



CITY OF STAMFORD BOARD OF EDUCATION

GASB 45 VALUATION REPORT

AS OF JULY 1, 2015





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Valuation Highlights

Liabilities were valued as of July 1, 2014 using the assumptions set forth in the July 1, 2014 OPEB valuation. The July 1, 2014 liabilities were then projected to July 1, 2015. An adjustment was made to the liabilities to reflect the change in teachers' contributions to the plan.

The purpose of this valuation is to report the estimated funded status of the plan as of July 1, 2015 as well as the Annual Required Contribution (ARC) for fiscal year ending June 30, 2017.

The asset performance of 0.2% was lower than our 7.5% assumption this year. This had a minor impact on the ARC.

A chart comparing the historical schedule of funding progress information for both the City and the Board of Education combined is below:

Schedule of Funding Status and Funding Progress				
Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liabilities (AAL)	Unfunded AAL (UAAL)	Funded Ratio
7/1/2012	\$3,539,000	\$53,081,000	\$49,542,000	7%
7/1/2013	5,134,000	50,597,000	45,463,000	10%
7/1/2014	9,840,000	52,174,000	42,334,000	19%
7/1/2015	10,742,000	51,617,000	40,875,000	21%



Actuarial Certification

This report presents the results of the July 1, 2015 Actuarial Valuation for City of Stamford post-retirement benefit other than pension (OPEB) for Board of Education Employees (the Plan) for the purpose of estimating the funded status of the Plan and determining the Annual Required Contribution (ARC) for the fiscal year ending June 30, 2017. 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 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 City. 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 *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 such factors as: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the Plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of this report, an analysis of the potential range of such future measurements has not been performed.

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


Evan W. Woollacott, Jr., FCA, MAAA
Enrolled Actuary 14-04513

May 27, 2016



Actuarial Accrued Liabilities

GASB 45 Unfunded Actuarial Accrued Liability (UAAL)					
Actuarial Accrued Liability (AAL) 7/1/2015	BOE Teachers	BOE Admin	BOE Custodians	BOE Ed Assistants	Grand Total
Actives	\$18,751,000	\$2,701,000	\$4,831,000	\$1,701,000	\$27,984,000
Retirees	<u>15,532,000</u>	<u>3,177,000</u>	<u>4,924,000</u>	<u>0</u>	<u>23,633,000</u>
Total	34,283,000	5,878,000	9,755,000	1,701,000	51,617,000
Assets 7/1/2015	<u>7,135,000</u>	<u>1,223,000</u>	<u>2,030,000</u>	<u>354,000</u>	<u>10,742,000</u>
Unfunded Actuarial Accrued Liability (UAAL) 7/1/2015	27,148,000	4,655,000	7,725,000	1,347,000	40,875,000



Annual Required Contribution (ARC)

GASB 45 Annual Required Contribution (ARC)					
Annual Required Contribution (ARC) 2016 / 2017 Fiscal Year	BOE Teachers	BOE Admin	BOE Custodians	BOE Ed Assistants	Grand Total
Normal Cost	\$1,001,000	\$144,000	\$327,000	\$130,000	\$1,602,000
20 Year Amortization of UAAL	2,056,000	352,000	585,000	102,000	3,095,000
Interest - One Month	<u>19,000</u>	<u>3,000</u>	<u>6,000</u>	<u>1,000</u>	<u>29,000</u>
Total ARC 2016 / 2017	3,076,000	499,000	918,000	233,000	4,726,000
Expected Benefit Payments 2016 / 2017	2,139,000	471,000	560,000	93,000	3,263,000
ARC minus EBP 2016 / 2017	937,000	28,000	358,000	140,000	1,463,000



