



**NORFOLK COUNTY
CONTRIBUTORY RETIREMENT SYSTEM**

Actuarial Valuation Report
January 1, 2016

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Report Summary:

<u>Highlights</u>	<u>January 1, 2014</u>	<u>January 1, 2016</u>
<u>Contributions</u>		
Funding Schedule FY 2017	\$59,628,000	\$59,628,000
Funding Schedule FY 2018	65,591,600	65,170,157
<u>Funded Ratio</u>		
GAS No. 25	55.8%	62.1%
<u>Participants</u>		
Actives	5,153	5,278
Retirees and Beneficiaries	2,691	2,833
Inactives	2,249	2,425
Disabled	<u>332</u>	<u>351</u>
Total	10,425	10,887
<u>Payroll</u>		
Payroll of Active Members	\$246,722,941	\$267,454,300
Average Payroll	47,879	50,673
<u>Normal Cost</u>		
Employer	11,954,750	9,859,467
Employee	21,275,861	23,542,460
Administrative Expenses	<u>1,550,000</u>	<u>1,700,000</u>
Total	34,780,611	35,101,927
<u>Actuarial Accrued Liabilities</u>		
Actives	594,018,063	583,420,685
Retirees, Beneficiaries, Disabilities and Inactives	<u>653,578,709</u>	<u>727,140,753</u>
Total	1,247,596,772	1,310,561,438
<u>Actuarial Value of Assets</u>	<u>696,682,779</u>	<u>814,225,634</u>
<u>Unfunded Actuarial Accrued Liabilities</u>	\$550,913,993	\$496,335,804

Introduction

This report presents the findings of an actuarial valuation as of January 1, 2016, of Norfolk County Contributory Retirement System.

The actuarial valuation is based on:

- Provisions Chapter 32 of the Massachusetts General Laws, "M.G.L", as of January 1, 2016.
- Employee data provided by the Retirement Board
- Asset information reported to the Public Employee Retirement Administration Commission by the Norfolk County Contributory Retirement System
- Actuarial assumptions approved by the Retirement Board

The valuation and appropriation forecast are prepared in accordance with Chapter 32 of the M.G.L. as of January 1, 2016.

The valuation and forecast do not account for:

- Any subsequent changes in the law
- Chapter 32 of the M.G.L., Section 3(8)(c) transfers between systems
- State-mandated benefits
- Cost-of-living increases granted to retired members between 1982 and 1997. The cost of these benefits has been assumed by the State under Proposition Two and One-Half.

Actuarial Experience

In performing the actuarial valuation, various assumptions are made regarding such factors as mortality, retirement, disability, and withdrawal rates as well as both payroll, salary increases, and investment returns. A comparison of the current valuation and the prior valuation is made to determine how closely actual experience corresponded to anticipated occurrences. This analysis of the system provides insight into the overall quality of the actuarial assumptions and helps explain any change in the annual appropriation.

During the last year, based on the 2014 actuarial assumptions and plan provisions, the total unfunded actuarial accrued liability increased by .6% to \$553,854,624. The increase is less than expected as a result of net favorable actuarial experience during the preceding years. The sources of actuarial (gains) and losses are as follows:

Assets	(4,990,003)
Retirements	(8,669,136)
Terminations	3,658,051
Death while active	(867,638)
Disabled while active	(396,563)
Salary	(2,603,732)
New Participants	3,624,663
Inactive Mortality and data	25,959,891
Benefit Payments	(10,990,519)
Other	<u>2,037,376</u>
Total (Gain) / Loss	6,762,390

The 2015 Experience Study for the Norfolk County, along with the 2015 Experience Study of several Massachusetts Public Sector plans, required changes in the actuarial assumptions. In addition to the demographic assumptions, the investment rate of return was lowered to 8% and the salary scale is now based on years of service. These changes reduced the unfunded actuarial accrued liability by \$57,518,820, and the employer Normal Cost by \$2,652,335.

Actuarial Costs and Liabilities:

Normal Costs

The normal cost is the sum of the individual normal costs determined for each member as if the assumptions underlying the cost determinations had been exactly realized. An individual normal cost represents that part of the cost of a member's future benefits which are assigned to the current year as if the costs are to remain level as a percentage of the member's pay. Benefits payable under all circumstances (i.e., retirement, death, disability, and terminations) are included in this calculation. Anticipated employee contributions to be made during the year are subtracted from the total normal cost to determine employer normal cost. The total normal cost is divided by total payroll to determine the normal cost as a percent of pay. The normal cost is shown in Table I.

Table I

	<u>January 1, 2014</u>	<u>January 1, 2016</u>
Superannuation	\$22,390,061	\$21,040,954
Termination	3,239,594	5,941,503
Death	2,076,634	2,509,552
Disability	5,524,322	3,909,918
Administrative Expenses	<u>1,550,000</u>	<u>1,700,000</u>
Total Normal Cost	34,780,611	35,101,927
% of Pay	14.1%	13.1%
Employee Contributions	21,275,861	23,542,460
% of Pay	8.6%	8.8%
Employer Normal Cost	\$13,504,750	\$11,559,467
% of Pay	5.5%	4.3%

Present Value of Actuarial Accrued Liabilities

The actuarial accrued liabilities (AAL) represents today's value of all benefits based on the past service of the actives and inactive. The AAL can be compared to the assets to determine the funded status of the Plan. The value of these earned benefits is shown in Table II below.

Table II

	<u>January 1, 2014</u>	<u>January 1, 2016</u>
Actives		
Superannuations	\$545,634,001	\$561,594,977
Termination	2,414,026	(14,761,414)
Death	16,322,553	15,021,818
Disability	29,647,483	21,565,304
Retirees and Inactives		
Retirees and Beneficiaries	527,399,494	587,654,656
Terminated (Refund)	16,041,307	18,111,561
Disabled	<u>110,137,908</u>	<u>121,374,536</u>
Total	<u>\$1,247,596,772</u>	<u>\$1,310,561,438</u>

Present Value of Future Benefits

The present value of future benefits represents today's value of all benefits earned by the inactive participants as well as all benefits earned and expected to be earned in the coming years by the active participants. The difference between the present value of future benefits and the present value of actuarial accrued liabilities is the value of benefits to be earned in the coming years. The value of the total expected benefits is shown in Table III.

