



CARROLL COUNTY, NEW HAMPSHIRE

OTHER POSTEMPLOYMENT BENEFITS PROGRAM

ACTUARIAL VALUATION

January 1, 2016

Prepared by:

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June 1, 2017

Board of Commissioners
Carroll County
95 Water Village Road
Ossipee, NH 03864

Dear Members of the Board:

Enclosed is our report summarizing the results of an actuarial valuation of Carroll County's Other Postemployment Benefits (OPEB) as of January 1, 2016. Our valuation was performed in accordance with the provisions contained in the GASB Statement No. 45, Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions (GASB 45).

A summary of the valuation results is shown in Section 1. The principal results of our valuation are summarized in Section 2. The Plan Provisions and Actuarial Assumptions and Methods are shown in Sections 6 and 7, respectively. Section 8 summarizes the demographic profile of active employees and retirees.

The required disclosures under GASB 45 are presented in Section 3.

Our best estimate health care cost trend assumptions are based on recent experience and anticipated future cost increases under the County's medical plans. Section 5 illustrates the sensitivity of actuarial accrued liability and annual required contribution to a one percentage increase and decrease in the health care cost trend assumption for each future year.

Our actuarial valuation is based on a discount rate of 4% compounded annually. Section 5 illustrates the sensitivity of actuarial accrued liability and annual required contribution to a one percentage increase and decrease in the discount rate.

We also provide a 10-year forecast of the OPEB liability under a pay-as-you-go arrangement as well as a 10-year forecast of the Annual OPEB Cost and the Net OPEB Obligation in Section 4.

K M S A C T U A R I E S

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Board of Commissioners

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Our calculations were based on participant census data and other information provided by Carroll County and the benefit provisions of the medical plans as described in the benefit summaries. Our valuation is also based on medical plan rates provided by the County.

Our valuation follows generally accepted actuarial methods and we perform such tests as we consider necessary to assure the accuracy of the results. The amounts presented in this report have been appropriately determined according to the actuarial assumptions and methods stated herein.

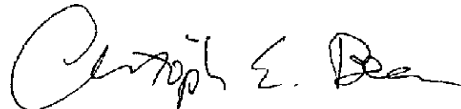
We are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

We appreciate this opportunity to be of service to Carroll County. We are available to answer any questions with respect to our valuation.

Respectfully submitted,



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ACTUARIAL CERTIFICATION

This report presents the results of the Actuarial Valuation for Carroll County's Postemployment Benefits Other Than Pensions as of January 1, 2016. The report presents the accounting and financial reporting information in accordance with Statement Number 45 of the Governmental Accounting Standards Board (GASB 45).

This valuation was performed using employee and retiree data and financial information provided to us by the County. Although we did not audit the data used in the valuation, we believe that the information is complete and reliable.

This report was completed in accordance with generally accepted actuarial standards and procedures, and conforms to the Code of Professional Conduct of the American Academy of Actuaries. The actuarial assumptions other than those explicitly applicable to the postemployment benefit plans are consistent with those used by the New Hampshire Retirement System's actuaries for the Retirement System pension valuations.

Future actuarial valuation results may differ significantly from the current results presented in this report. Examples of potential sources of volatility include plan experience differing from that anticipated by the economic or demographic assumptions, the effect of new entrants, changes in economic or demographic assumptions, the effect of law changes and the delayed effect of smoothing techniques.

This report is intended for the sole use of Carroll County and is intended to provide information to comply with the stated purpose of the report. It may not be appropriate for other purposes.

The undersigned credentialed actuaries are Members of the American Academy of Actuaries and together meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinion contained herein. They are available to answer any questions with regard to this report.

Respectfully submitted,



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SECTION 1 - SUMMARY

BACKGROUND

Carroll County offers coverage of postemployment medical benefits to County retirees and their dependents. The County offers coverage as follows:

- ◆ Group I employees hired before July 1, 2011: retire after (1) attaining age 60 or (2) attaining age 50 with 10 or more years of service or (3) age plus service is at least 70 with 20 or more years of service
- ◆ Group I employees hired on or after July 1, 2011: retire after (1) attaining age 65 or (2) attaining age 60 with 30 or more years of service
- ◆ Group II employees hired before July 1, 2011: retire after (1) attaining age 60 or (2) attaining age 45 with 20 or more years of service
- ◆ Group II employees hired on or after July 1, 2011: retire after (1) attaining age 60 or (2) attaining age 46 with 21 years of service

Medical coverage continues to the spouse after the death of the retiree provided the spouse makes the required contributions.

