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**Report of the Actuary on the
Annual Valuation of the
Shelby County Retirement System**

Prepared as of June 30, 2011





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

October 27, 2011

Board of Commissioners
Shelby County Retirement System
160 North Main Street, Suite 950
Memphis, TN 38103

Members of the Board:

We are pleased to submit the results of the actuarial valuation of the Shelby County Retirement System prepared as of June 30, 2011. The purpose of this report is to provide a summary of the funded status of the System as of June 30, 2011, to recommend rates of contribution and to provide accounting information under Governmental Accounting Standards Board Statements No. 25 and 27 (GASB 25 and 27).

On the basis of the valuation, it is recommended that employer contributions to the System be set at a rate of 12.01% of payroll for the fiscal year ending June 30, 2013. The promised benefits of the System are included in the calculated contribution rate which is developed using the projected unit credit cost method. Ten-year smoothed market value of plan assets is used for the actuarial value of assets. Gains and losses are reflected in the unfunded accrued liability that is being amortized by regular annual contributions within a 29-year period. The initial obligation for Plan C is being amortized by annual contributions within a 15-year period.

Since the previous valuation, several changes have been made to the assumptions and plan provisions. The investment return assumption has been reduced from 8.25% to 8.00%. The employee contribution rates for Plan A and Plan C have been increased by 2% which will be phased in at 0.5% per year over 4 years. Plan D has been implemented for employees hired on or after July 1, 2011. No changes were made to the methods since the previous valuation.

The valuation has been prepared in accordance with the parameters set forth in Statement Nos. 25 and 27 of the Governmental Accounting Standards Board. The annual required contribution (ARC) for the County under GASB for the fiscal year ending June 30, 2013 is 12.01% of payroll, based on a weighted 23-year period for amortization of the unfunded accrued liability.

We have prepared the Schedule of Active Member Valuation Data, Schedule of Retirees and Beneficiaries, and the Analysis of Financial Experience for the actuarial section of the Annual Report and the Schedule of Funding Progress for the financial section of the Annual Report.

This is to certify that the independent consulting actuary is a Member of the American Academy of Actuaries and has experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the System and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System. While not verifying the data at source, the actuary performed tests for consistency and reasonability.

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Future actuarial results may differ significantly from the current results 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. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

We trust that the report will meet the approval of the Board and will furnish the desired information concerning the financial condition of the System.

Respectfully submitted,

A handwritten signature in blue ink that reads 'Edward J. Koebel'.

Edward J. Koebel, EA, FCA, MAAA
Principal and Consulting Actuary

A handwritten signature in blue ink that reads 'Edward A. Macdonald'.

Edward A. Macdonald, ASA, FCA, MAAA
President

EAM/EJK:bdm



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**SHELBY COUNTY RETIREMENT SYSTEM
REPORT OF THE ACTUARY
ON THE VALUATION
PREPARED AS OF JUNE 30, 2011**

SECTION I – SUMMARY OF PRINCIPAL RESULTS

1. For convenience of reference, the principal results of the current and preceding valuations are summarized below.

Valuation Date	June 30, 2011	June 30, 2010
Active members:		
Number	6,049	6,197
Annualized compensation	\$ 265,136,755	\$ 266,559,324
Retired members and beneficiaries:		
Number	3,056	2,849
Annual allowances	\$ 55,337,839	\$ 48,482,628
Number of participants with deferred benefits	294	338
Assets:		
Market Value	\$ 982,539,680	\$ 825,764,292
Actuarial Value	1,066,406,318	1,053,055,938
Unfunded actuarial accrued liability	\$ 120,382,145	\$ 31,296,621
Weighted Amortization Period	23 years	16 years
Fiscal Year Ending	June 30, 2013	June 30, 2012
County annual required contribution rate (ARC):		
Normal	7.93%	8.41%
Accrued liability	<u>4.08</u>	<u>1.27</u>
Total	12.01%	9.68%

2. The major benefit and contribution provisions of the Plan as reflected in the valuation are summarized in Schedule E. The following changes have been made since the previous valuation:

- Employee contribution rates for Plan A and Plan C have been increased by 2% which will be phased in at 0.5% per year over the next 4 years beginning July 1, 2011.
- Plan D has been implemented for employees hired on or after July 1, 2011.



3. Schedule D of this report outlines the full set of actuarial assumptions and methods used in the valuation. Schedule B shows the development of the actuarial value of assets. The following changes have been made since the previous valuation:
 - The investment return assumption has been reduced from 8.25% to 8.00%.
4. The projected unit credit actuarial cost method was used to prepare the valuation.
5. Comments on the valuation results as of June 30, 2011 are given in Section IV and further discussion of the contributions is set out in Section V.

SECTION II – MEMBERSHIP DATA

1. Data regarding the membership of the System for use as a basis of the valuation were furnished by the County. The valuation included 6,049 active members with annualized compensation totaling \$265,136,755.

THE NUMBER AND ANNUAL BASE EARNINGS OF ACTIVE MEMBERS AS OF JUNE 30, 2011

	NUMBER	TOTAL ANNUAL BASE EARNINGS
Plan B	32	\$ 2,001,240
Plan A	2,418	103,145,267
Plan C	<u>3,599</u>	<u>159,990,248</u>
Total	6,049	\$ 265,136,755



2. The following table shows the number of retired members and beneficiaries as of June 30, 2011 together with the amount of their annual retirement benefits payable under the System as of that date.

**THE NUMBER AND ANNUAL BENEFITS OF
RETIRED MEMBERS AND BENEFICIARIES
AS OF JUNE 30, 2011**

TYPE OF RETIREMENT	PLAN B	PLAN A	PLAN C	TOTAL
Service:				
Number	857	1,210	309	2,376
Annual Benefits	\$19,814,710	\$17,570,201	\$8,379,138	\$45,764,049
Disability:				
Number	29	80	0	109
Annual Benefits	\$398,289	\$1,755,377	\$0	\$2,153,666
Survivors:				
Number	296	259	16	571
Annual Benefits	\$4,420,385	\$2,765,642	\$234,097	\$7,420,124
Total:				
Number	1,182	1,549	325	3,056
Annual Benefits	\$24,633,384	\$22,091,220	\$8,613,235	\$55,337,839

*In addition, there are 294 participants entitled to deferred annual benefits totaling \$5,246,344.

