

ST. CLAIR COUNTY EMPLOYEES RETIREMENT SYSTEM
TWENTY-SIXTH ANNUAL ACTUARIAL VALUATION OF THE
RETIREE HEALTH BENEFITS
DECEMBER 31, 2010

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September 22, 2011

The Retirement Board St. Clair County Employees Retirement System St. Clair County Port Huron, Michigan

Dear Board Members:

Submitted in this report are the results of the Twenty-Sixth Actuarial Valuation of the assets and liabilities associated with the employer financed retiree health benefits provided by the St. Clair County Retiree Health Care Plan. The date of the valuation was December 31, 2010. The annual required contributions have been calculated for the fiscal year beginning January 1, 2012. This report was prepared at the request of St. Clair County and the Retirement Board.

This report was prepared at the request of the County and the Retirement Board and is intended for use by the County and the Retirement Board and those designated or approved by the County and the Retirement Board. This report may be provided to parties other than the County or the Retirement Board only in its entirety and only with the permission of the County or the Retirement Board.

The actuarial calculations were prepared for purposes of complying with the requirements of Statement No. 45 of the Governmental Accounting Standards Board (GASB). In addition, we have included information which may be helpful if there is a trust requiring a GASB Statement No. 43 disclosure. The calculations reported herein have been made on a basis consistent with our understanding of these accounting standards. Determinations of the liability associated with the benefits described in this report for purposes other than satisfying St. Clair County's financial reporting requirements may be significantly different than the values shown in this report.

The valuation was based upon information furnished by St. Clair County concerning retiree health benefits, individual members, and plan finances. Data was checked for internal consistency, but was not otherwise audited.

To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the St. Clair County Retiree Health Care Plan as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board. Please see the following page for additional disclosures requested by the Actuarial Standards of Practice. The undersigned are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,

CN/WJK:lr

#### Additional Disclosures Required by Actuarial Standards of Practice

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

This report should not be relied on for any purpose other than the purpose described in the primary communication. Determinations of the financial results associated with the benefits described in this report in a manner other than the intended purpose may produce significantly different results.

The signing actuaries are independent of the plan sponsor.

The valuation was based upon information furnished by the County, concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided by the County.

The developed findings included in this report consider data or other information through December 31, 2010.

## SECTION A EXECUTIVE SUMMARY

### **EXECUTIVE SUMMARY**

### 1. Computed Contributions - Fiscal Year Beginning January 1, 2012

The following table shows a comparison of the computed contribution rates from last year to this year. Note that Mental Health and Road Commission rates are shown as a percentage-of-payroll.

	Dec emb	er 2009*	December 2010**		
Division	5.0% 20 year amortization	5.0% 30 year amortization	5.0% 19 year amortization	5.0% 30 year amortization	
General ^	\$14,820,491	\$12,685,222	\$14,536,423	\$12,123,180	
Mental Health	27.11	22.13	25.73	20.40	
Road Commission	62.89	49.15	66.29	49.69	
Total	45.05	37.74	46.09	37.51	

<sup>\*</sup> The December 2009 valuation calculated the contribution rate for the fiscal year beginning January 1, 2011.

#### 2. Reasons for Change

There are three general reasons why contribution rates change from one valuation to the next. The first is a change in the benefits or eligibility conditions of the plan. The second is a change in the valuation assumptions or methods used to predict future occurrences. The third is the difference during the year between the plan's actual experience and what the assumptions predicted.

There were changes in plan benefits. The co-pays under the prescription drug plans were increased. The health inflation assumption was changed to better reflect future anticipated experience.

In addition, during the 2010 plan year, the retiree health plan received lower contributions than the recommended amount. When the plan receives less than the recommended amount in contributions during a given year, it increases the need for the future contributions, resulting in higher future contributions.

<sup>\*\*</sup> The December 2010 valuation calculated the contribution rate for the fiscal year beginning January 1, 2012.

<sup>^</sup> General County includes Sheriff starting with the December 31, 2008 valuation.

### **EXECUTIVE SUMMARY**

#### 3. Year 2010 Experience Gain (Loss)

One way the plan's experience influences costs is the effect it has on the unfunded accrued liability. This is referred to as the experience gain or loss for the year. There was a gain from all causes of \$18,310,936 during 2010. This represents 7.3% of the 2009 accrued liabilities. The gain (loss) development is shown on page B-5.

The liability gain was attributable to changes in the Retiree Health Care Plan (i.e., increase in the copays of the prescription drug plans).

### 4. Effect of County Contributions

A computed contribution rate will remain level from year to year if experience matches the assumptions and if the plan receives contributions in accordance with the computed contribution from the prior valuation. This year the plan received less in contributions than developed in the 2008 valuation.

12/2008 Computed Contribution Rate	31.00%
Actual 2010 Payroll	\$44,623,366
Implied Contributions	13,833,243
Actual Contributions	3,030,988
Shortfall	\$10,802,255

### 5. 2010 Funding Position

Funding for retiree health benefits began 25 years ago. This year, valuation assets represent 14.8% of accrued liabilities; last year the ratio was 14.9%. The decrease in the funding ratio is attributable to County contributions that are lower than the recommended amount offset by a liability gain resulting from the change to the prescription drug plan.

### **EXECUTIVE SUMMARY**

#### 6. Context

Contributing on the basis of valuation results allows the County to level out somewhat the cost of retiree health benefits. However, due to the volatility of health care inflation, the results of the retiree health valuation are likely to fluctuate more from year to year than the results of the basic benefits valuation. The Sensitivity Tests in Section D demonstrate how these costs may vary depending upon future experience.

#### 7. Conclusions

As long as contributions are made at the recommended level, experience matches the assumptions and there are no changes in benefits, the contribution rate should remain close to the percent of payroll shown in this report. The key assumptions are the future rate of increase in per capita health expenditures and the rate of investment return.

#### 8. GASB Statements No. 43 and No. 45

As requested by the County we calculated the Annual Required Contribution using a 5.0% interest rate assumption.

If the County had a funding policy of contributing the recommended amount, an interest rate assumption such as 7.5% could be used in the calculations. Using a 7.5% assumption, the contribution for fiscal year beginning January 1, 2012 would be 32.13% of payroll.

## **SECTION B**VALUATION RESULTS AND COMMENTS

### FINANCIAL OBJECTIVE

The financial objective of the Retiree Health Care Plan is to establish and receive contributions, which will permit the accumulation of assets to pay for these retirement benefit promises.

Your annual retiree health benefit valuations determine how well the objective is being met.

### **CONTRIBUTION RATES**

The retiree health benefits are supported by contributions from the County, some of the members and by the investment income earned on assets.

County contributions cover both (i) normal cost, and (ii) the financing of the unfunded accrued liability over a period of future years. The normal cost is the portion of costs allocated to the current year by the valuation method described in Section F. The unfunded accrued liability is the portion of costs not covered by present assets and future normal costs.

The contribution requirements for retiree health benefits for the fiscal year beginning January 1, 2012 are presented on page B-2. We have developed and shown in a separate report the costs of basic retirement benefits.

## CONTRIBUTIONS TO PROVIDE RETIREE HEALTH BENEFITS DECEMBER 31, 2010 VALUATION

		Mental	Road
Contributions for	General	Health	Commission
Normal cost of benefits:			
Age & service	\$ 3,579,515	10.56%	19.75%
Disability	102,029	0.36%	0.74%
Death before retirement	85,024	0.27%	0.53%
Total	3,766,568	11.19%	21.02%
<b>Member contributions:</b>			
Total	629,178	0.00%	0.00%
Future refunds	113,365	0.00%	0.00%
Available	515,813	0.00%	0.00%
<b>Employer normal cost</b>	3,250,755	11.19%	21.02%
19 year amortization			
Unfunded accrued liability	11,285,668	14.54%	45.27%
Computed Employer Rate	14,536,423	25.73%	66.29%
30 year amortization			
Unfunded accrued liability	8,872,425	9.21%	28.67%
Computed Employer Rate	12,123,180	20.40%	49.69%

Unfunded actuarial accrued liabilities were financed as a level dollar amount for General County (including Sheriff) and as a level percent of member payroll for Mental Health and Road Commission.