Table III

	<u>January 1, 2014</u>	<u>January 1, 2016</u>
Actives		
Superannuation	\$711,964,709	\$721,517,177
Termination	21,357,284	29,860,679
Death	30,221,594	32,439,418
Disability	78,475,060	56,292,081
Retirees and Inactives		
Retirees and Beneficiaries	527,399,494	587,654,656
Terminated (Refund)	16,041,307	18,111,561
Disabled	<u>110,137,908</u>	<u>121,374,536</u>
Total	\$1,495,597,356	\$1,567,250,108

Funded Status and Appropriations:

Market Value of Plan Assets

The trust fund composition on a market value basis is shown in Table IV.

Table IV

	<u>January 1, 2014</u>	<u>January 1, 2016</u>
Cash equivalents	\$19,348,766	\$13,354,698
Short term investments	0	0
Fixed income securities	137,345,662	123,080,990
Equities	349,917,564	351,520,569
International	71,292,586	82,255,464
Real Estate	78,276,084	77,301,133
Venture Capital	0	0
Other	86,989,775	114,888,724
Accounts receivable	10,803,122	4,943,738
Accounts payable	(2,352,628)	(924,180)
Accrued income	<u>1,231,989</u>	<u>927,587</u>
Total Market Value	\$752,852,919	\$767,348,723
Total Actuarial Value	\$696,682,779	\$814,225,634

Actuarial Value of Assets

The actuarial value of assets is determined by projecting the actuarial value of assets as of the beginning of the prior plan year with the assumed rate of return during that year (8.25%) and accounting for deposits and disbursements with interest at the assumed rate of return. An adjustment is then applied to recognize the difference between the actual investment return and expected return over a five year period. This preliminary actuarial value is not allowed to differ from the market value of assets by more than 20%. The calculation of the actuarial value of assets as of January 1, 2016 is presented in Table V.

Table V

	<u>January 1, 2016</u>
(1) Market value at January 1, 2015	\$781,947,029
(2) 2015 Contributions	\$82,818,253
(3) 2015 Benefit Payments	(\$86,588,108)
(4) Net interest adjustment at 8.25% on (1), (2), and (3) to December 31, 2015	\$64,355,123
(5) Expected market value on January 1, 2016	\$842,532,297
(1) + (2) + (3) + (4)	
(6) Actual market value on January 1, 2016	\$767,348,723
(7) 2015 (Gain) / Loss	\$75,183,574
(8) 80% of 2015 (Gain) / Loss	\$60,146,859
(9) 2014 (Gain) / Loss	\$26,710,081
(10) 60% of 2014 (Gain) / Loss	\$16,026,049
(11) 2013 (Gain) / Loss	(\$59,034,779)
(12) 40% of 2013 (Gain) / Loss	(\$23,613,912)
(13) 2012 (Gain) / Loss	(\$28,410,423)
(14) 20% of 2012 (Gain) / Loss	(\$5,682,085)
(15) Actuarial value on January 1, 2016, (6) + (8) + (10) + (12) + (14)	\$814,225,634
(16) but not less than 80% nor greater than 120% of (6)	\$814,225,634
(17) Ratio of actuarial value to market value	106.11%
(18) 2015 Market Value Return on Assets	-1.39%
(19) 2015 Actuarial Value Return on Assets	6.88%
(20) 2014 Market Value Return on Assets	4.69%
(21) 2014 Actuarial Value Return on Assets	10.79%

Unfunded Actuarial Accrued Liabilities

Under the Entry Age Normal Actuarial Cost Method, the Actuarial Accrued Liability represents what the accumulated assets would have been as of the valuation date if:

- current plan provisions and assumptions had always been in effect,
- experience conformed exactly to assumptions, and
- the normal cost had been contributed each year since inception.

The actuarial value of the Fund's assets as of the end of the prior year are subtracted from the Actuarial Accrued Liability (AAL) to determine the Unfunded Actuarial Accrued Liability (UAAL) as of the valuation date. Over time, annual pension contributions will accumulate Plan assets equal to the AAL, and the UAAL will be eliminated. Thereafter, annual contributions equal to the normal cost will keep the Plan's assets and liabilities in balance. The UAAL is developed in Table VI.

Table VI

	<u>January 1, 2014</u>	<u>January 1, 2016</u>
Actuarial Accrued Liability	\$1,247,596,772	\$1,310,561,438
Actuarial Assets	<u>696,682,779</u>	<u>814,225,634</u>
Unfunded Actuarial Accrued Liability	\$550,913,993	\$496,335,804
Funded Status	55.8%	62.1%

Appropriations

The pension appropriation for the upcoming fiscal years have been calculated in accordance with the requirements set forth in Section 22D of Chapter 32 of the Massachusetts General Laws. These amounts were calculated to comply with the June 30, 2040, full funding mandate for all accrued liabilities. The pension appropriation is the sum of the:

- Employer normal cost,
- Increasing amortization of the prior unfunded actuarial accrued liability by June 30, 2029
\$ 469,066,500 over 13 years with 4.0% increasing payments
- Increasing amortization of the 2002 Early Retirement Incentive by June 30, 2028
\$ 8,225,017 over 12 years with 4.5% increasing payments
- Increasing amortization of the 2003 Early Retirement Incentive by June 30, 2028
\$ 5,207,728 over 12 years with 4.5% increasing payments
- Interest adjustment for payments deposited semiannually.

The Board opted to use funding relief granted under Chapter 32 of the Massachusetts General Laws. The pension appropriation is shown in Table VII.

Table VII

	<u>January 1, 2014</u>	<u>January 1, 2016</u>
Employer Normal cost	\$13,504,750	\$11,559,467
Amortization payment of the unfunded liability	42,694,539	45,989,055
Amortization payment of 2002 ERI liability	756,354	816,285
Amortization payment of 2003 ERI liability	<u>478,891</u>	<u>516,837</u>
Total cost	\$57,434,534	\$58,881,644
% of Pay	23.3%	22.0%
Fiscal 2017 cost	\$59,628,000	\$59,628,000
Fiscal 2018 cost	\$65,591,600	\$65,170,157

Appropriation Forecast

The following exhibit forecasts employer and employee contributions over the next 32 years under the adopted funding schedule.

