

**City of Annapolis
Other Postemployment Benefits**

**Actuarial Valuation
as of June 30, 2014**

Produced by [Cheiron](#)

September 2014

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September 16, 2014

Via Electronic Mail and U.S. Mail

Mr. Bruce Miller, Finance Director
City of Annapolis
160 Duke of Gloucester Street
Annapolis, Maryland 21401

Re: City of Annapolis Other Postemployment Benefits Valuation

Dear Bruce:

This report documents the results of the Other Postemployment Benefits (OPEB) valuation as of June 30, 2014, covering postretirement health insurance benefits. The following report contains our findings as well as commentary about Governmental Accounting Standards Board (GASB) standards.

The purpose of this report is to present the annual actuarial valuation of the City of Annapolis postretirement health insurance benefits. This report is for the use of the City of Annapolis and its auditors in preparing financial reports in accordance with applicable law and accounting requirements.

Appendix A describes the Participant Data, Assumptions, and Methods used in calculating the figures throughout the report. In preparing our report, we relied on information (some oral and some written) supplied by the City of Annapolis. This information includes, but is not limited to, the Plan provisions, employee data, and financial information. The demographic assumptions used in this report for the general employees, are the same as those used in the June 30, 2011 report for the State Retirement and Pension Systems of Maryland – Employees’ Pension System and were not updated to the new assumptions in the 2012 report because the plan is closed. The police and fire employees use the demographic assumptions used in the June 30, 2013 actuarial report for the City of Annapolis Police and Fire Pension Plan. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

Appendix B contains our understanding of the substantive plan provisions based on the information provided by your office as of the valuation date. This report reflects the October 2013 memorandum of agreements between the City and ASFME, Locals 3406 & 3162, the City and IAFF, Local 1926, and the City and UFCW, Local 400.

This report reflects the benefits formalized in each agreement and depends on the future experience conforming to the actuarial assumptions used. The results will change to the extent that future experience differs from the assumptions. Actuarial computations are calculated based on our understanding of GASB 43/45 and are for purposes of fulfilling employer financial accounting requirements. Determinations for purposes other than meeting



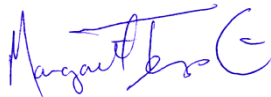
employer financial accounting requirements may be significantly different from the results in these exhibits.

This report does not reflect future changes in benefits, penalties or taxes, or administrative costs that may be required as a result of the Patient Protection and Affordable Care Act of 2010 related legislation and regulations.

To the best of our knowledge, this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices that are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

This actuarial valuation report was prepared for the City of Annapolis for the purposes described herein, except that the plan auditor may rely on this report solely for the purpose of completing an audit related to the matters herein. This report is not intended to benefit any third party, and Cheiron assumes no duty or liability to any such party.

Sincerely,
Cheiron



Margaret A. Tempkin, FSA, EA, MAAA
Principal Consulting Actuary



John L. Colberg, FSA, EA, MAAA
Principal Consulting Actuary

CITY OF ANNAPOLIS
OTHER POSTEMPLOYMENT BENEFITS AS OF JUNE 30, 2014

**SECTION I
INTRODUCTION**

City of Annapolis has engaged Cheiron to provide a valuation of the Other Postemployment Benefit Plan. The primary purpose of performing this actuarial valuation is to:

- **Estimate** the annual required contribution (ARC) and the net Other Postemployment Benefit (OPEB) obligation (NOO) of the retiree health benefit using GASB 43/45 methodology under the current funding strategy;
- **Provide disclosures** for financial statements; and
- **Provide projections** for ARC, contributions, assets, benefit payments and actuarial liabilities.

We have determined cost, liabilities, and other factors under the Plan on the basis that all actuarial assumptions and methods are reasonable.

GASB's OPEB Requirements:

The Governmental Accounting Standards Board (GASB) has released Statement 43 regarding financial reporting for postemployment benefits plans other than pension plans and a companion Statement (number 45) regarding the employer accounting for these plans. Statement 43 is generally applicable where an entity has a separate trust or fund for OPEB benefits. Statement 45, which takes effect in the fiscal year ending June 30, 2009, requires the Plan Sponsor to book the actuarial cost (net of employee and retiree contributions) of the plan as an expense on its financial statements and then accrue a liability to the extent actual contributions were less than this expense. Additional disclosures include a description of the plan, summary of significant accounting policies, contributions, and a Schedule of Funding Progress, along with the methods and assumptions used for those disclosures.

This report does not reflect any changes in postemployment benefit accounting requirements from newly proposed GASB Statements for OPEB plans. The proposed statements would be effective for the plan year ending June 30, 2017. All references and calculations with respect to GASB reflect current Statements No. 43 and 45.

Funding Policy

The City of Annapolis has a strategic plan for funding the OPEB Trust. This funding policy is detailed in Section II of this report.

CITY OF ANNAPOLIS
OTHER POSTEMPLOYMENT BENEFITS AS OF JUNE 30, 2014

SECTION I
INTRODUCTION

Valuation Results

The table below presents the key results of the 2014 valuation.

Table I-1 Summary of Key Valuation Results		
	June 30, 2013	June 30, 2014
Discount Rate	4.00%	4.75%
Actuarial Liability (AL)	\$ 50,546,000	\$ 46,757,841
Assets	0	1,475,000
Unfunded Actuarial Liability (UAL)	\$ 50,546,000	\$ 45,282,841
Fiscal Year Ending	June 30, 2013	June 30, 2014
Annual Required Contribution	\$ 4,852,000	\$ 4,059,990
Actual / <i>Expected</i> Contribution	1,452,000	1,777,210
<i>Expected</i> Net Benefit Payments	1,042,634	1,300,875
Actual / <i>Expected</i> Net OPEB Obligation	20,083,700	22,091,859

There were changes in assumptions and Plan changes since the prior valuation. These changes, together with other experience during the year, resulted in a decrease in UAL of approximately \$5.3 million. More detail on the effects of these changes can be found in the valuation results section of this report. The figures provided in this report are highly sensitive to the assumptions used.

