



THE FUNDED RETIREMENT PLAN OF THE TOWN OF NEW CANAAN,
CONNECTICUT

ACTUARIAL VALUATION REPORT

JULY 1, 2016





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Executive Summary

	July 1, 2016	July 1, 2014
Number of members		
Active employees	347	378
Terminated vested members	171	189
Retired, disabled and beneficiaries	265	251
Total	783	818
Covered employee payroll	21,289,231	21,585,538
Average plan salary	61,352	57,105
Actuarial present value of future benefits	144,858,651	134,639,687
Actuarial accrued liability	119,855,351	111,272,980
Plan assets		
Market value of assets	124,431,132	127,812,745
Actuarial value of assets	132,176,376	127,812,745
Unfunded accrued liability	(12,321,025)	(16,539,765)
Funded ratio	110.3%	114.9%
Actuarially determined employer contribution (ADEC)		
Fiscal year ending	2018	2016
ADEC	1,220,851	781,558
Fiscal year ending	2019	2017
ADEC	1,319,772	867,862



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, 2016 valuation produces the contributions for the fiscal years ending 2018 and 2019.

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

Since the prior valuation, an amendment was made that changed the benefit formula for Board of Education members.

In addition, there were a few assumption changes. The retirement, termination, disability and salary increase assumptions from the recent experience study were formally adopted. Also, the mortality assumptions were updated to better reflect future experience. Finally, the investment rate assumption was changed to better anticipate future returns.

Cash Contribution for Fiscal Years Ending 2018 and 2019

The Town cost is:	2018 Fiscal Year	2019 Fiscal Year
Police	\$299,736	\$327,205
Fire	276,933	292,487
Sewer	421	857
Board of Education	334,264	360,318
Library	1,605	3,271
Public Works	111,809	121,394
Town Non-Union	122,009	135,628
Town Hall Union	74,074	78,612
Total	\$1,220,851	\$1,319,772



Liability Experience During Period Under Review

The plan experienced a net actuarial gain on liabilities since the prior valuation of approximately \$0.7 million. The main reason for the gain was that actual increases in salary were less than expected 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:

	2015 Fiscal Year	2016 Fiscal Year
Market Value Basis	2.8%	1.5%
Actuarial Value Basis	5.8%	4.6%

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, 2016 Actuarial Valuation for The Funded Retirement Plan of the Town of New Canaan, Connecticut (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, 2018 and June 30, 2019. 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, FCA, FSA, MAAA
Enrolled Actuary 14-05126

February 16, 2017

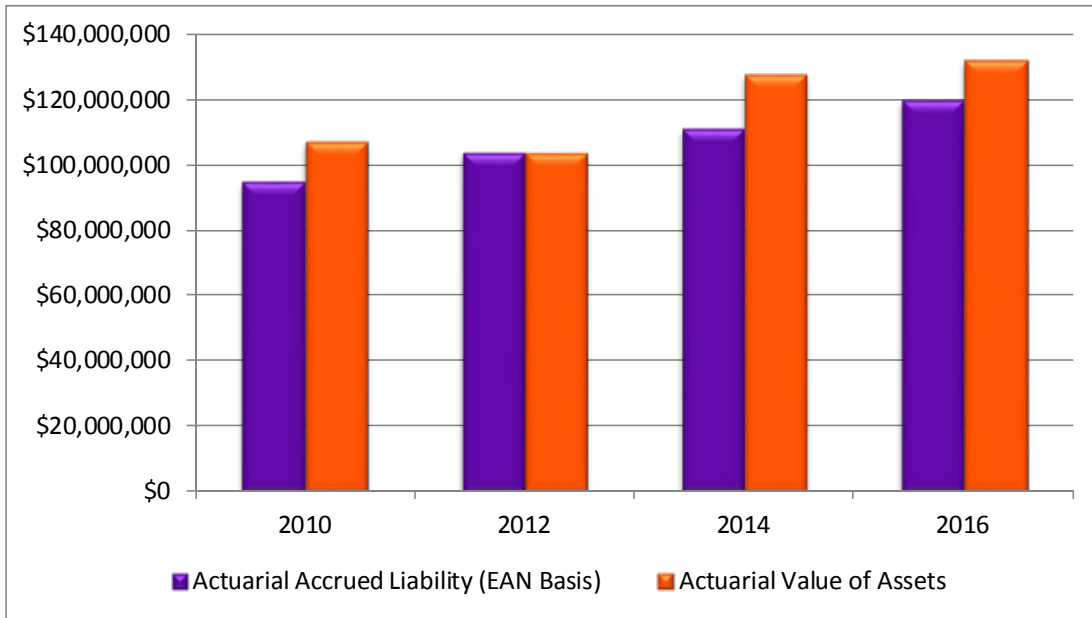


Development of Unfunded Accrued Liability and Funded Ratio

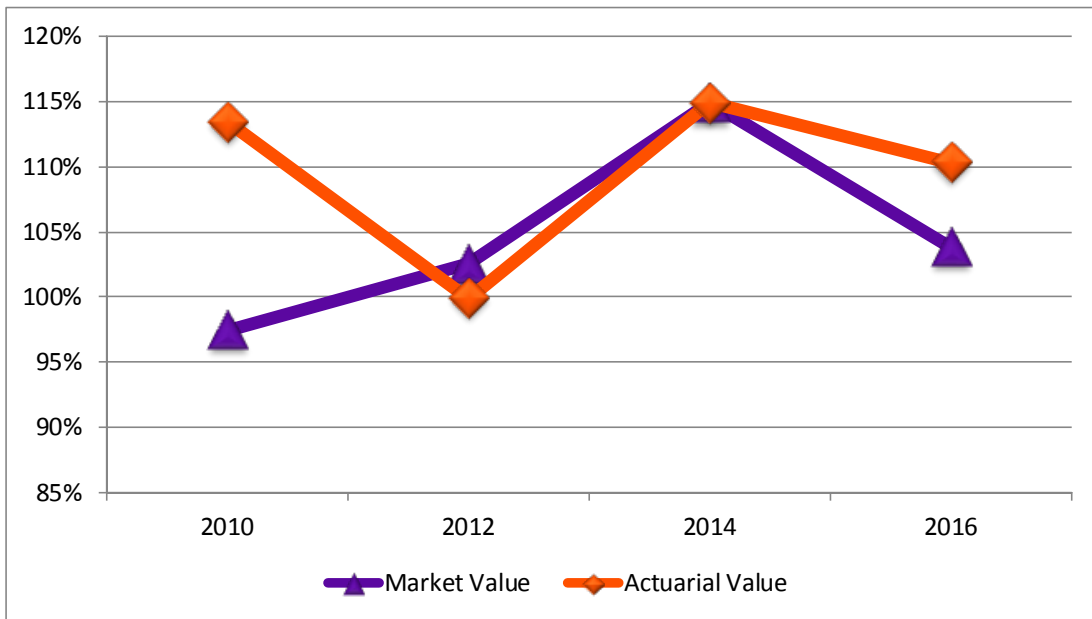
	July 1, 2016	July 1, 2014
Actuarial accrued liability for inactive members		
Retired, disabled and beneficiaries	\$55,702,464	\$49,129,892
Terminated vested members	5,330,261	4,033,802
Total	61,032,725	53,163,694
Actuarial accrued liability for active employees	58,822,626	58,109,286
Total actuarial accrued liability	119,855,351	111,272,980
Actuarial value of assets	132,176,376	127,812,745
Unfunded accrued liability	(12,321,025)	(16,539,765)
Funded ratio	110.3%	114.9%



