



**PLYMOUTH COUNTY
CONTRIBUTORY RETIREMENT SYSTEM**

Actuarial Valuation Report
January 1, 2013

 **Sherman
Actuarial
Services**

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Report Summary:

Highlights

January 1, 2011

January 1, 2013

Contributions

Funding Schedule FY 2014	\$54,966,177	\$54,966,177
Funding Schedule FY 2015	57,205,315	59,363,471

Funded Ratios

GAS No. 25	56.1%	50.5%
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Participants

Actives	5,775	5,729
Retirees and Beneficiaries	3,088	3,228
Vested	0	0
Inactives	2,115	2,108
Disabled	<u>354</u>	<u>360</u>
Total	11,332	11,425

Payroll

Payroll of Active Members	\$228,289,638	\$238,655,485
Average Payroll	39,531	41,657

Normal Cost

Employer	8,566,129	9,291,250
Employee	19,304,174	20,376,194
Administrative Expenses	<u>1,600,000</u>	<u>1,600,000</u>
Total	29,470,303	31,267,444

Actuarial Accrued Liabilities

Actives	555,167,406	607,797,832
Retirees, Beneficiaries, Disabilities and Inactives	<u>632,280,008</u>	<u>711,967,157</u>
Total	1,187,447,414	1,319,764,989

Actuarial Value of Assets

666,730,812 666,899,774

Unfunded Actuarial Accrued Liabilities

\$520,716,602 \$652,865,215

Introduction

The purpose of this report is to present the findings of an actuarial valuation as of January 1, 2013, of Plymouth 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, 2013.
- Employee data provided by the Retirement Board
- Asset information reported to the Public Employee Retirement Administration Commission by the Plymouth 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, 2013. The report also includes results under GASB Statements #25 and #27.

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 two years, the total unfunded actuarial accrued liability increased by 25.4% to \$652,865,215. The increase is the result of net unfavorable actuarial experience during the preceding years, plan and actuarial assumption changes. The sources of change are as follows:

Asset losses	70,163,047
Liability losses	27,092,157
Assumption change	31,530,058
Expected increase	<u>3,363,351</u>
Total Change	132,148,613

During the previous two years, the Plymouth County increased the base amount for calculating the Cost of Living Adjustments from \$12,000 to \$13,000. Due to significant and consistent mortality losses and the expectation of continued losses, the mortality assumption has been changed to RP2000 with Scale AA improvements for 15 years.

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, 2011</u>	<u>January 1, 2013</u>
Superannuation	\$19,047,657	\$20,586,623
Termination	2,295,717	2,346,718
Death	1,419,359	1,366,211
Disability	5,107,570	5,367,892
Administrative Expenses	<u>1,600,000</u>	<u>1,600,000</u>
Total Normal Cost	29,470,303	31,267,444
% of Pay	12.9%	13.1%
Employee Contributions	19,304,174	20,376,194
% of Pay	8.5%	8.5%
Employer Normal Cost	\$10,166,129	\$10,891,250
% of Pay	4.5%	4.6%

Present Value of Actuarial Accrued Liabilities

The actuarial accrued liabilities (AAL) represents a portion of today's value of all projected benefits attributable to past service for 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, 2011</u>	<u>January 1, 2013</u>
Actives		
Superannuations	\$499,444,640	\$553,686,261
Termination	9,917,224	9,337,538
Death	17,013,447	14,629,128
Disability	28,792,095	30,144,905
 Retirees and Inactives		
Retirees and Beneficiaries	521,472,438	592,474,988
Vested	0	0
Terminated (Refund)	11,665,693	12,188,951
Disabled	<u>99,141,877</u>	<u>107,303,218</u>
 Total	 \$1,187,447,414	 \$1,319,764,989

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, 2011</u>	<u>January 1, 2013</u>
Actives		
Superannuation	\$647,443,062	\$711,697,067
Termination	19,016,855	18,802,369
Death	27,459,223	24,742,245
Disability	74,003,429	77,429,122
Retirees and Inactives		
Retirees and Beneficiaries	521,472,438	592,474,988
Vested	0	0
Terminated (Refund)	11,665,693	12,188,951
Disabled	<u>99,141,877</u>	<u>107,303,218</u>
Total	\$1,400,202,577	\$1,544,637,960

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, 2011</u>	<u>January 1, 2013</u>
Cash equivalents	\$23,449,883	\$23,602,317
Short term investments	3,618,462	5,637,177
Fixed income securities	120,571,354	150,616,475
Equities	316,410,850	280,735,715
International	57,279,441	76,652,359
Real Estate	67,882,420	98,857,827
Venture Capital	0	0
Other	52,973,787	64,600,894
Accounts receivable	8,958,169	5,351,960
Accounts payable	(6,999,639)	(4,147,968)
Accrued income	<u>931,625</u>	<u>910,935</u>
Total Market Value	\$645,076,352	\$702,817,691
Total Actuarial Value	\$666,730,812	\$666,899,774

Actuarial Value of Assets

The actuarial value of assets is determined by projecting the market 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, 2013 is presented in Table V.

Table V

	<u>January 1, 2013</u>
(1) Market value at January 1, 2012	\$636,008,757
(2) 2012 Contributions	\$78,498,534
(3) 2012 Payments	(\$82,338,298)
(4) Net interest adjustment at 8.25% on (1), (2), and (3) to December 31, 2012	\$53,299,861
(5) Expected market value on January 1, 2013 (1) + (2) + (3) + (4)	\$685,468,854
(6) Actual market value on January 1, 2013	\$702,817,691
(7) 2012 (Gain) / Loss	(\$17,348,837)
(8) 80% of 2012 (Gain) / Loss	(\$13,879,070)
(9) 2011 (Gain) / Loss	\$29,029,947
(10) 60% of 2011 (Gain) / Loss	\$17,417,968
(11) 2010 (Gain) / Loss	(\$67,153,457)
(12) 40% of 2010 (Gain) / Loss	(\$26,861,383)
(13) 2009 (Gain) / Loss	(\$62,977,160)
(14) 20% of 2009 (Gain) / Loss	(\$12,595,432)
(15) Actuarial value on January 1, 2013, (6) + (8) + (10) + (12) + (14) but not less than 80% nor greater than 120% of (6)	\$666,899,774
(16) Ratio of actuarial value to market value	94.89%
(17) Actuarial Value Return for 2011	2.38%
(18) Actuarial Value Return for 2012	3.31%
(19) Market Value Return for 2011	3.72%
(20) Market Value Return for 2012	10.94%

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, 2011</u>	<u>January 1, 2013</u>
Actuarial Accrued Liability	\$1,187,447,414	\$1,319,764,989
Actuarial Assets	<u>666,730,812</u>	<u>666,899,774</u>
Unfunded Actuarial Accrued Liability	\$520,716,602	\$652,865,215
Funded Status	56.1%	50.5%

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, 2028, full funding mandate for all accrued liabilities. The pension appropriation is the sum of the:

- Employer normal cost,
- Increasing amortization of the unfunded actuarial accrued liability by June 30, 2034
 \$ 648,247,805 over 21 years with 4.0% increasing payments
- Level amortization of the 2002 Early Retirement Incentive June 30, 2019
 \$ 2,738,143 over 6 years
- Level amortization of the 2003 Early Retirement Incentive June 30, 2020
 \$ 1,543,274 over 7 years
- Level amortization of the 2013 Early Retirement Incentive June 30, 2028
 \$ 335,993 over 15 years
- Interest adjustment for payments deposited semiannually.

The Board has opted to limit the increase to 8% per year for 2 years starting with FYE15. The pension appropriation is shown in Table VII.

Table VII

	<u>January 1, 2011</u>	<u>January 1, 2013</u>
Normal cost	\$10,166,129	\$10,891,250
Amortization payment of the accrued liability	36,575,296	44,747,554
Amortization payment of 2002 ERI liability	551,318	551,318
Amortization payment of 2003 ERI liability	276,175	276,175
Amortization payment of 2013 ERI liability	<u>0</u>	<u>36,818</u>
Total cost	\$47,568,918	\$56,503,116
% of Pay	20.8%	23.7%
Fiscal 2014 cost	\$54,966,177	\$54,966,177
Fiscal 2015 cost	\$57,205,315	\$59,363,471

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 20 years until the unfunded liabilities are completely paid off, at which time only the normal cost will remain. The total cost represents about 25% of payroll, decreasing to 23.5% by the time the unfunded liabilities are fully paid off, leaving only a normal cost of 3% thereafter. The decrease in the cost as a percentage of payroll is a result of the increase in member deductions.

