

**SAGINAW COUNTY OTHER POSTEMPLOYMENT BENEFITS  
ACTUARIAL VALUATION REPORT  
DECEMBER 31, 2009**

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July 16, 2010

Ms. Amy Deford  
Retirement Administrator  
County of Saginaw  
111 S. Michigan  
Saginaw, Michigan 48602

Dear Ms. Deford:

Submitted in this report are the results of an Actuarial Valuation of the benefit values associated with the employer financed retiree health care and life insurance provided by Saginaw County. The date of the valuation was December 31, 2009, effective for the fiscal year October 1, 2010 through September 30, 2011. This report was prepared at the request of Saginaw County.

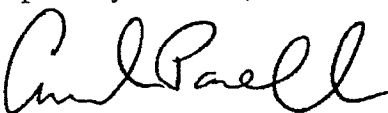
The actuarial calculations were prepared for purposes of complying with the requirements of Statements No. 43 and No. 45 of the Governmental Accounting Standards Board (GASB). The calculations reported herein have been made on a basis consistent with our understanding (see Comment C and page E-8 regarding certain assumptions used in this valuation) of these accounting standards. Determinations of the liability associated with the benefits described in this report for purposes other than satisfying the County's financial reporting requirements may produce significantly different results. This report may be provided to parties other than Saginaw County only in its entirety and only with the permission of Saginaw County.

The valuation was based upon information, furnished by the County, concerning retiree health care and life insurance benefits, individual members, and financial data. Data was checked for internal consistency, but was not otherwise audited.

To the best of our knowledge, this report is complete and accurate and was made in accordance with generally recognized actuarial methods. Both the interest rate assumption (8.00%) and the health care cost increase (trend) assumption were selected by the plan sponsor based upon plan-specific information to which we are not privy. We recommend the auditors review these assumptions to ensure compliance with GASB Statement No.45 and other accounting standards.

Both of the undersigned 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.

Respectfully submitted,



Curtis Powell, EA, MAAA



Mark Buis, FSA, EA, MAAA

CP/WJK:bd

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## **EXECUTIVE SUMMARY**

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## EXECUTIVE SUMMARY

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### **Annual Required Contribution**

This report presents the annual required contribution calculated in compliance (see Comment C and page E-8 regarding certain assumptions used in this valuation) with the accounting requirements of Governmental Accounting Standards Board (GASB) Statement No. 45.

The Annual Required Contribution (ARC) for the fiscal year beginning October 1, 2010 was determined to be \$9,074,989. The expected employer portion of the health care claims and premium amounts paid is estimated to be \$5,888,220 for the fiscal year beginning October 1, 2010.

For additional details, please see Section B of the report.

### **Additional OPEB Reporting Requirements**

In addition to the annual OPEB cost described above, employers will have to disclose a Net OPEB Obligation (or asset). The Net OPEB Obligation is the adjusted cumulative difference between annual OPEB costs and annual employer contributions in relation to the ARC, accumulated from the implementation of GASB Statement No. 45. The Net OPEB Obligation is zero as of the beginning of the fiscal year that GASB Statement No. 45 is implemented, unless the employer chooses to recognize a beginning balance.

The requirements for determining the employer's contributions in relation to the ARC are described in paragraph 13 g. of GASB Statement No. 45. Additional information required to be disclosed in the employer's financial statements is detailed in paragraphs 24 through 27 of GASB Statement No. 45.

## EXECUTIVE SUMMARY (CONCLUDED)

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### **Liabilities and Assets**

The present value of all benefits expected to be paid to current plan members as of December 31, 2009 is \$104,872,268. The actuarial accrued liability, which is the portion of the above amounts attributable to service accrued by plan members as of December 31, 2009, is \$98,501,429. The assets currently set aside for GASB OPEB purposes as of December 31, 2009 are \$11,544,398.

The funded status of this plan, which is the ratio of plan assets to actuarial accrued liability, as of December 31, 2009 is 11.7%.

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**SECTION A**  
VALUATION RESULTS

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**DEVELOPMENT OF THE ANNUAL REQUIRED CONTRIBUTION  
FOR THE FISCAL YEAR BEGINNING OCTOBER 1, 2010**

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Contributions for	Development of the Annual Required Contribution for Fiscal Year Beginning	
	2010	2009
Total Normal Cost	\$ 1,055,462	\$ 920,108
Amortization of Unfunded Actuarial Accrued Liabilities (Amortized over 28 years in 2010)	\$ 8,019,527	\$ 7,625,753
<b>Annual Required Contribution (ARC)</b>	<b>\$ 9,074,989</b>	<b>\$ 8,545,861</b>

The results on this page are based on an 8.00% investment return assumption and the trend assumption described on page E-8. Given the requirements of GASB Statements No. 43 and No. 45, use of an 8.00% investment return assumption is consistent with a funding policy to regularly contribute an amount at least equal to the ARC.

The unfunded actuarial accrued liabilities were amortized as level dollar amounts over a 28 year period for the fiscal year beginning in 2010 and over a 29 year period for the fiscal year beginning in 2009.



**DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY  
AS OF DECEMBER 31, 2009**

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	December 31, 2009	December 31, 2008
A. Present Value of Future Benefits		
1. Retirees and Beneficiaries	\$ 65,355,053	\$ 64,594,530
2. Vested Terminated Members	0	0
3. Active Members	<u>39,517,215</u>	<u>33,594,873</u>
Total Present Value of Future Benefits	\$104,872,268	\$ 98,189,403
B. Present Value of Future Employer Normal Costs	\$ 6,370,839	\$ 5,424,095
C. Actuarial Accrued Liability (A.-B.)	\$ 98,501,429	\$ 92,765,308
D. Actuarial Value of Assets	\$ 11,544,398	\$ 9,274,988
E. Unfunded Actuarial Accrued Liability (C.-D.)	\$ 86,957,031	\$ 83,490,320
F. Funded Ratio (D./C.)	11.7%	10.0%

The Unfunded Actuarial Accrued Liability (UAAL) is not booked as an expense all in one year and does not appear in the Employer's Statement of Net Assets. Nevertheless, it is reported in the Notes to the Financial Statements and in the Required Supplementary Information. These are information sections within the employer's financial statements.

