



# COMMONWEALTH OF MASSACHUSETTS

## Postemployment Benefits Other Than Pensions Actuarial Valuation January 1, 2006

**June 2006**

*Submitted by:*

*Aon Consulting*

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**AON**

June 23, 2006

The Honorable Martin J. Benison  
Comptroller  
The Commonwealth of Massachusetts  
One Ashburton Place, Room 901  
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This report presents the January 1, 2006 Actuarial Valuation results for the retiree benefits (health and life insurance) provided through the **Group Insurance Commission (“the GIC”)**. The purposes of this report are to:

- (1) Determine the Commonwealth’s January 1, 2006 obligations;
- (2) Determine the Commonwealth’s 2006 Fiscal Year accrual as if the *Governmental Accounting Standards Board (GASB)* standard is adopted for this Fiscal Year based on GASB Statement 45; and
- (3) Provide information that may be helpful in future planning for the Commonwealth.

A summary of the major results is shown in the Executive Summary, while the Principal Valuation Results Section provides more detail.

The Accounting Information Section summarizes GASB Other Postemployment Benefit (OPEB) accounting treatment including the 2006 fiscal year Annual Required Contribution (ARC) and Annual OPEB Cost (AOC).

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This report's costs and liabilities are based upon the data and plan provisions provided by the Commonwealth, as summarized in the Demographic Information and Summary of Principal Plan Provisions Sections, respectively, and the funding method and actuarial assumptions outlined in the Methods and Assumptions Section of this report. This report presents our best estimate of the costs of the Plan in accordance with accepted actuarial principles and our understanding of GASB Statement 45.

Respectfully,

***Aon Consulting, Inc.***

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## *Executive Summary*

The **Commonwealth of Massachusetts** (“**the Commonwealth**”) provides medical, prescription drug, mental health/substance abuse and life insurance to retirees and their covered dependents. The Commonwealth pays a portion of the cost for retirees, spouses and dependents. All active employees who retire from the Commonwealth and meet the eligibility criteria will receive these benefits.

The Commonwealth also offers dental and vision care to retirees. Since these benefits are completely paid by the retirees, there is no GASB 45 liability for the Commonwealth.

The Medicare Prescription Drug, Improvement and Modernization Act of 2003 was enacted on December 8, 2003. As a result of this legislation, employers providing drug coverage to Medicare eligible members, that is at least actuarially equivalent to the standard benefit provided by Medicare, are eligible to receive a federal subsidy (the “Retiree Drug Subsidy”) starting January 1, 2006.

It has been determined that the Commonwealth’s drug coverage for retirees is better than actuarially equivalent to Medicare’s standard coverage in 2006. The Commonwealth has opted to receive the Retiree Drug Subsidy (RDS) and is in the process of complying with the requirements to do so.

Actuarial Liabilities are shown without a reduction in liability for the Retiree Drug Subsidy, and with the Commonwealth liability reduced by Retiree Drug Subsidy anticipated payments. In June 2006, the GASB issued the proposed Technical Memorandum on accounting for the Retiree Drug Subsidy. The Technical Memorandum requires that plan sponsors do not reduce their liability to reflect the Retiree Drug Subsidy, but rather that the RDS payment be treated as a third party payment with treatment determined by GASB 33. The effect of this accounting treatment is to have two sources of funding of the expense (Annual Required Contribution), one being the federal government.

This summary identifies the value of benefits at January 1, 2006 and costs for the 2006 Fiscal Year:



## *Executive Summary (continued)*

### I. Assuming No Prefunding of Obligations

	January 1, 2006		
	GASB 45 results (\$ millions)	Illustrative Medicare Prescription Savings (\$ millions)	FASB accounting comparable results (\$ millions)
Present Value of all Projected Benefits	\$19,574.3	\$1,921.3	\$17,653.0
Present Value of Benefits Earned to Date (Actuarial Accrued Liability)	\$13,287.0	\$1,275.0	\$12,012.0
2006 FY Annual Required Contribution (ARC)*	\$1,062.1	\$102.8	\$959.3
2006 FY Annual OPEB Cost	\$1,062.1	\$102.8	\$959.3
2006 Expected Benefit Premiums	\$335.5	\$18.6	\$316.9
* The Annual Required Contribution reflects a 30-year, 4.5% annual increasing amortization of the Unfunded Actuarial Accrued Liability.			

### II. Assuming Prefunding of Obligations

	January 1, 2006		
	GASB 45 results (\$ millions)	Illustrative Medicare Prescription Savings (\$ millions)	FASB accounting comparable results (\$ millions)
Present Value of all Projected Benefits	\$9,885.5	\$841.2	\$9,044.3
Present Value of Benefits Earned to Date (Actuarial Accrued Liability)	\$7,561.5	\$637.4	\$6,924.1
2006 FY Annual Required Contribution (ARC)*	\$702.9	\$58.8	\$644.1
2006 FY Annual OPEB Cost	\$702.9	\$58.8	\$644.1
2006 Expected Benefit Premiums	\$335.5	\$18.6	\$316.9
* The Annual Required Contribution reflects a 30-year, 4.5% annual increasing amortization of the Unfunded Actuarial Accrued Liability.			



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## *Executive Summary (continued)*

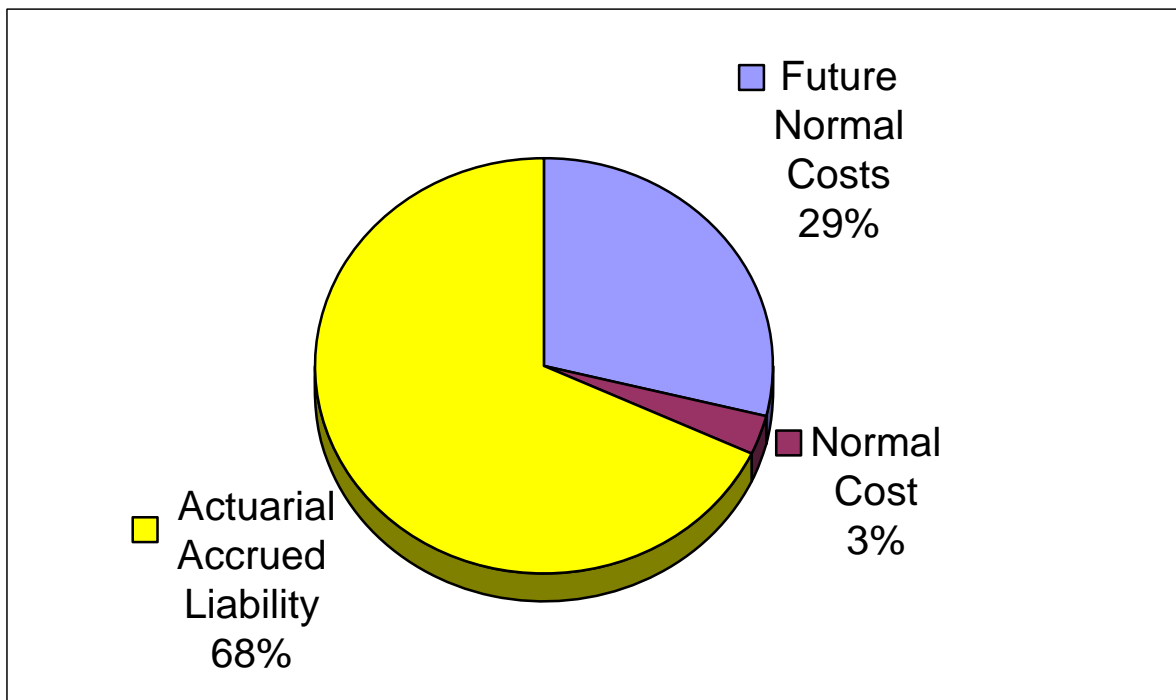
- The **Present Value of all Projected Benefits** is the total present value of all expected future benefits, based on certain actuarial assumptions. The Present Value of all projected benefits is a measure of total liability or obligation. Essentially, the Present Value of all projected benefits is the value (on the valuation date) of the benefits promised to current and future retirees. The Plan's present value of all projected benefits (at January 1, 2006) is \$19,574.3 million assuming no prefunding of obligations, or \$9,885.5 million assuming prefunding of obligations. The majority of this liability is for current active employees (future retirees).
  
- The **Actuarial Accrued Liability** is the liability or obligation for benefits earned through the valuation date, based on certain actuarial methods and assumptions. The Plan's Actuarial Accrued Liability (at January 1, 2006) is \$13,287.0 million assuming no prefunding of obligations, or \$7,561.5 million assuming prefunding of obligations. The majority of this obligation is for active employees. The Actuarial Accrued Liability represents approximately 68% (assuming no prefunding) or 76% (assuming prefunding) of the present value of all projected benefits.



## *Executive Summary (continued)*

- **Normal Cost** is the value of benefits expected to be earned during the current year, again based on certain actuarial methods and assumptions. The 2006 Fiscal Year Normal Cost is \$573.5 million assuming no prefunding of obligations, or \$248.1 million assuming prefunding of obligations. In pension accounting, this is also known as “**service cost.**”
- **Future Normal Costs** represent the present value of the remaining balance of all projected benefits to be earned in future years.

The following graph illustrates (for the scenario assuming no prefunding) the Present Value of all Projected Benefits, the yellow area representing the Actuarial Accrued Liability in total:







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## *Executive Summary (continued)*

The results were calculated based upon plan provisions, as provided by the Commonwealth, along with certain demographic and economic assumptions as recommended by Aon, in conjunction with the Commonwealth with guidance from the GASB statement.

### ***Demographic Assumptions***

Data was provided by the Commonwealth as of January 1, 2006. Demographic assumptions used to project the data are the same as those used to value the Commonwealth's pension liabilities under GASB 27. There is no assumption for future new hires.

### ***Economic Assumptions***

The GASB statement requires that the discount rate used to determine the retiree healthcare liabilities should be the estimated long-term yield on the "investments that are expected to be used to finance the payments of benefits". Since the Commonwealth does not currently pre-fund the retiree healthcare and life insurance liabilities, the discount rate for the "no prefunding" scenario should be based on the portfolio of the Commonwealth's "general assets" used to pay these benefits.

Historical monthly yields for this portfolio, the Massachusetts Municipal Depository Trust (MMDT), could suggest a 4.0% to 5.0% discount rate based on the period from September 1978 (the inception of MMDT) to the present. Aon recommends the mid-point of the range suggested by the MMDT portfolio, 4.5%.

For the "with prefunding" scenario, we recommend using the same rate as used for valuing the Commonwealth's pension liabilities, which is 8.25%.

The trend assumption is used to project the growth of the expected claims over the lifetime of the healthcare recipients. The GASB statement does not require a particular source for information to determine healthcare trends, but it does recommend selecting a source that is "publicly available, objective and unbiased".

Aon developed the trend assumption utilizing the short term rates expected on the Commonwealth plan along with information in published papers from other industry experts (actuaries, health economists, etc.). This amount initially is at 10.5% and decreases to a 5.0% long-term trend rate for all healthcare benefits after ten years.

The balance of this report provides greater detail for the above results.