Actuarial Accrued Liability vs. Actuarial Value of Assets



Funded Ratio



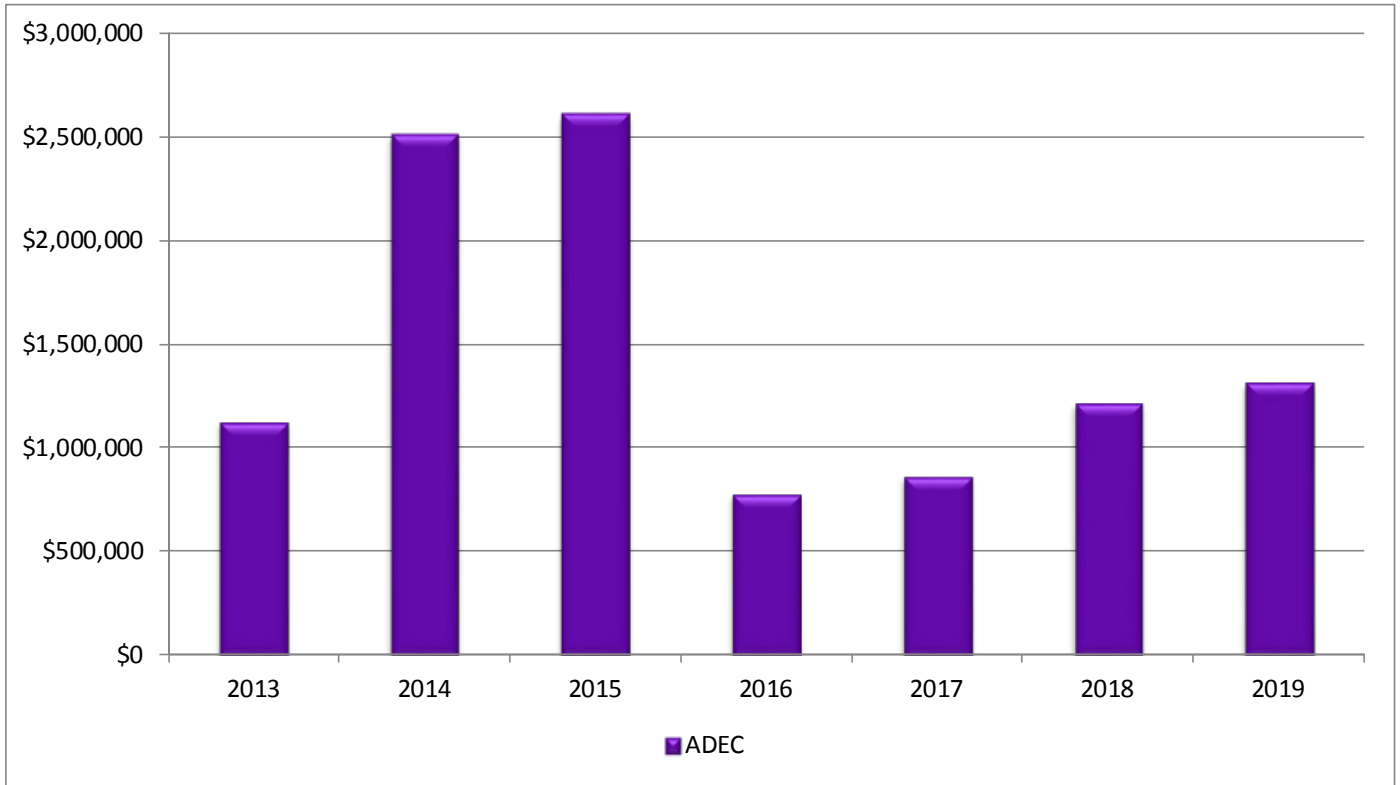


Determination of Normal Cost and Actuarially Determined Employer Contribution

	July 1, 2016		July 1, 2014	
	Cost	Percent of payroll	Cost	Percent of payroll
Gross normal cost	\$2,717,567	12.9%	\$2,592,241	12.2%
Estimated employee contributions	(472,732)	-2.2%	(287,655)	-1.4%
Estimated administrative expenses	92,000	0.4%	78,000	0.4%
Town's normal cost	2,336,835	11.1%	2,382,586	11.2%
Amortization of unfunded accrued liability	(1,247,307)	-5.9%	(1,665,297)	-7.8%
Contribution before adjustment as of the valuation date	1,089,528	5.2%	717,289	3.4%
Estimated valuation year payroll	21,092,131		21,244,407	
Fiscal year ending	2018		2016	
Adjustment for interest and inflation	131,323		64,269	
Actuarially determined employer contribution	1,220,851		781,558	
Fiscal year ending	2019		2017	
Adjustment for interest and inflation	98,921		86,304	
Actuarially determined employer contribution	1,319,772		867,862	



Actuarially Determined Employer Contribution





Actuarially Determined Employer Contribution per Group

	Police	Fire	Sewer	Board of Education	Library	Public Works	Town Non-Union	Town Hall Union	Total
Gross normal cost	\$708,934	\$394,867	\$13,697	\$837,713	\$48,038	\$263,541	\$325,495	\$125,282	\$2,717,567
Estimated employee contributions	(84,669)	(41,211)	(3,827)	(249,001)	(10,239)	(46,027)	(15,431)	(22,327)	(472,732)
Estimated administrative expenses	24,000	13,368	464	28,360	1,626	8,922	11,019	4,241	92,000
Town's normal cost	648,265	367,024	10,334	617,072	39,425	226,436	321,083	107,196	2,336,835
Actuarial accrued liability	36,153,247	10,690,688	1,567,555	29,942,364	5,460,066	11,978,972	20,319,688	3,742,771	119,855,351
Actuarial value of assets	39,943,762	11,811,560	1,669,636	33,081,692	5,849,506	13,234,916	22,450,119	4,135,185	132,176,376
Unfunded accrued liability (UAL)	(3,790,515)	(1,120,872)	(102,081)	(3,139,328)	(389,440)	(1,255,944)	(2,130,431)	(392,414)	(12,321,025)
Amortization of UAL	(383,729)	(113,470)	(10,334)	(317,807)	(39,425)	(127,144)	(215,672)	(39,726)	(1,247,307)
Contribution before adjustment as of the valuation date	264,536	253,554	0	299,265	0	99,292	105,411	67,470	1,089,528
Fiscal year ending June 30, 2018									
Adjustment for interest and inflation	35,200	23,379	421	34,999	1,605	12,517	16,598	6,604	131,323
ADEC	299,736	276,933	421	334,264	1,605	111,809	122,009	74,074	1,220,851
Fiscal year ending June 30, 2019									
Adjustment for interest and inflation	27,469	15,554	436	26,054	1,666	9,585	13,619	4,538	98,921
ADEC	327,205	292,487	857	360,318	3,271	121,394	135,628	78,612	1,319,772

