PUBLIC SCHOOL RETIREMENT SYSTEM
OF THE CITY OF ST. LOUIS

MINUTES OF THE BOARD OF TRUSTEES REGULAR MEETING

August 21, 2017

I. ROLL CALL AND ANNOUNCEMENT OF A QUORUM

The August meeting of the Board of Trustees of the Public School Retirement System of the City of St. Louis (PSRSSTL) was called to order at 4:40 p.m., Monday, August 21, 2017. The meeting was held in the 2nd floor boardroom of the PSRSSTL office building located at 3641 Olive Street, St. Louis, Missouri. Joseph Clark, Chairman of the Board of Trustees, was the presiding officer.

Roll Call was taken and Trustees Paula Bentley, Joseph Clark, Darnetta Clinkscale, Louis Cross, Sheila Goodwin and Bobbie Richardson were present. The Board of Trustees had a quorum at the meeting. Trustees Christina Bennett, Yvette Levy, John Moten, Rick Sullivan and Eural Thomas were absent.

Executive Director, Andrew Clark, Accounting Specialist, Terry Mayes, Insurance Benefits Specialist, Dawn Waters, PSRSSTL Attorney Representative, Matt Gierse, PSRSSTL Actuary Representative, Troy Jaros, PSRSSTL Health Insurance Consultant, Patrick Haraden, and several interested parties were also in attendance.

II. APPROVAL OF MINUTES FROM LAST MEETING

Sheila Goodwin made a motion, seconded by Darnetta Clinkscale, to approve the minutes of the Board of Trustees Regular Meeting of June 19, 2017.

By voice vote, motion carried.

III. SEATING OF NEW MEMBERS

The Chairman congratulated Louis Cross upon his election as a Retired Teacher Trustee, and welcomed Mr. Cross on behalf of the Trustees.

IV. READING OF COMMUNICATIONS TO THE BOARD OF TRUSTEES

None

V. PRESENTATIONS BY INTERESTED PARTIES

None

VI. CONSENT AGENDA

Sheila Goodwin made a motion, seconded by Paula Bentley, to approve the Retirements and Benefits of July and August 2017.

By voice vote, motion carried.

Darnetta Clinkscale made a motion, seconded by Bobbie Richardson, to approve the Refunds and Bills of June and July 2017.

By voice vote, motion carried.

VII. UNFINISHED BUSINESS

None

VIII. REPORT OF THE CHAIRPERSON

None

IX. REPORT OF THE EXECUTIVE DIRECTOR

The Executive Director reported on the schedule for the Retired Non-Teacher Trustee election and that a second notice would be mailed soon because only one qualified candidate registered in time after the mailing of the first election notice.

The Executive Director reported on recent Trustee travel activity and that one Trustee is ineligible for travel for lack of filing a complete travel expense report.

The Executive Director introduced the Health Insurance Consultant, Patrick Haraden, who presented the 2018 health insurance renewals to the Board of Trustees, including a change in carriers from Coventry / GHP to United Health Care for the retirement system's Medicare Advantage Plans. The Health Insurance Consultant informed the Trustees that there will be three United Health Care PPO Medicare Advantage Plans replacing the current four Coventry Medicare Advantage Plans made up of three HMO's and one PPO plan. There was some discussion until all questions were answered satisfactorily.

Paula Bentley made a motion, seconded by Louis Cross, to adopt the insurance renewals for the two SLPS United Health Care PPO Plans, with Express Scripts Rx, as presented by the Insurance Consultant, subject to the approval of the SLPS Special Administrative Board.

A roll call vote was taken.

Paula Bentley	Yes	Joseph Clark	Yes	Darnetta Clinkscale	Yes
Louis Cross	Yes	Sheila Goodwin	Yes	Bobbie Richardson	Yes

With six yes votes, motion carried.

Louis Cross made a motion, seconded by Paula Bentley, to adopt the insurance renewals for the United Health Care PPO High, Low and Gold Medicare Options, the Met Life Dental PPO High and Low Options, and the VBA Vision Plan, as presented by the Insurance Consultant.

A roll call vote was taken.

Paula Bentley	Yes	Joseph Clark	Yes	Darnetta Clinkscale	Yes
Louis Cross	Yes	Sheila Goodwin	Yes	Bobbie Richardson	Yes

With six yes votes, motion carried.

X. REPORT OF THE INVESTMENT CONSULTANT

None

XI. REPORT OF THE ACTUARY

The Actuary presented a summary of the results of the revised 2017 Actuarial Valuation Report by reviewing a discussion document. The Board of Trustees adopted the 2017 Actuarial Valuation Report at the June meeting, contingent upon a change back to the actuarial methods for the remaining 19-years of the amortization period set in 2006. In December 2016, the Trustees agreed to reset the actuarial methodology and amortization period for the UAAL to 30-years. At the June 2017 meeting, the Trustees rescinded that decision due to the negative impacts on the fund because of Senate Bill No. 62 (S.B. 62), that will soon be law.

A request was made of the Actuary to provide reports prior to meetings. There was discussion around the request until it appeared the Trustees were satisfied.

The Actuary and Executive Director asked the Trustees to authorize a cost study to estimate the fiscal impacts on the retirement system because of S.B. 62. There was discussion about the study breaking down the costs for each change in the new law, especially regarding the change to the “Rule of 80” from the “Rule of 80”, including an increase to the 2017 Actuary budget to cover costs of the study. The discussion continued until the Chairman asked for a motion.

Louis Cross made a motion, seconded by Sheila Goodwin, to authorize the Actuary to prepare a Cost Statement to assess the fiscal impacts on the retirement system because of S.B. 62, and add $15k to the Actuary budget to cover costs.

A roll call vote was taken.

Paula Bentley	Yes	Joseph Clark	Yes	Darnetta Clinkscale	Yes
Louis Cross	Yes	Sheila Goodwin	Yes	Bobbie Richardson	Yes

With six yes votes, motion carried.

XII. REPORTS OF COMMITTEES OF THE BOARD OF TRUSTEES

The Chairman asked for reports from the Committees.

Benefits Committee

None

Trustee Business Committee

None

Investment Committee

Joe Clark, Chair of the Investment Committee, reported on the meeting of August 17, 2017, by informing the Trustees that two recommendations from the Investment Committee needed consideration by the full board. The Chair explained the recommendations to the Trustees and asked for approvals.

Louis Cross made a motion, seconded by Paula Bentley, to hire Elm Tree Funds LLC as a value added real estate money manager by committing $8mm to Elm Tree U.S. Net Lease Fund III, as recommended by the Investment Committee.

A roll call vote was taken.

Paula Bentley	Yes	Joseph Clark	Yes	Darnetta Clinkscale	Yes
Louis Cross	Yes	Sheila Goodwin	Yes	Bobbie Richardson	Yes

With six yes votes, motion carried.

Sheila Goodwin made a motion, seconded by Darnetta Clinkscale, to terminate Holland Capital Management, liquidate all assets under management and move the proceeds to the Mellon Stock Index Fund, as recommended by the Investment Committee. The Chair informed the Trustees that Holland Capital decided to close the firm and discussed the need for a replacement money manager because Holland Capital is one of the few minority and women owned money managers in the fund's portfolio.

A roll call vote was taken.

Paula Bentley	Yes	Joseph Clark	Yes	Darnetta Clinkscale	Yes
Louis Cross	Yes	Sheila Goodwin	Yes	Bobbie Richardson	Yes

With six yes votes, motion carried.

Legislative, Rules & Regulations Committee

None

Professional Contracts Committee

None

XIII. NEW BUSINESS

None

XIV. REPORT OF THE ATTORNEY

The Chairman asked for a motion to close the meeting to discuss a legal matter with the Attorney.

Louis Cross made a motion, seconded by Paula Bentley, to close the meeting, and that all records and votes, to the extent permitted by law, pertaining to and/or resulting from this closed meeting be closed under R.S.Mo. § 610.021(1), for the purpose of having a confidential or privileged communication with the legal counsel for the PSRSSTL.

A roll call vote was taken.

Paula Bentley	Yes	Joseph Clark	Yes	Darnetta Clinkscale	Yes
Louis Cross	Yes	Sheila Goodwin	Yes	Bobbie Richardson	Yes

With six yes votes, motion carried, and the meeting closed at around 6:00 p.m.

Sheila Goodwin made a motion, seconded by Darnetta Clinkscale, to open the meeting.

A roll call vote was taken.

Paula Bentley	Yes	Joseph Clark	Yes	Darnetta Clinkscale	Yes
Louis Cross	Yes	Sheila Goodwin	Yes	Bobbie Richardson	Yes

With six yes votes, motion carried, and the meeting opened at around 6:15 p.m.

XV. ADJOURNMENT

Sheila Goodwin made a motion, seconded by Paula Bentley, to adjourn the meeting.

By voice vote, motion carried and the meeting adjourned at 6:15 p.m.

Attachments:

Retirements Paid: July and August 2017
Refunds & Bills Paid: June and July 2017
2018 Insurance Benefit Renewals
2018 Monthly Premium Rates
2017 Actuarial Valuation Report and Results
2017 GASB Statement Nos. 67 & 68 from Actuary

To be Authorized and Approved
by the Board of Trustees

APPLICATIONS FOR RETIREMENT

NAME \ POSITION	RETIREMENT DATE	RETIREMENT TYPE	CREDITED SERVICE	FINAL AVG SALARY	MONTHLY BENEFIT
Dorthea Barton Teacher	6/1/2017	Disability	15.1777	$65,669.84	$1,661.20
Barbara Beckham Teacher	6/1/2017	Normal	30.0000	$81,717.63	$4,085.88
Sherry Carter Network Technician I	6/1/2017	Normal	27.7023	$40,610.04	$1,874.99
Danny Colbert Teacher	6/1/2017	Early	7.6390	$28,073.01	$218.33
Jane Courter Reading Specialist	6/1/2017	Normal	9.0160	$52,221.15	$784.71
Donald Cunningham Teacher	6/1/2017	Normal	14.0555	$71,020.99	$1,663.73
Babatunde Deinbo Secondary Coordinator Special Area	6/1/2017	Normal	30.0000	$84,498.65	$3,401.07
Barbara Edwards Teacher	6/1/2017	Normal	16.3333	$46,072.56	$1,254.19
Carol Felder-Petty Teacher	6/1/2017	Normal	28.4444	$73,084.65	$3,464.75
Marilyn Firestone School Counselor	6/1/2017	Normal	11.0833	$58,511.64	$1,080.84
Charles Floyd Sr Coordinator Spec Area	6/1/2017	Early	9.4123	$79,398.41	$853.84
Richard Hamilton Teacher	6/1/2017	Normal	30.0000	$68,026.29	$3,401.32
Linda Harding Teacher	6/1/2017	Normal	30.0000	$82,065.04	$4,103.25
Jerri Henry Teacher	6/1/2017	Normal	30.0000	$72,808.30	$3,640.42
Kathleen Hesse IEP Placement Specialist	6/1/2017	Normal	30.0000	$88,411.79	$3,527.63

NAME \ POSITION	RETIREMENT DATE	RETIREMENT TYPE	CREDITED SERVICE	FINAL AVG SALARY	MONTHLY BENEFIT
Diana Horton Teacher	6/1/2017	Normal	29.7222	$88,052.83	$4,361.88
Kate Howell Teacher	6/1/2017	Normal	30.0000	$82,066.60	$4,103.33
Michelle Johnson Teacher	6/1/2017	Normal	30.0000	$66,698.77	$3,334.94
Maria Lenz-Adderley Teacher	6/1/2017	Normal	30.0000	$66,994.07	$3,349.70
Rochelle Lewis Teacher	6/1/2017	Normal	30.0000	$82,446.91	$4,122.35
Deborah Mason Speech Language Diagnostician	6/1/2017	Normal	22.0444	$74,364.89	$2,732.21
Avis May Family & Community Specialist	6/1/2017	Normal	26.3512	$76,535.97	$3,361.36
Kendall McGowan Teacher	6/1/2017	Early	9.8667	$53,946.67	$552.04
Maureen Moore Teacher	6/1/2017	Normal	30.0000	$66,427.54	$3,321.38
Sandra Moore Teacher	6/1/2017	Normal	18.0778	$56,786.19	$1,710.95
Peter Mushill Teacher	6/1/2017	Normal	24.0555	$71,013.41	$2,271.99
Cheryl Paige Teacher	6/1/2017	Normal	30.0000	$66,870.86	$3,343.54
Linda Potts Teacher	6/1/2017	Normal	30.0000	$87,060.44	$4,353.02
Marion Reese Teacher	6/1/2017	Normal	30.0000	$88,411.79	$3,881.28
Daizy Rice-Meehan Teacher Assistant	6/1/2017	Early	15.2445	$36,177.12	$679.15
Elizabeth Ritter Teacher	6/1/2017	Normal	12.1389	$64,211.83	$1,299.10
Deborah Shaner Teacher	6/1/2017	Normal	25.5944	$66,698.77	$2,845.19

NAME \ POSITION	RETIREMENT DATE	TYPE	CREDITED SERVICE	FINAL AVG SALARY	MONTHLY BENEFIT
Gerald Trapp Jr Teacher	6/1/2017	Normal	30.0000	$73,221.27	$3,661.06
Linda Werner Teacher	6/1/2017	Normal	10.2415	$68,602.34	$1,170.98
Rowena Wess-Evans Teacher	6/1/2017	Normal	30.0000	$73,443.60	$3,672.18
Nancy White Teacher	6/1/2017	Normal	18.0000	$60,906.94	$1,827.21
Verdene White Walls Teacher	6/1/2017	Normal	30.0000	$67,073.54	$3,353.68
Linda Whitley Teacher	6/1/2017	Normal	6.6111	$52,250.96	$455.40