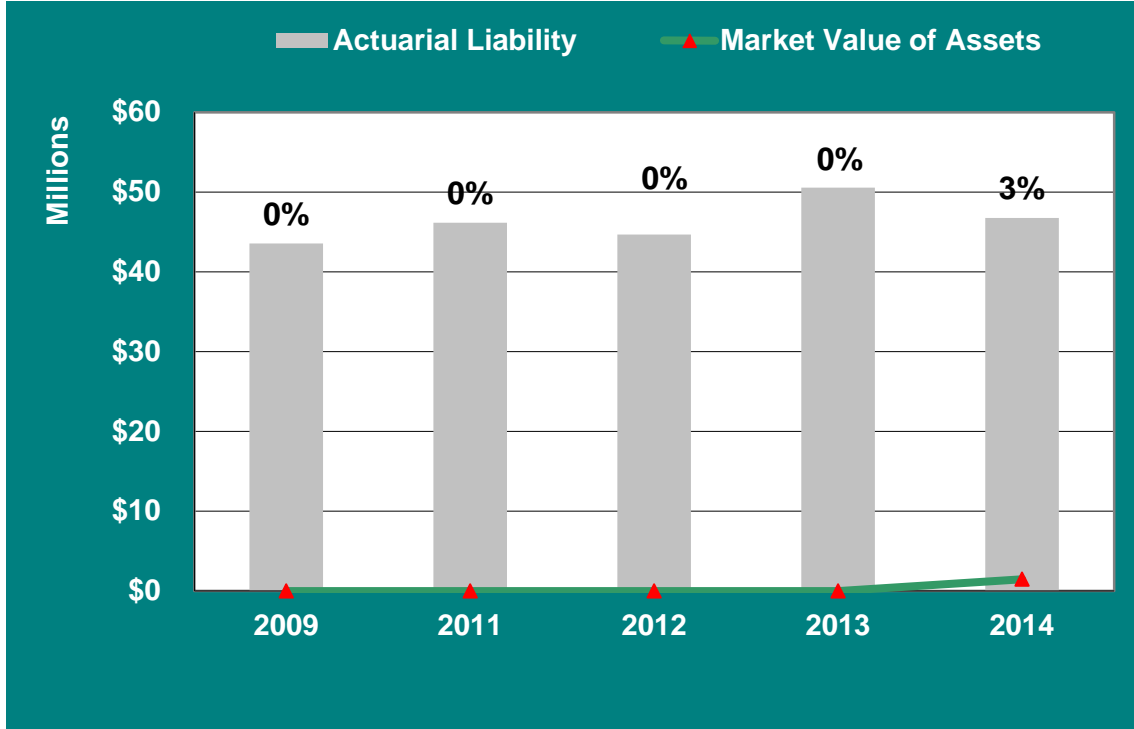
The fundamental principal underlying our analysis, as well as the GASB standard, is that the cost of benefits should be related to the period in which benefits are earned, rather than to the period of benefit distribution. The *normal cost* (which is a component of the *ARC*) is the annual amount which would be sufficient to fund the substantive Plan benefits (net of retiree contributions) if it were paid from each employee's date of hire until termination or retirement. The underlying dollar amount is expected to increase each year with the ultimate trend rates. The *actuarial liability* represents the portion of the value of the projected benefit at retirement that is allocated to service earned prior to the valuation date; that is, it represents the accumulation of past normal costs from date of hire until the valuation date. The *unfunded actuarial liability* (UAL) represents the excess of the actuarial liability over Plan assets.

CITY OF ANNAPOLIS
OTHER POSTEMPLOYMENT BENEFITS AS OF JUNE 30, 2014

SECTION I
INTRODUCTION

Historical Trends

This chart shows the historical trend of assets and the actuarial liability for City of Annapolis Postemployment Benefit Plan. The first valuation complying with GASB 43 and 45 was performed in 2006. The ratio at the top of each bar is the ratios of the market value of assets to the actuarial liability, referred to as the Funded Ratio.

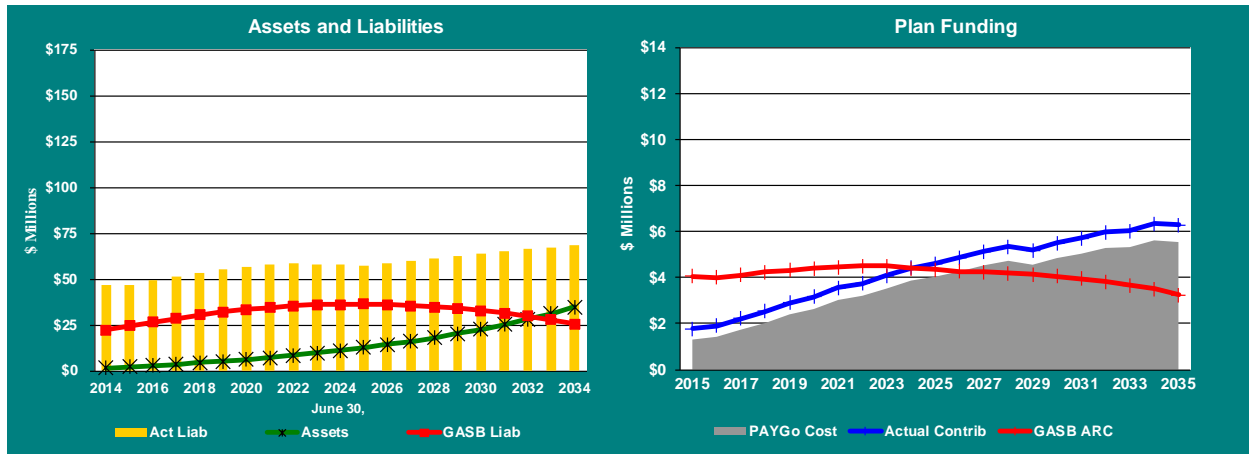


CITY OF ANNAPOLIS
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**SECTION I
INTRODUCTION**

Projected Trends

Looking beyond 2014, both the expense and liability on the financial statements increase under the partial funding method. The charts below project the assets and liabilities and the funding costs for the next 20 years.



