The Public School Retirement System
of
The School District of Kansas City, Missouri

Actuarial Valuation Report
As of January 1, 2009

buckconsultants
an ACS company

Submitted By:
Buck Consultants
120 South Sixth Street, Suite 2260
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buckconsultants
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October 30, 2009

Mr. Tom Mann
Executive Director
Kansas City Public School Retirement System
4600 The Paseo
Kansas City, MO 64110

Dear Members of The Kansas City Public School Retirement System Board:

Actuarial Certification

The annual actuarial valuation required for the Kansas City Public School Retirement System has been prepared as of January 1, 2009 by Buck Consultants. The purposes of the report include:

(1) a presentation of the valuation results of the System as of January 1, 2009;

(2) a review of experience under the System for the year ended January 1, 2009;

(3) the provision of reporting and disclosure information for financial statements, governmental agencies, and other interested parties.

The following schedules that we have prepared are included in this report:

(1) Summary of actuarial assumptions and methods (Section 3.5)

(2) Schedule of active member valuation data (Section 3.2, 3.3 and 3.4)

In preparing this valuation, we have employed generally accepted actuarial methods and assumptions, in conjunction with employee data and financial information provided to us by the System, to determine a sound value for the System liability. The employee data has not been audited, but it has been reviewed and found to be consistent, both internally and with prior years' data

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The contribution requirements are determined as a percentage of payroll, and reflect the cost of benefits accruing in 2009 and a fixed 30-year amortization of unfunded liabilities. The amortization period is set by the Board. Contribution levels are set by statute. The ratio of valuation assets to liabilities decreased from 109.3% to 103.5% during the year. This report provides an analysis of the factors that led to the decrease.

A summary of the actuarial assumptions and methods is presented in Section 3.5 of this report. The assumptions, when applied in combination, fairly represent past and anticipated future experience of the System.

Future contribution requirements may differ from those determined in the valuation because of:

(1) differences between actual experience and anticipated experience based on the assumptions;

(2) changes in actuarial assumptions or methods;

(3) changes in statutory provisions; or

(4) differences between the contribution rates determined by the valuation and those adopted by the Board.

The undersigned are members of the American Academy of Actuaries and the Society of Actuaries, are fully qualified to provide actuarial services to the System, and are available to answer questions regarding this report.

We believe that the assumptions and methods used for funding purposes and for the disclosures presented in this report satisfy the parameter requirements set forth in the Government Accounting Standards Board (GASB) Statement No. 25. We believe that this report conforms with the requirements of the Missouri statutes, and where applicable, other federal and accounting laws, regulations and rules, as well as generally accepted actuarial principles and practices.

Sincerely,

Michael D. Mills, FSA, EA, MAAA
Director, Consulting Actuary

Michelle Reding DeLange, FSA, EA, MAAA
Director, Consulting Actuary

Contents

Report Highlights

This report has been prepared by Buck Consultants, an ACS Company, to:

- Present the results of a valuation of the Kansas City Public School Retirement System as of January 1, 2009;
- Determine the employer's annual required contribution for purposes of GASB Statement Number 25;
- Review experience under the System for the period January 1, 2008 to January 1, 2009;
- Provide reporting and disclosure information for financial statements, governmental agencies, and other interested parties.

This report is divided into three sections. Section 1 contains the results of the valuation. It includes the experience of the System during the 2008 plan year, the current annual costs, and reporting and disclosure information.

Section 2 provides reporting and disclosure information for financial statements, governmental agencies and other interested parties.

Section 3 describes the basis of the valuation. It summarizes the System provisions, provides information relating to the System members, and describes the funding methods and actuarial assumptions used in determining liabilities and costs.

The principal results are as follows:

Funding Status as of January 1		**2008**	**2009**
(a)	Valuation assets (AVA)	$ 854,123,580	$ 832,609,879
(b)	Market value of assets (MVA)	$ 853,722,741	$ 624,647,065
(c)	Accrued liability	$ 781,284,025	$ 804,623,080
(d)	AVA Funding Ratio, (a) / (c)	109.3%	103.5%
(e)	MVA Funding Ratio, (b) / (c)	109.3%	77.6%

Actuarially Required Contribution Rates:		**2008**	**2009**
(a)	Annual required contributions	$ 3,832,178	$ 3,797,954
(b)	Contribution rate	1.89%	1.85%

A note about asset values:
Calculations for this report are based on actuarial value of assets, rather than market value, as per the actuarial methodology adopted by the Board. The actuarial value of asset method utilized recognizes asset performance better or worse than expected gradually over five years, rather than immediately. The intent is to produce results that are relatively stable from year to year, avoiding some of the volatility in investment gains and losses.

Because asset losses in 2008 were exceptionally severe, the gap between actuarial value and market value of assets is wider than is typical. It is important to realize that if calculations were done based on market value of assets, the Plan's funded ratio would be considerably lower, and the actuarially required contribution would be much larger. Unless large asset gains emerge over the next few years, the plan's funded status will deteriorate and the actuarially required employer contribution rate will increase as asset losses in 2008 are fully recognized in the actuarial value of assets.

Summary and Comparison of Principal Valuation Results

	Actuarial valuation as of January 1, 2008	Actuarial valuation as of January 1, 2009
1. Plan participants		
a. Active Participants	4,862	4,648
b. Retired participants and beneficiaries	3,283	3,247
c. Inactive participants*	1,924	1,982
Total participants in valuation	10,069	9,877
2. Annual covered compensation	$ 202,311,837	$ 205,326,108
3. Actuarial present value of future benefits	934,406,349	936,991,015
4. Actuarial accrued liability	781,284,025	804,623,080
5. Unfunded actuarial accrued liability	(72,839,554)	(27,986,799)
6. Assets		
a. Actuarial value	854,123,580	832,609,879
b. Market value	853,722,741	624,647,065
7. Employer normal cost – due December 31	10,302,329	6,283,950
As a % of covered compensation	5.09%	3.06%
8. Annual required employer contribution		
a. Due December 31	$ 3,832,178	$ 3,797,954
b. As a % of covered compensation	1.89%	1.85%
9. Ratio of assets to actuarial accrued liability		
a. At actuarial value	109%	103%
b. At market value	109%	78%
10. Projected Benefit Obligation	$ 789,958,054	$ 803,396,505

*Includes former participants entitled to a refund of contributions or a deferred annuity.

Analysis of the Valuation

(1) Investment Experience

The approximate market value rate of return during 2008 was (23.1)%. Our actuarial calculations were based upon the assumption that the System's assets would earn 8.00% in 2008, net of expenses. The approximate actuarial value rate of return was 1.8%. The investment experience resulted in an actuarial loss to the System of $260 million on a market value basis and a loss of $52 million on an actuarial basis.

