



**Cavanaugh Macdonald**  
CONSULTING, LLC

*The experience and dedication you deserve*



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

**Prepared as of June 30, 2013**





# Cavanaugh Macdonald

CONSULTING, LLC

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October 29, 2013

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, 2013. The purpose of this report is to provide a summary of the funded status of the System as of June 30, 2013, 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 13.26% of payroll for the fiscal year ending June 30, 2015. 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 27-year period. The initial obligation for Plan C is being amortized by annual contributions within a 13-year period.

Since the previous valuation, several changes were made to the economic and demographic assumptions per the findings of the Experience Investigation for the Five-Year Period Ending June 30, 2012. No changes were made to the methods or plan provisions.

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, 2015 is 13.26% of payroll, based on a weighted 22-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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Board of Commissioners  
October 29, 2013  
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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, 2013**

**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, 2013	June 30, 2012
Active members:		
Number	5,668	5,686
Annualized compensation	\$ 250,367,344	\$ 247,987,243
County to City Transfers:		
Number	193	194
Annualized compensation	\$ 11,232,035	\$ 10,683,111
Retired members and beneficiaries:		
Number	3,260	3,174
Annual allowances	\$ 62,651,217	\$ 59,872,282
Number of participants with deferred benefits	242	268
Assets:		
Market Value	\$ 1,008,048,994	\$ 915,990,681
Actuarial Value	1,118,964,627	1,090,209,692
Unfunded actuarial accrued liability	\$ 161,108,344	\$ 151,755,774
Weighted Amortization Period	22 years	23 years
Funding Ratio	87.4%	87.8%
<b>Fiscal Year Ending</b>	<b>June 30, 2015</b>	<b>June 30, 2014</b>
County annual required contribution rate (ARC)*:		
Normal Cost**	7.43%	7.49%
Accrued liability	<u>5.83</u>	<u>5.26</u>
Total	13.26%	12.75%

\* Beginning with the June 30, 2013 valuation, annual required contribution rate is based on active members' compensation only.

\*\* Beginning with the June 30, 2013 valuation, estimated budgeted administrative expenses are included in the normal cost rate.



2. The major benefit and contribution provisions of the Plan as reflected in the valuation are summarized in Schedule E. There have been no changes since the previous valuation.
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.
4. Since the last valuation, the following changes were made to the actuarial assumptions due to the experience investigation for the five year period ending June 30, 2012:
  - The salary scale was changed from an age-based table to a service-based table.
  - The pre-retirement and post-retirement mortality tables were changed to the RP-2000 Combined Mortality Table set forward three years for males and set forward one year for females and using a Scale AA projection to 2025.
  - The post-retirement mortality table was changed to the RP-2000 Disabled Mortality Table set forward 6 years for males and set forward 9 years for females and using a Scale AA projection to 2015 for disability retirements.
  - Withdrawal, disability, and retirement rates were changed to more closely reflect recent experience.
  - The COLA assumption for Plan A and C members was changed from 2.50% to 3.00%.
  - The investment return assumption was changed from net of all expenses to net of investment expenses only to prepare for the upcoming new Governmental Accounting Standards Board (GASB) Statements No. 67 and 68. Therefore, a budgeted administrative expense of 0.50% of compensation is included in the normal cost of the annual required contribution rate.
5. There have been no changes in actuarial methods since the last valuation.
6. The projected unit credit actuarial cost method was used to prepare the valuation.
7. Comments on the valuation results as of June 30, 2013 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 5,668 active members with annualized compensation totaling \$250,367,344. In addition, there are 193 County to City Transfers with total annual base earnings of \$11,232,035. Below we show the active members by Plan.

**THE NUMBER AND ANNUAL BASE EARNINGS  
OF ACTIVE MEMBERS  
AS OF JUNE 30, 2013**

<b>PLAN</b>	<b>NUMBER</b>	<b>TOTAL ANNUAL BASE EARNINGS</b>
Plan B	23	\$ 1,652,113
Plan A	1,988	84,557,758
Plan C	3,038	141,274,405
Plan D	<u>619</u>	<u>22,883,068</u>
Total	5,668	\$ 250,367,344



2. The following table shows the number of retired members and beneficiaries as of June 30, 2013 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, 2013**