The left chart shows the actuarial liability increasing from about \$46.8 million to about \$68 million during the next 20 years. The red line on the same chart shows the liability appearing on the City’s financial statements, which is projected to increase to \$36 million over the next 13 years and drop down to \$23 million after 20 years. The green line on the same chart shows the assets increasing to approximately \$38 million, funding 55% of the expected benefits. Under the partial funding, the City will contribute 2% of payroll to the OPEB Trust for all active participants accruing a future benefit plus the PAYGo cost until the Plan is fully funded. In addition, police and fire new hires effective July 1, 2014 will contribute 1% to the Trust. The City will contribute to the General VEBA (who have elected out of the OPEB Plan) participants via their VEBA accounts. As the City continues to fund, the discount rate will trend up to 7.5% in 12 years.

The chart on the right shows the annual costs. Benefit payments, net of retiree contributions, are shown by the grey area and increase from \$1.3 million to about \$5.5 million. The blue line represents the City’s contributions. Under the partial funding, the City’s contributions naturally follow closely with the net benefit payments, just slightly above. The partial funding method is to contribute 2% on active payroll to the Trust and pay benefits from the general funds until the Plan is funded. The ARC, shown by the red line, increases from \$4.0 million to \$4.5 million over the next 10 years and then decreases to \$2.7 million by the end of the 20-year period.

Please note that proposed GASB statements would materially alter the disclosures for fiscal years beginning after 2017. The changes from the proposed GASB statement are not reflected in the report.

CITY OF ANNAPOLIS
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**SECTION II
VALUATION RESULTS**

Information about the actuarial liabilities of the Plan as of June 30, 2014 is shown in Table II-1 below.

Table II-1 Actuarial Liability Partial Funding (4.75% assumed discount) (\$ in thousands)			
	General	Police/Fire	Total
Actives	\$ 7,944	\$ 21,744	\$ 29,688
Retirees	2,470	14,599	17,069
Total	\$ 10,414	\$ 36,343	\$ 46,757
Assets	520	955	1,475
UAL	\$ 9,894	\$ 35,388	\$ 45,282

Please note, however, that GASB only requires disclosure of the above liability and does not require the entity to immediately record the entire liability on the balance sheet. GASB's requirement is that the entity is required to show the annual required contribution (ARC) as the expense, and the cumulative difference, beginning in FY10 of the Net OPEB Obligation (NOO), which is the ARC less actual contributions (plus an adjustment to avoid double-counting).

The ARC consists of two parts: (1) the *normal cost*, which represents the annual cost attributable to service earned in a given year, and (2) the 30-year amortization of the unfunded actuarial liability (UAL).

In Table II-2 below, we show the computed FY 2015 annual required contribution (ARC) under the Partial funding approach method and a 4.75% assumed discount rate. In addition, we have shown the PAYGo cost and the net increase.

Table II-2 GASB ARC – FY2015 Partial Funding (4.75% assumed discount) (\$ in thousands)			
	General	Police/Fire	Total
Normal Cost	\$ 233	\$ 1,738	\$ 1,971
UAL Amortization	<u>678</u>	1,411	2,089
Total	\$ 911	\$ 3,149	\$ 4,060
PAYGo Cost	<u>318</u>	984	1,301
Amt. Above PAYGo	\$ 593	\$ 2,165	\$ 2,759

CITY OF ANNAPOLIS
OTHER POSTEMPLOYMENT BENEFITS AS OF JUNE 30, 2014

**SECTION II
VALUATION RESULTS**

Table II-3 shows the expected ARC, employer contributions, assets, actuarial liability, and net benefit payments that we anticipate for the next 15 years.

Table II-3 Expected ARC, Contributions, Assets, Liability and Benefit Payments Partial Funding Policy (\$ thousands)						
Fiscal Year Ending June 30	Expected ARC Amount	Expected Employer Contributions	Expected Employee Contributions	Expected Assets	Expected Actuarial Liability	Expected Net Benefit Payments
2014	\$ 4,060	\$ 1,777	\$ 2	\$ 1,475	\$ 46,758	\$ 1,301
2015	3,994	1,904	3	2,081	46,446	1,421
2016	4,111	2,225	19	2,741	49,014	1,733
2017	4,226	2,521	26	3,476	51,422	2,020
2018	4,316	2,907	35	4,283	53,400	2,396
2019	4,401	3,148	45	5,170	55,419	2,629
2020	4,440	3,552	56	6,143	56,588	3,023
2021	4,500	3,746	66	7,211	58,181	3,204
2022	4,495	4,071	77	8,381	58,713	3,520
2023	4,399	4,427	88	9,662	57,744	3,864
2024	4,340	4,611	100	11,061	57,702	4,035
2025	4,255	4,853	114	12,592	57,494	4,263
2026	4,237	5,129	128	14,265	58,880	4,527
2027	4,192	5,339	144	16,092	60,121	4,722
2028	4,117	5,184	161	18,087	61,277	4,551

CITY OF ANNAPOLIS
OTHER POSTEMPLOYMENT BENEFITS AS OF JUNE 30, 2014

**SECTION II
VALUATION RESULTS**

Value of Assets

Table II-4, below, shows the change in the value of assets through fiscal year ending 2014. City of Annapolis is actively working on a trust for their other postemployment benefits. The amount listed below is currently set aside in the general funds.

The City’s funding policy is to contribute 2% of gross pay for those employees currently participating in the OPEB Plan in addition to the PAYGo amount, until the Plan is fully funded. For new employees in the Police and Fire Plan, they will contribute 1% of gross pay to the OPEB Trust.

Table II-4 Market Value of Assets		
	FYE 2013	FYE 2014
Market Value of Assets, beginning of year	NA	NA
Contributions		
Employer	NA	2,926,499
Employee	<u>NA</u>	<u>0</u>
Total	NA	2,926,499
Benefit payments*	NA	(1,451,499)
Market Value of Assets, end of year	NA	1,475,000

* Benefit payments are paid out of the general fund.

CITY OF ANNAPOLIS
OTHER POSTEMPLOYMENT BENEFITS AS OF JUNE 30, 2014

**SECTION III
RECONCILIATION WITH PRIOR RESULTS**

Reconciliation with Prior Results

Table III-2 provides an estimate of the major factors contributing to the change in liability since the last actuarial valuation report (AVR). Note that the expected values as of June 30, 2014 are based on assumptions and methods from the prior valuation.