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## *Actuarial Certification*

This report presents the results of the Actuarial Valuation for the Commonwealth of Massachusetts' Postemployment Benefits Other Than Pensions (the Plan) as of January 1, 2006 for development of accounting and financial reporting information under Statement No. 45 of the Governmental Accounting Standards Board.

This report has been prepared using generally accepted actuarial practices and methods. The actuarial assumptions (other than those strictly applicable to valuing the Plan, or as otherwise explicitly specified) used in the calculations are consistent with those used by the Commonwealth's Actuary for the pension valuation for the state retirement system. We have discussed Plan-specific assumptions with the Commonwealth and believe them to be reasonable.

Aon Consulting did not audit the employee data and financial information used in this valuation. On the basis of our review of this data, we believe that the information is sufficiently complete and reliable, and that it is appropriate for the purposes intended.

Actuarial computations under GASB 45 are for purposes of fulfilling governmental accounting requirements. The calculations reported herein have been made on a basis consistent with our understanding of the accounting standard. Determinations for purposes other than meeting governmental financial accounting requirements may be different from these results. Accordingly, additional determinations may be needed for other purposes, such as judging benefit security at termination.

This report is intended for the sole use of the Commonwealth. It is intended only to supply information for the Commonwealth to comply with the stated purposes of the report and may not be appropriate for other purposes. Reliance on information contained in this report by anyone for other than the intended purposes, puts the relying entity at risk of being misled because of confusion or failure to understand applicable assumptions, methodologies, or limitations of the report's conclusions. Accordingly, no person or entity, including the Commonwealth should base any representations or warranties in any business agreement on any statements or conclusions contained in this report without the written consent of Aon Consulting.

The actuaries whose signatures appear below are Members of the American Academy of Actuaries and together meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. They are available to answer any questions with regard to the matters enumerated in this report.

We further certify that this report is in compliance with Actuarial Standard of Practice No. 41, "Actuarial Communications".

Aon's relationship with the Plan and the Commonwealth is strictly professional. There are no aspects of the relationship that may impair or appear to impair the objectivity of our work.

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Leslie H. Richmond, ASA, EA, MAAA

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Michael E. Morfe, ASA, MAAA



## Principal Valuation Results

The following highlights the Commonwealth's recognition of the above amounts:

- The January 1, 2006 assets are \$0.
- The FY 2006 Annual Required Contribution (ARC) is \$1,062.1 million (assuming no prefunding of obligations), or \$702.9 million (assuming prefunding of obligations).
- Expected 2006 benefit payments are \$335.5 million.

The following table shows results by active, inactive and retired employee groups:

### I. Assuming no prefunding of obligations

	(1) Gross Results for Health (\$ millions)	(2) Life Insurance (\$ millions)	Total = (1) + (2) (\$ millions)	Medicare Prescription Drug Savings (\$ millions)	FASB Comparable Accounting (\$ millions)
<b>Present Value of Projected Benefits</b>					
Active	\$13,182.5	\$66.7	\$13,249.2	\$1,343.2	\$11,906.0
Inactive <sup>1</sup>	\$603.2	\$3.4	\$606.6	\$47.6	\$559.0
Retirees	\$5,609.0	\$109.5	\$5,718.5	\$530.6	\$5,187.9
Total	\$19,394.7	\$179.6	\$19,574.3	\$1,921.4	\$17,652.9
<b>Actuarial Accrued Liability</b>					
Active	\$6,921.4	\$40.5	\$6,961.9	\$696.9	\$6,265.0
Inactive <sup>1</sup>	\$603.2	\$3.4	\$606.6	\$47.6	\$559.0
Retirees	\$5,609.0	\$109.5	\$5,718.5	\$530.6	\$5,187.9
Total	\$13,133.6	\$153.4	\$13,287.0	\$1,275.1	\$12,011.9
<b>Assets</b>	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<b>Unfunded Actuarial Accrued Liability</b>	\$13,133.6	\$153.4	\$13,287.0	\$1,275.1	\$12,011.9
<b>Normal Cost at beginning of year</b>	\$570.7	\$2.8	\$573.5	\$55.9	\$517.6

<sup>1</sup>Inactives are certain former employees with a minimum amount of years of creditable service who have left contributions in the state retirement system.



***Principal Valuation Results (continued)***

**II. Assuming prefunding of obligations**

	(1) Gross Results for Health (\$ millions)	(2) Life Insurance (\$ millions)	Total = (1) + (2) (\$ millions)	Medicare Prescription Drug Savings (\$ millions)	FASB Comparable Accounting (\$ millions)
<b>Present Value of Projected Benefits</b>					
Active	\$5,642.2	\$26.2	\$5,668.4	\$487.5	\$5,180.9
Inactive <sup>1</sup>	\$309.1	\$1.2	\$310.3	\$18.1	\$292.2
Retirees	\$3,829.6	\$77.1	\$3,906.7	\$335.4	\$3,571.1
Total	\$9,780.9	\$104.5	\$9,885.4	\$841.0	\$9,044.2
<b>Actuarial Accrued Liability</b>					
Active	\$3,327.2	\$17.3	\$3,344.5	\$283.8	\$3,060.7
Inactive <sup>1</sup>	\$309.1	\$1.2	\$310.3	\$18.1	\$292.2
Retirees	\$3,829.6	\$77.1	\$3,906.7	\$335.6	\$3,571.1
Total	\$7,465.9	\$95.6	\$7,561.5	\$637.5	\$6,924.0
<b>Assets</b>	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<b>Unfunded Actuarial Accrued Liability</b>	\$7,465.9	\$95.6	\$7,561.5	\$637.5	\$6,924.0
<b>Normal Cost at beginning of year</b>	\$247.0	\$1.1	\$248.1	\$20.5	\$227.6

<sup>1</sup>Inactives are certain former employees with a minimum amount of years of creditable service who have left contributions in the state retirement system.



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## *Accounting Information*

The effective date for the new GASB OPEB Accounting Standard is the Fiscal Year beginning July 1, 2007. Adoption before the 2008 Fiscal Year is optional. The following shows the Annual Required Contribution (ARC), Annual OPEB Cost (AOC), and projected June 30, 2007 Net OPEB Obligation (NOO), assuming the accounting standard is first adopted for the 2006 Fiscal Year.

### **Annual Required Contribution (ARC)**

The Standard sets the method for determining the Commonwealth's postemployment benefits accrual, the Annual Required Contribution (ARC), to include both the value of benefits earned during the year (Normal Cost) and an amortization of the Unfunded Actuarial Accrued Liability. Accordingly, the following table shows the Commonwealth's 2006/2007 Fiscal Year Annual Required Contribution (ARC) based on a 30-year amortization of the Unfunded Actuarial Accrued Liability as an increasing 4.5% annual amortization.

#### **I. Assuming no prefunding of obligations**

<b>Fiscal Year Ending June 30, 2007</b>	
	<b>(\$ millions)</b>
Normal Cost	\$599.3
Unfunded Actuarial Accrued Liability Amortization	462.8
<b>Annual Required Contribution (ARC)</b>	<b>\$1,062.1</b>

#### **II. Assuming prefunding of obligations**

<b>Fiscal Year Ending June 30, 2007</b>	
	<b>(\$ millions)</b>
Normal Cost	\$268.5
Unfunded Actuarial Accrued Liability Amortization	434.4
<b>Annual Required Contribution (ARC)</b>	<b>\$702.9</b>



## *Accounting Information (continued)*

### Annual OPEB Cost (AOC)

If there is no OPEB obligation on the Commonwealth's financial statements at transition, then the Annual OPEB Cost is equal to the Annual Required Contribution. However, if there is an initial obligation at transition, the Annual OPEB Cost should reflect an adjustment for the transition obligation. Note that the GASB OPEB Statement, in general, directs sponsors to set their Initial OPEB Obligation to zero at transition. However, this may result in inconsistent accounting results. We recommend you discuss this issue with your auditors if an obligation is currently recorded on your financial statements. Note that in FY 2006, or the first year of implementation of GASB 45, there is no adjustment to Annual Required Contribution. As the years go forth, any unpaid cumulative unpaid ARC will result in an adjustment to the Annual Required Contribution.

#### I. Assuming no prefunding of obligations

	(\$ millions)
Annual Required Contribution (ARC)	\$1,062.1
Adjustment to Annual Required Contribution	0
Total Annual OPEB Cost (AOC)	\$1,062.1

#### II. Assuming prefunding of obligations

	(\$ millions)
Annual Required Contribution (ARC)	\$702.9
Adjustment to Annual Required Contribution	0
Total Annual OPEB Cost (AOC)	\$702.9

**Annual OPEB Cost Summary (After adoption, a 3-year display will be shown):**

#### I. Assuming no prefunding of obligations

Fiscal Year Ending	Annual OPEB Cost (\$ millions)	Percentage of Annual OPEB Cost Contributed *	Net OPEB Obligation (\$ millions)
6/30/2007	\$1,062.1	33.34%	\$708.0
* Based on expected benefit payments plus Retiree Drug Subsidy for the applicable fiscal year end.			



## Accounting Information (continued)

### II. Assuming prefunding of obligations

Fiscal Year Ending	Annual OPEB Cost (\$ millions)	Percentage of Annual OPEB Cost Contributed	Net OPEB Obligation (\$ millions)
6/30/2007	\$702.9	100.0%	\$0

### Projected June 30, 2007 Net OPEB Obligation (NOO)

Based on the Annual OPEB Cost developed above, the following is the projected June 30, 2007 Net OPEB Obligation (NOO):

#### I. Assuming no prefunding of obligations

	Total (\$ millions)
July 1, 2006 Net OPEB Obligation (NOO)* (Initial)	\$0
Plus: Annual OPEB Cost (AOC)	\$1,062.1
Less: Schedule of contributions from the employer and other contributing entities	\$354.1
Equals: Expected June 30, 2007 Net OPEB Obligation (NOO) <sup>+</sup>	\$708.0
* Assumes July 1, 2006 Net OPEB Obligation is \$0.	
+ Actual reserves would use actual 2006 FY benefit payments.	

#### II. Assuming prefunding of obligations

	Total (\$ Millions)
July 1, 2006 Net OPEB Obligation (NOO)* (Initial)	\$0
Plus: Annual OPEB Cost (AOC)	\$702.9
Less: Schedule of contributions from the employer and other contributing entities	\$702.9
Equals: Expected June 30, 2007 Net OPEB Obligation (NOO) <sup>+</sup>	\$0
* Assumes July 1, 2006 Net OPEB Obligation is \$0.	
+ Actual reserves would use actual 2006 FY contributions.	