The results on this page are based on an 8.00% investment return assumption and the trend assumption described on page E-8.

## COMMENTS

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**COMMENT A:** One of the key assumptions used in any valuation of the cost of postemployment benefits is the long-term rate of investment return on plan assets. Higher assumed investment returns will result in a lower Annual Required Contribution (ARC). Lower returns will result in a higher ARC. The rate of return assumption used in this valuation was selected by the plan sponsor to be 8.00% per year. The Governmental Accounting Standards Board (GASB) requires the rate of return assumption to be representative of the rate of return actually expected on the assets used to pay benefits. 8.00% may be appropriate in the case that benefits will be pre-funded into a trust invested in a mix of equities and fixed income assets, with annual contributions at least equal to the ARC. If Saginaw County chooses to pre-fund with contributions less than the ARC, GASB requires the assumed investment return on assets to be lower to reflect that some portion of future benefits will be paid from the County's general assets. Lowering the assumed investment return would increase the ARC and the Net OPEB Obligation (NOO) that is disclosed on the employers' financial statement.

**COMMENT B:** If paid from outside of the fund established for OPEB, actual claims and/or premiums paid on behalf of retirees may be treated as employer contributions in relation to the ARC and act to reduce the NOO. For the fiscal year ending September 30, 2011, the amount of estimated claims and/or premiums paid by the employer on behalf of retirees including the effect of the implicit rate subsidy under GASB is \$5,888,220.

**COMMENT C:** Both the interest rate assumption (8.00%) and the health care cost increase (trend) assumption described on page E-8 were selected by the plan sponsor based upon plan-specific information to which we are not privy. We recommend the auditors review these assumptions to ensure compliance with GASB Statement No. 45 and other accounting standards.

**COMMENT D:** Overall plan experience over the year prior to the valuation date was unfavorable in comparison to the assumptions. Actual claims experienced by the plan were higher than expected. In addition the trend rates were updated to the valuation date and the member withdrawal rates were adjusted to correspond to the MERS pension assumption. Both of these factors added additional upward pressure on the ARC.

## COMMENTS (CONCLUDED)

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**COMMENT E:** Actual pre-65 claims went up whereas the pre-65 illustrative rates provided by Blue Cross are lower than anticipated from the prior valuation. We believe this seeming inconsistency is really due to the rate setting process used by Blue Cross.

**COMMENT F:** The recently enacted healthcare reform legislation had no direct effect on this valuation. There may be an impact on future valuations as provisions of the new law are implemented.

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**SECTION B**  
BENEFITS PROJECTION

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## **EMPLOYER FINANCED OTHER POSTEMPLOYMENT BENEFITS PROJECTION ASSUMING FULL PRE-FUNDING OF THE ARC**

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The column titled "Expected Health Care Benefits" is the amount that we estimate can be applied to the funding of retiree health insurance premiums in various years. At least in the first few years this amount will exceed the amount actually charged by your Health Care Provider for retirees because your Health Care Provider does not provide separate rates by age and sex. In our opinion the difference can be applied to the normal active member portion of your Health Care Provider charges. This matter should be reviewed by the auditor and possibly legal counsel if a trust is involved. The projections are based on the health care cost trend increase rates shown on page E-8.

<b>Year Ending September 30,</b>	<b>Projected Covered Member Payroll</b>	<b>Asset Value BOY</b>	<b>Annual Required Contribution</b>	<b>Expected Health Care Benefits</b>	<b>Investment Income</b>	<b>Asset Value EOY</b>
2011	\$15,382,644	\$13,345,069	\$9,074,989	\$5,888,220	\$1,192,624	\$17,724,462
2012	14,481,937	17,724,462	8,996,892	6,465,589	1,517,261	21,773,026
2013	13,697,540	21,773,026	8,931,008	6,950,525	1,819,537	25,573,047
2014	12,975,260	25,573,047	8,866,304	7,382,941	2,104,037	29,160,447
2015	12,256,728	29,160,447	8,809,785	7,781,969	2,373,157	32,561,420
2016	11,532,911	32,561,420	8,756,454	8,124,067	2,629,722	35,823,529
2017	10,848,259	35,823,529	8,704,647	8,369,057	2,879,048	39,038,168
2018	10,157,230	39,038,168	8,654,869	8,557,634	3,126,868	42,262,271
2019	9,438,597	42,262,271	8,607,031	8,721,937	3,376,474	45,523,840
2020	8,704,021	45,523,840	8,559,160	8,895,619	3,628,708	48,816,089
2021	7,904,952	48,816,089	8,511,282	9,101,134	3,882,147	52,108,384
2022	7,038,081	52,108,384	8,461,561	9,331,776	4,134,532	55,372,701
2023	6,176,909	55,372,701	8,409,001	9,518,436	4,386,292	58,649,559
2024	5,399,722	58,649,559	8,356,304	9,727,240	4,638,182	61,916,805
2025	4,660,280	61,916,805	8,308,331	9,938,899	4,889,376	65,175,613
2026	3,997,531	65,175,613	8,265,926	10,087,943	5,142,570	68,496,166

This projection assumes the County will contribute an amount equal to the ARC each year. In addition, the payment to reduce the unfunded liability is based on an amortization period of 28 years the first year, decreasing by 1 each year. This is consistent with a financing policy aimed at eventually fully-funding the plan's liabilities.

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**SECTION C**

**RETIREE PREMIUM RATE DEVELOPMENT**

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## **RETIREE PREMIUM RATE DEVELOPMENT**

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Initial premium rates were developed separately for each class (pre-65 and post-65). The rates were calculated by using actual incurred claims and exposure data for the period of January 2007 to December 2009, adjusted for catastrophic claims, plus the load for administration, network access fees, and stop loss premiums. The self-insured Medical and prescription drug data were provided by Saginaw County. The Medical data was analyzed for the pre-65 and post-65 participants separately since Medicare is available for the post-65 participants and has a significant impact on the claim experience. Furthermore, since the prescription drug claims and the medical claims exhibit different trends and claim payment patterns, we analyzed these claims separately as well.