Table III-1 Reconciliation with Prior Results (\$ thousands)			
	Actuarial Liability June 30, 2014	Normal Cost FYE 2015	FYE 2015 Annual Required Contribution
Expected values based on the 6/30/2013 actuarial valuation	\$ 54,185	\$ 3,167	\$ 5,112
<i>(Gain)/Loss due to:</i>			
Demographic Changes	4,816	(263)	(434)
Plan Changes	(7,088)	(644)	(415)
Demographic Assumption	(899)	0	(32)
Health Cost Assumptions	(4,257)	(289)	(273)
Total (Gain)/Loss	(7,428)	(1,196)	(1,052)
June 30, 2014 valuation results	\$ 46,757	\$ 1,971	\$ 4,060

Below is a brief description of each of the changes shown above:

- *Demographic Changes* refer to the difference between the 6/30/2013 and 6/30/2014 census data. Because of the Plan changes, there were approximately 50% of the general employees who elected into the VEBA Plan. Their liability was fully recognized.
- *Plan Changes* refers to the change in benefits provided at retirement. The City started a VEBA Trust for the employees. General employees were given a one-time option to elect out of the OPEB Plan and into the VEBA Trust. The police and fire employees remain covered under the OPEB Plan with a 1% employee contribution.
- *Demographic Assumptions* refers to the change in retirement eligibility for the police and fire new hires effective 7/1/2012.
- *Health Cost Assumptions* refers to the change in expected current and future healthcare claims, expense costs, and premiums. We have increased the discount rate to reflect the assets and the future contributions above the expected benefit payments.

CITY OF ANNAPOLIS
OTHER POSTEMPLOYMENT BENEFITS AS OF JUNE 30, 2014

**SECTION IV
SENSITIVITY OF TRENDS**

The liabilities and ARC produced in this report are sensitive to the assumptions used. Below we have shown the liabilities under the actuarial funding scenario using a 1% increase/decrease in health care trend rates to provide some measure of sensitivity.

Table IV-1 Actuarial Liability as of June 30, 2014 (4.75% discount rate)			
Health Care Trend Rate	- 1%	Base	+ 1%
Actuarial Liability			
Actives	\$ 26,899	\$ 29,688	\$ 32,510
Retirees	15,690	17,069	18,664
Total Actuarial Liability	\$ 42,589	\$ 46,757	\$ 51,174
Assets	1,475	1,475	1,475
UAL	\$ 41,114	\$ 45,282	\$ 49,699

Table IV-2 GASB ARC – FYE 2015 (4.75% discount rate)			
Health Care Trend Rate	- 1%	Base	+ 1%
Employer Normal Cost	\$ 1,482	\$ 1,971	\$ 2,625
UAL Amortization	1,895	2,089	2,295
Total ARC	\$ 3,377	\$ 4,060	\$ 4,920
Estimated Pay as you go cost	<u>1,301</u>	<u>1,301</u>	<u>1,301</u>
Amount above PAYGo	\$ 2,076	\$ 2,759	\$ 3,619

CITY OF ANNAPOLIS
OTHER POSTEMPLOYMENT BENEFITS AS OF JUNE 30, 2014

**SECTION V
ACCOUNTING DISCLOSURES**

Statement No. 43 and Statement No. 45 of the Governmental Accounting Standards Board (GASB) establish standards for disclosure of other postemployment benefit information by governmental employers and plans in notes to financial statements and supplementary information. In accordance with those statements, we have prepared the following disclosures:

Schedule of Funding Progress

The schedule of funding progress compares the assets used for funding purposes to the comparable liabilities to determine how well the Plan is funded and how this status has changed over the past several years. The actuarial liability is compared to the actuarial value of assets to determine the funding ratio. The Actuarial Liability under GASB is determined assuming that the Plan is ongoing and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions.

Schedule of Employer Contributions

The schedule of employer contributions shows whether the employer has made contributions that are consistent with an actuarially sound method of funding the benefits to be provided. We have also provided a *Note to Required Supplementary Information* for the financial statements.

Table V-1 Schedule of Funding Progress (\$ thousands)						
Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Liabilities * (b)	Unfunded Actuarial Liabilities (UAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAL as a Percentage of Covered Payroll [(b-a)/c]
6/30/2014	\$1,475	\$ 46,757	\$ 45,282	3%	\$ 32,345	140.1%
6/30/2013	0	50,546	50,546	0%	\$ 32,445	155.8%
6/30/2012	0	44,644	44,644	0%	31,842	140.2%
6/30/2011	0	46,146	46,146	0%	31,350	147.2%
6/30/2010	0	48,371	48,371	0%	30,230	160.0%
6/30/2009	0	43,567	43,567	0%	29,208	149.2%

CITY OF ANNAPOLIS
OTHER POSTEMPLOYMENT BENEFITS AS OF JUNE 30, 2014

**SECTION V
ACCOUNTING DISCLOSURES**

Table V-2 Schedule of Employer Contributions (\$ in thousands)			
Fiscal Year Ended June 30,	Annual Required Contribution* (ARC)	Employer Contributions	Percentage of ARC Contributed
2015	\$ 4,060	<i>TBD After Year End</i>	<i>TBD After Year End</i>
2014	4,852	2,926	60.3%
2013	4,575	1,254	27.4%
2012	4,660	1,250	26.8%
2011	6,189	1,621	26.2%
2010	5,817	1,356	23.3%

* 2011 was a roll-forward from the 2010 valuation results

Table VI-3 below shows the development of the Net OPEB Obligation.

Table V-3 Development of Net OPEB Obligation (\$ in thousands)	
Net OPEB Obligation/(Asset) as of June 30, 2013	\$ 20,083.7
Annual Required Contribution (ARC) for FY2014	\$ 4,852.0
Adjustment to ARC	(720.8)
Interest on Net OPEB Obligation at 4.0%	<u>803.3</u>
Annual OPEB Cost (AOC)	\$ 4,934.5
Employer Contributions:	\$ (2,926.5)
Net OPEB Obligation/(Asset) as of June 30, 2014	\$ 22,091.7

CITY OF ANNAPOLIS
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**SECTION V
ACCOUNTING DISCLOSURES**

**Table V-4
Note to Required Supplementary Information**

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows.