Appropriation Forecast

Fiscal Year Ending	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 %**
2014	\$238,655,485	\$20,376,194	\$11,556,155	\$43,410,022	\$54,966,177	23.0	50.5
2015	\$248,201,704	\$21,371,610	\$11,827,022	\$47,536,449	\$59,363,471	23.9	51.7
2016	\$258,129,773	\$22,414,057	\$12,101,068	\$52,011,480	\$64,112,548	24.8	53.4
2017	\$268,454,963	\$23,505,705	\$12,378,115	\$55,079,233	\$67,457,348	25.1	55.1
2018	\$279,193,162	\$24,648,823	\$12,657,964	\$57,245,719	\$69,903,683	25.0	56.8
2019	\$290,360,888	\$25,845,781	\$12,940,396	\$59,498,865	\$72,439,261	24.9	58.6
2020	\$301,975,324	\$27,099,058	\$13,225,169	\$61,257,161	\$74,482,330	24.7	60.4
2021	\$314,054,337	\$28,411,243	\$13,512,020	\$63,401,128	\$76,913,148	24.5	62.2
2022	\$326,616,510	\$29,785,045	\$13,800,659	\$65,935,610	\$79,736,269	24.4	64.1
2023	\$339,681,171	\$31,223,293	\$14,090,769	\$68,571,472	\$82,662,241	24.3	66.1
2024	\$353,268,418	\$32,728,944	\$14,382,007	\$71,312,768	\$85,694,775	24.3	68.1
2025	\$367,399,154	\$34,305,091	\$14,673,999	\$74,163,716	\$88,837,715	24.2	70.3
2026	\$382,095,121	\$35,954,963	\$14,966,339	\$77,128,702	\$92,095,041	24.1	72.6
2027	\$397,378,925	\$37,681,936	\$15,258,588	\$80,212,288	\$95,470,876	24.0	75.0
2028	\$413,274,082	\$39,489,540	\$15,550,271	\$83,419,217	\$98,969,488	23.9	77.5
2029	\$429,805,046	\$41,381,461	\$15,840,874	\$86,715,357	\$102,556,231	23.9	80.2
2030	\$446,997,248	\$43,361,552	\$16,129,846	\$90,183,972	\$106,313,818	23.8	83.1
2031	\$464,877,137	\$45,433,840	\$16,416,590	\$93,791,330	\$110,207,920	23.7	86.1
2032	\$483,472,223	\$47,602,532	\$16,700,465	\$97,542,984	\$114,243,449	23.6	89.3
2033	\$502,811,112	\$49,872,026	\$16,980,784	\$101,444,703	\$118,425,487	23.6	92.6
2034	\$522,923,556	\$52,246,916	\$17,256,808	\$105,502,491	\$122,759,299	23.5	96.2
2035	\$543,840,499	\$54,732,001	\$17,527,744	\$0	\$17,527,744	3.2	100.0
2036	\$565,594,119	\$57,332,298	\$17,792,745	\$0	\$17,792,745	3.1	100.0
2037	\$588,217,883	\$60,053,047	\$18,050,901	\$0	\$18,050,901	3.1	100.0
2038	\$611,746,599	\$62,899,725	\$18,301,241	\$0	\$18,301,241	3.0	100.0
2039	\$636,216,463	\$65,878,052	\$18,542,727	\$0	\$18,542,727	2.9	100.0
2040	\$661,665,121	\$68,994,006	\$18,774,250	\$0	\$18,774,250	2.8	100.0
2041	\$688,131,726	\$72,253,831	\$18,994,626	\$0	\$18,994,626	2.8	100.0
2042	\$715,656,995	\$75,143,984	\$19,754,411	\$0	\$19,754,411	2.8	100.0
2043	\$744,283,275	\$78,149,744	\$20,544,588	\$0	\$20,544,588	2.8	100.0
2044	\$774,054,606	\$81,275,734	\$21,366,371	\$0	\$21,366,371	2.8	100.0
2045	\$805,016,790	\$84,526,763	\$22,221,026	\$0	\$22,221,026	2.8	100.0

* Calendar basis

** Beginning of Fiscal Year

GASB Statements No. 25 and No. 27

Effective for periods beginning after June 15, 1997, the Governmental Accounting Standards Board (GASB) requires the disclosure of pension related liabilities for public employer financial statements in accordance with Statements 25 and 27. These statements, which replace GASB Statement No. 5, must be adhered to by any public employee retirement system that follows Generally Accepted Accounting Principles (GAAP).

These disclosures are intended to establish a reporting framework that distinguishes between:

- current financial information about plan assets and financial activities,
- actuarially determined information from a long-term perspective,
- the funded status of the plan, and
- progress being made in accumulating sufficient assets to pay benefits when due.

Footnote disclosures required by GASB Statement No. 25 and 27 include a description of the plan, a summary of significant accounting policies, and information about contributions, legally required reserves, and investment concentrations. As a result of the oversight of the Public Employees Retirement Administration Commission (PERAC) and the conversion of unpaid contributions to pension related debt, the Net Pension Obligation (NPO) as required by Statement No. 27 will effectively always be equal to \$0. The required disclosure information is shown in Table VIII.

Table VIII

	<u>January 1, 2011</u>	<u>January 1, 2013</u>
(1) Actuarial Accrued Liability	\$1,187,447,414	\$1,319,764,989
(2) Actuarial Value of Assets	<u>666,730,812</u>	<u>666,899,774</u>
(3) Unfunded Actuarial Accrued Liability	520,716,602	652,865,215
(4) Funded Ratio (2)/(1)	56.1%	50.5%
(5) Covered Payroll	\$228,289,638	\$238,655,485
(6) UAAL as a percentage of payroll: (3)/(5)	228.1%	273.6%
(7) Annual Required Contribution (ARC)	\$45,039,921	\$54,966,177
(8) Net Pension Obligation	\$0	\$0

**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, 2013.

The normal cost for employees on that date was:	\$20,376,194	8.5% of pay
The normal cost for the employer was:	9,291,250	3.9% of pay
The actuarial liability for active members was:		\$607,797,832
The actuarial liability for retired and inactive members was:		711,967,157
Total actuarial accrued liability:		1,319,764,989
System assets as of that date:		666,899,774
Unfunded actuarial accrued liability:		\$652,865,215

The ratio of system's assets to total actuarial liability was 50.5%

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

Investment Return:	8.25%
Rate of Salary Increase:	4.00%

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (b)	Unfunded Actuarial Accrued Liability (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a percent of Covered Payroll (b-a)/c
01/01/13	\$666,899,774	\$1,319,764,989	\$652,865,215	50.5%	\$238,655,485	273.6%
01/01/11	666,730,812	1,181,508,931	514,778,119	56.4%	228,289,638	225.5%
01/01/10	673,709,456	1,132,847,379	459,137,923	59.5%	227,507,647	201.8%
01/01/09	579,877,224	1,159,210,636	579,333,412	50.0%	264,541,078	219.0%
01/01/08	683,819,938	1,056,020,215	372,200,277	64.8%	252,682,832	147.3%
01/01/07	606,629,089	987,840,418	381,211,329	61.4%	244,574,136	155.9%
01/01/06	558,533,863	918,851,707	360,317,844	60.8%	226,262,731	159.2%
01/01/04	520,104,805	802,158,453	282,053,648	64.8%	208,312,002	135.4%
01/01/02	466,325,660	733,198,204	266,872,544	63.6%	205,039,686	130.2%
01/01/00	450,210,619	611,204,058	160,993,439	73.7%	178,010,731	90.4%