Age graded and sex distinct premiums are utilized in this valuation. The premiums developed by the preceding process are appropriate for the unique age and sex distribution currently existing. Over the future years covered by this valuation, the age and sex distribution will most likely change. Therefore, our process “distributes” the average premium over all age/sex combinations and assigns a unique premium for each specific age/sex combination. The age/sex specific premiums more accurately reflect the health care utilization and cost at that age.

The tables below show the resulting medical and prescription drug one-person monthly premiums at select ages. The premium (or per capita costs) rates shown below reflect the use of age grading.

### **Pre-65 Participants**

<b>Age</b>	<b>Male</b>	<b>Female</b>
45	\$479.48	\$627.72
50	648.69	735.01
55	847.83	871.49
60	1,065.11	1,023.81

### **Post-65 Participants**

<b>Age</b>	<b>Male</b>	<b>Female</b>
65	\$490.26	\$451.46
70	565.51	508.51
75	627.81	557.17

The undersigned is a Member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.



Brian Morris, FSA, MAAA  
Actuarial Certification

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**SECTION D**

**SUMMARY OF BENEFIT PROVISIONS  
AND VALUATION DATA**

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# SAGINAW COUNTY OTHER POSTEMPLOYMENT BENEFITS

## SUMMARY OF BENEFITS AS OF DECEMBER 31, 2009

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### PLAN PARTICIPANTS

Members of the County of Saginaw Retirement System hired prior to March 1, 2005 who satisfy the following requirements are eligible to receive retiree health care.

### RETIREMENT ELIGIBILITY

Eligibility conditions for health care benefits are:

**OPEIU (A), SCDPH COA (D), Pub. H. Nurses (E), Animal (J), TPOAM (O), and Pros. (R):**

Age 50 with 25 years of service, or  
at age 55 with 20 years of service, or  
at age 60 with 6 years of service.

**POLC Unit II Sgt's (C), POAM Unit III Cpt & Lt's (F), UAW Mgr's (U), Non-Union (blank), Upper Mgmt (blank), Elec (blank), and Judges (blank):**

Age 55 with 15 years of service, or  
at age 60 with 6 years of service, or  
at any age with 25 years of service.

**POAM Unit I (G), and POAM Non-312(Y):**

Age 60 with 6 years of service, or  
at any age with 25 years of service.

**Juv. Dent. & Supr. (I & T):**

Age 50 with 25 years of service, or  
at age 55 with 15 years of service, or  
at age 60 with 6 years of service.

**Juv. Prob. (P), and Dist. Ct. Prob. Office (Q):**

Age 55 with 20 years of service, or  
at age 60 with 6 years of service, or  
at any age with 25 years of service.

**UAW Prof. (V), and UAW Tech's (W):**

Age 50 with 25 years of service, or  
at age 55 with 15 years of service, or  
at age 60 with 6 years of service.

**SAGINAW COUNTY OTHER POSTEMPLOYMENT BENEFITS  
SUMMARY OF BENEFITS AS OF DECEMBER 31, 2009 (CONTINUED)**

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**EARLY RETIREMENT ELIGIBILITY**

Members retiring with a reduced pension are not eligible for Retiree Health Care coverage through Saginaw County.

**DEFERRED RETIREMENT ELIGIBILITY**

Members retiring under deferred retirement conditions are not eligible for Retiree Health Care coverage through Saginaw County.

**DISABILITY RETIREMENT ELIGIBILITY**

Members retiring under a disability (duty or non-duty) with 6 or more years of service are immediately eligible for subsidized retiree health care coverage under the schedule on page four.

**DEATH-IN-SERVICE RETIREMENT ELIGIBILITY**

Surviving spouses of active members who die while in active employment with the County are not eligible for retiree health care coverage through Saginaw County.

**SPOUSE COVERAGE ELIGIBILITY**

Subsidized retiree health care coverage is provided to the beneficiary of retirees hired prior to the dates shown below. Beneficiaries of deceased retirees hired prior to the dates shown below are eligible for subsidized retiree health care. Spouses of retirees hired on or after the dates shown below are not eligible for retiree health care coverage.

<b>Date of Change</b>	<b>Division</b>
<b>3/31/1996</b>	OPEIU (A)
<b>1/1/1999</b>	POLC Unit II (C), Pub. H. Nurses (E), POAM Unit I (G), TPOAM (O), Dist. Ct. Prob. Office (Q), and POAM Non-312(Y)
<b>1/1/1998</b>	SCDPH COA (D)
<b>1/1/2001</b>	POAM Unit III Cpt & Lt's (F)
<b>1/1/1996</b>	Juv. Dent. & Supr. (I & T)
<b>1/1/1997</b>	Animal (J)
<b>10/1/1999</b>	Juv. Prob. (P), and Pros. (R)
<b>1/1/1993</b>	UAW Mgr's (U), UAW Prof. (V), UAW Tech's (W), Non-Union ( <i>blank</i> ), Upper Mgmt ( <i>blank</i> ), Elec ( <i>blank</i> ), and Judges ( <i>blank</i> )

**MEDICARE ENROLLMENT**

The County of Saginaw provides complementary retiree health care benefits at age 65 when a member becomes Medicare eligible. Member and spouse are required to enroll in Medicare parts A and B when eligible. Member is responsible for payment of Medicare B premiums.

**SAGINAW COUNTY OTHER POSTEMPLOYMENT BENEFITS**  
**SUMMARY OF BENEFITS AS OF DECEMBER 31, 2009 (CONTINUED)**

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**RETIREE HEALTH SAVINGS PLAN**

Employees hired on or after March 1, 2005 will not be eligible for retirement health insurance. They will be offered an employer sponsored health benefit savings plan (RHS plan). The County will contribute 1% of employee's gross wages to the RHS Plan, while the employee has an option of not contributing or contributing 1% - 7% of their salary, this decision shall be irrevocable.