Valuation Date	June 30, 2014
Actuarial Cost Method	Entry Age Normal
Amortization Method (VEBA General Plan)	Level dollar closed
Remaining Amortization Period (VEBA General Plan)	22 years
Amortization Method (Closed General Plan)	Level dollar closed
Remaining Amortization Period (Closed General Plan)	30 years
Amortization Method (Police and Fire Plan)	Level percent open
Remaining Amortization Period (Police and Fire Plan)	30 years
Asset Valuation Method	Market Value
Actuarial Assumptions:	
Unfunded Discount Rate	4.75%
Fully Funded Discount Rate	7.50%
Rate of Salary Increases	3.5% (plus merit scale)
Rate of Medical Inflation	9.15% grading down to 4.25% over 14 years
Rate of Prescription Inflation	9.15% grading down to 4.25% over 14 years
Rate of Dental and Vision Inflation	4.25% per year

For determining the GASB ARC, the rate of employer contributions to the Plan is composed of the Normal Cost plus amortization of the Unfunded Actuarial Liability. The Normal Cost is a portion of the actuarial present value of plan benefits and expenses which is allocated to a valuation year by the actuarial cost method. The Actuarial Liability is that portion of the Present Value of Projected Benefits that will not be paid by Future Employer Normal Costs or active employee contributions. The difference between this liability and the funds accumulated as of the same date is the Unfunded Actuarial Liability.

CITY OF ANNAPOLIS
OTHER POSTEMPLOYMENT BENEFITS AS OF JUNE 30, 2014

APPENDIX A
PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Participant Data as of June 30, 2014

	Police/Fire	General* OPEB	General VEBA	Total
Actives				
Employees	253	116	136	505
Average Age	40	49	51	45
Average Service	11	12	14	12
Non-Medicare - Medical				
Retirees	66	21		87
Retirees Average Age	53	59		54
Spouses	40	6		46
Non-Medicare – Prescription				
Retirees	64	22		86
Retirees Average Age	53	59		55
Spouses	39	6		45
Non-Medicare – Dental				
Retirees	66	23		89
Retirees Average Age	53	59		55
Spouses	40	7		47
Non-Medicare – Vision				
Retirees	62	22		84
Retirees Average Age	52	59		54
Spouses	38	7		45

* Contractors are not eligible for retiree medical benefits

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APPENDIX A
PARTICIPANT DATA, ASSUMPTIONS AND METHODS

	Police/Fire	General	VEBA	Total
Actives (under 65 only)				
CORE Medical	33	20	26	79
PLUS Medical	193	86	86	365
Waived Medical	<u>26</u>	<u>16</u>	<u>17</u>	<u>59</u>
Total Medical	253	122	129	503
Dental	227	110	118	455
Vision	224	110	116	450
Prescription	221	105	109	435
Retirees (under 65 only)				
Blue Choice Medical	4	2		6
CORE Medical	36	6		42
PLUS Medical	26	13		39
Waived Medical	<u>4</u>	<u>2</u>		<u>6</u>
Total Medical	70	23		93
Dental	66	23		89
Vision	62	22		84
Prescription	64	22		86

APPENDIX A
PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Economic Assumptions

Discount Rate: 4.75% per year

Assumed Asset Return: 7.5% per year

Salary Inflation: 3.5% per year

Medical Trend: Pre-Medicare – 9.15% (initially applied for the costs for July 1, 2015 – June 30, 2016) grading down to 4.25% over 14 years
Prescription – 9.15% (initially applied for the costs for July 1, 2015 – June 30, 2016) grading down to 4.25% over 14 years
Dental and Vision – 4.25% for all future years

Fixed dollar amounts in the health care benefits (deductibles, co-pays, benefit maximums, etc.) are assumed to increase periodically to keep pace with medical trend.

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APPENDIX A
PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Demographic Assumptions

1. Healthy Mortality Rates

General Employees:

RP-2000 Combined Healthy Mortality Table with ages set back two years for females
There is no projection for future mortality improvements.

Annual Deaths Per 10,000 Members		
Age	Male	Female
45	15	9
50	21	14
55	36	22
60	67	39
65	127	76
70	222	134
75	378	230
80	644	376

Police and Fire:

RP-2000 Group Annuity Mortality Table projected from 2011 to 2016 using Scale AA in order to comply with ASOP 35, for healthy males and females.

Annual Deaths Per 10,000 Members		
Age	Male	Female
20	3	2
25	4	2
30	4	3
35	8	4
40	10	7
45	14	10
50	20	15
55	33	26
60	62	49
65	119	95
70	206	163
75	353	270
80	612	443
85	1,069	752
90	1,798	1,297
95	2,648	1,926
100	3,428	2,363
105	3,979	2,931

CITY OF ANNAPOLIS
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**APPENDIX A
PARTICIPANT DATA, ASSUMPTIONS AND METHODS**

2. Disabled Mortality Rates

General Employees:

Male (RP-2000 Disabled Retiree Table set back 4 years)

Female (RP-2000 Disabled Retiree Table)

Annual Deaths Per 10,000 Members		
Age	Male	Female
45	226	75
50	238	115
55	303	165
60	367	218
65	435	280
70	522	376
75	658	522
80	870	723

Police and Fire:

RP-2000 Group Annuity Mortality Table projected from 2011 to 2016 using Scale AA in order to comply with ASOP 35 set forward five years.

Annual Deaths Per 10,000 Disabled Members		
Age	Male	Female
30	8	4
35	10	7
40	14	10
45	20	15
50	33	26
55	62	49
60	119	95
65	206	163
70	353	270

CITY OF ANNAPOLIS
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APPENDIX A
PARTICIPANT DATA, ASSUMPTIONS AND METHODS

3. Disability Rates

General Employees:

Annual Disabilities Per 10,000 Members				
Age	Ordinary Disability		Accidental Disability	
	Male	Female	Male	Female
25	12	9	3	2
30	12	9	3	2
35	21	15	4	3
40	40	27	6	4
45	51	41	5	4
50	61	58	4	4
55	81	81	4	4

Police and Fire:

Annual Disabilities Per 10,000 Members	
Age	Male and Female
20	13
25	20
30	28
35	35
40	43
45	50
50	50
55	50
60	0

100% of disabilities are assumed to be service-connected.