Market Value of OPEB Assets For Fiscal Year Ending June 30, 2015

	TOTAL	CITY*	BOE**	WPCA
Net Assets as of July 1, 2014	47,870,832	37,434,647	9,840,185	596,000
Additions:				
Employer	19,025,576	18,330,311	383,676	311,589
Plan Members	4,023,462	2,538,598	1,484,864	-
Other revenues	<u>1,426,575</u>	<u>1,426,575</u>	<u>-</u>	<u>-</u>
Total	\$ 24,475,613	\$ 22,295,484	\$ 1,868,540	\$ 311,589
Investment Earnings				
Net increase in fair value of investments	(1,323,391)	(1,077,555)	(228,855)	(16,981)
Interest and dividends	<u>1,483,000</u>	<u>1,207,515</u>	<u>256,456</u>	<u>19,029</u>
Total	\$ 159,609	\$ 129,960	\$ 27,601	\$ 2,048
Investment Expenses	46,162	37,587	7,983	592
Deductions				
Benefits	(14,235,626)	(13,098,941)	(985,958)	(150,727)
Administrative costs	<u>(743,354)</u>	<u>(743,354)</u>	<u>-</u>	<u>-</u>
Total	\$ (14,978,980)	\$ (13,842,295)	\$ (985,958)	\$ (150,727)
Change in Net Assets	9,610,080	8,545,562	902,200	162,318
Net Assets as of June 30, 2015	\$ 57,480,912	\$ 45,980,209	\$10,742,385	\$ 758,318
 Market Value Rate of Return	 0.22%	 0.22%	 0.19%	 0.22%

*Includes City Cerf, BOE Cerf, Police, & Fire

**Includes Teachers, Administrators, Custodians, & Ed Assistants



OPEB Asset Return Assumption July 1, 2015

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-Term Expected Real Rate of Return*</u>	<u>Weighting</u>
Fixed Income	17.00%	2.00%	0.34%
Domestic Equity	23.00%	5.25%	1.21%
International Equity	17.00%	5.50%	0.94%
Asset Allocation	43.00%	3.84%	1.65%
	100.00%		4.14%
Long-Term Inflation Expectation			3.00%
Long-Term Expected Nominal Return			7.14%

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

The long-term expected rate of return on 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 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 7.0% and 7.5%. An expected rate of return of 7.5% was used.



Participant Counts and Average Attained Age As of July 1, 2014

Participant Counts			
Group	Active Participants	Retirees*	Total
Teachers	1,468	166	1,634
Administrators	63	28	91
Custodians	140	90	230
Ed. Assistants	<u>355</u>	<u>2</u>	<u>357</u>
Total	2,026	286	2,312

*Does not include spouses of existing retirees.

Average Age		
Group	Active Average Age	Retiree Average Age**
Teachers	44	68
Administrators	50	64
Custodians	54	77
Ed. Assistants	51	76

**Average age of retirees with medical coverage only



Projected Benefit Payments

Fiscal Year Beginning July 1st	Currently Active Employees	Currently Retired Employees	Total
2015	\$810,000	\$2,179,000	\$2,989,000
2016	1,262,000	2,001,000	3,263,000
2017	1,645,000	1,930,000	3,575,000
2018	1,954,000	1,837,000	3,791,000
2019	2,237,000	1,815,000	4,052,000
2020	2,465,000	1,847,000	4,312,000
2021	2,564,000	1,806,000	4,370,000
2022	2,802,000	1,824,000	4,626,000
2023	3,036,000	1,807,000	4,843,000
2024	3,186,000	1,854,000	5,040,000
2025	3,422,000	1,899,000	5,321,000
2026	3,678,000	1,892,000	5,570,000
2027	3,792,000	1,914,000	5,706,000
2028	3,881,000	1,919,000	5,800,000
2029	3,889,000	1,943,000	5,832,000
2030	4,236,000	1,962,000	6,198,000
2031	4,250,000	1,973,000	6,223,000
2032	4,582,000	1,961,000	6,543,000
2033	4,760,000	1,955,000	6,715,000
2034	5,100,000	1,940,000	7,040,000



Actuarial Methods

Actuarial Cost Method

Cost Method: Projected Unit Credit.

The Normal Cost is derived for each active participant as the actuarial present value of the projected benefits that are attributed to expected service in the current plan year. The Normal Cost for plan benefits is the total of the individual Normal Costs for active participants.

The Accrued Liability is equal to the portion of the present value of future benefits that is allocated to years of service before the valuation date.

Amortization Method

The Unfunded Accrued Liability is amortized each year over a constant 20 year period, as a level percent of payroll. A 2.5% payroll growth assumption was used.

Asset Valuation Method

Market Value.



Actuarial Assumptions Custodians

Valuation Date

July 1, 2015.

Discount Rate

7.5% per annum.

Inflation

3.0%.