**PAYMENT IN LIEU OF RETIREE HEALTH INSURANCE**

Employees hired prior to March 1, 2005 may make an irrevocable election to refuse retirement health insurance and choose the RHS Plan. They will be offered a one-time incentive of \$15,000 by the County, and will not be eligible for retiree health insurance or a stipend in lieu of retiree health insurance. Once opting out of retiree health insurance, the County will contribute 1% of the employee's gross wages to the RHS Plan, while the employee has an option of not contributing or contributing 1% - 7% of their salary, this decision shall be irrevocable.

Members who retire are eligible to receive a monthly cash benefit in place of County subsidized retiree health care coverage (\$150 monthly for all divisions except POLC Unit II (C) whom receive \$75 monthly). If a retiree chooses the cash dollar monthly benefit, they are not eligible to opt back into the County's retiree health care plan.

Cash benefits are not considered OPEB benefits and are not valued in this valuation.

**SERVICE RELATED MEDICAL SUBSIDY**

The tables on the next page illustrate the service-related medical subsidy for members retiring after January 1, 1991 in the retiree health care program depending on the group. The County provides fully subsidized retiree health care for members who retired prior to January 1, 1991. OPEIU (A) members hired prior to March 29, 1986 follow the chart on the following page except that members with over 20 years of service receive 100% County paid retiree health care coverage. Pub. H. Nurses (E) members follow slightly different service-related medical subsidy tables depending on their date of retirement.

**SAGINAW COUNTY OTHER POSTEMPLOYMENT BENEFITS  
SUMMARY OF BENEFITS AS OF DECEMBER 31, 2009 (CONTINUED)**

Years of Service	A	C	D	E	E	F	G	I & T	J	O
	OPEIU	POLC Unit II Sgt's.	SCDPH COA	Pub. H. Nurses ret bf 10/1/04	Pub. H. Nurses ret aft 10/1/04	COAM Unit III Cpt & Lt's	POAM Unit I	Juv., Dent. & Supr.	Animal	TPOAM
0-5	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
6	25	25	25	25	20	20	20	20	20	20
7	30	30	30	30	25	25	25	25	25	25
8	35	35	35	35	30	30	30	30	30	30
9	40	40	40	40	35	35	35	35	35	35
10	45	45	45	45	40	40	40	40	40	40
11	50	50	50	50	45	45	45	45	45	45
12	55	55	55	55	50	50	50	50	50	50
13	60	60	60	60	55	55	55	55	55	55
14	65	65	65	65	60	60	60	60	60	60
15	70	70	70	70	65	65	65	65	65	65
16	75	75	75	75	70	70	70	70	70	70
17	80	80	80	80	75	75	75	75	75	75
18	85	85	85	85	80	80	80	80	80	80
19	90	90	90	90	85	85	85	85	85	85
20+	95	95	95	95	90	90	90	90	90	90

Years of Service	P	Q	R	U	V	W	Y	Non-Union	Upper Mgmt	Elec.	Judges
	Juv. Prob.	Dist. Ct. Prob. Office	Pros.	UAW Mgr's	UAW Prof.	UAW Tech's	POAM				
0-5	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
6	20	20	25	25	25	25	20	25	25	25	25
7	25	25	30	30	30	30	25	30	30	30	30
8	30	30	35	35	35	35	30	35	35	35	35
9	35	35	40	40	40	40	35	40	40	40	40
10	40	40	45	45	45	45	40	45	45	45	45
11	45	45	50	50	50	50	45	50	50	50	50
12	50	50	55	55	55	55	50	55	55	55	55
13	55	55	60	60	60	60	55	60	60	60	60
14	60	60	65	65	65	65	60	65	65	65	65
15	65	65	70	70	70	70	65	70	70	70	70
16	70	70	75	75	75	75	70	75	75	75	75
17	75	75	80	80	80	80	75	80	80	80	80
18	80	80	85	85	85	85	80	85	85	85	85
19	85	85	90	90	90	90	85	90	90	90	90
20+	90	90	95	95	95	95	90	95	95	95	95

Note: OPEIU hired before 1996 with 20+ years of service pay nothing for retiree coverage.

**SAGINAW COUNTY OTHER POSTEMPLOYMENT BENEFITS  
SUMMARY OF BENEFITS AS OF DECEMBER 31, 2009 (CONCLUDED)**

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**LIFE INSURANCE**

Members retiring on or after January 1, 1986 and fulfilling the requirements for retiree health care benefits as indicated in the "Retirement Eligibility" are eligible to receive retiree life insurance benefits through Saginaw County. Members retiring on or after January 1, 1986 and prior to January 1, 1992 are eligible for coverage of \$2,000. Members retiring on or after January 1, 1992 are eligible for coverage of \$4,000.

*This is a brief summary of the Saginaw County Retiree Health Care Plan provisions. In the event that any description contained herein differs from the actual eligibility or benefit, the appropriate employee contract or governing document will prevail.*

**ACTIVE MEMBERS AS OF DECEMBER 31, 2009  
BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Age	Years of Service to Valuation Date							Total	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
25-29		4						4	\$ 162,750
30-34	1	15	1					17	816,487
35-39		6	30	7				43	2,099,569
40-44	1	9	23	14	4			51	2,436,532
45-49		17	16	19	12	3		67	3,115,035
50-54		8	12	15	14	11	3	63	3,066,817
55-59		13	15	17	5	7	11	68	3,025,381
60-64		7	10	4	6	4	4	35	1,517,066
65 & Over		1	6	6	2	1	4	20	937,928
<b>Totals</b>	<b>2</b>	<b>80</b>	<b>113</b>	<b>82</b>	<b>43</b>	<b>26</b>	<b>22</b>	<b>368</b>	<b>\$17,177,565</b>

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

**Age:** 49.6 years  
**Service:** 16.1 years

659 Active members were valued with the life insurance benefit.

**RETIRED MEMBERS AS OF DECEMBER 31, 2009**  
**BY ATTAINED AGE**

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**RETIRED MEMBERS**

Attained Age	Number of Retirees		
	Female	Male	Total
Under 50	11	4	15
50-54	22	16	38
55-59	40	28	68
60-64	31	32	63
65-69	36	27	63
70-74	33	11	44
75-79	40	14	54
80-84	30	14	44
85-89	23	8	31
90 & Over	10	3	13
<b>Totals</b>	<b>276</b>	<b>157</b>	<b>433</b>

The above totals include only those retirees and surviving spouses currently in the County's Retiree Health Care Plan.