3. Table 1 of Schedule F shows a reconciliation of the membership from June 30, 2010 to June 30, 2011. Tables 2, 3 and 4 of Schedule F show the distribution by age and years of membership service of the number of active members included in the valuation by plan, while Tables 5, 6 and 7 show the number and annual benefits of retired members and beneficiaries included in the valuation by plan, distributed by age.



SECTION III – ASSETS

As of June 30, 2011, the total market value of assets amounted to \$982,539,680, as reported by the auditor. The actuarial value of assets used for the current valuation was \$1,066,406,318. Schedule B shows the development of the actuarial value of assets as of June 30, 2011.

SECTION IV – COMMENTS ON VALUATION

1. Schedule A of this report outlines the results of the actuarial valuation. The valuation was prepared in accordance with the actuarial assumptions and the actuarial cost method, which are described in Schedule D.
2. The valuation shows that the liability on account of benefits payable to all Plan B participants amounts to \$241,773,013. The liability on account of benefits payable to all Plan A participants amounts to \$460,215,241. The liability on account of benefits payable to all Plan C participants amounts to \$484,800,208. Therefore, the total actuarial accrued liability of the System amounts to \$1,186,788,462. Against these liabilities, the System has present assets for valuation purposes of \$1,066,406,318. When this amount is deducted from the actuarial accrued liability of \$1,186,788,462, there remains \$120,382,145 as the unfunded actuarial accrued liability.
3. The normal contribution rate is equal to the actuarial present value of benefits accruing during the current year divided by the annual active members' payroll. The employer normal contribution rate is determined to be 7.93% of payroll.



SECTION V – CONTRIBUTIONS PAYABLE

1. The contributions consist of a normal contribution and an accrued liability contribution as determined by actuarial valuation.
2. The normal contribution rate is equal to the actuarial present value of benefits accruing during the current year divided by the annual active member's payroll. On the basis of the valuation, the employer normal contribution rate was determined to be 7.93%.
3. A contribution of 4.08% of payroll will liquidate the unfunded accrued liability within a weighted 23-year period.
4. The total County contribution rate required for the fiscal year ending June 30, 2013 is, therefore, 12.01% of payroll.
5. The following table summarizes the employer contributions which were determined by the June 30, 2011 valuation and are recommended for use.

**COUNTY ANNUAL REQUIRED CONTRIBUTIONS (ARC)
FOR FISCAL YEAR ENDING JUNE 30, 2013**

CONTRIBUTION	PERCENTAGE OF ACTIVE MEMBERS' COMPENSATION
Normal	7.93%
Accrued Liability	<u>4.08</u>
Total	12.01%



SECTION VI – ACCOUNTING INFORMATION

1. Governmental Accounting Standards Board Statements 25 and 27 set forth certain items of required supplementary information to be disclosed in the financial statements of the System and the employer. One such item is a distribution of the number of employees by type of membership, as follows:

**NUMBER OF ACTIVE AND RETIRED PARTICIPANTS
AS OF JUNE 30, 2011**

GROUP	PLAN B	PLAN A	PLAN C	TOTAL
Retired participants and beneficiaries currently receiving benefits	1,182	1,549	325	3,056
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	1	242	51	294
Active Participants	<u>32</u>	<u>2,418</u>	<u>3,599</u>	<u>6,049</u>
Total	1,215	4,209	3,975	9,399

2. Another such item is the schedule of funding progress as shown below.

**SCHEDULE OF FUNDING PROGRESS
Dollar Amounts in Thousands**

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) PUC (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / c)
6/30/2006	\$933,730	\$860,179	\$(73,551)	108.6%	\$241,404	(30.5)%
6/30/2007	992,145	934,829	(57,316)	106.1	249,839	(22.9)
6/30/2008	1,040,514	1,000,475	(40,039)	104.0	260,108	(15.4)
6/30/2009	1,052,640	1,025,867	(26,773)	102.6	271,888	(9.8)
6/30/2010	1,053,056	1,084,353	31,297	97.1	266,559	11.7
6/30/2011	1,066,406#	1,186,788	120,382	89.9	265,137	45.4

Reflects changes in assumptions.

All figures prior to June 30, 2009 were reported by a prior actuarial firm.



3. Another such item is the schedule of employer contributions as shown below.

SCHEDULE OF EMPLOYER CONTRIBUTIONS

FISCAL YEAR ENDING	ANNUAL REQUIRED CONTRIBUTION	PERCENT CONTRIBUTED
6/30/2006	\$10,322,629	182
6/30/2007	11,037,956	170
6/30/2008	12,956,023	145
6/30/2009	15,261,041	123
6/30/2010	16,652,005	116
6/30/2011	18,570,739	101

4. The annual required contribution (ARC) as a percentage of payroll, determined in accordance with the parameters of GASB 25/27, is shown below.

EMPLOYER ANNUAL REQUIRED CONTRIBUTION (ARC)	FISCAL YEAR ENDING JUNE 30, 2013
Normal	7.93%
Accrued liability	<u>4.08</u>
Total	12.01%

5. Additional information as of June 30, 2011 follows:

Valuation date	6/30/2011
Actuarial cost method	Projected unit credit
Amortization period	Level dollar closed
Remaining amortization period*	23 years
Asset valuation method	Ten-year smoothed market value
Actuarial assumptions:	
Investment rate of return (includes inflation)	8.00%
Projected salary increases	3.00% - 8.50%
Cost-of-living adjustments	CPI-U up to 4% for Plan A and Plan C; CPI-U up to 1% for Plan B

* This period is a weighted average of the amortization for Plan C (15 years) and the amortization of the remaining portion of the unfunded accrued liability (29 years).



