss in Actuarial Value

Year	(a) Gain / (loss)	(b) Total recognized as of 7/1/2016	(c) Recognized in current year: 20% of (a)	(d) Total recognized as of 7/1/2017: (b) + (c)	(e) Not recognized as of 7/1/2017: (a) - (d)
2012-2013	\$89,792	\$71,832	\$17,960	\$89,792	\$0
2013-2014	879,154	527,493	175,831	703,324	175,830
2014-2015	(1,475,468)	(590,188)	(295,094)	(885,282)	(590,186)
2015-2016	(1,355,146)	(271,029)	(271,029)	(542,058)	(813,088)
2016-2017	62,425	0	<u>12,485</u>	12,485	<u>49,940</u>
Total			<u>(359,847)</u>		<u>(1,177,504)</u>



Summary of Fund Activity		
	Market Value	Actuarial Value
1. Beginning value of assets July 1, 2015		
Trust assets	\$21,598,370	\$22,410,598
2. Contributions		
Town contributions during year	910,500	910,500
Employee contributions during year	280,850	280,850
Total for plan year	1,191,350	1,191,350
3. Disbursements		
Benefit payments during year	1,564,499	1,564,499
Administrative expenses during year	0	0
Total for plan year	1,564,499	1,564,499
4. Net investment return		
Interest and dividends	0	N/A
Realized and unrealized gain / (loss)	249,045	N/A
Expected return	N/A	1,499,118
Recognized gain / (loss)	N/A	(567,598)
Required adjustment due to corridor	N/A	0
Reversal of prior year required adjustment	N/A	0
Investment-related expenses	(105,073)	N/A
Total for plan year	143,972	931,520
5. Ending value of assets July 1, 2016		
Trust assets: (1) + (2) - (3) + (4)	21,369,193	22,968,969
6. Approximate rate of return	0.7%	4.2%



Relationship of Actuarial Value to Market Value

1. Market value 7/1/2016	\$21,369,193
2. Gain / (loss) not recognized in actuarial value 7/1/2016	<u>(1,599,776)</u>
3. Preliminary actuarial value 7/1/2016: (1) - (2)	22,968,969
4. Preliminary actuarial value as a percentage of market value: (3) ÷ (1)	107.5%
5. Gain / (loss) recognized for corridor minimum / maximum	N/A
6. Actuarial value 7/1/2016 after corridor minimum / maximum: (3) + (5)	22,968,969
7. Actuarial value as a percentage of market value: (6) ÷ (1)	107.5%

Development of Market Value Gain / Loss for 2015-2016 Plan Year

1. Market value 7/1/2015	\$21,598,370
2. Town contributions	910,500
3. Employee contributions	280,850
4. Benefit payments	1,564,499
5. Administrative expenses	0
6. Expected return at 7.00%	<u>1,499,118</u>
7. Expected value 7/1/2016: (1) + (2) + (3) - (4) - (5) + (6)	22,724,339
8. Market value 7/1/2016	<u>21,369,193</u>
9. Market value gain / (loss) for 2015-2016 plan year: (8) - (7)	(1,355,146)

Recognition of Gain / Loss in Actuarial Value

Year	(a) Gain / (loss)	(b) Total recognized as of 7/1/2015	(c) Recognized in current year: 20% of (a)	(d) Total recognized as of 7/1/2016: (b) + (c)	(e) Not recognized as of 7/1/2016: (a) - (d)
2011-2012	(\$976,312)	(\$781,048)	(\$195,264)	(\$976,312)	\$0
2012-2013	89,792	53,874	17,958	71,832	17,960
2013-2014	879,154	351,662	175,831	527,493	351,661
2014-2015	(1,475,468)	(295,094)	(295,094)	(590,188)	(885,280)
2015-2016	(1,355,146)	0	<u>(271,029)</u>	(271,029)	<u>(1,084,117)</u>
Total			(567,598)		(1,599,776)