(2) Demographic Experience

The number of active members decreased from 4,862 to 4,648 for the period. The average age of active members increased by 0.06 years, the average service increased by 0.23 years, and the average annual salary increased $1,928. There were small changes in the inactive statistics as well. The membership statistics are found in Sections 3.2 through 3.4 of this report. The changes in member data produced an actuarial gain.

(3) Salary Increases

The average annual salary increased 4.56% between January 1, 2008 and January 1, 2009. Annual covered compensation increased 1.49% between January 1, 2008 and January 1, 2009.

(4) Changes in Methods from the Prior Valuation

The asset valuation method being used was changed from the assumed yield method to a 5-year smoothing method. This change decreased the actuarial value of assets (and the funded status) by $0.35 million and increased the required employer contribution by 0.01% of pay.

(5) Changes in Assumptions from the Prior Valuation

The valuation of deferred vested liabilities was changed from 100% to 150% of the value of participant account balances to anticipate that some members take a deferred annuity instead of a refund. This change increased the accrued liability (and decreased the funded status) by $8.5 million, and increased the required employer contribution by 0.37% of pay.

(6) Changes in Benefit Provisions from the Prior Valuation

There have been no changes in benefit provisions since the prior valuation.

(7) Summary

The overall effect of system experience during the period resulted in a decrease in the funding ratio from 109.3% to 103.5%. The total contribution rate decreased from 1.89% to 1.85%.

Section 1
Valuation Results

This section sets forth the results of the actuarial valuation.

Section 1.1	Shows the asset information as of January 1, 2009.
Section 1.2	Shows the actuarial present values as of January 1, 2008 and 2009.
Section 1.3	Calculates the actuarial gain or loss during 2008.
Section 1.4	Develops the total contribution rate.
Section 1.5	Shows the liability on a projected benefit obligation (PBO) basis.

Section 1 *(continued)*

1.1(a) Statement of Changes in Net Assets as of January 1, 2009

ADDITIONS TO NET ASSETS	
Investment Income	
Net (depreciation) appreciation in fair value of investments	$(207,027,448)
Interest	14,028,258
Dividends	14,350
Securities lending income	0
Other income	0
Investment income before expenses	(192,984,840)
Less: investment expenses	2,327,090
Total investment income	(195,311,930)
Contributions	
Employers	15,612,996
Employees	15,888,234
Total Contributions	31,501,230
TOTAL ADDITIONS TO NET ASSETS	(163,810,700)
DEDUCTIONS FROM NET ASSETS	
Benefits paid directly to participants	59,334,054
Refunds of contributions	4,536,201
Depreciation expense	51,481
Gain/Loss Sale of Fixed Asset	31,965
Administrative expenses	1,311,275
TOTAL DEDUCTION FROM ASSETS	65,264,976
NET (DECREASE) INCREASE	(229,075,676)
NET ASSETS AVAILABLE FOR BENEFITS	
Beginning of year	853,722,741
End of year	$ 624,647,065

Based on unaudited assets, with some numbers adjusted by $1 for rounding.

Section 1 *(continued)*
1.1(b) Statement of Net Assets as of January 1, 2009

As of January 1, 2009		
ASSETS		
INVESTMENTS, AT MARKET VALUE		
Cash and short term investments	$	24,018,599
US treasury securities		2,330,326
Corporate fixed income		42,398,675
Government bonds & gov't mortgage-backed securities		29,754,615
Commingled domestic fixed income		70,753,721
Global fixed income		45,328,623
Domestic equity		211,295,123
International equity		77,336,803
Pooled real estate funds		37,770,419
Alternative investments		54,657,463
Private equity		20,241,163
Foreign exchange contracts		0
Total Investments, at market value	$	615,885,530
RECEIVABLES		
Plan members contributions	$	721,139
Employers contributions		218,393
Securities sold		830,080
Accrued interest and dividends		1,703,072
Other receivables		0
Total Receivables	$	3,472,684
OTHER ASSETS		
Cash		4,551,624
Fixed assets		2,837,721
Other assets		46,771
Total Other assets	$	7,436,116
TOTAL ASSETS	$	626,794,330
LIABILITIES		
Due to broker for securities purchased	$	1,453,814
Accounts payable		620,993
Accrued payroll expenses		72,458
Total Liabilities		2,147,265
NET ASSETS AVAILABLE FOR BENEFITS		624,647,065

Based on unaudited assets, with some numbers adjusted by $1 for rounding.

Section 1 *(continued)*
1.1(c) Actuarial Value of Assets

The actuarial value of assets method was changed effective January 1, 2009 to recognize future investment gains and losses at 20% per year over 5 years. Assets are initialized as of January 1, 2008 and will be phased-in over the next five years.

	2009
(1) Deferral of Investment Return for 2008	
(a) Market Value, January 1, 2008	$853,722,741
(b) Contributions for 2008	31,501,230
(c) Benefit Payments for 2008	63,870,255
(d) Expenses for 2008	3,638,365
(e) Actual Investment Return	(193,068,286)
(f) Expected Return Rate	8.00%
(g) Expected Return - Weighted for Timing* *(a. x f.) + [(b. – c. – d.) x (((1 + f.)^0.5) – 1)]*	66,885,232
(h) Investment Gain/(Loss) for the Year *(e. – g.)*	(259,953,518)
(i) Deferred Investment Return	(207,962,814)
(2) Actuarial Value, January 1, 2009	
(a) Market Value, January 1, 2009	$624,647,065
(b) 2008 Deferred Investment Return/(Loss)	(207,962,814)
(c) Actuarial Value, January 1, 2009 *(a. - b.)*	832,609,879
(d) Ratio of Actuarial Value of Assets to Market Value of Assets	133.3%
(e) Approximate Actuarial Value Investment Return Rate During 2008 Net of All Expenses	1.8%

* Contributions, benefit payments, and expenses are assumed to be paid mid-year.

The tables below show the development of gain/(loss) to be recognized in the current year.

Plan Year Ended	Asset Gain/(Loss)	Gain/(Loss) Recognized in Prior Years	Gain/(Loss) Recognized This Year	Gain/(Loss) Deferred to Future Years
12/31/2008	$(259,953,518)	$ 0	$ (51,990,704)	$(207,962,814)
Total	**$(259,953,518)**	**$ 0**	**$ (51,990,704)**	**$(207,962,814)**

Section 1 *(continued)*
1.1(d) Investment Stabilization Reserve

There was no activity in the investment stabilization reserve during 2008.

Investment Stabilization Reserve Reconciliation	
(a) Balance as of January 1, 2008	$ 0
(b) Subtractions	0
(c) Additions	0
(d) Balance as of January 1, 2009	0

In order to protect the system's funding requirements against a significant shortfall in the rate of return, the Board of Trustees adopted a policy establishing an investment stabilization reserve effective January 1, 2000. A transfer will be made to the investment stabilization reserve when the rate of return on an actuarial valuation basis exceeds 9.00%, or from the investment stabilization reserve when the rate of return is less than 7.00%. The rate of return during 2008 was 1.8%, which would have triggered a transfer from the investment stabilization reserve, however no reserve funds were available.