The procedure for determining dollar contribution amounts is shown on page B-3.

Page B-4 displays the unfunded accrued liabilities.

### CONVERTING CONTRIBUTION RATES TO DOLLAR AMOUNTS

For any period of time, the percent-of-payroll contribution rate needs to be converted to dollar amounts. We recommend the following procedures.

Contribute dollar amounts for a period which are equal to the computed percent-of-payroll contribution requirement multiplied by the covered active member payroll for the period. Since pay data used is submitted for the retirement system valuation, the contribution percentages developed refer to payroll as defined for Retirement System benefits.

#### TIMING OF CONTRIBUTION PAYMENTS

The contributions in this report anticipate regular payments throughout the year. Examples would be at each payroll date or in 12 monthly installments. If the employer contribution pattern is significantly different, an adjustment to the costs may be appropriate. For example, a lump sum contribution at the beginning of the year is available for investment throughout the year and, therefore, ought to be somewhat smaller than 12 monthly payments. Similarly, a lump sum contribution at the end of the year will not generate any investment income that year and so must be greater than 12 monthly payments.

# DETERMINATION OF UNFUNDED ACCRUED LIABILITY RETIREE HEALTH BENEFITS DECEMBER 31, 2010 VALUATION

		General	Mental Health	Road Commission	Total
A.	Accrued Liability	General	neattii	Commission	Total
	1. For retirees and beneficiaries	\$ 82,939,387	\$13,038,379	\$27,126,556	\$123,104,322
	2. For vested terminated members	19,609,679	10,581,440	3,410,791	33,601,910
	3. For present active members				
	a. Value of expected future benefit payments	106,476,317	34,748,829	29,141,672	170,366,818
	b. Value of future normal costs	52,927,056	18,148,474	11,933,884	83,009,414
	c. Active member liability: (a) - (b)	53,549,261	16,600,355	17,207,788	87,357,404
	4. Total	156,098,327	40,220,174	47,745,135	244,063,636
В.	Valuation Assets	22,981,212	8,052,170	5,072,150	36,105,532
C.	Unfunded Accrued Liability: (A.4) - (B)	\$133,117,115	\$32,168,004	\$42,672,985	\$207,958,104

### DEVELOPMENT OF 2010 EXPERIENCE GAIN (LOSS) RETIREE HEALTH BENEFITS

Actual experience will never (except by coincidence) exactly match assumed experience. It is hoped that gains and losses will cancel each other over a period of years, but sizable year to year fluctuations are common. Detail on the derivation of the experience gain (loss) is shown below.

	2009	2010
(1) UAAL* at start of year	\$176,292,166	\$212,748,122
(2) Normal cost from last year	5,879,627	6,390,066
(3) Actual contributions	3,057,155	3,576,326
(4) Net interest accrual on (1), (2) and (3)	8,884,596	10,707,178
(5) Expected UAAL before changes: (1) + (2) - (3) + (4)	187,999,234	226,269,040
(6) Changes from amendments	0	0
(7) Change from revised assumptions/methods	0	0
(8) Expected UAAL after changes: $(5) + (6) + (7)$	187,999,234	226,269,040
(9) Actual UAAL at end of year	212,748,122	207,958,104
(10) Gain (Loss): (8) - (9)	(24,748,888)	18,310,936
(11) Gain (Loss) as percent of actuarial accrued liabilities at start of year	(11.52)%	7.33 %

<sup>\*</sup> Unfunded actuarial accrued liabilities.

### DEVELOPMENT OF VALUATION INVESTMENT GAIN (LOSS) YEAR ENDED DECEMBER 31, 2010

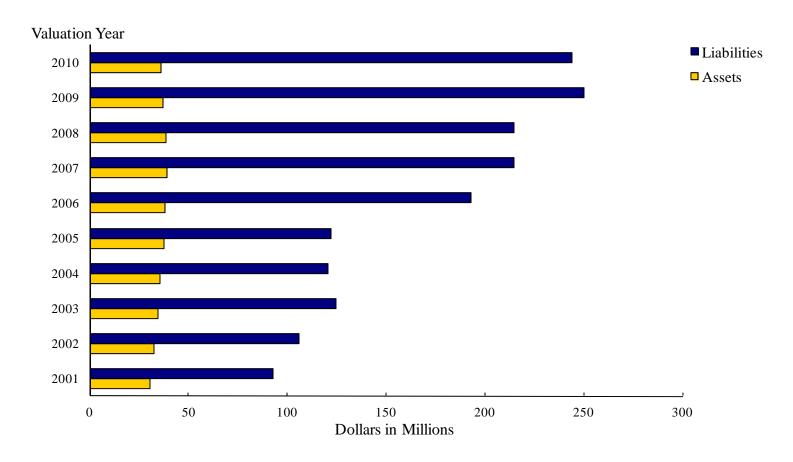
The 2010 valuation assumed an average 7.5% return on valuation assets (these are the assets in the trust). Net investment return in excess of 7.5% represents a gain. If net investment return falls short of 7.5%, the difference between an income of 7.5% and the net return represents a loss.

(1) Total 2010 valuation investment income:	\$ 7,979,845
(2) Average Valuation Assets (Pension & Health)	211,157,720
(3) Expected investment income: (.075) x (2)	15,836,829
(4) Gain (Loss): (1) - (3)	(7,856,984)
(5) Portion of System assets for retiree health benefits	0.170392
(6) Gain (loss) attributable to retiree health benefit assets: (4) x (5)	(1,338,771)
(7) Valuation rate of return for 2010: (1)/(2)	3.78%

Please note that this analysis uses asset values and investment income in the Employee's Retirement System Trust, as defined for the actuarial valuation. It is not, therefore, appropriate as a measure of manager performance.

During 2010 the approximate market value rate of return was 14.91%.

### ASSETS & ACCRUED LIABILITIES RETIREE HEALTH BENEFITS



2001 assets equaled 32.8% of accrued liabilities.

2010 assets equaled 14.8% of accrued liabilities.

## COMPUTED EMPLOYER CONTRIBUTIONS RETIREE HEALTH BENEFITS COMPARATIVE STATEMENT

_		<b>Covered Active</b>	Members		Covered	C	omputed Em	ployer Contribu	tions^+	
Valuation		Valuat	tion Payroll		Retirees &		Mental	Road		
Date	No.	Total	Average	% Incr.	Beneficiaries	General*	Health	Commission	Sheriff	Total
12/31/1997	791	\$28,402,628	\$35,907	0.6	376					12.59 %
12/31/1998	798	29,161,115	36,543	1.8	394					13.41
12/31/1999	827	31,051,406	37,547	2.7	406					16.14
12/31/2000@	825	32,044,333	38,842	3.4	410					24.39
12/31/2001	833	32,744,255	39,309	1.2	426					26.49
12/31/2002	883	35,716,619	40,449	2.9	435					28.96
12/31/2003**	914	38,047,803	41,628	3.0	455					19.24
12/31/2004	924	39,609,752	42,868	3.0	462					17.84
12/31/2005@^	996	42,622,922	42,794	(0.2)	462	17.11 %	11.68 %	26.69 %	16.21 %	17.11
12/31/2006	985	44,015,666	44,686	4.4	507	17.91	13.45	32.43	18.88	19.02
12/31/2006@	985	44,015,666	44,686	4.4	507	25.75	20.73	44.3	29.34	27.81
12/31/2006@**	985	44,015,666	44,686	4.4	507	22.02	18.34	38.25	26.46	24.24
12/31/2007	986	44,600,186	45,233	1.2	537	28.92	23.36	52.95	32.79	31.32
12/31/2007**	986	44,600,186	45,233	1.2	537	23.96	20.19	44.36	28.96	26.55
12/31/2008	986	45,511,253	46,157	2.1	555	29.03	23.01	59.03		31.00
12/31/2008**	986	45,511,253	46,157	2.1	555	23.79	19.39	47.84		25.46
12/31/2009	951	46,078,581	48,453	5.1	584	\$14,820,491 +	27.11	62.89		45.05
12/31/2009**	951	46,078,581	48,453	5.1	584	\$12,685,222	22.13	49.15		37.74
12/31/2010	900	44,623,366	49,582	2.3	589	\$14,536,423	25.73	66.29		46.09
12/31/2010**	900	44,623,366	49,582	2.3	589	\$12,123,180	20.40	49.69		37.51
12/21/2010	700	77,023,300	77,502	2.5	307	Ψ12,123,100	20.40	77.07		37.31

<sup>@</sup> Revised actuarial assumptions.