358 Retiree members were valued with the life insurance benefit.

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**SECTION E**  
ACTUARIAL COST METHOD  
AND ACTUARIAL ASSUMPTIONS

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**ACTUARIAL METHODS FOR  
SAGINAW COUNTY  
AS OF DECEMBER 31, 2009**

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**Actuarial Cost Method.** Normal cost and the allocation of benefit values between service rendered before and after the valuation date was determined using an **Individual Entry-Age Actuarial Cost Method** having the following characteristics:

- (i) the annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement;
- (ii) each annual normal cost is a constant percentage of the member's year by year projected covered pay.

Actuarial gains (losses), as they occur, reduce (increase) the Unfunded Actuarial Accrued Liability.

**Financing of Unfunded Actuarial Accrued Liabilities.** Unfunded actuarial accrued liabilities (UAAL) (full funding credit if assets exceed liabilities) were amortized as a level dollar. The UAAL was determined using the actuarial value of assets and actuarial accrued liability calculated as of the valuation date and projected to the beginning of the fiscal year at the assumed rate of investment return.

**Actuarial Value Assets.** The Actuarial Value of Assets is set equal to the reported market value of assets.

The following amortization factor(s) was/were used in developing the Annual Required Contribution for the fiscal years shown:

<b>8.00% Interest</b>	<b>Fiscal Year Beginning October 01,</b>
	<b>2010</b>
Total (Level Dollar)	11.4875

**ACTUARIAL ASSUMPTIONS FOR  
SAGINAW COUNTY  
AS OF DECEMBER 31, 2009**

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*The rate of investment return* was 8.0% a year, compounded annually net after investment expenses.

*The rates of salary increase* used for individual members are in accordance with the following table. This assumption is used to project a member's current salary to the salaries upon which future contributions will be based.

Sample Ages	% Increase in Salary at Sample Ages		
	Merit & Seniority	Base (Economic)	Increase Next Year
20	8.40 %	4.50 %	12.90 %
25	5.33	4.50	9.83
30	3.26	4.50	7.76
35	2.05	4.50	6.55
40	1.30	4.50	5.80
45	0.81	4.50	5.31
50	0.52	4.50	5.02
55	0.30	4.50	4.80

**ACTUARIAL ASSUMPTIONS FOR  
SAGINAW COUNTY  
AS OF DECEMBER 31, 2009 (CONTINUED)**

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*The rates of post retirement mortality* used for individual members are in accordance with the following tables.

For healthy retirees, mortality rates are based on the 1994 Group Annuity Mortality Tables blended 50% male/50% female. Sample rates are as follows:

<b>Sample Attained Ages</b>	<b>Probability of Dying Next Year (Healthy)</b>	<b>Future Life Expectancy (years)</b>
50	0.20%	32.60
55	0.34	27.98
60	0.62	23.53
65	1.16	19.40
70	1.87	15.66
75	2.99	12.24
80	5.07	9.25

For disabled retirees, mortality rates are based on the healthy life table above, but set forward ten years. Sample rates are as follow:

<b>Sample Attained Ages</b>	<b>Probability of Dying Next Year (Disabled)</b>	<b>Future Life Expectancy (years)</b>
50	0.62%	23.53
55	1.16	19.40
60	1.87	15.66
65	2.99	12.24
70	5.07	9.25
75	8.25	6.81
80	13.46	4.85

These assumptions are used to measure the probabilities of each benefit payment being made after retirement.

The same mortality tables are used for active members with 90% of active deaths assumed non-duty and 10% assumed duty related.

**ACTUARIAL ASSUMPTIONS FOR  
SAGINAW COUNTY  
AS OF DECEMBER 31, 2009 (CONTINUED)**

**Retirement Rates**

A schedule of retirement rates is used to measure the probability of eligible members retiring during the next year. To reflect the impact plan design may have on retirement experience, separate retirement rates apply to valuation divisions without Benefits F50, F55 or F(N), to those divisions that have adopted F55, to those that have adopted F50, and to those that have adopted F(N). The retirement rates in use for each category are shown below and on the next page.

**Normal Retirement - Age Based Benefit Provisions - F(N) Not Adopted**

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year		
	Without F50 or F55 or F(N)	With F55	With F50
50			22%
51			22
52			22
53			22
54			24
55		18%	18
56		15	14
57		10	16
58		15	18
59		20	18
60	20%	20	20
61	24	24	24
62	24	24	24
63	24	24	24
64	27	27	27
65	30	30	30
66	30	30	30
67	30	30	30
68	30	30	30
69	30	30	30
70	100	100	100

**ACTUARIAL ASSUMPTIONS FOR  
SAGINAW COUNTY  
AS OF DECEMBER 31, 2009 (CONTINUED)**

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**Normal Retirement - Service Based Benefit Provision - F(N) Adopted**

<b>Age</b>	<b>Percent of Eligible Active Members Retiring Within Next Year</b>	<b>Age</b>	<b>Percent of Eligible Active Members Retiring Within Next Year</b>	<b>Age</b>	<b>Percent of Eligible Active Members Retiring Within Next Year</b>
40	22%	51	22%	61	24%
41	22	52	22	62	24
42	22	53	22	63	24
43	22	54	24	64	27
44	22	55	18	65	30
45	22	56	14	66	30
46	22	57	16	67	30
47	22	58	18	68	30
48	22	59	18	69	30
49	22	60	20	70	100
50	22				

Municipalities that have adopted a non-standard benefit multiplier, for pension plan benefits, after December 31, 1996 that is in excess of the B-4, 2.5% multiplier, will have a retirement rate equal to 75% at the first age at which unreduced pension plan benefits are available.