TYPE OF RETIREMENT	PLAN B	PLAN A	PLAN C	PLAN D	TOTAL
<b>Service:</b>					
Number	799	1,326	470	0	2,595
Annual Benefits	\$19,128,528	\$20,697,426	\$12,985,812	\$0	\$52,811,766
<b>Disability:</b>					
Number	28	64	0	0	92
Annual Benefits	\$395,702	\$1,499,627	\$0	\$0	\$1,895,329
<b>Survivors:</b>					
Number	287	265	21	0	573
Annual Benefits	\$4,558,245	\$2,952,390	\$433,487	\$0	\$7,944,122
<b>Total:</b>					
Number	1,114	1,655	491	0	3,260
Annual Benefits	\$24,082,475	\$25,149,443	\$13,419,299	\$0	\$62,651,217

\*In addition, there are 242 participants entitled to deferred annual benefits totaling \$4,911,632.

3. Table 1 of Schedule F shows a reconciliation of the membership from June 30, 2012 to June 30, 2013. Tables 2, 3, 4 and 5 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 6, 7 and 8 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, 2013, the total market value of assets amounted to \$1,008,048,994, as reported by the auditor. The actuarial value of assets used for the current valuation was \$1,118,964,627. Schedule B shows the development of the actuarial value of assets as of June 30, 2013.

### **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 \$225,176,461. The liability on account of benefits payable to all Plan A participants amounts to \$500,954,907. The liability on account of benefits payable to all Plan C participants amounts to \$552,079,203. The liability on account of benefits payable to all Plan D participants amounts to \$1,862,400. Therefore, the total actuarial accrued liability of the System amounts to \$1,280,072,971. Against these liabilities, the System has present assets for valuation purposes of \$1,118,964,627. When this amount is deducted from the actuarial accrued liability of \$1,280,072,971, there remains \$161,108,344 as the unfunded actuarial accrued liability.
3. The employer's contributions to the System consist of normal cost contributions and accrued liability contributions. The normal cost 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 cost rate is determined to be 7.43% of payroll.
4. Beginning with the June 30, 2013 valuation, estimated budgeted administrative expenses are included in the normal cost rate. The expenses for the fiscal year ending June 30, 2015 are estimated to be 0.50% of payroll.
5. The accrued liability contribution rate is 5.83% of active member's compensation, which will amortize the portion of the unfunded actuarial liability over a weighted 22-year period on a level dollar amortization basis.



6. The total County contribution rate required for the fiscal year ending June 30, 2015 is, therefore, 13.26% of payroll.

**SECTION V – CONTRIBUTIONS PAYABLE**

The following table summarizes the employer contributions which were determined by the June 30, 2013 valuation and are recommended for use in the fiscal year ending June 30, 2015.

**COUNTY ANNUAL REQUIRED CONTRIBUTIONS (ARC)\*  
FOR FISCAL YEAR ENDING JUNE 30, 2015**

<b>CONTRIBUTION</b>	<b>PERCENTAGE OF ACTIVE MEMBERS' COMPENSATION</b>	<b>ESTIMATED DOLLARS BASED ON CURRENT PAYROLL</b>
Normal Cost**	7.43%	\$ 18,603,658
Accrued Liability	<u>5.83</u>	<u>14,616,430</u>
Total	13.26%	\$ 33,220,088

\* Beginning with the June 30, 2013 valuation, annual required contribution rate is based on active members' compensation only.

\*\* Beginning with the June 30, 2013 valuation, estimated budgeted administrative expenses are included in the normal cost rate.



**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, 2013**

<b>GROUP</b>	<b>PLAN B</b>	<b>PLAN A</b>	<b>PLAN C</b>	<b>PLAN D</b>	<b>TOTAL</b>
Retired participants and beneficiaries currently receiving benefits	1,114	1,655	491	0	3,260
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	0	198	44	0	242
County to City Transfers	0	176	17	0	193
Active Participants	<u>23</u>	<u>1,988</u>	<u>3,038</u>	<u>619</u>	<u>5,668</u>
Total	1,137	4,017	3,590	619	9,363

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

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

<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) PUC (b)</b>	<b>Unfunded AAL (UAAL) (b – a)</b>	<b>Funded Ratio (a / b)</b>	<b>Covered Payroll (c)</b>	<b>UAAL as a Percentage of Covered Payroll ((b – a) / c)</b>
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
6/30/2012	1,090,210	1,241,966	151,756	87.8	258,670	58.7
6/30/2013#	1,118,965	1,280,073	161,108	87.4	250,367	64.3