## Accounting Information (continued)

### Required Supplementary Information

Below is the projected schedule of funding progress:

#### I. Assuming no prefunding of obligations

Valuation Date	Actuarial Value of Assets (\$ millions) (a)	Actuarial Accrued Liability – Projected Unit Credit (\$ millions) (b)	Unfunded Actuarial Accrued Liability (\$ millions) (b) – (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	Unfunded Actuarial Accrued Liability as a Percentage of Covered Payroll (b) – (a) / (c)
1/1/2006	\$0	\$13,287.0	\$13,287.0	0%	Not Available*	Not Available*

#### II. Assuming prefunding of obligations

Valuation Date	Actuarial Value of Assets (\$ millions) (a)	Actuarial Accrued Liability – Projected Unit Credit (\$ millions) (b)	Unfunded Actuarial Accrued Liability (\$ millions) (b) – (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	Unfunded Actuarial Accrued Liability as a Percentage of Covered Payroll (b) – (a) / (c)
1/1/2006	\$0	\$7,561.5	\$7,561.5	0%	Not Available*	Not Available*

\* Required disclosure at adoption of standard. Covered payroll not collected from the Commonwealth for this initial analysis.





## *10-Year Payout Projection*

Annual payments expected based on assumptions and contributions detailed in the Methods and Assumptions Section.

### **I. Including Gross Medical Claims**

<b>Year Ending</b>	<b>Health (\$ millions)</b>	<b>Life Insurance (\$ millions)</b>	<b>Total (\$ millions)</b>
12/31/2006	328.3	7.2	335.5
12/31/2007	365.0	7.3	372.3
12/31/2008	402.4	7.5	409.9
12/31/2009	444.6	7.6	452.2
12/31/2010	491.4	7.8	499.2
12/31/2011	541.1	7.9	549.0
12/31/2012	586.4	8.0	594.4
12/31/2013	637.1	8.1	645.2
12/31/2014	690.6	8.2	698.8
12/31/2015	743.9	8.3	752.2

### **II. Net of Retiree Drug Subsidy**

<b>Year Ending</b>	<b>Health (\$ millions)</b>	<b>Life Insurance (\$ millions)</b>	<b>Total (\$ millions)</b>
12/31/2006	309.7	7.2	316.9
12/31/2007	344.1	7.3	351.4
12/31/2008	378.9	7.5	386.4
12/31/2009	418.2	7.6	425.8
12/31/2010	462.0	7.8	469.8
12/31/2011	508.3	7.9	516.2
12/31/2012	549.6	8.0	557.6
12/31/2013	596.0	8.1	604.1
12/31/2014	645.1	8.2	653.3
12/31/2015	693.6	8.3	701.9



## ***10-Year Projection of Annual OPEB Cost (AOC)***

Projections assume a closed group population (i.e., no new hires). We also assume that prefunding assets grow at an 8.25% annual rate of investment return.

### **I. Assuming No Prefunding of Obligations**

<b>Fiscal Year Ending</b>	<b>ARC (\$ millions)</b>	<b>Adjustment to ARC* (\$ millions)</b>	<b>Total AOC (\$ millions)</b>	<b>Contributions (\$ millions)</b>	<b>Net OPEB Obligation at end of FY (\$ millions)</b>
6/30/07	\$1,062.1	\$0	\$1,062.1	\$354.1	\$708.0
6/30/08	\$1,195.8	\$7.2	\$1,203.0	\$393.2	\$1,517.8
6/30/09	\$1,341.8	\$14.6	\$1,356.4	\$433.5	\$2,440.7
6/30/10	\$1,500.9	\$22.0	\$1,522.9	\$478.7	\$3,484.9
6/30/11	\$1,673.4	\$29.4	\$1,702.8	\$528.6	\$4,659.1
6/30/12	\$1,859.8	\$36.7	\$1,896.5	\$581.7	\$5,973.9
6/30/13	\$2,060.6	\$43.6	\$2,104.2	\$631.2	\$7,446.9
6/30/14	\$2,277.0	\$49.9	\$2,326.9	\$686.3	\$9,087.5
6/30/15	\$2,509.1	\$55.5	\$2,564.6	\$744.4	\$10,907.7
6/30/16	\$2,757.7	\$60.0	\$2,817.7	\$802.6	\$12,922.8

### **II. Assuming Prefunding of Obligations**

<b>Fiscal Year Ending</b>	<b>ARC (\$ millions)</b>	<b>Adjustment to ARC* (\$ millions)</b>	<b>Total AOC (\$ millions)</b>	<b>Contributions (\$ millions)</b>	<b>Net OPEB Obligation at end of FY (\$ millions)</b>
6/30/07	\$702.9	\$0	\$702.9	\$702.9	\$0
6/30/08	\$750.7	\$0	\$750.7	\$750.7	\$0
6/30/09	\$800.8	\$0	\$800.8	\$800.8	\$0
6/30/10	\$853.1	\$0	\$853.1	\$853.1	\$0
6/30/11	\$907.6	\$0	\$907.6	\$907.6	\$0
6/30/12	\$964.0	\$0	\$964.0	\$964.0	\$0
6/30/13	\$1,022.2	\$0	\$1,022.2	\$1,022.2	\$0
6/30/14	\$1,081.9	\$0	\$1,081.9	\$1,081.9	\$0
6/30/15	\$1,142.9	\$0	\$1,142.9	\$1,142.9	\$0
6/30/16	\$1,204.8	\$0	\$1,204.8	\$1,204.8	\$0

\* Including interest on Net OPEB Obligation



## *Sensitivity Analysis*

### **A. Impact of 1% Change to Health Trend Rates**

#### **I. Assuming No Prefunding of Obligations**

	4.5% Discount Rate (\$ millions)	Impact of 1.0% Health Trend Rate	
		Plus 1.0% (\$ millions)	Minus 1.0% (\$ millions)
Present Value of Projected Benefits	\$19,574.3	\$24,258.5	\$16,080.0
<b>Funded Status:</b>			
Actuarial Accrued Liability	\$13,287.0	\$15,884.1	\$11,281.9
Assets	\$0	\$0	\$0
Unfunded Actuarial Accrued Liability	\$13,287.0	\$15,884.1	\$11,281.9
<b>Annual Required Contribution (ARC):</b>			
Normal Cost	\$599.3	\$768.4	\$475.1
Unfunded Accrued Liability Amortization	\$462.8	\$553.3	\$393.0
Annual Required Contribution (ARC)	\$1,062.1	\$1,321.7	\$868.1

#### **II. Assuming Prefunding of Obligations**

	8.25% Discount Rate (\$ millions)	Impact of 1.0% Health Trend Rate	
		Plus 1.0% (\$ millions)	Minus 1.0% (\$ millions)
Present Value of Projected Benefits	\$9,885.5	\$11,559.9	\$8,562.4
<b>Funded Status:</b>			
Actuarial Accrued Liability	\$7,561.5	\$8,622.6	\$6,699.5
Assets	\$0	\$0	\$0
Unfunded Actuarial Accrued Liability	\$7,561.5	\$8,622.6	\$6,699.5
<b>Annual Required Contribution (ARC):</b>			
Normal Cost	\$268.5	\$326.7	\$223.5
Unfunded Accrued Liability Amortization	\$434.4	\$495.4	\$384.9
Annual Required Contribution (ARC)	\$702.9	\$822.1	\$608.4



**B. Impact of Change in Retiree Contributions to 25%**

**I. Assuming No Prefunding of Obligations**

	(1) Health and Life Insurance (\$ millions)	(2) Revised for Contribution Change <sup>1</sup> (\$ millions)	(3) Savings = (1) - (2) (\$ millions)
<b>Present Value of Projected Benefits</b>			
Active	\$13,249	\$11,690	\$1,559
Inactive <sup>2</sup>	\$607	\$536	\$71
Retirees	\$5,718	\$5,045	\$673
<b>Total</b>	<b>\$19,574</b>	<b>\$17,271</b>	<b>\$2,303</b>
<b>Actuarial Accrued Liability</b>			
Active	\$6,962	\$6,143	\$819
Inactive <sup>2</sup>	\$607	\$536	\$71
Retirees	\$5,718	\$5,045	\$673
<b>Total</b>	<b>\$13,287</b>	<b>\$11,724</b>	<b>\$1,563</b>
<b>Assets</b>	\$0	\$0	\$0
<b>Unfunded Actuarial Accrued Liability</b>	\$13,287	\$11,724	\$1,563
<b>Normal Cost at beginning of year</b>	\$573	\$506	\$67
<b>Annual Required Contribution</b>			
Normal Cost at end of year	\$599	\$529	\$70
Amortization	\$463	\$409	\$54
<b>Total</b>	<b>\$1,062</b>	<b>\$938</b>	<b>\$124</b>

**II. Assuming Prefunding of Obligations**

	(1) Health and Life Insurance (\$ millions)	(2) Revised for Contribution Change <sup>1</sup> (\$ millions)	(3) Savings = (1) - (2) (\$ millions)
<b>Present Value of Projected Benefits</b>			
Active	\$5,668	\$5,001	\$667
Inactive <sup>2</sup>	\$310	\$274	\$36
Retirees	\$3,907	\$3,447	\$460
<b>Total</b>	<b>\$9,885</b>	<b>\$8,722</b>	<b>\$1,163</b>
<b>Actuarial Accrued Liability</b>			
Active	\$3,344	\$2,951	\$393
Inactive <sup>2</sup>	\$310	\$274	\$36
Retirees	\$3,907	\$3,447	\$460
<b>Total</b>	<b>\$7,561</b>	<b>\$6,672</b>	<b>\$889</b>
<b>Assets</b>	\$0	\$0	\$0
<b>Unfunded Actuarial Accrued Liability</b>	\$7,561	\$6,671	\$890
<b>Normal Cost at beginning of year</b>	\$248	\$219	\$29
<b>Annual Required Contribution</b>			
Normal Cost at end of year	\$268	\$236	\$32
Amortization	\$434	\$383	\$51
<b>Total</b>	<b>\$702</b>	<b>\$619</b>	<b>\$83</b>

<sup>1</sup> Results obtained by applying ratios to results shown in Column (1), and as such, should be considered rough estimates.

<sup>2</sup> Inactives are certain former employees with a minimum amount of years of creditable service who have left contributions in the state retirement system.



## Demographic Information

The following table summarizes active, inactive participants and retiree demographic information.

	Participants	Spouses	Total
<b>Actives</b>	71,940	N/A	71,940
<b>Inactive participants<sup>1</sup></b>	2,672	N/A	2,672
<b>Retirees</b>	40,200	18,209	58,409
<b>Survivors</b>	N/A	7,708	7,708
	<b>114,812</b>	<b>25,917</b>	<b>140,729</b>

<sup>1</sup>Inactives are certain former employees with a minimum amount of years of creditable service who have left contributions in the state retirement system.