Section 1 *(continued)*
1.2 Breakdown of Accrued Liability and Normal Cost

	January 1, 2008	January 1, 2009
Normal Cost		
Retirement Benefits	N/A	$ 13,494,697
Disability Benefits	N/A	643,498
Death Benefits	N/A	906,888
Withdrawal Benefits	N/A	6,172,847
Total Normal Cost	**$ 24,712,581**	**$ 21,217,930**
Accrued Liability		
Active Members – Present Value of Future Benefits		
Retirement Benefits	$ 375,413,226	$ 375,462,050
Disability Benefits	11,663,723	12,188,820
Death Benefits	12,441,958	14,765,635
Withdrawal Benefits	33,483,171	31,123,992
Present Value of Future Normal Costs	(143,991,155)	(132,367,935)
Subtotal	$ 289,010,923	$ 301,172,562
Benefit Recipients		
Retiree Benefits	$ 453,609,139	$ 452,545,617
Survivor Benefits	18,302,064	14,626,338
Disability Benefits	12,130,429	10,656,455
Subtotal	$ 484,041,632	$ 477,828,410
Vested Terminations		
Deferred Retirement Benefits	$ 8,231,470	$ 25,622,108
Total Accrued Liability	**$ 781,284,025**	**$ 804,623,080**

Section 1 *(continued)*

1.3 Development of Actuarial Gain/(Loss) for 2008

(1)	Accrued Liability, January 1, 2008	$ 781,284,025
(2)	Normal Cost for 2008	24,712,581
(3)	Interest on (1) and (2) at 8.00%	64,479,728
(4)	Benefit Payments for 2008	63,870,255
(5)	Interest on (4) at 8.00% for one-half year	2,505,661
(6)	Change in Assumptions and Methods	8,540,703
(7)	Expected Accrued Liability, January 1, 2009 (1) + (2) + (3) – (4) – (5) + (6)	812,641,121
(8)	Accrued Liability, January 1, 2009	804,623,080
(9)	**Liability Gain/(Loss) (7) – (8)**	8,018,041

		MVA	AVA
(10)	Valuation Assets, January 1, 2008	853,722,741	854,123,580
(11)	Interest on (10) at 8.00%	68,297,819	68,329,886
(12)	Employer Contributions for 2008	15,612,996	15,612,996
(13)	Employee Contributions for 2008	15,888,234	15,888,234
(14)	Interest on (12) and (13) at 8.00% for one-half year	1,235,809	1,235,809
(15)	Benefit Payments for 2008	63,870,255	63,870,255
(16)	Interest on (15) at 8.00% for one-half year	2,505,661	2,505,661
(17)	Expenses for 2008	3,638,365	3,638,365
(18)	Interest on (17) at 8.00% for one-half year	142,735	142,735
(19)	Change in Assumptions and Methods	0	(346,325)
(20)	Expected Valuation Assets, January 1, 2009 (10) + (11) + (12) + (13) + (14) - (15) - (16) - (17) - (18) + (19)	884,600,583	884,687,164
(21)	Valuation Assets, January 1, 2009	624,647,065	832,609,879
(22)	**Asset Gain/(Loss) (21) – (20)**	(259,953,518)	(52,077,285)
(23)	**Actuarial Gain/(Loss) (9) + (22)**	(251,935,477)	(44,059,244)

Section 1 *(continued)*

1.4 Calculation of Annual Contribution Rate

			January 1, 2008	January 1, 2009
1.		Actuarial present value (APV) of all future benefits		
	a.	Active participants	$ 442,133,247	$ 433,540,497
	b.	Retired participants and beneficiaries	484,041,632	477,828,410
	c.	Inactive participants	8,231,470	25,622,108
	d.	Total APV of future benefits (a. + b. + c.)	$ 934,406,349	$ 936,991,015
2.	a.	Total normal cost (beginning of year)	$ 24,712,581	$ 21,217,930
	b.	Employee portion of normal cost	15,173,388	15,399,458
	c.	Employer normal cost (a. - b.)	$ 9,539,193	$ 5,818,472
3.		Total covered compensation	$ 202,311,837	$ 205,326,108
4.	a.	Employer normal cost rate at beginning of year (2c) / (3)	4.7151%	2.8338%
	b.	Total normal cost rate, (2a) / (3)	12.2151%	10.3338%
5.		Actuarial accrued liability, (AAL)	$ 781,284,025	$ 804,623,080
6.		Actuarial Value of Assets (AVA)	$ 854,123,580	$ 832,609,879
7.		Unfunded actuarial accrued liability, (5) – (6)	(72,839,554)	(27,986,799)
8.		Payment to amortize unfunded over 30 years, as of end of year	(6,470,151)	(2,485,996)
9.		Employer Normal cost contribution due by end of year, (2c) adjusted for interest at 8%	$ 10,302,329	$ 6,283,950
10.		Annual required normal cost contribution due end of year as a % of covered compensation (9) / (3)	5.09%	3.06%
11.		Annual required contribution due end of year	$ 3,832,178	$ 3,797,954
12.		Contribution rate (11) / (3)	1.89%	1.85%

Section 1 *(continued)*
1.5 Projected Benefit Obligation Funded Status

Projected benefit obligation by participant status	January 1, 2008	January 1, 2009
1. Retired participants and beneficiaries currently receiving benefits and terminated participants not yet receiving benefits	$ 492,273,102	$ 503,450,518
2. Current active participants		
a. Accumulated member contributions, including interest	140,844,707	140,096,771
b. Employer-financed vested benefits	156,840,245	159,849,216
Total projected benefit obligation	$ 789,958,054	$ 803,396,505

Projected benefit obligation funded status		
1. Net assets available for benefits at actuarial value	$ 854,123,580	$ 832,609,879
2. Unfunded projected benefit obligation at actuarial value	(64,165,526)	(29,213,374)
3. Actuarial value funding ratio	108%	104%
4. Net assets available for benefits at market value	$ 853,722,741	$ 624,647,065
5. Unfunded projected benefit obligation at market value	(63,764,687)	178,749,440
6. Market value funding ratio	108%	78%

Section 2
Information Required by GASB No. 25

This section contains supplementary information on retirement benefits that is required to be disclosed in financial statements to comply with Statements No. 25 of the Governmental Accounting Standards Board (GASB No. 25).

Section 2.1	Shows the Schedule of Employer Contributions.
Section 2.2	Shows the Schedule of Funding Progress.
Section 2.3	Shows the percent funded by type of liability, known as the Prioritized Solvency Test.
Section 2.4	Shows the Actuarial Assumptions, Methods and Additional Information.