# 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**

<b>FISCAL YEAR ENDING</b>	<b>ESTIMATED ANNUAL REQUIRED CONTRIBUTION</b>	<b>PERCENT CONTRIBUTED</b>
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
6/30/2012	23,401,532	100
6/30/2013	31,825,727	100
6/30/2014	32,982,757	N/A

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

<b>EMPLOYER ANNUAL REQUIRED CONTRIBUTION (ARC)</b>	<b>FISCAL YEAR ENDING JUNE 30, 2015</b>
Normal Cost	7.43%
Accrued liability	<u>5.83</u>
Total	13.26%

5. Additional information as of June 30, 2013 follows:

Valuation date	6/30/2013
Actuarial cost method	Projected unit credit
Amortization period	Level dollar closed
Remaining amortization period*	22 years
Asset valuation method	Ten-year smoothed market value
Actuarial assumptions:	
Investment rate of return (includes inflation)	8.00%
Projected salary increases	3.00% - 6.00%
Cost-of-living adjustments	CPI-U up to 1% for Plan B; CPI-U up to 4% for Plan A and Plan C; CPI-U up to 2% for Plan D;

\* This period is a weighted average of the amortization for Plan C (13 years) and the amortization of the remaining portion of the unfunded accrued liability (27 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, 2013 is shown below.

	<u>\$ Thousands</u>	
(1) UAAL* as of June 30, 2012	\$	151,755.8
(2) Total normal cost from last valuation		32,909.1
(3) Total actual contributions		42,629.0
(4) Interest accrual: $(1) \times .08 + [(2) - (3)] \times .04$		<u>11,751.7</u>
(5) Expected UAAL before changes: $(1) + (2) - (3) + (4)$	\$	153,787.6
(6) Change due to plan amendments		0.0
(7) Change due to actuarial assumptions or methods		<u>(12,264.2)</u>
(8) Expected UAAL after changes: $(5) + (6) + (7)$	\$	141,523.4
(9) Actual UAAL as of June 30, 2013	\$	161,108.3
(10) Gain/(loss): $(8) - (9)$	\$	(19,584.9)
(11) Gain/(loss) as percent of actuarial accrued liabilities for prior year (\$1,241,965.5)		(1.6)%

\*Unfunded actuarial accrued liability.

Valuation Date June 30	Actuarial Gain/(Loss) as a % of Beginning Accrued Liabilities
2010	(5.6)%
2011	(4.4)%
2012	(1.9)%
2013	(1.6)%



**SCHEDULE A**

**DEVELOPMENT OF THE COUNTY CONTRIBUTION REQUIREMENT  
AS OF JUNE 30, 2013**

(1)	Actuarial Accrued Liability:	
(a)	Plan B	
(i)	Actives and Transfers	\$ 11,387,983
(ii)	Retired, Beneficiaries, Disabled, Deferred	<u>213,788,478</u>
(iii)	Total = (i) + (ii)	\$ 225,176,461
(b)	Plan A	
(i)	Actives and Transfers	\$ 221,717,065
(ii)	Retired, Beneficiaries, Disabled, Deferred	<u>279,237,842</u>
(iii)	Total = (i) + (ii)	\$ 500,954,907
(c)	Plan C	
(i)	Actives and Transfers	\$ 382,342,434
(ii)	Retired, Beneficiaries, Disabled, Deferred	<u>169,736,769</u>
(iii)	Total = (i) + (ii)	\$ 552,079,203
(d)	Plan D	
(i)	Actives and Transfers	\$ 1,862,400
(ii)	Retired, Beneficiaries, Disabled, Deferred	<u>0</u>
(iii)	Total = (i) + (ii)	\$ 1,862,400
(e)	Total = (a)iii + (b)iii + (c)iii + (d)iii	\$ 1,280,072,971
(2)	Actuarial Asset Value	\$ 1,118,964,627
(3)	(Surplus) or Obligation	
(a)	Remaining Obligation due to Plan C	\$ 30,013,731
(b)	Remaining (Surplus) or Obligation	<u>131,094,613</u>
(c)	Net (Surplus) or Obligation = (1)e – (2)	\$ 161,108,344
(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>11,100,327</u>
(c)	Total = (a) + (b)	\$ 14,616,430