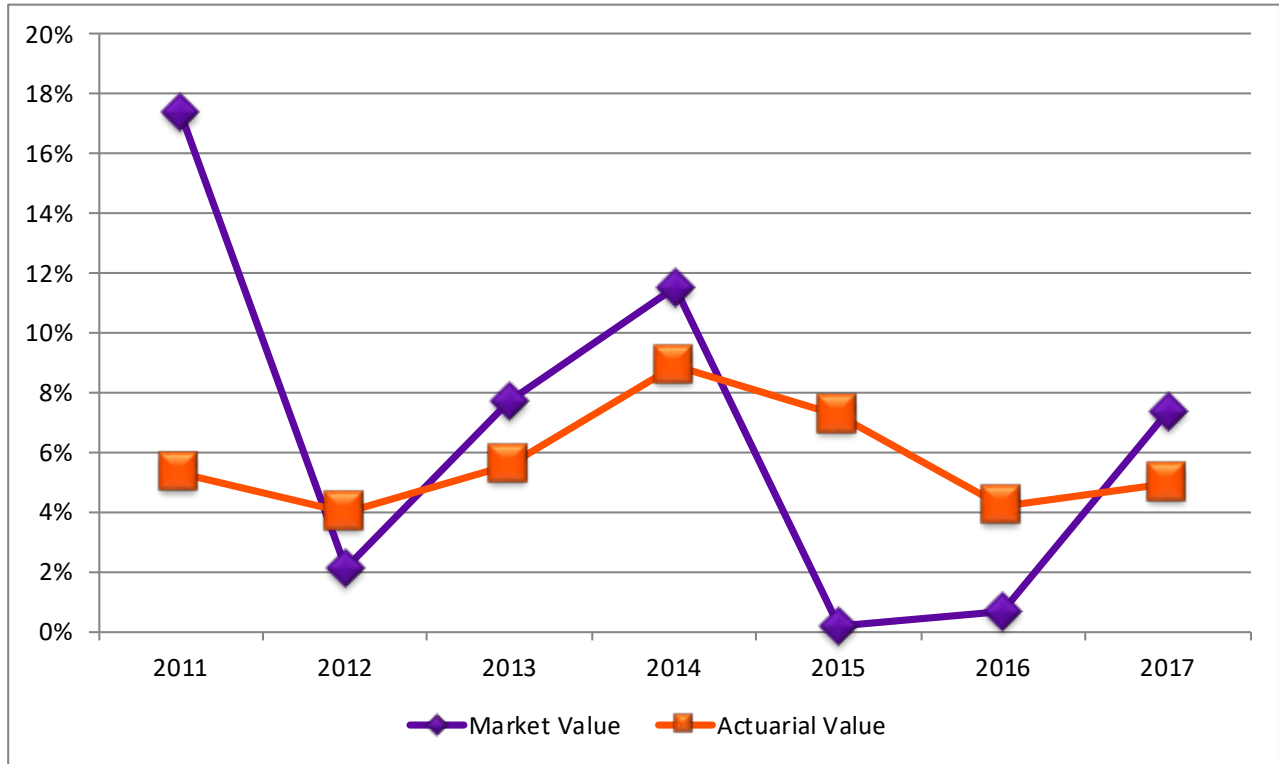


Rate of Return on Market Value of Assets				
Period Ending June 30	Average Annual Effective Rate of Return			
	1 Year	3 Years	5 Years	10 Years
2008	-2.2%	4.2%	-0.7%	-1.7%
2009	-9.3%	0.2%	-1.0%	-3.1%
2010	10.1%	-0.8%	2.5%	-2.7%
2011	17.4%	5.4%	5.4%	-0.5%
2012	2.1%	9.7%	3.2%	1.0%
2013	7.7%	8.9%	5.2%	2.2%
2014	11.5%	7.0%	9.6%	4.2%
2015	0.2%	6.4%	7.6%	5.0%
2016	0.7%	4.0%	4.3%	4.9%
2017	7.3%	2.7%	5.4%	4.3%