<sup>^</sup> Separated by division from 2005 forward.

<sup>+</sup> Computed as level dollar amount for General (including Sheriff) starting with the December 31, 2009 valuation.

<sup>#</sup> Retirement System Amended.

<sup>\*\*</sup> Amortization period changed.

<sup>\*</sup> General County includes Sheriff starting with the December 31, 2008 valuation.

### RETIREE PREMIUM RATE DEVELOPMENT

Initial premium rates were developed separately for each class (pre-65 and post-65). The rates were calculated by using actual paid claims and exposure data for the period of January 2008 to December 2009 for Road Commission and January 2008 to December 2010 for General County and Mental Health, adjusted for catastrophic claims, plus the load for administration and stop loss fees.

The 2010 claim and exposure information provided to us appeared to be inconsistent with prior years. As a result, for the Road Commission we did not use the 2010 claim information. For the General County and Mental Health, the 2010 claim information was used in our analysis, however with a lower weighting.

The self-insured Medical and prescription drug data were provided by St. Clair 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.

Finally, the \$10/20 Rx groups went to \$15/30/45 Rx co-pay structure, and the \$5 Rx groups went to \$10/20 Rx co-pay structure effective 4/1/2011. We added a reduction factor to account for these plan changes.

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.

### RETIREE PREMIUM RATE DEVELOPMENT (CONTINUED)

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.

For General County and Mental Health:

NOT ELIGIBLE FOR MEDICARE				
AGE	MALE	FEMALE		
40	\$ 237.40	\$ 371.95		
50	436.39	494.45		
60	716.52	688.74		
64	834.00	773.04		

ELIGIBLE FOR MEDICARE				
AGE	MALE	FEMALE		
65	\$ 482.88	\$ 444.67		
75	618.36	548.78		
85	689.52	605.36		

For Road Commission:

NOT ELIGIBLE FOR MEDICARE				
AGE	MALE	FEMALE		
40	\$ 277.29	\$ 434.43		
50	509.70	577.52		
60	836.90	804.44		
64	974.11	902.91		

ELIGIBLE FOR MEDICARE				
AGE	MALE	FEMALE		
65	\$ 467.52	\$ 430.52		
75	598.69	531.33		
85	667.59	586.11		

### RETIREE PREMIUM RATE DEVELOPMENT (CONCLUDED)

The dental premium rates used in this valuation of the Plan were not "age graded" since these claims do not vary significantly by age. The monthly one and two person dental premiums used in this valuation are \$20.31 for Road Commission and \$22.42 for General County and Mental Health.

The undersigned is a Member of the American Academy of Actuaries (MAAA) and meets the Qualification Standards of the American Academy of Actuaries to certify the per capita retiree health care rates shown on the previous page.

John Mallows, FSA, MAAA

### RETIREE HEALTH BENEFITS COMMENTS

Comment A: As requested by the County beginning with the December 31, 2008 actuarial valuation, we calculated the contribution rates separately for the following divisions: General including Sheriffs, Mental Health, and Road Commission. Our calculations were based on the demographics of each group and the benefit provisions of each group. The asset information for each division was provided to us by the County. The assets remain commingled for investment purposes. Beginning with the December 31, 2009 valuation, we used a level dollar amortization method for General County (including Sheriff) because most of General County is closed to new hires. This amortization method is appropriate for a group that no longer accepts new entrants.

**Comment B:** Providing health care benefits to retired employees involves significant additional risks when compared to providing pensions to retired employees. The additional risks include the rate at which current medical costs will increase or decrease in the future, changes in utilization and changes in Medicare. As a result, contributions for a retiree health plan are more volatile. This volatility is shown in Section D of this report.

**Comment C:** This valuation allows the County to level out the cost of retiree health benefits somewhat. Even though the contribution rate may not remain as level as pension contribution rates, a program of pre-funding will help the County avoid much of the increasing cost that results from a pay-as-you-go approach. This valuation also helps in understanding the very substantial value of retiree health benefits.

Comment D: In order for a contribution requirement to remain level from one valuation to the next, experience must be similar to the valuation assumptions, and the plan must receive contributions at the rate computed in the valuation. If the plan receives contributions at a lower level, (i) funding will be slowed down and (ii) the need for future contributions will increase. Moreover, the valuations anticipate that contributions, as they are received, will be available for investment. While budgetary constraints may argue for a reduced level of current funding, it should be understood that the "cost" of reducing contributions is not only an increased need for County contributions in the future to make up for the contributions that the plan is not receiving currently, but also an increased need for County contributions in the future to make up for the investment return the plan would have realized on these missed contributions.

### RETIREE HEALTH BENEFITS COMMENTS (CONTINUED)

In addition GASB Statements No. 43 and No. 45 require the use of a lower interest rate in calculating the Annual Required Contribution (ARC) if the County is not contributing the actuarially determined amount. As a result, the calculations in this report were based on a 5.0% interest rate assumption as requested by the County.

**Comment E:** As requested, we calculated the expected lifetime of the Retiree Health Care Trust. Our calculations were based on the following:

- The market value of assets in the Retiree Health Care Trust of \$35,786,185 as of December 31, 2010.
- 5% per year investment return assumption (provided by the County).
- 2.5% (2% for Mental Health) of retirement eligible payroll per year member contributions (provided by the County).
- Employer contributions ranging from 0% to 2.5% of retirement eligible payroll for General, Sheriff and Mental Health (provided by the County).
- Expected retiree health benefit payments based on the retirement assumptions and the health care increased assumption from the valuation.

Based on this information, the Retiree Health Care Trust is expected to be depleted in roughly 5 to 7 years.

## SECTION C CASH FLOW PROJECTIONS

### **BACKGROUND**

Until a retirement program reaches a mature state, the number of members receiving benefits will continue to increase, with commensurate increases in the amount of benefit disbursements. When the retirement benefits being paid are health benefits, health costs can be expected to increase as the result of medical care inflation, changes in utilization and Medicare cost shifting. When both of these reasons for increased disbursements apply, as they do for the St. Clair County Retiree Health Program, it is reasonable to expect that the amount of the System's annual health disbursements will increase for years to come.

We have projected the retiree health disbursements over the next 20 years. The projections are based upon the same assumptions as were used in the actuarial calculations. The schedule on the next page displays the anticipated disbursements.

Please note that these projections anticipate that the retiree health plan will receive contribution income equal to the computed cost requirements.

### 20 YEAR PROJECTION OF BENEFIT DISBURSEMENTS

					Benefit
Year	Retiree Health Payments on Behalf of Present Retirees Employees Inactives Total		Disbursements As a % of Payroll		
					-
2011	\$6,433,800	\$ 80,000	\$ 162,100	\$ 6,675,900	14.96%
2012	6,727,700	251,000	322,700	7,301,400	15.58%
2013	6,964,000	460,400	359,500	7,783,900	15.82%
2014	7,173,500	724,500	544,700	8,442,700	16.34%
2015	7,361,300	1,034,200	604,200	8,999,700	16.59%
2016	7,545,300	1,387,000	755,800	9,688,100	17.01%
2017	7,690,700	1,752,000	984,200	10,426,900	17.44%
2018	7,859,000	2,139,500	1,153,900	11,152,400	17.76%
2019	7,915,300	2,555,600	1,275,700	11,746,600	17.82%
2020	7,987,800	3,002,400	1,351,200	12,341,400	17.83%
2021	8,041,800	3,509,700	1,459,100	13,010,600	17.90%
2022	8,063,000	4,058,700	1,528,200	13,649,900	17.88%
2023	8,086,400	4,671,900	1,760,900	14,519,200	18.12%
2024	8,109,100	5,340,100	1,829,300	15,278,500	18.16%
2025	8,105,600	6,020,500	1,992,200	16,118,300	18.24%
2026	8,106,700	6,798,200	2,177,400	17,082,300	18.41%
2027	8,083,700	7,670,700	2,231,200	17,985,600	18.46%
2028	8,033,000	8,568,800	2,321,400	18,923,200	18.50%
2029	7,950,800	9,583,500	2,473,000	20,007,300	18.63%
2030	7,817,800	10,665,300	2,593,200	21,076,300	18.69%

This is a closed group projection assuming no new entrants into the plan over the projection period. Benefit payments are projected based on the per-person health care costs developed as a result of our claims analysis, and will be different from the actual benefits paid from the plan.