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APPLICATIONS FOR RETIREMENT

NAME \ POSITION	RETIREMENT DATE	RETIREMENT TYPE	CREDITED SERVICE	FINAL AVG SALARY	MONTHLY BENEFIT
Iona Williams Sec Spec Ed Cross Categor	6/1/2017	Normal	10.1389	$60,283.06	$1,018.67
Mary Armstrong Teacher	7/1/2017	Normal	30.0000	$67,059.95	$3,353.00
Chrisena Brown Teacher	7/1/2017	Normal	30.0000	$82,066.60	$4,103.33
Judith Carr Custodian	7/1/2017	Early	12.8645	$34,608.24	$717.29
Carrie Coleman Assistant Principal	7/1/2017	Normal	20.0200	$90,709.23	$3,026.66
Diana Duncan Database Scheduling Specialist	7/1/2017	Normal	19.5652	$84,803.46	$2,765.33
Jurline Foggy Teacher	7/1/2017	Normal	2.1667	$51,926.36	$187.51
Donnie Harris Principal	7/1/2017	Normal	30.0000	$95,658.67	$4,782.94
Jennifer Hayes Teacher	7/1/2017	Normal	14.5961	$35,366.21	$860.35
Joyce Jefferson HR Office Administrator	7/1/2017	Normal	4.3207	$57,333.12	$412.87
Brenda Kelly Counselor	7/1/2017	Normal	30.0000	$88,052.83	$4,402.64
Henry Loving Jr Teacher	7/1/2017	Normal	17.2576	$37,727.72	$1,085.15
Gwenda Miller Family & Community Specialist	7/1/2017	Early	19.1138	$32,237.18	$895.73
Frederick Minner Assistant Principal	7/1/2017	Normal	4.0291	$57,269.92	$384.58
Wilfred Moore Principal	7/1/2017	Normal	29.0452	$119,579.51	$5,788.69

NAME \ POSITION	RETIREMENT DATE	RETIREMENT TYPE	CREDITED SERVICE	FINAL AVG SALARY	MONTHLY BENEFIT
Maria Munoz Secretary	7/1/2017	Normal	28.9718	$46,253.34	$2,233.41
Lawrence Onwumelu Teacher	7/1/2017	Normal	14.3778	$44,882.29	$1,075.51
Donna Owens Principal	7/1/2017	Normal	28.8841	$96,872.12	$4,663.44
Janet Pritchard Elementary Librarian	7/1/2017	Normal	6.8000	$26,779.48	$189.69
Linda Riekes Development Officer	7/1/2017	Normal	30.0000	$103,070.24	$5,153.51
Sylvia Rivers-Johnson Academic Instructional Coach	7/1/2017	Normal	30.0000	$90,375.08	$4,518.76
Ouida Robinson Academic Instructional Coach	7/1/2017	Normal	30.0000	$90,733.50	$4,536.68
Kathleen Rockwell Teacher	7/1/2017	Normal	30.0000	$82,065.04	$4,103.25
Cynthia Siple School Nurse	7/1/2017	Normal	10.1264	$43,087.21	$727.20

Distributions - June, 2017

CHECK NUMBER	CHECK DATE	LAST NAME	FIRST NAME/MI	GROSS PAY	FEDERAL TAXES W/H	NET PAY	A(ctive) R(etired)	D(eath) S(eparation)	NOTES
072923	06/01/17	BOWERS	SANDI	1,073.89	214.78	859.11	A	S	PRECL
072924	06/01/17	HUTCHINSON	JENNIFER	1,102.48	220.50	881.98	A	S	KIPP
072925	06/01/17	BARBER	ROBIN	22,736.69	4,547.34	18,189.35	A	S	
072926	06/01/17	BRIDGES	COLLEEN	2,115.76	423.15	1,692.61	A	S	
072927	06/01/17	BRITTO	NICHOLAS	1,772.59		1,772.59	A	S	
072928	06/01/17	CANNADY	RICHARD	33,005.47		33,005.47	A	S	
072929	06/01/17	HAWES	LORA	813.92	162.78	651.14	A	S	
072930	06/01/17	HERBST MULHERIN	KELLY	8,993.03		8,993.03	A	S	
072931	06/01/17	HILL	PEGGY	3,586.98	717.40	2,869.58	A	S	
072932	06/01/17	JOHNSON	CHARLIE	1,201.77	240.35	961.42	A	S	
072933	06/01/17	RICE	SHARON	973.09	194.62	778.47	A	S	
072934	06/01/17	SMITH	OZELL	33,342.11		33,342.11	A	S	
072935	06/01/17	WHITE	LAYLA	2,207.88	441.58	1,766.30	A	S	
072936	06/01/17	SMITH	ALLEN	20,800.72	2,080.07	18,720.65	A	D	DEC: L SMITH 2 OF 3 BENEF
072957	06/09/17	HELFERSTAY	ROBYN	18,652.87	3,730.57	14,922.30	A	S	HLSG LFL
072958	06/09/17	STARK	EVIE	5,742.33		5,742.33	A	S	ICP
072959	06/09/17	PIERSON	KELNITA	17,413.67	3,482.73	13,930.94	A	S	SLPS ICP
072960	06/09/17	VINCENT	COURTNEY	4,464.78		4,464.78	A	S	JAMAA
072961	06/09/17	DIXON	JESSE	6,503.57	1,300.71	5,202.86	A	S	
072962	06/09/17	GLON	RHEANNA	227.92	45.58	182.34	A	S	
072963	06/09/17	RANDALL	NICHOLAS	8,544.32	1,708.86	6,835.46	A	S	
072964	06/09/17	SANBORN	CASEY	2,272.64	454.53	1,818.11	A	S	
072965	06/09/17	STEFANIC	DANIELLE	7,159.98	1,432.00	5,727.98	A	S	
072966	06/09/17	HAMILTON	JAIRIS	19,257.61		19,257.61	A	D	DEC: J SPROAPS
072998	06/21/17	ONDR	MEGAN	3,995.52		3,995.52	A	S	SLLIS
072999	06/21/17	RICE	CHARLES	6,177.52	1,235.50	4,942.02	A	S	LFL
073000	06/21/17	DAWKINS	JAMILA	4,303.54		4,303.54	A	S	
073001	06/21/17	HENDERSON	DANIEL	8,669.24		8,669.24	A	S	
			TOTAL	**$ 247,111.89**	**$ 22,633.05**	**$ 224,478.84**			

Distributions - July, 2017

CHECK NUMBER	CHECK DATE	LAST NAME	FIRST NAME/MI	GROSS PAY	FEDERAL TAXES W/H	NET PAY	A(ctive) R(etired)	D(eath) S(eparation)	NOTES
073000	06/21/17	DAWKINS	JAMILA	(4,303.54)		(4,303.54)	A	S	VOID AND REISSUE
073017	07/07/17	COFFMAN	CHANTAINE	28,151.14	5,630.23	22,520.91	A	S	CA
073018	07/07/17	ISHMON	CHRISTOPHER	1,947.38	389.48	1,557.90	A	S	CA
073019	07/07/17	LUCAS	ADAM	9,478.79		9,478.79	A	S	GSA STL
073020	07/07/17	MCLAURY	KAITYN	4,126.96		4,126.96	A	S	CA
073021	07/07/17	RUSSELL	SHAMKEA	4,713.63	942.73	3,770.90	A	S	PREM , SLPS
073022	07/07/17	SCHINDLER	CHARLEEN	482.06	96.41	385.65	A	S	CA
073023	07/07/17	ARELLANO	JENNIFER	1,912.42	382.48	1,529.94	A	S	
073024	07/07/17	ARNOLD	DEMARCUS	16,497.51	3,299.50	13,198.01	A	S	
073025	07/07/17	BUTLER	CASYE	6,699.89	1,339.98	5,359.91	A	S	
073026	07/07/17	EDWARDS	ERICA	791.96	158.39	633.57	A	S	
073027	07/07/17	FOSTER	FELICIA	29,551.82	5,910.36	23,641.46	A	S	
073028	07/07/17	GALLOWAY	SARAH J	2,377.48	475.50	1,901.98	A	S	
073029	07/07/17	GRIFFIN	KEONA	20,953.72	4,190.74	16,762.98	A	S	
073030	07/07/17	HAUVER	JAMIE	2,377.48	475.50	1,901.98	A	S	
073031	07/07/17	HOLMES	DAVID	777.53	155.51	622.02	A	S	
073032	07/07/17	JACKSON	MELISSA	4,267.11	853.42	3,413.69	A	S	
073033	07/07/17	JONES	KATHRYN H	1,596.70	319.34	1,277.36	A	S	
073034	07/07/17	MADDUX	JOHN	5,036.61		5,036.61	A	S	
073035	07/07/17	MELLER	KATINA	10,276.74	2,055.35	8,221.39	A	S	
073036	07/07/17	NEWTON	JESSICA	2,229.17	445.83	1,783.34	A	S	
073037	07/07/17	OATIS	HEATHER	7,145.40	1,429.08	5,716.32	A	S	
073038	07/07/17	ROSELLI	REBECCA J	6,811.19	1,362.24	5,448.95	A	S	
073039	07/07/17	SMITH	LEVI	2,246.54	449.31	1,797.23	A	S	
073040	07/07/17	STRONG	HAROLD	2,224.75	444.95	1,779.80	A	S	
073041	07/07/17	TERRY	PAMELA	2,763.81		2,763.81	A	S	
073041	07/07/17	TERRY	PAMELA	(2,763.81)		(2,763.81)	A	S	VOID AND REISSUE
073042	07/07/17	YOUNGE	LAUREN	2,386.77	477.35	1,909.42	A	S	
073043	07/07/17	DAWKINS	JAMILA	1,200.00		1,200.00	A	S	VOID AND REISSUE
073044	07/07/17	DAWKINS	JAMILA	3,103.54	620.71	2,482.83	A	S	VOID AND REISSUE
073046	07/13/17	HUNTER	SHAISHA	3,049.50	609.90	2,439.60	A	S	SLLIS SLPS
073047	07/13/17	JOHNSON	MARTHA	68,896.04		68,896.04	A	S	CA IACE SLPS
073048	07/13/17	WALKER	MEREDITH M	9,018.72	1,803.75	7,214.97	A	S	SLPS PREC
073049	07/13/17	ALI	NICOLE	27,005.96	5,401.19	21,604.77	A	S	
073050	07/13/17	BRANDON	KIMBERLY E	28,769.01	5,753.80	23,015.21	A	S	
073051	07/13/17	CROSBY	SUAN	15,125.57	3,025.11	12,100.46	A	S	
073052	07/13/17	CROSS	ANGELA	10,951.92	2,190.38	8,761.54	A	S	
073053	07/13/17	EDUAKWA	DEBORAH	23,344.07	4,668.81	18,675.26	A	S	

Distributions - July, 2017

CHECK NUMBER	CHECK DATE	LAST NAME	FIRST NAME/MI	GROSS PAY	FEDERAL TAXES W/H	NET PAY	A(ctive) R(etired)	D(eath) S(eparation)	NOTES
073054	07/13/17	GILJUM	LISA	2,563.00	512.60	2,050.40	A	S	
073055	07/13/17	JOHNSON	JASMINE	7,386.87	1,477.37	5,909.50	A	S	
073056	07/13/17	LEWIS	CEDRIC	7,984.88		7,984.88	A	S	
073057	07/13/17	PAN	KEVIN	4,775.39		4,775.39	A	S	
073058	07/13/17	ROTH	REBECCA	4,621.28		4,621.28	A	S	
073059	07/13/17	RUSSUM	DANAE D	4,688.30	937.66	3,750.64	A	S	
073060	07/13/17	TERRY	PAMELA	2,763.81	552.76	2,211.05	A	S	VOID AND REISSUE
073100	07/27/17	EHLMANN	KYLE	3,169.17	633.83	2,535.34	A	S	SCPA
073101	07/27/17	FOX	PARIS	25,133.83	5,026.77	20,107.06	A	S	ICP IAAS SLPS
073102	07/27/17	FRIGILLANA	EDWARD	19,379.59		19,379.59	A	S	AQS-GC, GCAA
073103	07/27/17	JEFFRIES	ADRIENNE	1,883.13	376.63	1,506.50	A	S	LFL
073104	07/27/17	LIN	SHARON (WEN LI)	1,696.48	339.30	1,357.18	A	S	SLLIS
073105	07/27/17	ROBINSON	GAIL	17,093.60	3,418.72	13,674.88	A	S	IAAS SLPS
073106	07/27/17	REESE	GLESSIE	11,530.69	2,306.14	9,224.55	A	S	CA SLPS
073107	07/27/17	STEINHORST	DUSTYN M	7,143.58	1,428.72	5,714.86	A	S	CA
073108	07/27/17	BEAUCHAMP	AMBER	2,386.77	477.35	1,909.42	A	S	
073109	07/27/17	CLARK	JAMES	2,358.08	471.62	1,886.46	A	S	
073110	07/27/17	DONALDSON	LACIE	7,622.07	1,524.41	6,097.66	A	S	
073111	07/27/17	EBRON	MICHAEL	7,624.68	1,524.94	6,099.74	A	S	
073112	07/27/17	FARROW	GEORGETTA	3,304.55	660.91	2,643.64	A	S	
073113	07/27/17	HAMLETT	ROD	5,520.32	1,104.06	4,416.26	A	S	
073114	07/27/17	KIEFER	KORI	20,567.82		20,567.82	A	S	
073115	07/27/17	LAW-GRYGIER	JILLIANN	4,811.45	962.29	3,849.16	A	S	
073116	07/27/17	NELSON	CARL	38,479.34		38,479.34	A	S	
073117	07/27/17	POCOST	OLIVIA B	4,775.39	955.08	3,820.31	A	S	
073118	07/27/17	POWERS	MAUREEN	2,061.54	412.31	1,649.23	A	S	
073119	07/27/17	NICHOLS C/O TEQIOAS S BASS	COHEN M	1,945.32		1,945.32	A	D	DEC: C NICHOLS 1 OF 2
073120	07/27/17	NICHOLS	TEQUIAS	1,945.32	389.06	1,556.26	A	D	DEC: C NICHOLS 2 OF 2
			TOTAL	$ 586,437.79	$ 80,849.86	$ 505,587.93			