Rate of Return on Actuarial Value of Assets				
Period Ending June 30	Average Annual Effective Rate of Return			
	1 Year	3 Years	5 Years	10 Years
2008	5.6%	4.3%	2.4%	N/A
2009	2.1%	4.5%	3.3%	1.1%
2010	2.0%	3.2%	3.4%	0.9%
2011	5.3%	3.1%	4.1%	1.3%
2012	4.0%	3.8%	3.8%	2.0%
2013	5.6%	5.0%	3.8%	3.1%
2014	8.9%	6.1%	5.1%	4.2%
2015	7.2%	7.2%	6.2%	4.8%
2016	4.2%	6.7%	6.0%	5.0%
2017	5.0%	5.4%	6.2%	5.0%



Actual Rate of Return on Assets





Target Allocation and Expected Rate of Return July 1, 2017

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return*	Weighting
US Large Cap	14.00%	5.25%	0.74%
US Mid/Small Cap	12.00%	6.00%	0.72%
International Equities (Unhedged)	5.00%	5.75%	0.29%
Emerging International Equities	6.00%	6.50%	0.39%
Core Bonds	45.00%	2.50%	1.13%
High-Yield Bonds	8.00%	3.75%	0.30%
Real Estate (Core)	8.00%	5.50%	0.44%
Cash	2.00%	1.00%	0.02%
	100.00%		4.03%
Long-Term Inflation Expectation			2.50%
Long-Term Expected Nominal Return			6.53%

**Long-Term 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. The results support a rate between 6.50% and 7.00%. An expected rate of return of 6.50% was used.



Amortization of Unfunded Liability

Schedule of Amortization Bases				
	Date established	Amortization installment	Years remaining	Present value of remaining installments as of July 1, 2017
2017 base	July 1, 2017	845,436	20	9,920,949



Member Data

The data reported by the Plan Sponsor for this valuation includes 28 active employees who met the Plan's minimum age and service requirements as of July 1, 2017.

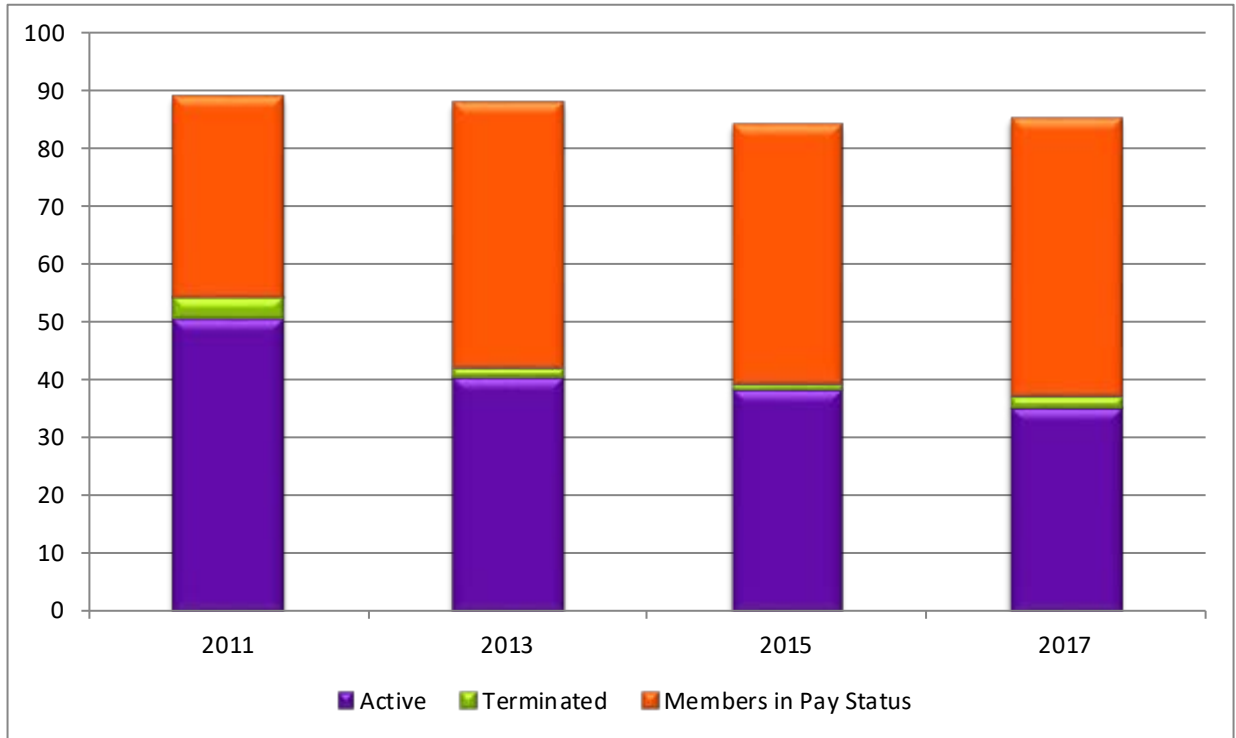
Member Data					
	Active	Terminated vested	Employees in DROP	Members in pay status	Total
Total members July 1, 2015	38	1	0	45	84
Adjustments	0	0	0	+1	+1
Retirements	-2	0	0	+2	0
Disabilities	0	N/A	0	0	0
Entered DROP	-7	N/A	+7	N/A	0
Terminations					
Vested	-1	+1	N/A	N/A	0
Lump sum payments	0	0		N/A	0
Due contributions only	0	N/A	N/A	N/A	0
Deaths					
With death benefit	0	0	0	-1	-1
Without death benefit	0	0	0	0	0
Transfers	0	0	N/A	N/A	0
Rehires	0	0	N/A	N/A	0
New beneficiaries	N/A	N/A	N/A	+1	+1
New entrants	0	N/A	N/A	N/A	0
Total members July 1, 2017	28	2	7	48*	85