SECTION VII – EXPERIENCE

Actual experience will never (except by coincidence) coincide exactly with assumed experience. It is assumed that gains and losses will be in balance over a period of years, but sizable year to year fluctuations are common. Detail on the derivation of the experience gain/(loss) for the year ended June 30, 2011 is shown below.

	<u>\$ Thousands</u>
(1) UAAL* as of June 30, 2010	\$ 31,296.6
(2) Total normal cost from last valuation	32,044.5
(3) Total actual contributions	28,439.5
(4) Interest accrual: (1) x .0825 + [(2) – (3)] x .04125	<u>2,730.7</u>
(5) Expected UAAL before changes: (1) + (2) – (3) + (4)	\$ 37,632.3
(6) Change due to plan amendments	0.0
(7) Change due to actuarial assumptions or methods	<u>34,704.3</u>
(8) Expected UAAL after changes: (5) + (6) + (7)	\$ 72,336.6
(9) Actual UAAL as of June 30, 2011	\$ 120,382.1
(10) Gain/(loss): (8) – (9)	\$ (48,045.4)
(11) Gain/(loss) as percent of actuarial accrued liabilities for prior year (\$1,084,352.6)	(4.4)%

*Unfunded actuarial accrued liability.

Valuation Date June 30	Actuarial Gain/(Loss) as a % of Beginning Accrued Liabilities
2010	(5.6)%
2011	(4.4)%



SCHEDULE A

DEVELOPMENT OF THE COUNTY CONTRIBUTION REQUIREMENT AS OF JUNE 30, 2011

(1)	Actuarial Accrued Liability:	
(a)	Plan B	
(i)	Actives and Transfers	\$ 13,688,397
(ii)	Retired, Beneficiaries, Disabled, Deferred	<u>228,084,616</u>
(iii)	Total = (i) + (ii)	\$ 241,773,013
(b)	Plan A	
(i)	Actives and Transfers	\$ 214,460,427
(ii)	Retired, Beneficiaries, Disabled, Deferred	<u>245,754,814</u>
(iii)	Total = (i) + (ii)	\$ 460,215,241
(c)	Plan C	
(i)	Actives and Transfers	\$ 374,772,444
(ii)	Retired, Beneficiaries, Disabled, Deferred	<u>110,027,764</u>
(iii)	Total = (i) + (ii)	\$ 484,800,208
(d)	Total = (a)iii + (b)iii + (c)iii	\$ 1,186,788,462
(2)	Actuarial Asset Value	\$ 1,066,406,318
(3)	(Surplus) or Obligation	
(a)	Remaining Obligation due to Plan C	\$ 32,503,691
(b)	Remaining (Surplus) or Obligation	<u>87,878,453</u>
(c)	Net (Surplus) or Obligation = (1)d – (2)	\$ 120,382,145
(4)	Amortization of (Surplus) or Obligation	
(a)	Amortization of Obligation due to Plan C over 20 years from July 1, 2006	\$ 3,516,103
(b)	Amortization of Unfunded Accrued Liability over 30 years from July 1, 2010	<u>7,292,165</u>
(c)	Total = (a) + (b)	\$ 10,808,268



SCHEDULE A
(continued)

(5)	Total Normal Cost	
(a)	Plan B	\$ 188,874
(b)	Plan A	10,782,614
(c)	Plan C	<u>22,436,840</u>
(d)	Total = (a) + (b) + (c)	\$ 33,408,328
(6)	Expected Employee Contributions	
(a)	Plan B Participants	\$ (160,099)
(b)	Plan A Participants	(1,031,453)
(c)	Plan C Participants	<u>(11,199,317)</u>
(c)	Total = (a) + (b)	\$ (12,390,869)
(7)	Employer Normal Cost	
(a)	Plan B = (5)a + (6)a	28,775
(b)	Plan A = (5)b	9,751,161
(c)	Plan C = (5)c + (6)b	<u>11,237,523</u>
(d)	Total = (a) + (b) + (c)	\$ 21,017,459
(8)	Total County Contribution = (4) + (7)	\$ 31,825,727
(9)	Actual Active Payroll	
(a)	Plan B	\$ 2,001,240
(b)	Plan A	103,145,267
(c)	Plan C	<u>159,990,248</u>
(d)	Total = (a) + (b) + (c)	\$ 265,136,755
(10)	County Contribution Rate	
(a)	Normal Cost	7.93%
(b)	Amortization of Plan C	1.33
(c)	Amortization of Surplus	<u>2.75</u>
(d)	Total = (a) + (b) + (c)	12.01%



SCHEDULE B

DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS

(1)	Actuarial Value of Assets as of June 30, 2010	\$ 1,053,055,938
(2)	Market Value of Assets as of June 30, 2011	\$ 982,539,680
(3)	Market Value of Assets as of June 30, 2010	\$ 825,764,292
(4)	Net Cash Flow During Plan Year	
(a)	Contributions	\$ 28,439,479
(b)	Benefit Payments	(58,888,598)
(c)	Administration Expenses	<u>(1,248,382)</u>
(d)	Net Cash Flow: (a) + (b) + (c)	\$ (31,697,501)
(5)	Investment Income	
(a)	Market Total: (2) – (3) – (4)d	\$ 188,472,889
(b)	Assumed Rate	8.25%
(c)	Amount for Immediate Recognition	\$ 68,013,241
(d)	Amount for Phased-In Recognition: (5)a – (5)c	\$ 120,459,648
(6)	Recognized Amounts for Plan Year	
(a)	Current Year: 0.10 x (5)d	\$ 12,045,965
(b)	First Prior Year	5,330,118
(c)	Second Prior Year	(29,407,425)
(d)	Third Prior Year	(13,897,942)
(e)	Fourth Prior Year	8,985,741
(f)	Fifth Prior Year	1,165,919
(g)	Sixth Prior Year	(820,593)
(h)	Seventh Prior Year	4,392,506
(i)	Eighth Prior Year	(1,597,241)
(j)	Ninth Prior Year	<u>(9,162,409)</u>
(k)	Total Recognized Investment Gain/(Loss)	\$ (22,965,361)
(7)	Actuarial Value of Assets as of June 30, 2011 (1) + (4)d + (5)c + (6)k	\$ 1,066,406,318
(8)	Rate of Return on Actuarial Value	4.22%