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APPENDIX A
PARTICIPANT DATA, ASSUMPTIONS AND METHODS

4. Termination Rates

General Employees:

Annual Terminations Per 1,000 Male Members				
Years of Service				
Age	0	3	9	9+
25	200	90	50	50
30	200	90	50	40
35	200	90	50	40
40	200	90	50	30
45	200	90	50	25
50	200	90	50	25
55	200	90	50	20

Annual Terminations Per 1,000 Female Members				
Years of Service				
Age	0	3	9	9+
25	200	80	45	45
30	200	80	45	30
35	200	80	45	30
40	200	80	45	25
45	200	80	45	25
50	200	80	45	20
55	200	80	45	15

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Police and Fire:

Annual Terminations Per 1,000 Members	
Years of Service	Terminations
1	100
2	50
3	30
4	30
5	30
6	30
7	30
8	10
9	10
10+	10

5. Retirement Rates

General Employees:

Annual Retirements Per 1,000 Members				
Early				
Age	First Year Eligible		Subsequent Years	
	Male	Female	Male	Female
45	0	0	0	0
50	0	0	0	0
55	30	35	70	100
60	80	80	45	55
65	N/A	N/A	N/A	N/A
70	N/A	N/A	N/A	N/A

Annual Retirements Per 1,000 Members				
Normal				
Age	First Year Eligible		Subsequent Years	
	Male	Female	Male	Female
45	140	160	70	100
50	140	160	70	100
55	140	170	70	100
60	140	260	110	160
65	50	60	200	230
70	50	60	150	160
75	1,000	1,000	1,000	1,000

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PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Police and Fire:

Annual Retirements per 100 Police Members		
Years of Service	Hired before 7/1/2012	Hired on or after 7/1/2012
20	35	0
21	30	0
22	15	0
23	15	0
24	15	0
25	50	50
26	15	15
27	75	75
28	15	15
29	15	15
30	15	15
31	15	15
32	15	15
33	15	15
34	15	15
35	100	100

Annual Retirement per 100 Fire Members		
Years of Service	Hired before 7/1/2012	Hired on or after 7/1/2012
20	15	0
21	15	0
22	15	0
23	15	0
24	15	0
25	33	33
26	15	15
27	15	15
28	25	25
29	25	25
30	50	50
31	30	30
32	30	30
33	30	30
34	30	30
35	100	100

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APPENDIX A
PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Claim and Expense Assumptions

The following claim & expense assumptions are applicable to the 12-month period beginning July 1, 2014 and include medical and drugs. Claim costs for dependents are for spouses plus the cost for dependent children. Subsequent years' costs are based on the assumptions below adjusted with trend.

Age	EPO	Males		EPO	Female Spouses	
		Core	Plus		Core	Plus
45	\$4,547	\$4,034	\$4,443	\$7,001	\$5,980	\$7,026
50	5,930	5,261	5,794	8,384	7,207	8,378
55	7,744	6,870	7,566	10,198	8,816	10,149
64	12,682	11,251	12,391	15,136	13,197	14,974

Age	EPO	Females		EPO	Male Spouses	
		Core	Plus		Core	Plus
45	\$7,106	\$6,305	\$6,943	\$9,560	\$8,250	\$9,526
50	8,135	7,217	7,949	10,589	9,163	10,532
55	9,419	8,356	9,203	11,872	10,302	11,786
64	13,057	11,584	12,758	15,511	13,530	15,341

City of Annapolis – Annual Drug Claims				
Age	Retirees		Spouses	
	Male	Female	Male	Female
45	\$1,340	\$1,792	\$1,440	\$1,891
50	1,850	2,364	1,950	2,463
55	2,471	3,042	2,571	3,141
64	3,696	4,036	3,796	4,135

City of Annapolis – Additional Annual Claims		
Plan	Individual	Husband/Wife
Dental Core	\$ 222.36	\$ 513.72
Dental Plus	344.64	874.98
Vision Core	77.04	165.84
Vision Plus	102.12	219.60

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**APPENDIX A
PARTICIPANT DATA, ASSUMPTIONS AND METHODS**

Retiree and Spouse Contributions:

The future (retire on or after 7/1/2012) General retiree and spouse will pay the remainder of the retiree premiums for the Core Plan after the City pays 2.5% multiplied by each year of service up to a max of 75%. All SRA employees not in ASFCME will have to buy up for other options.

The future (retire on or after 7/1/2008 and vested as of 7/1/2012) Police and Fire retiree and spouse will pay 30% of the retiree premiums for the Core Plan. For those participants not vested as of 7/1/2012, they will pay the remainder of the retiree premiums for the Core Plan after the City pays 2.5% multiplied by each year of service up to a max of 70%. All Police and Fire will have to buy up for other options.

City of Annapolis – Annual Retiree Premiums for Contributions (100% cost)				
	EPO	Core	Plus	RX
Individual	\$ 6,216	\$ 5,601	\$ 6,828	\$ 1,737
Parent/Child	12,370	11,200	13,661	3,458
Husband/Wife	15,912	14,355	18,807	5,705
Family	17,949	15,970	20,951	5,808
	Dental Core	Dental Plus	Vision Core	Vision Plus
Individual	\$ 222	\$ 345	\$ 77	\$ 102
Parent/Child	414	540	166	220
Husband/Wife	414	748	166	220
Family	613	1,002	166	220

The premiums are assumed to increase with medical trends. For the current retirees, actual retiree contributions were provided and are assumed to increase with trend.

Percentage of Employees Electing Coverage at Retirement:

It is assumed that 100% will elect coverage and will select the same coverage at retirement. Thus if a retiree has Plus benefits, they will pay the difference between Plus and Core.

Family Composition:

We have assumed that those electing coverage also cover their spouses. We have assumed that 51% of the population is married with General males four-years older than their wives, and Police/Fire males one-year older than their wives.

APPENDIX A
PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Methodology

The Entry Age Actuarial Cost Method was used to value the Plan's actuarial liabilities and to set the normal cost. Under this method, the normal cost rate is the percentage of pay contribution which would be sufficient to fund the plan benefits if it were paid from each member's entry into the System until termination or retirement. A sample new entrant population based on ages of recently hired participants was used to value the normal cost.