* Includes 1 alternate payee receiving benefits

Note: Total DROP Balances as of 7/1/2017 = \$681,510.



Member Counts by Status





Member Data				
	Active	Terminated vested	Employees in DROP	Members in pay status
Average age				
July 1, 2015	45.6	40.9	N/A	66.3
July 1, 2017	45.6	40.8	56.0	67.6
Average service				
July 1, 2015	16.0	N/A	N/A	N/A
July 1, 2017	15.5	N/A	N/A	N/A
Covered employee payroll				
July 1, 2015	\$3,444,852	N/A	N/A	N/A
July 1, 2017	2,599,740	N/A	N/A	N/A
Total annual benefits				
July 1, 2015	N/A	\$4,188	N/A	\$1,455,382
July 1, 2017	N/A	28,645	429,453	1,607,575



Active Member Count by Age and Years of Service

Attained age	Completed Years of Credited Service										All years
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 and over	
Under 25											
25 to 29											
30 to 34			2								2
35 to 39			1	3	1						5
40 to 44				2	1						3
45 to 49				1	6	4					11
50 to 54			3			3					6
55 to 59				1							1
60 to 64											
65 to 69											
70 & over											
All ages			6	7	8	7					28



Expected Benefit Payments from Trust Fund

An important consideration in formulating short-term or intermediate-term investment policy is the need for liquidity to meet the payment requirements of the Plan. The Plan's investment advisors may wish to compare expected benefit payments and expenses with anticipated cash income from investments and employer contributions.

The table below presents projected annual benefit payments for the next ten plan years. The following assumptions are reflected in this table:

- Retirements among active participants will occur at the valuation's assumed retirement date.
- Benefits will continue to accrue based on the current Plan.
- Plan salaries will increase in accordance with the valuation's assumption.
- Benefits will be paid monthly.
- Participants will receive the normal form of benefit.

Differences between actual experience and that assumed will affect the pattern of benefit payments.

Participant categories reflect status as of July 1, 2017.