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, 2016	
Expected unfunded accrued liability July 1, 2015	
Unfunded accrued liability July 1, 2014	(\$16,539,765)
Gross normal cost July 1, 2014	2,670,241
Town and employee contributions for 2014-2015	(1,365,764)
Interest at 6.50% to July 1, 2015	<u>(973,886)</u>
Expected unfunded accrued liability July 1, 2015	(16,209,174)
Expected unfunded accrued liability July 1, 2016	
Expected unfunded accrued liability July 1, 2015	(16,209,174)
Expected gross normal cost July 1, 2015	2,775,881
Town and employee contributions for 2015-2016	(1,201,907)
Interest at 6.50% to July 1, 2016	<u>(927,511)</u>
Expected unfunded accrued liability July 1, 2016	(15,562,711)
Actuarial (gain) / loss July 1, 2016	<u>2,471,500</u>
Actual unfunded accrued liability July 1, 2016, prior to plan provision, assumption and method changes	(13,091,211)
Sources of (gain) / loss	
Assets	3,099,187
Liabilities	<u>(627,687)</u>
Total (gain) / loss	2,471,500
Assumption and method changes since prior valuation	149,407
Plan provision changes since prior valuation	<u>620,779</u>
Actual unfunded accrued liability July 1, 2016, after plan provision, assumption and method changes	(12,321,025)

Development of Asset Values

Summary of Fund Activity		
	Market Value	Actuarial Value
1. Beginning value of assets July 1, 2014		
Trust assets	\$127,812,745	\$127,812,745
2. Contributions		
Town contributions during year	1,044,321	1,044,321
Employee contributions during year	321,443	321,443
Total for plan year	1,365,764	1,365,764
3. Disbursements		
Benefit payments during year	5,466,241	5,466,241
Administrative expenses during year	107,428	107,428
Total for plan year	5,573,669	5,573,669
4. Net investment return		
Interest and dividends	3,056,825	N/A
Realized and unrealized gain / (loss)	664,110	N/A
Expected return	N/A	8,250,837
Recognized gain / (loss)	N/A	(930,301)
Required adjustment due to corridor	N/A	0
Reversal of prior year required adjustment	N/A	0
Investment-related expenses	(121,602)	N/A
Total for plan year	3,599,333	7,320,536
5. Ending value of assets July 1, 2015		
Trust assets: (1) + (2) - (3) + (4)	127,204,173	130,925,376
6. Approximate rate of return	2.8%	5.8%

Relationship of Actuarial Value to Market Value

1. Market value 7/1/2015	\$127,204,173
2. Gain / (loss) not recognized in actuarial value 7/1/2015	<u>(3,721,203)</u>
3. Preliminary actuarial value 7/1/2015: (1) - (2)	130,925,376
4. Preliminary actuarial value as a percentage of market value: (3) ÷ (1)	102.9%
5. Gain / (loss) recognized for corridor minimum / maximum	N/A
6. Actuarial value 7/1/2015 after corridor minimum / maximum: (3) + (5)	130,925,376
7. Actuarial value as a percentage of market value: (6) ÷ (1)	102.9%

Development of Market Value Gain / (Loss) for 2014-2015 Plan Year

1. Market value 7/1/2014	\$127,812,745
2. Town contributions	1,044,321
3. Employee contributions	321,443
4. Benefit payments	5,466,241
5. Administrative expenses	107,428
6. Expected return at 6.50%	<u>8,250,837</u>
7. Expected value 7/1/2015: (1) + (2) + (3) - (4) - (5) + (6)	131,855,677
8. Market value 7/1/2015	<u>127,204,173</u>
9. Market value gain / (loss) for 2014-2015 plan year: (8) - (7)	(4,651,504)

Recognition of Gain / (Loss) in Actuarial Value

Year	(a) Gain / (loss)	(b) Total recognized as of 7/1/2014	(c) Recognized in current year: 20% of (a)	(d) Total recognized as of 7/1/2015: (b) + (c)	(e) Not recognized as of 7/1/2015: (a) - (d)
2010-2011	\$0	\$0	\$0	\$0	\$0
2011-2012	0	0	0	0	0
2012-2013	0	0	0	0	0
2013-2014	0	0	0	0	0
2014-2015	(4,651,504)	0	<u>(930,301)</u>	(930,301)	<u>(3,721,203)</u>
Total			(930,301)		(3,721,203)

Summary of Fund Activity

	Market Value	Actuarial Value
1. Beginning value of assets July 1, 2015		
Trust assets	\$127,204,173	\$130,925,376
2. Contributions		
Town contributions during year	781,558	781,558
Employee contributions during year	420,349	420,349
Total for plan year	1,201,907	1,201,907
3. Disbursements		
Benefit payments during year	5,822,206	5,822,206
Administrative expenses during year	91,972	91,972
Total for plan year	5,914,178	5,914,178
4. Net investment return		
Interest and dividends	2,898,325	N/A
Realized and unrealized gain / (loss)	(840,866)	N/A
Expected return	N/A	8,132,157
Recognized gain / (loss)	N/A	(2,168,886)
Required adjustment due to corridor	N/A	0
Reversal of prior year required adjustment	N/A	0
Investment-related expenses	(118,229)	N/A
Total for plan year	1,939,230	5,963,271
5. Ending value of assets July 1, 2016		
Trust assets: (1) + (2) - (3) + (4)	124,431,132	132,176,376
6. Approximate rate of return	1.5%	4.6%

Relationship of Actuarial Value to Market Value

1. Market value 7/1/2016	\$124,431,132
2. Gain / (loss) not recognized in actuarial value 7/1/2016	<u>(7,745,244)</u>
3. Preliminary actuarial value 7/1/2016: (1) - (2)	132,176,376
4. Preliminary actuarial value as a percentage of market value: (3) ÷ (1)	106.2%
5. Gain / (loss) recognized for corridor minimum / maximum	N/A
6. Actuarial value 7/1/2016 after corridor minimum / maximum: (3) + (5)	132,176,376
7. Actuarial value as a percentage of market value: (6) ÷ (1)	106.2%

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

1. Market value 7/1/2015	\$127,204,173
2. Town contributions	781,558
3. Employee contributions	420,349
4. Benefit payments	5,822,206
5. Administrative expenses	91,972
6. Expected return at 6.50%	<u>8,132,157</u>
7. Expected value 7/1/2016: (1) + (2) + (3) - (4) - (5) + (6)	130,624,059
8. Market value 7/1/2016	<u>124,431,132</u>
9. Market value gain / (loss) for 2015-2016 plan year: (8) - (7)	(6,192,927)