**SCHEDULE A**  
(continued)

(5)	Total Normal Cost	
(a)	Plan B	\$ 112,833
(b)	Plan A	9,925,604
(c)	Plan C	20,212,728
(d)	Plan D	<u>2,037,241</u>
(e)	Total = (a) + (b) + (c) + (d)	\$ 32,288,406
(6)	Expected Employee Contributions	
(a)	Plan B Participants	\$ (112,833)
(b)	Plan A Participants	(1,691,155)
(c)	Plan C Participants	(11,301,952)
(d)	Plan D Participants	<u>(1,830,645)</u>
(e)	Total = (a) + (b) + (c) + (d)	\$ (14,936,585)
(7)	Employer Normal Cost	
(a)	Plan B = (5)a + (6)a	0
(b)	Plan A = (5)b + (6)b	8,234,449
(c)	Plan C = (5)c + (6)c	8,910,776
(d)	Plan D = (5)d + (6)d	<u>206,596</u>
(e)	Total = (a) + (b) + (c) + (d)	\$ 17,351,821
(8)	Estimated Administrative Expenses (0.50% of payroll)	\$ 1,251,837
(8)	Total County Contribution = (4) + (7) + (8)	\$ 33,220,088
(9)	Actual Active Payroll	
(a)	Plan B	\$ 1,652,113
(b)	Plan A	84,557,758
(c)	Plan C	141,274,405
(d)	Plan D	<u>22,883,068</u>
(e)	Total = (a) + (b) + (c) + (d)	\$ 250,367,344
(10)	County Contribution Rate	
(a)	Normal Cost (includes admin expense load)	7.43%
(b)	Amortization of Plan C Obligation	1.40
(c)	Amortization of Unfunded Accrued Liability	<u>4.43</u>
(d)	Total = (a) + (b) + (c)	13.26%



**SCHEDULE B**

**DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS**

(1)	Actuarial Value of Assets as of June 30, 2012	\$ 1,090,209,692
(2)	Market Value of Assets as of June 30, 2013	\$ 1,008,048,994
(3)	Market Value of Assets as of June 30, 2012	\$ 915,990,681
(4)	Net Cash Flow During Plan Year	
(a)	Contributions	\$ 42,628,993
(b)	Benefit Payments	(65,344,604)
(c)	Administration Expenses	<u>(1,377,786)</u>
(d)	Net Cash Flow: (a) + (b) + (c)	\$ (24,093,397)
(5)	Investment Income	
(a)	Market Total: (2) – (3) – (4)d	\$ 116,151,710
(b)	Assumed Rate	8.00%
(c)	Amount for Immediate Recognition	\$ 72,235,207
(d)	Amount for Phased-In Recognition: (5)a – (5)c	\$ 43,916,503
(6)	Recognized Amounts for Plan Year	
(a)	Current Year: 0.10 x (5)d	\$ 4,391,650
(b)	First Prior Year	(11,572,814)
(c)	Second Prior Year	12,045,965
(d)	Third Prior Year	5,330,118
(e)	Fourth Prior Year	(29,407,425)
(f)	Fifth Prior Year	(13,897,942)
(g)	Sixth Prior Year	8,985,741
(h)	Seventh Prior Year	1,165,919
(i)	Eighth Prior Year	(820,593)
(j)	Ninth Prior Year	<u>4,392,506</u>
(k)	Total Recognized Investment Gain/(Loss)	\$ (19,386,875)
(7)	Actuarial Value of Assets as of June 30, 2013 (1) + (4)d + (5)c + (6)k	\$ 1,118,964,627
(8)	Rate of Return on Actuarial Value	4.90%



**SCHEDULE C**

**ASSET INFORMATION**

<i>Receipts</i>	
(1) Employee Contributions	\$ 12,459,327
(2) Employer Contributions	30,169,666
(3) Investment Income	<u>116,151,710</u>
(4) Total Receipts	\$ 158,780,703
<i>Disbursements</i>	
(5) Retirement	\$ 61,364,164
(6) Refunds and Cashouts	3,980,440
(7) Administrative Expenses	<u>1,251,837</u>
(8) Total Disbursements	\$ 66,722,390
(9) Excess of Receipts Over Disbursements: (4) - (8)	\$ 92,058,313
<i>Reconciliation of Asset Balances</i>	
(10)Market Value at June 30, 2012	\$ 915,990,681
(11)Excess of Receipts Over Disbursements	<u>92,058,313</u>
(12)Market Value at June 30, 2013	\$1,008,048,994
(13)Estimated Rate of Return on Market Value of Assets	12.85%