## SECTION D SENSITIVITY TESTS

#### BACKGROUND

Actuarial valuations deal with the cost of benefits to be paid in the future. The payments considered will range from one month in the future to decades from the valuation date (for a young, newly hired employee who may retire many years from now and live many years after that). In order to establish a present day cost for these future benefit obligations, the actuary bases the valuation on a number of assumptions about future occurrences. The occurrences that must be considered include employee turnover, pay increases, disablements, retirements, deaths and investment income on plan assets.

When the benefits being valued are health benefits, a key factor is the future cost of the goods and services being promised. This is projected using the current cost of the health benefits and assumed rates of future health cost increases. The final cost of providing retiree health benefits will depend upon how the charges for medical services actually increase in the future.

In order to demonstrate how the computed cost of these benefits can vary depending upon future health care inflation, we have performed additional valuations based upon alternative health care inflation assumptions. The schedules on pages D-2 through D-4 compare (i) the computed cost of the retiree health benefits using the valuation assumptions to (ii) results of alternate valuations. One of the alternate valuations is based upon a more optimistic health cost increase assumption than was used for the valuation. The other valuation is based upon a pessimistic health cost increase assumption.

The schedule on page D-5 illustrates health cost increase assumptions used in each of the valuations.

## RETIREE HEALTH BENEFITS SENSITIVITY TESTS - MEDICAL INFLATION GENERAL\*\*

**Future Medical Inflation** 

	i didi e Medicai iniiddon		
<b>Computed Cost</b>	Valuation Assumption	Optimistic Assumption	Pessimistic Assumption
Normal cost	\$ 3,250,755	\$ 2,839,805	\$ 3,568,178
Accrued liability	156,098,327	140,736,977	168,030,487
Valuation assets	22,981,212	22,981,212	22,981,212
Unfunded liability	133,117,115	117,755,765	145,049,275
Amortization payment*	11,285,668	9,983,333	12,297,277
Contribution rate	\$ 14,536,423	\$ 12,823,138	\$ 15,865,455

<sup>\*</sup> Unfunded actuarial accrued liabilities were financed as a level dollar amount over a period of 19 years.

<sup>\*\*</sup> General County includes Sheriff starting with the December 31, 2008 valuation.

## RETIREE HEALTH BENEFITS SENSITIVITY TESTS - MEDICAL INFLATION MENTAL HEALTH

**Future Medical Inflation** 

_	I didi'e Medicai Inflation			
<b>Computed Cost</b>	Valuation Assumption	Optimistic Assumption	Pessimistic Assumption	
Normal cost	11.19%	9.96%	12.12%	
Accrued liability	\$40,220,174	\$36,143,809	\$43,375,566	
Valuation assets	8,052,170	8,052,170	8,052,170	
Unfunded liability	32,168,004	28,091,639	35,323,396	
Amortization payment* _	14.54%	12.70%	15.97%	
Contribution rate	25.73%	22.66%	28.09%	

<sup>\*</sup> Unfunded actuarial accrued liabilities were financed as a level percent of member payroll over a period of 19 years.

<sup>%</sup>s refer to costs as a percentage of covered member payroll.

## RETIREE HEALTH BENEFITS SENSITIVITY TESTS - MEDICAL INFLATION ROAD COMMISSION

**Future Medical Inflation** 

<b>Computed Cost</b>	Valuation Assumption	Optimistic Assumption	Pessimistic Assumption
Normal cost	21.02%	18.71%	22.78%
Accrued liability	\$47,745,135	\$43,217,823	\$51,274,463
Valuation assets	5,072,150	5,072,150	5,072,150
Unfunded liability	42,672,985	38,145,673	46,202,313
Amortization payment*_	45.27%	40.47%	49.02%
Contribution rate	66.29%	59.18%	71.80%

<sup>\*</sup> Unfunded actuarial accrued liabilities were financed as a level percent of member payroll over a period of 19 years.

<sup>%</sup>s refer to costs as a percentage of covered member payroll.

### RETIREE HEALTH BENEFITS SENSITIVITY TESTS - HEALTH COST INCREASE ASSUMPTION

	<b>Assumed Rate of Medical Inflation</b>			
Year	Valuation	Optimistic	Pessimistic	
2012	0.00.0/	7.00.0/	11.00.0/	
2012	9.00 %	7.00 %	11.00 %	
2013	8.50	6.50	10.25	
2014	8.00	6.00	9.50	
2015	7.50	5.50	8.75	
2016	7.00	5.25	8.00	
2017	6.50	5.00	7.25	
2018	6.00	5.00	6.50	

5.00

5.00

5.00

5.00

5.75

5.00

5.00

5.00

5.50

5.00

5.00

5.00

2019

2020

2021

2022 & after

### **SECTION E**

## SUMMARY OF BENEFIT PROVISIONS AND VALUATION DATA

## BRIEF SUMMARY OF RETIREE HEALTH ELIGIBILITY DECEMBER 31, 2010

Covered Person	Group	Eligibility Conditions
Retired Member	Modified plan member	Age 55 (age 50 for Sheriff's Dept.) with 25 years of service or age 60 with 20 years of service. After 25 years when age plus service equals 80.
	Original plan member	Age 55 (age 50 for Sheriff's Dept.) with 25 years of service or age 60 with 8 years of service. After 25 years when age plus service equals 80.
Spouse of Retiree	Any	Retiree alive and covered, or spouse receiving continuation of deceased retiree's pension.
Spouse of Deceased Employee	Any	Spouse receives a survivor pension.

All new hires are expected to be covered by the modified plan. Members are not currently required to contribute to the health care plan except for the following units:

- Public Service Employees and Prosecuting Attorney Clerical Employees:
  - Member contributions for employees hired before July 1, 2006:
    - July 1, 2006 0.83%
    - July 1, 2007 1.50%
    - July 1, 2008 2.17%
  - Member contributions for employees hired on or after July 1, 2006:
    - July 1, 2006 1.25%
    - July 1, 2007 2.25%
    - July 1, 2008 3.25%

### BRIEF SUMMARY OF RETIREE HEALTH ELIGIBILITY DECEMBER 31, 2010

- Probate Court and Circuit Court Family Division Clerical Employees
  - Member contributions:
    - July 1, 2006 0.65%
      July 1, 2007 1.30%
      July 1, 2008 1.95%
      July 1, 2009 2.60%
    - July 1, 2010 3.25%
- 31<sup>st</sup> Judicial Circuit Court Friend of Court Supervisors; Bailiff and Court Security Officers Association:
  - Member contributions for employees hired before January 1, 2007:
    - January 1, 2007 0.50%
    - January 1, 2008 1.00%
    - January 1, 2009 1.50%
    - January 1, 2010 2.00%
    - January 1, 2011 2.50%
  - Member contributions for employees hired on or after January 1, 2007:
    - January 1, 2007 0.65%
    - January 1, 2008 1.30%
    - January 1, 2009 1.95%
    - January 1, 2010 2.60%
    - January 1, 2011 3.25%
- District Court Employees:
  - Member contributions for employees hired before January 1, 2008:
    - July 1, 2009 1.00%
    - January 1, 2010 1.50%
    - July 1, 2010 2.00%
    - January 1, 2011 2.50%