SCHEDULE C

ASSET INFORMATION

<i>Receipts</i>	
(1) Employee Contributions	\$ 9,651,695
(2) Employer Contributions	18,787,784
(3) Investment Income	<u>188,472,889</u>
(4) Total Receipts	\$216,912,368
<i>Disbursements</i>	
(5) Retirement	\$ 52,883,454
(6) Refunds and Cashouts	6,005,144
(7) Administrative Expenses	<u>1,248,382</u>
(8) Total Disbursements	\$ 60,136,980
(9) Excess of Receipts Over Disbursements: (4) - (8)	\$156,775,388
<i>Reconciliation of Asset Balances</i>	
(10)Market Value at June 30, 2010	\$825,764,292
(11)Excess of Receipts Over Disbursements	<u>156,775,388</u>
(12)Market Value at June 30, 2011	\$982,539,680
(13)Estimated Rate of Return on Market Value of Assets	23.10%



SCHEDULE D

OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

INVESTMENT RATE OF RETURN: 8.00% per year (net after administrative expenses).

SALARY INCREASES:

Age	Increase per year
20-24	8.5%
25-29	8.0
30-34	7.5
35-39	7.0
40-44	6.0
45-49	5.5
50-54	5.0
55-59	4.5
60-64	4.0
65 +	3.0

EXPENSES: None.

COST-OF-LIVING ADJUSTMENT: 1.00% per year, compounded for Plan B. 2.50% per year, compounded for Plan A and Plan C.

PERCENT MARRIED: 65% of active members are assumed to be married with the male three years older than his spouse.

ASSETS: Actuarial value, as developed in Schedule C. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected market value of assets, based on the assumed valuation rate of return. The amount recognized each year is 10% of the difference between market value and expected market value.

VALUATION METHOD: Projected Unit Credit actuarial cost method.



SEPARATIONS FROM SERVICE: Representative values of the assumed rates of death, disability, withdrawal, service retirement and early retirement are as follows:

Plan B

Age	Annual Rate of					
	Death*		Disability*		Withdrawal**	
	Male	Female	Male	Female	Male	Female
20	0.031%	0.017%	0.029%	0.030%	17.95%	57.96%
25	0.035	0.019	0.038	0.047	11.94	37.95
30	0.043	0.025	0.048	0.080	8.32	23.94
35	0.075	0.044	0.069	0.136	5.88	16.32
40	0.103	0.065	0.117	0.211	3.43	11.50
45	0.139	0.102	0.202	0.323	2.10	7.45
50	0.192	0.151	0.358	0.533	10.00	10.00
55	0.323	0.259	0.722	0.952	15.00	15.00
60	0.613	0.491	1.256	1.159	20.00	20.00
65	1.170	0.942	1.753	1.358	0.00	0.00
70	2.028	1.625	2.180	1.664	0.00	0.00

*75% of deaths and disabilities are assumed to be line-of-duty for deputy sheriffs. 10% of deaths and disabilities are assumed to be line-of-duty for general employees.

**Assume early retirements occur according to withdrawal rates; ultimate retirements at age 65 for General Employees and age 60 for Deputy Sheriffs.

Plan A

Age	Annual Rate of					
	Death*		Disability*		Withdrawal	Retirement
	Male	Female	Male	Female		
20	0.031%	0.017%	0.029%	0.030%	12.0%	0.0%
25	0.035	0.019	0.038	0.047	12.0	0.0
30	0.043	0.025	0.048	0.080	8.0	0.0
35	0.075	0.044	0.069	0.136	7.0	0.0
40	0.103	0.065	0.117	0.211	6.0	0.0
45	0.139	0.102	0.202	0.323	5.0	0.0
50	0.192	0.151	0.358	0.533	5.0	0.0
55	0.323	0.259	0.722	0.952	7.0	5.0
60	0.613	0.491	1.256	1.159	7.0	5.0
65	1.170	0.942	1.753	1.358	7.0	12.0
67	1.486	1.180	1.950	1.505	0.0	100.0

*90% of deaths and disabilities are assumed to be non-hazardous duty.



Plan C

Age	Annual Rate of							
	Death*		Disability*		Withdrawal	Retirement**		
	Male	Female	Male	Female		Before 25 years of service	After 25 years of service	
					Public Safety		Non-Public Safety	
20	0.031%	0.017%	0.029%	0.030%	12.0%			
25	0.035	0.019	0.038	0.047	12.0			
30	0.043	0.025	0.048	0.080	8.0			
35	0.075	0.044	0.069	0.136	7.0			
40	0.103	0.065	0.117	0.211	6.0		20.0%	10.0%
45	0.139	0.102	0.202	0.323	5.0		20.0	10.0
50	0.192	0.151	0.358	0.533	5.0		20.0	10.0
55	0.323	0.259	0.722	0.952	7.0	5.0%	40.0	10.0
60	0.613	0.491	1.256	1.159	7.0	5.0	100.0	20.0
65	1.170	0.942	1.753	1.358	7.0	12.0	100.0	25.0
67	1.486	1.180	1.950	1.505	0.0	100.0	100.0	100.0

*90% of deaths and disabilities are assumed to be non-hazardous duty.

**Assume that the retirement rate for employees with at least 25 years of service increases by 50% in the year following the Transition Period.