Attach Copy of Current Approved Funding Schedule

EXHIBITS

P:\Plymouth\VAL3\Report\ACT1.XLS\Active

Age/Service Distribution with Salary as of January 1, 2013

Attained Age	Average Salary	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20	2	0	0	0	0	0	0	0	0	0	2
	11,092	0	0	0	0	0	0	0	0	0	11,092
20-24	108	1	0	0	0	0	0	0	0	0	109
	26,941	0	0	0	0	0	0	0	0	0	27,247
25-29	220	56	1	0	0	0	0	0	0	0	277
	30,814	42,441	0	0	0	0	0	0	0	0	33,290
30-34	111	126	32	0	2	0	0	0	0	0	271
	39,657	53,175	56,228	0	0	0	0	0	0	0	48,201
35-39	140	112	104	30	3	0	0	0	0	0	389
	29,313	48,168	58,483	66,803	0	0	0	0	0	0	45,584
40-44	202	161	128	116	33	7	0	0	0	0	647
	24,560	38,937	54,269	64,878	69,137	0	0	0	0	0	43,990
45-49	267	285	180	124	84	60	60	1	0	0	1,001
	23,342	29,214	43,612	55,858	70,347	69,069	69,069	80,825	91,604	0	39,462
50-54	205	268	267	176	83	85	85	42	2	0	1,128
	26,129	29,916	32,712	41,915	56,098	68,857	68,857	80,825	91,604	0	38,628
55-59	107	191	231	190	99	89	89	58	23	4	992
	28,576	30,210	32,736	37,899	45,364	60,721	60,721	74,817	75,818	67,449	40,160
60-64	42	87	112	99	109	81	81	27	27	6	590
	23,600	34,159	35,908	39,409	39,667	52,795	52,795	56,333	67,866	63,741	41,054
65-69	23	37	52	33	28	28	28	18	7	5	231
	22,494	26,542	34,391	41,606	38,041	37,709	37,709	0	58,704	51,023	35,569
70+	7	14	14	14	16	12	12	10	3	2	92
	20,423	0	23,060	22,518	31,424	42,131	42,131	31,498	31,430	36,664	28,865
Total Employees	1,434	1,338	1,121	784	455	362	362	156	62	17	5,729
Average Salary	27,528	34,983	40,238	46,714	51,054	58,671	58,671	61,346	68,784	57,687	40,027

Retiree Distribution as of January 1, 2013

Attained Age	Number of Employees			Total Payments		
	Male	Female	Total	Male	Female	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	0	0	0	0	0	0
40-44	1	0	1	29,069	0	29,069
45-49	8	6	14	163,459	57,526	220,986
50-54	22	15	37	485,757	129,755	615,512
55-59	100	75	175	4,349,440	640,292	4,989,732
60-64	221	224	445	8,217,608	3,372,163	11,589,771
65-69	328	369	697	10,677,439	5,440,614	16,118,053
70-74	267	345	612	7,389,402	5,427,295	12,816,697
75-79	215	263	478	4,562,811	3,688,361	8,251,172
80-84	148	202	350	2,471,552	2,473,724	4,945,276
85-89	97	156	253	1,277,073	1,541,993	2,819,066
90-94	49	78	127	541,997	601,408	1,143,405
95+	21	19	40	142,995	132,051	275,046
Total	1477	1752	3229	40,308,600	23,505,183	63,813,783
Average (Age/Payment)	72.13	73.69	72.98	27,291	13,416	19,763
Frequency Percent	45.7	54.3	100	63.2	36.8	100

Disabled Retiree Distribution as of January 1, 2013

Attained Age	Number of Employees			Total Payments		
	Male	Female	Total	Male	Female	Total
<20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	1	1	2	60,850	6,216	67,067
40-44	9	2	11	351,443	20,577	372,020
45-49	21	2	23	670,489	107,190	777,679
50-54	20	9	29	766,383	299,495	1,065,878
55-59	44	8	52	1,454,062	147,355	1,601,417
60-64	60	9	69	1,803,954	141,790	1,945,745
65-69	58	8	66	1,700,305	201,486	1,901,791
70-74	48	6	54	1,343,171	100,994	1,444,165
75-79	29	0	29	707,808	0	707,808
80-84	14	2	16	301,331	7,862	309,193
85-89	3	0	3	44,674	0	44,674
90-94	6	0	6	113,818	0	113,818
95-99	0	0	0	0	0	0
Total	313	47	360	9,318,286	1,032,967	10,351,253
Average (Age/Payment)	65.09	60.47	64.49	29,771	21,978	28,753
Frequency Percent	86.9	13.1	100	90.0	10.0	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
2013	\$94,720,452	\$20,376,194	\$54,966,177	\$57,336,919	\$37,958,837
2014	87,196,924	21,371,610	59,363,471	58,602,178	52,140,335
2015	91,954,856	22,414,057	64,112,548	60,270,912	54,842,661
2016	96,994,733	23,505,705	67,457,348	63,640,306	57,608,626
2017	102,209,801	24,648,823	69,903,683	68,217,209	60,559,914
2018	107,582,551	25,845,781	72,439,261	73,033,114	63,735,605
2019	113,020,266	27,099,058	74,482,330	78,098,555	66,659,677
2020	118,554,955	28,411,243	76,913,148	83,409,306	70,178,742
2021	123,834,107	29,785,045	79,736,269	89,028,834	74,716,041
2022	129,208,657	31,223,293	82,662,241	95,021,142	79,698,019
2023	134,526,854	32,728,944	85,694,775	101,429,166	85,326,032
2024	139,817,144	34,305,091	88,837,715	108,305,175	91,630,837
2025	145,315,477	35,954,963	92,095,041	115,695,591	98,430,118
2026	151,030,032	37,681,936	95,470,876	123,641,010	105,763,790
2027	156,969,313	39,489,540	98,969,488	132,185,316	113,675,031
2028	163,142,157	41,381,461	102,556,231	141,375,157	122,170,693
2029	169,557,749	43,361,552	106,313,818	151,260,108	131,377,729
2030	176,225,635	45,433,840	110,207,920	161,897,843	141,313,968
2031	183,155,738	47,602,532	114,243,449	173,348,288	152,038,531
2032	190,358,367	49,872,026	118,425,487	185,676,237	163,615,383
2033	197,844,241	52,246,916	122,759,299	198,951,756	176,113,730
2034	205,624,499	54,732,001	17,527,744	212,591,438	79,226,684
2035	213,710,716	57,332,298	17,792,745	218,862,700	80,277,027
2036	222,114,925	60,053,047	18,050,901	225,211,244	81,200,267
2037	230,849,631	62,899,725	18,301,241	231,626,256	81,977,590
2038	239,927,831	65,878,052	18,542,727	238,095,360	82,588,308
2039	249,363,033	68,994,006	18,774,250	244,604,463	83,009,686
2040	259,169,275	72,253,831	18,994,626	251,137,585	83,216,766
2041	269,361,150	75,143,984	19,754,411	257,644,922	83,182,167
2042	279,953,821	78,149,744	20,544,588	264,135,360	82,875,871

EXHIBIT 5 – SUMMARY OF PLAN PROVISIONS:

This summary is prepared in accordance with Chapter 32 as of January 1, 2013, and does not take into account any subsequent changes.

1. Administration

Each of the 107 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. Members with ten or more years of service are entitled to 100% of the credited interest on their contributions. Members with five to ten years of service are entitled to 50% of the credited interest on their contributions. No credited interest is provided for members with less than five years of service.

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 \$450 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 \$13,000. 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.

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, 2013.

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 8.25% per annum, net of investment expenses.

5. Salary Scale

It is assumed that salaries including longevity will increase at a rate of 4% per year.

6. Cost-of-Living Increases

Cost-of-living increases have been assumed to be 3.0% of the lesser of the pension amount and \$13,000 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, with a 20% corridor.

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	0.1500	0.0150
10	0.0540	0.0150
20	0.0200	0.0000
30	0.0000	0.0000

9. Annual Rate of Mortality

It is assumed that both pre-retirement and post retirement mortality are represented by the RP-2000 Mortality Table for males and females, adjusted to 2015 with Scale AA. Mortality for disabled members is represented by the RP-2000 Mortality Table set forward two years for all disabled members.