GASB 45

The Governmental Accounting Standards Board (GASB) is responsible for establishing accounting standards for governmental entities. Calculations developed in accordance with GASB standards are required when providing financial statements.

GASB believes that postemployment benefits are a form of deferred compensation whose cost should be recognized while the employee actually renders services rather than when the actual benefits are paid, many years later. Ideally under the GASB standard the entire postemployment liability is recognized by the time an active participant begins to receive postemployment benefits. GASB 45's focus is on postemployment benefits other than pensions, such as medical, dental and life insurance benefits. Unlike pensions where sponsors are pre-funding for benefits due in the future, the impact of GASB 45 will be to significantly increase cash pay-as-you-go expense.

ACTUARIAL VALUATION

As of January 1, 2016, there are 173 active employees who may be eligible for benefits in the future and 15 retired employees, covered spouses and survivors who are currently receiving benefits. Coverage is for individuals and families or individuals and spouses depending on the coverage selected.

SECTION 1 - SUMMARY

Prior to GASB 45, the annual cost recognized was the annual premiums or benefits paid plus administrative expenses less any participant contributions paid towards the coverage. Under GASB 45, an annual cost for postemployment coverage is developed for any person who is currently receiving or who is currently actively employed and may be eligible to receive benefits in the future. In developing the GASB 45 cost for Carroll County, the payment of future benefits is determined using the current schedule of premiums and rates under the plans provided by the County modified to reflect the population and the fact that actual healthcare expenses are higher as individuals age. These age-adjusted costs are increased in the future under the annual healthcare cost trend rate assumptions. The age-adjusted per capita costs utilized in this valuation are detailed in Section 7, Actuarial Assumptions and Methods.

It is important to understand that even though the County charges participants for coverage based on the individual or family premium and rate schedule presented in our report, in developing a liability for the County, GASB requires that these premiums be adjusted as noted above. The plan premium represents less than 100% of the actual cost that is required to be recognized under the GASB standard.

SUMMARY OF PRINCIPAL RESULTS

A summary of the principal results from the current valuation follows:

Valuation Date	<u>January 1, 2016</u>
Summary of Member Data	
Active Members	173
Average Age	45.3
Average Service	6.9
Retired Members and Survivors	12
Average Age	69.8
Covered Spouses of Retired Members	3
Discount rate	4.00%
Actuarial Accrued Liability	\$690,114
Normal Cost	\$50,863
Assets	\$0
Unfunded Actuarial Accrued Liability	\$690,114
Annual Required Contribution	\$92,815
Expected Employer Premiums	\$33,472

SECTION 1 - SUMMARY

ACTUARIAL ASSUMPTIONS

The most important assumption for GASB 45 is the discount rate, which is used to discount future benefits to current age. GASB 45 requires that the discount rate accurately reflects the rate of return on assets dedicated to paying the retiree medical benefits. This means that a traditional pay-as-you-go system, which pays benefits from the County's annual budget and not a dedicated trust, must use a discount rate close to the rate of return on cash. Full pre-funding by use of a dedicated trust with a mixture of stocks and bonds can employ a higher discount rate that accurately reflects the expected return on trust assets dedicated to pay retiree medical benefits. For Carroll County, we selected a 4% discount rate to reflect a pay-as-you-go system with an expected return close to the rate of return on cash.

CHANGES

Since this is the first valuation completed for the County, there are no changes to report.

RESULTS

We have provided results based on a discount rate of 4%. As shown in Table 4.2 of Section 4, the Annual OPEB Cost for the fiscal year ending December 31, 2016 under GASB 45 is \$92,815 and the estimated Annual OPEB Cost for the fiscal year ending December 31, 2017 under GASB 45 is \$97,084.

The accumulated Net OPEB Obligation as of December 31, 2016 is \$59,343 and the estimated Net OPEB Obligation as of December 31, 2017 is \$109,248.