Recognition of Gain / Loss in Actuarial Value

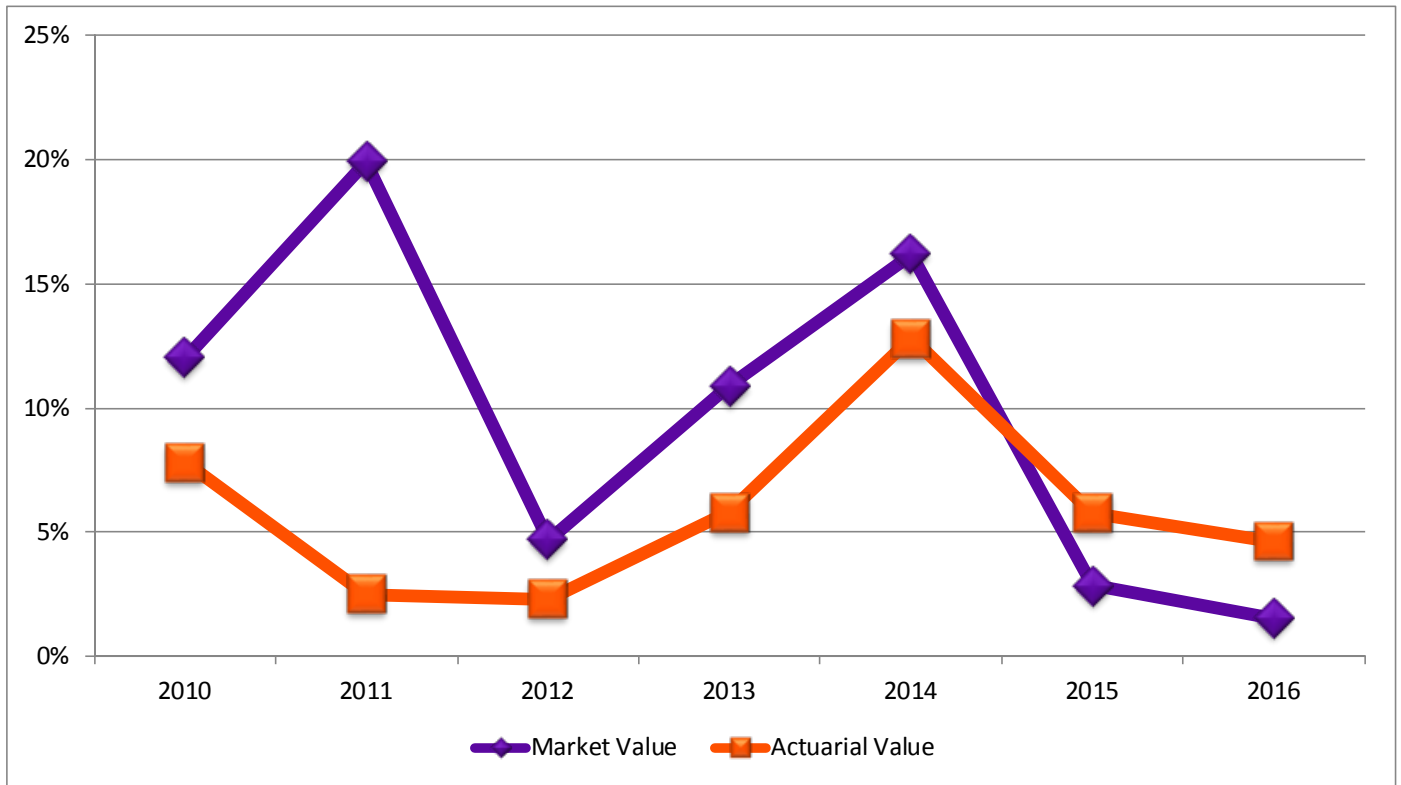
Year	(a) Gain / (loss)	(b) Total recognized as of 7/1/2015	(c) Recognized in current year: 20% of (a)	(d) Total recognized as of 7/1/2016: (b) + (c)	(e) Not recognized as of 7/1/2016: (a) - (d)
2011-2012	\$0	\$0	\$0	\$0	\$0
2012-2013	0	0	0	0	0
2013-2014	0	0	0	0	0
2014-2015	(4,651,504)	(930,301)	(930,301)	(1,860,602)	(2,790,902)
2015-2016	(6,192,927)	0	<u>(1,238,585)</u>	(1,238,585)	<u>(4,954,342)</u>
Total			(2,168,886)		(7,745,244)

Rate of Return on Market Value of Assets					
Period Ending	Average Annual Effective Rate of Return				
	June 30	1 Year	3 Years	5 Years	10 Years
2007	N/A	N/A	N/A	N/A	N/A
2008	N/A	N/A	N/A	N/A	N/A
2009	N/A	N/A	N/A	N/A	N/A
2010	12.0%	N/A	N/A	N/A	N/A
2011	19.9%	N/A	N/A	N/A	N/A
2012	4.7%	12.0%	N/A	N/A	N/A
2013	10.9%	11.7%	N/A	N/A	N/A
2014	16.2%	10.5%	12.6%	N/A	N/A
2015	2.8%	9.8%	10.7%	N/A	N/A
2016	1.5%	6.7%	7.1%	N/A	N/A

Rate of Return on Actuarial Value of Assets					
Period Ending	Average Annual Effective Rate of Return				
	June 30	1 Year	3 Years	5 Years	10 Years
2007	N/A	N/A	N/A	N/A	N/A
2008	N/A	N/A	N/A	N/A	N/A
2009	N/A	N/A	N/A	N/A	N/A
2010	7.8%	N/A	N/A	N/A	N/A
2011	2.5%	N/A	N/A	N/A	N/A
2012	2.3%	4.2%	N/A	N/A	N/A
2013	5.8%	3.5%	N/A	N/A	N/A
2014	12.8%	6.9%	6.2%	N/A	N/A
2015	5.8%	8.1%	5.8%	N/A	N/A
2016	4.6%	7.7%	6.2%	N/A	N/A



Actual Rate of Return on Assets





Target Allocation and Expected Rate of Return July 1, 2016

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return*	Weighting
U.S. Equities	42.00%	6.50%	2.73%
International Equities	18.00%	7.00%	1.26%
U.S. Bonds	40.00%	1.20%	0.48%
	100.00%		4.47%
Long-Term Inflation Expectation			2.00%
Long-Term Expected Nominal Return			6.47%

**Long-Term Returns are provided by Vanguard Institutional Advisory Services. 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 6.40% and 6.90%. An expected rate of return of 6.75% was used.



Amortization of Unfunded Liability

Schedule of Amortization Bases					
	Date established	Original amount	Amortization installment	Years remaining	Present value of remaining installments as of July 1, 2016
2016 base	July 1, 2016	(12,321,025)	(1,247,307)	15	(12,321,025)



Member Data

The data reported by the Plan Sponsor for this valuation includes 347 active employees who met the Plan's minimum age and service requirements as of July 1, 2016.