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	0.0100	0.0150	0.02000
51	0.0100	0.0150	0.02000
52	0.0100	0.0200	0.02000
53	0.0100	0.0250	0.05000
54	0.0200	0.0250	0.07500
55	0.0200	0.0550	0.15000
56	0.0250	0.0650	0.10000
57	0.0250	0.0650	0.10000
58	0.0500	0.0650	0.10000
59	0.0650	0.0650	0.15000
60	0.1200	0.0500	0.20000
61	0.2000	0.1300	0.20000
62	0.3000	0.1500	0.25000
63	0.2500	0.1250	0.25000
64	0.2200	0.1800	0.30000
65	0.4000	0.1500	1.00000
66	0.2500	0.2000	1.00000
67	0.2500	0.2000	1.00000
68	0.3000	0.2500	1.00000
69	0.3000	0.2000	1.00000
70	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	0.0100
51	0.0000	0.0000	0.0100
52	0.0000	0.0000	0.0200
53	0.0000	0.0000	0.0200
54	0.0000	0.0000	0.0200
55	0.0000	0.0000	0.0500
56	0.0000	0.0000	0.0750
57	0.0000	0.0000	0.1500
58	0.0000	0.0000	0.1000
59	0.0000	0.0000	0.1000
60	0.0500	0.0650	0.1000
61	0.0650	0.0650	0.1500
62	0.2000	0.1500	0.2000
63	0.2000	0.1300	0.2000
64	0.3000	0.1500	0.3000
65	0.2500	0.1250	1.0000
66	0.2200	0.1800	1.0000
67	0.4000	0.2500	1.0000
68	0.3000	0.2000	1.0000
69	0.3000	0.2000	1.0000
70	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	0.0001	0.0010
30	0.0003	0.0030
40	0.0010	0.0030
50	0.0019	0.0125

In addition, it is assumed for the general employees that 45% of all disabilities are ordinary (55% 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 2014 is \$1,600,000 and is anticipated to increase at 4% 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 projected 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 projected 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. Actuarial 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 Plymouth County Retirement System contributing as of January 1, 2013, 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 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
Enrolled Actuary No. 11-4086

October, 2013

BREAKOUTS

County of Plymouth

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	90
Inactives	53
Retirees and Disableds	245
Total	388
Payroll	4,543,396
Average	50,482

Valuation Results

Normal Cost	
Employee	375,308
Employer	87,699
Administrative Expense	87,488
Total	550,495
Actuarial Accrued Liability	
Actives	12,818,162
Inactives	809,270
Retirees and Disableds	58,537,128
Total	72,164,560
Assets	\$36,465,984
Unfunded Actuarial Accrued Liability	\$35,698,576
Estimated FY15 Contribution - semiannual payments	\$2,740,475
Estimated FY15 Contribution - July payment	\$2,687,226
Estimated FY16 Contribution - semiannual payments	\$2,993,263
Estimated FY16 Contribution - July payment	\$2,935,102



Hospital

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	0
Inactives	6
Retirees and Disableds	91
Total	97
Payroll	0
Average	0

Valuation Results

Normal Cost	
Employee	0
Employer	0
Administrative Expense	11,745
Total	11,745

Actuarial Accrued Liability	
Actives	0
Inactives	131,022
Retirees and Disableds	9,557,013
Total	9,688,035

Assets \$4,895,529

Unfunded Actuarial Accrued Liability \$4,792,506

Estimated FY15 Contribution - semiannual payments	\$355,157
Estimated FY15 Contribution - July payment	\$348,256
Estimated FY16 Contribution - semiannual payments	\$388,836
Estimated FY16 Contribution - July payment	\$381,281



Abington

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	217
Inactives	138
Retirees and Disableds	128
Total	<u>483</u>
Payroll	8,704,603
Average	40,113

Valuation Results

Normal Cost	
Employee	744,138
Employer	363,719
Administrative Expense	59,199
Total	<u>1,167,056</u>
Actuarial Accrued Liability	
Actives	21,273,154
Inactives	571,307
Retirees and Disableds	26,985,683
Total	<u>48,830,144</u>
Assets	\$24,674,705
Unfunded Actuarial Accrued Liability	\$24,155,439
Estimated FY15 Contribution - semiannual payments	\$2,208,963
Estimated FY15 Contribution - July payment	\$2,166,042
Estimated FY16 Contribution - semiannual payments	\$2,386,676
Estimated FY16 Contribution - July payment	\$2,340,302



Bridgewater

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	143
Inactives	27
Retirees and Disableds	151
Total	<u>321</u>
Payroll	9,012,668
Average	63,026

Valuation Results

Normal Cost	
Employee	797,889
Employer	396,090
Administrative Expense	79,648
Total	<u>1,273,627</u>
Actuarial Accrued Liability	
Actives	26,706,086
Inactives	210,405
Retirees and Disableds	38,781,382
Total	<u>65,697,873</u>
Assets	\$33,198,257
Unfunded Actuarial Accrued Liability	\$32,499,616
Estimated FY15 Contribution - semiannual payments	\$2,939,874
Estimated FY15 Contribution - July payment	\$2,882,751
Estimated FY16 Contribution - semiannual payments	\$3,176,934
Estimated FY16 Contribution - July payment	\$3,115,204

Bridgewater Housing

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	4
Inactives	2
Retirees and Disableds	5
Total	11
Payroll	206,572
Average	51,643

Valuation Results

Normal Cost	
Employee	17,948
Employer	9,103
Administrative Expense	1,552
Total	28,603
Actuarial Accrued Liability	
Actives	417,455
Inactives	81,581
Retirees and Disableds	780,804
Total	1,279,840
Assets	\$646,725
Unfunded Actuarial Accrued Liability	\$633,115
Estimated FY15 Contribution - semiannual payments	\$73,493
Estimated FY15 Contribution - July payment	\$72,065
Estimated FY16 Contribution - semiannual payments	\$78,141
Estimated FY16 Contribution - July payment	\$76,623

Bridgewater/Raynham Regional School

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	173
Inactives	116
Retirees and Disableds	110
Total	<u>399</u>
Payroll	6,234,373
Average	36,037

Valuation Results

Normal Cost	
Employee	508,693
Employer	172,711
Administrative Expense	36,113
Total	<u>717,517</u>

Actuarial Accrued Liability	
Actives	15,694,013
Inactives	450,965
Retirees and Disableds	13,642,703
Total	<u>29,787,681</u>

Assets \$15,052,224

Unfunded Actuarial Accrued Liability \$14,735,457

Estimated FY15 Contribution - semiannual payments	\$1,394,536
Estimated FY15 Contribution - July payment	\$1,367,439
Estimated FY16 Contribution - semiannual payments	\$1,501,869
Estimated FY16 Contribution - July payment	\$1,472,687



Carver

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	215
Inactives	89
Retirees and Disableds	80
Total	<u>384</u>
Payroll	6,868,799
Average	31,948

Valuation Results

Normal Cost	
Employee	583,866
Employer	246,216
Administrative Expense	43,296
Total	<u>873,378</u>
Actuarial Accrued Liability	
Actives	17,922,517
Inactives	413,431
Retirees and Disableds	17,376,596
Total	<u>35,712,544</u>
Assets	\$18,046,158
Unfunded Actuarial Accrued Liability	\$17,666,386
Estimated FY15 Contribution - semiannual payments	\$1,738,996
Estimated FY15 Contribution - July payment	\$1,705,207
Estimated FY16 Contribution - semiannual payments	\$1,840,130
Estimated FY16 Contribution - July payment	\$1,804,375



Carver/Marion/Wareham Regional Refuse

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	5
Inactives	0
Retirees and Disableds	1
Total	<u>6</u>
Payroll	142,447
Average	28,489

Valuation Results

Normal Cost	
Employee	9,037
Employer	7,720
Administrative Expense	1,051
Total	<u>17,808</u>
Actuarial Accrued Liability	
Actives	459,429
Inactives	0
Retirees and Disableds	407,095
Total	<u>866,524</u>
Assets	\$437,869
Unfunded Actuarial Accrued Liability	\$428,655
Estimated FY15 Contribution - semiannual payments	\$40,126
Estimated FY15 Contribution - July payment	\$39,346
Estimated FY16 Contribution - semiannual payments	\$43,307
Estimated FY16 Contribution - July payment	\$42,466

Duxbury

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	367
Inactives	182
Retirees and Disableds	179
Total	728
Payroll	15,304,264
Average	41,701

Valuation Results

Normal Cost	
Employee	1,295,687
Employer	565,890
Administrative Expense	79,093
Total	1,940,670
Actuarial Accrued Liability	
Actives	36,626,714
Inactives	1,057,538
Retirees and Disableds	27,556,013
Total	65,240,265
Assets	\$32,967,019
Unfunded Actuarial Accrued Liability	\$32,273,246
Estimated FY15 Contribution - semiannual payments	\$3,004,465
Estimated FY15 Contribution - July payment	\$2,946,086
Estimated FY16 Contribution - semiannual payments	\$3,243,651
Estimated FY16 Contribution - July payment	\$3,180,625



Duxbury Housing

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	2
Inactives	0
Retirees and Disableds	5
Total	<u>7</u>
Payroll	80,475
Average	40,238

Valuation Results

Normal Cost	
Employee	7,044
Employer	4,810
Administrative Expense	595
Total	<u>12,449</u>
Actuarial Accrued Liability	
Actives	75,564
Inactives	0
Retirees and Disableds	415,293
Total	<u>490,857</u>
Assets	\$248,038
Unfunded Actuarial Accrued Liability	\$242,819
Estimated FY15 Contribution - semiannual payments	\$23,203
Estimated FY15 Contribution - July payment	\$22,752
Estimated FY16 Contribution - semiannual payments	\$25,015
Estimated FY16 Contribution - July payment	\$24,529