### BRIEF SUMMARY OF RETIREE HEALTH ELIGIBILITY DECEMBER 31, 2010

- Sheriff Department Supervisors:
  - Member contributions for employees hired before January 1, 2007:
    - January 1, 2007 0.50%
      July 1, 2007 1.00%
      July 1, 2008 1.50%
      July 1, 2009 2.00%
      July 1, 2010 2.50%
  - Member contributions for employees hired on or after January 1, 2007:
    - January 1, 2007 0.65%
      July 1, 2007 1.30%
      July 1, 2008 1.95%
      July 1, 2009 2.60%
      July 1, 2010 3.25%
- Human Resources Clerks and Specialists; Professional Nurse and Professional Nurse Supervisors; Juvenile Center Employees and Shift Supervisors; Probate Court Supervisors:
  - Member contributions for employees hired before January 1, 2009:
    - January 1, 2009 0.50%
      July 1, 2009 1.00%
      January 1, 2010 1.50%
      July 1, 2010 2.00%
      January 1, 2011 2.50%

### BRIEF SUMMARY OF RETIREE HEALTH ELIGIBILITY DECEMBER 31, 2010

- Board Members; Commissioners; Elected Officials; Judges; CANUE:
  - Member contributions:
    - First \$50,000
    - January 1, 2009 0.50%
    - January 1, 2010 1.00%
    - January 1, 2011 1.50%
    - January 1, 2012 2.00%
    - January 1, 2013 2.50%
- Corrections Officers and Supervisors; Prosecuting Attorneys; Probate Court Juvenile Counselors:
  - Member contributions:
    - First \$50,000
    - January 1, 2009 0.50%
    - July 1, 2009 1.00%
    - January 1, 2010 1.50%
    - July 1, 2010 2.00%
    - January 1, 2011 2.50%
- Mental Health:
  - Member contributions:
    - In 2010, member contributions are not to exceed 2% of gross pay, as determined by the employer.

Members of the Sheriff's Department, who retire prior to age 50, pay the cost of coverage until attainment of age 50.

Members who retire as a result of a disability, terminated vested members and survivors of members who die while actively employed receive health care coverage.

# BRIEF SUMMARY OF RETIREE HEALTH ELIGIBILITY DECEMBER 31, 2010

New hires in the following union groups are no longer covered by the retiree health care plan:

- CANUS
- Association of 72<sup>nd</sup> District Court Employers
- Circuit Court Probate Court Employee Associates
- Human Resources Clerks and Specialists
- Professional Nurses Association, MNA I
- Professional Nurses Association, MNA II
- Circuit Court Family Division Supervisors
- Juvenile Center Shift Supervisors COAM
- Juvenile Center POAM
- Prosecuting Attorney
- District Court, AFSCME 1518
- Sheriff Department, Corrections Officers POAM
- Sheriff Department, Corrections Officers COAM
- Probate Court Juvenile Counselors

# REPORTED FINANCIAL INFORMATION AT MARKET VALUE YEAR ENDED DECEMBER 31, 2010 TOTAL SYSTEM ASSETS

## **Revenues and Disbursements**

#### **Revenues:**

a. Member contributions	\$ 2,838,298
b. Employer contributions	8,098,607
c. Interest and dividends	4,415,417
d. Gain on investments	23,673,258
e. Total	\$39,025,580

#### **Disbursements:**

a. Refunds of member contributions	\$ 357,120
b. Pensions paid	10,351,447
c. Death benefits paid	63,000
d. Health benefits	6,044,047
e. Investment expenses	1,059,543
f. Administrative expenses	81,936
	\$17,957,093

#### **Reserve Increase:**

Total revenues minus total disbursements	\$ 21,068,487
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# REPORTED FINANCIAL INFORMATION AT MARKET VALUE YEAR ENDED DECEMBER 31, 2010 TOTAL SYSTEM ASSETS

Year Ended December 31:	2009	2010	2011	2012	2013	2014
A. Funding Value Beginning of Year	\$213,588,184	\$214,138,042				
B. Market Value End of Year	184,214,533	205,283,020				
C. Market Value Beginning of Year	151,288,464	184,214,533				
D. Non-Investment Net Cash Flow	(5,147,690)	(5,960,645)				
E. Investment Income						
E1. Market Total: B - C - D	38,073,759	27,029,132				
E2. Amount for Immediate Recognition (7.5%)	15,826,075	15,836,829				
E3. Amount for Phased-In Recognition E1-E2	22,247,684	11,192,303				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.2 x E3	4,449,537	2,238,461				
F2. First Prior Year	(16,082,979)	4,449,537	\$ 2,238,461			
F3. Second Prior Year	(1,010,716)	(16,082,979)	4,449,537	\$ 2,238,461		
F4. Third Prior Year	2,548,715	(1,010,716)	(16,082,979)	4,449,537	\$ 2,238,461	
F5. Fourth Prior Year	(1,109,726)	2,548,713	(1,010,715)	(16,082,980)	4,449,536	\$2,238,459
F6. Start-up Phase In	1,076,642	0	0	0	0	0
G. Total	(10,128,527)	(7,856,984)	(10,405,696)	(9,394,982)	6,687,997	2,238,459
H. Funding Value End of Year: A + D + E2 + G	214,138,042	216,157,242				
I. Difference between Market & Funding Value	(29,923,509)	(10,874,222)	(468,526)	8,926,456	2,238,459	0
J. Recognized Rate of Return - Funding Value Basis	2.70%	3.78%				
K. Recognized Rate of Return - Market Value Basis	25.60%	14.91%				

# RETIREE HEALTH BENEFITS RETIREES AND BENEFICIARIES - DECEMBER 31, 2010 TABULATED BY ATTAINED AGE

	G	eneral	Ment	al Health	Road (	Commission	Sheri	iff's Dept.	]	Total
Attained Ages	No. of Retirees*	No. Covered Per Retiree								
40-44	1	2							1	2
45-49	1	1					1	0	2	1
50-54	7	12	1	1	4	5	6	9	18	27
55-59	24	41	5	9	9	14	13	19	51	83
60-64	85	131	22	27	24	38	21	38	152	234
65-69	53	69	20	26	29	46	20	30	122	171
70-74	43	58	7	9	16	25	1	1	67	93
75-79	31	47	4	5	17	24	4	7	56	83
80	7	12			4	7	2	3	13	22
81	11	12	2	1	6	8	1	2	20	23
82	2	2			3	3			5	5
83	6	7			5	5 7			11	12
84	8	8			6	7	2	4	16	19
85	5	7			6	10			11	17
86	3	3			5	6			8	9
87	4	7			2	3			6	10
88					3	6	1	2	4	8
89	2	3			2	2	1	1	5	6
90 and Over	18	20			3	3			21	23
Totals	311	442	61	78	144	212	73	116	589	848
Average		1.4		1.3		1.5		1.6		1.4

<sup>\*</sup> Actual number of retirees, including those that do not have retiree health care coverage.

# RETIREE HEALTH BENEFITS RETIREES AND BENEFICIARIES ADDED TO AND REMOVED FROM ROLLS COMPARATIVE STATEMENT

Year Ended	Added to	Removed from	Rolls End	Present Value of
December 31	Rolls@	Rolls	of Year	Health Benefits
1991	18	13	317	\$ 11,724,732
1992	18	10	325	12,872,407
1993	20	10	335	11,984,980
1994	24	12	347	11,361,828
1995	33	19	361	12,523,024
1006	15	1	275	14 524 202
1996	15	1	375	14,524,383
1997	30	29	376	16,413,460
1998	30	12	394	19,258,663
1999	28	16	406	25,109,990
2000	22	18	410	33,481,392
2001	34	18	426	38,921,495
2002	33	24	435	45,665,396
2003	36	16	455	55,715,393
2004	37	30	462	55,663,190
2005	51	16	497	58,087,415
2006	44	34	507	86,904,970
2007	55	25	537	100,614,920
2008	39	21	555	104,805,377
2009	50	21	584	128,028,285
2010	30	25	589	123,104,322

<sup>@</sup> Includes survivors of deceased retirees.