Note that the forecast is based upon an "open group" method. This method assumes that sufficient employees will be hired each year to keep the number constant. The total payroll of the system is expected to increase 4.5% per year. The employee contribution rate is expected to increase to 10.5% by 2034 as members contributing base percentages 5%, 7%, and 8% are replaced by new members, whose base contribution is 9%. Payments are assumed to be made at the beginning of the year.

The employer total cost is expected to increase during the next 11 years until the unfunded liabilities are substantially paid off, at which time only the normal cost will remain. The total cost represents 23.3% of payroll, decreasing to 20.7% by the time the unfunded liabilities are fully paid off, leaving only a normal cost of about 3.4% thereafter. The decrease in the cost as a percentage of payroll is a result of the increase in member deductions.

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Appropriation Forecast

Fiscal Year	Employee Payroll*	Employee Contribution	Employer Normal Cost with Interest	Amortization Payments with Interest	Employer Total Cost with Interest	Employer Total Cost % of Payroll	Funded Ratio %**
2017	\$267,454,300	\$23,542,460	\$12,244,054	\$47,383,946	\$59,628,000	22.3	62.1
2018	\$279,489,744	\$24,817,532	\$12,566,603	\$52,603,554	\$65,170,157	23.3	66.4
2019	\$292,066,782	\$26,159,687	\$12,893,387	\$58,334,046	\$71,227,433	24.4	70.2
2020	\$305,209,787	\$27,572,381	\$13,224,134	\$60,638,714	\$73,862,848	24.2	73.7
2021	\$318,944,228	\$29,059,244	\$13,558,540	\$63,037,233	\$76,595,773	24.0	77.0
2022	\$333,296,718	\$30,624,090	\$13,896,263	\$65,533,554	\$79,429,817	23.8	80.0
2023	\$348,295,070	\$32,270,927	\$14,236,925	\$68,131,795	\$82,368,720	23.6	82.9
2024	\$363,968,348	\$34,003,967	\$14,580,106	\$70,836,257	\$85,416,363	23.5	85.6
2025	\$380,346,924	\$35,827,631	\$14,925,344	\$73,651,424	\$88,576,768	23.3	88.2
2026	\$397,462,536	\$37,746,566	\$15,272,129	\$76,581,979	\$91,854,108	23.1	90.7
2027	\$415,348,350	\$39,765,655	\$15,619,901	\$79,632,810	\$95,252,711	22.9	93.1
2028	\$434,039,025	\$41,890,025	\$15,968,046	\$82,809,015	\$98,777,061	22.8	95.5
2029	\$453,570,781	\$44,125,063	\$16,315,894	\$10,769,427	\$27,085,321	6.0	97.7
2030	\$473,981,467	\$46,476,427	\$16,662,713	\$2,090,897	\$18,753,610	4.0	99.9
2031	\$495,310,633	\$48,950,061	\$17,007,706	\$2,174,533	\$19,182,239	3.9	99.9
2032	\$517,599,611	\$51,552,207	\$17,350,006	\$0	\$17,350,006	3.4	100.0
2033	\$540,891,594	\$54,289,422	\$17,688,673	\$0	\$17,688,673	3.3	100.0
2034	\$565,231,715	\$57,168,593	\$18,022,686	\$0	\$18,022,686	3.2	100.0
2035	\$590,667,143	\$60,196,954	\$18,350,941	\$0	\$18,350,941	3.1	100.0
2036	\$617,247,164	\$63,382,101	\$18,672,242	\$0	\$18,672,242	3.0	100.0
2037	\$645,023,286	\$66,732,012	\$18,985,300	\$0	\$18,985,300	2.9	100.0
2038	\$674,049,334	\$70,255,066	\$19,288,722	\$0	\$19,288,722	2.9	100.0
2039	\$704,381,554	\$73,960,063	\$19,581,007	\$0	\$19,581,007	2.8	100.0
2040	\$736,078,724	\$77,288,266	\$20,462,152	\$0	\$20,462,152	2.8	100.0
2041	\$769,202,267	\$80,766,238	\$21,382,949	\$0	\$21,382,949	2.8	100.0
2042	\$803,816,369	\$84,400,719	\$22,345,182	\$0	\$22,345,182	2.8	100.0
2043	\$839,988,105	\$88,198,751	\$23,350,715	\$0	\$23,350,715	2.8	100.0
2044	\$877,787,570	\$92,167,695	\$24,401,497	\$0	\$24,401,497	2.8	100.0
2045	\$917,288,011	\$96,315,241	\$25,499,565	\$0	\$25,499,565	2.8	100.0
2046	\$958,565,971	\$100,649,427	\$26,647,045	\$0	\$26,647,045	2.8	100.0
2047	\$1,001,701,440	\$105,178,651	\$27,846,162	\$0	\$27,846,162	2.8	100.0
2048	\$1,046,778,005	\$109,911,690	\$29,099,239	\$0	\$29,099,239	2.8	100.0

* Calendar basis

** Beginning of Fiscal Year

**PERAC Annual Statement
APPENDIX PAGE 3
ACTUARIAL VALUATION AND ASSUMPTIONS**

The most recent actuarial valuation of the System was prepared by Sherman Actuarial Services as of January 1, 2016.

The normal cost for employees on that date was:	\$23,542,460	8.8% of pay
The normal cost for the employer was:	9,859,467	3.7% of pay
The actuarial liability for active members was:		\$583,420,685
The actuarial liability for retired and inactive members was:		727,140,753
Total actuarial accrued liability:		1,310,561,438
System assets as of that date:		814,225,634
Unfunded actuarial accrued liability:		\$496,335,804

The ratio of system's assets to total actuarial liability was 62.1%

The principal actuarial assumptions used in the valuation are as follows:

Investment Return:	8.00%
Rate of Salary Increase:	Varies

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	UAAL as a percent of Covered Payroll
	(a)	(b)	(b-a)	(a/b)	(c)	(b-a)/c
01/01/16	\$814,225,634	\$1,310,561,438	\$496,335,804	62.1%	\$267,454,300	185.6%
01/01/14	696,682,779	1,247,596,772	550,913,993	55.8%	246,722,941	223.3%
01/01/12	608,235,096	1,128,960,288	520,725,192	53.9%	229,095,409	227.3%
01/01/10	600,790,835	1,001,881,055	401,090,220	60.0%	223,332,595	179.6%
01/01/08	596,157,147	907,719,124	311,561,977	65.7%	223,814,977	139.2%
01/01/07	533,077,948	855,677,413	322,599,465	62.3%	219,620,865	146.9%
01/01/05	467,186,566	762,900,650	295,714,084	61.2%	196,639,163	150.4%
01/01/03	415,150,776	675,275,257	260,124,481	61.5%	185,281,985	140.4%
01/01/00	371,646,793	533,959,970	162,313,177	69.6%	163,542,978	99.2%