The Actuarial Accrued Liability (AAL) as of January 1, 2016 is \$690,114. The AAL by status breakdown is shown below:

Actives:	\$464,102
Retirees, Covered Spouses and Surviving Spouses:	226,012
 Total:	 \$690,114

SECTION 2 - PRINCIPAL VALUATION RESULTS

The Actuarial Value of Plan Assets is equal to the market value. The asset activity during the 2-year period January 1, 2014 through December 31, 2015 follows:

TABLE 2.1 - OPEB TRUST ASSETS

Market Value of Assets		
Fiscal Year Ending	<u>12/31/2015</u>	<u>12/31/2014</u>
Assets as of Beginning of Year	\$0	\$0
Contributions Receivable	\$0	\$0
Assets as of Beginning of Year	\$0	\$0
Employer Contributions		
Paid Premiums	\$0	\$0
OPEB Trust Deposits	0	0
Total Employer Contributions	\$0	\$0
Benefits Paid	0	\$0
Expenses	0	0
Investment Earnings	0	0
Assets as of End of Year	\$0	\$0

SECTION 2 - PRINCIPAL VALUATION RESULTS

The Actuarial Accrued Liability is the portion of the Actuarial Present Value of Future Benefits which is allocated to all periods prior to a valuation year and therefore is not provided for by future Normal Costs. Below is the Actuarial Accrued Liability assuming a discount rate of 4%.

TABLE 2.2 - ACTUARIAL ACCRUED LIABILITY

	<u>Pay-As-You-Go</u>
Discount Rate	4%
Current Active Employees	
Pre-Medicare Gross Benefit	\$1,663,757
Pre-Medicare Participant Contributions	1,199,655
Net Pre-Medicare Benefit	\$464,102
Post - Medicare Gross Benefit	\$0
Post - Medicare Participant Contributions	0
Net Post - Medicare Benefit	\$0
Total Current Active Employees	\$464,102
Current Retirees	
Pre-Medicare Gross Benefit	\$721,200
Pre-Medicare Participant Contributions	495,188
Net Pre-Medicare Benefit	\$226,012
Post - Medicare Gross Benefit	\$0
Post - Medicare Participant Contributions	0
Net Post - Medicare Benefit	\$0
Total Current Retirees	\$226,012
Total Actuarial Accrued Liability (AAL)	\$690,114

SECTION 2 - PRINCIPAL VALUATION RESULTS

The Normal Cost is the portion of the Actuarial Present Value of Future Benefits which is attributed to services rendered by active employees in the current year. Below is the Normal Cost assuming a discount rate of 4%.

TABLE 2.3 - NORMAL COST

	<u>Pay-As-You-Go</u>
Discount Rate	4%
Current Active Employees	
Pre-Medicare Gross Benefit	\$199,019
Pre-Medicare Participant Contributions	148,156
Net Pre-Medicare Benefit	\$50,863
Post - Medicare Gross Benefit	\$0
Post - Medicare Participant Contributions	0
Net Post - Medicare Benefit	\$0
Total Current Active Employees	\$50,863
Current Retirees	
Pre-Medicare Gross Benefit	\$0
Pre-Medicare Participant Contributions	0
Net Pre-Medicare Benefit	\$0
Post - Medicare Gross Benefit	\$0
Post - Medicare Participant Contributions	0
Net Post - Medicare Benefit	\$0
Total Current Retirees	\$0
Total Normal Cost (NC)	\$50,863

SECTION 2 - PRINCIPAL VALUATION RESULTS

Under GASB 45, the Annual Required Contribution (ARC) of the employer equals the Normal Cost plus a provision for amortizing the Unfunded Actuarial Accrued Liability. We have assumed level dollar amortization over the maximum acceptable amortization period of 30 years. For the period beginning January 1, 2016, the ARC, calculated under the parameters of this actuarial valuation, would be:

TABLE 2.4 - ANNUAL REQUIRED CONTRIBUTION and ANNUAL OPEB COST

	<u>Pay-As-You-Go</u>
Discount Rate	4%
1. Normal Cost	\$50,863
2. Unfunded Actuarial Accrued Liability	
a. Actuarial Accrued Liability	\$690,114
b. Actuarial Value of Plan Assets	\$0
c. Unfunded Actuarial Accrued Liability	\$690,114
3. Amortization of Unfunded Actuarial Accrued Liability	
a. Unfunded Actuarial Accrued Liability	\$690,114
b. Amortization Period in years	30
c. Factor Increasing Rate	0.0%
d. Amortization Factor	17.98
e. Amortization Amount (3.a. / 3.d.)	\$38,382
4. Interest on 1. and 3.e.	\$3,570
5. Annual Required Contribution (1. + 3.e. + 4.)	\$92,815
6. Net OPEB Obligation, beginning of year	\$0
7. Interest on Net OPEB Obligation at 4%	\$0
8. Adjustment to Annual Required Contribution at 4%	\$0
9. Annual OPEB Cost (5. + 7. + 8.)	\$92,815

SECTION 3 - GASB 45 ACCOUNTING DISCLOSURE

GASB 45 requires disclosure of the annual OPEB cost, the Net OPEB Obligation and the Schedule of Funding Progress. In addition, information about the Actuarial Methods and Assumptions used in the valuation and a summary of the Substantive Plan Provisions are disclosed, which are provided in Section 7 and Section 6, respectively.