**ACTUARIAL ASSUMPTIONS FOR  
SAGINAW COUNTY  
AS OF DECEMBER 31, 2009 (CONTINUED)**

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**Early Retirement - Reduced Pension Benefit**

<b>Retirement Ages</b>	<b>Percent of Eligible Active Members Retiring Within Next Year</b>
50	2%
51	2
52	3
53	5
54	8
55	4
56	4
57	4
58	6
59	8

**ACTUARIAL ASSUMPTIONS FOR  
SAGINAW COUNTY  
AS OF DECEMBER 31, 2009 (CONTINUED)**

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*Rates of separation from active membership* are used to estimate the number of employees at each age that are expected to terminate employment before qualifying for retirement benefits. The rates of separation from active membership do not apply to members eligible to retire, and do not include separation on account of death or disability. The assumed rates of separation applied in the current valuation are based on years of service, and scaled up or down according to each group's experience.

<b>Group</b>	<b>Separation Rate Scaling Factor</b>
All Divisions	90%

The base separation rates (see the table below) are multiplied by the scaling factor to obtain the assumed withdrawal rates. Sample rates of separation from active employment, before application of the scaling factor, are shown below.

<b>Sample Years of Service</b>	<b>% of Active Members Separating Within the Next Year</b>
0	20.00%
1	17.00
2	14.00
3	11.00
4	9.00
5	6.50
10	5.00
15	3.70
20	3.00
25	2.70
30	2.60
34 and over	2.40

**ACTUARIAL ASSUMPTIONS FOR  
SAGINAW COUNTY  
AS OF DECEMBER 31, 2009 (CONCLUDED)**

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**Disability Rates**

Disability rates are used in the valuation to estimate the incidence of member disability in future years.

The assumed rates of disablement at various ages are shown below.

Sample Ages	Percent Becoming Disabled Within the Next Year
20	0.02%
25	0.02
30	0.02
35	0.06
40	0.06
45	0.11
50	0.24
55	0.41
60	0.41
65	0.41

85% of the disabilities are assumed to be non-duty and 15% of the disabilities are assumed to be duty related. For those plans which have adopted disability provision D-2, for pension benefit purposes, 70% of the disabilities are assumed to be non-duty and 30% are assumed to be duty related.

*Health care cost trend rates* are displayed in the following table:

Year Beginning January 1,	Medical and Prescription Drugs
2011	7.00 %
2012	6.50
2013	6.00
2014	5.50
2015	5.25
2016	5.00
2017	4.75
2018 & Later	4.50



**GASB STATEMENTS NO. 43 AND NO. 45**  
**REQUIRED SUPPLEMENTARY INFORMATION**

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Valuation Date	December 31, 2009
Actuarial Cost Method	Individual Entry Age
Amortization Method	Level Dollar Closed
Remaining Amortization Period	28 Years
Asset Valuation Method	Market Value
Actuarial Assumptions:	
Discount Rate	8.00% Per Year
Projected Salary Increases	12.90% - 4.50%
Valuation Health Care Cost Trend Rate	7.00% in 2011, grading to 4.50% in 2018

## MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

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<b>Decrement Timing:</b>	Decrements of all types are assumed to occur mid-year.
<b>Eligibility Testing:</b>	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
<b>Marriage Assumption:</b>	70% of males and 70% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses for active member valuation purposes.
<b>Medicare Coverage:</b>	Assumed to be available for all covered employees on attainment of age 65.
<b>Election Percentage:</b>	60% of males and 60% of females were assumed to elect two-person coverage, if eligible. 40% of males and 40% of females were assumed to elect one-person coverage. For those that elect two-person coverage, it was assumed that coverage would continue to the spouse upon death of the retiree.
<b>Non-Investment Administration Expenses:</b>	None.
<b>Opt-Out Assumption:</b>	It is assumed that 0% of the current active population will elect to opt-out of retiree health coverage.

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**APPENDIX A**  
GLOSSARY

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## GLOSSARY

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**Accrued Service** - The service credited under the plan which was rendered before the date of the actuarial valuation.

**Actuarial Accrued Liability** - The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability."

**Actuarial Assumptions** - Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

**Actuarial Cost Method** - A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future plan benefits" between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the "actuarial funding method."

**Actuarial Equivalent** - A single amount or series of amounts of equal value to another single amount or series of amounts, computed on the basis of the rate(s) of interest and mortality tables used by the plan.

**Actuarial Present Value** - The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

**Amortization** - Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

## **GLOSSARY (CONCLUDED)**

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**Annual Required Contribution (ARC)** - The ARC is the normal cost plus the portion of the unfunded actuarial accrued liability to be amortized in the current period. The ARC is an amount that is actuarially determined in accordance with the requirements so that, if paid on an ongoing basis, it would be expected to provide sufficient resources to fund both the normal cost for each year and the amortized unfunded liability.

**Governmental Accounting Standards Board (GASB)** - GASB is the private, nonpartisan, nonprofit organization that works to create and improve the rules U.S. state and local governments follow when accounting for their finances and reporting them to the public.

**Medical Trend Rate (Health Care Inflation)** - The increase in the cost of providing health care benefits over time. Trend includes such elements as pure price inflation, changes in utilization, advances in medical technology, and cost shifting.

**Normal Cost** - The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as "current service cost." Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

**Other Postemployment Employee Benefits (OPEB)** - OPEB are postemployment benefits other than pensions. OPEB generally takes the form of health insurance and dental, vision, prescription drugs or other health care benefits.

**Reserve Account** - An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

**Unfunded Actuarial Accrued Liability** - The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded accrued liability."