Active: Counts by Job Group					
Sex	1	2	3	4	Total
Female	30,449	5,228	149	758	36,584
Male	24,957	4,063	1,789	4,547	35,356
<b>Total</b>	<b>55,406</b>	<b>9,291</b>	<b>1,938</b>	<b>5,305</b>	<b>71,940</b>

Active: Average Age by Job Group					
Sex	1	2	3	4	Total
Female	46.05	45.76	42.30	38.65	45.84
Male	47.43	44.98	43.51	40.60	46.07
<b>Total</b>	<b>46.67</b>	<b>45.42</b>	<b>43.42</b>	<b>40.32</b>	<b>45.96</b>

Active: Average Service by Job Group					
Sex	1	2	3	4	Total
Female	12.15	13.05	16.42	8.81	12.23
Male	13.37	13.20	16.89	11.59	13.30
<b>Total</b>	<b>12.70</b>	<b>13.11</b>	<b>16.85</b>	<b>11.19</b>	<b>12.75</b>



*Demographic Information (continued)*

**Active: Age-Service Scatter**

Age	Service							Total
	0: 4	5: 9	10:14	15:19	20:24	25:29	30+	
15:19	22	0	0	0	0	0	0	22
20:24	1,464	27	0	0	0	0	0	1,491
25:29	3,810	963	13	0	0	0	0	4,786
30:34	3,011	2,628	544	37	0	0	0	6,220
35:39	2,538	2,909	1,847	1,052	133	0	0	8,479
40:44	2,049	2,509	1,588	2,160	1,469	183	0	9,958
45:49	1,917	2,221	1,430	2,030	2,338	1,460	95	11,491
50:54	1,640	2,052	1,325	1,740	2,022	2,155	997	11,931
55:59	1,155	1,673	1,079	1,444	1,694	1,622	1,796	10,463
60:64	468	855	602	836	800	685	779	5,025
65:69	105	277	188	194	186	166	360	1,476
70+	23	67	79	75	75	92	187	598
<b>Total</b>	<b>18,202</b>	<b>16,181</b>	<b>8,695</b>	<b>9,568</b>	<b>8,717</b>	<b>6,363</b>	<b>4,214</b>	<b>71,940</b>



*Demographic Information (continued)*

<b>Inactive and Retiree: Participant Counts</b>			
<b>Sex</b>	<b>Inactive</b>	<b>Retirees</b>	<b>Total</b>
Female	1,703	19,761	21,464
Male	969	20,439	21,408
<b>Total</b>	<b>2,672</b>	<b>40,200</b>	<b>42,872</b>

<b>Inactive and Retiree: Participant Average Age</b>			
<b>Sex</b>	<b>Inactive</b>	<b>Retirees</b>	<b>Total</b>
Female	48.75	72.22	70.36
Male	48.39	70.24	69.25
<b>Total</b>	<b>48.62</b>	<b>71.21</b>	<b>69.80</b>

<b>Spouses: Participant Counts</b>		
<b>Sex</b>	<b>Spouses of Retirees</b>	<b>Survivors</b>
Female	13,311	6,974
Male	4,898	734
<b>Total</b>	<b>18,209</b>	<b>7,708</b>

<b>Spouses: Participant Average Age</b>		
<b>Sex</b>	<b>Spouses of Retirees</b>	<b>Survivors</b>
Female	65.82	77.36
Male	69.68	75.88
<b>Total</b>	<b>66.86</b>	<b>77.22</b>



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## *Summary of Principal Plan Provisions*

### **PARTICIPATION**

Participation in the health and life insurance programs administered by the GIC is voluntary, but requires membership in the State Retirement System. Participation in the State Retirement System is mandatory for all full-time employees. Eligibility with respect to part-time, provisional, temporary, seasonal or intermittent employment is governed by regulations promulgated by the retirement board, and approved by PERAC. Membership is optional for certain elected officials.

Differences in participation between the State Retirement System and the GIC are:

- Certain employees and retirees, who are eligible for GIC benefits, are covered by separate retirement boards and thus do not participate in the State Retirement System.
- Certain authorities, and other entities, participate in the State Retirement System, but are billed in full for their GIC benefits.

There are 4 classes of membership in the State Retirement System:

**Group 1:**

General employees, including clerical, administrative, technical and all other employees not otherwise classified.

**Group 2:**

Certain specified hazardous duty positions.

**Group 3:**

State police officers and inspectors.

**Group 4:**

Corrections officers, and other specified hazardous positions.





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## *Summary of Principal Plan Provisions (continued)*

### **RETIREMENT AGE CONSTRAINTS**

In 2 of the 4 groups (Groups 2 and 4) there is a small subset of positions that have a mandatory retirement age of age 65. There is no subset with mandatory retirement age for employees in Groups 1 and 3. The actuarial assumptions used for this valuation were developed taking into account the small portion of the population subject to mandatory retirement provisions.

### **SUPERANNUATION RETIREMENT**

#### Eligibility

A member is eligible for superannuation retirement (service retirement) upon meeting the following conditions:

- Completion of 20 years of service, or
- Attainment of age 55 if hired prior to 1978, or if classified in Group 3 or Group 4, or
- Attainment of age 55 with 10 years of service, if hired after 1978, and if classified in Group 1 or 2

#### Health and Basic Life Insurance Benefits

Retirees can achieve Medicare status by virtue of achieving age 65 with 40 quarters of Social Security service, by being approved for a disability, or being in a disease state that qualifies one for Medicare. The GIC provides health coverage to 1,945 retired employees who are age 65 or older who are not Medicare eligible because the Commonwealth's retirement pension system does not participate with the Social Security Administration's pension system. The retired employees are enrolled in the same health plans available to active employees under age 65. However, these employees may be covered by Medicare through a spouse's eligibility.

Both Medicare and Non-Medicare retirees, who retired on or before July 1, 1994, contribute 10% of the cost of the plan, as determined by the GIC. Those who retired after July 1, 1994 contribute 15% of the cost of the plan as determined by the GIC. Certain supplemental benefits are fully paid for by the participant.

Upon the retirees' death, all survivors, regardless of their deceased spouse's retirement date, contribute 10% of the cost of their health coverage. Survivor health



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## *Summary of Principal Plan Provisions (continued)*

coverage continues until the survivor remarries or dies. Survivors are not eligible for life insurance benefits.

For Non-Medicare retirees, the total cost of the plan, for each option, is a blend of active and retiree claims and non-claims costs. Retiree contributions to these plans, at 10% or 15% of plan cost, depending on the date of retirement, are favorably influenced by this blending. The blending of active and retired experience results in an implicit rate subsidy, and results in these retirees paying less than 10% or 15% of their cohort's expected cost. As shown below, Aon has valued the age appropriate claims costs, and the dollar amount of retiree contributions, to effectively capture the resulting costs and liabilities to the Commonwealth.

### **TERMINATION WITH 10 OR MORE YEARS OF SERVICE (CONTINGENT STATUS)**

#### Eligibility

A participant who has completed 10 or more years of creditable service may be eligible for benefits on a contingent basis. Elected officials and others who were hired prior to 1978 may be eligible after 6 years in accordance with G.L. c. 32, s. 10.

If a participant does not withdraw their member pension contributions for retirement benefits upon termination of employment, the participant continues with their ability to receive retirement coverage through the GIC. If the participant withdraws their retirement contributions, their subsidized benefit eligibility ends.

#### Health and Basic Life Insurance Benefits

During the time period between termination of employment and retirement, the participant may continue coverage by paying 100% of the cost of coverage. Upon retirement, the participant may elect coverage. The participant contributes 10% or 15% of the cost of coverage, depending on whether retirement was before or after July 1, 1994.

If the participant has not yet retired, and dies, the survivor may apply for health coverage (if the participant had health and life coverage or life only coverage through the GIC, i.e. was paying 100% of the cost). The survivor would contribute at the 10% rate. If the participant has retired, and then dies, the survivor may elect to continue health coverage, and contribute at the 10% rate. Survivor health coverage continues until the survivor remarries or dies.



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## *Summary of Principal Plan Provisions (continued)*

### **TERMINATION OF EMPLOYMENT WITH LESS THAN TEN YEARS OF SERVICE**

No subsidized GIC health or life benefits available. Therefore, no liability will be valued upon this event.

### **DISABILITY RETIREMENT**

#### Eligibility

- Ordinary Disability: Non-veterans who become totally and permanently disabled by reason of a non-job related condition with at least 10 years of creditable service (or 15 years creditable service in systems in which the local option contained in G.L. c. 32, s.6(l) has not been adopted).

Veterans with ten years of creditable service who become totally and permanently disabled by reason of a non-job related condition prior to reaching "maximum age".

- Accidental Disability: Applies to members who become permanently and totally unable to perform the essential duties of the position as a result of a personal injury sustained or hazard undergone while in the performance of duties. There are no minimum age or service requirements.

#### Health and Basic Life Insurance Benefits

If the retiree receives an ordinary or accidental disability pension, health and basic life insurance coverage will continue, and participants will contribute either 10% or 15% of the cost of coverage (subject to the statement below regarding life insurance coverage), depending on whether the disability occurred before or after July 1, 1994.

If under age 60 at disability, basic life insurance coverage will continue, and the participant can apply for a waiver of premium within 24 months of the disability.



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## *Summary of Principal Plan Provisions (continued)*

### **DEATH IN ACTIVE SERVICE**

#### Eligibility

Survivors of active employees who had GIC health coverage are eligible to continue health coverage.

#### Health and Basic Life Insurance Benefits

Health coverage is provided, and survivors contribute at the 10% rate. Survivor health coverage continues until the survivor remarries or dies. Survivors are not eligible for Basic Life Insurance.



*Summary of Principal Plan Provisions (continued)*

Summary of Plan Designs  
Medical (Medicare)

	Commonwealth Indemnity Medicare Extension Plan	Fallon Senior Plan	Harvard Pilgrim Health Care First Seniority	Health New England Medrate	Tufts Health Plan Medicare Complement	Tufts Health Plan Secure Horizons
Deductible						
Single	n/a	n/a	n/a	n/a	n/a	n/a
Family	n/a	n/a	n/a	n/a	n/a	n/a
OOP Max						
Single	n/a	n/a	n/a	n/a	n/a	n/a
Family	n/a	n/a	n/a	n/a	n/a	n/a
Lifetime Max	n/a	n/a	n/a	n/a	n/a	n/a
Physicians						
Primary Care OV	\$35 ded/yr	\$10 copay	\$10 copay	\$10 copay	\$10 copay	\$10 copay
Preventive Care	\$5 copay	\$10 copay	\$10 copay	\$10 copay	\$10 copay	\$10 copay
Hospitalization	\$50 ded/qtr	100%	100%	100%	100%	100%
Surgery	100%	100%	100%	100%	100%	100%
Diagnostic / X-Ray	100%	100%	100%	100%	100%	100%
Hospice	\$35 ded/yr	100%	100%	100%	100%	100%
ER	\$25 copay	\$50 copay	\$50 copay	\$50 copay	\$50 copay	\$50 copay
Outpatient MH	UBH	\$10 copay	\$5 copay	\$10 copay	\$10 copay	\$10 copay
Outpatient SA	UBH	\$10 copay	Visit 1-8 \$5; Visit 9-20 \$25; Visit 21+ 50%	\$10 copay	\$10 copay	\$10 copay

Definitions:

OOP = "Out of Pocket" Expenses

OV = Office Visit

MH = Mental Health

SA = Substance Abuse

UBH = United Behavioral Health

OON = Out of Network



## Summary of Principal Plan Provisions (continued)

Summary of Plan Designs  
Medical (Non-Medicare)