Attach Copy of Current Approved Funding Schedule

EXHIBITS

Exhibit 1 - Age/Service Distribution with Salary as of January 1, 2016

Attained Age	Average Salary	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
< 20	1	0	0	0	0	0	0	0	0	0	1
	55,707	0	0	0	0	0	0	0	0	0	55,707
20-24	140	1	0	0	0	0	0	0	0	0	141
	31,214	50,930	0	0	0	0	0	0	0	0	31,354
25-29	336	36	1	0	0	0	0	0	0	0	374
	38,574	50,763	37,614	0	0	0	0	0	0	0	39,696
30-34	213	122	42	0	0	0	0	0	0	0	377
	45,660	55,162	66,331	0	0	0	0	0	0	0	51,038
35-39	165	78	97	27	1	0	0	0	0	0	368
	39,900	52,348	70,461	68,873	51,204	0	0	0	0	0	52,750
40-44	175	74	89	104	28	2	0	0	0	0	472
	34,722	53,181	64,733	76,202	72,757	70,255	0	0	0	0	54,822
45-49	246	138	114	122	102	48	2	0	0	0	772
	29,748	37,984	51,959	67,437	81,602	78,887	87,292	0	0	0	50,512
50-54	250	184	173	135	81	87	26	1	0	0	937
	33,621	36,960	45,194	52,867	67,448	84,187	81,013	71,904	0	0	48,162
55-59	112	155	191	204	75	74	53	17	4	0	885
	37,255	37,487	39,630	47,241	59,100	75,819	84,886	96,136	72,796	0	49,330
60-64	70	84	125	133	73	74	24	24	12	0	619
	39,236	39,028	42,321	43,047	49,988	61,461	86,585	88,863	97,856	0	49,471
65-69	25	31	35	55	38	31	11	6	4	0	236
	34,071	38,471	40,834	46,268	42,197	53,927	52,373	81,385	59,462	0	44,898
70+	12	13	14	11	9	16	14	3	6	0	98
	30,115	43,944	32,927	39,868	48,132	41,847	55,073	62,947	53,567	0	43,022
Total Employees	1,745	916	881	791	407	332	130	51	26	0	5,280
Average Salary	36,463	43,146	49,842	54,987	63,866	71,540	78,501	88,550	77,873	0	48,665

Exhibit 2 - Retiree Distribution as of January 1, 2016

Attained Age	Number of Employees			Total Payments		
	Female	Male	Total	Female	Male	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	1	0	1	2502.36	0	2,502
30-34	1	1	2	4927.32	6,180	11,107
35-39	0	0	0	0	0	0
40-44	1	3	4	1,268	32,110	33,378
45-49	3	5	8	19,682	110,402	130,084
50-54	9	21	30	95,349	481,012	576,361
55-59	49	83	132	471,168	2,908,949	3,380,117
60-64	155	168	323	2,263,069	6,952,958	9,216,027
65-69	306	298	604	5,791,589	11,610,366	17,401,955
70-74	274	252	526	5,410,176	8,393,095	13,803,271
75-79	243	179	422	4,469,397	5,200,921	9,670,318
80-84	212	121	333	3,539,601	2,980,286	6,519,888
85-89	154	99	253	2,015,636	1,942,496	3,958,132
90-94	105	44	149	1,059,938	795,109	1,855,047
95+	34	12	46	301,747	144,874	446,621
Total	1547	1286	2833	25,446,050	41,558,758	67,004,808
Average (Age/Payment)	75.36	72.33	73.98	16,449	32,316	23,652
Frequency Percent	54.6	45.4	100	38.0	62.0	100

Exhibit 3 - Disabled Retiree Distribution as of January 1, 2016

Attained Age	Number of Employees			Total Payments		
	Female	Male	Total	Female	Male	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	1	0	1	5,338	0	5,338
30-34	0	1	1	0	32,511	32,511
35-39	0	0	0	0	0	0
40-44	3	3	6	100,519	135,700	236,219
45-49	2	22	24	83,152	834,912	918,064
50-54	7	25	32	227,911	1,079,211	1,307,122
55-59	11	39	50	249,304	1,530,228	1,779,532
60-64	9	41	50	225,493	1,589,616	1,815,110
65-69	10	57	67	202,626	2,138,524	2,341,151
70-74	9	45	54	211,357	1,542,158	1,753,515
75-79	5	36	41	135,557	1,059,500	1,195,057
80-84	3	12	15	50,217	313,188	363,406
85-89	3	6	9	46,920	114,325	161,246
90-94	0	1	1	0	13,126	13,126
95-99	0	0	0	0	0	0
Total	63	288	351	1,538,393	10,383,001	11,921,394
Average (Age/Payment)	64.16	65.39	65.17	24,419	36,052	33,964
Frequency Percent	17.9	82.1	100	12.9	87.1	100

EXHIBIT 4 - CASHFLOW FORECAST:

The following is a 30 year forecast of benefit payments net of state reimbursable COLA payments, Contribution Income and Investment Returns.