This assumption is based on long term (1926-2013) 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.

Separation from Employment

Annual rates of assumed withdrawal, disability and retirement are as follows:

Age	Withdrawal	Disability
25	0.0489	0.0005
30	0.0370	0.0005
35	0.0235	0.0006
40	0.0113	0.0009
45	0.0000	0.0018
50	0.0000	0.0040
55	0.0000	0.0085
>=60	0.0000	0.0000

Retirement	
Age	Rate*
60	0.20
61	0.05
62	0.20
63	0.20
64	0.20
65	0.20
66	0.20
67	0.20
68	0.20
69	0.20
>=70	1.00

* Custodians receive a one-time 50% decrement at 25 years of service.

The actuarial assumptions in regards to rates of decrement shown above are based on standard tables modified for certain plan features such as eligibility for full and early retirement where applicable and input from the plan sponsor.



Actuarial Assumptions Custodians (continued)

Mortality

RP-2000 Mortality Table with separate male and female rates, with blue collar adjustment, combined table for non-annuitants and annuitants, projected to the valuation date with Scale BB.

We have selected a mortality table commonly used by public pension systems (such as the State of Connecticut). The plan does not have sufficiently credible data on which to perform a mortality experience study.

Mortality Improvement

Projected to date of decrement using Scale BB (generational mortality).

We are using Scale BB because it is the most up to date mortality improvement scale which was developed for use with RP-2000.

Unit Costs

The 2014 assumed annual average per-capita incurred medical unit costs are as follows:

Current Retirees:

<u>Plan</u>	<u>CIGNA & Medco</u>	<u>IPI & Medco</u>
Pre-Medicare	\$13,387	\$6,389
Post-Medicare	7,269	6,389

Future Retirees:

<u>Plan</u>	<u>CIGNA & Medco</u>
Pre-Medicare	\$10,894
Post-Medicare	5,995

Premiums were used as the basis for per capita costs.



Actuarial Assumption Custodians (continued)

Age-related Morbidity

Ages	Rates
41-45	2.7%
46-50	3.0%
51-55	3.3%
56-60	3.6%
61-65	4.2%
66-70	3.0%
71-75	2.5%
76-80	2.0%
81-85	1.0%
86-90	0.5%
90+	0.0%

For plans integrated with Medicare, the premium is assumed to be unaffected by age.

Health Care Cost Trend Rates

8.0% for 2015, decreasing 0.5% per year, to an ultimate rate of 4.5% for 2022 and later.

Health care trend rates reflect both the current and long-term outlook for increases in health care costs. The short term trend rate is based on recent industry surveys, plan experience and near-term expectations. The long term trend rate is based on our general inflation assumption of 3% plus 1.5% to reflect expectations for long-term medical inflation.

Retiree Contribution

For current retirees, some have flat contributions with no future increases assumed and others have a percentage contribution that is assumed to increase periodically with the Health Care Cost Trend. For future retirees, contributions are assumed to increase periodically with the Health Care Cost Trend.

Medicare Coordination

For those participants who are eligible for Medicare, Medicare is assumed to remain the primary payer of medical benefits for retirees and spouses over age 65.

Medical Plan Enrollment and Dependent Assumption

Reported data were used to identify current covered retirees, spouses and surviving spouses. All active employees were assumed to elect coverage under the CIGNA Plans and be eligible for Medicare upon attainment of age 65. We assumed 60% of active members are married. Husbands are assumed to be four years older than their wives. Married participants were assumed to elect dual coverage.

The actuarial assumptions in regards to utilization shown above are based on standard assumptions modified for certain plan features such as eligibility for full and early retirement where applicable and input from the plan sponsor.



Actuarial Assumption Custodians (continued)

Patient Protection and Affordable Care Act (PPACA)

High Cost Plan Excise Tax (“Cadillac Tax”): Effective in 2020 there will be a 40% excise tax on per capita medical benefit costs in excess of certain thresholds, which (in 2018) are \$10,200 for single coverage and \$27,500 for family coverage for Medicare eligible retirees. Thresholds (in 2018) for retirees who are between ages 55 and 65 are \$11,850 and \$30,950 for single and family coverage respectively.

After 2018, the thresholds are indexed by CPI (CPI +1% in 2018 only). CPI is assumed to be 3.0% in all future years.