Section 2 *(continued)*
2.1 Schedule of Employer Contributions

The following information is required to satisfy the reporting requirements of the Governmental Accounting Standards Board Statement No. 25 on Financial Reporting for Deferred Benefit Plans.

The following table develops the percentage of the employer's annual required contribution that was actually made.

Fiscal Year Ending December 31	Annual Required Contribution (ARC)	Actual Contribution	Percentage of ARC Contributed
1995	$ 11,011,221	$ N/A	31.7%
1996	$ 9,443,721	$ N/A	110.0%
1997	$ 7,055,431	$ N/A	121.0%
1998	$ 5,999,525	$ N/A	164.9%
1999	$ 5,249,589	$ N/A	222.3%
2000	$ 9,309,354	$ N/A	154.3%
2001	$ 10,996,382	$ N/A	110.7%
2002	$ 12,133,966	$ N/A	111.4%
2003	$ 10,984,595	$ N/A	122.3%
2004	$ 12,338,049	$ N/A	113.5%
2005	$ 12,769,634	$ N/A	112.8%
2006	$ 11,774,051	$ N/A	122.6%
2007	$ 11,523,380	$ 15,365,235	133.3%
2008	$ 3,832,178	$ 15,612,996	407.4%
2009	$ 3,797,954	$ *	*

* To be determined at the end of the year.

Section 2 *(continued)*
2.2 Schedule of Funding Progress

The following information is required to satisfy the reporting requirements of the Governmental Accounting Standards Board Statement No. 25 on Financial Reporting for Deferred Benefit Plans.

The exhibit below calculated the unfunded accrued liability as a percentage of payroll.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liabilities (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a)/c)
1/1/1995	$ 353,329,957	$ 368,874,780	$ 33,544,823	91.3%	$ 185,374,096	18.1%
1/1/1996	$ 389,103,803	$ 409,428,594	$ 20,324,791	95.0%	$ 171,262,008	11.9%
1/1/1997	$ 428,419,710	$ 429,517,108	$ 1,097,398	99.7%	$ 161,802,480	0.7%
1/1/1998	$ 482,599,919	$ 442,614,693	$ (39,985,225)	102.3%	$ 168,328,728	-23.8%
1/1/1999	$ 624,225,667	$ 564,056,509	$ (60,169,158)	110.7%	$ 153,733,920	-39.1%
1/1/2000	$ 660,830,255	$ 640,614,688	$ (20,215,567)	103.2%	$ 151,091,616	-13.4%
1/1/2001	$ 696,071,310	$ 682,531,577	$ (13,539,734)	102.0%	$ 165,795,367	-8.2%
1/1/2002	$ 718,703,692	$ 701,725,938	$ (16,977,755)	102.4%	$ 171,523,233	-9.9%
1/1/2003	$ 717,681,067	$ 701,114,370	$ (16,566,697)	102.4%	$ 168,391,474	-9.8%
1/1/2004	$ 738,612,110	$ 716,126,707	$ (22,485,404)	103.1%	$ 186,528,530	-12.1%
1/1/2005	$ 763,684,602	$ 747,711,194	$ (15,973,408)	102.1%	$ 195,866,663	-8.2%
1/1/2006	$ 788,788,666	$ 780,663,389	$ (8,125,277)	101.0%	$ 187,445,140	-4.3%
1/1/2007	$ 824,302,795	$ 818,027,315	$ (6,275,480)	100.8%	$ 199,221,110	-3.2%
1/1/2008	$ 854,123,580	$ 781,284,025	$ (72,839,554)	109.3%	$ 202,311,837	-36.0%
1/1/2009	$ 832,609,879	$ 804,623,080	$ (27,986,799)	103.5%	$ 205,326,108	-13.6%

Section 2 *(continued)*
2.3 Prioritized Solvency Test

A prioritized solvency test is an additional means of checking a system's progress under its funding program. In a prioritized solvency test, the plan's present assets (cash and investments) are compared with:

- Active participant contributions, accumulated with interest;
- The liabilities for future benefits to present inactive participants and beneficiaries; and
- The liabilities for service already rendered by active members.

In a system that has been following the discipline of level percent of payroll financing, the liabilities for active participant accumulated contributions (liability 1) and the liabilities for future benefits to inactive participants and beneficiaries (liability 2) will be fully covered by assets if all assumptions are met. In addition, the liabilities for service already rendered by active participants (liability 3) are normally partially covered by the remainder of the present assets. Generally, if the system has been using level cost financing, the funded portion of liability 3 will increase over time. Liability 3 being fully funded does not necessarily result from level percent of payroll funding methods. The schedule on the following page illustrates the history of the liabilities of the system and is indicative of the system following the discipline of level percent of compensation funding.

Section 2 *(continued)*
2.3 Prioritized Solvency Test

Prioritized Solvency Test

Valuation date January 1	Active participants' accumulated contributions	Retirees, beneficiaries and inactive participants	Active participants (employer-financed)	Valuation assets	Percent covered by valuation assets		
	(1)	(2)	(3)		(1)	(2)	(3)
1987	$ 54,703,473	$ 60,096,766	$ 45,027,324	$ 157,538,001	100%	100%	95%
1988	$ 60,631,019	$ 68,133,929	$ 45,164,333	$ 172,932,203	100%	100%	98%
1989	$ 68,032,000	$ 72,476,675	$ 50,436,314	$ 192,074,767	100%	100%	102%
1990	$ 77,843,936	$ 79,855,895	$ 52,384,902	$ 220,844,765	100%	100%	121%
1991	$ 86,392,672	$ 77,212,948	$ 62,859,420	$ 241,369,537	100%	100%	124%
1992	$ 91,688,784	$ 101,408,720	$ 69,055,820	$ 278,065,508	100%	100%	123%
1993	$ 98,482,791	$ 102,336,338	$ 61,479,865	$ 307,050,085	100%	100%	173%
1994	$ 99,547,061	$ 123,475,760	$ 121,674,513	$ 336,466,320	100%	100%	93%
1995	$ 110,658,079	$ 144,027,489	$ 124,562,502	$ 353,451,344	100%	100%	79%
1996	$ 108,123,636	$ 177,617,507	$ 117,169,151	$ 389,103,803	100%	100%	88%
1997	$ 104,554,877	$ 231,762,583	$ 91,329,968	$ 428,419,710	100%	100%	101%
1998	$ 115,847,655	$ 228,328,855	$ 108,592,620	$ 482,599,919	100%	100%	127%
1999	$ 117,478,379	$ 274,442,924	$ 172,607,724	$ 624,225,667	100%	100%	135%
2000	$ 113,334,820	$ 343,382,932	$ 184,049,309	$ 660,830,255	100%	100%	111%
2001	$ 115,781,706	$ 389,055,603	$ 184,779,937	$ 696,071,310	100%	100%	103%
2002	$ 119,968,776	$ 406,094,033	$ 187,309,245	$ 718,703,692	100%	100%	103%
2003	$ 112,468,027	$ 435,548,298	$ 165,766,206	$ 717,681,067	100%	100%	102%
2004	$ 125,754,562	$ 430,145,689	$ 179,264,397	$ 738,612,110	100%	100%	102%
2005	$ 127,221,118	$ 431,366,177	$ 201,836,083	$ 763,684,602	100%	100%	102%
2006	$ 133,811,729	$ 477,844,206	$ 177,531,611	$ 788,788,666	100%	100%	100%
2007	$ 136,978,872	$ 498,841,373	$ 187,966,845	$ 824,302,795	100%	100%	100%
2008	$ 140,844,707	$ 492,273,102	$ 156,840,245	$ 854,123,580	100%	100%	141%
2009	$ 140,096,771	$ 503,450,518	$ 161,075,791	$ 832,609,879	100%	100%	117%