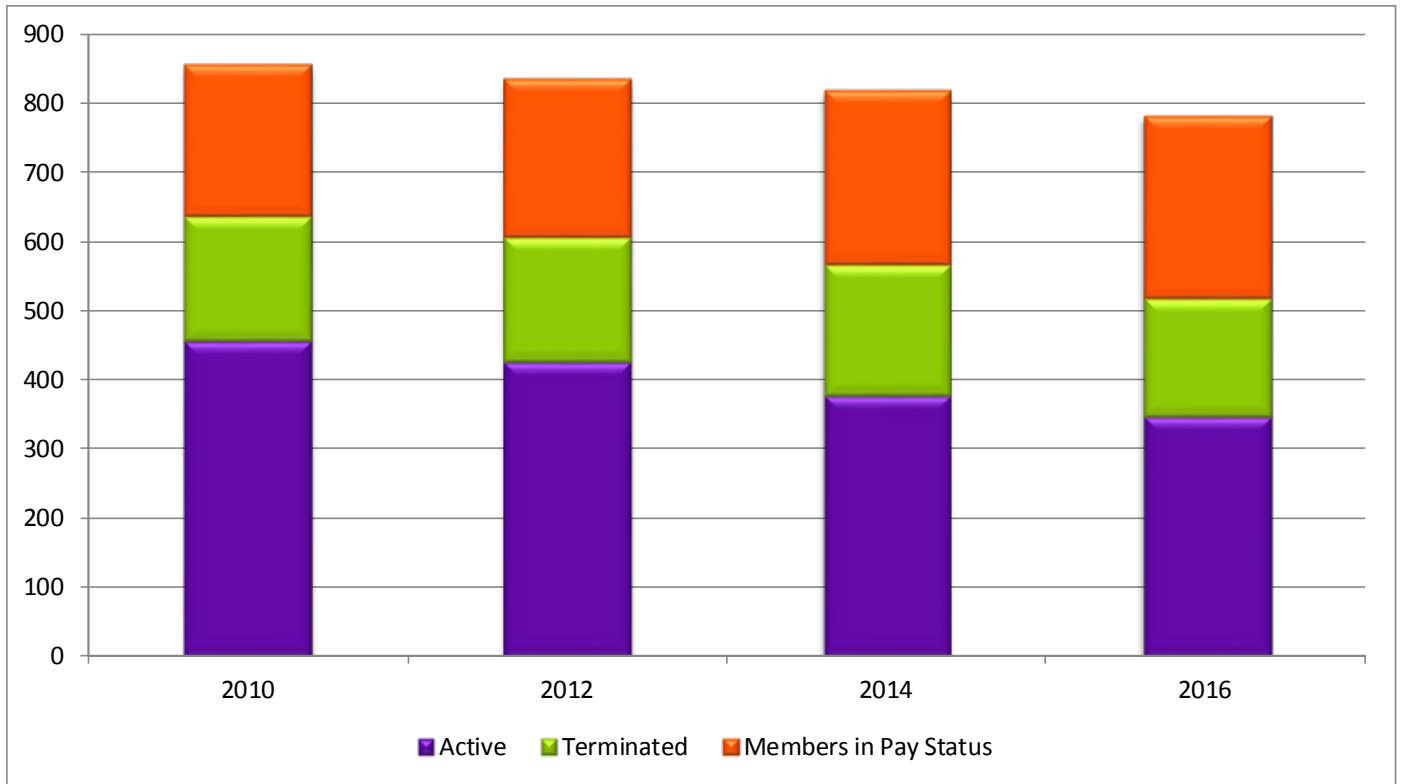
Member Data				
	Active	Terminated vested	Members in pay status	Total
Total members July 1, 2014	378	189	251	818
Adjustments	0	+1	0	+1
Retirements	-19	-7	+26	0
Disabilities	-2	N/A	+2	0
Terminations				
Vested	-20	+20	N/A	0
Lump sum payments	-9	-29	N/A	-38
Due contributions only	0	N/A	N/A	0
Deaths				
With death benefit	0	0	-6	-6
Without death benefit	-1	-3	-14	-18
Transfers	0	0	N/A	0
Rehires	0	0	N/A	0
New beneficiaries	N/A	N/A	+6	+6
New entrants	+20	N/A	N/A	+20
Total members July 1, 2016	347	171	265	783



Member Data				
	Active	Terminated vested	Members in pay status	Total
Average age				
July 1, 2014	51.5	48.4	74.5	
July 1, 2016	52.2	50.2	74.7	
Average service				
July 1, 2014	13.4	N/A	N/A	
July 1, 2016	14.8	N/A	N/A	
Covered employee payroll				
July 1, 2014	\$21,585,538	N/A	N/A	\$21,585,538
July 1, 2016	21,289,231	N/A	N/A	21,289,231
Total annual benefits				
July 1, 2014	N/A	\$659,653	\$5,296,131	\$5,955,784
July 1, 2016	N/A	704,100	5,779,897	6,483,997



Member Counts by Status





Member Data - Police				
	Active	Terminated vested	Members in pay status	Total
Total members July 1, 2014	45	5	43	93
Adjustments	0	0	0	0
Retirements	-3	0	+3	0
Disabilities	-1	N/A	+1	0
Terminations				
Vested	-2	+2	N/A	0
Lump sum payments	0	0	N/A	0
Due contributions only	0	N/A	N/A	0
Deaths				
With death benefit	0	0	-1	-1
Without death benefit	0	0	-2	-2
Transfers	0	0	N/A	0
Rehires	0	0	N/A	0
New beneficiaries	N/A	N/A	+1	+1
New entrants	+6	N/A	N/A	+6
Total members July 1, 2016	45	7	45	97



Member Data - Fire				
	Active	Terminated vested	Members in pay status	Total
Total members July 1, 2014	24	1	7	32
Adjustments	0	0	0	0
Retirements	-1	0	+1	0
Disabilities	0	N/A	0	0
Terminations				
Vested	0	0	N/A	0
Lump sum payments	0	0	N/A	0
Due contributions only	0	N/A	N/A	0
Deaths				
With death benefit	0	0	0	0
Without death benefit	0	0	0	0
Transfers	0	0	N/A	0
Rehires	0	0	N/A	0
New beneficiaries	N/A	N/A	0	0
New entrants	+1	N/A	N/A	+1
Total members July 1, 2016	24	1	8	33



Member Data - Board of Education				
	Active	Terminated vested	Members in pay status	Total
Total members July 1, 2014	201	155	101	457
Adjustments	0	0	0	0
Retirements	-7	-6	+13	0
Disabilities	-1	N/A	+1	0
Terminations				
Vested	-13	+13	N/A	0
Lump sum payments	-8	-29	N/A	-37
Due contributions only	0	N/A	N/A	0
Deaths				
With death benefit	0	0	-3	-3
Without death benefit	0	-3	-4	-7
Transfers	0	0	N/A	0
Rehires	0	0	N/A	0
New beneficiaries	N/A	N/A	+3	+3
New entrants	+13	N/A	N/A	+13
Total members July 1, 2016	185	130	111	426



Member Data - Library				
	Active	Terminated vested	Members in pay status	Total
Total members July 1, 2014	16	8	17	41
Adjustments	0	0	0	0
Retirements	-4	-1	+5	0
Disabilities	0	N/A	0	0
Terminations				
Vested	-2	+2	N/A	0
Lump sum payments	0	0	N/A	0
Due contributions only	0	N/A	N/A	0
Deaths				
With death benefit	0	0	0	0
Without death benefit	0	0	0	0
Transfers	0	0	N/A	0
Rehires	0	0	N/A	0
New beneficiaries	N/A	N/A	0	0
New entrants	0	N/A	N/A	0
Total members July 1, 2016	10	9	22	41



Member Data - Public Works				
	Active	Terminated vested	Members in pay status	Total
Total members July 1, 2014	37	5	14	56
Adjustments	0	0	0	0
Retirements	0	0	0	0
Disabilities	0	N/A	0	0
Terminations				
Vested	0	0	N/A	0
Lump sum payments	0	0	N/A	0
Due contributions only	0	N/A	N/A	0
Deaths				
With death benefit	0	0	0	0
Without death benefit	-1	0	-1	-2
Transfers	0	0	N/A	0
Rehires	0	0	N/A	0
New beneficiaries	N/A	N/A	0	0
New entrants	0	N/A	N/A	0
Total members July 1, 2016	36	5	13	54