Public School Retirement System of the City of St. Louis
Checks Written During the Month of June, 2017

Payee	Ck. Number	Description	Amount
Date Paid June 5, 2017			
Ameren Missouri	72937	Electric Service	2,447.80
AT&T	72938	U-Verse Internet	60.00
OffsiteDataSync	72939	Online Backups	208.12
Windstream Communications	72940	Telephone, Data	533.59
BuildingStars STL Operations, Inc.	72941	Janitorial Supplies	474.02
Speciality Mailing	72942	Postage - Daily Pickup	180.00
Anders CPAs & Advisors	72943	Trustee Special Election, CAFR Calculations	1,970.00
Minuteman Press	72944	Spring Newsletters, Envelopes	1,673.62
BarnesCare	72945	Dorthea L. Barton	100.00
Blue Stingray, Inc.	72946	Website Development	2,500.00
Woodward Cleaning & Restoration	72947	Water Restoration Services	2,064.87
Konica Minolta Business Solutions USA Inc.	72948	Service - Copier C364E	514.91
Tom Kinealy	72949	Annual Contract - OnlineFaxes.com	85.89
Fidelity Institutional Asset Mgmt Trust Company	72950	1st Quarter 2017 Management Fee	65,581.45
NEPC, LLC	72951	1st Quarter 2017 Consulting Fee	34,020.10
NEPC, LLC	72952	1st Quarter 2017 Alt. Investment Mgmt. Fee	12,500.00
Board of Education St. Louis Benefits Trust	72953	Office Employees Insurance - Dental	248.99
Board of Education St. Louis Benefits Trust	72954	Office Employees Insurance - Vision	17.00
Board of Education St. Louis Benefits Trust	72955	Office Employees Insurance - Life	87.35
Date Paid June 6, 2017			
Government Finance Officers Association	72956	2016 CAFR - Certificate Application Fee	1,010.00
Date Paid June 9, 2017			
Office Payroll	ACH	Office Payroll	10,307.16
AXA Equitable	ACH	457 Contributions	2,223.00
Date Paid June 15, 2017			
Sheila P. Goodwin	72967	Advance - NASP Conference	597.96
Paula R. Bentley	72968	Advance - NASP Conference	1,656.40
Paula R. Bentley	72969	Advance - MAPERS Conference	622.88
MAPERS	72970	Registration Fee - Sheila P. Goodwin	75.00
Date Paid June 20, 2017			
Absopure Water Company	72971	Water Cooler Service	60.80
AT&T	72972	Monthly Service Charge	300.24
Parking Management Services, LLC	72973	July 2017 Parking - 2 Employees	130.00
Parking Management Services, LLC	72974	Parking Ticket Validations - May 2017	67.50
Hartnett Gladney Hettermann, L.L.C.	72975	Legal Fees	5,635.30
Blade Technologies, Inc.	72976	Professional Services	1,335.34
Speciality Mailing	72977	Service - Newsletters	994.79
Anders CPAs & Advisors	72978	Retired Teacher Trustee Special Election	510.00
Crossroads Courier, Inc.	72979	Courier Service	6.01
Office Essentials	72980	Office Supplies	727.64
Charter Communications	72981	Charter Internet and Voice	179.96
Jupiter Consulting Services, LLC	72982	Programming Consulting	4,851.00
Access	72983	Scanning Services	411.35
MSD	72984	Sewer Service	33.09
The Berwyn Group	72985	Death Check Verification Services	60.00
Digital Intersection	72986	Monthly Data Center Hosting	150.00
BuildingStars STL Operations, Inc.	72987	Janitorial Services	1,386.00
Pitney Bowes Global Financial Services LLC	72988	Lease Charges	1,410.00
UPS	72989	UPS Delivery	68.66
Bobbie Richardson	72990	Advance - NASP Conference	1,915.90
CBRE - 608844	72991	Management Fee - June 2017	1,108.00
CBRE - 608844	72992	Engineer Services	642.95
Blue Chip Pest Services	72993	Pest Control	44.00
Tech Electronics	72994	LNVR Repair	556.50
St. Louis Mat & Linen Company	72995	Floor Mats	106.00

Public School Retirement System of the City of St. Louis
Checks Written During the Month of June, 2017

Payee	Ck. Number	Description	Amount
OTIS Elevator Company	72996	Service Contract	2,435.26
Royal Papers	72997	Paper Towels for Touchless Dispenser	171.75
Date Paid June 23, 2017			
Office Payroll	ACH	Office Payroll	10,330.16
AXA Equitable	ACH	457 Contributions	2,223.00
		TOTAL	**$179,611.31**

Public School Retirement System of the City of St. Louis
Checks Written During the Month of July, 2017

Payee	Ck. Number	Description	Amount
Date Paid July 5, 2017			
Ameren Missouri	73002	Electric Service	2,803.21
AT&T	73003	U-Verse Internet	60.00
OffsiteDataSync	73004	Online Backups	208.12
Windstream Communications	73005	Telephone, Data	558.84
Speciality Mailing	73006	Service & Postage - Retired Teacher Election	3,628.84
Minuteman Press	73007	Window Envelopes	222.50
Crossroads Courier, Inc.	73008	Courier Service	25.50
UPS	73009	UPS Delivery	37.35
Conduent HR Consulting, LLC	73010	Actuarial Consulting Services - May and June	15,071.00
Purchase Power	73011	Postage	1,000.00
Gregory F.X. Daly, Collector of Revenue	73012	City Earnings Tax - Second Quarter 2017	896.34
Gregory F.X. Daly, Collector of Revenue	73013	Water - City	134.06
Board of Education St. Louis Benefits Trust	73014	Office Employees Insurance - Dental	248.99
Board of Education St. Louis Benefits Trust	73015	Office Employees Insurance - Vision	17.00
Board of Education St. Louis Benefits Trust	73016	Office Employees Insurance - Life	87.35
Date Paid July 7, 2017			
Office Payroll	ACH	Office Payroll	10,330.16
AXA Equitable	ACH	457 Contributions	2,223.00
Paula R. Bentley	73045	Advance - NCTR Conference	1,575.24
Date Paid July 14, 2017			
Paula R. Bentley	73061	Reimbursement - NASP Conference	125.13
Darnetta Clinkscale	73062	Reimbursement - NASP Conference	1,487.04
MAPERS	73063	Registration Fee - Bobbie Richardson	75.00
Andrew Clark	73064	Miscellaneous Trustee Expenses	26.63
Speciality Mailing	73065	Postage - Annual Report	3,311.66
Gallagher Benefit Services, Inc.	73066	Group Ins. Consulting Services Monthly Fee	3,320.25
NCTR	73068	Trustee Workshop Registration Fee - Paula Bentley	2,165.00
Date Paid July 20, 2017			
Absopure Water Company	73069	Water Cooler Service	60.80
Conduent HR Consulting, LLC	73070	Actuarial Consulting Services - June and July	21,466.00
AT&T	73071	Monthly Service Charge	231.94
Parking Management Services, LLC	73072	August 2017 Parking - 2 Employees	130.00
Parking Management Services, LLC	73073	Parking Ticket Validations - June 2017	63.00
Hartnett Gladney Hettermann, L.L.C.	73074	Legal Fees	5,890.00
Blade Technologies, Inc.	73075	Professional Services	1,335.34
Crossroads Courier, Inc.	73077	Courier Service	6.01
Office Essentials	73078	Office Supplies	205.72
Charter Communications	73079	Charter Internet and Voice	179.96
Access	73080	Scanning Services	411.35
The Berwyn Group	73081	Death Check Verification Services	60.00
BuildingStars STL Operations, Inc.	73082	Janitorial Services	1,386.00
Gallagher Benefit Services, Inc.	73083	Group Ins. Consulting Services Monthly Fee	3,320.25
Tech Electronics, Inc.	73084	Server Upgrade	504.00
Minuteman Press	73085	Annual Report-Full/Summary, Booklet Envelopes	11,114.66
GCI Security, Inc.	73086	Security Guard 6/19/2017	144.00
Paula R. Bentley	73087	Reimbursement - MAPERS Conference	32.54
Bobbie Richardson	73088	Reimbursement - MAPERS Conference	785.59
Bobbie Richardson	73089	Reimbursement - NASP Conference	87.54
Republic Services #346	73090	Trash Pick-Up	138.04
CBRE - 608844	73091	Management Fee - July 2017	1,108.00
CBRE - 608844	73092	Engineer Services	818.30
Blue Chip Pest Services	73093	Pest Control	44.00
Tech Electronics	73094	Permit Fee	55.00
St. Louis Mat & Linen Company	73095	Floor Mats	79.50
EARNEST Partners, LLC	73096	2nd Quarter 2017 Management Fee	7,589.18

Public School Retirement System of the City of St. Louis
Checks Written During the Month of July, 2017

Payee	Ck. Number	Description	Amount
Holland Capital Management LLC	73097	2nd Quarter 2017 Management Fee	49,386.96
Systematic Financial Management, LP	73098	2nd Quarter 2017 Management Fee	66,604.86
TCW Asset Management Company	73099	2nd Quarter 2017 Management Fee	48,944.46
Date Paid July 21, 2017			
Office Payroll	ACH	Office Payroll	10,330.16
AXA Equitable	ACH	457 Contributions	2,223.00
		TOTAL	**$284,374.37**

Arthur J. Gallagher & Co.
BUSINESS WITHOUT BARRIERS™

Public School Retirement System of the City of St. Louis (PSRSSTL)

2018 INSURANCE BENEFIT RENEWALS

PATRICK J. HARADEN, AREA PRESIDENT – GALLAGHER BENEFIT SERVICES

Agenda

- Annual Insurance Consultant Processes
- Executive Summary 2017 Renewal Review
- Current Enrollments
- 2018 Renewal Summary
  - Medical Plans (SLPS and PSRSSTL)
  - Dental Plan
  - Vision Plan
- Renewal Considerations
- Next Steps

Annual Insurance Consultant Processes

- Monitor benefit plan performance monthly
- Review health insurance strategy with the Board
- Request renewals and issue Request for Proposals (RFPs) to all interested benefits vendors
- Negotiate with insurers/evaluate alternatives
- Coordinate with SLPS and their broker/consultant
- Make recommendations to the Board
- Assist and update PSRSSTL staff throughout the year

Executive Summary – 2017 Renewal Review

- SLPS changed vendors to United Health Care for 2017 with no major plan design changes. The rates decreased for retirees depending on the plan/tier enrolled
- There was no rate increase or plan design changes to the GHP HMO plans. A PPO option was added for some Medicare retirees who reside out of the HMO service area
- Dental plan rates increased 6% [the rate cap was 7%] for 2017 with no plan changes. MetLife offered a rate cap of 6% for 2018
- Vision plan rates and plan design did not change in 2017

Current Enrollments – June 2017

- UHC Base Medical Plan
  - With Medicare 625 (684 in 2016)
  - Without Medicare 129 (143 in 2016)
  - Total 754 (827 in 2016)

- UHC Buy Up Medical Plan
  - With Medicare 398 (418 in 2016)
  - Without Medicare 103 (130 in 2016)
  - Total 501 (548 in 2016)

Current Enrollments – June 2017

- GHP Medical Plans
  - Hi Option 319 (308 in 2016)
  - Low Option 298 (386 in 2016)
  - Gold Option 370 (327 in 2016)
  - PPO Option 38 (N/A in 2016)
  - Total 1,025 (1,021 in 2016)

- MetLife Dental Plans
  - High Option 1,889 (1,982 in 2016)
  - Low Option 976 (909 in 2016)
  - Total 2,865 (2,891 in 2016)

2018 Renewal Summary

- SLPS renewed with United Health Care and Express Scripts Rx for 2018, with no major plan design changes. Rate changes by tier are detailed on the rate sheets.
- The recommendation is to change PSRSSTL medical vendors from Aetna/GHP to United Health Care (UHC) [see next slides]
- Dental plan rates increased 6% [the rate cap was 6%] for 2018 with no plan design changes. MetLife has offered a rate cap of 6% for 2019.
- Vision plan rates and plan design are not changing for 2018. The rates and plan design are effective through December 2019.