Section 2 *(continued)*

2.4 Actuarial Assumptions, Methods and Additional Information

Valuation Date	January 1, 2009
Actuarial Cost Method	Entry Age Normal Level Percentage of Pay
Amortization Method	Level Dollar, Open Period
Equivalent Single Amortization Period	30 years
Asset Valuation Method	5-year smoothed market
Actuarial Assumptions:	
Investment rate of return*	8.00%
Participant account crediting rate	5.00%
Projected salary increases	5.00%
*Includes inflation at	3.5%
Cost-of-living adjustment	0.00%

Section 3
Basis of the Valuation

In this section, the basis of the valuation is presented and described. This information – the provisions of the System and the census of members – is the foundation of the valuation, since these are the present facts upon which benefit payments will depend.

A summary of the System's provisions, as described starting in Section 169.280 in the Revised Statutes of Missouri, is provided in Section 3.1 and member census information is shown in Section 3.2 to Section 3.4.

The valuation is based upon the premise that the System will continue in existence, so that future events must also be considered. These future events are assumed to occur in accordance with the actuarial assumptions and concern such events as the earnings of the fund; the number of members who will retire, die or terminate their services; their ages at such termination and their expected benefits.

The actuarial assumptions and the actuarial cost method, or funding method, which have been adopted to guide the sponsor in funding the System in a reasonable and acceptable manner, are described in Section 3.5.

Section 3 *(continued)*
3.1 Summary of Plan Provisions

Effective date

January 1, 1944, most recently amended in 2004.

Plan A Versus Plan B

All provisions cited below reflect Plan B benefit levels, which apply to all current active members. Some inactive members and retirees participated in Plan A, which provided different benefit levels. All members with Plan A benefits have terminated or retired.

Eligibility for coverage

All regular employees of the School District of Kansas City, Missouri, the library district or the retirement system and certain employees of charter schools become participants as a condition of employment. Regular employment means working at least five hours per day, five days per week, nine months per year. Temporary and part-time employees are excluded.

Service

Creditable service is participant service, which is service for which required contributions have been made. There is no cap on creditable service. Prior to 1990, creditable service could not exceed 35 years. The maximum retirement benefit is 60% of Average Final Compensation, which will be reached upon attainment of 30 years of service.

Annual compensation

A participant's annual compensation level will be the regular compensation shown on the salary and wage schedules, excluding extra pay, overtime pay, or any pay not on the schedule. Annual compensation will be limited to the scheduled level for a principal with a master's degree for all years prior to 1989. For years after 1988, there is no limitation on annual compensation.

Average final compensation

The average final compensation is the highest average annual compensation paid during any four consecutive years of service.

Normal retirement

Eligibility

Participants may retire after (a) the completion of five years of creditable service and the attainment of age 60, or (b) having a total of at least 75 credits, with each year of creditable service and year of age, both prorated for fractional years, equal to one credit.

Benefit

The normal retirement benefit payable monthly equals one twelfth of 2.00% (1.75% for participants who retired prior to June 30, 1999) of the participant's average final compensation multiplied by years of creditable service, subject to a maximum of 60% of average final compensation. Any participant whose years of creditable service exceed 34.25 years on August 28, 1993 shall have a maximum greater than 60%, which shall be equal to 1.75% times the participant's years of creditable service on August 28, 1993.

Section 3 *(continued)*
3.1 Summary of Plan Provisions

Minimum benefit

Effective January 1, 1996, any participant with at least 20 years of creditable service at retirement is entitled to a minimum benefit of $300 per month, or the actuarial equivalent of $300 if an option was elected. Any participant with at least ten years of creditable service, but less than 20 years, is entitled to a minimum benefit of $150 per month, plus $15 for each full year of creditable service in excess of ten years, or its actuarial equivalent if an option was elected. Beneficiaries of deceased participants who elected an option and who retired with at least ten years of creditable service receive the actuarial equivalent of the minimum benefit. If a participant's accumulated contributions provides more than the participant's retirement benefit (under the actuarial assumptions adopted by the Board of Trustees), the participant's benefit will be increased by this excess.

Early retirement

Eligibility

Participants may retire at any time after the completion of five years of creditable service and the attainment of age 55.

Benefit

A participant eligible for early retirement will receive a reduced benefit, with the reduction based on the number of months preceding eligibility for a normal retirement benefit. The reduction factors are as follows:

Age	Reduction Factor
59	0.91662
58	0.84138
57	0.77334
56	0.71168
55	0.65572

Disability retirement

Eligibility

A participant with at least five years of creditable service who is certified to be totally incapacitated for performance of duty by the Medical Board is eligible for a disability retirement.

Benefit

A disabled participant will receive an unreduced benefit, calculated as for normal retirement, based on service and average final compensation at actual retirement date. The minimum disability retirement benefit will be the lesser of (a) 25% of the participant's average final compensation, or (b) the participant's service retirement allowance calculated on the participant's average final compensation and the maximum number of years of creditable service the participant would have earned had the participant remained an employee until age 60. Disability benefits are payable immediately.

Section 3 *(continued)*
3.1 Summary of Plan Provisions

Vested termination benefits

Eligibility

A participant who has at least five years of creditable service earns a vested interest in his or her accrued benefit, provided the participant leaves his or her contributions in the system.

Benefit

The vested benefit is calculated as a normal retirement benefit based on service and average final compensation at date of termination and is payable at minimum normal retirement date.

Non-vested benefits

Benefit

If the participant's termination is for reasons other than death or retirement and if the participant has not met the vesting or retirement requirements, the participant's contributions with interest will be refunded.