Member Data - Town Non-Union				
	Active	Terminated vested	Members in pay status	Total
Total members July 1, 2014	31	14	66	111
Adjustments	0	+1	0	+1
Retirements	0	0	0	0
Disabilities	0	N/A	0	0
Terminations				
Vested	-2	+2	N/A	0
Lump sum payments	-1	0	N/A	-1
Due contributions only	0	N/A	N/A	0
Deaths				
With death benefit	0	0	-2	-2
Without death benefit	0	0	-7	-7
Transfers	0	0	N/A	0
Rehires	0	0	N/A	0
New beneficiaries	N/A	N/A	+2	+2
New entrants	0	N/A	N/A	0
Total members July 1, 2016	28	17	59	104



Member Data - Town Hall Union				
	Active	Terminated vested	Members in pay status	Total
Total members July 1, 2014	21	1	2	24
Adjustments	0	0	0	0
Retirements	-3	0	+3	0
Disabilities	0	N/A	0	0
Terminations				
Vested	-1	+1	N/A	0
Lump sum payments	0	0	N/A	0
Due contributions only	0	N/A	N/A	0
Deaths				
With death benefit	0	0	0	0
Without death benefit	0	0	0	0
Transfers	0	0	N/A	0
Rehires	0	0	N/A	0
New beneficiaries	N/A	N/A	0	0
New entrants	0	N/A	N/A	0
Total members July 1, 2016	17	2	5	24



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, 2016.

Year	Active as of July 1, 2016	Retired and Terminated as of July 1, 2016	Total Benefit Payments
2016	\$374,000	\$5,819,000	\$6,193,000
2017	783,000	5,723,000	6,506,000
2018	1,223,000	5,586,000	6,809,000
2019	1,691,000	5,475,000	7,166,000
2020	2,183,000	5,377,000	7,560,000
2021	2,698,000	5,266,000	7,964,000
2022	3,220,000	5,147,000	8,367,000
2023	3,781,000	5,045,000	8,826,000
2024	4,360,000	4,882,000	9,242,000
2025	4,909,000	4,712,000	9,621,000



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.

Actuarial Cost Method

- A. Changes in Actuarial Cost Method: None.
- B. 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 15 years on an open basis.

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 as of July 1, 2016

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
- Turnover
- Disability
- Salary increase
- 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)

6.75%.

Prior: 6.50% per year until 2020, and 7.00% thereafter.

This assumption was updated to reflect future expectations. The change in assumption increased liabilities by 1.8%.

Salary increases

Merit tables shown below, plus an annual inflation assumption of 2.75% for all groups. In addition, we increased the current Public Works salaries by 2% as an estimate of potential retroactive pay increases.

<i>Police & Fire</i>			<i>Public Works & Sewer</i>			<i>All Others</i>				
<i>Years of Service</i>			<i>Years of Service</i>			<i>Years of Service</i>				
Age	0-9	10+	Age	0-4	5-14	15+	Age	0-4	5-14	15+
25	7%	1%	25	0.5%	1.5%	1%	25	0.5%	1.5%	0%
30	3%	1%	30	0.5%	1.5%	1%	30	0.5%	1.5%	0%
35	2.5%	1%	35	0.5%	1.5%	1%	35	0.5%	1.5%	0%
40	1.5%	1.5%	40	3.25%	0.5%	0.5%	40	3.25%	0.5%	0%
45	1.25%	1.25%	45	3.25%	0.5%	0.5%	45	3.25%	0.5%	0%
50	1%	1%	50	3.25%	0.5%	0.25%	50	3.25%	0.5%	0%
55	1%	0.25%	55	3.25%	0.5%	0.25%	55	3.25%	0.5%	0%
60	0%	0%	60	0%	0.5%	0%	60	0%	0.5%	0%



Prior:

Police & Fire		All Others	
Service	Rate	Age	Rate
0	12.00%	25	6.00%
1	11.00%	30	5.50%
2	9.00%	35	5.00%
3	7.00%	40	4.50%
4	6.00%	45	4.12%
5	5.00%	50	3.97%
8	4.50%	55	3.82%
10	4.50%	60	3.67%
15	4.00%	65	3.50%
20+	3.50%	70+	3.00%

The actuarial assumption in regards to rate of compensation increases shown above are based on the results of an actuarial experience study for the period July 1, 2010 through July 1, 2015. The change in assumption decreased liabilities by about 1.4%.

Payroll growth

4% per year (used for roll-forward of the contribution from the valuation year to the budget year).

The assumption is based on historical national wage increases and input from the plan sponsor regarding future expectations.

Inflation

2.75%.

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.

Cost of living increases

Retirements: None.

Actives: None.

Mortality

Town Retirements - RP-2014 Adjusted to 2006 Total Dataset Mortality Table, projected to the valuation date with Scale MP-2016.

Police, Fire, Public Works and Sewer Retirements - RP-2014 Adjusted to 2006 Blue Collar Mortality Table, projected to the valuation date with Scale MP-2016.

Disabilities - RP-2014 Adjusted to 2006 Disabled Mortality Table, projected to the valuation date with Scale MP-2016.

Survivor - RP-2014 Adjusted to 2006 Total Dataset Mortality Table, projected to the valuation date with Scale MP-2016.

Prior: Retirements and Survivors: RP-2000 Mortality Table with separate male & female rates, with no collar adjustment, separate rates for annuitants and non-annuitants, projected to the valuation date with Scale AA.

Disabilities: RP-2000 Disabled Mortality Table.



Mortality improvement

Projected to date of decrement using Scale MP-2016 (generational mortality).

Prior: Retirements and Survivors: Projected to date of decrement using Scale AA (generational mortality).

Disabilities: None.

We have selected this mortality assumption because it is based on the latest published pension mortality study released by the Society of Actuaries. The group composition of the Plan is consistent with the collar adjustment selected. The change in assumption increased liabilities by about 3.6%.

Retirement rates

<i>Police & Fire</i>				<i>Public Works & Sewer</i>					<i>All Others</i>		
<i>Years of Service</i>				<i>Years of Service</i>					<i>Years of Service</i>		
Age	10-19	20-29	30+	Age	5-14	15-24	25-34	35+	Age	0-24	25+
50-54	0%	5%	5%	60-64	0%	5%	15%	25%	50-54	3%	3%
55-65	20%	15%	20%	65-69	10%	15%	25%	50%	55-59	3%	5%
66-69	20%	15%	20%	70-74	10%	20%	20%	50%	60-64	12%	13%
70	100%	100%	100%	75	100%	100%	100%	100%	65-69	15%	50%
									70-74	7.5%	25%
									75-79	20%	20%
									80	100%	100%

Prior:

<i>Police & Fire</i>				<i>Public Works</i>				<i>All Others</i>					
<i>Years of Service</i>				<i>Years of Service</i>				<i>Years of Service</i>					
Age	20-29	30	31+	Age	< 15	15-30	30-35	35+	Age	< 15	15-30	30-35	35+
50	14%	14%	14%	60	0%	5%	15%	25%	60	0%	5%	15%	15%
55	14%	50%	50%	65	10%	15%	15%	50%	65	10%	15%	15%	20%
56-64	14%	50%	18%	70	10%	20%	20%	50%	70	10%	20%	20%	25%
65	100%	100%	100%	75	100%	100%	100%	100%	75	100%	100%	100%	100%