Annual OPEB Cost and Net OPEB Obligation			
Fiscal Year Ending	<u>12/31/2017</u>	<u>12/31/2016</u>	<u>12/31/2015</u>
Discount rate	4.00%	4.00%	
Annual Required Contribution	\$98,142	\$92,815	
Interest on Net OPEB Obligation	2,374	0	
Adjustment to annual required contribution	(3,432)	0	
Annual OPEB cost	\$97,084	\$92,815	
Employer contributions (includes subsidy)	(47,179)	(33,472)	
Change in Net OPEB Obligation	\$49,905	\$59,343	
Net OPEB Obligation - beginning of year	\$59,343	\$0	
Net OPEB Obligation - end of year	\$109,248	\$59,343	\$0

Plan History				
Fiscal Year Ended	Annual OPEB Cost	Percentage of Annual OPEB Cost Contributed	Net OPEB Obligation	
12/31/2017	97,084	48.6%	109,248	
12/31/2016	92,815	36.1%	59,343	

Schedule of Funding Progress						
Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) / c)
1/1/2016	0	690,114	690,114	0.00%	7,706,848	9.0%

Carroll County, New Hampshire Postemployment Benefits Other Than Pensions
Actuarial Valuation as of January 1, 2016

SECTION 4 - FORECASTS

TABLE 4.1 - 10-YEAR FORECAST OF ANNUAL REQUIRED CONTRIBUTIONS

FYE December 31	(1) Normal Cost	(2) Actuarial Accrued Liability	(3) Assets, BOY	(4) Unfunded Actuarial Accrued Liability (2) - (3)	(5) Expected Employer Premiums	(6) Employer Contributions	(7) Amortization Amount	(8) Interest	(9) ARC (1) + (7) + (8)
2016	50,863	690,114	-	690,114	33,472	33,472	38,382	3,570	92,815
2017	53,406	736,481	-	736,481	47,179	47,179	40,961	3,775	98,142
2018	56,076	773,370	-	773,370	54,707	54,707	43,013	3,964	103,053
2019	58,880	806,833	-	806,833	61,636	61,636	44,874	4,150	107,904
2020	61,824	837,484	-	837,484	66,396	66,396	46,579	4,336	112,739
2021	64,915	867,569	-	867,569	65,147	65,147	48,252	4,527	117,694
2022	68,161	903,346	-	903,346	61,621	61,621	50,242	4,736	123,139
2023	71,569	947,526	-	947,526	60,953	60,953	52,699	4,971	129,239
2024	75,147	997,698	-	997,698	54,766	54,766	55,489	5,225	135,861
2025	78,904	1,059,908	-	1,059,908	55,973	55,973	58,949	5,514	143,367

- Notes:
1. Normal Cost is assumed to increase annually by the discount rate of 4%.
 2. Amortization Amount is the amount necessary to amortize the Unfunded Actuarial Accrued Liability over 30 years at a discount rate of 4%.
 3. Interest is computed on the Normal Cost and the Amortization Amount.
 4. The ARC (Annual Required Contribution) is the Normal Cost plus the Amortization Amount plus Interest.
 5. Actuarial Accrued Liability, end of year, equals Actuarial Accrued Liability, beginning of year, plus Normal Cost less Expected Employer Premiums plus interest on these items.
 6. Assets, end of year, equals Assets, beginning of year, less Expected Benefit Payments plus Employer Contributions plus interest on these items.
 7. Unfunded Actuarial Accrued Liability, end of year, equals Unfunded Actuarial Accrued Liability, beginning of year, plus Normal Cost less Employer Contributions plus interest on these items.