East Bridgewater

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	224
Inactives	92
Retirees and Disableds	122
Total	438
Payroll	8,614,223
Average	38,456

Valuation Results

Normal Cost	
Employee	741,741
Employer	326,075
Administrative Expense	56,190
Total	1,124,006
Actuarial Accrued Liability	
Actives	21,023,003
Inactives	395,046
Retirees and Disableds	24,930,153
Total	46,348,202
Assets	\$23,420,538
Unfunded Actuarial Accrued Liability	\$22,927,664
Estimated FY15 Contribution - semiannual payments	\$2,052,200
Estimated FY15 Contribution - July payment	\$2,012,324
Estimated FY16 Contribution - semiannual payments	\$2,220,461
Estimated FY16 Contribution - July payment	\$2,177,316



East Bridgewater Housing

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	4
Inactives	3
Retirees and Disableds	3
Total	10
Payroll	189,507
Average	47,377

Valuation Results

Normal Cost	
Employee	16,901
Employer	7,001
Administrative Expense	703
Total	24,605
Actuarial Accrued Liability	
Actives	292,862
Inactives	52,921
Retirees and Disableds	234,428
Total	580,211
Assets	\$293,191
Unfunded Actuarial Accrued Liability	\$287,020
Estimated FY15 Contribution - semiannual payments	\$34,986
Estimated FY15 Contribution - July payment	\$34,306
Estimated FY16 Contribution - semiannual payments	\$37,157
Estimated FY16 Contribution - July payment	\$36,435

Halifax

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	117
Inactives	51
Retirees and Disableds	49
Total	<u>217</u>
Payroll	4,350,933
Average	37,187

Valuation Results

Normal Cost	
Employee	375,285
Employer	181,037
Administrative Expense	25,037
Total	<u>581,359</u>
Actuarial Accrued Liability	
Actives	9,994,288
Inactives	189,226
Retirees and Disableds	10,468,572
Total	<u>20,652,086</u>
Assets	\$10,435,852
Unfunded Actuarial Accrued Liability	\$10,216,234
Estimated FY15 Contribution - semiannual payments	\$953,136
Estimated FY15 Contribution - July payment	\$934,616
Estimated FY16 Contribution - semiannual payments	\$1,028,893
Estimated FY16 Contribution - July payment	\$1,008,901

Hanover

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	255
Inactives	115
Retirees and Disableds	176
Total	<u>546</u>
Payroll	11,871,385
Average	46,554

Valuation Results

Normal Cost	
Employee	1,047,657
Employer	480,933
Administrative Expense	71,714
Total	<u>1,600,304</u>
Actuarial Accrued Liability	
Actives	25,543,582
Inactives	722,295
Retirees and Disableds	32,887,461
Total	<u>59,153,338</u>
Assets	\$29,891,191
Unfunded Actuarial Accrued Liability	\$29,262,147
Estimated FY15 Contribution - semiannual payments	\$2,689,323
Estimated FY15 Contribution - July payment	\$2,637,067
Estimated FY16 Contribution - semiannual payments	\$2,905,489
Estimated FY16 Contribution - July payment	\$2,849,033

Hanson

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	87
Inactives	26
Retirees and Disableds	61
Total	174
Payroll	4,602,850
Average	52,906

Valuation Results

Normal Cost	
Employee	401,382
Employer	204,481
Administrative Expense	32,068
Total	637,931
Actuarial Accrued Liability	
Actives	12,785,606
Inactives	282,291
Retirees and Disableds	13,383,684
Total	26,451,581
Assets	\$13,366,435
Unfunded Actuarial Accrued Liability	\$13,085,146
Estimated FY15 Contribution - semiannual payments	\$1,191,129
Estimated FY15 Contribution - July payment	\$1,167,985
Estimated FY16 Contribution - semiannual payments	\$1,287,561
Estimated FY16 Contribution - July payment	\$1,262,542

Kingston

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	188
Inactives	65
Retirees and Disableds	84
Total	<u>337</u>
Payroll	7,862,007
Average	41,819

Valuation Results

Normal Cost	
Employee	674,678
Employer	299,958
Administrative Expense	48,711
Total	<u>1,023,347</u>
Actuarial Accrued Liability	
Actives	22,579,633
Inactives	274,473
Retirees and Disableds	17,325,392
Total	<u>40,179,498</u>
Assets	\$20,303,386
Unfunded Actuarial Accrued Liability	\$19,876,112
Estimated FY15 Contribution - semiannual payments	\$1,811,659
Estimated FY15 Contribution - July payment	\$1,776,457
Estimated FY16 Contribution - semiannual payments	\$1,944,022
Estimated FY16 Contribution - July payment	\$1,906,248

Kingston Housing

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	4
Inactives	0
Retirees and Disableds	0
Total	4
Payroll	77,153
Average	19,288

Valuation Results

Normal Cost	
Employee	6,536
Employer	1,421
Administrative Expense	124
Total	8,081
Actuarial Accrued Liability	
Actives	102,685
Inactives	0
Retirees and Disableds	0
Total	102,685
Assets	\$51,888
Unfunded Actuarial Accrued Liability	\$50,797
Estimated FY15 Contribution - semiannual payments	\$5,303
Estimated FY15 Contribution - July payment	\$5,200
Estimated FY16 Contribution - semiannual payments	\$5,691
Estimated FY16 Contribution - July payment	\$5,581

Lakeville

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	71
Inactives	37
Retirees and Disableds	64
Total	172
Payroll	3,364,482
Average	47,387

Valuation Results

Normal Cost	
Employee	289,855
Employer	131,683
Administrative Expense	23,813
Total	445,351

Actuarial Accrued Liability	
Actives	9,380,250
Inactives	125,779
Retirees and Disableds	10,136,258
Total	19,642,287

Assets	\$9,925,583
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Unfunded Actuarial Accrued Liability	\$9,716,704
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Estimated FY15 Contribution - semiannual payments	\$862,672
Estimated FY15 Contribution - July payment	\$845,910
Estimated FY16 Contribution - semiannual payments	\$933,838
Estimated FY16 Contribution - July payment	\$915,693



Marion

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	86
Inactives	42
Retirees and Disableds	49
Total	177

Payroll	3,919,721
Average	45,578

Valuation Results

Normal Cost	
Employee	334,703
Employer	128,161
Administrative Expense	22,816
Total	485,680

Actuarial Accrued Liability	
Actives	9,804,163
Inactives	237,353
Retirees and Disableds	8,778,242
Total	18,819,758

Assets	\$9,509,945
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Unfunded Actuarial Accrued Liability	\$9,309,813
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Estimated FY15 Contribution - semiannual payments	\$828,705
Estimated FY15 Contribution - July payment	\$812,603
Estimated FY16 Contribution - semiannual payments	\$896,935
Estimated FY16 Contribution - July payment	\$879,507



Marshfield

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	520
Inactives	190
Retirees and Disableds	253
Total	<u>963</u>

Payroll	20,293,382
Average	39,026

Valuation Results

Normal Cost	
Employee	1,738,051
Employer	883,692
Administrative Expense	128,675
Total	<u>2,750,418</u>

Actuarial Accrued Liability	
Actives	50,476,642
Inactives	950,445
Retirees and Disableds	54,710,928
Total	<u>106,138,015</u>

Assets	\$53,633,351
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Unfunded Actuarial Accrued Liability	\$52,504,664
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Estimated FY15 Contribution - semiannual payments	\$4,847,896
Estimated FY15 Contribution - July payment	\$4,753,698
Estimated FY16 Contribution - semiannual payments	\$5,236,214
Estimated FY16 Contribution - July payment	\$5,134,471



Marshfield Housing

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	4
Inactives	0
Retirees and Disableds	3
Total	7
Payroll	168,161
Average	42,040

Valuation Results

Normal Cost	
Employee	14,838
Employer	3,658
Administrative Expense	924
Total	19,420
Actuarial Accrued Liability	
Actives	388,966
Inactives	0
Retirees and Disableds	373,172
Total	762,138
Assets	\$385,121
Unfunded Actuarial Accrued Liability	\$377,017
Estimated FY15 Contribution - semiannual payments	\$31,901
Estimated FY15 Contribution - July payment	\$31,281
Estimated FY16 Contribution - semiannual payments	\$34,630
Estimated FY16 Contribution - July payment	\$33,957