Plan Year Ending	Benefit Payments	Employee Contributions	Employer Contributions	Investment Returns	Net change in plan assets
2016	\$9,369,170	\$23,542,460	\$59,628,000	\$68,782,066	\$142,583,356
2017	15,339,841	24,817,532	65,170,157	76,812,124	151,459,971
2018	21,087,627	26,159,687	71,227,433	85,134,287	161,433,780
2019	26,960,529	27,572,381	73,862,848	97,762,801	172,237,501
2020	33,074,157	29,059,244	76,595,773	111,243,400	183,824,260
2021	39,249,372	30,624,090	79,429,817	125,645,502	196,450,037
2022	45,613,015	32,270,927	82,368,720	141,046,982	210,073,614
2023	52,339,638	34,003,967	85,416,363	157,520,520	224,601,212
2024	58,797,567	35,827,631	88,576,768	175,162,900	240,769,732
2025	65,316,360	37,746,566	91,854,108	194,092,122	258,376,436
2026	71,808,598	39,765,655	95,252,711	214,426,296	277,636,064
2027	78,946,143	41,890,025	98,777,061	236,270,897	297,991,840
2028	86,793,138	44,125,063	27,085,321	332,615,475	317,032,720
2029	95,420,099	46,476,427	18,753,610	288,984,535	258,794,473
2030	104,904,553	48,950,061	19,182,239	309,375,892	272,603,639
2031	115,331,731	51,552,207	17,350,006	330,794,345	284,364,827
2032	126,795,337	54,289,422	17,688,673	353,159,535	298,342,293
2033	139,398,389	57,168,593	18,022,686	376,602,292	312,395,182
2034	153,254,144	60,196,954	18,350,941	401,124,439	326,418,190
2035	168,487,117	63,382,101	18,672,242	426,718,947	340,286,173
2036	185,234,199	66,732,012	18,985,300	453,368,303	353,851,416
2037	203,645,888	70,255,066	19,288,722	481,042,657	366,940,557
2038	223,887,640	73,960,063	19,581,007	509,697,718	379,351,149
2039	246,141,357	77,288,266	20,462,152	539,238,734	390,847,795
2040	270,607,023	80,766,238	21,382,949	569,615,673	401,157,838
2041	297,504,498	84,400,719	22,345,182	600,725,116	409,966,519
2042	327,075,496	88,198,751	23,350,715	632,437,610	416,911,580
2043	359,585,757	92,167,695	24,401,497	664,593,787	421,577,223
2044	395,327,434	96,315,241	25,499,565	696,999,984	423,487,356
2045	408,596,057	100,649,427	26,647,045	730,444,320	449,144,735

EXHIBIT 5 – SUMMARY OF PLAN PROVISIONS:

This summary is prepared in accordance with Chapter 32 as of January 1, 2016, and does not take into account any subsequent changes.

1. Administration

Each of the 104 contributory retirement systems for public employees of the Commonwealth of Massachusetts are guided by the applicable provisions of Chapter 32 of the Massachusetts General Laws and other applicable statutes. Although these boards operate semi-independently, there is a uniform set of rules governing benefits, eligibility, contributions, financing, and accounting.

2. Participation

Participation is mandatory for all full-time employees whose employment commences prior to age 65. Eligibility with respect to part-time, professional, temporary, or intermittent employment is governed by the local board. Membership is optional for certain elected officials, State officials appointed by the Governor, and certain hospital interns.

There are four classes of membership as follows:

- (i) Group 1: Most general employees in State and local government
- (ii) Group 2: Certain specified hazardous duty positions
- (iii) Group 3: State police officers and inspectors
- (iv) Group 4: Local police officers, firefighters, and designated employees of the municipal light department.

For members in more than one group, participation will be proportional.

Chapter 176 of the Acts of 2011 created different plan provisions within these groups for those hired on or after April 2, 2012.

3. **Salary**

Salary is defined as gross regular compensation. Salary does not include bonuses, overtime, severance pay, unused sick leave credit, or other similar compensation.

4. **Member Contributions**

Member contributions vary depending upon date hired as follows:

<u>Date of Hire</u>	<u>Member Contribution Rate</u>
Prior to 1975	5.0% of Salary
1975 to 1983	7.0% of Salary
1984 to 1996	8.0% of Salary
1996 and Later plus	9.0% of Salary
1979 and Later	2.0% of Salary in excess of \$30,000

For Group 1 employees who become members on or after April 2, 2012, the Contribution Rate shall be 6% after the completion of 30 years of service.

5. **Average Salary**

Average salary is used to determine a participant's benefit. It is defined as the average salary during the three consecutive-year period that produces the highest average. (Alternatively, if a greater amount results, it is the average rate of salary earned during the period or periods, whether or not consecutive, that constitutes the last three years preceding retirement.). For employees who become members on or after April 2, 2012, the averaging period shall be five years.

6. **Creditable Service**

In general, creditable service is awarded during the period in which a member contributes to the retirement system.

7. Service Retirement

a. Eligibility:

For an employee to be eligible for service retirement (also referred to as superannuation), one of the following conditions must be met:

- (i) completion of 20 years of service
- (ii) for an employee hired prior to January 1, 1978, attainment of age 55 as an active member
- (iii) for an employee hired on or after January 1, 1978, attainment of age 55 as an active member and completion of ten years of service
- (iv) for a Group 1 employee hired on or after April 2, 2012, attainment of age 60 and completion of ten years of service

b. Benefit Amount:

The retirement allowance is determined as a product of the participant's Benefit Rate times Average Salary times Creditable Service, where Benefit Rate is determined from the following table for those hired prior to April 2, 2012:

<u>Age at Retirement</u>	<u>Percentage of Average Salary</u>		
	<u>Group 1</u>	<u>Group 2</u>	<u>Group 4</u>
65 or Over	.025	.025	.025
64	.024	.025	.025
63	.023	.025	.025
62	.022	.025	.025
61	.021	.025	.025
60	.020	.025	.025
59	.019	.024	.025
58	.018	.023	.025
57	.017	.022	.025
56	.016	.021	.025
55	.015	.020	.025
54	.014	.014	.024
53	.013	.013	.023
52	.012	.012	.022
51	.011	.011	.021
50	.010	.010	.020
49	.009	.009	.019
48	.008	.008	.018
47	.007	.007	.017
46	.006	.006	.016
45	.005	.005	.015
44	.004	.004	.004
43	.003	.003	.003
42	.002	.002	.002
41	.001	.001	.001

For those hired after April 1, 2012 who retire with less than 30 years of service, the following rates are applied:

<u>Age at Retirement</u>	<u>Percentage of Average Salary</u>		
	<u>Group 1</u>	<u>Group 2</u>	<u>Group 4</u>
67 or Over	.0250	.0250	.0250
66	.0235	.0250	.0250
65	.0220	.0250	.0250
64	.0205	.0250	.0250
63	.0190	.0250	.0250
62	.0175	.0250	.0250
61	.0160	.0235	.0250
60	.0145	.0220	.0250
59		.0205	.0250
58		.0190	.0250
57		.0175	.0250
56		.0160	.0235
55		.0145	.0220
54			.0205
53			.0190
52			.0175
51			.0160
50			.0145