	Commonwealth Indemnity Plan with CIC	Commonwealth Indemnity Plan Plus		Commonwealth Indemnity Community Choice Plan		Harvard Pilgrim Plan		Navigator PPO by Tufts Health Plan		Fallon Community Health Plan Direct Care	Fallon Community Health Plan Select Care	Health New England	Neighborhood Health Plan
		In-Network	OON	In-Network	OON	In-Network	OON	In-Network	OON				
<b>Deductible</b>													
Single	\$75	\$0	\$100	\$0	\$0	\$0	\$150	\$0	\$150	\$0	\$0	\$0	\$0
Family	\$150	\$0	\$200	\$0	\$0	\$0	\$300	\$0	\$300	\$0	\$0	\$0	\$0
<b>OOP Max</b>													
Single	n/a	n/a	n/a	n/a	n/a	n/a	\$3,000	n/a	\$3,000	n/a	n/a	n/a	n/a
Family	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
<b>Lifetime Max</b>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
<b>Physicians</b>													
Primary Care OV	\$10 copay	\$15 copay	80% after \$15 copay	\$10 copay	\$10 copay	\$15 copay	80%	\$15 copay	80%	\$10 copay	\$15 copay	\$15 copay	\$15 copay
Specialist OV	\$10 copay	\$15 copay	80% after \$15 copay	\$10 copay	\$10 copay	\$15 copay	80%	\$15 copay	80%	\$15 copay	\$20 copay	\$15 copay	\$15 copay
Hospice	100%	100%	100%	100%	100%	100%	80%	100%	80%	100%	100%	100%	100%
Inpatient Care	\$150 ded/qtr	\$200/\$400 ded/qtr	\$400 ded/qtr	\$200 ded/qtr	\$750 ded/qtr	\$400 copay**	80%	\$150/\$300/\$500**	80%	\$200 copay***	\$250 copay***	\$200/\$400 copay***	\$200 copay***
Outpatient Surgery	100%	\$75 ded/qtr	\$75 ded/qtr	\$75 ded/qtr	\$250 copay	\$75 copay***	80%	\$75 copay***	80%	\$50 copay***	\$75 copay***	\$75 copay***	\$75 copay***
Diagnostic / X-Ray	100%	100%	80%	100%	\$50 copay	100%	80%	100%	80%	100%	100%	100%/\$100	100%
ER	\$50 copay	\$50 copay	\$50 copay	\$50 copay	\$100 copay	\$50 copay	\$50 copay	\$50 copay	\$50 copay	\$75 copay	\$75 copay	\$50 copay	\$50 copay
Inpatient MH/SA	UBH	UBH	UBH	UBH	UBH	\$200 copay**	80% after \$150 copay	UBH	UBH	100%	100%	100%	100%
Outpatient MH/SA	UBH	UBH	UBH	UBH	UBH	V1-4 100%; V5+ \$15Ind \$10grp	V1-15 80%; V16+ 50%	UBH	UBH	\$10 copay	\$15 copay	\$15 copay	\$15 copay
Preventive	\$10 copay	\$15 copay	80% after \$15 copay	\$10 copay	\$10 copay	\$15 copay	80%	\$15 copay	80%	\$10 / \$0 copay*	\$15 / \$5 copay*	\$15 copay	\$15 copay
Immunizations	\$10 copay	\$15 copay	80% after \$15 copay	\$10 copay	\$10 copay	\$15 copay	80%	\$15 copay	80%	\$10 / \$0 copay*	\$15 / \$5 copay*	\$15 copay	\$15 copay

\* Adult / Child  
\*\* Max of 1 per quarter  
\*\*\* max of 4 per year

Definitions:  
OOP = "Out of Pocket" Expenses  
OV = Office Visit  
MH = Mental Health

SA = Substance Abuse  
UBH = United Behavioral Health  
OON = Out of Network



*Summary of Principal Plan Provisions (continued)*

Summary of Plan Designs  
 United Behavioral Health Mental Health/Substance Abuse Plan

	United Behavioral Health	
	In Network	Out of Network
Annual Mental Health Deductible	\$0	\$100, \$150, \$75 *\$150/\$300, \$100, \$75
Inpatient	100% less deductible	80% less deductible
Inpatient Deductible	\$150, \$200 qtr*	\$150 per admission
Intermediate Care	100%	80%
Outpatient Care	V1-4 100%; V5+ \$15	V1-15 80%; V16+ 50%
In-Home	100%	V1-15 80%; V16+ 50%

\* Depending on which plan is chosen



## Summary of Principal Plan Provisions (continued)

### Summary of Plan Designs Prescription Drugs (Medicare and Non-Medicare)

	Medicare					
	Commonwealth Indemnity Medicare Extension Plan	Fallon Senior Plan	Harvard Pilgrim Health Care First Seniority	Health New England Medrate	Tufts Health Plan Medicare Complement	Tufts Health Plan Secure Horizons
Annual OOP Max						
Generic						
Retail <30	\$ 7	\$ 8	\$ 10	\$ 10	\$ 8	\$ 10
Mail <90	\$ 14	\$ 16	\$ 20	\$ 20	\$ 16	\$ 20
Formulary						
Retail <30	\$ 20	\$ 15	\$ 20	\$ 20	\$ 20	\$ 20
Mail <90	\$ 40	\$ 30	\$ 40	\$ 40	\$ 40	\$ 40
Non-Formulary						
Retail <30	\$ 40	\$ 35	\$ 35	\$ 40	\$ 35	\$ 40
Mail <90	\$ 70	\$105	\$105	\$120	\$ 70	\$ 80

	Non-Medicare								
	Commonwealth Indemnity Plan with CIC	Commonwealth Indemnity Plan Plus	Commonwealth Indemnity Community Choice Plan	Harvard Pilgrim Plan	Navigator PPO by Tufts Health Plan	Fallon Community Health Plan Direct Care	Fallon Community Health Plan Select Care	Health New England	Neighborhood Health Plan
	In-Network	In-Network	In-Network	In-Network	In-Network		In-Network	In-Network	In-Network
Annual OOP Max									
Generic									
Retail <30	\$ 7	\$ 7	\$ 7	\$ 10	\$ 10	\$ 5	\$ 5	\$ 10	\$ 10
Mail <90	\$ 14	\$ 14	\$ 14	\$ 20	\$ 20	\$ 10	\$ 10	\$ 20	\$ 20
Formulary									
Retail <30	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20
Mail <90	\$ 40	\$ 40	\$ 40	\$ 40	\$ 40	\$ 40	\$ 40	\$ 40	\$ 40
Non-Formulary									
Retail <30	\$ 40	\$ 40	\$ 40	\$ 40	\$ 35	\$ 60	\$ 60	\$ 40	\$ 40
Mail <90	\$ 70	\$ 70	\$ 70	\$ 80	\$ 70	\$180	\$180	\$120	\$120

Definitions:  
 OOP = "Out of Pocket" Expenses  
 OV = Office Visit  
 MH = Mental Health

SA = Substance Abuse  
 UBH = United Behavioral Health  
 OON = Out of Network





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## *Summary of Principal Plan Provisions (continued)*

### *Summary of Plan Designs*

#### **Dental/Vision Care**

Upon retirement these benefits are available to participants, but the cost of these benefits are paid in full by the participants. These benefits are not included in the valuation results presented herein.

#### **Basic Life Insurance**

Retirees are eligible for \$5,000 Basic Life Insurance. The plan provides for a \$5,000 payment upon the death of the participant. Surviving spouses are not eligible for Basic Life Insurance.



## *Methods and Assumptions*

**Actuarial Method**

Projected Unit Credit Cost Method

**Normal Cost**

Determined for each active employee as the Actuarial Present Value of benefits allocated to the valuation year. The benefit attributed to the valuation year is that incremental portion of the total projected benefit earned during the year in accordance with the plan's benefit formula. This allocation is based on each individual's service between date of hire and expected retirement date.

**Accumulated Post-Retirement Benefit Obligation**

The Actuarial Present Value of Benefits allocated to all periods prior to the valuation year.

**Discount Rate**

As of January 1, 2006 - 4.50% (assuming no prefunding)  
 - 8.25% (assuming prefunding)

**Medical Trend**

Medicare Medical assumed to increase with Medical Trend

Annual Rate of Increase			
To Calendar Year	Indemnity %	PPO & POS %	HMO %
2007	10.5%	10.5%	10.5%
2008	10.0%	10.0%	10.0%
2009	9.5%	9.5%	9.5%
2010	9.0%	9.0%	9.0%
2011	8.5%	8.5%	8.5%
2012	8.0%	8.0%	8.0%
2013	7.5%	7.5%	7.5%
2014	7.0%	7.0%	7.0%
2015	6.5%	6.5%	6.5%
2016	6.0%	6.0%	6.0%
2017	5.5%	5.5%	5.5%
2018 and Later	5.0%	5.0%	5.0%



*Methods and Assumptions (continued)*

**Prescription Drug  
Trend**

Medicare Prescription  
Drug Subsidy assumed  
to increase with  
Prescription Drug Trend

Annual Rate of Increase	
To Calendar Year	%
2007	10.5%
2008	10.0%
2009	9.5%
2010	9.0%
2011	8.5%
2012	8.0%
2013	7.5%
2014	7.0%
2015	6.5%
2016	6.0%
2017	5.5%
2018 and Later	5.0%



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## *Methods and Assumptions (continued)*

**Administrative Expenses** Assumed to increase at 5.0% per year

**Morbidity/Aging** Medical and Prescription Drug

The following assumptions are assumed to follow the annual increase due to aging:

- Medical and prescription drug claims costs
- Medical and prescription drug Medicare offsets
- Retiree contributions

Age	Annual Increase %
18 - 49	3.3%
50 - 54	3.3%
55 - 59	3.6%
60 - 64	4.2%
65 - 69	3.0%
70 - 74	2.5%
75 - 79	2.0%
80 - 84	1.0%
85 - 89	0.5%
90 or Older	0.0%

GASB requires that the costs for retiree benefits be separately identified. Currently, the Commonwealth provides benefits for actives and retirees not eligible for Medicare under one rating structure. As we see in the morbidity table above, retirees utilize benefits at a greater rate than the active population, due to their age. The active employees are "implicitly" subsidizing the retiree cost of the plan of benefits in the GIC rate basis. GASB requires that the Commonwealth utilize actual experience or actuarial adjustments in order to calculate the true cost of retiree benefits in order to calculate the present value of the retiree benefits. The actuarial assessment of the best estimate of retiree cost of benefits is premised on utilizing the morbidity/aging table above and the claims costs by age shown in the tables below.



**Methods and Assumptions (continued)**

Cost assumptions were developed from actual GIC data for retirees. Data for the entirety of the GIC retired population was utilized, analyzed, and projected forward to calendar year 2006. As detailed in Appendix B, the data was aggregated into three categories of like plans (called blends): The Indemnity Plans (including the CIC rider), POS and PPO plans (for non-Medicare retirees), and HMOs.