**SCHEDULE D**

**OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS**

**INVESTMENT RATE OF RETURN:** 8.00% per year (net of investment expenses only).

**SALARY INCREASES:**

Service	Increase per year
Less than 5	6.0%
5-9	5.0
10-14	4.5
15-19	4.0
20-24	3.5
25 or more	3.0

**EXPENSES:** None.

**COST-OF-LIVING ADJUSTMENT:** 1.00% per year, compounded for Plan B. 3.00% per year, compounded for Plan A and Plan C. 2.00% per year, compounded for Plan D.

**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	Retirement		
	Male	Female	Male	Female		General		Deputy Sheriff
					Male	Female		
20	0.0231%	0.0128%	0.100%	0.200%	14.00%			
25	0.0306	0.0150	0.100	0.200	14.00			
30	0.0557	0.0239	0.100	0.200	10.00			
35	0.0850	0.0390	0.100	0.200	7.00			
40	0.1063	0.0530	0.130	0.230	5.50	3.43%	11.50%	
45	0.1341	0.0817	0.146	0.310	4.50	2.10	7.45	
50	0.1852	0.1206	0.450	0.500	4.50	10.00	10.00	
55	0.3264	0.2528	0.720	0.800	5.00	15.00	15.00	15.0%
57	0.4395	0.3461	0.812	0.880	5.80	3.00	3.00	3.0
60	0.6690	0.5129	0.950	1.000	7.00	20.00	20.00	100.0
65	1.2562	0.9664	1.150	1.200	7.00	100.00	100.00	100.0
70	2.0825	1.6391	1.150	1.200	7.00	100.00	100.00	100.0

\*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.

**Plan A**

Age	Annual Rate of					
	Death*		Disability*		Withdrawal	Retirement
	Male	Female	Male	Female		
20	0.0231%	0.0128%	0.100%	0.200%	14.00%	
25	0.0306	0.0150	0.100	0.200	14.00	
30	0.0557	0.0239	0.100	0.200	10.00	
35	0.0850	0.0390	0.100	0.200	7.00	
40	0.1063	0.0530	0.130	0.230	5.50	
45	0.1341	0.0817	0.146	0.310	4.50	
50	0.1852	0.1206	0.450	0.500	4.50	
55	0.3264	0.2528	0.720	0.800	5.00	6.0%
60	0.6690	0.5129	0.950	1.000	7.00	7.0
65	1.2562	0.9664	1.150	1.200	7.00	22.0
67	1.6010	1.1861	1.150	1.200	7.00	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		Less than 25 years of service	25 or more years of service	
						Public Safety	Non-Public Safety	
20	0.0231%	0.0128%	0.100%	0.200%	14.00%			
25	0.0306	0.0150	0.100	0.200	14.00			
30	0.0557	0.0239	0.100	0.200	10.00			
35	0.0850	0.0390	0.100	0.200	7.00			
40	0.1063	0.0530	0.130	0.230	5.50		12.0%	20.0%
45	0.1341	0.0817	0.146	0.310	4.50		12.0	20.0
50	0.1852	0.1206	0.450	0.500	4.50		12.0	20.0
55	0.3264	0.2528	0.720	0.800	5.00	7.0%	12.0	20.0
60	0.6690	0.5129	0.950	1.000	7.00	7.0	12.0	20.0
62	0.8729	0.6747	1.030	1.080	7.00	10.0	100.0	20.0
65	1.2562	0.9664	1.150	1.200	7.00	12.0	100.0	20.0
67	1.6010	1.1861	1.150	1.200	7.00	100.0	100.0	100.0

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

**Plan D**

Age	Annual Rate of						
	Death*		Disability*		Withdrawal	Retirement	
	Male	Female	Male	Female		Public Safety	Non-Public Safety
20	0.0231%	0.0128%	0.100%	0.200%	14.00%		
25	0.0306	0.0150	0.100	0.200	14.00		
30	0.0557	0.0239	0.100	0.200	10.00		
35	0.0850	0.0390	0.100	0.200	7.00		
40	0.1063	0.0530	0.130	0.230	5.50		
45	0.1341	0.0817	0.146	0.310	4.50		
50	0.1852	0.1206	0.450	0.500	4.50	7.0%	
55	0.3264	0.2528	0.720	0.800	5.00	10.0	
60	0.6690	0.5129	0.950	1.000	7.00	100.0	
62	0.8729	0.6747	1.030	1.080	7.00	100.0	7.0%
65	1.2562	0.9664	1.150	1.200	7.00	100.0	10.0%
67	1.6010	1.1861	1.150	1.200	7.00	100.0	10.0
70	2.0825	1.6391	1.150	1.200	7.00	100.0	100.0