The impact of this future excise tax has been reflected in plan liabilities.

Other Requirements of PPACA: For purposes of this valuation, extended coverage for adult children and 100% coverage of preventive care are assumed to be reflected in per capita costs.

For purposes of this valuation, elimination of lifetime maximum benefits and removal of the limits on essential healthcare are assumed to have no impact on plan liabilities.



Actuarial Assumptions Teachers, Administrators, Education Assistants

The actuarial assumptions used in the determination of costs and liabilities are as follows:

Valuation Date

July 1, 2015.

Discount Rate

7.5% per annum.

Inflation

3.0%.

This assumption is based on long term (1926-2013) 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.

Mortality

RP-2000 Mortality Table with separate male and female rates, with no collar adjustment, combined table for non-annuitants and annuitants, projected to the valuation date with Scale BB.

We have selected a mortality table commonly used by public pension systems (such as the State of Connecticut). The plan does not have sufficiently credible data on which to perform a mortality experience study.

Mortality Improvement

Projected to date of decrement using Scale BB (generational mortality).

We are using Scale BB because it is the most up to date mortality improvement scale which was developed for use with RP-2000.



Actuarial Assumptions Teachers, Administrators, Education Assistants (continued)

Assumed Rates of Retirement (from CT State TRS 2014 OPEB Valuation)

Age	Eligible for Normal (Unreduced) Retirement (Age 60 and 20 Yrs. Serv. or 35 yrs. Serv.)		Eligible for Early (Reduced) Retirement (Age 55 and 20 Yrs. Serv. or 25 yrs. Serv.)	
	Male	Female	Male	Female
50-51	27.5%	15.0%	2.0%	2.0%
52	27.5	15.0	3.0	4.0
53	27.5	15.0	3.0	4.5
54	27.5	15.0	5.0	5.5
55	38.5	30.0	5.0	7.5
56	38.5	30.0	7.0	8.5
57	38.5	30.0	10.0	9.5
58	38.5	30.0	11.0	10.0
59	38.5	30.0	12.0	10.0
60	22.0	20.0		
61-62	25.3	22.5		
63-64	27.5	22.5		
65	36.3	30.0		
66-69	27.5	30.0		
70-79	100.0	40.0		
80	100.0	100.0		

Service-Based Withdrawal Rates (until eligible to retire) (from CT State TRS 2014 OPEB Valuation)

Age	Male Rate	Female Rate
0-1	.1400	.1200
1-2	.0850	.0900
2-3	.0550	.0700
3-4	.0450	.0600
4-5	.0350	.0550
5-6	.0250	.0500
6-7	.0240	.0450
7-8	.0230	.0350
8-9	.0220	.0300
9-10	.0210	.0250
10 +	use age-related rates until eligible to retire	



Actuarial Assumptions Teachers, Administrators, Education Assistants (continued)

Sample Age-Based Withdrawal Rates (until eligible to retire) (from CT State TRS 2014 OPEB Valuation)

Age	Male Rate	Female Rate
25-37	.0120	.0350
40	.0120	.0230
45	.0126	.0130
50	.0196	.0125
55	.0336	.0160
59+	.0400	.0190

Non-service-connected disability

Age	Male Rate	Female Rate
25	0.0005	0.0005
30	0.0004	0.0004
35	0.0004	0.0004
40	0.0005	0.0007
45	0.0014	0.0012
50	0.0047	0.0026
55	0.0086	0.0044
>=60	0.0100	0.0050

The actuarial assumptions in regards to rates of decrement shown above are based on standard tables modified for certain plan features such as eligibility for full and early retirement where applicable and input from the plan sponsor.

Health Care Cost Trend Rates

8.0% for 2015, decreasing 0.5% per year, to an ultimate rate of 4.5% for 2022 and later.

Health care trend rates reflect both the current and long-term outlook for increases in health care costs. The short term trend rate is based on recent industry surveys, plan experience and near-term expectations. The long term trend rate is based on our general inflation assumption of 3% plus 1.5% to reflect expectations for long-term medical inflation.

Additional Assumptions

50% of males and 50% of females assumed married, with wives assumed to be four years younger than their husbands.

Percentage of Actives Eligible at Retirement who continue with Medical Coverage

100%.