**Per Member Claim Costs for Calendar Year 2006**

Indemnity / Blend 1								
Age	Total Cost of Healthcare Before Subsidies and Retiree Cost Sharing	Medicare Adjustment	Prescription Drug Subsidy	Total Cost of Healthcare Before Retiree Cost Sharing	Contributions for Retirees who Retired Prior to 7/1/94	Contributions for Spouses of Retirees who Retired Prior to 7/1/94	Contributions for Retirees who Retired After 7/1/94	Contributions for Spouses of Retirees who Retired After 7/1/94
25	\$3,371	\$0	\$0	\$3,371	(\$353)	(\$451)	(\$478)	(\$608)
30	\$3,882	\$0	\$0	\$3,882	(\$415)	(\$530)	(\$562)	(\$715)
35	\$4,484	\$0	\$0	\$4,484	(\$488)	(\$624)	(\$661)	(\$841)
40	\$5,193	\$0	\$0	\$5,193	(\$574)	(\$734)	(\$777)	(\$990)
45	\$6,026	\$0	\$0	\$6,026	(\$676)	(\$863)	(\$914)	(\$1,164)
50	\$7,006	\$0	\$0	\$7,006	(\$795)	(\$1,015)	(\$1,076)	(\$1,369)
55	\$8,159	\$0	\$0	\$8,159	(\$935)	(\$1,194)	(\$1,265)	(\$1,611)
60	\$9,647	\$0	\$0	\$9,647	(\$1,116)	(\$1,425)	(\$1,510)	(\$1,922)
65	\$11,744	(\$8,778)	(\$351)	\$2,615	(\$390)	(\$390)	(\$547)	(\$547)
70	\$13,477	(\$10,126)	(\$405)	\$2,946	(\$450)	(\$450)	(\$631)	(\$631)
75	\$15,115	(\$11,401)	(\$456)	\$3,258	(\$507)	(\$507)	(\$710)	(\$710)
80	\$16,481	(\$12,464)	(\$498)	\$3,519	(\$554)	(\$554)	(\$777)	(\$777)
85	\$17,214	(\$13,035)	(\$521)	\$3,658	(\$580)	(\$580)	(\$812)	(\$812)
90	\$17,552	(\$13,298)	(\$531)	\$3,723	(\$591)	(\$591)	(\$828)	(\$828)



*Methods and Assumptions (continued)*

**Per Member Claim Costs for Calendar Year 2006**

POS/PPO / Blend 2								
Age	Total Cost of Healthcare Before Subsidies and Retiree Cost Sharing	Medicare Adjustment	Prescription Drug Subsidy	Total Cost of Healthcare Before Retiree Cost Sharing	Contributions for Retirees who Retired Prior to 7/1/94	Contributions for Spouses of Retirees who Retired Prior to 7/1/94	Contributions for Retirees who Retired After 7/1/94	Contributions for Spouses of Retirees who Retired After 7/1/94
25	\$2,184	\$0	\$0	\$2,184	(\$175)	(\$242)	(\$263)	(\$363)
30	\$2,516	\$0	\$0	\$2,516	(\$206)	(\$285)	(\$310)	(\$427)
35	\$2,906	\$0	\$0	\$2,906	(\$243)	(\$335)	(\$364)	(\$502)
40	\$3,365	\$0	\$0	\$3,365	(\$286)	(\$394)	(\$428)	(\$591)
45	\$3,905	\$0	\$0	\$3,905	(\$336)	(\$463)	(\$504)	(\$695)
50	\$4,540	\$0	\$0	\$4,540	(\$395)	(\$545)	(\$593)	(\$817)
55	\$5,286	\$0	\$0	\$5,286	(\$465)	(\$641)	(\$697)	(\$961)
60	\$6,251	\$0	\$0	\$6,251	(\$555)	(\$765)	(\$832)	(\$1,147)
65	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
70	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
75	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
80	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
85	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
90	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0



*Methods and Assumptions (continued)*

**Per Member Claim Costs for Calendar Year 2006**

HMO / Blend 3								
Age	Total Cost of Healthcare Before Subsidies and Retiree Cost Sharing	Medicare Adjustment	Prescription Drug Subsidy	Total Cost of Healthcare Before Retiree Cost Sharing	Contributions for Retirees who Retired Prior to 7/1/94	Contributions for Spouses of Retirees who Retired Prior to 7/1/94	Contributions for Retirees who Retired After 7/1/94	Contributions for Spouses of Retirees who Retired After 7/1/94
25	\$1,980	\$0	\$0	\$1,980	(\$143)	(\$206)	(\$214)	(\$310)
30	\$2,287	\$0	\$0	\$2,287	(\$168)	(\$243)	(\$252)	(\$364)
35	\$2,649	\$0	\$0	\$2,649	(\$197)	(\$286)	(\$296)	(\$428)
40	\$3,074	\$0	\$0	\$3,074	(\$232)	(\$336)	(\$348)	(\$504)
45	\$3,574	\$0	\$0	\$3,574	(\$273)	(\$395)	(\$409)	(\$593)
50	\$4,163	\$0	\$0	\$4,163	(\$321)	(\$465)	(\$482)	(\$697)
55	\$4,855	\$0	\$0	\$4,855	(\$378)	(\$547)	(\$566)	(\$820)
60	\$5,748	\$0	\$0	\$5,748	(\$451)	(\$653)	(\$676)	(\$979)
65	\$7,007	(\$4,584)	(\$140)	\$2,283	(\$254)	(\$254)	(\$381)	(\$381)
70	\$8,048	(\$5,288)	(\$162)	\$2,598	(\$293)	(\$293)	(\$440)	(\$440)
75	\$9,031	(\$5,953)	(\$182)	\$2,896	(\$330)	(\$330)	(\$495)	(\$495)
80	\$9,851	(\$6,509)	(\$199)	\$3,143	(\$361)	(\$361)	(\$541)	(\$541)
85	\$10,292	(\$6,807)	(\$208)	\$3,277	(\$377)	(\$377)	(\$566)	(\$566)
90	\$10,495	(\$6,944)	(\$213)	\$3,338	(\$385)	(\$385)	(\$578)	(\$578)



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## *Methods and Assumptions (continued)*

### **Data Assumptions**

*Age Difference/  
% Married*

Males are assumed to be 3 years older than females. 80% married. Married actives are assumed to choose family coverage at retirement.

*Coverage*

We have assumed that:

- 100% of all retirees who currently have healthcare coverage will continue with the same coverage, except that retirees under age 65 with POS/PPO coverage switch to indemnity at age 65.
- All current retirees, other than those indicated on the census data as not being eligible by Medicare, have Medicare coverage upon attainment of age 65, as do their spouses. All future retirees are assumed to have Medicare coverage upon attainment of age 65.
- 80% of current and future contingent eligible participants will elect healthcare benefits at age 55, or current age if later.
- Actives, upon retirement, take coverage, and will be assumed to have the following coverage:

Retirement Age:	<u>Under 65</u>	<u>Age 65 +</u>
Indemnity	50%	95%
POS/PPO	45%	0%
HMO	5%	5%





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## *Methods and Assumptions (continued)*

<b><i>Mortality</i></b>	Annual rates of mortality are shown on the following pages.
<b><i>Retirement Age</i></b>	Retirement rates are shown on the following pages.
<b><i>Turnover</i></b>	Turnover rates are shown on the following pages.
<b><i>Disability</i></b>	Disability rates are shown on the following pages.
<b><i>Valuation Methodology and Terminology</i></b>	We have used GASB accounting methodology to determine the postretirement medical benefit obligations. Actuarial Liabilities are shown without a reduction in liability for the Retiree Drug Subsidy, and with the Commonwealth liability reduced by Retiree Drug Subsidy anticipated payments. As of June 2006, the GASB has adopted the proposed Technical Memorandum on accounting for the Retiree Drug Subsidy. The Technical Memorandum requires that plan sponsors do not reduce their liability to reflect the Retiree Drug Subsidy, but rather that the RDS payment be treated as a third party payment with treatment determined by GASB 33. The effect of this accounting treatment is to have two sources of funding of the expense (Annual Required Contribution), one being the federal government.
<b><i>Amortization Period</i></b>	The amortization cost for the initial Unfunded Actuarial Accrued Liability is a level percentage of payroll for a period of 30 years. This has been calculated assuming the amortization payment increases at a rate of 4.5% per year.
<b><i>Salary Scale</i></b>	Assumed at a rate of 4.5% per year.



***Methods and Assumptions (continued)***

Pre-Retirement Mortality: RP-2000 Employees table projected forward 10 years with Scale AA (gender distinct).

Post-Retirement Mortality: RP-2000 Healthy Annuitant table projected forward 10 years with Scale AA (gender distinct).

Disabled Mortality: RP-2000 (gender distinct) set forward 3 years for males.

The following tables show sample annual rates of mortality at selected ages:

<b>RATES OF MORTALITY – Active Members (Number of Deaths per 10,000 Members)</b>										
	<b>AGE</b>									
	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>69</b>
<i>Active Members</i>										
Male	3	4	7	10	13	18	25	42	66	83
Female	2	2	4	6	10	14	23	37	55	69

<b>RATES OF MORTALITY – Retired Members (Number of Deaths per 10,000 Members)</b>									
	<b>AGE</b>								
	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>80</b>	<b>85</b>	
<i>Healthy Retirees</i>									
Male	45	49	70	117	191	329	582	1,032	
Female	20	33	59	99	159	259	428	729	
<i>Disabled Retirees</i>									
Male	57	69	110	182	304	521	897	1,506	
Female	23	35	62	104	167	281	459	774	



***Methods and Assumptions (continued)***

The following table shows annual rates of retirement at selected ages:

<b>RATES OF RETIREMENT (Number Retiring per 1,000 Members)</b>					
	<b>AGE</b>				
	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>
<i>Job Group 1</i>					
Male	15	40	80	250	1,000
Female	30	50	80	250	1,000
<i>Job Group 2</i>					
Male	20	100	150	200	1,000
Female	20	100	150	200	1,000
<i>Job Group 3</i>					
Male	50	110	100	500	1,000
Female	50	110	100	500	1,000
<i>Job Group 4</i>					
Male	100	300	300	500	1,000
Female	100	300	300	500	1,000



***Methods and Assumptions (continued)***

The following table shows sample annual rates of withdrawal for Job Groups 1 and 2:

RATES OF WITHDRAWAL (Number Of Withdrawals Per 1,000 Members)											
Age	YEARS OF SERVICE										
	0	1	2	3	4	5	6	7	8	9	10+
20	180	180	180	130	130	100	100	80	80	80	45
25	170	170	170	125	125	100	90	80	80	80	45
30	150	140	130	115	120	90	80	80	75	70	41
35	140	110	110	100	100	80	70	70	65	45	36
40	125	105	105	90	85	70	65	62	60	40	31
45	110	90	85	75	70	62	52	50	48	35	26
50	100	75	75	65	60	48	45	40	39	30	21
55	85	75	70	60	60	39	39	39	34	25	24
60	80	75	75	75	75	50	50	50	50	50	50
65+	100	100	75	75	75	50	50	50	50	50	50



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***Methods and Assumptions (continued)***

The following table shows sample annual rates of withdrawal for Job Groups 3 and 4:

<b>RATES OF WITHDRAWAL (Number of Withdrawals per 1,000 Members)</b>					
<b>All Ages</b>	<b>YEARS OF SERVICE</b>				
	<b>1</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20+</b>
<i>Job Group 3</i>					
Unisex	8	8	9	9	9
<i>Job Group 4</i>					
Unisex	42	37	29	22	15



***Methods and Assumptions (continued)***

The following table shows sample annual rates of disability at selected ages:

RATES OF DISABILITY (Number becoming disabled per 10,000 Members)							
	AGE						
	25	30	35	40	45	50	55
<i>Job Group 1</i>							
Unisex	3	3	5	9	13	17	21
<i>Job Group 2</i>							
Unisex	7	8	12	17	21	26	30
<i>Job Group 3</i>							
Unisex	11	16	35	75	116	156	196
<i>Job Group 4</i>							
Unisex	46	50	56	61	66	71	76



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## ***GASB OPEB Summary***

The Government Accounting Standards Board (GASB) has issued Statements No. 43 and 45 for the recognition and disclosure for public entities sponsoring other (than pensions) post-retirement benefit plans.