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



**DEATHS AFTER RETIREMENT:** The RP-2000 Combined Mortality Table set forward three years for males and set forward one year for females and using a Scale AA projection to 2025 is used for the period after retirement and for dependent beneficiaries. The RP-2000 Disabled Mortality Table set forward 6 years for males and set forward 9 years for females and using a Scale AA projection to 2015 is 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	0.1852%	0.1206%	2.7972%	1.6058%
55	0.3264	0.2528	3.2604	2.3581
60	0.6690	0.5129	4.0993	3.2776
65	1.2562	0.9664	5.3291	4.5353
70	2.0825	1.6391	6.9314	6.2883
75	3.6640	2.5332	9.3519	8.3148
80	6.9785	4.2601	12.7610	11.7874
85	12.6336	7.4311	17.9791	16.7020



## **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"><li>1) Average monthly earnings for the five consecutive years of County Service during which earnings was the highest or,</li><li>2) Average monthly earnings for the 12 months preceding the date of retirement.</li></ol> <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"><li>1) The Normal Retirement Benefit (if participant is then eligible for a Normal Retirement Benefit) or,</li><li>2) 50% of Final Average Earnings.</li></ol>



## 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"> <li>1) Retired participants after age 65</li> <li>2) Disabled participants</li> <li>3) Survivor benefits for dependent children</li> <li>4) Survivor benefits for spouses under age 65 receiving the two year temporary benefit</li> <li>5) Survivor benefits for spouses age 65 and over.</li> </ol> <p>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:</p>

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 2% 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>County to City Transfers</u>	<u>Retirees</u>	<u>Disabled</u>	<u>Beneficiaries</u>	<u>Vested Terms</u>	<u>Total</u>
1. Headcounts as of June 30, 2012	5,686	194	2,510	99	565	268	9,322
2. Change in status during the year:							
a. Death	(11)		(87)	(1)	(31)	(4)	(134)
c. Disabled							
d. Retired	(143)	(2)	174	(6)		(23)	
e. Terminated Vested	(47)					47	
f. Terminated Not Vested	(234)						(234)
g. Benefits Expired/Refund		(1)			(8)	(43)	(52)
h. Transfer to City	(1)	1					
3. New member due to:							
a. New Hires	400						400
b. Rehires	18		(3)			(3)	12
c. Death of Participant					47		47
d. Adjustments		1	1				2
4. Headcounts as of June 30, 2013	5,668	193	2,595	92	573	242	9,363



**TABLE 2**  
**PLAN B**  
**SCHEDULE OF ACTIVE MEMBERS BY AGE AND SERVICE**  
**AS OF JUNE 30, 2013**

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 52,462		1 52,462	
55 to 59 Avg. Pay									2 58,667		2 58,667	
60 to 64 Avg. Pay							1 90,514		6 75,701	3 85,302	10 80,062	
65 to 69 Avg. Pay									2 53,118	2 80,722	4 66,920	
70 & up Avg. Pay									3 80,515	3 57,489	6 69,002	
Total Avg. Pay							1 90,514		14 69,413	8 73,727	23 71,831	