2018 Renewal Summary

- The change of vendors to UHC from Aetna/GHP is based on the following factors:
  - Initial Aetna/GHP 2018 renewal was $5 more than 2017 costs per month for each plan option
  - Aetna/GHP was eliminating the transportation benefit in 2018
  - Final Aetna/GHP 2018 renewal was $7 lower that 2017 costs for the Low Option and Gold plans, and $43 lower for the High Option plan and $46 lower for the PPO plan

2018 Renewal Summary

- The change of vendors to UHC from Aetna/GHP is based on the following factors:
  - Lower monthly costs to retirees; 2018 premiums are lower than 2017 premiums ($10 for Gold/Low; $46 for High)
  - UHC is current vendor for SLPS
  - PSRSSTL had UHC as the vendor prior to Aetna/GHP
    - Decision to move was based on customer/member service and UHC has a new team in place
  - Enhanced provider networks and benefits

2018 Renewal Summary

- Plans are PPO (Preferred Provider Organization) plans which have a wider provider network than the current HMO plans
- Plans allow enrollment from anywhere in the United States
- Plans include a transportation benefit. (Aetna/GHP was eliminating this benefit in 2018)
- Plans include an over the counter (OTC) benefit, similar to the current benefit, but allows for more items and more expensive items covered (per quarter basis vs. per month basis)

2018 Renewal Summary

- Telemedicine is included - $0 copay
- "Bonus Drug List" coverage is included. These are drugs typically not on the formulary (covered drug) list
- Enrollments can be done without forms and the need for current retirees to re-enroll, unless they want to change plans for 2018

Other Renewal Considerations

- As the cost of Medicare plans increases and subsidy remains constant (i.e., $80 per month); plans will become increasingly more expensive for retirees
  - Increasing subsidy impacts future liability calculations
- PSRSSTL Rules and Regulations
  - Retirees who drop group medical plan offered by PSRSSTL or do not enroll initially, can only re-enroll when they experience a qualifying event e.g., Medicare Part A eligibility or involuntary loss of coverage under another employer sponsored, creditable plan
- Some retirees choose individual Medicare plans (non-group) and forfeit their monthly subsidy
  - PSRSSTL staff can not assist these retirees with plan selection
  - Currently approximately 1,800 retirees

Other Renewal Considerations

- Exchanges created under health care reform may assist non-Medicare eligible retirees to find an alternative health plan
- If the Affordable Care Act (ACA) insurer fee is repealed, the premium rates will be reduced by approximately $28 - $36 per month

Questions?

Motions for Approval

- To adopt the insurance renewals for the two SLPS United Health Care PPO Plans with Express Scripts Rx as presented by the Insurance Consultant, subject to the approval of the SLPS Special Administrative Board.

- To adopt the insurance renewals for the United Health Care PPO High, Low and Gold Medicare Options, the Met Life Dental PPO High and Low Options, and the VBA Vision Plan renewal as presented by the Insurance Consultant.

Public School Retirement System of the City of St. Louis
Medical, Dental and Vision Insurance Plans

Member Monthly Premiums

Plan Year 2017 v. 2018

MEDICAL

	UHC - 2018		*UHC - 2018*		*United Health Care (UHC) Medicare Advantage PPO Plan*		*United Health Care (UHC) Medicare Advantage PPO Plan*		*United Health Care (UHC) Medicare Advantage PPO Plan*	
	Base Plan		*Buy Up Plan*		**Low-Option PPO**		**High-Option PPO**		**Gold PPO**	
	Medicare and Non-Medicare members				No Coverage for Non-Medicare members					
	2017	**2018**	2017	**2018**	2017	**2018**	2017	**2018**	2017	**2018**
Retiree Only:										
Retiree With Medicare	$358.86	**$381.29**	$384.36	**$409.08**	$68.00	**$58.70**	$215.00	**$168.98**	$25.00	**$14.59**
Retiree Without Medicare	$563.01	**$603.82**	$634.04	**$681.24**	N/A	**N/A**	N/A	**N/A**	N/A	**N/A**
Retiree and Spouse:										
Retiree and Spouse With Medicare	$807.94	**$856.28**	$854.27	**$906.78**	$216.00	**$197.40**	$510.00	**$417.96**	$130.00	**$109.18**
Retiree and Spouse Without Medicare	$1,109.57	**$1,185.06**	$1,240.88	**$1,328.29**	N/A	**N/A**	N/A	**N/A**	N/A	**N/A**
Retiree With Medicare/Spouse Without Medicare	$888.70	**$944.31**	$943.04	**$1,003.54**	N/A	**N/A**	N/A	**N/A**	N/A	**N/A**
Spouse With Medicare/Retiree Without Medicare	$888.70	**$944.31**	$943.04	**$1,003.54**	N/A	**N/A**	N/A	**N/A**	N/A	**N/A**
Retiree and Spouse With Children:										
Retiree and Spouse With Medicare	$1,155.06	**$1,229.52**	$1,229.07	**$1,310.19**	N/A	**N/A**	N/A	**N/A**	N/A	**N/A**
Retiree and Spouse Without Medicare	$1,294.16	**$1,381.15**	$1,445.46	**$1,546.06**	N/A	**N/A**	N/A	**N/A**	N/A	**N/A**
Retiree With Medicare/Spouse Without Medicare	$1,074.93	**$1,142.18**	$1,140.65	**$1,213.82**	N/A	**N/A**	N/A	**N/A**	N/A	**N/A**
Spouse With Medicare/Retiree Without Medicare	$1,074.93	**$1,142.18**	$1,140.65	**$1,213.82**	N/A	**N/A**	N/A	**N/A**	N/A	**N/A**
Retiree, Spouse and Child With Medicare	$1,155.06	**$1,229.52**	$1,229.07	**$1,310.19**	$364.00	**$336.10**	$805.00	**$666.94**	$235.00	**$203.77**
Retiree and Children:										
Retiree With Medicare	$730.23	**$777.72**	$776.97	**$828.66**	N/A	**N/A**	N/A	**N/A**	N/A	**N/A**
Retiree Without Medicare	$878.09	**$938.89**	$983.92	**$1,054.24**	N/A	**N/A**	N/A	**N/A**	N/A	**N/A**
Retiree and Child With Medicare	$730.23	**$777.72**	$776.97	**$828.66**	$216.00	**$197.40**	$510.00	**$417.96**	$130.00	**$109.18**

DENTAL

	MetLife - 2018			
	PPO Low Option Plan *(choose any dentist)*		**PPO High Option Plan** *(choose any dentist)*	
	2017	**2018**	2017	**2018**
Retiree Only	$14.55	**$15.78**	$25.78	**$27.68**
Retiree and One Dependent	$41.07	**$43.89**	$61.63	**$65.68**
Retiree and Family	$79.60	**$84.73**	$109.58	**$116.51**

VISION

	Vision Benefits of America	
	In or Out of Network Plan	
	2017	**2018**
Retiree Only	$0.00	**$0.00**
Retiree and One Dependent	$2.04	**$2.04**
Retiree and Family	$4.65	**$4.65**

Over, for Survivor Monthly Premiums…

Public School Retirement System of the City of St. Louis
Medical, Dental and Vision Insurance Plans

Survivor Monthly Premiums

Plan Year 2017 v. 2018

MEDICAL

	UHC - 2018		*UHC - 2018*		*United Health Care (UHC) Medicare Advantage PPO Plan*		*United Health Care (UHC) Medicare Advantage PPO Plan*		*United Health Care (UHC) Medicare Advantage PPO Plan*	
	Base Plan		*Buy Up Plan*		**Low-Option PPO**		**High-Option PPO**		**Gold PPO**	
	Medicare and Non-Medicare members				No Coverage for Non-Medicare members					
	2017	**2018**	2017	**2018**	2017	**2018**	2017	**2018**	2017	**2018**
Surviving Spouse or Child Only:										
Survivor With Medicare	$438.86	**$461.29**	$464.36	**$489.09**	$148.00	**$138.70**	$295.00	**$248.98**	$105.00	**$94.59**
Survivor Without Medicare	$643.01	**$683.82**	$714.04	**$761.24**	N/A	**N/A**	N/A	**N/A**	N/A	**N/A**
Surviving Spouse and Children:										
Survivor With Medicare	$810.23	**$857.72**	$856.97	**$908.66**	N/A	**N/A**	N/A	**N/A**	N/A	**N/A**
Survivor Without Medicare	$958.09	**$1,018.89**	$1,063.92	**$1,134.24**	N/A	**N/A**	N/A	**N/A**	N/A	**N/A**
Survivor and Child With Medicare	$810.23	**$857.72**	$856.97	**$908.66**	$296.00	**$277.40**	$590.00	**$497.96**	$210.00	**$189.18**

DENTAL

	MetLife - 2018			
	PPO Low Option Plan *(choose any dentist)*		**PPO High Option Plan** *(choose any dentist)*	
	2017	**2018**	2017	**2018**
Survivor Only	$20.50	**$21.73**	$31.73	**$33.63**
Survivor and One Dependent	$47.02	**$49.84**	$67.58	**$71.63**
Survivor and Family	$85.55	**$90.68**	$115.53	**$122.46**

VISION

	Vision Benefits of America	
	In or Out of Network Plan	
	2017	**2018**
Survivor Only	$2.61	**$2.61**
Survivor and One Dependent	$5.19	**$5.19**
Survivor and Family	$7.80	**$7.80**

Over, for Member Monthly Premiums…

Conduent Human Resource Services

Public School Retirement System of the City of St. Louis, Missouri

Public School Retirement System of the City of St. Louis Retirement Plan

Actuarial Valuation Report

Plan Year January 1, 2017 – December 31, 2017

July 2017

CONDUENT 231 S. Bemiston, Suite 400
St. Louis, MO 63105

July 2017

Mr. Andrew Clark
Executive Director
PSRS of the City of St. Louis
3641 Olive Street, Suite 300
St. Louis, MO 63108-3601

Dear Members of the Public School Retirement System of the City of St. Louis Board:

Actuarial Certification

The annual actuarial valuation required for the Public School Retirement System of the City of St. Louis has been prepared as of January 1, 2017 by Conduent. The purposes of the report are to:

(1) determine the required annual contributions from the board of education, the retirement system, and the charter schools; and

(2) present the valuation results of the System as of January 1, 2017.

This report is submitted in accordance with Section 169.450-16 Revised Statutes of Missouri (R.S. Mo.). The required contribution to the System from the board of education, the retirement system, and the charter schools is computed in accordance with Section 169.490 R.S. Mo. The amount of the required contribution is stated in Section 1.3 of this report. Information with respect to financial disclosures under GASB 67 and 68 may be found in a separate report.

During the Board meeting on June 19, 2017 the Board rescinded some earlier decisions to adopt a new amortization period, reset the FIL liability and the AVA to reflect the current MVA and restart the asset smoothing approach as of the 2017 valuation. These decisions were abated as the Missouri Legislature has passed new funding rules that may affect the plan in future years and the Board decided to evaluate the impact of those changes before adopting any final changes. The earlier decision to revise the assumptions and valuation interest rate were retained as shown herein.

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. The validity of the valuation results is dependent upon the accuracy of the data and financial information provided.

In our opinion, the actuarial assumptions used are reasonable, taking into account the experience of the System and reasonable long-term expectations, and represent our best estimate of the anticipated long-term experience under the System. The actuary performs an analysis of System experience periodically and recommends changes if, in the opinion of the actuary, assumption changes are needed to more accurately reflect expected future experience. The Experience Study for the period January 1, 2011 to

December 31, 2015 was prepared by Conduent and approved by the Board for use beginning with the January 1, 2017 actuarial valuation and will remain in effect for valuation purposes until such time as the Board adopts revised assumptions. The next Experience Study will be based on the period from January 1, 2016 to December 31, 2020 and upon approval by the Board will be the basis of valuations performed from January 1, 2022 through January 1, 2026. A summary of all assumptions and methods is presented in Section 3.8 of this report.

Where presented, references to “funded ratio” and “unfunded accrued liability” typically are measured on an actuarial value of assets basis. It should be noted that the same measurements using market value of assets would result in different funded ratios and unfunded accrued liabilities. Moreover, the funded ratio presented is appropriate for evaluating the need and level of future contributions but makes no assessment regarding the funded status of the plan if the plan were to settle (i.e. purchase annuities) for a portion or all of its liabilities.

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;

(4) differences between actuarially required contributions and actual contributions.

The undersigned meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein, and is available to answer questions regarding this report.

I believe that the assumptions and methods used for funding purposes are individually and in aggregate, reasonable and in combination represent a best estimate of anticipated experience under the plan. I 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 actuarial principles and practices in accordance with all Actuarial Standards of Practice (ASOPs).

Sincerely,

Troy Jaros, FSA, EA, MAAA, FCA
Senior Consultant, Retirement Actuary

Conduent HR Services

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Report Highlights

This report has been prepared by Conduent to:

- Present the results of a valuation of the Public School Retirement System of the City of St. Louis as of January 1, 2017; and
- Determine the required annual contribution for 2018.

This report is divided into three sections. Section 1 contains the results of the valuation. It includes the experience of the System during the 2016 plan year, the actuarially required costs, and funded levels.

Section 2 contains asset information. It includes market value of assets, the calculation of actuarial value of assets, the contingency reserve, and asset returns.

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. Also included is historical information about the System.