Death benefit

Prior to retirement

For a participant who dies before retirement, the participant's designated beneficiary is entitled to receive a monthly retirement benefit if (a) the participant was an active employee, or (b) the participant was an inactive vested member who met the age requirements for either normal or early retirement. The participant's designated beneficiary has the option of selecting a monthly benefit under Option 1 with immediate commencement, or receiving a refund of contributions accumulated with interest.

For an inactive vested participant who dies before retirement and has not met the age requirements for retirement, the participant's accumulated contributions with interest will be paid to the participant's designated beneficiary.

The designated beneficiary is either the participant's spouse or person determined by the Board of Trustees to have been dependent upon the deceased participant. If the beneficiary elects Option 1, such benefit shall be calculated as if the deceased participant had at least ten years of creditable service at the time of death. If the beneficiary is a child, the benefit is only payable until age nineteen.

Postretirement

The optional form of benefit payment selected will determine what, if any, benefits are payable upon death after retirement. Participants are guaranteed to receive at least their accumulated contributions at retirement, if they die before electing an option.

Section 3 *(continued)*
3.1 Summary of Plan Provisions

Normal form of benefit payments

The normal form of benefit payment is the normal retirement benefit amount paid monthly for the life of the participant. If the participant should die before receiving payments totaling the amount of their contributions to the plan, the designated beneficiary shall receive a lump sum payment of the remaining amount.

Optional forms of benefit payments

Participants may elect from the following optional forms of benefit payment:

Option 1

Option 1 provides a reduced retirement benefit that will continue on to a designated beneficiary Upon a retiree's death, the retiree's designated beneficiary will receive for life, the same level of monthly retirement benefit. In the event the retiree's designated beneficiary predeceases the retiree, the retiree's monthly retirement benefit will be adjusted to the amount that would have been paid in the normal form of payment.

Option 2

Option 2 provides a reduced retirement benefit that will continue on to a designated beneficiary. Upon a retiree's death, the retiree's designated beneficiary will receive for life, a monthly benefit equal to one-half of the retiree's monthly retirement benefit. In the event the retiree's designated beneficiary predeceases the retiree, the retiree's monthly retirement benefit will be adjusted to the amount that would have been paid in the normal form of payment.

Option 3

Option 3 provides that upon a retiree's death, no benefits are payable to the retiree's estate or any beneficiary. Retirement benefits payable under this option will be actuarially increased from the normal form.

Each of the above options produces benefits which are actuarially equivalent to the normal form of benefit which is a monthly annuity payable for the lifetime of the retiree. These options are not available under disability retirement, only service retirement.

Cost-of-living allowances

The Board of Trustees shall determine annually whether or not the system can provide an increase in benefits for those retirees who, as of the January 1 preceding the date of such increase, have been retired at least one year. Any such increase also applies to optional retirement allowances paid to a retiree's beneficiary. The Board makes its determination as follows:

1. The actuary recommends to the Board what portion of the investment return is available for increases and the amount available to be paid on the first day of the 14th month following the end of the valuation year. The actuary's recommendation is subject to the following safeguards:

    a. The system's funded ratio as of the January 1st of the preceding year of the proposed increase must be at least 100% after adjusting for the effect of proposed increase. The funded ratio is the ratio of assets to the pension benefit obligation.

Section 3 *(continued)*
3.1 Summary of Plan Provisions

Cost-of-living allowances *(continued)*

   b. The actuarially required contribution rate, after adjusting for the effect of the proposed increase, may not exceed the statutory contribution rate.

   c. The actuary must certify that the proposed increase will not impair the actuarial soundness of the system.

2. The Board reviews the actuary's recommendation and shall, in their discretion, determine if an increase may be granted. In accordance with Board policy, if an increase is permissible, the amount of the increase will be equal to the lesser of 3% or the percentage increase in the CPI for the preceding year, subject to a cumulative increase of 100% subsequent to December 31, 2000.

3. This provision does not guarantee an annual increase to any retired participant.

Administration of the retirement system

The Board of Trustees is responsible for the general administration and proper operation of the retirement system. The Board consists of 12 members - four members appointed by the Board of Education, one member appointed by the Board of Trustees of the library district, four members elected by and from the participants of the retirement system, two members elected by and from the retirees of the retirement system, and the Superintendent of Schools of the School District of Kansas City, Missouri. Administrative expenses are paid out of the general reserve fund.

Employee contributions

Participants contribute 7.5% of earnable annual compensation. Prior to January 1, 1999, participants contributed 5.9%. Prior to 1990, participants contributed 5.0% of earnable annual compensation plus 2.0% of earnable annual compensation in excess of $6,500, the contribution earnings base.

Employer contributions

The employers of participants contribute at the fixed rate of 1.99% of covered compensation effective July 1, 1993; 3.99% effective July 1, 1995; 5.99% effective July 1, 1996; and 7.50% effective January 1, 1999. Prior to July 1, 1993, employer contributions were actuarially determined.

Changes from the Prior Valuation

There have been no changes in plan provisions since the prior valuation.

Section 3 *(continued)*
3.2 Changes in System Participation

	Active Members	Retirees	Beneficiaries	Disabled	Inactive Members	Total
Total at January 1, 2008	4,862	2,976	191	116	1,924	10,069
New Entrants	715		20			735
Rehires/Transfers	5	(5)				0
Retirements	(173)	173				0
Deaths	(5)	(208)	(38)	(10)		(261)
Terminations	(427)				427	0
Refunds Paid	(329)	(1)			(369)	(699)
Data Adjustments*		33				33
Total as of January 1, 2009	4,648	2,968	173	106	1,982	9,877

* 33 New Retirees on the data this year that were not on the data last year.

Section 3 *(continued)*
3.3 Member Census Information

As of January 1	2007	2008	2009
Active Members			
Number	4,757	4,862	4,648
Average Age	N/A	47.17	47.23
Average Service	N/A	8.76	8.99
Average Annual Base Pay	$ 41,880	$ 42,247	$ 44,175
Vested Terminated Members			
Number	1,877	1,924	1,982
Average Account Balance	$ N/A	$ 4,278	$ 8,618
Benefit Recipients			
Number	3,198	3,283	3,247
Average Age	N/A	72.36	71.92
Average Monthly Benefit	$ N/A	$ 1,479	$ 1,485

Section 3 *(continued)*
3.4 Distributions of Active Members

Years of Service By Age
Charter Schools

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
Under 25	51	0	0	0	0	0	0	0	0	51
25-29	129	6	0	0	0	0	0	0	0	135
30-34	107	19	3	0	0	0	0	0	0	129
35-39	95	24	0	0	0	0	0	0	0	119
40-44	60	17	1	1	0	0	0	0	0	79
45-49	48	11	0	1	0	0	0	0	0	60
50-54	91	17	1	2	3	0	0	0	0	114
55-59	60	26	1	2	0	0	0	0	0	89
60-64	22	12	1	0	0	0	0	0	0	35
65-69	4	4	0	0	0	0	0	0	0	8
70 & Up	0	1	0	0	0	0	0	0	0	1
Total	667	137	7	6	3	0	0	0	0	820