This Exhibit summarizes pertinent issues from the above statements and includes comments about GASB's OPEB standard.

### **Why Pay-As-You-Go Accounting Will Be Unacceptable**

The GASB believes, like the FASB, that other post-retirement benefits, like pensions, are a form of deferred compensation. Accordingly, GASB is saying these benefits should be recognized (in an organization's financial statement) when earned by employees, rather than when paid out. Under SFAS 106, pay-as-you-go accounting is replaced with accrual accounting for these benefits. *This approach is similar to (although more restrictive than) GASB's approach under Statements No. 43 and 45.*

### **Allocating Costs (Attribution)**

The FASB defines attribution as the process of assigning other post-retirement benefit cost to periods of employee service. SFAS 106 specifies how (the attribution method) and over what accounting periods (the attribution period) the postretirement benefits promise must be allocated.

The attribution (actuarial cost) method specified by SFAS 106 is the "projected unit credit actuarial cost method". This method attributes an equal amount of the total postretirement benefit to each year of service during the "attribution period".

The attribution period is the period over which the total postretirement benefit is earned. Unless the plan states that post-retirement benefits are not earned until a later date, the attribution period is from the employee's hire date until the employee is first eligible for the benefit. *The GASB Statements do not restrict entities to a single attribution method, but instead allows sponsors (and actuaries) to choose from several acceptable methods (similar to GASB 27).* GASB allows six funding methods and also allows attribution to the expected retirement age rather than the earliest eligibility age.



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## ***GASB OPEB Summary (continued)***

### **Defining the Plan**

SFAS 106 refers to the substantive plan as the basis for accounting. The substantive plan may differ from the written plan in that it reflects the employer's cost sharing policy based on past practice or communication of intended changes, or a past practice of cost increases in monetary benefits. Under SFAS 106, the substantive plan is the basis for allowing recognition of potential future changes to the plan. *GASB follows FASB's lead on this issue, requiring entities to recognize the underlying promise, not just the written plan.*

One GASB requirement relates to the implied subsidy when retirees participate in the active healthcare plan, but are charged a rate based on composite active and retiree experience. Under the GASB standard, even if an organization does not otherwise subsidize the benefit, then the organization will have to recognize an OPEB obligation for the implied subsidy.

### **Actuarial Assumptions**

SFAS 106 says actuarial assumptions should be explicit. This means each individual assumption should represent the actuary's best estimate. GASB also, generally, requires explicit assumptions.

GASB requires the discount rate be based on the source of funds used to pay the benefits. This means the underlying expected long-term rate of return on plan assets for funded plans. However, since the source of funds for unfunded plans is usually the organization's general fund, and organizations are usually restricted by State law as to what investments they can have in their general fund, unfunded plans will need to use a relatively low discount rate.

### **Transition Issues**

Because historical annual required contribution information will rarely be available, *GASB is taking a prospective approach on transition issues.* This means there will be no requirement for any initial transition obligation.





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## ***GASB OPEB Summary (continued)***

### **Effective Dates**

The new standard will have staggered effective dates, similar to GASB Statement No. 34, as follows:

	<b>Annual Revenue</b>	<b>Effective for Fiscal Years Beginning After</b>
Phase I	≥ \$100 million	December 15, 2006
Phase II	≥ \$10 million but < \$100 million	December 15, 2007
Phase III	< \$10 million	December 15, 2008



## ***GASB OPEB Summary (continued)***

### **Differences Between SFAS 106 and GASB 43 and 45**

Conceptually, GASB No. 43 and 45 are similar to SFAS 106. They require current recognition of the promise to pay future benefits. However, they differ somewhat in how that recognition should occur. Specifically:

	<b>SFAS 106</b>	<b>GASB 43 and 45</b>
(1) Attribution Method	Mandates use of a particular method, regardless of method used to determine contribution.	Allows sponsor to use same method used to determine contribution, provided it meets certain criteria.
(2) Assumptions (excluding discount rate)	Requires each assumption stand on its own – Explicit assumptions.	Requires each assumption stand on its own and, in addition, meet certain other criteria.
(3) Discount Rate	Long term high quality bond rates (e.g., Moody Aa).	Expected long-term rate of return on source used to pay benefits (e.g. sponsor's general fund).
(4) Benefit Cost	Mandates use of a specific method, regardless of method used to determine contribution.	Provides that if entity always contributes Annual Required Contribution, then benefit cost equals Annual Required Contribution. If entity does not contribute Annual Required Contribution, then benefit cost equals Annual Required Contribution, adjusted for the difference.
(5) Annual Required Contribution	N/A	The Plan's funding contribution, with actuarial assumptions and methods (including amortization periods) restricted as indicated above.
(6) Liability Recognition	The historical difference between actual contributions and benefit costs become an accrued liability (or prepaid asset) on the sponsor's financial statement.	If sponsor consistently contributes the Annual Required Contribution, then no recognition is required. However, if sponsor has not historically contributed the Annual Required Contribution, then difference becomes a Net Obligation on the sponsor's financial statement.



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## *Glossary*

### **Actuarial accrued liability**

That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of pension plan benefits and expenses which is not provided for by future Normal Costs.

### **Actuarial assumptions**

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; changes in compensation and Government provided pension benefits; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; and other relevant items.

### **Actuarial cost method**

A procedure for determining the Actuarial Present Value of pension plan benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Normal Cost and an Actuarial Accrued Liability.

### **Actuarial experience gain or loss**

A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.

### **Actuarial present value of total projected benefits**

Total projected benefits include all benefits estimated to be payable to plan members (retirees and beneficiaries, terminated employees entitled to benefits but not yet receiving them, and current active members) as a result of their service through the valuation date and their expected future service. The actuarial present value of total projected benefits as of the valuation date is the present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment. Expressed another way, it is the amount that would have to be invested on the valuation date so that the amount invested plus investment earnings will provide sufficient assets to pay total projected benefits when due.



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### **Actuarial valuation**

The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a pension plan.

### **Actuarial valuation date**

The date as of which an actuarial valuation is performed.

### **Actuarial value of assets**

The value of cash, investments and other property belonging to a pension plan, as used by the actuary for the purpose of an Actuarial Valuation.

### **Amortization (of unfunded actuarial accrued liability)**

The portion of the pension plan contribution which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability or the Unfunded Frozen Actuarial Accrued Liability.

### **Annual OPEB cost**

An accrual-basis measure of the periodic cost of an employer's participation in a defined benefit OPEB plan.

### **Annual required contributions of the employer (ARC)**

The employer's periodic required contributions to a defined benefit OPEB plan.

### **Covered Group**

Plan members included in an actuarial valuation.

### **Defined benefit OPEB plan**

An OPEB plan having terms that specify the benefits to be provided at or after separation from employment. The benefits may be specified in dollars (for example, a flat dollar payment or an amount based on one or more factors such as age, years of service, and compensation), or as a type or level of coverage (for example, prescription drugs or a percentage of healthcare insurance premiums).



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### **Employer's contributions**

Contributions made in relation to the annual required contributions of the employer (ARC). An employer has made a contribution in relation to the ARC if the employer has (a) made payments of benefits directly to or on behalf of a retiree or beneficiary, (b) made premium payments to an insurer, or (c) irrevocably transferred assets to a trust, or equivalent arrangement, in which plan assets are dedicated to providing benefits to retirees and their beneficiaries in accordance with the terms of the plan and are legally protected from creditors of the employer(s) or plan administrator. Employer's contributions generally *do not equate* to benefits paid.

### **Funded ratio**

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

### **Funding excess**

The excess of the actuarial value of assets over the actuarial accrued liability.

### **Funding policy**

The program for the amounts and timing of contributions to be made by plan members, employer(s), and other contributing entities (for example, state government contributions to a local government plan) to provide the benefits specified by an OPEB plan.

### **Healthcare cost trend rate**

The rate of change in per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.

### **Implicit Rate Subsidy**

The differential between utilizing a blend of active and non-Medicare retiree experience for cost of benefits, and utilizing solely the expected retiree experience. Blending a lower cost active cohort with retirees results in an implicit rate subsidy for the retirees of the entire group.



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## **Inactives**

Certain former employees with a minimum amount of years of creditable service who have left contributions in the state retirement system.

## **Investment return assumption (discount rate)**

The rate used to adjust a series of future payments to reflect the time value of money.

## **Level percentage of projected payroll amortization method**

Amortization payments are calculated so that they are a constant percentage of the projected payroll of active plan members over a given number of years. The dollar amount of the payments generally will increase over time as payroll increases due to inflation; in dollars adjusted for inflation, the payments can be expected to remain level.

## **Market-related value of plan assets**

A term used with reference to the actuarial value of assets. A market related value may be fair value, market value (or estimated market value), or a calculated value that recognizes changes in fair or market value over a period of, for example, three to five years.

## **Net OPEB obligation**

The cumulative difference since the effective date of this Statement between annual OPEB cost and the employer's contributions to the plan, including the OPEB liability (asset) at transition, if any, and excluding (a) short-term differences and (b) unpaid contributions that have been converted to OPEB-related debt.

## **Normal cost**

That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method. In GASB 45, the term refers to employer normal cost.

## **OPEB assets**

The amount recognized by an employer for contributions to an OPEB plan greater than OPEB expense.



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### **OPEB expenditures**

The amount recognized by an employer in each accounting period for contributions to an OPEB plan on the modified accrual basis of accounting.

### **OPEB expense**

The amount recognized by an employer in each accounting period for contributions to an OPEB plan on the accrual basis of accounting.

### **OPEB liabilities**

The amount recognized by an employer for contributions to an OPEB plan less than OPEB expense/expenditures.

### **Other postemployment benefits**

Postemployment benefits other than pension benefits. Other postemployment benefits (OPEB) include postemployment healthcare benefits, regardless of the type of plan that provides them, and all postemployment benefits provided separately from a pension plan, excluding benefits defined as termination offers and benefits.

### **Pay-as-you-go**

A method of financing a pension plan under which the contributions to the plan are generally made at about the same time and in about the same amount as benefit payments and expenses becoming due.