**Valuation Assets** - The value of current plan assets recognized for valuation purposes.

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**APPENDIX B**  
OVERVIEW

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## **GASB BACKGROUND**

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The purpose of this valuation is to provide information on the cost associated with providing postemployment benefits other than pensions, or OPEB, to current and former employees. OPEB benefits are most often associated with postemployment health care, but cover almost any benefit not provided through a pension plan, including life insurance, dental and vision benefits. It is important to note that OPEB benefits, by definition, do not include benefits *currently* being provided to active employees – however, this report includes the liabilities for benefits expected to be paid to current active employees when they terminate employment at a future date.

The rising cost of health care has been a cause of concern to both individuals and employers who sponsor health care plans. The accounting community became concerned that many sponsors of public plans were accounting for the cost of their OPEB plans solely on the basis of benefits paid and that this method did not accurately reflect the ultimate cost of benefits promised to current and former employees. In 1988, the Governmental Accounting Standards Board (GASB) began working on a project to develop comprehensive standards for financial reporting of OPEB plans.

The GASB determined that an OPEB plan was similar to a pension plan in that benefits are earned during an active employee's working lifetime but paid out at a future date. In the GASB's view, accounting for OPEB should follow the same basic principle as accounting for public plan pension costs. These benefits are compensation for employees' services and should be accounted for during the period of time that services are performed.

## GASB BACKGROUND (CONCLUDED)

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The GASB worked on comprehensive standards for OPEB accounting for more than a decade, culminating with the release of GASB Statements No. 43 and No. 45 in the spring of 2004. GASB Statement No. 43 covers the accounting rules for OPEB *plans* while GASB Statement No. 45 describes the rules for *employers* sponsoring OPEB plans. The effective dates of the Statements are based on the implementation of GASB Statement No. 34, based on the sponsor's annual revenue for the first fiscal year ending on or after June 15, 1999, and follow the schedule below:

Total Annual Revenue in the First Fiscal Year Ending After June 15, 1999	GASB Statement No. 43 OPEB Standards for the Plan's Financial Statements will be Effective for Periods Beginning After	GASB Statement No. 45 OPEB Standards for the Employer's Financial Statements will be Effective for Periods Beginning After
<b>Phase 1 Govts.</b> - \$100 million or more	December 15, 2005	December 15, 2006
<b>Phase 2 Govts.</b> - \$10 million or more, but less than \$100 million	December 15, 2006	December 15, 2007
<b>Phase 3 Govts.</b> - Less than \$10 million	December 15, 2007	December 15, 2008



## GASB STANDARDS

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Unlike pension plans, OPEB plans often do not have a formal document detailing the specific terms of the plan. Under GASB Statements No. 43 and No. 45 the benefits to be accounted for are those provided by the *substantive plan* – loosely defined as the benefits covered by the plan as understood by the employer and plan members at the time of each actuarial valuation. The substantive plan provisions used in this valuation are summarized in Section E.

GASB also requires that the calculations assume the terms of the substantive plan continue indefinitely. It has been argued that there is a likelihood future OPEB plan provisions would be different than the current substantive plan (due to rising health care costs or social changes) and therefore liabilities based on the current substantive plan may overstate what will actually occur. However, the GASB Statement is designed to measure liabilities for the plan as it currently exists. While it may be reasonable to assume future changes in the OPEB plan for other purposes, recognition of anticipated changes is not allowed for purposes of accounting for OPEB.

The specific items required to be disclosed on an OPEB sponsor's financial statements are described in detail in GASB Statements No. 43 and No. 45. In general terms, though, the plan sponsor is required to disclose an annual OPEB cost, the funded status of the plan and the funding progress on the valuation date.

Although GASB does not require OPEB contributions, it has chosen to call the base component of the annual OPEB cost, the Annual Required Contribution, or ARC. The ARC consists of the cost of benefits accruing in a year plus an amount calculated to amortize any unfunded actuarial accrued liability over a period of not more than 30 years.

The funded status of the plan is a ratio of the plan's assets (if any) to the actuarial accrued liability on the valuation date. The plan is also required to disclose the cumulative difference between the ARC and the employer's actual contribution to the plan. This amount is known as the Net OPEB Obligation (NOO). Each year, the NOO accumulates with interest, plus the difference between the ARC and actual contributions for the year, plus some technical adjustments. **For most plans, the NOO is set to zero as of the effective date of the GASB OPEB standard. It is the NOO, and not the actuarial accrued liability, that will be disclosed on the employers' Statement of Net Assets.**