Termination prior to retirement

<i>Public Works & Sewer</i>					<i>All Others</i>				
<i>Years of Service</i>					<i>Years of Service</i>				
Age	<1	1	2	3+	Age	<1	1	2	3+
20	11.92%	10.00%	8.40%	7.44%	20	36.36%	30.91%	27.27%	23.63%
25	11.12%	9.00%	7.40%	5.44%	25	31.82%	26.36%	22.73%	19.09%
30	10.32%	8.00%	6.40%	4.04%	30	27.27%	21.82%	18.18%	14.55%
35	9.52%	7.12%	5.52%	3.16%	35	22.73%	17.27%	13.64%	8.18%
40	8.72%	6.32%	4.72%	2.60%	40	18.18%	12.73%	9.09%	5.91%
45	7.92%	5.64%	4.04%	2.20%	45	18.64%	13.64%	9.55%	5.23%
50	7.12%	5.04%	3.44%	1.80%	50	16.36%	11.82%	7.95%	4.77%
55+	6.40%	4.48%	2.88%	1.44%	55+	14.00%	10.00%	7.00%	3.50%



Prior: Single 3% rate for all ages for years of service less than 10 for the Police and Fire groups.

<i>Public Works</i>					<i>All Others</i>				
<i>Years of Service</i>					<i>Years of Service</i>				
Age	<1	1	2	3+	Age	<1	1	2	3+
20	11.92%	10.00%	8.40%	7.44%	20	40.00%	34.00%	30.00%	26.00%
25	11.12%	9.00%	7.40%	5.44%	25	35.00%	29.00%	25.00%	21.00%
30	10.32%	8.00%	6.40%	4.04%	30	30.00%	24.00%	20.00%	16.00%
35	9.52%	7.12%	5.52%	3.16%	35	25.00%	19.00%	15.00%	9.00%
40	8.72%	6.32%	4.72%	2.60%	40	20.00%	14.00%	10.00%	6.50%
45	7.92%	5.64%	4.04%	2.20%	45	20.50%	15.00%	10.50%	5.75%
50	7.12%	5.04%	3.44%	1.80%	50	18.00%	13.00%	8.75%	5.25%
55+	6.40%	4.48%	2.88%	1.44%	55+	16.00%	12.00%	8.00%	4.00%

Disability rates

Police and Fire: 1985 Pension Disability Study Class 2 Unisex Table.

Public Works and Sewer: 1985 Pension Disability Study Class 2 Unisex Table.

All Others: 1985 Pension Disability Study Class 1 Unisex Table.

Prior: Police & Fire: 1985 Pension Disability Study Class 4 Unisex Table.

All Others: 1985 Pension Disability Study Class 2 Male Table.

The actuarial assumptions in regards to rates of decrement shown above are based on the results of an actuarial experience study for the period July 1, 2010 through July 1, 2015.

The retirement, termination and disability rates were updated to better reflect actual experience. The change in assumptions decreased liabilities by about 4.1%.

Expenses

The estimate is based on actual expenses paid from the trust in the prior year.

Percent of active employees married

80% of males and 80% of females.

Spouse's age

Husbands are assumed to be 3 years older than wives.

Credited interest on member contributions

4% per year (long-term estimated of federal mid-term rate).



Summary of Plan Provisions

This summary is being provided for valuation purposes only. This summary outlines the major features of the Plan. It does not give full details or cover all aspects of the Plan. The actual terms and conditions of the Plan are stated in the formal Plan document.

Plan identification

Single-employer pension plan

Effective date

Original: July 1, 1962.

Latest restatement: January 1, 2013 (signed December 11, 2013).

Latest amendment: January 1, 2015 (signed July 12, 2016).

Plan year

The calendar year.

Participation

On or after January 1, 1988, a member becomes a plan participant on the first day of the month following employment provided the member pays the required contributions under the Plan. Employees of the Board of Education classified as Aides must work one full year before entering the Plan. Members include non-bargained Town employees and employees of the Department of Public Works (DPW), the Police and Fire Departments, the Board of Education (BOE) and employees of the Town of New Canaan Library. Temporary employees, employees working less than 20 hours per week and any BOE covered by the CT Teacher's Retirement System are excluded. Effective July 1, 2010 new DPW employees are not eligible for the plan. Effective January 1, 2011 non-bargained Town or BOE (includes teaching assistants), Library and Town Hall union employees are not eligible for the plan.

Credited Service (for benefit accrual)

All years of service for which compensated for from date of hire rounded to completed months. Employees of the BOE classified as Aides who terminate prior to the start of the school year, shall not receive credited service for the months school is not in session.

Sell back of vacation/sick days

Town Hall and non-bargained town members may sell back unused paid sick days over 110 and up to 180 days, for a 0.5% increase in benefit for each block of ten days. They may also sell back unused paid vacation days for a 0.5% increase in benefit for each block of ten days. They will also receive an additional 0.5% increase in benefit if they sell back the maximum number of sick and vacation days. Maximum is 5% increase. Members can also buy 1 year of Credited Service at 14 years to attain 15 years for Early Retirement.

Police department members may sell back unused paid sick days over 110 and up to 190 days, for a 0.5% increase in benefit for each block of ten days. They may also sell back up to 48 unused vacation days for a 0.5% increase in retirement benefit for each block of ten days. They will also receive an additional 0.5% increase in benefit if they sell back the maximum number of sick and vacation days. Maximum is 5% increase.



Sell back of vacation/sick days (continued)

Fire department members may sell back unused paid sick days over 110 and up to 190 days for a 0.075% increase in benefit, payable at 50%, for each block of one day. They may also sell back up to 44 unused vacation days for a 0.05% increase in retirement benefit for each block of one day. They will receive an additional 0.8% if they sell back the maximum number of sick and vacation days. Maximum is 7.5% increase.

DPW members may sell back unused paid sick days over 110 and up to 135 days for a 0.05% increase in benefit, for each block of one day. They may also sell back up to 50 unused vacation days for a 0.05% increase in benefit for each block of one day. Maximum is 4.25% increase.

Compensation (plan salary)

Basic salary regularly paid, excluding overtime, bonuses, gratuities, commissions, retainer fees, benefits, severance, allowance for expenses or other special remuneration. Compensation is limited as stated in IRC Sec 401(a)(17).

Covered Compensation

The average (without indexing) of the taxable wage bases in effect each calendar year during the 35-year period ending with the last day of the calendar year in which the member attains social security retirement age (SSRA). The taxable wage base for any year subsequent to date of benefit determination up to SSRA is assumed to be the same as the taxable wage base in effect at the beginning of the year of determination.

Average Annual Compensation

DPW and non-bargained town employees: Effective January 1, 2007, the highest 1 year average of the compensation rate in effect upon termination of the last ten calendar years.

Police: The highest consecutive three year average of the January 1st compensation rates of the last 10 years. Effective July 1, 1999, upon attainment of age 55, the 1 year average of the rate of compensation.

Fire: Effective July 1, 1997, the highest annual rate of compensation as of January 1st (effective July 1, 2006, rate in effect at termination) within the last 10 years.