Years of Service By Age
School District

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
Under 25	118	2	0	0	0	0	0	0	0	120
25-29	191	40	0	0	0	0	0	0	0	231
30-34	151	85	7	0	0	0	0	0	0	243
35-39	140	65	56	13	0	0	0	0	0	274
40-44	111	93	46	57	18	0	0	0	0	325
45-49	161	138	63	96	89	21	1	0	0	569
50-54	167	146	87	80	119	35	22	2	0	658
55-59	142	136	70	126	109	20	30	12	0	645
60-64	88	102	51	81	72	15	14	31	2	456
65-69	13	25	17	11	17	4	9	6	7	109
70 & Up	10	7	3	8	6	2	2	0	4	42
Total	1,292	839	400	472	430	97	78	51	13	3,672

Section 3 *(continued)*
3.4 Distributions of Active Members

Years of Service By Age
Library

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
Under 25	5	0	0	0	0	0	0	0	0	5
25-29	7	2	0	0	0	0	0	0	0	9
30-34	10	1	1	0	0	0	0	0	0	12
35-39	7	3	1	1	0	0	0	0	0	12
40-44	5	4	4	1	0	1	0	0	0	15
45-49	7	5	4	2	0	4	0	0	0	22
50-54	6	6	2	5	3	2	0	2	0	26
55-59	5	4	4	5	4	1	0	2	1	26
60-64	0	4	5	1	2	3	0	4	0	19
65-69	0	0	1	1	0	0	0	0	0	2
70& Up	0	0	0	0	0	0	0	0	0	0
Total	52	29	22	16	9	11	0	8	1	148

These tables exclude the 8 employees of the retirement system, but the total active population of 4,648 includes retirement system members.

Section 3 *(continued)*
3.5 Actuarial Basis

Summary of Actuarial Assumptions and Methods

Interest

8% per annum.

Participant account interest crediting rate

5% per annum.

Expenses

The rate of interest assumed is net of total expenses.

Mortality

The RP-2000 Combined Healthy Lives Mortality Table is used for active participants, retired participants and beneficiaries. Rates are shown in Table 1.

Disability mortality

The RP-2000 Combined Healthy Lives Mortality Table set forward five years is used for disabled participants. Rates are shown in Table 5.

Withdrawal

Withdrawals are assumed to occur at rates based on actual experience of the retirement system. During the first eight years of membership, withdrawals are assumed to occur at the following rates:

Year of Membership	Non-charter school employees	Charter school employees
1st	25.0%	75.0%
2nd	20.0%	50.0%
3rd	15.0%	25.0%
4th	12.5%	20.0%
5th	10.0%	15.0%
6th	9.0%	12.5%
7th	8.0%	10.0%
8th	7.5%	7.5%

The rates used after the first eight years of membership are shown in Table 2.

Section 3 *(continued)*
3.5 Actuarial Basis

Salary scale

Salaries are assumed to increase at the rate of 5% per year.

Disability

Disabilities are assumed to occur at rates based on the actual experience of the retirement system. The rates used are shown in Table 4.

Retirement

Retirements are assumed to occur at rates based on 40% electing to retire when first eligible. Thereafter, retirements occur at rates based on the actual experience of the retirement system. The age-related rates used are shown in Table 3.

Family structure

All participants are assumed to be married and female spouses are assumed to be five years younger.

Usage of cash-out option

Participants terminating in vested status are given the option of taking a refund of their accumulated participant contributions (and thereby forfeiting the employer-provided benefit) or deferring their vested benefit. Active members who terminate in the future with a vested benefit are assumed to take a deferred vested annuity, unless a refund of contributions and interest is greater than the actuarial present value of their vested deferred benefit.

Deferred Vested Liability

The value of deferred vested liabilities is 150% of the total value of individual participant account balances to reflect the fact that some members will take a deferred annuity.

Amortization Basis

In determining the annual required contribution, the funding shortfall or surplus is amortized over a 30-year open period, based on a level dollar payment.

Future Benefit Increases or Additional Benefits

When funding is adequate, the Board may authorize cost of living adjustments (COLAs), as noted in the summary of plan provisions. In the past, the Board has also sometimes granted an additional monthly payment to retirees (13th check.) This valuation assumes that no future COLAs and no future 13th checks will be awarded.

Section 3 *(continued)*
3.5 Actuarial Basis

Actuarial Method – Entry Age Actuarial Cost

Liabilities and contributions shown in the report are computed using the Entry Age Actuarial Cost method of funding. Any funding surpluses or unfunded accrued liability is amortized over 30 years as a level dollar amount. However, in keeping with GASB requirements, the net amortization period will not exceed 30 years.

Projected pension and preretirement spouse's death benefits were determined for all active members. Cost factors designed to produce annual costs as a constant percentage of each member's expected compensation in each year for pension benefits from the assumed entry age to the assumed retirement age were applied to the projected benefits to determine the normal cost (the portion of the total cost of the plan allocated to the current year under the method). The normal cost is determined by summing intermediate results for active members and determining an average normal cost rate which is then related to the total payroll of active members. The actuarial accrued liability for active members (the portion of the total cost of the plan allocated to prior years under the method) was determined as the excess of the actuarial present value of projected benefits over the actuarial present value of future normal costs.

The actuarial accrued liability for retired members and their beneficiaries currently receiving benefits, terminated vested members and disabled members not yet receiving benefits was determined as the actuarial present value of the benefits expected to be paid. No future normal costs are payable for these members.

The actuarial accrued liability under this method at any point in time is the theoretical amount of the fund that would have been accumulated had annual contributions equal to the normal cost been made in prior years (it does not represent the liability for benefits accrued to the valuation date). The unfunded actuarial accrued liability is the excess of the actuarial accrued liability over the actuarial value of plan assets measured on the valuation date.

Under this method, experience gains or losses, i.e., decreases or increases in accrued liabilities attributable to deviations in experience from the actuarial assumptions, adjust the unfunded actuarial accrued liability.

Valuation of Assets

Effective January 1, 2009, the asset valuation method recognizes 20% of the investment gain or loss in the market value of assets in each of the current and preceding four years. This method will be phased in over five years. Assets are initialized at market value as of January 1, 2008. All assets are valued at market value. Assets are accounted for on an accrued basis and are taken directly from financial statements provided. There is no minimum or maximum corridor applied. An investment stabilization reserve, as described in Section 1.1(d) also applies.

Changes from the Prior Valuation

The asset valuation method being used was changed from the assumed yield method to a 5-year smoothing method. The valuation of deferred vested liabilities was changed from 100% to 150% of the value of participant account balances.