## OPEB SPECIFIC ASSUMPTIONS

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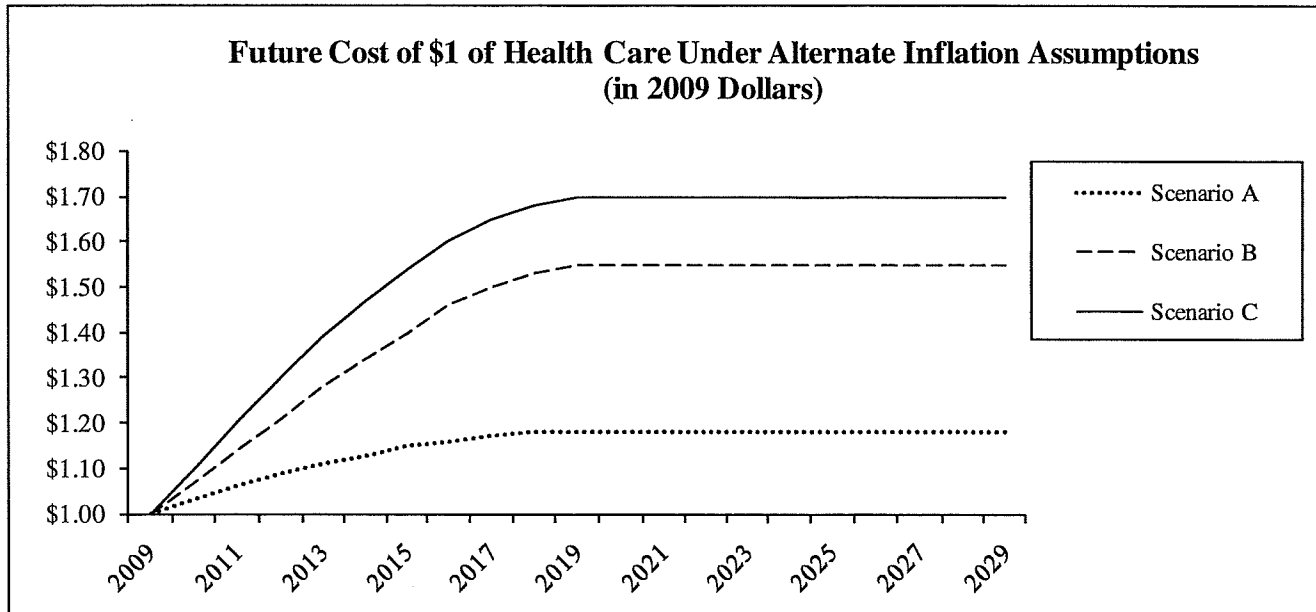
In any long-term actuarial valuation (such as for pensions and OPEB) certain demographic, economic and behavioral assumptions must be made concerning the population, invested assets and the benefits provided. These actuarial assumptions form the basis for the actuarial model which is used to project the future population, benefits to be provided, and contributions to be collected. The rate of investment return assumption is used to discount the future benefits to a present value on the valuation date. While assumptions such as future rates of retirement and mortality are similar for both OPEB and pension plans, there are some additional assumptions required when projecting benefits for a health care plan. All actuarial assumptions used in the valuation are described in Section E.

The cost of providing medical services has been increasing more rapidly than overall consumer prices for many years. During the period from 1957 to 2007, general inflation averaged 4.0%, while health expenditures increased by an average of about 10% per year. If this trend is projected to continue indefinitely, the implication is that years from now virtually all our expenditures will be for health care. The seemingly more reasonable alternative is that in the not too distant future medical expense inflation will stabilize at a level at or near general inflation. It is on this basis that we project that retiree health care costs will continue to exceed general inflation in the near term, but by less each year until leveling off at an ultimate rate that is similar to general price increases.

Health care cost trend rates used in this valuation are recommended by a qualified GRS health care actuary and lie within a range of reasonable assumptions. These are described in the section titled "Actuarial Cost Method and Actuarial Assumptions". The health care cost increase assumption has a major effect on the size of calculated plan liabilities. To illustrate the effect of differing future medical inflation rates, the chart on the following page projects the growth of \$1 of health care benefit under three sets of assumptions.

In this illustration, each set of assumptions trends smoothly to an assumed long term rate of inflation over the next ten years. The assumption set labeled "Scenario A" begins at a rate of 3% in excess of general inflation, the "Scenario B" assumption begins at a rate of 7% in excess of general inflation, while the "Scenario C" assumption begins at a rate of 10% in excess of general inflation.

## OPEB SPECIFIC ASSUMPTIONS (CONCLUDED)



The chart above shows that the cost of providing health care is expected to increase over 50% in inflation-adjusted dollars over the next 20 years, using the “Scenario B” health care increase assumption set. To put this in perspective, assuming health care increases settle down to general inflation almost immediately, as in the “Scenario A” assumption set, future per capita health care costs will be expected to increase less than 20% over current levels. In addition to the per capita health care inflation, projected costs rise as the retiree population grows.

The selection of an investment return rate also has a major impact on the calculation of the reported GASB OPEB expense.

It is important to note that GASB Statements No. 43 and No. 45 require the selection of an investment return assumption to be based on the expected long-term rate of return on the assets expected to pay the OPEB when due. GASB states that the return should be based on expected returns of:

- Plan assets – if the sponsor has been contributing the ARC on a regular basis;
- The employer’s general assets – where no OPEB assets have been accumulated;
- A blend of plan and employer assets – in cases where OPEB assets exist but the plan is contributing amounts less than the ARC.

## ACTUARIAL COST METHOD

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GASB Statement No. 45 provides some flexibility to governmental employers (and their actuaries) in the use of various actuarial cost methods. It should be noted that an actuarial cost method determines a contribution or expense by assigning portions of the present value of projected benefits to various years with the general goal of accruing the cost of benefits over the working lifetime of the employees. The choice of a particular method does not change the ultimate cost of the promised benefits.

The Entry Age Normal actuarial cost method has been used to calculate the GASB ARC for this valuation. Using the plan benefits, the present health premiums and a set of actuarial assumptions, the anticipated future payments are projected. The entry age method then provides for a systematic funding for these anticipated payments. The yearly ARC is computed to cover the cost of benefits being earned by covered members as well as to amortize a portion of the unfunded accrued liability. The normal cost and amortization of the unfunded accrued liability were calculated as level dollar amounts. This is both an acceptable and reasonable cost method. The use of another actuarial cost method would produce different results.

## OPEB PRE-FUNDING

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Many employers fund retiree health care benefits using the pay-as-you-go (or cash disbursement) method. The employer's annual contribution for these benefits is equal to the actual disbursements during the year for health care benefits for retired employees. This method of funding will result in increasing contributions over time. Per capita cash disbursements will tend to increase from year to year as the cost of health care services or the utilization of these services increase.

A retiree health care plan is similar to a defined benefit pension plan, in that promises are made to employees to provide them with a benefit payable at some future date. For defined benefit pension plan sponsors a common funding objective is to contribute annual amounts to a fund which will i) remain level as a percentage of active member payroll, and ii) when combined with present assets and future investment return will be sufficient to meet the financial obligations of the Plan to current and future retirees.

The ultimate determination as to the level of pre-funding will be the result of decisions made in an attempt to reconcile the often conflicting needs of benefit security for members and fiscal responsibility for the County. The GASB accounting standards noted in the previous section of the report can factor into decisions concerning the level of pre-funding.