For those hired after April 1, 2012 who retire with at least 30 years of service, the following rates are applied:

Age at Retirement	Percentage of Average Salary		
	Group 1	Group 2	Group 4
67 or Over	.02500	.02500	.02500
66	.02375	.02500	.02500
65	.02250	.02500	.02500
64	.02125	.02500	.02500
63	.02000	.02500	.02500
62	.01875	.02500	.02500
61	.01750	.02375	.02500
60	.01625	.02250	.02500
59		.02125	.02500
58		.02000	.02500
57		.01875	.02500
56		.01750	.02375
55		.01625	.02250
54			.02125
53			.02000
52			.01875
51			.01750
50			.01625

8. Deferred Vested Retirement

a. Eligibility:

A participant who has completed ten or more years of creditable service is eligible for a deferred vested retirement benefit. If termination is involuntary, the participant is vested after six years.

b. Benefit Amount:

The participant's accrued benefit is payable commencing at age 55, or may be deferred until later at the employee's option.

c. Refund of Contributions:

In lieu of the deferred pension benefit, a member may elect to receive a refund of their accumulated contributions with interest.

9. Accidental Disability

a. Eligibility:

Participants are eligible for an accidental disability benefit, regardless of service or age, if they become permanently and totally incapacitated for further duty as a result of personal injury sustained while in the performance of duties.

b. Benefit Amount:

The accidental disability amount is 72% of annual salary plus \$751.80 per year for each child plus an additional annuity based upon accumulated Member Contributions with credited interest.

10. Ordinary Disability

a. Eligibility:

An ordinary disability occurs when a member becomes permanently and totally disabled due to sickness or injury that is not job related. In order to be eligible for an ordinary disability benefit, a member must have ten years of service (and be less than age 55 or age 60 if hired on or after April 2, 2012).

b. Benefit Amount:

The ordinary disability amount is equal to the accrued retirement benefit as if the member were age 55 (age 60 if hired on or after April 2, 2012). If the member was a veteran, the benefit is 50% of the member's final rate of Salary during the preceding 12 months, plus an annuity based upon accumulated Member Contributions plus credited interest. If the participant is over age 55 (age 60 if hired on or after April 2, 2012), he will receive not less than the superannuation allowance to which he is entitled.

11. Survivor Benefits**a. Occupational Death:**

The survivors of a member who dies due to an occupational injury will be entitled to a lump sum return of contributions plus a pension benefit equal to 72% of the participant's annual Salary.

b. Non-Occupational Death:

Upon the death of a member other than due to an occupational injury, the designated beneficiary will be entitled to a retirement benefit as if Option C had been elected with a minimum of \$250 per month to the surviving spouse, plus \$120 for the first child, plus \$90 for each additional child. If no beneficiary is designated and if the employee worked two years, and is married at least one year, the spouse may elect benefits. If there is no designated beneficiary or surviving spouse, then member contributions are returned. If there are dependent children but no surviving spouse, they may elect minimum survivor benefits of \$250 per month plus \$120 for the first child and \$90 for each additional child.

c. Refund of Contributions:

Upon the death of a member not entitled to survivor benefits, the beneficiary is entitled to a refund of all member contributions with interest.

12. Cost-of-Living Increases

In accordance with the adoption of Chapter 17 of the Acts of 1997, the granting of a cost-of-living adjustment will be determined by an annual vote by the Retirement Board. The amount of increase will be based upon the Consumer Price Index, limited to a maximum of 3.0%, beginning on July 1. All retirees, disabled retirees, and beneficiaries who have been receiving benefits payments for at least one year as of July 1 are eligible for the adjustment. The maximum amount of pension benefit subject to a COLA is \$15,000. All COLAs granted to members after 1981 and prior to July 1, 1998 are deemed to be an obligation of the State and are not the liability of the Retirement System.

13. Postretirement Death Benefits

Any benefits following the death of a member after retirement are based upon the form of benefit the participant elected at the time of retirement. There are three available forms as follows:

- (i) Option A – Life annuity
- (ii) Option B – Life annuity with death benefit equal to excess of member contributions plus credited interest to retirement over annuity benefit paid to member
- (iii) Option C – Life annuity with 66-2/3% of benefit continued after death of member to designated joint annuitant

EXHIBIT 6 – ACTUARIAL METHODS AND ASSUMPTIONS:

The actuarial cost method, factors, and assumptions used in determining cost estimates are presented below. They are based on the 2015 Experience Study conducted by Sherman Actuarial Services, LLC.

1. Member Data

The member data used in the determination of cost estimates consist of pertinent information with respect to the active, inactive, retired, and disabled members of the employer as supplied by the employer to the actuary.

2. Valuation Date

January 1, 2016.

3. Actuarial Cost Method

The costs of the Plan have been determined in accordance with the individual entry age normal actuarial cost method.

4. Rate of Investment Return

It is assumed that the assets of the fund will accumulate at a compound annual rate of 8.0% per annum. This includes a 3% inflation assumption.

5. Salary Scale

It is assumed that salaries including longevity will increase at the following rates.

<u>Service</u>	<u>Rate</u>
0 - 1	5.50%
2	5.00%
3 - 4	4.50%
5	4.00%
6 +	3.50%

6. Cost-of-Living Increases

Cost-of-living increases have been assumed to be 3.0% of the lesser of the pension amount and \$15,000 per year.

7. Value of Investments

Assets held by the fund are valued at market value as reported by the Public Employees' Retirement Administration Commission (PERAC). The actuarial value of assets is determined using a five-year smoothing of asset returns greater than or less than the assumed rate of return.

8. Annual Rate of Withdrawal Prior to Retirement

Based on an analysis of experience, the assumed annual rates of withdrawal may best be illustrated by the following rates at the following ages:

<u>Service</u>	<u>General Employees</u>	<u>Police and Fire Employees</u>
0	0.2080	0.0150
5	0.1020	0.0150
10	0.0650	0.0150
15	0.0417	0.0150
20	0.0400	0.0000
30	0.0000	0.0000

9. Annual Rate of Mortality

It is assumed that both pre-retirement mortality and beneficiary mortality is represented by the RP-2014 Blue Collar Mortality with Scale MP-2014, fully generational. Mortality for retired members for Group 1 and 2 is represented by the RP-2014 Blue Collar Mortality Table set forward five years for males and 3 years for females, fully generational. Mortality for retired members for Group 4 is represented by the RP-2014 Blue Collar Mortality Table set forward three years for males, and six years for females, fully generational. Mortality for disabled members for Group 1 and 2 is represented by the RP-2000 Mortality Table set forward six years. Mortality for disabled members for Group 4 is represented by the RP-2000 Mortality Table set forward two years. Generational adjusting is based on Scale MP-2014.