Carroll County, New Hampshire Postemployment Benefits Other Than Pensions
Actuarial Valuation as of January 1, 2016

SECTION 4 - FORECASTS

TABLE 4.2 - ANNUAL OPEB COST and NET OPEB OBLIGATION

FYE December 31	ARC	Interest on Net OPEB Obligation	ARC Adjustment	Amortization Factor	Annual OPEB Cost	Employer Contributions	Change in Net OPEB Obligation	Net OPEB Obligation Balance
								0
2016	92,815	0	0	17.29	92,815	33,472	59,343	59,343
2017	98,142	2,374	(3,432)	17.29	97,084	47,179	49,905	109,248
2018	103,053	4,370	(6,319)	17.29	101,104	54,707	46,397	155,645
2019	107,904	6,226	(9,002)	17.29	105,128	61,636	43,492	199,137
2020	112,739	7,965	(11,517)	17.29	109,187	66,396	42,791	241,928
2021	117,694	9,677	(13,992)	17.29	113,379	65,147	48,232	290,159
2022	123,139	11,606	(16,782)	17.29	117,963	61,621	56,342	346,502
2023	129,239	13,860	(20,041)	17.29	123,058	60,953	62,105	408,606
2024	135,861	16,344	(23,633)	17.29	128,572	54,766	73,806	482,412
2025	143,367	19,296	(27,901)	17.29	134,762	55,973	78,789	561,201

Notes:

1. ARC and Contributions are from 30-Year Forecast of Annual Required Contribution (Table 4.1).
2. Interest on Net OPEB Obligation is computed on the prior year Net OPEB Obligation Balance.
3. ARC Adjustment is the prior year Net OPEB Obligation Balance amortized over 30 years.
4. OPEB Cost is the ARC plus Interest on Net OPEB Obligation less ARC Adjustment.
5. Change in Net OPEB Obligation is the difference between the OPEB Cost and Employer Contributions.
6. Net OPEB Obligation is the prior year Net OPEB Obligation Balance plus Change in Net OPEB Obligation.
7. Year one Interest on Net OPEB Obligation and ARC Adjustment computed at prior discount rate of 4%.
8. Subsequent years' Interest on Net OPEB Obligation and ARC Adjustment computed at current discount rate of 4%.

SECTION 5 - SENSITIVITY ANALYSIS

Below we illustrate the sensitivity of the Actuarial Accrued Liability and the Annual Required Contribution to a one percentage increase and decrease in the discount rate:

TABLE 5.1 - DISCOUNT RATE ASSUMPTION

	Discount Rate -1%	Assumed Discount Rate	Discount Rate +1%
Discount Rate	3%	4%	5%
Actuarial Accrued Liability			
Current Active Employees	\$511,323	\$464,102	\$421,630
Current Retirees	234,302	226,012	218,187
Total Actuarial Accrued Liability	\$745,625	\$690,114	\$639,817
 Change %	 8.04%		 -7.29%
Annual Required Contribution			
Normal Cost	\$60,343	\$50,863	\$43,091
Actuarial Accrued Liability	\$745,625	\$690,114	\$639,817
Actuarial Value of Assets	0	0	0
Unfunded Actuarial Accrued Liability	\$745,625	\$690,114	\$639,817
Amortization Payment	36,930	38,382	39,642
Interest	2,918	3,570	4,137
Annual Required Contribution	\$100,191	\$92,815	\$86,870
 Change %	 7.95%		 -6.41%

SECTION 5 - SENSITIVITY ANALYSIS

Below we illustrate the sensitivity of the Actuarial Accrued Liability and the Annual Required Contribution to a one percentage increase and decrease in health care cost trend assumption for each future year:

TABLE 5.2 - HEALTH CARE COST TREND ASSUMPTION

	<u>Trend -1%</u>	<u>Assumed Trend</u>	<u>Trend +1%</u>
Discount Rate	4%	4%	4%
Actuarial Accrued Liability			
Current Active Employees	\$404,506	\$464,102	\$534,738
Current Retirees	219,325	226,012	232,937
Total Actuarial Accrued Liability	\$623,831	\$690,114	\$767,675
 Change %	 -9.60%		 11.24%
Annual Required Contribution			
Normal Cost	\$43,117	\$50,863	\$60,791
Actuarial Accrued Liability	\$623,831	\$690,114	\$767,675
Actuarial Value of Assets	0	0	0
Unfunded Actuarial Accrued Liability	\$623,831	\$690,114	\$767,675
Amortization Payment	34,696	38,382	42,696
Interest	3,113	3,570	4,139
Annual Required Contribution	\$80,926	\$92,815	\$107,626
 Change %	 -12.81%		 15.96%

SECTION 6 - PLAN PROVISIONS

Eligibility: Group I employees hired before July 1, 2011: retire after (1) attaining age 60 or (2) attaining age 50 with 10 or more years of service or (3) age plus service is at least 70 with 20 or more years of service

Group I employees hired on or after July 1, 2011: retire after (1) attaining age 65 or (2) attaining age 60 with 30 or more years of service

Group II employees hired before July 1, 2011: retire after (1) attaining age 60 or (2) attaining age 45 with 20 or more years of service