DEATHS AFTER RETIREMENT: The RP-2000 Mortality Table Projected to 2006 is used for the period after retirement and for dependent beneficiaries. Special rates are used for the period after disability retirement. Representative values of the assumed rates of death after service and disability retirement are as follows:

Age	Annual Rate of Death After			
	Service Retirement		Disability Retirement	
	Male	Female	Male	Female
50	0.192	0.151	4.537	3.363
55	0.323	0.259	5.690	3.701
60	0.613	0.491	6.922	4.122
65	1.170	0.942	8.219	4.527
70	2.028	1.625	9.299	5.063
75	3.477	2.678	11.203	6.349
80	6.060	4.399	11.360	8.472
85	10.619	7.470	15.253	11.480



SCHEDULE E

**SUMMARY OF MAIN SYSTEM PROVISIONS
AS INTERPRETED FOR VALUATION PURPOSES**

PLAN B

Eligibility	All salaried employees hired prior to December 1, 1978 were eligible at date of employment and had to apply for membership as a condition of such employment. "Employee" means any person employed on a regular full-time basis, excluding officials or employees of the Board of Education of Shelby County. Entry in the System was optional for individuals employed on a per diem basis. Employees not able to complete the required number of years of service prior to mandatory retirement age could not join the plan.
Final Average Earnings	<p>If a participant had 10 years of credited service on October 1, 1977, the greater of:</p> <ol style="list-style-type: none">1) Average monthly earnings for the five consecutive years of County Service during which earnings was the highest or,2) Average monthly earnings for the 12 months preceding the date of retirement. <p>If the participant did not have 10 years of service on October 1, 1977, the average monthly earnings for the 36 consecutive months during which the employee received his highest earnings.</p>
Normal Retirement Benefit	
Eligibility	25 years of credited service or age 60 (age 55 if Deputy Sheriff) and 10 years of credited service.
Benefit	2.7% of final average earnings multiplied by years of credited service not in excess of 25 plus 1% of final average earnings multiplied by years of credited service greater than 25 but less than 35. The maximum benefit is 77.5% of final average earnings. The minimum monthly benefit is \$300 (\$150 monthly if jointly employed by the City and County).
Disability Retirement	
Eligibility	After January 1, 2007, only participants who are disabled in the line-of-duty are eligible to receive a disability pension.
Benefit	<p>The greater of:</p> <ol style="list-style-type: none">1) The Normal Retirement Benefit (if participant is then eligible for a Normal Retirement Benefit) or,2) 50% of Final Average Earnings.



PLAN B

Termination of Employment

If employment is terminated prior to the completion of 10 years of credited service, a refund of the participant's contributions, without interest, is payable.

If employment is terminated after completion of 10 years of credited service, a deferred vested benefit equal to the participant's accrued benefit at date of termination is paid commencing at age 60. Benefits are payable to the surviving spouse after age 60 of the participant. The participant may elect to withdraw his contributions, without interest, instead of receiving the deferred monthly benefit at age 60.

Death Benefit

If a participant dies before completing 10 years of credited service and does not die in line-of-duty, his beneficiary will receive a refund of the participant's contributions, without interest.

If a participant dies after completing 10 years of credited service or after retirement the member's eligible spouse will receive the participant's accrued benefit until death.

If death occurs in line-of-duty, a benefit of 50% of the participant's final average earnings will be paid to the spouse until death.

Contributions

Each year the County contributes an amount determined actuarially to sustain the plan on an actuarially determined funding basis. Employees contribute 8% of earnings to the retirement plan for the first 35 years. After 35 years, employees contribute 8% of any increases in pay.

Cost of Living Adjustment

A maximum of 1% annual adjustment based on CPI changes for the following:

- 1) Retired participants who have attained age 65, completed 25 years of credited service prior to termination, have been retired and receiving benefits for 5 years, and have a monthly pension for the first month in which they are eligible for the COLA less than \$3,000.
- 2) Disability retired participants who have a monthly pension for the first month in which they are eligible for the COLA less than \$3,000.
- 3) Surviving Spouses who have attained age 65, where the original participant completed 25 years of credited service prior to termination or whose death was a line of duty death or whose pension had been a disability pension, where the original participant's termination was at least 5 years prior to receiving the COLA, and who have a monthly pension for the first month in which they are eligible for the COLA less than \$3,000.
- 4) Surviving children where the original participant completed 25 years of credited service prior to termination or whose death was a line of duty death or whose pension had been a disability pension, where the participant's termination was at least 5 years prior to receiving the COLA, and who have a monthly pension for the first month in which they are eligible for the COLA less than \$3,000.

In no event, however, will the Plan B benefits exceed 100% of final average pay.



PLAN A

Eligibility All employees hired after December 1, 1978 and prior to March 1, 2005 including all full-time, part-time and elected employees, and members of Plan B electing to transfer to Plan A and employees of all joint City/County agencies administered by Shelby County participate. CETA employees, Board of Education employees, employees electing Social Security coverage, and Joint City/County agencies not administered by Shelby County cannot participate.

Public Safety Employees Public Safety Employees, hired prior to March 1, 2005, who did not elect to transfer to Plan C, effective September 1, 2005, are no longer eligible to retire under the 25 year-and-out program and no longer contribute to Plan A.

Final Average Earnings The average over the three highest consecutive years of earnings.

Normal Retirement Benefit

Eligibility Age 65 regardless of amount of credited service.

Benefit Final average earnings multiplied by a percentage from Table A, which is included in the appendix to the plan. Listed below is a summary of Table A:

Years of Service	Benefit Accrual Per Year
1 – 7	1.5%
8 – 13	2.0
14 – 20	2.5
21 – 25	3.0
26 – 30	3.0
31 – 35	2.5
36 – 38	2.5
39 and above	0.0

Early Retirement Benefit

Eligibility Age 55 and completion of 7.5 years of credited service.

Benefit The Normal Retirement Benefit reduced 2.5% for each year less than age 65.

Disability Retirement

Eligibility After January 1, 2002, no disability benefits are provided by the Plan. Upon reaching age 65, a disabled participant will have any disability benefit recomputed as a normal retirement benefit payable by the Plan.