10. Service Retirement

Based on an analysis of experience, the assumed annual retirement rates are illustrated at the following ages for those hired prior to April 2, 2012:

<u>Age</u>	<u>Male General Employees</u>	<u>Female General Employees</u>	<u>Male and Female Police and Fire Employees</u>
50	0.0360	0.1019	0.0144
51	0.0405	0.0714	0.0144
52	0.0437	0.0562	0.0123
53	0.0366	0.0448	0.0210
54	0.0451	0.0488	0.0569
55	0.0477	0.0469	0.0879
56	0.0574	0.0518	0.0931
57	0.0632	0.0509	0.0897
58	0.0765	0.0552	0.0846
59	0.0917	0.0645	0.1022
60	0.1057	0.0774	0.1455
61	0.1224	0.1038	0.1844
62	0.1473	0.1168	0.2741
63	0.1777	0.1440	0.1984
64	0.2136	0.1708	0.4139
65	0.2615	0.1939	1.00000
66	0.2682	0.1959	1.00000
67	0.2500	0.2000	1.00000
68	0.2500	0.2000	1.00000
69	0.2500	0.2000	1.00000
70 to 76	0.2500	0.2500	1.00000
77 to 79	0.3500	0.2500	1.00000
80	1.0000	1.0000	1.00000

Based on an analysis of experience, the assumed annual retirement rates are illustrated at the following ages for those hired on or after April 2, 2012:

<u>Age</u>	<u>Male General Employees</u>	<u>Female General Employees</u>	<u>Male and Female Police and Fire Employees</u>
50	0.0000	0.0000	0.0072
51	0.0000	0.0000	0.0072
52	0.0000	0.0000	0.0062
53	0.0000	0.0000	0.0105
54	0.0000	0.0000	0.0105
55	0.0000	0.0000	0.0389
56	0.0000	0.0000	0.0631
57	0.0000	0.0000	0.0897
58	0.0000	0.0000	0.0846
59	0.0000	0.0000	0.1022
60	0.0477	0.0469	0.1455
61	0.0574	0.0518	0.1844
62	0.0632	0.0509	0.2741
63	0.0765	0.0552	0.1984
64	0.0917	0.0645	0.4139
65	0.1057	0.0774	1.0000
66	0.1224	0.1038	1.0000
67	0.1473	0.1168	1.0000
68	0.1777	0.1440	1.0000
69	0.2136	0.1708	1.0000
70	0.2615	0.1939	1.0000
70 to 76	0.2682	0.1959	1.0000
77 to 79	0.2500	0.2000	1.0000
80	1.0000	1.0000	1.0000

12. Annual Rate of Disability Prior to Retirement

Based on an analysis of experience, the assumed annual rates of disability may best be illustrated by the following probabilities at the following ages:

<u>Attained Age</u>	<u>General Employees</u>	<u>Police and Fire Employees</u>
20	0.000100	0.000500
30	0.000152	0.000967
40	0.000663	0.002500
50	0.001271	0.007634

In addition, it is assumed for the general employees that 20% of all disabilities are ordinary (80% are service connected). For police and fire employees, 10% of all disabilities are assumed to be ordinary (90% are service connected).

13. Family Composition

It is assumed that 80% of all members will be survived by a spouse and that females (males) are three years younger (older) than members.

14. Administrative Expenses

The normal cost is increased by an amount equal to the anticipated administrative expenses for the upcoming fiscal year. The amount for fiscal year 2016 is \$1,700,000 and is anticipated to increase at 4.0% per year.

EXHIBIT 7 – GLOSSARY OF TERMS:

This glossary summarizes the technical terms contained in this report.

1. Actuarial Accrued Liability

That portion of the Actuarial Present Value of plan benefits that is not provided for by future employer Normal Costs or employee contributions.

2. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting the Retirement System such as:

- Rates of investment returns
- Increases in a member's salary
- Inflation
- The probability of mortality, turnover, disablement
- Retirement at each age and other relevant items

3. Actuarial Cost Method

A procedure for allocating the Actuarial Present Value of pension plan benefits between Normal Cost and Actuarial Accrued Liability.

4. Actuarial Present Value

The single sum amount required at the valuation date that is required to provide for anticipated future events based upon the terms of the plan and the Actuarial Assumptions.

5. Forecast

A projection of future benefit payments or contribution requirements based upon the terms of the plan, the current asset amounts, the Actuarial Assumptions, and additional assumptions as to the replacement of terminating employees with new employees.

6. Normal Cost

That portion of the Actuarial Present Value of future benefits that is assigned to the current year.

7. Unfunded Actuarial Accrued Liability

That portion of the Actuarial Accrued Liability that is not provided for by current actuarial value of assets.

8. Valuation Method

The method used to divide the cost of future benefits among the Actuarial Accrued Liability, the current year's Normal Costs, and future years' Normal Costs. The resulting current funding requirement is then determined as the current year's Normal Cost plus the payment necessary to amortize the Unfunded Actuarial Liability.

9. Vested Liability

That portion of the Actuarial Present Value of Accrued Benefits that a member would be entitled to if the member terminated employment with the employer as of the valuation date.

CERTIFICATION:

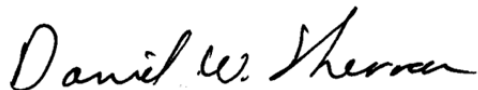
This report fairly represents the actuarial position of the Norfolk County Retirement System contributing as of January 1, 2016, in accordance with generally accepted actuarial principles applied consistently with the preceding valuation. In our opinion, the actuarial assumptions used to compute actuarial accrued liability and normal cost are reasonably related to plan experience and to reasonable expectations, and represents our best estimate of anticipated plan experience.

The funded status measure is appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations. The funded status measure is appropriate for assessing the need for or the amount of future contributions. The funded status measure would be different if the measure reflected the market value of assets rather than the actuarial value of assets.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as 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 our assignment, we did not perform an analysis of the potential range of such future measurements.