Experience Gains and Losses

Under the actuarial funding method used to determine the contribution, actuarial gains (or losses) result in a decrease (or increase) in the normal cost rate. Actuarial gains (or losses) result from differences between the actual experience of the System and the expected experience based upon the actuarial assumptions. Annual gains (or losses) should be expected because short-term deviations from expected long-term average experience are common.

For the 2016 plan Year, total (net) actuarial losses due to plan experience were $8.1 million. Approximately $20.5 million is a loss attributable to the System's actuarial rate of return on assets which was 5.5%, or 2.5% lower than the assumed rate of return of 8.0% for plan year 2016. By comparison, the rate of return on the market value of assets during plan year 2016 was 5.3%. The difference in these returns is primarily due to less-than-assumed investment performance during plan year 2016. At January 1, 2017, the actuarial value of assets of $901.1 million is above market value of assets (excluding the expense and contingency reserve) by approximately $81.8 million.

An actuarial gain of approximately $12.4 million attributable to demographic experience is included in the above total (net) actuarial loss of $8.1 million.

Assumption Changes

For the 2017 valuation, the mortality assumption was changed. In addition, withdrawal and retirement decrements and assumed future salary increases were revised based on actual plan experience for the 5 years ending December 31, 2015. Finally, the assumed asset return was changed to 7.50% for the 2017 valuation. A detailed description of the changes appears in section 3.8. In total, the assumption changes increased actuarial liability by approximately $72.7 million.

Normal cost rate

The normal cost is determined annually and equals the product of the normal cost rate times covered payroll. For plan year 2017, the annual normal cost contribution is $26,350,187, as compared to $23,127,132 for plan year 2016, an increase primarily due to the change in assumptions. The annual normal cost rate increased from 8.82% to 9.76% due to the change in assumptions. Covered payroll increased slightly from $252.1 million to $260.2 million.

Accrued liability amortization

The actuarial accrued liability contribution is determined as the amount necessary to amortize the remaining Unfunded Frozen Actuarial Accrued Liability (UFAAL) over a period of 30 years from January 1, 2006, when the Board of Trustees acted to redetermine the UFAAL. This portion of the contribution only changes to reflect changes in benefits, changes in actuarial assumptions and methods, and variations in the remaining UFAAL due to deviations between actual and expected contributions. Employer contributions for 2016 were $2.3 million more than the annual required contribution, which reduced the UFAAL more than expected. However, the changes in actuarial assumptions from the previous valuation increased the UFAAL by $72.7 million. As a result, the net amortization payment increased from $16,530,824 to $ 23,343,402. This increase includes the impact of the change in interest rate to 7.5% effective with the 2017 valuation. The amortization payment component of the contribution rate increased from 6.6% to 9.0% of covered payroll.

Required contribution and timing

In 2001, the Board of Education agreed to institute a one-year lag for payments of the annual required contributions due from SLPS for future years. Therefore, this actuarial valuation is used to determine the annual required contribution (ARC) payment from SLPS for plan year 2017, due to the Plan no later than December 31, 2018. The dollar amount of the ARC due from SLPS no later than December 31, 2018, increased to $37,376,323 for plan year 2017 from $30,459,434 for plan year 2016.

As a percentage of covered payroll in plan year 2017, the contribution rate for plan year 2017 increased to 19.10% from 15.73% for plan year 2016. Charter Schools pay both employer and employee contributions as they occur shortly after each payroll period; therefore, this actuarial valuation is used to determine the contribution rate of 19.10% that Charter Schools should pay beginning with payroll periods ending on or after January 1, 2018.

Summary and Comparison of Principal Valuation Results

Annual Required Contribution

	Board of Education	Retirement System	Charter Schools	Total
2017				
Normal cost contribution	$ 19,818,916	$ 53,325	$ 6,477,946	$ 26,350,187
Actuarial accrued liability contribution	17,557,407	47,240	5,738,755	$ 23,343,402
Annual required contribution (ARC)	37,376,323	100,565	12,216,701	$ 49,693,589
Covered payroll	195,723,057	526,616	63,973,393	$ 260,223,066
ARC as % of covered payroll	19.10%	19.10%	19.10%	19.10%
2016				
Normal cost contribution	$ 17,762,876	$ 43,530	$ 5,320,726	$ 23,127,132
Actuarial accrued liability contribution	12,696,558	31,114	3,803,152	$ 16,530,824
Annual required contribution	30,459,434	74,644	9,123,878	$ 39,657,956
Covered payroll	193,647,262	474,551	58,005,475	$ 252,127,288
ARC as % of covered payroll	15.73%	15.73%	15.73%	15.73%

	January 1, 2017	January 1, 2016
System Assets		
Expense and contingency reserve	$ 30,921,897	$ 29,537,454
Market value, excluding expense & contingency reserve	819,258,525	839,141,595
Actuarial value	901,076,683	915,391,079
System liabilities		
Unfunded actuarial accrued liability	$ 232,478,771	$ 162,302,064
Projected Unit Credit Actuarial Accrued Liability	$1,223,329,683	$1,165,766,472
PUC Funding Ratio		
Actuarial value funding ratio	73.7%	78.5%
Market value funding ratio	67.0%	72.0%

Analysis of the Valuation

(1) Investment Experience

Our actuarial calculations were based upon the assumption that the System's assets earn 8.00%. The approximate market value rate of return during 2016 was 5.31%. The approximate actuarial value rate of return was 5.51%.

(2) Demographic Experience

The number of active members increased from 5,034 to 5,101 for the period. The average age and service of active members decreased slightly, and the average annual salary increased $929. There were small changes in the inactive statistics. The membership statistics are found in Sections 3.3 through 3.7 of this report.

(3) Salary Increases

The average annual salary increased 1.9% between January 1, 2016 and January 1, 2017. Total annual covered payroll increased 3.2% between January 1, 2016 and January 1, 2017.

(4) Changes in Methods from the Prior Valuation

There have been no changes in methods since the prior valuation.

(5) Changes in Assumptions from the Prior Valuation

The mortality assumption was revised on the basis of the experience study as well as to reflect recently published information with respect to mortality experience and anticipated mortality improvements in future years from the Society of Actuaries in 2015 and 2016. Withdrawal and retirement rates were revised to reflect actual plan experience for the 5 years ending December 31, 2015. The salary increase and assumed rate of return on assets were also updated to reflect anticipated future returns. Details of these assumption changes can be found in Section 3.8. The net effect of the assumption changes was to increase the 2017 amounts for the annual required employer contribution (ARC) by 3.30% of covered payroll.

(6) Changes in Benefit Provisions from the Prior Valuation

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

(7) Other Changes

There have been no other changes since the prior valuation.

(8) Summary

The overall effect of experience during the period, along with the changes in assumptions, resulted in a decrease in the funding ratio utilizing the actuarial value of assets from 78.5% to 73.7%. The total contribution rate increased from 15.73% to 19.10% of covered payroll.

Section 1 - Valuation Results

This section sets forth the results of the actuarial valuation.

Section 1.1	Develops the actuarial accrued liability contribution
Section 1.2	Develops the normal cost contribution
Section 1.3	Develops the required annual contribution
Section 1.4	Actuarial balance sheet as of January 1, 2017
Section 1.5	Projected Unit Credit funding ratios
Section 1.6	Projected Unit Credit funded status
Section 1.7	Prioritized solvency test

Section 1 (continued)

1.1 Determination of the Unfunded Frozen Actuarial Accrued Liability

1.	Unfunded frozen actuarial accrued liability as of January 1, 2016	$ 162,302,064
2.	Normal cost due January 1, 2016	22,237,627
3.	Interest on (1) and (2) at 8.00% to December 31, 2016	14,763,175
4.	Employer contributions for 2016	39,519,979
5.	Interest on (4) at 8.00% to December 31, 2016	0
6.	Supplement for changes in actuarial assumptions or benefits	72,695,884
7.	Unfunded frozen actuarial accrued liability as of January 1, 2017, (1) + (2) + (3) – (4) – (5) + (6)	232,478,771
8.	Actuarial accrued liability contribution for 2017 End of year amortization payment of (7) over 19 years	23,343,402

Section 1 (continued)

1.2 Determination of Normal Cost Contribution

1.	Actuarial present value of future benefits			
	a. Active participants			
		i. Retirement benefits	$ 377,645,587	
		ii. Vested withdrawal benefits	52,391,382	
		iii. Refund of contributions	7,458,189	
		iv. Survivor benefits	4,900,733	
		v. Disability benefits	11,653,311	
		Total		$ 454,049,202
	b. Retired participants and beneficiaries			903,313,279
	c. Inactive participants			
		i. Vested participants	23,318,439	
		ii. Nonvested participants	7,285,103	
		Total		30,603,542
	d. Total actuarial present value of future benefits			1,387,966,023
2.	Unfrozen frozen actuarial accrued liability as of January 1, 2017			232,478,771
3.	Actuarial value of assets as of December 31, 2016			901,076,683
4.	Actuarial present value of future participant contributions			86,206,082
5.	Actuarial present value of future employer normal costs, (1)(d) – (2) – (3) – (4), not less than $0			168,204,487
6.	Actuarial present value of future covered payroll of current participants			1,724,121,645
7.	Employer normal cost rate, (5) / (6)			9.76%
8.	Total covered payroll			260,223,066
9.	Normal cost for 2017, (7) x (8)			25,397,771
10.	Normal cost contribution due by December 31, 2017, (9) x [1 + (0.075 x 0.5)]			26,350,187

Section 1 (continued)

1.3 Required Annual Contribution

	Board of Education	Retirement System	Charter Schools	Total
Normal cost contribution	$ 19,818,916	$ 53,325	$ 6,477,946	$ 26,350,187
Actuarial accrued liability contribution	17,557,407	47,240	5,738,755	$ 23,343,402
Annual required contribution (ARC)	37,376,323	100,565	12,216,701	$ 49,693,589
Covered payroll	195,723,057	526,616	63,973,393	$ 260,223,066
ARC as % of covered payroll	19.10%	19.10%	19.10%	19.10%

Section 1 (continued)

1.4 Actuarial Balance Sheet as of January 1, 2017

Actuarial assets		
Actuarial value of present assets		$ 901,076,683
Actuarial present value of future participant contributions		86,206,082
Actuarial present value of future employer contributions for:		
Normal costs		168,204,487
Unfunded actuarial accrued liability		232,478,771
Total present and future assets		$ 1,387,966,023
Actuarial liabilities		
Actuarial present value of benefits now payable		$ 903,313,279
Actuarial present value of benefits payable in the future:		
Active participants	$ 454,049,202	
Terminated vested participants	23,318,439	
Terminated non-vested participants	7,285,103	
Total payable in the future		484,652,744
Total liabilities for benefits		$ 1,387,966,023
Surplus / (deficit)		0

Section 1 (continued)

1.5 Projected Unit Credit Funding Ratios

The funding objective of the System is to meet long-term benefit promises through contributions that remain approximately level from year to year as a percentage of covered payroll.

Funding ratios provide a measure of how much progress has been made towards achieving this objective. For this purpose, the System's liabilities are determined using the projected unit credit cost method. Under this method, liabilities are determined for each participant using only service already performed, but anticipating the impact of future salary growth on the benefits attributable to current active participants.

Section 1.6 provides a comparison of this liability measure to the value of assets to produce a snapshot measure of the System's funding ratio.

Another way to check the funding progress of the System is through a prioritized solvency test. Section 1.7 illustrates the history of the System's funding progress under this test.

In a prioritized solvency test, the plan's present assets (cash and investments) are sequentially allocated and compared three priorities of liabilities as follows:

- Liability 1: Active participant contributions, accumulated with interest;
- Liability 2: The liabilities for future benefits to current inactive participants and beneficiaries; and
- Liability 3: The liabilities for future benefits to current active participants for prior service.

Ideally, progress in funding of these liability groups will normally be exhibited with Liability 1 attaining 100% coverage first, then Liability 2, and finally Liability 3. Note that 100% funding of Liability 3 does not mean that the System has completed its funding of benefits since additional benefits typically are expected to be earned in the future.

Section 1 (continued)

1.6 Projected Unit Credit Funded Status

As of January 1, 2017 the Projected Unit Credit Actuarial Accrued Liability was:

1.	Retired members and beneficiaries currently receiving benefits and terminated members not yet receiving benefits	$ 933,916,821
	a. Current active participants	
	i. Accumulated member contributions, including interest	122,746,557
	ii. Employer-financed benefits	166,666,305
	Total Projected Unit Credit Actuarial Accrued Liability	$ 1,223,329,683

As of January 1, 2017 the Projected Unit Credit AAL was funded as follows:

2.	Net assets available for benefits at actuarial value	$ 901,076,683
3.	Unfunded Projected Unit Credit AAL	322,253,000
4.	Actuarial value funding ratio, (2) / (1)	73.7%
5.	Net assets available for benefits at market value	$ 819,258,525
6.	Unfunded Projected Unit Credit AAL	404,071,158
7.	Market value funding ratio, (5) / (1)	67.0%

Section 1 (continued)

1.7 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)
1999	130,705,014	276,290,128	303,953,494	694,250,672	100%	100%	95%
2000	129,398,364	353,852,977	288,213,016	770,090,498	100%	100%	100%
2001	127,086,325	414,052,293	269,590,438	828,097,298	100%	100%	100%
2002	116,506,785	476,104,516	372,221,726	861,128,076	100%	100%	72%
2003	115,570,837	492,633,382	361,818,972	873,260,102	100%	100%	73%
2004	106,021,476	528,287,121	364,459,284	901,996,455	100%	100%	73%
2005	89,710,662	518,880,414	368,306,240	935,328,638	100%	100%	89%
2006	90,001,111	661,353,685	319,920,373	983,828,243	100%	100%	73%
2007	96,223,413	712,467,372	305,409,824	1,003,428,983	100%	100%	64%
2008	98,112,123	781,006,957	249,244,208	1,014,923,381	100%	100%	54%
2009	104,576,264	801,995,237	187,035,147	963,851,408	100%	100%	31%
2010	110,054,510	805,831,292	195,185,151	950,709,944	100%	100%	18%
2011	103,178,297	842,643,351	169,510,764	944,356,735	100%	100%	0%
2012	116,268,566	850,498,527	189,084,439	925,389,359	100%	95%	0%
2013	120,355,959	849,412,565	190,553,739	914,494,335	100%	93%	0%
2014	114,092,991	896,477,122	164,014,835	922,922,386	100%	90%	0%
2015	116,755,946	892,626,625	156,682,397	926,905,797	100%	91%	0%
2016	120,507,482	887,757,927	157,501,063	915,391,079	100%	90%	0%
2017	122,746,557	933,916,821	166,666,305	901,076,683	100%	83%	0%

Section 2 - Valuation of the System’s Assets

This section of the report shows the development of the actuarial value of the assets of the System and provides information regarding the expense and contingency reserve, investment results and the various assets of the System.