For this year's valuation we completed a partial roll-forward, meaning that claims and trends have been kept the same as the prior year valuation, but the census data has been updated. The claim and expense assumptions for Non-Medicare retirees were based on the premium rates for the collection of plans offered for the plan year ending June 30, 2013. We assumed that claims and contributions increased with the appropriate trends for the fiscal year ending June 30, 2014. The Transitional Reinsurance Fees and the PCORI fees required by the ACA were not assumed to have a material impact on the liabilities.

Changes Since Prior Valuation

- 1. Discount Rate:**
The discount rate was increased to account for the extra contributions made above the PAYGo amount. The rate was increased from 4.0% to 4.75%.
- 2. Retirement rates for police and Fire**
Effective for new hires on or after 7/1/2012, the years of service for retirement was increased from 20 years to 25 years. The retirement rates were adjusted to account for this Plan change.
- 3. Claim curves:**
The claim curves were adjusted to reflect the most recent claims experience and Plan changes.
- 4. Health care trends:**
The healthcare trends were reset.
- 5. Closed General Plan:**
The General OPEB Plan was closed effective 7/1/2014. At which time, those participants currently in the Plan had a one-time irrevocable election to stay in the OPEB Plan or move to the VEBA Trust.

APPENDIX B
SUBSTANTIVE PLAN PROVISIONS

Summary of Key Substantive Plan Provisions

Eligibility:

For Police/Fire: The City will provide to employees and eligible dependents, at cost of co-pay and deductibles, medical, hospitalization, major medical, dental, vision care, and co-pay prescription insurance coverage in effect at the time of retirement for employees who retire with 20 years of service (hired prior to 7/1/2012), and 25 years of service (hired on or after 7/1/2012) under Retirement Plan for Members of the Police and Fire Departments of the City of Annapolis. Employees who retired on or after 7/1/2002, but before 7/1/2008 will pay 20% of the premiums. Employees retiring on or after 7/1/2008 and those vested as of 7/1/2012 will pay 30% of the premiums. Employees not vested as of 7/1/2012, will pay the remainder of the retiree premiums for the Core Plan after the City pays 2.5% multiplied by each year of service up to a max of 70%. Coverage continues until retiree and/or spouse reaches Medicare eligibility age. Additional Medicare coverage is provided at full cost to retiree and/or spouse.

For General: For General employees hired prior to 7/1/2014 and have elected to remain in the OPEB Plan, the City will provide to employees and eligible dependents, at cost of co-pay and deductibles, medical, hospitalization, major medical, dental, vision care, and co-pay prescription insurance coverage in effect at the time of retirement for employees who retire with 20 years of service under State Retirement and Pension Systems of Maryland – Employees’ Pension System. Employees who retired on or after 7/1/2012, will pay the remainder of the retiree premiums for the Core Plan after the City pays 2.5% multiplied by each year of service up to a max of 75%. Coverage continues until retiree and/or spouse reaches Medicare eligibility age. Additional Medicare coverage is provided at full cost to retiree and/or spouse.

Employee Contributions:

For Police/Fire: For employees hired on or after 7/1/2014, the employee contribution of 1% of gross pay is required prior to retirement to fund the City of Annapolis Other Postemployment Benefits Plan.

For General: No employee contributions are required prior to retirement to fund the City of Annapolis Other Postemployment Benefits Plan.

**APPENDIX B
SUBSTANTIVE PLAN PROVISIONS**

Benefits for Retirees

MEDICAL & PRESCRIPTION PLAN CHOICES

The City of Annapolis offers several medical plan options through CareFirst BlueCross BlueShield. Retirees may select from one of the following medical plans: CareFirst BlueChoice EPO, Core Plan, and the Plus Plan. Prescription drug benefits are provided through ExpressScripts and are the same regardless of the medical plan. The plans are summarized on the following page. Participants may choose one of the following coverage levels: Individual, Parent and Child, Husband and Wife or Family and may choose medical and drug coverage separately.

DENTAL PLAN CHOICES

The Core Dental Plan is a DHMO offered through DentaQuest Advantage. Members must use network providers and there are no deductibles to satisfy. The Plus Dental Plan is a Regional PPO plan through CareFirst BCBS. Benefits are summarized below.

CORE DENTAL PLAN SUMMARY		PLUS DENTAL PLAN SUMMARY		
DentaQuest Advantage - DHMO	In Network Only *	CareFirst Regional - PPO	In Network	Out of Network *
Maximum Benefit	\$2,000	Maximum Benefit	\$1,500	\$1,500
Deductible - Individual	\$25	Deductible - Individual	\$25	\$50
Deductible - Family	\$75	Deductible - Family	\$75	\$150
Level I - Preventive	\$0-115 Copay	Class I - Preventive (<i>Deductible Waived</i>)	100%	75% of AB
Level II - Primary Restorative	\$13-780 Copay	Class II - Basic Services	80%	60% of AB
Level III - Major Restorative	\$40-2300 Copay	Class III - Major Surgical Services	80%	60% of AB
Level IV - Child Orthodontia	Not Covered	Class IV - Major Restorative Services	50%	35% of AB
Level IV - Adult Orthodontia	Not Covered	Class V - Orthodontia (<i>Deductible Waived</i>) - \$800 Maximum Lifetime Benefit	50%	35% of AB

* This plan requires members to use network providers. Benefits under this plan are paid according to a fee schedule. Participating providers and a fee schedule is available online by visiting www.dentaquestdental.com.

* Reimbursement is based on CareFirst's Allowed Benefit (AB). Participating providers may be found by visiting www.carefirst.com and selecting the Regional Preferred PPO dental plan.

VISION PLAN CHOICES

Both SpectraFlex Vision Options, Core and Plus, offer the Vision Service Plan (VSP). Each plan includes coverage for a comprehensive eye examination and select lenses and frames. The Core Plan provides services every 24 months and the Plus Plan allows services to be rendered every 12 months. The VSP plan allows members to access care either through the VSP provider network or through any provider. When accessing care in network, examinations are covered in full after a \$10 copayment. Members choosing care from non-VSP providers are required to pay in full when receiving services and submit a claim form for reimbursement.