BOE and Library employees: The highest consecutive three year average of the January 1st compensation rates of the last 10 years.

Form of benefit

Normal form: Life annuity (*employee contributions plus credited interest are guaranteed*).

Optional forms: Lump sum (if monthly benefit \$100 or less or if employee contributions with credited interest are being refunded).

Cost-of-living increases

Periodically granted. Previously granted to retirees/beneficiaries receiving payments as follows:

January 1, 2001 – 2% for each full year receiving payments since January 1, 1993 (limited to eight years)

January 1, 2004 – 2% for each full year receiving payments since January 1, 2001

January 1, 2007 – 2% for each full year receiving payments since January 1, 2004

January 1, 2010 – 2% for each full year receiving payments since January 1, 2007 plus an additional 1% for each full year receiving payment since January 1, 2008 for a maximum of 3% total.



Accrued benefit

DPW: Effective January 1, 2010, 2.25% times Average Annual Compensation times years of Credited Service, up to a maximum of 30 years. (Prior to January 1, 2010 the percentage was 2.0%.)

Police and Fire: 2.5% times Average Annual Compensation times years of Credited Service, up to a maximum of 30 years.

BOE, Town Hall and Non-bargained Town Employees: 2.0% times Average Annual Compensation times years of Credited Service, up to a maximum of 30 years.

Library: 2.5% times Average Annual Compensation minus .65% of Average Annual Compensation up to Covered Compensation times Credited Service, up to a maximum of 30 years. Offset applicable only to members covered under the Social Security Act.

Normal retirement

Eligibility:

Police: First of the month coinciding with or next following the later of completion of 25 years of service or age 50 with completion of 20 years of service.

Fire: First of the month coinciding with or next following age 50 with completion of 20 years of service.

All Others: First of the month coinciding with or next following age 65 with 5 years of service.

Benefit: Accrued benefit as of normal retirement date.

Early retirement

Eligibility: First of the month following age 55 and completion of 15 years of service.

Benefit: Accrued benefit as of early retirement date.

Reduction factors:

BOE Cust., Sec. & FS		Public Works		All Others	
Yrs Early	Factor	Yrs Early	Factor	Yrs Early	Factor
0	1.000	0-5	1.000	0	1.000
1	0.901	6	0.941	1	0.941
2	0.816	7	0.880	2	0.880
3	0.741	8	0.820	3	0.820
4	0.675	9	0.760	4	0.760
5	0.618	10	0.700	5	0.700
6	0.567			6	0.640
7	0.522			7	0.580
8	0.481			8	0.520
9	0.445			9	0.460
10	0.413			10	0.413



Late retirement benefit

Benefits commence first of the month on or after termination. Benefit is payable based on service and compensation as of that date. Fire department members must retire no later than age 65.

Termination prior to retirement

Vesting schedule: 100% after completion of 5 years of credited service.

Benefit: Vested portion of accrued benefit as of date of termination, first payable upon normal retirement eligibility. Earlier benefit commencement may be elected, subject to early retirement eligibility and reduction factors. Participant may elect to a return of employee contributions with credited interest and forfeit all vested benefits. As of June 30, 2009, all active members are 100% vested in their accrued benefit at that date due to a 401(h) transfer.

Death Benefit

All members: Excess of return of employee contributions with credited interest over Special death benefit outlined below payable at participant's normal retirement date (if terminated vested participant died) or first of the month following date of death for all others.

Special Benefit: Surviving spouse or dependent's benefit is 50% (60% for Police or Fire, and 75% for Police or Fire retirees) of Average Annual Compensation immediately prior to death (not greater than existing retirement benefit in case of death of retired member). (Prior to July 1, 2012, the percentage was 60% for Police or Fire retirees.) Benefits cease at remarriage of spouse or when last dependent child attains age 18 (24 if full time student).

Disability Benefit

Eligibility: First day of the month following Total and Permanent Disability as determined by pension committee.

Benefit: For Public Works, 40% of Average Final Compensation immediately prior to date of disability minus 40% of Social Security minus Workers' Compensation benefit if disablement occurs during first 5 years of employment. For others, 50% of Average Annual Compensation immediately prior to date of disability minus 50% of Social Security benefits minus Workers' Compensation benefits if disablement occurs during first 5 years of employment. There is no Social Security reduction for Police or Fire members. If disablement occurs after five years of service, there is no reduction for Workers' Compensation. The sum of the disability, Workers' Compensation, and Social Security benefits cannot exceed compensation before date of disability. Benefits stop at the earliest of normal retirement date, date of recovery or date of death. If applicable, normal retirement benefits begin based on compensation and service at date of disability. If applicable, death benefits become payable.



Member Contributions

Police:

Effective Date	Contribution Rate*
09/01/1972	7.0%
01/01/1987	7.0%
07/01/1997	5.75%
07/01/1998	5.5%
07/01/1999	5.25%
07/01/2000	3.75%
07/01/2001	2.25%
07/01/2002	0.75%
07/01/2012	1.0%
05/01/2015	2.0%

Effective 07/01/2000, 0% after completion of 30 years of service. Effective 05/01/2015 for new hires, 8.0%.

Fire:

Effective Date	Contribution Rate*
09/01/1972	5.0%
01/01/1987	6.0%
07/01/1997	5.75%
07/01/1998	5.5%
07/01/1999	5.25%
07/01/2000	3.75%
07/01/2001	2.25%
07/01/2002	0.75%
08/01/2011	1.0%
07/01/2014	2.0%

Effective 07/01/2000, 0% after completion of 30 years of service. Effective 07/01/2014 for new hires, 8.0%.

* Percent of calendar year compensation on a post-tax basis (unless election made upon plan entry or March 15, 1996 (if later) to contribute on a pre-tax basis). Once elections are made, they cannot be changed.

DPW:

Effective Date	Contribution Rate*
01/01/2001	1.0%
07/01/2010	1.5%
01/01/2015	2.25%
01/01/2016	3.0%

Effective 07/01/2014, 0% after completion of 30 years of service.



Member Contributions (continued)

Town Hall Union:

Effective Date	Contribution Rate*
01/01/2001	0.25%
07/01/2015	1.0%
01/01/2016	1.75%
01/01/2017	2.5%
07/01/2017	3.0%

BOE:

Effective Date	Contribution Rate
09/01/1972	2.0%
01/01/2016	3.0%
01/01/2017	4.0%

Effective 01/01/2016 for new hires, 8.0%.

Library and other union employees:

Effective Date	Contribution Rate
09/01/1972	2.0%

All other non-union Town employees:

Effective Date	Contribution Rate*
09/01/1972	2.0%
07/01/1998	1.0%
01/01/2001	0.25%
07/01/2014	0.5%

* Percent of calendar year compensation on a post-tax basis (unless election made upon plan entry or March 15, 1996 (if later) to contribute on a pre-tax basis). Once elections are made, they cannot be changed.

Credited Interest

Effective Date	Interest Rate
Prior to 07/01/1982	3.00%
07/01/1982	5.00%
07/01/1985	7.00%
07/01/2011	6.50%
07/01/2013	1.22%*
07/01/2014	1.82%*
07/01/2015	1.77%*
07/01/2016	1.44%*

* Annual Mid-term Applicable Federal Rate as of the Effective Date.