Mattapoisett

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	103
Inactives	19
Retirees and Disableds	56
Total	<u>178</u>
Payroll	4,246,019
Average	41,223

Valuation Results

Normal Cost	
Employee	358,585
Employer	138,493
Administrative Expense	25,652
Total	<u>522,730</u>
Actuarial Accrued Liability	
Actives	11,368,744
Inactives	43,448
Retirees and Disableds	9,746,996
Total	<u>21,159,188</u>
Assets	\$10,692,099
Unfunded Actuarial Accrued Liability	\$10,467,089
Estimated FY15 Contribution - semiannual payments	\$925,655
Estimated FY15 Contribution - July payment	\$907,669
Estimated FY16 Contribution - semiannual payments	\$1,002,244
Estimated FY16 Contribution - July payment	\$982,770

Middleborough

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	409
Inactives	76
Retirees and Disableds	286
Total	<u>771</u>

Payroll	19,471,412
Average	47,607

Valuation Results

Normal Cost	
Employee	1,684,632
Employer	854,214
Administrative Expense	145,337
Total	<u>2,684,183</u>

Actuarial Accrued Liability	
Actives	49,974,408
Inactives	440,616
Retirees and Disableds	69,466,677
Total	<u>119,881,701</u>

Assets	\$60,578,270
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Unfunded Actuarial Accrued Liability	\$59,303,431
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Estimated FY15 Contribution - semiannual payments	\$5,337,506
Estimated FY15 Contribution - July payment	\$5,233,794
Estimated FY16 Contribution - semiannual payments	\$5,772,957
Estimated FY16 Contribution - July payment	\$5,660,784



Middleborough Housing

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	7
Inactives	0
Retirees and Disableds	4
Total	11
Payroll	334,897
Average	47,842

Valuation Results

Normal Cost	
Employee	28,760
Employer	6,888
Administrative Expense	2,407
Total	38,055
Actuarial Accrued Liability	
Actives	1,132,320
Inactives	0
Retirees and Disableds	853,482
Total	1,985,802
Assets	\$1,003,460
Unfunded Actuarial Accrued Liability	\$982,342
Estimated FY15 Contribution - semiannual payments	\$82,038
Estimated FY15 Contribution - July payment	\$80,444
Estimated FY16 Contribution - semiannual payments	\$89,092
Estimated FY16 Contribution - July payment	\$87,361



Norwell

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	239
Inactives	88
Retirees and Disableds	140
Total	<u>467</u>
Payroll	9,184,313
Average	38,428

Valuation Results

Normal Cost	
Employee	786,109
Employer	355,791
Administrative Expense	54,621
Total	<u>1,196,521</u>

Actuarial Accrued Liability	
Actives	22,239,669
Inactives	564,550
Retirees and Disableds	22,250,167
Total	<u>45,054,386</u>

Assets \$22,766,750

Unfunded Actuarial Accrued Liability \$22,287,636

Estimated FY15 Contribution - semiannual payments	\$2,036,949
Estimated FY15 Contribution - July payment	\$1,997,369
Estimated FY16 Contribution - semiannual payments	\$2,201,362
Estimated FY16 Contribution - July payment	\$2,158,588



Norwell Housing

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	4
Inactives	1
Retirees and Disableds	1
Total	6

Payroll	162,181
Average	40,545

Valuation Results

Normal Cost	
Employee	14,216
Employer	4,913
Administrative Expense	604
Total	19,733

Actuarial Accrued Liability	
Actives	441,139
Inactives	1,779
Retirees and Disableds	55,530
Total	498,448

Assets \$251,874

Unfunded Actuarial Accrued Liability \$246,574

Estimated FY15 Contribution - semiannual payments	\$23,593
Estimated FY15 Contribution - July payment	\$23,135
Estimated FY16 Contribution - semiannual payments	\$25,433
Estimated FY16 Contribution - July payment	\$24,939



Old Rochester Regional School

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	79
Inactives	43
Retirees and Disableds	42
Total	164
Payroll	2,744,858
Average	34,745

Valuation Results

Normal Cost	
Employee	230,876
Employer	97,386
Administrative Expense	14,050
Total	342,312
Actuarial Accrued Liability	
Actives	6,016,513
Inactives	273,088
Retirees and Disableds	5,299,887
Total	11,589,488
Assets	\$5,856,366
Unfunded Actuarial Accrued Liability	\$5,733,122
Estimated FY15 Contribution - semiannual payments	\$530,322
Estimated FY15 Contribution - July payment	\$520,017
Estimated FY16 Contribution - semiannual payments	\$572,743
Estimated FY16 Contribution - July payment	\$561,614

Onset Fire District

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	15
Inactives	6
Retirees and Disableds	13
Total	<u>34</u>
Payroll	701,488
Average	46,766

Valuation Results

Normal Cost	
Employee	61,073
Employer	29,976
Administrative Expense	5,397
Total	<u>96,446</u>
Actuarial Accrued Liability	
Actives	1,990,946
Inactives	28,360
Retirees and Disableds	2,432,366
Total	<u>4,451,672</u>
Assets	\$2,249,506
Unfunded Actuarial Accrued Liability	\$2,202,166
Estimated FY15 Contribution - semiannual payments	\$207,431
Estimated FY15 Contribution - July payment	\$203,400
Estimated FY16 Contribution - semiannual payments	\$223,563
Estimated FY16 Contribution - July payment	\$219,219

Pembroke

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	260
Inactives	87
Retirees and Disableds	116
Total	463
Payroll	10,960,886
Average	42,157

Valuation Results

Normal Cost	
Employee	948,214
Employer	426,959
Administrative Expense	66,849
Total	1,442,022
Actuarial Accrued Liability	
Actives	26,702,041
Inactives	378,621
Retirees and Disableds	28,059,767
Total	55,140,429
Assets	\$27,863,400
Unfunded Actuarial Accrued Liability	\$27,277,029
Estimated FY15 Contribution - semiannual payments	\$2,626,404
Estimated FY15 Contribution - July payment	\$2,575,371
Estimated FY16 Contribution - semiannual payments	\$2,831,793
Estimated FY16 Contribution - July payment	\$2,776,769

Plymouth County Mosquito Control

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	11
Inactives	0
Retirees and Disableds	7
Total	18
Payroll	671,647
Average	61,059

Valuation Results

Normal Cost	
Employee	58,367
Employer	11,249
Administrative Expense	4,670
Total	74,286
Actuarial Accrued Liability	
Actives	1,948,574
Inactives	0
Retirees and Disableds	1,903,619
Total	3,852,193
Assets	\$1,946,579
Unfunded Actuarial Accrued Liability	\$1,905,614
Estimated FY15 Contribution - semiannual payments	\$174,971
Estimated FY15 Contribution - July payment	\$171,571
Estimated FY16 Contribution - semiannual payments	\$188,609
Estimated FY16 Contribution - July payment	\$184,944

Plympton

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	38
Inactives	10
Retirees and Disableds	23
Total	71
Payroll	1,317,658
Average	34,675

Valuation Results

Normal Cost	
Employee	114,505
Employer	95,284
Administrative Expense	8,991
Total	218,780
Actuarial Accrued Liability	
Actives	2,767,932
Inactives	69,958
Retirees and Disableds	4,578,735
Total	7,416,625
Assets	\$3,747,747
Unfunded Actuarial Accrued Liability	\$3,668,878
Estimated FY15 Contribution - semiannual payments	\$392,090
Estimated FY15 Contribution - July payment	\$384,471
Estimated FY16 Contribution - semiannual payments	\$419,959
Estimated FY16 Contribution - July payment	\$411,799



Rochester

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	79
Inactives	34
Retirees and Disableds	23
Total	136
Payroll	3,182,865
Average	40,289

Valuation Results

Normal Cost	
Employee	271,112
Employer	129,531
Administrative Expense	14,301
Total	414,944
Actuarial Accrued Liability	
Actives	7,732,399
Inactives	171,732
Retirees and Disableds	3,892,249
Total	11,796,380
Assets	\$5,960,912
Unfunded Actuarial Accrued Liability	\$5,835,468
Estimated FY15 Contribution - semiannual payments	\$602,301
Estimated FY15 Contribution - July payment	\$590,598
Estimated FY16 Contribution - semiannual payments	\$646,145
Estimated FY16 Contribution - July payment	\$633,590

Rockland

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	308
Inactives	95
Retirees and Disableds	176
Total	<u>579</u>
Payroll	12,205,533
Average	39,628