PLAN A

Benefit	The Normal Retirement Benefit calculated with credited service including time while disabled.
Termination of Employment	<p>If employment is terminated prior to the completion of 7.5 years of credited service, no benefit is payable.</p> <p>If employment is terminated after completion of 7.5 years of credited service, a deferred vested benefit equal to the participant's accrued benefit at date of termination is paid commencing at age 65. Alternatively, the participant may elect a vested early benefit payable beginning at age 55 which is actuarially equivalent.</p>
Death Benefit	<p>If a participant dies, the participant's eligible spouse shall receive 45% of final average earnings for two years after the participant's death.</p> <p>If death occurs in line-of-duty, or, if not line-of-duty, the participant before death was age 55 and completed 15 years of credited service, the participant's eligible spouse shall receive 75% of the participant's pension calculated as if the participant had retired immediately before death. This benefit shall be payable when the spouse reaches age 65. The participant's final average earnings is adjusted by the COLA from the participant's death until the spouse reaches age 65.</p>
Contributions	Employees contribute 0.5% of earnings in 2011, 1.0% of earnings in 2012, 1.5% of earnings in 2013 and 2.0% of earnings in 2014 and thereafter.
Cost of Living Adjustment	<p>A maximum of 4% annual adjustment based on CPI changes applies to the following benefits:</p> <ol style="list-style-type: none"> 1) Retired participants after age 65 2) Disabled participants 3) Survivor benefits for dependent children 4) Survivor benefits for spouses under age 65 receiving the two year temporary benefit 5) Survivor benefits for spouses age 65 and over.

In no event, however, will the Plan A benefits exceed 100% of final average pay except as follows for an employee who retires with 40 or more years of service:

Final Average Earnings	Maximum Benefit
Less than \$1,200	124%
\$1,200 to \$2,800	115%
More than \$2,800	106%



PLAN C

Eligibility	All employees participate who are hired on or after March 1, 2005 but before July 1, 2011, including all full-time, part-time and elected employees, and employees of all joint City/County agencies administered by Shelby County, and members of Plan A electing to transfer to Plan C. CETA employees, Board of Education employees, employees electing Social Security coverage, and Joint City/County agencies not administered by Shelby County cannot participate.
Final Average Earnings	The average over the three highest consecutive years of earnings.
Alternate Benefit Accrual Account	Participants contribute 6% of earnings prior to 2011, 6.5% of earnings in 2011, 7.0% of earnings in 2012, 7.5% of earnings in 2013 and 8.0% of earnings in 2014 and thereafter to fund the Plan. Participants are always fully vested in these contributions. Prior to January 1, 2011, the employer matches 50% of each contribution the participant makes to the plan. Effective January 1, 2011, employer matching contributions are frozen at 3%. The participant becomes fully vested in the employer contributions upon reaching 7.5 years of credited service. The total of these two contribution amounts will comprise the participant's Alternate Benefit Accrual Account. The investment return on these contributions and match is 5% per annum.
Normal Retirement Benefit	
Eligibility	Age 65 or upon completion of 25 years of credited service.
Benefit	The greater of: 1) 2.35% of final average earnings multiplied by credited service (up to 35 years) or, 2) The life annuity equivalent of the participant's Alternate Benefit Accrual Account.
Early Retirement Benefit	
Eligibility	Age 55 and completion of 7.5 years of credited service.
Benefit	The greater of: 1) Final average earnings multiplied by credited service (up to 35 years) and a percentage from Table ERP, which is included as part of the plan, or 2) The life annuity equivalent of the participant's Alternate Benefit Accrual Account.
Disability Retirement	
Eligibility	No disability benefits are provided by the Plan except for transfers. Upon reaching age 65, a disabled participant will have any disability benefit recomputed as a normal retirement benefit payable by the Plan.
Benefit	The Normal Retirement Benefit calculated with credited service including time while disabled.



PLAN C

Termination of Employment

If employment is terminated prior to the completion of 7.5 years of credited service, the participant is entitled to receive the vested portion of the participant's alternate benefit accrual account as a lump sum payment.

If employment is terminated after completion of 7.5 years of credited service, a deferred vested benefit equal to the participant's accrued benefit at date of termination is paid commencing at age 65. Alternatively, the participant may elect a vested early benefit payable beginning at age 55 which is actuarially equivalent.

Death Benefit

If a participant dies before completion of 15 years of credited service and the death occurs in line-of-duty, or, if not line of duty, the participant had completed 7.5 years of credited service before death, the participant's eligible beneficiary shall receive the vested portion of the participant's alternate benefit accrual account as a lump sum payment.

If a participant dies after completion of 15 years of credited service the participant's eligible spouse shall receive 75% of the participant's pension calculated as if the participant had retired immediately before death. This benefit shall be payable when the spouse reaches age 65. The participant's final average earnings is adjusted by the COLA from the participant's death until the spouse reaches age 65.

Contributions

See Alternate Benefit Accrual Account.

Cost of Living Adjustment

A maximum of 4% annual adjustment based on CPI changes applies to the following benefits:

- 1) Retired participants after age 65
- 2) Disabled participants
- 3) Survivor benefits for dependent children
- 4) Survivor benefits for spouses age 65 and over.

In no event, however, will the Plan C benefits exceed 100% of final average pay.