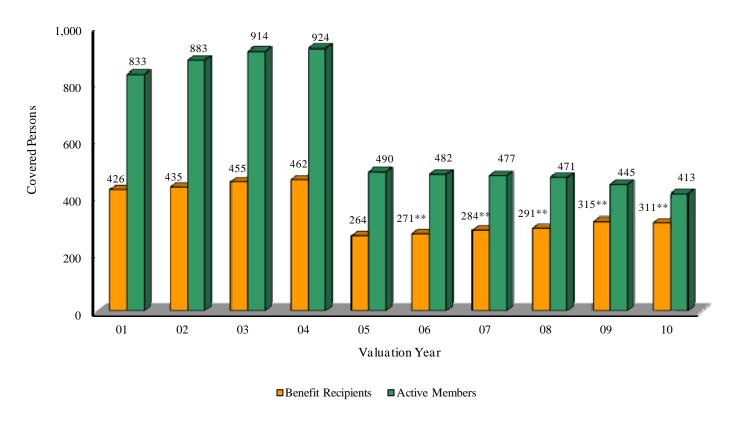
# **INACTIVE MEMBER DATA**

There were 104 inactive members as of December 31, 2010. An inactive member is a person who has left County employment with entitlement to a benefit after attainment of his voluntary retirement age.

Inactive Members December 31, 2010 Tabulated by Attained Age

	General	Mental Health	Sheriff	Roads
Attained Ages	No.	No.	No.	No.
_		110.	110.	110.
33	1			
36	1		1	
37	1		1	1
38	1	1	1	
39	1			
40	1			1
41		1		
42	1	1		
43	1			
44	2			
45	4			
46	2			
47	1	2		
48	2	4	2	
49	2	1		
50	2	2		
51	4			
52	2	2	1	1
53	2	1		1
54	6	3	2	
55	2	2	1	1
56	3		1	
57	2	3		1
58	1	2		2
59	1	4		1
60	1	2		
61	2	1		
62	1			
67		1		
69	1			
72	1			
Total	52	33	10	9

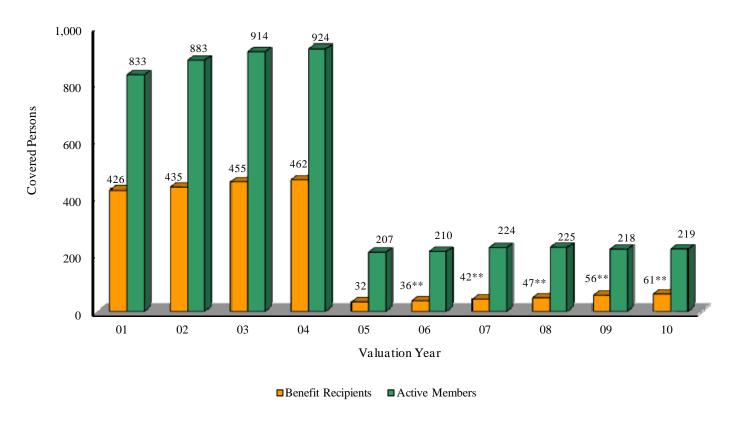
# GENERAL ACTIVE MEMBERS & BENEFIT RECIPIENTS\*



<sup>\*</sup> For years prior to 2005, the numbers include all active and retired members for all divisions.

<sup>\*\*</sup> Includes retirees who do not receive health care benefits.

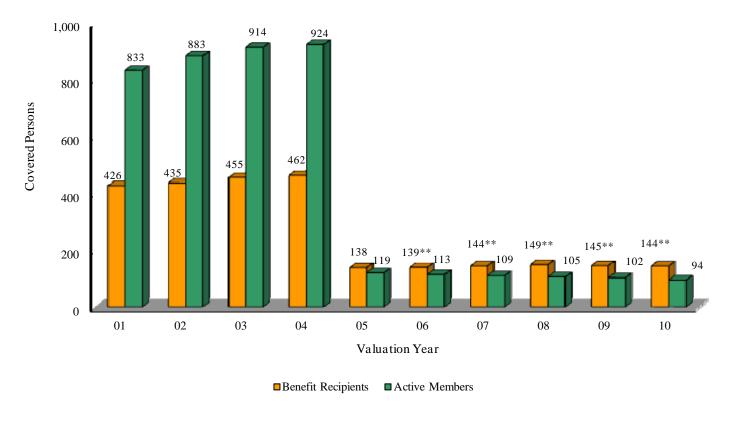
# MENTAL HEALTH ACTIVE MEMBERS & BENEFIT RECIPIENTS\*



<sup>\*</sup> For years prior to 2005, the numbers include all active and retired members for all divisions.

<sup>\*\*</sup> Includes retirees who do not receive health care benefits.

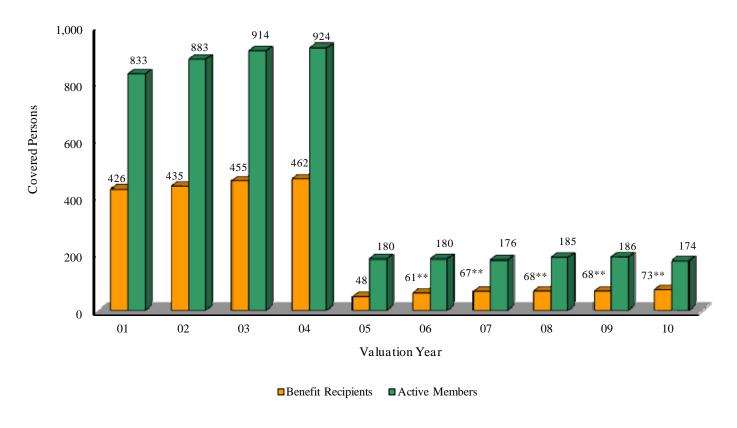
# ROAD COMMISSION ACTIVE MEMBERS & BENEFIT RECIPIENTS\*



<sup>\*</sup> For years prior to 2005, the numbers include all active and retired members for all divisions.

<sup>\*\*</sup> Includes retirees who do not receive health care benefits.

# SHERIFF'S DEPT. ACTIVE MEMBERS & BENEFIT RECIPIENTS\*



<sup>\*</sup> For years prior to 2005, the numbers include all active and retired members for all divisions.

<sup>\*\*</sup> Includes retirees who do not receive health care benefits.

# ACTIVE MEMBERS COMPARATIVE SCHEDULE

Valuation							
Date	Active	Valuation	_		A	verage	
December 31	Members	Payroll		Age	Service	Pay	% Inc.
1996	783	\$27,934,157	*	43.6	11.5	\$35,676	5.7 %
1997	791	28,402,628		43.7	11.5	35,907	0.6
1998	798	29,161,115		43.9	11.4	36,543	1.8
1999	827	31,051,406		44.1	11.2	37,547	2.7
2000	825	32,044,333		44.3	11.5	38,842	3.4
2001	833	32,744,255		44.6	11.4	39,309	1.2
2002	883	35,716,619		44.6	11	40,449	2.9
2003	914	38,047,803		44.5	10.7	41,628	2.9
2004	924	39,609,752		44.6	10.8	42,868	3.0
2005	996	42,622,922		44.07	10.02	42,794	(0.2)
2006	985	44,015,666		44.1	10.2	44,686	4.4
2007	986	44,600,186		44.2	10.2	45,233	1.2
2008	986	45,511,253		44.8	10.3	46,157	2.0
2009	951	46,078,581		45.0	10.6	48,453	5.0
2010	900	44,623,366		45.5	11.2	49,582	2.3

<sup>\*</sup> Reduced for effect of retroactive pay during 1996.