Valuation Results

Normal Cost	
Employee	1,025,673
Employer	461,130
Administrative Expense	87,170
Total	<u>1,573,973</u>
Actuarial Accrued Liability	
Actives	35,369,845
Inactives	364,346
Retirees and Disableds	36,168,421
Total	<u>71,902,612</u>
Assets	\$36,333,617
Unfunded Actuarial Accrued Liability	\$35,568,995
Estimated FY15 Contribution - semiannual payments	\$3,216,527
Estimated FY15 Contribution - July payment	\$3,154,027
Estimated FY16 Contribution - semiannual payments	\$3,476,580
Estimated FY16 Contribution - July payment	\$3,409,028

Scituate

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	386
Inactives	134
Retirees and Disableds	217
Total	737
Payroll	16,915,229
Average	43,822

Valuation Results

Normal Cost	
Employee	1,389,272
Employer	733,789
Administrative Expense	103,098
Total	2,226,159
Actuarial Accrued Liability	
Actives	42,458,026
Inactives	723,447
Retirees and Disableds	41,859,001
Total	85,040,474
Assets	\$42,972,403
Unfunded Actuarial Accrued Liability	\$42,068,071
Estimated FY15 Contribution - semiannual payments	\$3,912,145
Estimated FY15 Contribution - July payment	\$3,836,129
Estimated FY16 Contribution - semiannual payments	\$4,223,839
Estimated FY16 Contribution - July payment	\$4,141,767

Scituate Housing

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	6
Inactives	0
Retirees and Disableds	7
Total	<u>13</u>
Payroll	297,189
Average	49,532

Valuation Results

Normal Cost	
Employee	26,576
Employer	22,472
Administrative Expense	<u>2,173</u>
Total	51,221
Actuarial Accrued Liability	
Actives	348,674
Inactives	0
Retirees and Disableds	<u>1,443,678</u>
Total	1,792,352
Assets	\$905,706
Unfunded Actuarial Accrued Liability	\$886,646
Estimated FY15 Contribution - semiannual payments	\$107,852
Estimated FY15 Contribution - July payment	\$105,756
Estimated FY16 Contribution - semiannual payments	\$114,575
Estimated FY16 Contribution - July payment	\$112,348



Silver Lake Regional School

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	109
Inactives	33
Retirees and Disableds	50
Total	<u>192</u>
Payroll	3,621,589
Average	33,226

Valuation Results

Normal Cost	
Employee	297,153
Employer	115,437
Administrative Expense	18,803
Total	<u>431,393</u>
Actuarial Accrued Liability	
Actives	9,374,123
Inactives	222,337
Retirees and Disableds	5,913,525
Total	<u>15,509,985</u>
Assets	\$7,837,460
Unfunded Actuarial Accrued Liability	\$7,672,525
Estimated FY15 Contribution - semiannual payments	\$596,825
Estimated FY15 Contribution - July payment	\$585,228
Estimated FY16 Contribution - semiannual payments	\$648,915
Estimated FY16 Contribution - July payment	\$636,307

South Shore Mosquito Control

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	0
Inactives	0
Retirees and Disableds	1
Total	1
Payroll	0
Average	0

Valuation Results

Normal Cost	
Employee	0
Employer	0
Administrative Expense	12
Total	12
Actuarial Accrued Liability	
Actives	0
Inactives	0
Retirees and Disableds	10,063
Total	10,063
Assets	\$5,085
Unfunded Actuarial Accrued Liability	\$4,978
Estimated FY15 Contribution - semiannual payments	\$369
Estimated FY15 Contribution - July payment	\$362
Estimated FY16 Contribution - semiannual payments	\$404
Estimated FY16 Contribution - July payment	\$396



South Shore Regional School

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	39
Inactives	7
Retirees and Disableds	22
Total	68
Payroll	1,479,967
Average	37,948

Valuation Results

Normal Cost	
Employee	116,856
Employer	44,111
Administrative Expense	8,305
Total	169,272
Actuarial Accrued Liability	
Actives	3,145,251
Inactives	52,806
Retirees and Disableds	3,652,129
Total	6,850,186
Assets	\$3,461,516
Unfunded Actuarial Accrued Liability	\$3,388,670
Estimated FY15 Contribution - semiannual payments	\$298,891
Estimated FY15 Contribution - July payment	\$293,083
Estimated FY16 Contribution - semiannual payments	\$323,670
Estimated FY16 Contribution - July payment	\$317,381



Wareham

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	347
Inactives	79
Retirees and Disableds	194
Total	620
Payroll	13,261,090
Average	38,216

Valuation Results

Normal Cost	
Employee	1,120,394
Employer	452,257
Administrative Expense	84,999
Total	1,657,650
Actuarial Accrued Liability	
Actives	36,180,476
Inactives	929,601
Retirees and Disableds	33,001,642
Total	70,111,719
Assets	\$35,428,648
Unfunded Actuarial Accrued Liability	\$34,683,071
Estimated FY15 Contribution - semiannual payments	\$3,268,147
Estimated FY15 Contribution - July payment	\$3,204,644
Estimated FY16 Contribution - semiannual payments	\$3,521,780
Estimated FY16 Contribution - July payment	\$3,453,350



Wareham Fire District

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	44
Inactives	3
Retirees and Disableds	23
Total	70
Payroll	2,318,392
Average	52,691

Valuation Results

Normal Cost	
Employee	201,671
Employer	105,113
Administrative Expense	14,320
Total	321,104

Actuarial Accrued Liability	
Actives	8,071,411
Inactives	3,462
Retirees and Disableds	3,736,834
Total	11,811,707

Assets	\$5,968,657
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Unfunded Actuarial Accrued Liability	\$5,843,050
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Estimated FY15 Contribution - semiannual payments	\$562,568
Estimated FY15 Contribution - July payment	\$551,637
Estimated FY16 Contribution - semiannual payments	\$605,931
Estimated FY16 Contribution - July payment	\$594,158



Wareham Housing

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	1
Inactives	1
Retirees and Disableds	1
Total	3

Payroll	48,972
Average	48,972

Valuation Results

Normal Cost	
Employee	3,251
Employer	1,357
Administrative Expense	485
Total	5,093

Actuarial Accrued Liability	
Actives	303,935
Inactives	26
Retirees and Disableds	96,097
Total	400,058

Assets \$202,156

Unfunded Actuarial Accrued Liability \$197,902

Estimated FY15 Contribution - semiannual payments	\$16,135
Estimated FY15 Contribution - July payment	\$15,822
Estimated FY16 Contribution - semiannual payments	\$17,556
Estimated FY16 Contribution - July payment	\$17,215



West Bridgewater

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	151
Inactives	52
Retirees and Disableds	86
Total	289
Payroll	6,839,197
Average	45,293

Valuation Results

Normal Cost	
Employee	595,087
Employer	263,062
Administrative Expense	42,714
Total	900,863
Actuarial Accrued Liability	
Actives	17,616,384
Inactives	253,977
Retirees and Disableds	17,362,750
Total	35,233,111
Assets	\$17,803,892
Unfunded Actuarial Accrued Liability	\$17,429,219
Estimated FY15 Contribution - semiannual payments	\$1,576,491
Estimated FY15 Contribution - July payment	\$1,545,859
Estimated FY16 Contribution - semiannual payments	\$1,704,733
Estimated FY16 Contribution - July payment	\$1,671,609

Whitman

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	113
Inactives	20
Retirees and Disableds	111
Total	<u>244</u>
Payroll	6,146,057
Average	54,390

Valuation Results

Normal Cost	
Employee	552,337
Employer	262,069
Administrative Expense	44,575
Total	<u>858,981</u>
Actuarial Accrued Liability	
Actives	13,368,706
Inactives	162,585
Retirees and Disableds	23,236,925
Total	<u>36,768,216</u>
Assets	\$18,579,607
Unfunded Actuarial Accrued Liability	\$18,188,609
Estimated FY15 Contribution - semiannual payments	\$1,631,692
Estimated FY15 Contribution - July payment	\$1,599,987
Estimated FY16 Contribution - semiannual payments	\$1,765,248
Estimated FY16 Contribution - July payment	\$1,730,948

Whitman/Hanson Regional School

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	172
Inactives	82
Retirees and Disableds	109
Total	<u>363</u>
Payroll	4,229,201
Average	24,588

Valuation Results

Normal Cost	
Employee	346,960
Employer	120,757
Administrative Expense	28,551
Total	<u>496,268</u>