The amount of assets used in the actuarial valuation is known as the "actuarial value of assets." The method is discussed in the summary of methods and assumptions, section 3.8. The development of the actuarial value of assets is shown in section 2.1. An important element in the development of the actuarial value of assets is the expense and contingency reserve. The amount of the reserve is determined pursuant to a policy adopted by the Board of Trustees. The history of the reserve is presented in section 2.2.

As shown in section 2.3, the fund had a rate of return of 5.51% on an actuarial value basis, which is 2.49% below the assumed rate of return of 8.00% for plan year 2016. In accordance with Rule X, an amount would typically be released from the investment contingency portion of the reserve, because the actuarial rate of return was more than 1.00% below the assumed rate of return. However, the contingency reserve was exhausted at January 1, 2009, so no additional amounts are available.

The rate of return on an actuarial value basis is intended to be a more stable rate of return and fluctuate less than rates of return on a market value basis. Thus, the rate of return on an actuarial basis is not always a fair measure of the annual investment performance of the fund. Another indicator of actual performance during the year is the rate of return on a market value basis which was a return of 5.31%, also presented in section 2.3.

Effective with the Actuarial Valuation Report for Plan Year January 1, 2017 – December 31, 2017, the annual assumed rate of return on Plan assets is 7.50%.

Section 2 (continued)

2.1 Development of the Actuarial Value of Assets

1.	Actuarial value of assets as of January 1, 2016	$ 915,391,079
2.	Participant contributions	12,652,029
3.	Employer contributions	39,519,979
4.	Benefit payments and expenses	115,162,723
5.	Investment increment at 8.00%, 8% x {(1) + .5 x [(2) – (4)]}	69,130,859
6.	Expected actuarial value on January 1, 2017, (1) + (2) + (3) – (4) + (5)	921,531,223
7.	Market value of assets on January 1, 2017	850,180,422
8.	Expense and contingency reserve on January 1, 2017, prior to adjustment	30,921,897
9.	Adjustment to the investment contingency reserve	0
10.	Excess of market value over expected actuarial value, (7) – (6) – (8) – (9)	(102,272,698)
11.	Market value adjustment, 20% x (10)	(20,454,540)
12.	Actuarial value of assets as of January 1, 2017, (6) + (11)	901,076,683

Section 2 (continued)

2.2 The Expense and Contingency Reserve

Effective January 1, 1996, the Board of Trustees revised Rule X, which governs the determination of the amount of the expense and contingency reserve. The expense portion of the reserve is the sum of:

1. The estimated annual operating expenses for the ensuing year:
2. An amount equal to the liability for non-insurance supplements;
3. An amount equal to the liability for insurance supplements for those participants participating in the program on January 1; and
4. The estimated amount of insurance supplements to be paid for participants expected to retire and participate in the program during the ensuing year.

The investment contingency portion of the reserve is intended to help cover significant shortfalls in the actuarial rate of return. When a shortfall of more than 1% occurs, a portion of the reserve is released equal to one half of the amount of the shortfall up to 2% plus any remaining shortfall. When the rate of return exceeds the assumed rate of return by more than 1%, the reserve is increased subject to a maximum reserve of 5% of the market value of the Retirement Fund. The addition equals one half of the amount of the excess up to 2% plus any remaining excess.

The actuarial return on assets was not within 1% of 8% during plan year 2016; however, since the entire contingency reserve was released in 2009, no adjustment can be made to the actuarial value of assets.

Below is a history of the expense and contingency reserve:

January 1	Expense reserve	Investment contingency reserve	Total expense and contingency reserve
1997	$25,403,190	$ 5,220,821	$30,624,011
1998	30,891,555	24,100,041	54,991,596
1999	22,142,759	45,972,067	68,114,826
2000	27,992,032	50,003,862	77,995,894
2001	29,837,776	50,003,743	79,841,519
2002	23,527,529	50,003,743	73,531,272
2003	24,952,255	37,759,976	62,712,231
2004	26,028,780	37,759,976	63,788,756
2005	27,170,188	45,115,876	72,286,064
2006	32,534,770	45,115,876	77,650,646
2007	29,864,946	50,732,410	80,597,356
2008	31,987,370	57,234,574	89,221,944
2009	30,555,388	0	30,555,388
2010	29,903,107	0	29,903,107
2011	29,480,465	0	29,480,465
2012	29,564,563	0	29,564,563
2013	29,181,897	0	29,181,897
2014	30,439,781	0	30,439,781
2015	29,868,370	0	29,868,370
2016	29,537,454	0	29,537,454
2017	30,921,897	0	30,921,897

Section 2 (continued)

2.3 Investment Performance

There are several different methods of approximating the rates of return on investments of the trust fund. Following is a brief comparison of the actuarial assumed rate of return as compared with rates of return on market and actuarial value bases:

a. Market Value Basis

The rate of return on a market value basis is the ratio of the appreciation (or depreciation) of assets less contributions plus disbursements to the market value at the beginning of the year plus the average of the receipts and disbursements made during the year. This may be approximated as follows:

i.	A = Market value of assets as of January 1, 2016	$	868,679,049
ii.	B = Market value of assets as of January 1, 2017		850,180,422
iii.	C = Contributions during the period		52,172,008
iv.	D = Disbursements during the period		115,162,723
v.	Rate of return: $\dfrac{B - A + D - C}{A + \frac{1}{2}\ (C - D)}$		5.31%
vi.	Actuarial assumed rate of return for 2016		8.00%
vii.	Difference between actual and assumed rates of return, (v) – (vi)		-2.69%

b. Actuarial Value Basis

The rate of return on an actuarial value basis is approximated using the same method:

i.	A = Actuarial value of assets as of January 1, 2016	$	915,391,079
ii.	B = Actuarial value of assets as of January 1, 2017		901,076,683
iii.	C = Contributions during the period		52,172,008
iv.	D = Disbursements during the period		115,162,723
v.	Rate of return: $\dfrac{B - A + D - C}{A + \frac{1}{2}\ (C - D)}$		5.51%
vi.	Actuarial assumed rate of return for 2016		8.00%
vii.	Difference between actual and assumed rates of return, (v) – (vi)		-2.49%

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 is provided in Section 3.1, the legislative history of the System is provided in Section 3.2, and member census information is shown in Section 3.3 to Section 3.7.

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 3.8.

A guide to actuarial terminology used in this report is included as Section 3.9.

Section 3 (continued)

3.1 Summary of Plan Provisions

Participants

All persons regularly employed by the board of education, charter schools, and employees of the board of trustees are in the System.

Retirement age

Normal

Age 65 or any age if age plus the years of credited service equals or exceeds 85 (Rule of 85)

Early

Age 60 with 5 years of service

Service retirement allowance

a. 2% (1-1/4% if terminated prior to July 1, 1999) times years of credited service, subject to a maximum of 60%
b. Times average final compensation (AFC)
c. Subject to a maximum of 60% of AFC.
    i. AFC is the highest average compensation for any three consecutive years of the last 10 years of service.
    ii. Compensation is the regular wages plus what your employer pays towards your health and welfare benefits.
    iii. Minimum monthly benefit is $10.00 for each year of credited service, up to 15 years, retirement age 65 and over.
    iv. Unused sick leave is added to a participant's credited service and age.

Early retirement benefit

Service retirement allowance reduced five-ninths of one percent for each month of commencement prior to age 65 or the age at which the Rule of 85 would have been satisfied had the employee continued working until that age, if earlier.

Disability benefit

Service retirement allowance using actual service, or 25% of AFC if larger, provided that in no case will the benefit exceed that payable if service had continued to age 65.

a. Disability must be incurred while an employee as determined by the medical board and approved by the board of trustees.
b. The participant must have a minimum of five years of credited service and not be eligible for normal retirement.

Continued disability is subject to routine verification.

Withdrawal benefit

Accumulated contributions of participant with interest credited to the participant's account.

Section 3 (continued)

3.1 Summary of Plan Provisions

Vested benefit

Full vesting on termination of employment after at least five years of service is provided if contributions are left with the System. The full accrued benefit is payable at age 65 or a reduced early retirement benefit prior to age 65.

Retirement options

In lieu of the benefit paid only over the lifetime of the participant, a reduced benefit payable for life of participant with:

Option 1 Same retirement allowance continued after death to the beneficiary.

Option 2 One-half of the retirement allowance continued after death to the beneficiary.

Option 3 Same retirement allowance continued after death to the beneficiary. If the beneficiary predeceases the participant, the retirement allowance is adjusted back to the unreduced allowance.

Option 4 One-half of retirement allowance continued after death to the beneficiary. If the beneficiary predeceases the participant, the retirement allowance is adjusted back to the unreduced allowance.

Option 5 Increased retirement allowance is provided up to age 62, such that benefit provided prior to age 62 is approximately equal to the sum of the reduced retirement allowance paid after age 62 and Social Security.

Option 6 Options 1 and 5 combined.

Option 7 Options 2 and 5 combined.

Survivor benefits

If an active participant dies after completing 18 months of service, leaving a surviving spouse or other dependent beneficiaries, survivor benefits are payable. The widow or dependent beneficiary may elect to receive either a refund of accumulated contributions, or:

a. A survivor who is the widow at least age 62 and married to a participant for at least one year receives $60 a month.

b. A widow with dependent, unmarried children under age 22 receives $60 a month plus $60 per dependent child, not to exceed $180 per month. The benefit ceases when youngest child is age 22 and resumes again under (a) at age 62.

c. If no benefits are payable under (a) or (b), minor children may receive a benefit of $60 per child or $180 divided among them if more than three children.

d. If no benefits are payable under (a), (b) or (c), a dependent parent or parents may receive or share $60 per month upon attaining age 62.

If an active participant dies after completing 5 years of service, the widow or dependent beneficiary may elect to receive either a refund of accumulated contributions or:

a. If the survivor is the widow, a survivor benefit calculated as if the participant had been age 60 at death and elected Option 1, plus $60 per dependent child not to exceed $180 per month.

b. If there is no widow, a survivor benefit calculated as if the participant had been age 60 at death and elected Option 1.

Section 3 (continued)

3.1 Summary of Plan Provisions

Return of contributions upon death

If after the death of a participant, no further monthly are payable to a beneficiary under an optional form of payment, or under the survivor benefit provisions, the participant's beneficiary shall be paid the excess, if any, of the participant's accumulated contributions over all payments made to or on behalf of the deceased participant.

DROP

Effective July 1, 2001, active participants may elect to enter the deferred retirement option plan (DROP) for up to four years. Upon entering the DROP, the participant's retirement benefit is frozen and credited to the participant's DROP account. At the end of the DROP, or upon earlier termination of employment, the DROP account is paid in a lump sum or installments, at the participant's option. During the DROP, the participant continues as an active participant, but does not pay contributions. To enter the DROP the participant must be age 65 or meet the Rule of 85. The DROP program is no longer available, ending June 30, 2008.

Contributions by participants

Participants contribute 5% of compensation. Accumulated contributions are credited at the rate of interest established by the board of trustees. The current crediting rate is 5%.

Contributions by employers

As needed to keep the System actuarially sound.

Expenses

Administrative expenses paid out of investment income.

Section 3 (continued)

3.2 Legislative History of the Retirement System

On and after January 1, 1944, all persons employed by the board of education on a full-time permanent basis are participants of the System as a condition of employment. In 1961, provisions regarding benefits and employee contribution levels were revised for all future employees of the board of education. Participants of the System at that time were granted the right to remain under the "old plan" and have their membership governed by the provisions of the law in effect prior to 1961. These old plan participants have both benefits and contributions based on a $3,000 maximum annual compensation. Old plan participants have been given the option to transfer into the revised plan at various times since 1961.

Effective October 13, 1969, legislation permitted the reinstatement of credited service lost during the years 1944 to 1947 inclusive when the married women teachers rule was in effect.