### **Plan assets**

Resources, usually in the form of stocks, bonds, and other classes of investments, that have been segregated and restricted in a trust, or equivalent arrangement, in which (a) employer contributions to the plan are irrevocable, (b) assets are dedicated to providing benefits to retirees and their beneficiaries, (c) assets are legally protected from creditors of the employers or plan administrator, for the payment of benefits in accordance with the terms of the plan.

### **Plan members**

The individuals covered by the terms of an OPEB plan. The plan membership generally includes employees in active service, terminated employees who have accumulated benefits



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but are not yet receiving them, and retired employees and beneficiaries currently receiving benefits.

### **Postemployment**

The period between termination of employment and retirement as well as the period after retirement.

### **Postemployment healthcare benefits**

Medical, dental, vision, and other health-related benefits provided to terminated or retired employees and their dependents and beneficiaries.

### **Postretirement benefit increase**

An increase in the benefits of retirees or beneficiaries granted to compensate for the effects of inflation (cost-of-living adjustment) or for other reasons. Ad hoc increases may be granted periodically by a decision of the board of trustees, legislature, or other authoritative body; both the decision to grant an increase and the amount of the increase are discretionary. Automatic increases are periodic increases specified in the terms of the plan; they are nondiscretionary except to the extent that the plan terms can be changed.

### **Projected unit credit actuarial cost method**

A method under which the benefits (projected or unprojected) of each individual included in an Actuarial Valuation are allocated by a consistent formula to valuation years. The Actuarial Present Value of benefits allocated to a valuation year is called the Normal Cost. The Actuarial Present Value of benefits allocated to all periods prior to a valuation year is called the Actuarial Accrued Liability.

Under this method, the Actuarial Gains (losses), as they occur, generally reduce (increase) the Unfunded Actuarial Accrued Liability.

Under this method, benefits are projected to all future points in time under the terms of the Plan and actuarial assumptions (for example, health trends). Retirees are considered to be fully attributed in their benefits. For actives, attribution is to expected retirement age; thus, benefits at each future point in time are allocated to past service based on a prorate of service-to-date over projected service.





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### **Required supplementary information (RSI)**

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

### **Single-employer plan**

A plan that covers the current and former employees, including beneficiaries, of only one employer.

### **Sponsor**

The entity that established the plan. The sponsor generally is the employer or one of the employers that participate in the plan to provide benefits for their employees. Sometimes, however, the sponsor establishes the plan for the employees of other entities but does not include its own employees and, therefore, is not a participating employer of that plan. An example is a state government that establishes a plan for the employees of local governments within the state, but the employees of the state government are covered by a different plan.

### **Substantive plan**

The terms of an OPEB plan as understood by the employer(s) and plan members.

### **Transition year**

The fiscal year in which this Statement is first implemented.

### **Unfunded actuarial accrued liability (unfunded actuarial liability)**

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets.



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## Appendix A

### *Commonwealth of Massachusetts Health Plan Providers*

The following chart summarizes the various health plan providers (by type, i.e., Indemnity, POS/PPO, and HMO) utilized by the participants included in this valuation.

#### **Indemnity (Blend 1)**

Commonwealth Indemnity Plan

#### **POS/PPO (Blend 2)**

Commonwealth Indemnity Plan PLUS  
Commonwealth Indemnity Plan Community CHOICE  
Commonwealth PPO – Tufts Health Plan Navigator  
Harvard Pilgrim POS

#### **HMO (Blend 3)**

Fallon Senior Plan (MA: Medicare Advantage)  
Harvard Pilgrim Health Care First Seniority (MA)  
Tufts Medicare Preferred (MA)  
Health New England MedRate (RDS: Drug Subsidy)  
Tufts Health Plan Medicare Complement (RDS)  
Fallon Community Health Plan Direct Care (<65)  
Fallon Community Health Plan Select Care (<65)  
Health New England (<65)  
Neighborhood Health Plan (<65)



**Appendix B**

**Detailed Breakdown of Per Member Claim Costs for Calendar Year 2006**

Age	Indemnity / Blend 1									
	(1) Medical Cost	(2) Medicare Adjustment	(3) Prescription Drugs	(4) Prescription Drug Subsidy	(5) Administrative Cost	(6) = (1) +(2) +(3) +(4) +(5) Total Cost of Healthcare Before Subsidies and Employee Cost Sharing	Contributions for Retirees who Retired Prior to 7/1/94	Contributions for Spouses of Retirees who Retired Prior to 7/1/94	Contributions for Retirees who Retired Post to 7/1/94	Contributions for Spouses of Retirees who Retired Post to 7/1/94
25	\$2,420	\$0	\$485	\$0	\$466	\$3,371	(\$353)	(\$451)	(\$478)	(\$608)
30	\$2,846	\$0	\$570	\$0	\$466	\$3,882	(\$415)	(\$530)	(\$562)	(\$715)
35	\$3,348	\$0	\$670	\$0	\$466	\$4,484	(\$488)	(\$624)	(\$661)	(\$841)
40	\$3,938	\$0	\$789	\$0	\$466	\$5,193	(\$574)	(\$734)	(\$777)	(\$990)
45	\$4,632	\$0	\$928	\$0	\$466	\$6,026	(\$676)	(\$863)	(\$914)	(\$1,164)
50	\$5,449	\$0	\$1,091	\$0	\$466	\$7,006	(\$795)	(\$1,015)	(\$1,076)	(\$1,369)
55	\$6,409	\$0	\$1,284	\$0	\$466	\$8,159	(\$935)	(\$1,194)	(\$1,265)	(\$1,611)
60	\$7,649	\$0	\$1,532	\$0	\$466	\$9,647	(\$1,116)	(\$1,425)	(\$1,510)	(\$1,922)
65	\$9,396	(\$8,778)	\$1,882	(\$351)	\$466	\$2,615	(\$390)	(\$390)	(\$547)	(\$547)
70	\$10,840	(\$10,126)	\$2,171	(\$405)	\$466	\$2,946	(\$450)	(\$450)	(\$631)	(\$631)
75	\$12,205	(\$11,401)	\$2,444	(\$456)	\$466	\$3,258	(\$507)	(\$507)	(\$710)	(\$710)
80	\$13,343	(\$12,464)	\$2,672	(\$498)	\$466	\$3,519	(\$554)	(\$554)	(\$777)	(\$777)
85	\$13,954	(\$13,035)	\$2,794	(\$521)	\$466	\$3,658	(\$580)	(\$580)	(\$812)	(\$812)
90	\$14,235	(\$13,298)	\$2,851	(\$531)	\$466	\$3,723	(\$591)	(\$591)	(\$828)	(\$828)



**Appendix B**

**Detailed Breakdown of Per Member Claim Costs for Calendar Year 2006**

POS/PPO / Blend 2										
	(1)	(2)	(3)	(4)	(5)	(6) = (1) +(2) +(3) +(4) +(5)				
Age	Medical Cost	Medicare Adjustment	Prescription Drugs	Prescription Drug Subsidy	Administrative Cost	Total Cost of Healthcare Before Subsidies and Employee Cost Sharing	Contributions for Retirees who Retired Prior to 7/1/94	Contributions for Spouses of Retirees who Retired Prior to 7/1/94	Contributions for Retirees who Retired Post to 7/1/94	Contributions for Spouses of Retirees who Retired Post to 7/1/94
25	\$1,486	\$0	\$396	\$0	\$302	\$2,184	(\$175)	(\$242)	(\$263)	(\$363)
30	\$1,748	\$0	\$466	\$0	\$302	\$2,516	(\$206)	(\$285)	(\$310)	(\$427)
35	\$2,056	\$0	\$548	\$0	\$302	\$2,906	(\$243)	(\$335)	(\$364)	(\$502)
40	\$2,418	\$0	\$645	\$0	\$302	\$3,365	(\$286)	(\$394)	(\$428)	(\$591)
45	\$2,844	\$0	\$759	\$0	\$302	\$3,905	(\$336)	(\$463)	(\$504)	(\$695)
50	\$3,346	\$0	\$892	\$0	\$302	\$4,540	(\$395)	(\$545)	(\$593)	(\$817)
55	\$3,935	\$0	\$1,049	\$0	\$302	\$5,286	(\$465)	(\$641)	(\$697)	(\$961)
60	\$4,697	\$0	\$1,252	\$0	\$302	\$6,251	(\$555)	(\$765)	(\$832)	(\$1,147)
65	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
70	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
75	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
80	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
85	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
90	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0



**Appendix B**

**Detailed Breakdown of Per Member Claim Costs for Calendar Year 2006**

HMO / Blend 3										
Age	(1) Medical Cost	(2) Medicare Adjustment	(3) Prescription Drugs	(4) Prescription Drug Subsidy	(5) Administrative Cost	(6) = (1) +(2) +(3) +(4) +(5) Total Cost of Healthcare Before Subsidies and Employee Cost Sharing	Contributions for Retirees who Retired Prior to 7/1/94	Contributions for Spouses of Retirees who Retired Prior to 7/1/94	Contributions for Retirees who Retired Post to 7/1/94	Contributions for Spouses of Retirees who Retired Post to 7/1/94
25	\$1,431	\$0	\$313	\$0	\$236	\$1,980	(\$143)	(\$206)	(\$214)	(\$310)
30	\$1,683	\$0	\$368	\$0	\$236	\$2,287	(\$168)	(\$243)	(\$252)	(\$364)
35	\$1,980	\$0	\$433	\$0	\$236	\$2,649	(\$197)	(\$286)	(\$296)	(\$428)
40	\$2,329	\$0	\$509	\$0	\$236	\$3,074	(\$232)	(\$336)	(\$348)	(\$504)
45	\$2,739	\$0	\$599	\$0	\$236	\$3,574	(\$273)	(\$395)	(\$409)	(\$593)
50	\$3,222	\$0	\$705	\$0	\$236	\$4,163	(\$321)	(\$465)	(\$482)	(\$697)
55	\$3,790	\$0	\$829	\$0	\$236	\$4,855	(\$378)	(\$547)	(\$566)	(\$820)
60	\$4,523	\$0	\$989	\$0	\$236	\$5,748	(\$451)	(\$653)	(\$676)	(\$979)
65	\$5,556	(\$4,584)	\$1,215	(\$140)	\$236	\$2,283	(\$254)	(\$254)	(\$381)	(\$381)
70	\$6,410	(\$5,288)	\$1,402	(\$162)	\$236	\$2,598	(\$293)	(\$293)	(\$440)	(\$440)
75	\$7,217	(\$5,953)	\$1,578	(\$182)	\$236	\$2,896	(\$330)	(\$330)	(\$495)	(\$495)
80	\$7,890	(\$6,509)	\$1,725	(\$199)	\$236	\$3,143	(\$361)	(\$361)	(\$541)	(\$541)
85	\$8,252	(\$6,807)	\$1,804	(\$208)	\$236	\$3,277	(\$377)	(\$377)	(\$566)	(\$566)
90	\$8,418	(\$6,944)	\$1,841	(\$213)	\$236	\$3,338	(\$385)	(\$385)	(\$578)	(\$578)