## ACTIVE MEMBERS ADDED TO AND REMOVED FROM ROLLS

	Num ber						Active
Year	Added		Termiı	nations Durin	g Year		Members
Ended	During	Norm al	Disability	Died-in	Vested		End of
December 31	Year	Retirement	Retirement	Service	Term.	Other	Year
1996	62	13		1	12	19	783
1997	62	23	1	2	5	23	791
1998	77	20	1	1	15	33	798
1999	91	18		2	12	30	827
2000	52	11	1		11	31	825
2001	78	21	1		11	37	833
2002	94	16		2	10	16	883
2003	96	25			12	28	914
2004	71	21	1		6	33	924
2005	134	29	1		7	25	996
2006	67	28		1	8	41	985
2007	80	34	1		5	39	986
2008	54	23	1	1	7	22	986
2009	45	35		1	11	33	951
2010	27	21		2	14	41	900

# GENERAL ACTIVE MEMBERS AS OF DECEMBER 31, 2010 BY ATTAINED AGE AND YEARS OF SERVICE

Years of Service to Valuation Date									Totals
Attained									Valuation
Age	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Payroll
20-24	1							1	\$ 35,956
25-29	7	9						16	636,236
30-34	12	26	2					40	1,849,203
35-39	11	19	8					38	1,726,765
40-44	7	20	18	10	4			59	2,971,203
45-49	11	16	14	4	9	6		60	2,690,276
50-54	10	21	14	3	14	8	5	75	3,465,029
55-59	6	17	17	14	10	4	7	75	3,438,235
60	1	4	2	1	3	1	1	13	648,610
61		2	1	2	2		1	8	412,485
62		3	1	2				6	269,534
63	1	2	1	1	1	1		7	304,198
64		2	1				1	4	161,767
65		1	1					2	133,689
66			1		1	1		3	141,701
67				1				1	52,143
69			1					1	39,882
70		1		1				2	18,317
71					1			1	5,488
74				1				1	45,724
Totals	67	143	82	40	45	21	15	413	\$19,046,441

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

Age: 47.7 years Service: 12.1 years Annual Pay: \$46,117

# MENTAL HEALTH ACTIVE MEMBERS AS OF DECEMBER 31, 2010 BY ATTAINED AGE AND YEARS OF SERVICE

Years of Service to Valuation Date									Totals
Attained Age	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
20-24	1							1	\$ 32,124
25-29	11	2						13	540,287
30-34	9	12						21	1,036,425
35-39	18	15	7	2				42	2,129,886
40-44	15	12	5	10				42	2,216,120
45-49	7	4	9	2	2	3		27	1,434,213
50-54	8	8	8	3	3	6	1	37	1,967,586
55-59	1	4	5	1	2	3	2	18	909,038
60	3		1		2			6	295,465
61	1	2				1		4	192,697
62		3						3	295,577
63			1	1				2	104,775
64	1		1					2	110,397
65	1							1	95,467
Totals	76	62	37	19	9	13	3	219	\$11,360,057

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

Age: 44.3 years Service: 9.4 years Annual Pay: \$51,872

# ROAD COMMISSION ACTIVE MEMBERS AS OF DECEMBER 31, 2010 BY ATTAINED AGE AND YEARS OF SERVICE

Years of Service to Valuation Date								Totals		
Attained Age	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll	
20-24	1							1	\$ 48,120	
25-29	1	2						3	141,732	
30-34		2	1					3	150,652	
35-39	2	5	3	3				13	664,931	
40-44		4	3	4	1			12	638,714	
45-49	2	4	7	7	2	1		23	1,272,623	
50-54	1	2	2	3	9	1		18	938,724	
55-59	1		4	2	4	2		13	656,552	
60					1	2		3	119,216	
61					1			1	86,533	
62					1			1	62,441	
63			1					1	45,323	
64			1					1	8,643	
70			1					1	7,214	
Totals	8	19	23	19	19	6		94	\$4,841,418	

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

Age: 47.2 years Service: 14.5 years Annual Pay: \$51,504

# SHERIFF'S DEPT. ACTIVE MEMBERS AS OF DECEMBER 31, 2010 BY ATTAINED AGE AND YEARS OF SERVICE

	Years of Service to Valuation Date								Totals
Attained Age	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
20-24	2							2	\$ 77,300
25-29	9	11						20	987,052
30-34	11	17	3					31	1,556,771
35-39	9	11	9	2				31	1,720,612
40-44	6	11	9	3	2			31	1,751,552
45-49	2	6	5	3	5	2		23	1,329,653
50-54		5	3	1	4	2		15	820,102
55-59	2	3	3	4	2			14	788,573
60		1			1	1		3	161,720
61					1			1	55,687
63		2		1				3	126,428
Totals	41	67	32	14	15	5		174	\$9,375,450

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

Age: 40.9 years Service: 9.7 years

Annual Pay: \$53,882

# **SECTION F**

ACTUARIAL COST METHODS, ACTUARIAL ASSUMPTIONS AND GLOSSARY

#### **VALUATION METHODS**

#### *The Normal Cost* was computed as follows:

The series of contributions necessary to accumulate the present value at time of retirement of a member's health care benefits was computed so that each contribution in the series, from date of hire to retirement, was a constant percentage of the member's year by year projected covered compensation. This is referred to as the individual entry age actuarial cost method.

#### *The Accrued Liability* was computed and financed as follows:

**Retirees and Beneficiaries.** The discounted value of health benefits likely to be paid to eligible retirees and beneficiaries was computed using the investment return, health cost increase and mortality assumptions. This amount was financed by applicable accrued assets, to the extent available.

Active and Inactive Members. The discounted value of health benefits likely to be paid eligible active and inactive members was computed using the assumptions outlined on the following pages and was reduced by the value of normal costs to be paid for service after the valuation date.

#### **Asset Valuation Method**. The actuarial value equals:

- (a) Actuarial value of assets from the previous valuation, plus
- (b) employer and member contributions since the last valuation, plus
- (c) benefit payments and refunds since the last valuation, plus
- (d) estimated investment income at the assumed investment return, plus
- (e) portion of gain/(loss) recognized in the current year.

For the above purposes, gain/(loss) is defined as the excess during the period of the investment return on the market value of assets over the expected investment income. 20% of the difference is recognized over a 5 year period in the actuarial value of assets. This method was first adopted for the December 31, 2005 actuarial valuation.

Financing of Unfunded Actuarial Accrued Liabilities. Unfunded actuarial accrued liabilities were amortized by level (principal & interest combined) percent-of-payroll contributions over 19 years and alternatively over 30 years for Mental Health and Road Commission, and by a level dollar amount over 19 years and alternatively over 30 years for General. Active member payroll was assumed to increase 5% a year for the purpose of determining the level percent contributions.

## ECONOMIC AND RISK ASSUMPTIONS USED FOR THE VALUATION

The actuary calculates the contribution requirements and benefit values of the plan by applying economic and risk assumptions to the benefit provisions and people information furnished, using the valuation methods described on page F-1.

The principal areas of economic and risk assumptions are:

- (i) long-term rates of investment income likely to be generated by the assets of the Retirement System
- (ii) patterns of salary increases to be experienced by members
- (iii) rates of mortality among members, retirees and beneficiaries
- (iv) rates of withdrawal of active members
- (v) rates of disability among members and their subsequent rates of recovery
- (vi) probabilities of retirement at various ages after benefit eligibility

In making a valuation the actuary must project the monetary effect of each assumption, for each distinct experience group, for the next year and for each year over the next half-century or longer.

Once actual experience has occurred and been observed it will not coincide exactly with assumed experience, regardless of the skill of the actuary and the completeness of the data. Each valuation provides a complete recalculation of system costs based upon assumptions regarding future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of small adjustments of the computed contribution rate.

From time to time it becomes necessary to adjust the package of assumptions to reflect basic experience trends -- but not random year to year fluctuations. We will recommend changes whenever we feel they are appropriate.

## ACTUARIAL ASSUMPTIONS USED FOR THE VALUATION

*Investment Return* (net of investment expenses). We calculated the results using a 5.0% investment return assumption as requested by the County.

This assumption is used to equate the value of payments due at different points in time and was first used for the December 31, 2006 valuation. Approximate rates of investment return, for the purpose of comparisons with assumed rates, are shown below. Actual increases in average active member pay are also shown for comparative purposes.

		Year Ended December 31					
	2010	2009	2008	2007	2006	Average*	
Rate of Investment Return	3.8 %	2.7 %	0.7 %	8.3 %	8.8 %	4.8 %	
Average Increase in Pay	2.5 %	2.0 %	2.9 %	2.8 %	5.9 %	3.2 %	
Real Rate of Return	1.3 %	0.7 %	(2.2)%	5.5 %	2.9 %	1.6 %	

<sup>^</sup> Before change in asset valuation method.