Effective August 31, 1972, legislation resulted in the following changes:

- Purchase of past service credit by paying contributions for service claimed plus interest.
- Service as extended substitute teacher.
- Service of re-employed participants lost on prior terminations.
- Service out-state Missouri and outside the state of Missouri.
- Service lost by those who elected to stay out of the retirement plan either temporarily or to date.
- Old plan participants who wished to become new plan participants could do so by paying the differential in participant contributions under the new and old plans, plus interest.
- Dependent beneficiary on death of participant before retirement but after age 60 or age 55 with 30 years service may receive option 1 benefit as if participant had retired under such option.
- A participant with five or more years of service and prior to age 65 may be retired with a disability benefit if the medical board certifies that such participant is mentally or physically totally incapacitated for further performance of duty.
- Minimum retirement benefit at age 65 or after 10 years service is $50.00 per month.

On February 10, 1975, the Missouri Supreme Court handed down a decision supporting HB 613 (Section 169.585 of state statutes), which granted increased benefits to retired teachers. The increases apply to those teachers who retired after June 30, 1957, and prior to January 1, 1971. Technically, those retirees are retained as "advisors and supervisor" and receive a "salary" of $5 per month for each year of service, with a maximum of $75. This salary plus the regular retirement benefit cannot exceed $150 per month. To the extent that assets are depleted because of this law, future district contributions will increase. Because these benefits are paid as "salaries," coming out of investment income along with other expenses of operation, there will be less money available for crediting of interest to the various funds at the end of the year.

Section 3 (continued)

3.2 Legislative History of the Retirement System

Effective August 13, 1978 legislation resulted in the following changes:

- The service retirement allowance and projected service retirement allowance was changed to 1-1/4% of average final compensation per year of credited service. The participant's allowance plus his Social Security primary insurance amount could not exceed 80% of his average final compensation. Participants born before 1917 receive the larger of the allowances calculated under the new formula and the formula in effect immediately before it.
- Credited service no longer limited to a maximum of 35 years.
- Two new joint and survivor optional forms of payment were added which provide for the participant's pension to be adjusted back to his unreduced pension in the event his spouse predeceases him.
- Contributions from participants shall be 3% of compensation.
- End of period for purchasing prior service or outside service extended from December 31, 1973 to December 31, 1980. Deleted requirement of electing to purchase out-state or outside the state of Missouri service within one year of completing five years of credited service.
- Gives board of trustees the power to establish regulations, methods and factors that may be needed to calculate primary Social Security benefits.
- Dependent beneficiary on death of participant before retirement with five or more years of credited service may receive option 1 benefit as if the participant had retired under that option as of the date of his death.
- Allow retired educational secretaries to serve as part-time or temporary substitute educational secretary up to a maximum of 360 hours per school year without a reduction in the retired employee's retirement allowance or requiring the retired employees to contribute to the retirement system.

Effective September 28, 1979, legislation resulted in the following changes:

- Accumulated and unused days of sick leave shall be included in computing a participant's age and credited service at retirement.
- Participants who have attained age 62 and who have 30 or more years of credited service may retire and receive a service retirement allowance without reduction for early retirement. The early retirement reduction for participants who retire with 30 or more years of credited service but who have not attained age 62 on their retirement date shall be determined on the basis of the number of months by which their age at retirement is less than age 62.
- Benefits to survivors of a participant who dies while an employee and after having at least 18 months of credited service are as follows:
  - (a) Surviving spouse age 62 or over: $60 per month.
  - (b) Surviving spouse with unmarried dependent children under age 22: $60 per month, plus $30 per month for each eligible child, with a maximum of $150 per month.
  - (c) Unmarried dependent children under age 22: $60 per month for each eligible child, with a maximum of $120 per month. This benefit is payable if the benefit in (b) is not payable.
  - (d) Dependent parent(s): $60 per month, provided no benefits are payable under (a), (b) or (c) above.

Section 3 (continued)

3.2 Legislative History of the Retirement System

Effective September 28, 1981, legislation resulted in the following changes:

- The provision limiting service retirement and projected service retirement allowances to 80% of average final compensation less Social Security was removed for future retirees.
- The minimum monthly benefit payable to participants retiring on or after age 65 with 10 or more years of service was increased to $75.
- Old plan participants were extended the option to transfer into the current System by paying the difference in participant contributions plus interest. Such election to be made on or before December 31, 1984. Retired participants who retired prior to January 1, 1955, may be consultants" at a "salary" equal to $4 for each year of retirement prior to January 1, 1982. Total "salaries" as a "school consultant" and "special school advisor and supervisor" are limited to $250 per month.
- The retirement system may contribute as part of its administrative expenses toward health, life and similar insurance for retirees.
- The actuarial cost method was changed from the "entry age cost method" to the "frozen entry age cost method." The period for amortizing "supplements" to the unfunded actuarial accrued liability was set at 50 years from the time the "supplement" is created.
- Several changes were made dealing with the administration and operation of the System.
- Investment powers were broadened.

Effective September 28, 1984, legislation resulted in the following changes:

- Dependent beneficiary on death of employed, active participant before retirement with five or more years of service may receive option 1 benefit as if the participant had attained age 55 (if less than 55 at his death) and had retired under option 1 as of the date of his death.
- In addition to the option 1 death benefit, a surviving spouse may receive $30 per month for each unmarried dependent child, provided that the total benefit does not exceed the greater of $150 or the option 1 benefit.
- Surviving spouse benefits do not cease on remarriage.
- Dependent children's benefits do not require that the child remain a full-time student.
- Participants retired on disability may elect to receive an actuarial equivalent benefit under options 1 through 4.
- Retired participants who retired on or after January 1, 1976, may be employed as school consultants and receive a salary and insurance benefits provided other retirants.

Section 3 (continued)

3.2 Legislative History of the Retirement System

Effective August 13, 1986, legislation resulted in the following changes:

- A participant with 30 years of credited service who is between the ages of 55 and 62, upon certification by the board of education, is eligible for a supplemental early retirement benefit payable to age 62. This provision remains in effect until December 31, 1991.
- Benefits to a surviving spouse for dependent children are increased from $30 to $60 per month, with a maximum of $240 per month, including the $60 for the surviving spouse.
- Supplemental pay to retired participants employed as "school consultants" is increased by $2 per month for each year between the participant's date of retirement and December 31, 1986

Effective June 19, 1987, legislation resulted in the following changes:

- Reinstated the option for "old plan" participants to elect "new plan" membership by paying the difference in contributions accumulated with interest.
- Increased the minimum benefit for participants retiring on or after age 65 to $10 per month for each year of credited service, up to a maximum of 15 years.
- Several changes were made dealing with the accounting, administration, and operation of the System.

Effective August 13, 1988, legislation resulted in the following changes:

- Made provisions for children's benefits uniform, providing $60 per month per child, up to a maximum of $180 per month, under both subsections 169.460(13) and (15) survivor benefits.
- Supplemental pay to retired participants of $2 per month for each year of retirement up to December 31, 1988.

Effective June 14, 1989, legislation resulted in the following changes:

- The maximum on compensation was removed.
- Average final compensation is based on the highest three consecutive years, rather than the highest five consecutive years.
- Participants may retire with unreduced benefits at any age, if their age plus credited service equals or exceeds 85 (the "Rule of 85").

Effective May 31, 1990, legislation resulted in the following change:

- Supplemental pay of $2 per month for each year of retirement up to December 31, 1990.

Effective August 28, 1993, legislation resulted in the following change:

- Supplemental pay of $3 per month for each year of retirement up to December 31, 1993.

Section 3 (continued)

3.2 Legislative History of the Retirement System

Effective August 28, 1996, legislation resulted in the following changes:

- Provision was added for the purchase of service for certain periods of layoff.
- The investment trustee position was eliminated and the position of school administrator trustee was added.
- Cost-of-living increases for participants who retired prior to August 28, 1996, with at least 15 years of credited service. The cost-of-living increases are up to 3% in one year, with a cumulative maximum of 10%.
- The board of education is authorized to increase retirement benefits and the participant contribution rate, subject to several conditions.

Effective August 28, 1997, legislation resulted in the following change:

- Cost-of-living increases extended to participants who retired prior to August 28, 1997, with at least 15 years of credited service. The cost-of-living increases are up to 3% in one year, with a cumulative maximum of 10%.

In accordance with the statutory authority granted the board of education in 1996, the board of education made the following changes:

- Participant contributions were increased to 4.5%, effective July 1, 1998; to 5.0%, effective July 1, 1999; and, if necessary to 5.5%, effective July 1, 2000.
- The service retirement allowance was changed to 2.00% of average final compensation per year of credited service, subject to a maximum of 60% of average final compensation, effective for participants who retired after June 29, 1999.
- A “catch-up” cost-of-living adjustment (COLA) is provided for participants who retired prior to June 30, 1999, and survivors of participants who retired or died prior to June 30, 1999. The amount of the “catch-up” COLA is equal to 65% of the amount by which the participant’s original benefit would have increased due to increases in the CPI, in excess of any supplements or COLA increases being received by the participant. The “catch-up” COLA is effective July 1, 2000.
- The board of education agreed to contribute 8.03% of covered payroll for 1998, 1999, and 2000, in order to fund the benefit increase and the “catch-up” COLA.

In accordance with the statutory authority granted the board of education in 1996, the board of education made the following changes:

- Effective January 1, 2001, all participants who retired prior to January 1, 2000, received a 3% cost-of-living increase.
- Effective July 1, 2001, a DROP was made available until June 30, 2005, at which time the program will be evaluated to determine whether or not it should be extended. Eligible participants may elect to enter the DROP for up to four years.
- In conjunction with the DROP, employers will contribute at 8.00% of covered payroll for 2001. The contribution rate for subsequent years will be based on the rate determined by the actuarial valuation for the January 1 of the year preceding the year the contribution is due.

Section 3 (continued)

3.2 Legislative History of the Retirement System

Effective August 28, 2002, legislation resulted in the following changes:

- Purchase of service rules were updated.
- The System may accept qualified transfers of funds for the purchase of service.
- Clarified provisions relating to charter school participation in the System.
- Option 5, the level income option is added.
- Replaced the specific actuarial cost method in the statutes with a provision that the method adopted by the board of trustees may be any method in accordance with generally accepted actuarial standards. The amortization period for the UAAL may not exceed 30 years.

Note: There have been no changes to the System's plan provisions since 2002.

Section 3 (continued)

3.3 Changes in System Participation

	Active	Retirees	Beneficiaries	Disabled	Total In Pay Status	Deferred Vested	Nonvested with Balance	Total Terminated Records	Total
Total as of January 1, 2016	**5,034**	4,026	307	254	**4,587**	479	1,792	**2,271**	11,892
New Entrants	**877**						68	**68**	945
Rehires/Transfers	**125**	(2)			**(2)**	(8)	(41)	**(49)**	74
Retirements	**(93)**	110			**110**	(17)		**(17)**	0
Disablements	**(11)**			11	**11**				0
Beneficiaries			21		**21**	4		**4**	25
Deaths	**(13)**	(129)	(25)	(14)	**(168)**	(3)		**(3)**	(184)
Deferred Vested	**(85)**					85		**85**	0
Nonvested Terminations - Account Balance	**(332)**						332	**332**	0
Refunds Paid in 2016	**(401)**					(18)	(124)	**(142)**	(543)
Data Adjustments		2					5	**5**	7
Total as of January 1, 2017	**5,101**	4,007	303	251	**4,561**	522	2,032	**2,554**	12,216

Section 3 (continued)

3.4 Member Census Information

As of January 1	2016	2017
Active Members		
Number	5,034	5,101
Average Age	43.77	43.68
Average Service	7.93	7.82
Average Annual Base Pay	$ 50,085	$ 51,014
Vested Terminated Members		
Number	479	522
Average Account Balance	$ 28,905	$ 29,781
Non-vested Terminated Members		
Number	1,792	2,032
Average Account Balance	$ 3,532	$ 3,585
Benefit Recipients		
Number	4,587	4,561
Average Age	73.66	74.03
Average Monthly Benefit	$ 1,913	$ 1,926

Section 3 (continued)

3.5 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	106	0	0	0	0	0	0	0	0	106
25 - 29	291	23	0	0	0	0	0	0	0	314
30 - 34	185	61	7	0	0	0	0	0	0	253
35 - 39	111	34	13	5	0	0	0	0	0	163
40 - 44	83	33	11	6	0	0	0	0	0	133
45 - 49	68	21	6	2	1	0	0	0	0	98
50 - 54	61	20	5	0	0	1	0	0	0	87
55 - 59	38	24	6	2	0	1	0	0	0	71
60 - 64	30	13	4	1	0	0	0	0	0	48
65 - 69	6	6	0	0	0	0	0	0	0	12
70 & Up	1	0	0	0	0	0	0	0	0	1
Total	980	235	52	16	1	2	0	0	0	1,286

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	128	0	0	0	0	0	0	0	0	128
25 - 29	377	20	0	0	0	0	0	0	0	397
30 - 34	274	102	15	0	0	0	0	0	0	391
35 - 39	248	95	74	22	0	0	0	0	0	439
40 - 44	175	92	83	97	10	0	0	0	0	457
45 - 49	152	88	67	94	39	2	0	0	0	442
50 - 54	147	80	64	74	36	33	7	0	0	441
55 - 59	126	81	60	86	56	67	44	6	0	526
60 - 64	84	72	52	73	46	30	30	26	9	422
65 - 69	21	20	14	25	15	10	16	5	8	134
70 & Up	5	7	6	5	4	1	0	1	2	31
Total	1,737	657	435	476	206	143	97	38	19	3,808

Section 3 (continued)