Actuarial Accrued Liability	
Actives	9,435,273
Inactives	532,568
Retirees and Disableds	13,582,217
Total	<u>23,550,058</u>

Assets \$11,900,246

Unfunded Actuarial Accrued Liability \$11,649,812

Estimated FY15 Contribution - semiannual payments	\$994,097
Estimated FY15 Contribution - July payment	\$974,781
Estimated FY16 Contribution - semiannual payments	\$1,078,609
Estimated FY16 Contribution - July payment	\$1,057,651

Whitman Housing

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	5
Inactives	1
Retirees and Disableds	5
Total	11
Payroll	223,889
Average	44,778

Valuation Results

Normal Cost	
Employee	19,449
Employer	(2,805)
Administrative Expense	1,652
Total	18,296
Actuarial Accrued Liability	
Actives	565,301
Inactives	9,485
Retirees and Disableds	787,789
Total	1,362,575
Assets	\$688,532
Unfunded Actuarial Accrued Liability	\$674,043
Estimated FY15 Contribution - semiannual payments	\$51,069
Estimated FY15 Contribution - July payment	\$50,077
Estimated FY16 Contribution - semiannual payments	\$55,745
Estimated FY16 Contribution - July payment	\$54,662



Abington Housing

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	2
Inactives	0
Retirees and Disableds	3
Total	5
Payroll	111,751
Average	55,876

Valuation Results

Normal Cost	
Employee	8,655
Employer	(72)
Administrative Expense	837
Total	9,420
Actuarial Accrued Liability	
Actives	360,585
Inactives	0
Retirees and Disableds	329,586
Total	690,171
Assets	\$348,755
Unfunded Actuarial Accrued Liability	\$341,416
Estimated FY15 Contribution - semiannual payments	\$30,166
Estimated FY15 Contribution - July payment	\$29,580
Estimated FY16 Contribution - semiannual payments	\$32,564
Estimated FY16 Contribution - July payment	\$31,931

Pembroke Housing

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	5
Inactives	0
Retirees and Disableds	5
Total	10
Payroll	249,830
Average	49,966

Valuation Results

Normal Cost	
Employee	22,047
Employer	9,060
Administrative Expense	2,179
Total	33,286
Actuarial Accrued Liability	
Actives	426,925
Inactives	0
Retirees and Disableds	1,370,626
Total	1,797,551
Assets	\$908,333
Unfunded Actuarial Accrued Liability	\$889,218
Estimated FY15 Contribution - semiannual payments	\$75,708
Estimated FY15 Contribution - July payment	\$74,237
Estimated FY16 Contribution - semiannual payments	\$82,155
Estimated FY16 Contribution - July payment	\$80,559

Hanson Housing

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	3
Inactives	1
Retirees and Disableds	2
Total	6
Payroll	116,527
Average	38,842

Valuation Results

Normal Cost	
Employee	9,874
Employer	7,729
Administrative Expense	625
Total	18,228
Actuarial Accrued Liability	
Actives	222,394
Inactives	1,109
Retirees and Disableds	291,795
Total	515,298
Assets	\$260,389
Unfunded Actuarial Accrued Liability	\$254,909
Estimated FY15 Contribution - semiannual payments	\$27,260
Estimated FY15 Contribution - July payment	\$26,730
Estimated FY16 Contribution - semiannual payments	\$29,221
Estimated FY16 Contribution - July payment	\$28,653

Rockland Housing

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	4
Inactives	0
Retirees and Disableds	4
Total	8
Payroll	168,265
Average	42,066

Valuation Results

Normal Cost	
Employee	14,000
Employer	13,593
Administrative Expense	1,170
Total	28,763
Actuarial Accrued Liability	
Actives	278,788
Inactives	0
Retirees and Disableds	686,105
Total	964,893
Assets	\$487,577
Unfunded Actuarial Accrued Liability	\$477,316
Estimated FY15 Contribution - semiannual payments	\$50,092
Estimated FY15 Contribution - July payment	\$49,119
Estimated FY16 Contribution - semiannual payments	\$53,744
Estimated FY16 Contribution - July payment	\$52,700



Halifax Housing

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	2
Inactives	0
Retirees and Disableds	0
Total	2
Payroll	124,033
Average	62,017

Valuation Results

Normal Cost	
Employee	9,632
Employer	2,914
Administrative Expense	811
Total	13,357
Actuarial Accrued Liability	
Actives	669,368
Inactives	0
Retirees and Disableds	0
Total	669,368
Assets	\$338,243
Unfunded Actuarial Accrued Liability	\$331,125
Estimated FY15 Contribution - semiannual payments	\$27,694
Estimated FY15 Contribution - July payment	\$27,156
Estimated FY16 Contribution - semiannual payments	\$30,085
Estimated FY16 Contribution - July payment	\$29,500

Mattapoisett Housing

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	2
Inactives	0
Retirees and Disableds	0
Total	2
Payroll	80,640
Average	40,320

Valuation Results

Normal Cost	
Employee	6,023
Employer	1,264
Administrative Expense	456
Total	7,743
Actuarial Accrued Liability	
Actives	375,827
Inactives	0
Retirees and Disableds	0
Total	375,827
Assets	\$189,912
Unfunded Actuarial Accrued Liability	\$185,915
Estimated FY15 Contribution - semiannual payments	\$15,146
Estimated FY15 Contribution - July payment	\$14,852
Estimated FY16 Contribution - semiannual payments	\$16,481
Estimated FY16 Contribution - July payment	\$16,160

Acushnet/Rochester/Marion Health District

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	1
Inactives	0
Retirees and Disableds	0
Total	1
Payroll	68,185
Average	68,185

Valuation Results

Normal Cost	
Employee	5,802
Employer	(1,227)
Administrative Expense	374
Total	4,949
Actuarial Accrued Liability	
Actives	308,165
Inactives	0
Retirees and Disableds	0
Total	308,165
Assets	\$155,721
Unfunded Actuarial Accrued Liability	\$152,444
Estimated FY15 Contribution - semiannual payments	\$9,968
Estimated FY15 Contribution - July payment	\$9,775
Estimated FY16 Contribution - semiannual payments	\$11,013
Estimated FY16 Contribution - July payment	\$10,799

West Bridgewater Housing

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	1
Inactives	0
Retirees and Disableds	1
Total	2
Payroll	42,839
Average	42,839

Valuation Results

Normal Cost	
Employee	3,716
Employer	2,832
Administrative Expense	272
Total	6,820

Actuarial Accrued Liability	
Actives	0
Inactives	0
Retirees and Disableds	224,743
Total	224,743

Assets	\$113,566
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Unfunded Actuarial Accrued Liability	\$111,177
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Estimated FY15 Contribution - semiannual payments	\$11,306
Estimated FY15 Contribution - July payment	\$11,086
Estimated FY16 Contribution - semiannual payments	\$12,149
Estimated FY16 Contribution - July payment	\$11,913



South Shore Tri Town Development

Actuarial Valuation as of January 1, 2013

Participant Information

Participants	
Actives	7
Inactives	2
Retirees and Disableds	1
Total	10
Payroll	634,520
Average	90,646

Valuation Results

Normal Cost	
Employee	57,161
Employer	21,032
Administrative Expense	2,519
Total	80,712
Actuarial Accrued Liability	
Actives	1,854,922
Inactives	5,702
Retirees and Disableds	216,799
Total	2,077,423
Assets	\$1,049,757
Unfunded Actuarial Accrued Liability	\$1,027,666
Estimated FY15 Contribution - semiannual payments	\$98,932
Estimated FY15 Contribution - July payment	\$97,010
Estimated FY16 Contribution - semiannual payments	\$106,615
Estimated FY16 Contribution - July payment	\$104,543

Carver Housing

Actuarial Valuation as of January 1, 2013

Participant Information

Participants

Actives	1
Inactives	0
Retirees and Disableds	0
Total	1

Payroll	82,963
Average	82,963

Valuation Results

Normal Cost

Employee	6,919
Employer	2,634
Administrative Expense	466
Total	10,019

Actuarial Accrued Liability

Actives	383,997
Inactives	0
Retirees and Disableds	0
Total	383,997

Assets \$194,040

Unfunded Actuarial Accrued Liability \$189,957

Estimated FY15 Contribution - semiannual payments	\$16,929
Estimated FY15 Contribution - July payment	\$16,600
Estimated FY16 Contribution - semiannual payments	\$18,322
Estimated FY16 Contribution - July payment	\$17,966