The nominal rate of return was computed using the approximate formula i = I divided by 1/2 (A + B - I), where I is actual investment income net of expenses, A is the beginning of year asset value, and B is the end of year asset value.

These rates of return should not be used for measurement of an investment advisor's performance or for comparisons with other systems.

**Pay Projections**. These assumptions are used to project current pays to those upon which benefits will be based. The assumptions were first used for the December 31, 2005 valuation.

**Annual Rate of Pay Increase for Sample Ages** 

Sample _		Mer	it & Longe	vity	Total			
Service	Base	General*	Road	Sheriff	General	Road	Sheriff	
1	5.00%	3.50%	5.00%	6.00%	8.50%	10.00%	11.00%	
2	5.00%	3.50%	5.00%	6.00%	8.50%	10.00%	11.00%	
3	5.00%	3.00%	5.00%	6.00%	8.00%	10.00%	11.00%	
4	5.00%	3.00%	5.00%	6.00%	8.00%	10.00%	11.00%	
5	5.00%	1.00%	0.50%	6.00%	6.00%	5.50%	11.00%	
6-19	5.00%	1.00%	0.50%	0.50%	6.00%	5.50%	5.50%	
20 and over	5.00%	0.50%	0.50%	0.50%	5.50%	5.50%	5.50%	

<sup>\*</sup> Includes Mental Health Authority.

<sup>\*</sup> Compound rate of increase.

If the number of active members remains constant, the total active member payroll is expected to increase 5.0% annually, the base portion of the individual pay increase assumptions. This increasing payroll was recognized in amortizing unfunded actuarial accrued liabilities for Mental Health and Road Commission.

Average changes actually experienced in pay have been as follows:

	5 Year				
2010	2009	2008	2007	2006	Average*
2.5 %	2.0 %	2.9 %	2.8 %	5.9 %	3.2 %

<sup>\*</sup> Compound rate of increase.

Active Member Group Size: The number of active members was assumed to remain constant for all groups except General.

*Mortality*. The 1994 Group Annuity Mortality Table was first used for the December 31, 2005 valuation. Sample values follow:

	Single Life Retirement Values					
Sample	Present	Value of \$1	Futu	re Life		
Attained	Monthl	y for Life@	Expectar	ncy (years)		
Ages	Men	Women	Men	Women		
50	\$359.68	\$408.84	30.69	34.89		
55	306.48	353.58	26.15	30.17		
60	255.82	299.86	21.83	25.59		
65	209.14	249.37	17.84	21.28		
70	167.56	202.86	14.29	17.30		
75	130.40	159.43	11.12	13.60		

<sup>@</sup> These values include 5% annual increases, but do not include the effect of temporarily high health inflation.

This assumption is used to measure the probabilities of members dying before retirement and the probabilities of each benefit payment being made after retirement.

Future disabled lives were valued using the above table set forward seven years.

**Rates of separation from active membership**. The rates do not apply to members eligible to retire and do not include separation on account of death or disability. This assumption measures the probabilities of members remaining in employment.

		% of Active Members				
Sample	Years of	Separati	ng within Ne	ext Year		
Ages	Service	General*	Road	Sheriff		
ALL	0	10.00%	3.00%	5.00%		
	1	9.00%	3.00%	5.00%		
	2	7.00%	3.00%	5.00%		
	3	6.00%	3.00%	5.00%		
	4	6.00%	3.00%	5.00%		
20	5 & Over	6.00%	3.00%	5.00%		
25		6.00%	3.00%	5.00%		
30		6.00%	3.00%	4.40%		
35		4.80%	2.40%	2.80%		
40		3.40%	1.40%	1.70%		
45		3.00%	1.00%	1.20%		
50		3.00%	1.00%	0.70%		
55		3.00%	1.00%	0.50%		
60		2.40%	1.00%	0.50%		
65		2.00%	1.00%	0.50%		

<sup>\*</sup> Includes Mental Health Authority.

The rates were first used for the December 31, 2005 valuation.

Rates of Disability. These rates represent the probabilities of active members becoming disabled.

Percent Becoming Disabled within Next Year
0.08%
0.08%
0.08%
0.08%
0.20%
0.26%
0.49%
0.89%
1.41%

These rates were first used for the December 31, 1985 valuation. For the Sheriff's Department, the disability assumption is split to reflect 75% as non-duty disability and 25% as duty disability.

**Rates of Retirement**. These rates are used to measure the probability of eligible members retiring during the next year.

Percent of
Active Members Retiring
within Next Year

	within Next Tear					
Retirement	General	General				
Ages	Original*	Modified*	Road	Sheriff	Service	Sheriff
50	5.0%	10.0%	25.0%		25	20.0%
51	5.0%	10.0%	25.0%		26	20.0%
52	5.0%	10.0%	25.0%		27	20.0%
53	5.0%	10.0%	25.0%		28	20.0%
54	5.0%	10.0%	25.0%		29	20.0%
55	5.0%	10.0%	25.0%		30	20.0%
56	10.0%	5.0%	25.0%		31	20.0%
57	10.0%	5.0%	25.0%		32	20.0%
58	10.0%	5.0%	25.0%		33	20.0%
59	10.0%	5.0%	25.0%		34	20.0%
60	20.0%	20.0%	25.0%	25.0%	35+	100.0%
61	20.0%	20.0%	10.0%	25.0%		
62	20.0%	20.0%	30.0%	25.0%		
63	20.0%	20.0%	20.0%	25.0%		
64	20.0%	20.0%	20.0%	25.0%		
65	40.0%	40.0%	100.0%	100.0%		
66	40.0%	40.0%	100.0%	100.0%		
67	40.0%	40.0%	100.0%	100.0%		
68	40.0%	40.0%	100.0%	100.0%		
69	40.0%	40.0%	100.0%	100.0%		
70+	100.0%	100.0%	100.0%	100.0%		

<sup>\*</sup> Includes Mental Health Authority.

A member of the General, Mental Health or Road Commission Divisions was understood to be eligible for retirement after attaining age 55 with 25 or more years of service or age 60 with 8 years of service. A member of the Sheriff's Dept. was understood to be eligible for retirement upon completion of 25 years of service or at age 60 with 8 years of service. Members of groups with "Rule of 80" were understood to be eligible if the sum of their age plus years of service was greater than or equal to 80 and their years of service equaled 25 or more.

The assumed rate of increase for health care costs is the assumption used to predict the amount of benefit payments in future years. The assumed rates are shown in the table below:

	Health Care Trend
Year after	Medical and
Valuation Date	<b>Prescription Drug</b>
1	9.00 %
2	8.50
3	8.00
4	7.50
5	7.00
6	6.50
7	6.00
8	5.50
9	5.00
10	5.00
11+	5.00

#### *Marital status* at retirement:

	2 Person Coverage	Continuation Percentage
Males	80%	100%
Females	50%	100%

Opt-Out: 15% of future retirees from the groups with member contributions were assumed to opt-out.

*Medicare coverage* was assumed to be available for all covered members on attainment of age 65, or immediately if retired for disability.

Non-investment administration expenses - none.

### **GLOSSARY**

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."

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

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.

**Experience 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, in accordance with the actuarial cost method being used.

**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.

**Plan Termination Liability**. The actuarial present value of future plan benefits based on the assumption that there will be no further accruals for the future service and salary. The termination liability will generally be less than the liabilities computed on a "going concern" basis and is not normally determined in a routine actuarial valuation.

**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. Generally based on book value plus a portion of unrealized appreciation or depreciation.

#### September 22, 2011

Ms. Tami Rumsey St. Clair County Employees Retirement System 200 Grand River, Suite 206 – County Building Port Huron, Michigan 48060

#### Dear Tami:

Please find enclosed 20 copies of the report of the Twenty-Sixth Annual Actuarial Valuation of the retiree health care benefits paid by the St. Clair County Employees Retirement System as of December 31, 2010. The basic retirement benefits are the subject of a separate report.

Sincerely,

Cathy Way
Cathy Nagy

CN:lr

**Enclosures**