Group II employees hired on or after July 1, 2011: retire after (1) attaining age 60 or (2) attaining age 46 with 21 years of service

Accidental Disability Eligibility: All employees: permanently disabled in the performance of duties

Ordinary Disability Eligibility: All employees: Disabled and completed 10 or more years of creditable service

Medical Premium Rates: The total monthly cost by plan are shown below:

<u>Non-Medicare Plans - July 1, 2017</u>	<u>Individual</u>	<u>2-Person</u>
Harvard Pilgrim HMO	\$934.41	\$1,870.90
Northern NE Trust HMO	\$773.00	\$1,610.07

Participant Contributions: Retired employees contribute 100% of the total premium cost.

Continuation of Coverage to Spouse After Death of Retiree: Surviving spouse may continue coverage for lifetime by paying the required medical premium rates.

Life Insurance Benefit: None.

SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

Valuation Date: January 1, 2016

Discount Rate: 4.00% pay-as-you-go.

Amortization Method: Level dollar amount over thirty (30) years on an open amortization period for pay-as-you-go.

Health Care Cost Trend Rates:

<u>Year</u>	<u>Rates</u>
1	8.00%
2	7.50%
3	7.00%
4	6.50%
5	6.00%
6	5.50%
7	5.00%
8	5.00%
9	5.00%
Ultimate	5.00%

Mortality Rates: RP-2014 Healthy Annuitant Mortality Table, projected with full generational mortality improvement using Scale MP-2015. For disabled lives, the RP-2014 Disabled Mortality Table, projected with full generational mortality improvement using Scale MP-2015.

Turnover Rates: Illustrative turnover rates for Group I Employees are shown below:

<u>Age</u>	<u>Years of Service</u>	<u>Male</u>	<u>Female</u>
	0	30.00%	30.00%
	1	22.00%	22.00%
	2	16.00%	16.00%
	3	12.00%	12.00%
	4	8.00%	8.00%
25	5	5.00%	8.00%
30		5.00%	8.00%
35		5.00%	5.60%
40		5.00%	5.60%
45		5.00%	5.60%
50		5.00%	4.40%
55		5.00%	4.00%
60		5.00%	4.00%

SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

Turnover Rates (continued): Illustrative turnover rates for Group II Police are shown below:

<u>Age</u>	<u>Years of Service</u>	<u>Male</u>	<u>Female</u>
	0	30.00%	40.00%
	1	15.00%	17.00%
	2	9.00%	14.00%
	3	6.00%	11.00%
	4	4.00%	9.00%
25	5	4.00%	4.00%
30		4.00%	4.00%
35		4.00%	4.00%
40		4.00%	4.00%
45		4.00%	4.00%
50		4.00%	4.00%
55		4.00%	4.00%
60		4.00%	4.00%

Disability Rates: Illustrative disability rates for Group I Employees are shown below:

<u>Age</u>	<u>Male</u>	<u>Female</u>
20	0.02%	0.00%
25	0.02%	0.01%
30	0.02%	0.02%
35	0.03%	0.02%
40	0.08%	0.05%
45	0.15%	0.09%
50	0.25%	0.19%
55	0.43%	0.35%

Illustrative disability rates for Group II Police are shown below:

<u>Age</u>	<u>Male</u>	<u>Female</u>
20	0.06%	0.06%
25	0.06%	0.06%
30	0.06%	0.06%
35	0.13%	0.13%
40	0.30%	0.30%
45	0.53%	0.53%
50	0.84%	0.84%
55	1.25%	1.25%

SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

Retirement Rates:

Illustrative retirement rates for Group I Employees hired prior to July 1, 2011 are shown below:

Age	Male			Female		
	Normal	Early	Early Rule	Normal	Early	Early Rule
45			1.0%			1.0%
46			1.0%			1.0%
47			1.0%			1.5%
48			1.0%			1.5%
49			1.0%			1.0%
50		1.0%	1.5%		1.0%	2.0%
51		1.0%	3.0%		1.0%	2.5%
52		1.0%	3.0%		1.0%	2.0%
53		1.0%	4.0%		1.0%	3.5%
54		1.0%	4.5%		1.5%	5.5%
55		2.0%	8.0%		2.5%	10.0%
56		2.5%	10.0%		3.5%	6.0%
57		2.5%	11.0%		3.0%	13.0%
58		3.5%	11.0%		4.0%	15.0%
59		5.0%	18.0%		5.5%	15.0%
60	12.0%			12.0%		
61	12.0%			12.0%		
62	17.0%			15.0%		
63	16.0%			15.0%		
64	15.0%			15.0%		
65	15.0%			20.0%		
66	25.0%			20.0%		
67	20.0%			20.0%		
68	20.0%			16.0%		
69	20.0%			17.0%		
70	100.0%			100.0%		
65	40.0%	30.0%	40.0%	30.0%	50.0%	35.0%
69	40.0%	30.0%	30.0%	30.0%	50.0%	30.0%
70	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