Section 3 *(continued)*

3.5 Actuarial Basis

Table 1
Mortality Rates
Annual Rates Per 1,000 Members

	Rate			Rate	
Age	Male	Female	Age	Male	Female
20	0.345	0.191	60	6.747	5.055
21	0.357	0.192	61	7.676	5.814
22	0.366	0.194	62	8.757	6.657
23	0.373	0.197	63	10.012	7.648
24	0.376	0.201	64	11.280	8.619
25	0.376	0.207	65	12.737	9.706
26	0.378	0.214	66	14.409	10.954
27	0.382	0.223	67	16.075	12.163
28	0.393	0.235	68	17.871	13.445
29	0.412	0.248	69	19.802	14.860
30	0.444	0.264	70	22.206	16.742
31	0.499	0.307	71	24.570	18.579
32	0.562	0.350	72	27.281	20.665
33	0.631	0.394	73	30.387	22.970
34	0.702	0.435	74	33.900	25.458
35	0.773	0.475	75	37.834	28.106
36	0.841	0.514	76	42.169	30.966
37	0.904	0.554	77	46.906	34.105
38	0.964	0.598	78	52.123	37.595
39	1.021	0.648	79	57.927	41.506
40	1.079	0.706	80	64.368	45.879
41	1.142	0.774	81	72.041	50.780
42	1.215	0.852	82	80.486	56.294
43	1.299	0.937	83	89.718	62.506
44	1.397	1.029	84	99.779	69.517
45	1.508	1.124	85	110.757	77.446
46	1.616	1.223	86	122.797	86.376
47	1.734	1.326	87	136.043	96.337
48	1.860	1.434	88	150.590	107.303
49	1.995	1.550	89	166.420	119.154
50	2.138	1.676	90	183.408	131.682
51	2.449	1.852	91	199.769	144.604
52	2.667	2.018	92	216.605	157.618
53	2.916	2.207	93	233.662	170.433
54	3.196	2.424	94	250.693	182.799
55	3.624	2.717	95	267.491	194.509
56	4.200	3.090	96	283.905	205.379
57	4.693	3.478	97	299.852	215.240
58	5.273	3.923	98	315.296	223.947
59	5.945	4.441	99	330.207	231.387

Section 3 *(continued)*

3.5 Actuarial Basis

Table 2
Withdrawal Mortality Rates
Annual Rates Per 1,000 Members

Age	Rate	Age	Rate
20	180.0	45	45.0
21	171.0	46	43.2
22	162.0	47	41.4
23	153.0	48	39.6
24	144.0	49	37.8
25	135.0	50	36.0
26	126.0	51	35.1
27	117.0	52	34.2
28	108.0	53	33.3
29	99.0	54	32.4
30	90.0	55	31.5
31	86.4	56	30.6
32	82.8	57	29.7
33	79.2	58	28.8
34	75.6	59	27.9
35	72.0	60	27.0
36	68.4	61	0.0
37	64.8	62	0.0
38	61.2	63	0.0
39	57.6	64	0.0
40	54.0		
41	52.2		
42	50.4		
43	48.6		
44	46.8		

Section 3 *(continued)*
3.5 Actuarial Basis

Table 3
Retirement Rates
Annual Rates Per 1,000 Members

Age	Rate
45	20.0
46	20.0
47	20.0
48	20.0
49	20.0
50	20.0
51	20.0
52	20.0
53	20.0
54	20.0
55	20.0
56	20.0
57	20.0
58	20.0
59	20.0
60	100.0
61	100.0
62	250.0
63	100.0
64	100.0
65	400.0
66	300.0
67	300.0
68	300.0
69	300.0
70	1000.0

Section 3 *(continued)*

3.5 Actuarial Basis

Table 4
Disability Rates
Annual Rates Per 1,000 Members

Age	Rate	Age	Rate
20	0.0	45	1.5
21	0.1	46	1.7
22	0.2	47	1.9
23	0.3	48	2.1
24	0.4	49	2.3
25	0.5	50	2.5
26	0.6	51	2.8
27	0.7	52	3.1
28	0.8	53	3.4
29	0.9	54	3.7
30	1.0	55	4.0
31	1.0	56	4.2
32	1.0	57	4.4
33	1.0	58	4.6
34	1.0	59	4.8
35	1.0	60	5.0
36	1.0	61	5.0
37	1.0	62	5.0
38	1.0	63	5.0
39	1.0	64	5.0
40	1.0	65	0.0
41	1.1		
42	1.2		
43	1.3		
44	1.4		

Section 3 *(continued)*
3.5 Actuarial Basis

Table 5
Post-Disability Mortality Rates
Annual Rates Per 1,000 Members

	Rate			Rate	
Age	Male	Female	Age	Male	Female
20	0.376	0.207	60	12.737	9.706
21	0.378	0.214	61	14.409	10.954
22	0.382	0.223	62	16.075	12.163
23	0.393	0.235	63	17.871	13.445
24	0.412	0.248	64	19.802	14.860
25	0.444	0.264	65	22.206	16.742
26	0.499	0.307	66	24.570	18.579
27	0.562	0.350	67	27.281	20.665
28	0.631	0.394	68	30.387	22.970
29	0.702	0.435	69	33.900	25.458
30	0.773	0.475	70	37.834	28.106
31	0.841	0.514	71	42.169	30.966
32	0.904	0.554	72	46.906	34.105
33	0.964	0.598	73	52.123	37.595
34	1.021	0.648	74	57.927	41.506
35	1.079	0.706	75	64.368	45.879
36	1.142	0.774	76	72.041	50.780
37	1.215	0.852	77	80.486	56.294
38	1.299	0.937	78	89.718	62.506
39	1.397	1.029	79	99.779	69.517
40	1.508	1.124	80	110.757	77.446
41	1.616	1.223	81	122.797	86.376
42	1.734	1.326	82	136.043	96.337
43	1.860	1.434	83	150.590	107.303
44	1.995	1.550	84	166.420	119.154
45	2.138	1.676	85	183.408	131.682
46	2.449	1.852	86	199.769	144.604
47	2.667	2.018	87	216.605	157.618
48	2.916	2.207	88	233.662	170.433
49	3.196	2.424	89	250.693	182.799
50	3.624	2.717	90	267.491	194.509
51	4.200	3.090	91	283.905	205.379
52	4.693	3.478	92	299.852	215.240
53	5.273	3.923	93	315.296	223.947
54	5.945	4.441	94	330.207	231.387
55	6.747	5.055	95	344.556	237.467
56	7.676	5.814	96	358.628	244.834
57	8.757	6.657	97	371.685	254.498
58	10.012	7.648	98	383.040	266.044
59	11.280	8.619	99	392.003	279.055