Year	Active as of July 1, 2017	Retired and Terminated as of July 1, 2017	Total Benefit Payments
2017	\$9,382	\$2,705,749	\$2,715,131
2018	24,272	1,998,980	2,023,252
2019	49,458	1,972,217	2,021,675
2020	99,641	1,944,415	2,044,056
2021	184,221	1,915,467	2,099,688
2022	293,637	1,885,326	2,178,963
2023	408,134	1,853,998	2,262,132
2024	536,273	1,820,234	2,356,507
2025	681,723	1,785,382	2,467,105
2026	825,422	1,749,509	2,574,931



Description of Actuarial Methods

Asset Valuation Method

The Actuarial Value of assets used in the development of plan contributions phases in the recognition of differences between the actual return on Market Value and expected return on Market Value over a 5-year period at 20% per year. The Actuarial Value is adjusted, if necessary, to be within the range of 80% and 120% of the Market Value of assets.

Actuarial Cost Method

Changes in Actuarial Cost Method: Amortization base change

Description of Current Actuarial Cost Method:

Basic cost method: Entry Age Normal (level percentage of salary)

Normal Cost: Under this method, the total normal cost is the sum of amounts necessary to fund each active member's normal retirement benefit if paid annually from entry age to assumed retirement age. Entry age is the age at which the employee would have been first eligible for the plan, if it had always been in effect. The normal cost for each participant is expected to remain a level percentage of the employee's salary. The normal cost for the plan is the difference between the total normal cost for the year and the anticipated member contributions for that year.

Past Service Liability: The present value of future benefits that relates to service before the valuation date is the total past service liability. The unfunded past service liability is the difference between the total past service liability and any assets (including accumulated member contributions). This amount is amortized over 20 years on a closed basis from 2017.

Experience Gains and Losses: All experience gains and losses (the financial effect of the difference between the actual experience during the prior period and the result expected by the actuarial assumptions for that prior period) appear directly in the past service liability and are amortized at the same rate the plan is amortizing the remaining unfunded past service liability.



Description of Actuarial Assumptions

Changes in Actuarial Assumptions

The valuation reflects changes in the actuarial assumptions listed below. (The assumptions used before and after these changes are more fully described in the next section.)

- Mortality
- Retirement
- Inflation
- Investment rate of return

The assumptions indicated were changed to represent the Enrolled Actuary's current best estimate of anticipated experience of the plan.

Investment rate of return (net of investment-related and administrative expenses)

6.50%. (Prior: 7.00%)

Salary increases (including inflation)

Current: According to the following service-based schedule:

Service	Rate of Increase
0	8.5%
1	7.5%
2	6.5%
3	5.5%
4	4.5%
5	3.5%
6-14	3.0%
15	2.5%

Prior:

Service	Rate of Increase
0	9.5%
1	8.5%
2	7.5%
3	6.5%
4	5.5%
5	4.5%
6-14	4.0%
15	3.5%

The plan does not have statistically credible data on which to form this assumption. The assumption is based on input from the plan sponsor regarding future expectations and the comparable assumption used in the July 1, 2015 CT MERS Actuarial Valuation.



Inflation

2.5%. (Prior: 3.0%)

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

The assumption was changed to better reflect anticipated experience.

Mortality

Current: RP-2014 Adjusted to 2006 Blue Collar Mortality Table projected to valuation date with Scale MP-2017

Prior: RP-2014 Adjusted to 2006 Total Dataset Mortality Table projected to valuation date with Scale MP-2015

Mortality Improvement

Current: Projected to date of decrement using Scale MP-2017 (generational mortality).

Prior: Projected to date of decrement using Scale MP-2015 (generational mortality).

We have selected this mortality assumption because it is based on the latest published pension mortality study released by the Society of Actuaries. The mortality assumption was changed to better reflect actual experience.