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**APPENDIX B
SUBSTANTIVE PLAN PROVISIONS**

CAREFIRST BLUECROSS BLUESHIELD	EPO Medical Plan	Core Medical Plan		Plus Medical Plan	
	In Network Only *	In Network	Out of Network **	In Network	Out of Network **
Maximum Benefit (Lifetime)	Unlimited	Unlimited		Unlimited	
Deductible - Individual, Family	N/A	N/A	\$300 / \$900	N/A	\$100 / \$200
Out-of-Pocket Maximum - Individual, Family	N/A	\$1,000 / \$2,000		\$800 / \$1,600	
INPATIENT SERVICES					
Hospitalization	\$100 Copay; 100%	\$100 Copay; 90%	\$100 Copay; 70%	\$100 Copay; 100%	\$100 Copay; 80%
Medical/Surgical	100%	90%	70%	100%	80%
Maternity Care	100%	90%	70%	100%	80%
OUTPATIENT SERVICES					
Physician Visits	\$15 Copay	\$15 Copay	70%	\$15 Copay	80%
Specialists	\$25 Copay	\$15 Copay	70%	\$15 Copay	80%
Routine Physicals (<i>PCP/Specialist</i>)	\$15/25 Copay	\$15 Copay	70%	\$15 Copay	80%
Diagnostic/Xray/Lab - Provider's Office	100%	\$15 Copay	70%	\$10 Copay	80%
Outpatient Surgery	\$20 Copay	90%	70%	100%	80%
Well Child Care	\$15 Copay	\$15 Copay	70%	\$10 Copay	80%
Durable Medical Equipment	75%	90%	70%	100%	80%
Emergency Room (illness)	\$75 Copay	\$50 Copay; 90%	\$50 Copay; 90%	\$50 Copay; 100%	\$50 Copay; 100%
Emergency Room (injury)	\$75 Copay	\$25 Copay; 90%	\$25 Copay; 90%	\$25 Copay; 100%	\$25 Copay; 100%
Urgent Care Facility	\$30 Copay	\$25 Copay	70%	\$25 Copay	80%
MENTAL ILLNESS - SUBSTANCE ABUSE					
Inpatient Psychiatric	100%	90%	70%	100%	80%
Outpatient Psychiatric Visits 1-5	80%	80%	80%	80%	80%
Outpatient Psychiatric Visits 6-30	65%	65%	65%	65%	65%
Outpatient Psychiatric Visits 31+	50%	50%	50%	50%	50%
Alcohol/Substance Abuse	Same as Psychiatric Benefits	Same as Psychiatric Benefits		Same as Psychiatric Benefits	
PRESCRIPTION DRUG PLANS					
Prescription Drug Program	CVS Caremark	CVS Caremark		CVS Caremark	
Annual Maximum Benefit	N/A	N/A		N/A	
Generic - Preferred - Non-Preferred	30-Day Supply: \$5 - \$20 - \$35	30-Day Supply: \$5 - \$20 - \$35		30-Day Supply: \$5 - \$20 - \$35	
Generic - Preferred - Non-Preferred Maintenance Prescriptions (after 2 refills)	30-Day Supply: \$25 - \$40 - \$55	30-Day Supply: \$25 - \$40 - \$55		30-Day Supply: \$25 - \$40 - \$55	
90-Day Supply / Mail-Order	\$10 - \$40 - \$70	\$10 - \$40 - \$70		\$10 - \$40 - \$70	
Non-Covered Drugs	100% ES Discounted Cost	100% ES Discounted Cost		100% ES Discounted Cost	

- * Members must select a Primary Care Physician to oversee all medical care. Referrals to specialists are required.
- ** Out of network benefits are reimbursed based on an Allowed Benefit (AB) set by CareFirst BCBS; therefore, members will be responsible for any difference between the provider's charge and the CareFirst Allowed Benefit. Members accessing care from CareFirst providers will not be balance billed in excess of the Allowed Benefit.

**APPENDIX C
GLOSSARY OF TERMS**

1. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs such as: mortality, withdrawal, and retirement; changes in compensation; rates of investment earnings, and asset appreciation or depreciation; procedures used to determine the actuarial value of assets; and other relevant items.

2. Actuarial Cost Method

A procedure for determining the actuarial present value of pension plan benefits and expenses and for developing an allocation of such value to each year of service, usually in the form of a normal cost and an actuarial liability.

3. Actuarial Gain (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.

4. Actuarial Liability

The portion of the actuarial present value of projected benefits which will not be paid by future normal costs. It represents the value of the past normal costs with interest to the valuation date.

5. Actuarial Present Value (Present Value)

The value as of a given date of a future amount or series of payments. The actuarial present value discounts the payments to the given date at the assumed investment return and includes the probability of the payment being made. As a simple example: assume you owe \$100 to a friend one year from now. Also, assume there is a 1% probability of your friend dying over the next year, in which case you won't be obligated to pay him. If the assumed investment return is 10%, the actuarial present value is:

$$\begin{array}{ccccccc}
 & & & \text{Probability} & & & \\
 & & & \text{of Payment} & & \frac{1}{(1+\text{Discount Rate})} & \\
 \text{Amount} & & & & & & \\
 \$100 & \times & (1 - .01) & \times & \frac{1}{1/(1+.1)} & = & \$90
 \end{array}$$

6. Actuarial Valuation

The determination, as of a specified date, of the normal cost, actuarial liability, actuarial value of assets, and related actuarial present values for a pension plan.

7. 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. The purpose of an actuarial value of assets is to smooth out fluctuations in market values. This way, long-term costs are not distorted by short-term fluctuations in the market.

**APPENDIX C
GLOSSARY OF TERMS**

8. Amortization Payment

The portion of the pension plan contribution which is designed to pay interest and principal on the unfunded actuarial liability in order to pay for that liability in a given number of years.

9. Entry Age Normal Actuarial Cost Method

A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages.

10. Normal Cost

That portion of the actuarial present value of plan benefits and expenses which is allocated to a valuation year by the actuarial cost method.

11. Unfunded Actuarial Liability

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

12. Funded Percentage

The ratio of the actuarial value of assets to the actuarial liabilities.

13. Mortality Table

A set of percentages which estimates the probability of death at a particular point in time. Typically, the rates are annual and based on age and sex.

14. Discount Rate

The assumed interest rate used for converting projecting dollar related values to a present value as of the valuation date.

15. Medical Trend

The assumed increase in dollar related values in the future due to the increase in the cost of health care.