PLAN D

Eligibility	All employees participate who are hired on or after July 1, 2011, including all full-time, part-time and elected employees, and employees of all joint City/County agencies administered by Shelby County. CETA employees, Board of Education employees, employees electing Social Security coverage, and Joint City/County agencies not administered by Shelby County cannot participate.
Final Average Earnings	The average over the 5 highest consecutive years of earnings.
Normal Retirement Benefit	
Eligibility	Age 67 with at least 7.5 years of credited service for general employees and age 55 with at least 7.5 years of credited service for public safety employees.
Benefit	Final average earnings multiplied by credited service multiplied by 2.175%.
Early Retirement Benefit	
Eligibility	Age 62 with at least 7.5 years of credited service for general employees and age 50 with the last 20 years of credited service being in a public safety classification for public safety employees.
Benefit	Final average earnings multiplied by credited service and a percentage from Table ERP-S and Table ERP-PS, which is included as part of the plan.
Disability Retirement	
Eligibility	No disability benefits are provided by the Plan except for transfers. Upon reaching age 65, a disabled participant will have any disability benefit recomputed as a normal retirement benefit payable by the Plan.
Benefit	The Normal Retirement Benefit calculated with credited service including time while disabled.
Termination of Employment	<p>If employment is terminated prior to the completion of 7.5 years of credited service, the participant is entitled to receive the vested portion of the participant's alternate benefit accrual account as a lump sum payment.</p> <p>For general employees, if employment is terminated after completion of 7.5 years of credited service, a deferred vested benefit equal to the participant's accrued benefit at date of termination is paid commencing at age 67. Alternatively, the participant may elect a vested early benefit payable beginning at age 62 which is actuarially equivalent.</p>



PLAN D

For public safety employees, if employment is terminated after completion of 7.5 years of credited service, a deferred vested benefit equal to the participant's accrued benefit at date of termination is paid commencing at age 55. Alternatively, the participant may elect a vested early benefit payable beginning at age 50 which is actuarially equivalent.

Death Benefit

If a participant dies before completion of 15 years of credited service and the death occurs in line-of-duty, or, if not line of duty, the participant had completed 7.5 years of credited service before death, the participant's eligible beneficiary shall receive the amount of the participant contribution account.

If a participant dies after completion of 15 years of credited service the participant's eligible spouse shall receive 75% of the participant's pension calculated as if the participant had retired immediately before death. This benefit shall be payable when the spouse reaches age 67. The participant's final average earnings is adjusted by the COLA from the participant's death until the spouse reaches age 67.

Contributions

Employees contribute 8.0% of earnings.

Cost of Living Adjustment

A maximum of 2% annual adjustment based on CPI changes applies to the following benefits:

- 1) Retired participants after age 65
- 2) Disabled participants
- 3) Survivor benefits for dependent children
- 4) Survivor benefits for spouses age 65 and over.

In no event, however, will the Plan D benefits exceed 100% of final average pay.



SCHEDULE F

TABLE 1

RECONCILIATION OF DATA

	<u>Actives</u>	<u>Retirees</u>	<u>Disabled</u>	<u>Beneficiaries</u>	<u>Vested Terms</u>	<u>Total</u>
1. Headcounts as of June 30, 2010	6,197	2,186	121	542	338	9,384
2. Change in status during the year:						
a. Death	(17)	(97)	(5)	(31)	(8)	(158)
c. Disabled						
d. Retired	(253)	289	(7)		(29)	
e. Terminated Vested	(38)				38	
f. Terminated Not Vested	(210)					(210)
g. Benefits Expired/Refund				(4)	(39)	(43)
3. New member due to:						
a. New Hires	359					359
b. Rehires	11	(4)			(7)	
c. Death of Participant				64		64
d. Adjustments		2			1	3
4. Headcounts as of June 30, 2011	6,049	2,376	109	571	294	9,399



TABLE 2
PLAN B
SCHEDULE OF ACTIVE MEMBERS BY AGE AND SERVICE
AS OF JUNE 30, 2011

Attained Age	Completed Years of Service										Total	
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	≥ 40		
Under 25 Avg. Pay												
25 to 29 Avg. Pay												
30 to 34 Avg. Pay												
35 to 39 Avg. Pay												
40 to 44 Avg. Pay												
45 to 49 Avg. Pay												
50 to 54 Avg. Pay								1 52,480	1 74,503			2 63,492
55 to 59 Avg. Pay									6 55,815			6 55,815
60 to 64 Avg. Pay								7 64,180	4 64,433	1 97,882		12 67,073
65 to 69 Avg. Pay								1 30,710		2 66,960		3 54,877
70 & up Avg. Pay								3 45,036	2 110,037	4 53,670		9 63,318
Total Avg. Pay								12 55,630	13 68,246	7 63,784		32 62,539

Average Age 64.9

Average Service

37.2



TABLE 3
PLAN A
SCHEDULE OF ACTIVE MEMBERS BY AGE AND SERVICE
AS OF JUNE 30, 2011

Attained Age	Completed Years of Service										Total	
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	≥ 40		
Under 25 Avg. Pay												
25 to 29 Avg. Pay			3 30,090									3 30,090
30 to 34 Avg. Pay			55 34,038	17 38,429								72 35,075
35 to 39 Avg. Pay			112 36,005	140 43,247	12 51,904							264 40,568
40 to 44 Avg. Pay			101 37,295	166 43,462	74 47,135	26 48,997	1 53,574					368 42,927
45 to 49 Avg. Pay			116 36,137	154 42,749	62 45,516	76 42,841	11 46,807					419 41,451
50 to 54 Avg. Pay			122 33,517	126 42,316	68 45,063	80 49,040	22 49,429	18 44,638				436 41,971
55 to 59 Avg. Pay			91 38,596	81 41,931	61 45,147	74 48,590	44 50,915	40 45,272	4 44,591			395 44,273
60 to 64 Avg. Pay			72 36,552	51 43,300	46 47,159	73 50,788	27 47,539	31 52,162	6 61,198	2 29,246		308 45,595
65 to 69 Avg. Pay			25 36,663	19 42,884	11 42,057	37 44,749	13 56,143	8 51,714		2 37,413		115 44,071
70 & up Avg. Pay			7 31,585	7 46,087	5 65,027	11 46,201	3 40,920	4 42,750		1 85,376		38 46,215
Total Avg. Pay			704 35,972	761 42,812	339 46,337	377 47,534	121 49,854	101 47,684	10 54,555	5 43,739		2,418 42,657