Retirement age

Current:

Service	Rate of Retirement
25	25%
26-28	30%
29	40%
30	60%
31-39	50%
40	100%

Prior:

Service	Rate of Retirement
25-27	20%
28	25%
29	30%
30	40%
31-34	20%
35-39	10%
40	100%

The retirement rates were changed to better reflect actual experience including the existence of the DROP. The changes in assumptions increased liabilities by about 2.5%.



Pre-Retirement Spouse Benefit and Disability Benefits

Costed explicitly.

Termination prior to retirement

Current: Annual rates of withdrawal per table below (shown at sample ages) interpolated.

Age	Rate of withdrawal
20	7.00%
30	5.00%
40	2.00%
50	0.00%

Service-connected disability

Current: Annual rates of disability per table below (shown at sample ages) interpolated.

Age	Rate of disability
20	.11%
30	.15%
40	.32%
50	1.11%
60	6.88%

The plan does not have statistically credible data on which to form the termination, and disability assumptions. These assumptions are based on input from the plan sponsor regarding future expectations and the comparable assumptions used in the July 1, 2015 CT MERS Actuarial Valuation.

Expenses

None. Expenses are assumed to be paid directly by the Town.

Post-Retirement Death Benefit

Costed explicitly.

Benefits Attributed to Longevity Pay

Costed explicitly.



Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan. It is not intended to be, nor should it be interpreted as a complete statement of all plan provisions. To the extent that this summary does not accurately reflect the plan provisions, then the results of this valuation may not be accurate.

Plan identification

Single-employer pension plan

Eligibility

Immediately upon commencement of payment of employee contributions. New hires after August 10, 2011 are no longer eligible for this Plan.

Salary

Base salary plus longevity plus station overtime earned by a participant from the Town for a particular year.

Final Average Salary

The average of the three highest fiscal years of salary.

Normal Retirement Age

25 years as a member of the Police Department and contributing to the fund. Maximum retirement age is 65.

Credited Service

Period of time served as a member of the Police Department and contributing to the fund.

Normal Retirement Benefit

2.5% of Final Average Salary times years of credited service to a maximum of 25 years, plus 2.5% times basic salary for each year of service beyond 25, maximum benefit 70% of basic salary at time of retirement. Maximum will be exceeded for service under age 55. Minimum annual benefit is \$2,000.

Early Retirement

Participant, or a participant's spouse upon the participant's death may elect early retirement. The participant must have attained age 50 and have at least 20 years of service. The benefit percent per year shall be reduced as follows:

Years of Service	% Per Year
25	2.50%
24	2.35%
23	2.20%
22	2.05%
21	1.90%
20	1.75%



Disability Retirement

During regular performance of duty and certified as disabled: Immediate annual pension of final average salary at time of disability times the greater of (a) 50% or (b) 2.50% multiplied by completed year of service as of the date of disability.

Vesting

No vesting in employer contributions prior to 5 years' credited service; 100% after 5 years.

Employee Contributions

8.5% of salary.

Death Benefits

Surviving spouse of an active participant qualified to receive retirement benefits, shall, at the time of the participant's death receive, until death or remarriage, a pension equal to one-half of the pension for which the participant had qualified. If the participant is retired at time of death, the surviving spouse will receive one-half of the pension being paid to the participant. If not qualified to receive retirement benefits and death occurs while in active performance of duties, the greater of 50% of monthly salary, or accrued benefit. For officers hired after July 1, 1991, this death benefit is reduced by 10%.

Purchase of Military Service Credit

An active Participant may purchase service credit not to exceed 3 years, for a period of active duty military service in the armed forces of the United States (excluding reserve duty), provided that the Participant is not able to receive a retirement benefit for such service under any other retirement plan.

DROP Plan

Active members can elect a DROP (deferred retirement option plan) once they are eligible for retirement. The DROP period can be up to five years (previously 1 year). During the DROP period, the participant remains in full time service with some limited benefits. No participant shall accrue additional pension benefits after the effective date of the DROP. Upon completion of the DROP period, the participant receives a lump sum payment equal to the retirement benefits during the DROP period.