The report was prepared under the supervision of Daniel Sherman, an Associate of the Society of Actuaries and a Member of the American Academy of Actuaries, who takes responsibility for the overall appropriateness of the analysis, assumptions and results. Daniel Sherman is deemed to meet the General Qualification Standard and the basic education and experience requirement in the pension area. Based on over thirty years of performing valuations of similar complexity, Mr. Sherman is qualified by experience. Daniel Sherman has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Sherman Actuarial Services, LLC



Daniel W. Sherman, ASA, MAAA

September, 2016

BREAKOUTS

Breakouts - July and December Payments

	Actives		Fiscal 2018
	Participants	Payroll	Appropriation
Avon Housing Auth.	2	\$ 86,386	\$ 21,023
Town of Avon	105	4,880,537	1,203,981
Town of Bellingham	269	11,775,019	2,909,085
Bellingham Hous. Auth.	2	114,249	27,804
Town of Canton	380	19,506,822	4,888,517
Canton Housing Auth.	6	346,510	93,722
Cohasset Housing Auth.	1	55,236	15,388
Town of Cohasset	183	9,428,805	2,340,496
Charles Riv. Poll. Cont.	11	605,357	151,157
County of Norfolk	136	7,387,651	2,109,905
Retired Sheriffs	0	-	1,277,018
Town of Dover	104	5,069,559	1,233,745
Dover/Shearborne Schl.	71	2,978,824	724,937
Foxboro Housing Auth.	4	197,523	54,419
Franklin Housing Auth.	6	314,880	81,455
Town of Foxboro	342	16,411,367	4,088,913
Town of Franklin	431	19,845,190	4,863,190
Holbrook Housing Auth	3	160,626	46,729
Town of Holbrook	132	7,747,779	1,929,587
Massachusetts Respiratory	0	-	-
King Phillip Reg School	82	2,937,001	714,759
Town of Medway	218	9,378,677	2,282,427

Breakouts - July and December Payments

	Actives		Fiscal 2018
	Participants	Payroll	Appropriation
Town of Medfield	227	\$ 9,673,306	\$ 2,354,129
Medfield Housing Auth.	1	58,862	14,325
Medway Housing Auth.	6	348,032	84,698
Town of Millis	153	6,608,349	1,608,231
Millis Housing Auth.	2	130,344	35,665
Norfolk Housing Auth.	3	120,252	29,265
Norfolk Cnty Mos. Con.	12	735,952	184,359
Town of Norfolk	161	7,765,667	1,979,212
Town of Plainville	143	6,948,833	1,729,722
Town of Randolph	377	20,748,212	5,288,215
Norfolk County Ret BD	10	807,547	-
Randolph Housing Auth	4	208,586	61,301
Town of Sharon	363	15,713,700	3,824,140
Sharon Housing Auth.	2	95,977	23,357
Stoughton Hous. Auth.	6	264,874	67,575
Town of Stoughton	363	20,251,841	5,030,371
Town of Walpole	378	18,545,865	4,637,947
Town of Westwood	386	18,923,668	4,720,301
Walpole Housing Auth.	4	212,090	51,615
Town of Wrentham	162	7,432,650	1,808,835
Wrentham Hous. Auth.	2	99,227	24,148
Dedham-Westwood Water Dist.	32	2,278,448	554,491
Total	5,285	\$ 257,200,280	\$ 65,170,159

Breakouts - July Lump Sum Payment

	<u>Actives</u> <u>Participants</u>	<u>Payroll</u>	<u>Fiscal 2018</u> <u>Appropriation</u>
Avon Housing Auth.	2	\$ 86,386	\$ 20,626
Town of Avon	105	4,880,537	1,181,256
Town of Bellingham	269	11,775,019	2,854,177
Bellingham Hous. Auth.	2	114,249	27,279
Town of Canton	380	19,506,822	4,796,247
Canton Housing Auth.	6	346,510	91,953
Cohasset Housing Auth.	1	55,236	15,098
Town of Cohasset	183	9,428,805	2,296,320
Charles Riv. Poll. Cont.	11	605,357	148,304
County of Norfolk	136	7,387,651	2,070,081
Retired Sheriffs	0	0	1,252,914
Town of Dover	104	5,069,559	1,210,458
Dover/Shearborne Schl.	71	2,978,824	711,254
Foxboro Housing Auth.	4	197,523	53,392
Franklin Housing Auth.	6	314,880	79,918
Town of Foxboro	342	16,411,367	4,011,736
Town of Franklin	431	19,845,190	4,771,398
Holbrook Housing Auth	3	160,626	45,847
Town of Holbrook	132	7,747,779	1,893,166
Massachusetts Respiratory	0	-	-
King Phillip Reg School	82	2,937,001	701,268
Town of Medway	218	9,378,677	2,239,347

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Breakouts - July Lump Sum Payment

	Actives Participants	Payroll	Fiscal 2018 Appropriation
Town of Medfield	227	\$ 9,673,306	\$ 2,309,695
Medfield Housing Auth.	1	58,862	14,055
Medway Housing Auth.	6	348,032	83,099
Town of Millis	153	6,608,349	1,577,876
Millis Housing Auth.	2	130,344	34,992
Norfolk Housing Auth.	3	120,252	28,713
Norfolk Cnty Mos. Con.	12	735,952	180,879
Town of Norfolk	161	7,765,667	1,941,855
Town of Plainville	143	6,948,833	1,697,074
Town of Randolph	377	20,748,212	5,188,401
Norfolk County Ret BD	10	807,547	-
Randolph Housing Auth	4	208,586	60,144
Town of Sharon	363	15,713,700	3,751,960
Sharon Housing Auth.	2	95,977	22,916
Stoughton Hous. Auth.	6	264,874	66,300
Town of Stoughton	363	20,251,841	4,935,424
Town of Walpole	378	18,545,865	4,550,407
Town of Westwood	386	18,923,668	4,631,206
Walpole Housing Auth.	4	212,090	50,641
Town of Wrentham	162	7,432,650	1,774,694
Wrentham Hous. Auth.	2	99,227	23,692
Dedham-Westwood Water Dist.	32	2,278,448	544,023
Total	5,285	257,200,280	\$ 63,940,085