Actuarial Assumptions Teachers, Administrators, Education Assistants (continued)

Percentage of non-Medicare eligible Teachers Continuing After 65

20%.

The actuarial assumptions in regards to utilization shown above are based on standard assumptions modified for certain plan features such as eligibility for full and early retirement where applicable and input from the plan sponsor.

Unit Costs

	<u>2014</u>
Pre-65 & Non Medicare Eligible	\$11,584
Medicare A & B Coordinated	8,758
Medicare B Coordinated	11,004

Premiums were used as the basis for per capita costs.

Age-related Morbidity

Ages	Rates
41-45	2.7%
46-50	3.0%
51-55	3.3%
56-60	3.6%
61-65	4.2%
66-70	3.0%
71-75	2.5%
76-80	2.0%
81-85	1.0%
86-90	0.5%
90+	0.0%

For plans integrated with Medicare, the premium is assumed to be unaffected by age.

Patient Protection and Affordable Care Act (PPACA)

High Cost Plan Excise Tax (“Cadillac Tax”): Effective in 2020 there will be a 40% excise tax on per capita medical benefit costs in excess of certain thresholds, which (in 2018) are \$10,200 for single coverage and \$27,500 for family coverage for Medicare eligible retirees. Thresholds (in 2018) for retirees who are between ages 55 and 65 are \$11,850 and \$30,950 for single and family coverage respectively.

After 2018, the thresholds are indexed by CPI (CPI +1% in 2018 only). CPI is assumed to be 3.0% in all future years.

The impact of this future excise tax has been reflected in plan liabilities.



Actuarial Assumptions Teachers, Administrators, Education Assistants (continued)

Other Requirements of PPACA: For purposes of this valuation, extended coverage for adult children and 100% coverage of preventive care are assumed to be reflected in per capita costs.

For purposes of this valuation, elimination of lifetime maximum benefits and removal of the limits on essential healthcare are assumed to have no impact on plan liabilities.



Summary of Principal Plan Provisions Board of Education

Teachers

Eligibility for Medical Coverage: Age 50 with 25 years of service, or;
Age 55 with 20 years of service, or;
Age 60 with 10 years of service.

Retiree Contributions: 50% of the premium for 3 years if have attained age 45, 15 years of service and 70 points as of July 1, 2016. Full premium thereafter.

Full premium for all others.

Early Retirement Incentive: Those retirees selecting Option 1 will receive 100% board paid insurance for 3 years. Full premium thereafter.

Treatment of Early Retirement Lump Sum: *We excluded* the Early Retirement Lump Sum benefit based on information received from the City that this benefit is accounted for outside of GASB 45.

Administrators

Eligibility for Medical Coverage: Age 50 with 25 years of service, or;
Age 55 with 20 years of service, or;
Age 60 with 10 years of service.

Retiree Contributions: Board pays full cost until participant reaches age 65 if have attained 15 years of service and 70 points.

After age 65, participant pays full cost.

Life Insurance:

Benefit: 2 times compensation for deaths prior to age 65.

Retiree Contributions: None.

Custodians

Eligibility for Medical Coverage: 25 years of service, or;
Age 60 and 10 years of service.

Medicare Part B: For current and future retirees, the liability for Medicare Part B reimbursement has been transferred to the respective pension plans.

Retiree Contributions (Current Retirees): Cost to age 65: To receive medical coverage, the employee must pay one-third (33.33%) and the City will pay two-thirds (66.66%) of the cost of such plan.

Cost Post 65: The retiree must pay two-thirds (66.66%) of the cost for the supplemental coverage.



Summary of Principal Plan Provisions Board of Education (continued)

Retiree Contributions (Future Retirees – effective July 1, 2011): Cost to age 65: To receive medical coverage, the employee must pay one-half (50.00%) and the City will pay one-half (50.00%) of the cost of such plan.

Cost Post 65: The retiree must pay 100.0% of the cost for the supplemental coverage.

Life Insurance:

Benefit: \$6,000.

Retiree Contributions: None.

Educational Assistants

Eligibility for Medical Coverage: Age 50 with 25 years of service, or;
Age 55 with 20 years of service, or;
Age 60 with 10 years of service.

Retiree Contributions: Full premium.

Security Workers

Eligibility for Medical Coverage: None.