Retirement Rates (continued): Illustrative retirement rates for Group I Employees hired on or after July 1, 2011 are shown below:

Age	Male		Female	
	Normal	Early	Normal	Early
60		12.0%		12.0%
61		12.0%		12.0%
62		17.0%		15.0%
63		16.0%		15.0%
64		15.0%		15.0%
65	46.0%		45.0%	
66	46.0%		45.0%	
67	20.0%		20.0%	
68	20.0%		16.0%	
69	20.0%		17.0%	
70	100.0%		100.0%	

SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

Retirement Rates (continued):		Group II Police hired on or after July 1, 2011					
Age	Police hired before July 1, 2011	Service					
		21	22	23	24	25	
45	25.0%						
46	25.0%	28.0%	28.0%	28.0%	28.0%	28.0%	
47	25.0%	28.0%	35.0%	35.0%	35.0%	35.0%	
48	25.0%	28.0%	35.0%	35.0%	35.0%	35.0%	
49	25.0%	28.0%	30.0%	35.0%	40.0%	40.0%	
50	25.0%	28.0%	30.0%	35.0%	40.0%	50.0%	
51	25.0%	28.0%	30.0%	35.0%	40.0%	50.0%	
52	25.0%	28.0%	30.0%	35.0%	40.0%	50.0%	
53	30.0%	30.0%	30.0%	35.0%	35.0%	35.0%	
54	30.0%	30.0%	30.0%	35.0%	35.0%	35.0%	
55	30.0%	30.0%	30.0%	30.0%	35.0%	35.0%	
56	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	
57	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	
58	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	
59	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	
60	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	
61	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	
62	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	
63	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	
64	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	
65	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	
66	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

Medical Plan Participation: 40% of eligible retirees will elect to participate.

Dependent Status: Male spouses are assumed to be three years older and female spouses are assumed to be three years younger than the retired employee.

40% of employees are assumed to retire with a covered spouse.

SECTION 7 - ACTUARIAL ASSUMPTIONS AND METHODS

Medical Per Capita Costs: Annual per capita costs for the fiscal year beginning January 1, 2016 are as follows:

<u>Age</u>	<u>Male</u>	<u>Female</u>
Under 20	\$3,379	\$3,967
20-24	\$2,662	\$4,223
25-29	\$2,771	\$6,230
30-34	\$3,480	\$7,873
35-39	\$4,365	\$8,109
40-44	\$5,440	\$8,305
45-49	\$6,866	\$9,116
50-54	\$9,048	\$10,724
55-59	\$11,758	\$12,400
60-64	\$15,090	\$14,758

Retirees age 65 and older on Medicare supplemental plans do not generate any liabilities under GASB 45 as the retirees contribute 100% of the required premium and there is no implicit subsidy for these plans.

Retiree Contributions: Annual per capita participant contributions for the fiscal year beginning January 1, 2016 are as follows:

<u>Age</u>	<u>Participant Contributions</u>
Under 65	\$9,706

Actuarial Cost Method: Entry Age Normal. The costs of each employee's postemployment benefits are allocated as a level basis over the earnings of the employee between the employee's date of hire and the assumed exit ages.

Employee Data: Employee and retiree data were submitted by the County. We made reasonable adjustments for missing or invalid data.