Average Age 65.9

Average Service 38.7



**TABLE 3**  
**PLAN A**  
**SCHEDULE OF ACTIVE MEMBERS BY AGE AND SERVICE**  
**AS OF JUNE 30, 2013**

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			10 28,615	12 31,244							22 30,049
35 to 39 Avg. Pay			39 34,058	102 41,919	13 45,368						154 40,220
40 to 44 Avg. Pay			47 28,600	165 43,449	54 44,700	11 39,201					277 41,005
45 to 49 Avg. Pay			58 31,643	132 44,541	70 43,303	52 38,709	6 45,285				318 40,976
50 to 54 Avg. Pay			80 31,435	134 42,190	81 42,542	67 46,813	24 47,013	11 42,639			397 41,179
55 to 59 Avg. Pay			56 31,443	81 46,397	71 46,245	58 46,158	37 52,413	37 47,727			340 44,661
60 to 64 Avg. Pay			55 33,438	60 44,484	53 42,880	56 48,214	36 43,227	45 52,253			305 43,896
65 to 69 Avg. Pay			24 35,837	13 44,757	16 46,254	30 53,140	23 58,252	12 51,184			118 48,561
70 & up Avg. Pay			8 33,488	12 48,408	7 54,652	13 39,577	14 55,544	3 46,516			57 46,720
Total Avg. Pay			377 31,927	711 43,520	365 44,272	287 45,527	140 50,092	108 49,445			1,988 42,534

Average Age 52.3

Average Service

16.2



**TABLE 4**  
**PLAN C**  
**SCHEDULE OF ACTIVE MEMBERS BY AGE AND SERVICE**  
**AS OF JUNE 30, 2013**

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	1	5									6
Avg. Pay	33,395	35,033									34,760
25 to 29	1	81	30								112
Avg. Pay	63,575	37,202	37,513								37,521
30 to 34	3	126	129	28							286
Avg. Pay	28,657	40,012	41,437	44,120							40,938
35 to 39	2	94	133	91	30						350
Avg. Pay	34,929	40,094	44,899	44,793	51,737						44,110
40 to 44	1	98	153	100	111	36					499
Avg. Pay	42,111	39,308	44,347	44,248	51,878	51,591					45,531
45 to 49		62	112	60	95	179	44				552
Avg. Pay		38,714	40,462	42,350	48,371	50,268	53,839				46,078
50 to 54	2	63	84	44	63	146	85	23			510
Avg. Pay	31,237	41,286	38,843	45,643	48,202	47,784	56,070	56,068			47,065
55 to 59		49	95	27	36	69	76	50			402
Avg. Pay		39,716	46,427	47,639	46,603	51,198	55,465	62,879			50,280
60 to 64		22	60	35	26	26	25	45			239
Avg. Pay		46,028	47,863	59,080	58,381	55,295	50,343	62,538			54,312
65 to 69		10	18	8	11	3	6	3			59
Avg. Pay		59,527	42,703	74,173	65,509	40,949	64,940	52,933			56,766
70 & up		9	7	3	2	2					23
Avg. Pay		40,986	56,018	31,168	47,114	33,732					44,183
Total	10	619	821	396	374	461	236	121			3,038
Avg. Pay	35,739	40,025	43,197	46,279	50,676	49,875	55,078	61,211			46,502

Average Age 46.8

Average Service

13.2



**TABLE 5**  
**PLAN D**  
**SCHEDULE OF ACTIVE MEMBERS BY AGE AND SERVICE**  
**AS OF JUNE 30, 2013**

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	40	14									54
Avg. Pay	32,207	33,232									32,473
25 to 29	111	61									172
Avg. Pay	33,913	34,489									34,117
30 to 34	68	45									113
Avg. Pay	34,106	37,197									35,337
35 to 39	61	18									79
Avg. Pay	36,975	43,138									38,379
40 to 44	38	20									58
Avg. Pay	39,632	39,984									39,753
45 to 49	32	19									51
Avg. Pay	34,155	43,324									37,571
50 to 54	21	12									33
Avg. Pay	38,550	46,137									41,309
55 to 59	21	9									30
Avg. Pay	38,110	36,941									37,759
60 to 64	11	12									23
Avg. Pay	51,781	51,775									51,778
65 to 69	2	4									6
Avg. Pay	43,637	60,098									54,611
70 & up											
Avg. Pay											
Total	405	214									619
Avg. Pay	35,785	39,206									36,968

Average Age 36.4

Average Service 0.8



**TABLE 6**  
**PLAN B**  
**SCHEDULE OF RETIRED MEMBERS AND BENEFICIARIES**  
**AS OF JUNE 30, 2013**

<u>Attained Age</u>	<u>Number of Members</u>	<u>Total Annual Benefits</u>	<u>Average Annual Benefit</u>
Under 50	1	\$ 7,443	\$ 7,443
50 – 54	11	275,921	25,084
55 – 59	47	1,413,747	30,080
60 – 64	118	3,386,796	28,702
65 – 69	198	5,431,993	27,434
70 – 74	175	4,269,472	24,397
75 – 79	161	3,320,666	20,625
80 & Over	403	5,976,437	14,830
Total	1,114	\$ 24,082,475	\$ 21,618