Average Age 50.5

Average Service

14.9



TABLE 4
PLAN C
SCHEDULE OF ACTIVE MEMBERS BY AGE AND SERVICE
AS OF JUNE 30, 2011

Attained Age	Completed Years of Service										Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	≥ 40	
Under 25	27	18									45
Avg. Pay	30,399	31,637									30,894
25 to 29	73	151	24	1							249
Avg. Pay	34,499	36,073	34,541	41,381							35,485
30 to 34	48	176	117	32							373
Avg. Pay	35,623	38,470	39,941	44,754							39,104
35 to 39	50	160	131	117	17						475
Avg. Pay	39,407	39,193	43,016	44,769	48,915						41,991
40 to 44	40	146	98	130	89	66	1				570
Avg. Pay	36,989	38,778	42,652	47,414	49,303	47,810	52,370				44,001
45 to 49	35	124	66	96	77	225	30	1			654
Avg. Pay	40,291	36,158	41,709	43,666	49,214	49,649	52,419	64,477			45,009
50 to 54	30	112	43	38	50	156	74	42			545
Avg. Pay	38,786	40,120	40,610	44,278	50,205	49,187	51,703	58,934			46,918
55 to 59	22	72	60	38	19	90	57	50			408
Avg. Pay	47,988	39,381	49,362	44,094	45,196	52,856	54,449	57,954			49,376
60 to 64	6	52	32	34	18	22	33	18			215
Avg. Pay	36,283	45,730	53,431	51,192	67,716	46,691	55,478	70,958			53,024
65 to 69	5	16	3	10	9	2	2	2			49
Avg. Pay	60,672	47,643	91,711	57,243	63,865	44,857	78,488	43,711			57,594
70 & up	2	2	1	6	1	4					16
Avg. Pay	26,489	26,963	41,237	61,735	65,927	48,264					48,596
Total	338	1,029	575	502	280	565	197	113			3,599
Avg. Pay	37,582	38,607	43,137	46,033	50,849	49,675	53,514	60,195			44,454

Average Age 44.8

Average Service 11.1



TABLE 5
PLAN B
SCHEDULE OF RETIRED MEMBERS AND BENEFICIARIES
AS OF JUNE 30, 2011

<u>Attained Age</u>	<u>Number of Members</u>	<u>Total Annual Benefits</u>	<u>Average Annual Benefit</u>
Under 50	2	\$ 39,460	\$ 19,730
50 – 54	19	479,346	25,229
55 – 59	77	2,481,630	32,229
60 – 64	152	4,029,792	26,512
65 – 69	186	4,971,413	26,728
70 – 74	166	3,708,513	22,340
75 – 79	175	3,390,139	19,372
80 & Over	<u>405</u>	<u>5,533,091</u>	<u>13,662</u>
Total	1,182	\$ 24,633,384	\$ 20,840

In addition, there is 1 participant entitled to deferred annual benefits totaling \$15,493.



TABLE 6
PLAN A
SCHEDULE OF RETIRED MEMBERS AND BENEFICIARIES
AS OF JUNE 30, 2011

<u>Attained Age</u>	<u>Number of Members</u>	<u>Total Annual Benefits</u>	<u>Average Annual Benefit</u>
Under 50	66	\$ 995,813	\$ 15,088
50 – 54	23	410,175	17,834
55 – 59	156	2,233,169	14,315
60 – 64	297	4,397,031	14,805
65 – 69	357	5,526,599	15,481
70 – 74	290	4,057,086	13,990
75 – 79	197	2,596,345	13,179
80 & Over	<u>163</u>	<u>1,875,002</u>	<u>11,503</u>
Total	1,549	\$ 22,091,220	\$ 14,262

In addition, there are 242 participants entitled to deferred annual benefits totaling \$3,688,904.



TABLE 7
PLAN C
SCHEDULE OF RETIRED MEMBERS AND BENEFICIARIES
AS OF JUNE 30, 2011

<u>Attained Age</u>	<u>Number of Members</u>	<u>Total Annual Benefits</u>	<u>Average Annual Benefit</u>
Under 50	23	\$ 487,014	\$ 21,175
50 – 54	66	1,864,095	28,244
55 – 59	126	3,592,992	28,516
60 – 64	83	2,195,828	26,456
65 – 69	21	393,493	18,738
70 – 74	3	43,792	14,597
75 – 79	3	36,021	12,006
80 & Over	<u>0</u>	<u>0</u>	<u>0</u>
Total	325	\$ 8,613,235	\$ 26,502

In addition, there are 51 participants entitled to deferred annual benefits totaling \$1,541,947.



SCHEDULE G

ANALYSIS OF FINANCIAL EXPERIENCE

**Gains & Losses in Accrued Liabilities
Resulting from Difference Between
Assumed Experience & Actual Experience
(\$ Thousands)**

Type of Activity	\$ Gain (or Loss) For Year Ending 6/30/2011	\$ Gain (or Loss) For Year Ending 6/30/2010
Age & Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (9,035.6)	\$ 1,640.5
Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	850.3	943.7
Death-in-Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(1,072.7)	(1,037.9)
Withdrawal From Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	(6,331.9)	(3,841.8)
Pay Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	11,952.4	13,092.1
New Members. Additional unfunded accrued liability will produce a loss.	(816.4)	(764.4)
Investment Income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(40,468.5)	(48,043.4)
Death After Retirement. If retirants live longer than assumed, there is a loss. If not as long, a gain.	1,103.3	(9,978.7)
Other. Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	<u>(4,226.4)</u>	<u>(9,522.4)</u>
Gain (or Loss) During Year From Financial Experience	<u>\$ (48,045.5)</u>	<u>\$ (57,512.3)</u>
Non-Recurring Items. Adjustments for plan amendments, assumption changes, or method changes.	<u>(34,704.3)</u>	<u>0.0</u>
Composite Gain (or Loss) During Year	<u>\$ (82,749.8)</u>	<u>\$ (57,512.3)</u>