SECTION 8 - PLAN MEMBER INFORMATION

TABLE 8.1 - ACTIVE EMPLOYEES BY AGE and YEARS OF SERVICE AS OF JANUARY 1, 2016

<u>Age</u>	<u>Years of Service</u>									<u>Total</u>	<u>Percent</u>
	<u>0 to 4</u>	<u>5 to 9</u>	<u>10 to 14</u>	<u>15 to 19</u>	<u>20 to 24</u>	<u>25 to 29</u>	<u>30 to 34</u>	<u>35 to 39</u>	<u>40 & up</u>		
Under 25	12	0	0	0	0	0	0	0	0	12	7%
25 to 29	17	1	0	0	0	0	0	0	0	18	10%
30 to 34	8	4	1	0	0	0	0	0	0	13	8%
35 to 39	5	3	1	2	0	0	0	0	0	11	6%
40 to 44	10	4	4	2	1	0	0	0	0	21	12%
45 to 49	12	8	3	1	0	1	0	0	0	25	14%
50 to 54	15	6	4	3	3	0	0	1	0	32	19%
55 to 59	8	3	1	2	1	1	0	0	2	18	10%
60 to 64	7	1	3	1	0	3	0	0	0	15	9%
65 to 69	3	1	3	0	0	0	0	0	0	7	4%
70 & up	0	0	1	0	0	0	0	0	0	1	1%
Total	97	31	21	11	5	5	0	1	2	173	
Percent	56%	18%	12%	6%	3%	3%	0%	1%	1%		100%
Average Age:			45.3	Average Service:			6.9				

SECTION 8 - PLAN MEMBER INFORMATION

TABLE 8.2 - RETIRED PLAN PARTICIPANTS, COVERED SPOUSES and SURVIVORS AS OF JANUARY 1, 2016

Age	Harvard Pilgrim HMO	Northern NE Trust HMO	Medicare Enhance	Total
Under 40	0	0	0	0
40 to 44	0	0	0	0
45 to 49	0	0	0	0
50 to 54	0	0	0	0
55 to 59	2	0	0	2
60 to 64	1	2	0	3
65 to 69	0	0	0	0
70 to 74	0	0	2	2
75 to 79	0	0	3	3
80 to 84	0	0	2	2
85 to 89	0	0	0	0
90+	0	0	0	0
Total	3	2	7	12
Covered Spouses	2	1	0	3

SECTION 9 - GASB 45 GLOSSARY OF TERMS

Actuarial Accrued Liability – The portion of the Actuarial Present Value of future benefits which is allocated to all periods prior to a valuation year and therefore is not provided by future Normal Costs.

Actuarial Assumptions – Assumptions as to the occurrence of future events affecting OPEB 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; characteristics of future entrants for Open Group Actuarial Cost Methods; and other relevant items.

Actuarial Present Value of Future Benefits – The present value of the cost to finance all benefits payable in the future, discounted to reflect the probability of payment and the time value of money.

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 an OPEB plan.

Actuarial Value of Assets – The value of plan assets used in an actuarial valuation. The Actuarial Value of Assets may reflect smoothing techniques intended to dampen year-to-year fluctuations in the market value of assets.

Annual OPEB Cost - The accrual basis annual cost for the OPEB plan sponsored by the employer. In the year of implementation of GASB 45, the Annual OPEB Cost equals the ARC. In subsequent years, if an employer has a Net OPEB Obligation, Annual OPEB Cost equals the ARC plus one year's interest on the Net OPEB Obligation plus an adjustment to the ARC.

Annual Required Contribution (ARC) – Includes the employer's Normal Cost and a provision for amortizing the Unfunded Actuarial Accrued Liability.

Explicit Subsidy – The difference between (a) the blended rates based on combined active and retired member experience and (b) actual cash contributions made by the employer.

Funded Ratio – The Actuarial Value of Assets expressed as a percentage of the Actuarial Accrued Liability.

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

Implicit Subsidy – In an experience-rated healthcare plan that includes both active employees and retirees with blended premium rates for all plan members, the difference between (a) the age-adjusted premiums approximating claim costs for retirees in the group and (b) the blended rates based on combined active and retired member experience.

SECTION 9 - GASB 45 GLOSSARY OF TERMS

Net OPEB Obligation – The cumulative excess since adoption of GASB 45 of Annual OPEB Cost over the employer's contributions to the plan.

Normal Cost – The portion of the Actuarial Present Value of Future Benefits which is allocated to a valuation year.

OPEB – Other Postemployment Benefits including medical, dental, vision, hearing and life insurance benefits.

Plan Assets – Investments segregated and restricted in a trust or similar arrangement under which:

- employer contributions to the trust are irrevocable,
- assets are dedicated to providing plan benefits, and
- assets are legally protected from creditors.

Pay-As-You-Go – A method of financing an OPEB 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.

Present Value of Future Benefits – The actuarial present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value of money and the probabilities of payment.

Projected Unit Credit Actuarial Cost Method – A method under which the projected benefits of each individual included in an Actuarial Valuation are allocated by a consistent formula to valuation years. Projected Unit Credit is one of the actuarial cost methods allowed and most often used for developing liabilities under GASB 45.

Substantive Plan – The terms of an OPEB plan as understood by the employer and plan members.

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