**TABLE 7**  
**PLAN A**  
**SCHEDULE OF RETIRED MEMBERS AND BENEFICIARIES**  
**AS OF JUNE 30, 2013**

<u>Attained Age</u>	<u>Number of Members</u>	<u>Total Annual Benefits</u>	<u>Average Annual Benefit</u>
Under 50	55	\$ 923,115	\$ 16,784
50 – 54	18	282,585	15,699
55 – 59	117	1,738,377	14,858
60 – 64	294	4,527,069	15,398
65 – 69	407	6,570,601	16,144
70 – 74	332	5,168,553	15,568
75 – 79	235	3,433,108	14,609
80 & Over	197	2,506,035	12,721
Total	1,655	\$ 25,149,443	\$ 15,196

In addition, there are 198 participants entitled to deferred annual benefits totaling \$3,554,307.



TABLE 8

PLAN C

SCHEDULE OF RETIRED MEMBERS AND BENEFICIARIES  
AS OF JUNE 30, 2013

<u>Attained Age</u>	<u>Number of Members</u>	<u>Total Annual Benefits</u>	<u>Average Annual Benefit</u>
Under 50	20	\$ 459,690	\$ 22,985
50 – 54	77	2,092,507	27,175
55 – 59	180	5,217,371	28,985
60 – 64	138	3,946,971	28,601
65 – 69	59	1,385,805	23,488
70 – 74	12	205,910	17,159
75 – 79	5	111,045	22,209
80 & Over	-	-	-
Total	491	\$ 13,419,299	\$ 27,331

In addition, there are 44 participants entitled to deferred annual benefits totaling \$1,357,325.



**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 6/30/2013	\$ Gain (or Loss) For Year Ending 6/30/2012
<b>Age &amp; Service Retirements.</b> If members retire at older ages, there is a gain. If younger ages, a loss.	\$ 2,935.6	\$ (5,017.6)
<b>Disability Retirements.</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.	1,288.3	1,231.6
<b>Death-in-Service Benefits.</b> If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(1,145.7)	(1,102.4)
<b>Withdrawal From Employment.</b> If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	(6,272.7)	(5,614.4)
<b>Pay Increases.</b> If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	14,387.1	17,764.0
<b>New Members.</b> Additional unfunded accrued liability will produce a loss.	(496.4)	(351.9)
<b>Investment Income.</b> If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(33,324.4)	(30,717.4)
<b>Death After Retirement.</b> If retirants live longer than assumed, there is a loss. If not as long, a gain.	4,316.3	2,661.4
<b>Other.</b> Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	<u>(1,273.0)</u>	<u>(1,526.8)</u>
<b>Gain (or Loss) During Year From Financial Experience</b>	<u>\$ (19,584.9)</u>	<u>\$ (22,673.5)</u>
<b>Non-Recurring Items.</b> Adjustments for plan amendments, assumption changes, or method changes.	<u>12,264.2</u>	<u>0.0</u>
<b>Composite Gain (or Loss) During Year</b>	<u>\$ (7,320.7)</u>	<u>\$ (22,673.5)</u>



## **SCHEDULE H**

### **10-YEAR PROJECTION OF FUNDING RATIO AND EMPLOYER CONTRIBUTION RATES**

The results of actuarial valuations are a “snapshot” of the financial position on the valuation date, based on the assumed number of active employees and current beneficiaries. Projections simulate future actuarial valuation results over a forecast period (ten years in this case) by “creating” future new hires and performing valuations using the projected membership. The following items are assumed for the projected results provided on the following page.

- Active Employee Growth Rate: 0%
- Valuation Discount Rate: 8.00%
- Investment Rate of Return: 8.00% each year
- Actuarial Value of Assets: 10 year smoothing, No Corridor
- Amortization Method: Level Dollar, Closed
- June 30, 2013 Amortization Period: Weighted 22-year period
- Future Contributions: Based on Expected Annual Required Contributions

All other demographic and economic changes are assumed to occur in accordance with the actuarial assumptions used for the actuarial valuation.



**SCHEDULE H**

**10-YEAR PROJECTION OF FUNDING RATIO AND  
EMPLOYER CONTRIBUTION RATES**