3.5 Distributions of Active Members

Years of Service By Age
Total

	Years of Service									
Age	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40+	Total
Under 25	234	0	0	0	0	0	0	0	0	234
25 - 29	669	43	0	0	0	0	0	0	0	712
30 - 34	459	163	22	0	0	0	0	0	0	644
35 - 39	359	129	87	27	0	0	0	0	0	602
40 - 44	258	125	94	103	10	0	0	0	0	590
45 - 49	220	109	73	96	40	2	0	0	0	540
50 - 54	208	100	70	74	36	34	7	0	0	529
55 - 59	166	106	67	88	56	68	44	6	0	601
60 - 64	114	85	57	74	46	30	30	26	9	471
65 - 69	27	26	14	25	15	10	16	5	8	146
70 & Up	6	7	6	5	4	1	0	1	2	32
Total	2,720	893	490	492	207	145	97	38	19	5,101

Section 3 (continued)

3.6 Distributions of Inactive Members

Deferred Vested and Nonvested

Account Balance	Vested	Non-Vested	Total
0-1,000	29	583	612
1,000-5,000	12	904	916
5,000-10,000	17	396	413
10,000-25,000	198	146	344
25,000-50,000	183	3	186
50,000-75,000	66	0	66
75,000-100,000	11	0	11
100,000+	6	0	6
Total	522	2,032	2,554

Retirees, Beneficiaries and Disabled

Option	Service benefit	Disability benefit	Survivor benefit	All
0	3,400	201	303	3,628
1	134	14	0	280
2	83	5	0	127
3	177	17	0	258
4	179	6	0	223
5	21	2	0	23
6	11	6	0	19
7	1	0	0	2
8	1	0	0	1
Total	4,007	251	303	4,561

Annual Benefit

Option	Service benefit	Disability benefit	Survivor benefit	All
0	$ 84,843,091	$ 2,886,500	$ 3,460,913	$ 91,190,504
1	2,528,749	182,667	0	2,711,416
2	1,894,588	117,333	0	2,011,921
3	3,633,361	238,317	0	3,871,678
4	4,648,030	131,227	0	4,779,257
5	545,404	15,317	0	560,721
6	227,130	50,744	0	277,875
7	30,849	0	0	30,849
8	3,709	0	0	3,709
Total	$ 98,354,911	$ 3,622,105	$ 3,460,913	$105,434,220

Section 3 (continued)

3.7 Schedule of Retirees and Beneficiaries Added/Removed From Rolls

	Added to Payroll		Removed from Payroll		Payroll Year-End			
Plan Year	No.	Annual Allowances	No.	Annual Allowances	No.	Annual Allowances	% Increase in Annual Allowances	Average Annual Allowance
2009	N/A		N/A		N/A		N/A	N/A
2010	N/A		N/A		4,370		N/A	N/A
2011	373		156		4,587	$ 98,927,501	N/A	$ 21,567
2012	135	$ 2,606,505	182	$ 2,793,752	4,540	$ 98,768,933	-0.16%	$ 21,755
2013	164	$ 3,544,756	188	$ 2,699,920	4,516	$ 99,629,314	0.87%	$ 22,061
2014	313	$ 7,711,256	140	$ 2,288,004	4,689	$ 105,061,832	5.45%	$ 22,406
2015	163	$ 3,774,578	228	$ 3,783,237	4,624	$ 105,066,268	0.00%	$ 22,722
2016	151	$ 3,279,162	188	$ 3,058,449	4,587	$ 105,295,884	0.22%	$ 22,955
2017	145	$ 3,114,108	171	$ 2,978,925	4,561	$ 105,434,220	0.13%	$ 23,116

Section 3 (continued)

3.8 Summary of Methods and Assumptions

Interest

7.5% per annum, which includes a 2.75% allowance for inflation.

Participant account interest crediting rate

5.0% per annum.

Expenses

The rate of interest assumed is net of expenses.

Mortality – Healthy Lives

Mortality tables issued by the SOA, the RP-2014 Combined Healthy Mortality Table (rolled back to 2006), projected fully generationally using projection scale MP-2015. The mortality assumption for Inactive participants receiving benefits is increased by an additional 10% to account for the higher mortality experienced by the Plan.

Disability Mortality

RP-2014 Disabled Mortality Table (rolled back to 2006) for disabled retired Members, projected fully generationally using projection scale MP-2015.

Withdrawal

Withdrawals are assumed to occur at rates based on actual experience of the retirement system. During the first five 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%	35.0%
2nd	20.0%	35.0%
3rd	20.0%	35.0%
4th	20.0%	25.0%
5th	15.0%	15.0%

The rates used after the first five years of membership are shown in Table 1.

Salary scale

Salaries are assumed to increase at the rate of 5.0% per year for the first 5 years of employment and 3.50% thereafter.

Disability

Disabilities are assumed to occur at rates based on the actual experience of the retirement system. The rates used are shown in Table 3.

Section 3 (continued)

3.8 Summary of Methods and Assumptions

Retirement

Retirements occur at rates based on the actual experience of the retirement system. The age-related rates used are shown in Table 2. Unless the age-related rate is greater, for those eligible to retire under the Rule of 85, it is assumed that 25% will retire when first eligible for unreduced benefits with at least 30 years of credited service.

Family Structure

The probability of a participant being married and the probable number of children are based on a table constructed by the Social Security Administration, modified to reflect the experience of the retirement system. The rates used are shown in Table 4. For married participants, husbands are assumed to be 3 years older than their wives.

Usage of Cash-out Option

Participants terminating in vested status are given the option of taking a refund of their accumulated participant contributions instead of a deferred retirement 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.

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. This valuation assumes that no future COLAs will be awarded.

Actuarial Method – Frozen Entry Age

The actuarial cost method used by the System is the "frozen entry age actuarial cost method." Under this method, on the initial actuarial valuation date for which the cost method is used, the annual cost accruals (individual normal costs for each participant) are determined as a level percentage of pay for each year from entry age until retirement or termination. The UFAAL was originally determined as of January 1, 1981. Entry age is determined at the date each participant would have entered the System. The sum of these individual normal costs for all active participants whose attained ages are under the assumed retirement age is the normal cost for the initial plan year. The excess of all normal costs falling due prior to the initial actuarial valuation date, accumulated with interest, over the plan assets establishes the initial Unfunded Frozen Actuarial Accrued Liability (UFAAL).

The UFAAL is only frozen in that it is not adjusted due to experience gains and losses. Instead, gains and losses are reflected through changes in the normal cost accrual rate. The UFAAL does change, increasing due to interest and additional normal costs, and decreasing due to contributions. Any changes to plan provisions or actuarial assumptions results in a change to the UFAAL. The amount of the change is determined by computing the impact in the actuarial accrued liability as of the valuation date coincident with or next following the change.

Section 3 (continued)

3.8 Summary of Methods and Assumptions

Normal costs are calculated as the level percentage of pay required to fund the excess of the actuarial present value of future benefits over the sum of the actuarial value of current assets and the remaining UFAAL.

Effective January 1, 2006, UFAAL was reestablished to better reflect an appropriate relationship between the normal cost and the actuarial accrued liability.

The funding requirement for each plan year is the sum of the "normal cost contribution" (equal to the normal cost for that year), plus the "actuarial accrued liability contribution." The "actuarial accrued liability contribution" is the payment required to amortize the UFAAL over 30 years, from January 1, 2006, the date that it was reestablished.

Valuation of Assets

The actuarial value of assets is determined using the assumed yield method of valuing assets. Under the assumed yield asset valuation method, the prior year's actuarial value is increased at the assumed rate of return with appropriate adjustments for contributions and disbursements to produce an expected actuarial value of assets at the end of the year. The expected actuarial value is compared to the market value of assets less the expense and contingency reserve, and 20% of the difference is added to the expected actuarial value. The actuarial value of assets was "fresh-started" as of January 1, 2006 and set equal to the market value of assets as of that date.

Changes from the Prior Valuation

The mortality table for non-disabled members was updated to the RP-2014 Combined Healthy Mortality Table (rolled back to 2006), projected fully generationally using projection scale MP-2015.

The mortality assumption for Inactive participants receiving benefits is increased by an additional 10% to account for the higher mortality experienced by the Plan. This uses a separate table for pre-commencement and post-commencement.

The mortality table for disabled members was updated to the RP-2014 Disabled Mortality Table (rolled back to 2006), projected fully generationally using projection scale MP-2015.

Based on a study of actual Plan experience for the 5 years ending December 31, 2015, the withdrawal assumption was revised as documented above and in Table 1.

Based on a study of actual Plan experience for the 5 years ending December 31, 2015, the retirement assumption was revised as documented in Table 2.

The Salary increase assumption was revised to 5.0%per year for the first 5 years of employment and 3.50% per year thereafter to better reflect anticipated salary increases.

3.8 Summary of Methods and Assumptions

Based on a study of actual Plan experience for the 5 years ending December 31, 2015, the rate of return was revised to 7.5% to better reflect expected investment returns.

The impact of the above assumption changes on the Entry Age Normal Liability was an increase of $72.7 million.

Table 1
Withdrawal Rates
Annual Rates Per 1,000 Members

Age	Rate	Age	Rate
20	204.0	45	44.0
21	197.0	46	41.0
22	190.0	47	37.0
23	184.0	48	34.0
24	177.0	49	31.0
25	171.0	50	28.0
26	161.0	51	26.0
27	151.0	52	25.0
28	141.0	53	24.0
29	131.0	54	23.0
30	121.0	55	22.0
31	117.0	56	21.0
32	112.0	57	20.0
33	108.0	58	19.0
34	103.0	59	18.0
35	99.0	60	17.0
36	96.0	61	0.0
37	92.0	62	0.0
38	89.0	63	0.0
39	86.0	64	0.0
40	83.0		
41	75.0		
42	67.0		
43	59.0		
44	52.0		

Section 3 (continued)

3.8 Summary of Methods and Assumptions

Table 2
Retirement Rates
Annual Rates Per 1,000 Members

Age	Rule of 85 Rate	Not Rule of 85 Rate
50-51	200.0	N/A
52-59	150.0	N/A
60	200.0	100.0
61	200.0	100.0
62	250.0	150.0
63	250.0	150.0
64	250.0	200.0
65	300.0	350.0
66	300.0	200.0
67	300.0	200.0
68	300.0	200.0
69	300.0	200.0
70 - 71	300.0	300.0
72	1,000.0	1,000.0

Section 3 (continued)

3.8 Summary of Methods and Assumptions

Table 3
Disability Rates
Annual Rates Per 1,000 Members

	Rate			Rate	
Age	Males	Females	Age	Males	Females
20	0.00	0.00	45	1.50	1.00
21	0.00	0.00	46	1.60	1.10
22	0.00	0.00	47	1.70	1.20
23	0.00	0.00	48	1.80	1.30
24	0.00	0.00	49	1.90	1.40
25	0.00	0.00	50	2.00	1.50
26	0.00	0.00	51	2.50	1.70
27	0.00	0.00	52	3.00	1.90
28	0.00	0.00	53	3.50	2.10
29	0.00	0.00	54	4.00	2.30
30	0.40	0.40	55	4.50	2.50
31	0.40	0.40	56	4.70	2.60
32	0.40	0.40	57	4.90	2.75
33	0.40	0.40	58	5.10	2.85
34	0.40	0.40	59	5.30	3.00
35	0.40	0.40	60	5.50	3.25
36	0.45	0.45	61	6.00	3.50
37	0.50	0.50	62	6.50	3.50
38	0.60	0.60	63	7.00	3.50
39	0.70	0.70	64	7.50	3.50
40	0.80	0.75	65	0.00	0.00
41	0.95	0.80			
42	1.10	0.85			
43	1.25	0.90			
44	1.40	0.95			

3.8 Summary of Methods and Assumptions

Table 4
Family Structure

Age		Age of youngest child	Average number of children	Probability of being married	Probability of children if married
Male	Female				
20	17	2	.90	.30	.50
21	18	2	.90	.35	.50
22	19	2	.98	.40	.50
23	20	2	.98	.46	.53
24	21	3	1.05	.53	.56
25	22	3	1.13	.60	.59
26	23	4	1.20	.67	.62
27	24	4	1.28	.74	.65
28	25	4	1.35	.76	.67
29	26	5	1.43	.78	.69
30	27	5	1.50	.80	.71
31	28	6	1.58	.82	.73
32	29	6	1.65	.84	.75
33	30	7	1.80	.85	.76
34	31	7	1.95	.86	.77
35	32	8	2.10	.87	.78
36	33	8	2.10	.87	.79
37	34	9	2.10	.87	.80
38	35	9	2.30	.87	.79
39	36	10	1.95	.87	.78
40	37	10	1.88	.87	.77
41	38	11	1.80	.87	.76
42	39	11	1.73	.87	.75
43	40	11	1.73	.87	.72
44	41	12	1.65	.87	.69
45	42	12	1.65	.86	.66
46	43	12	1.58	.86	.63
47	44	12	1.58	.86	.60
48	45	12	1.50	.85	.56
49	46	12	1.43	.85	.52
50	47	13	1.43	.85	.48
51	48	13	1.35	.85	.44
52	49	13	1.35	.85	.40
53	50	13	1.35	.85	.37
54	51	13	1.35	.84	.34

3.8 Summary of Methods and Assumptions

Table 4
Family Structure
(continued)

Age		Age of youngest child	Average number of children	Probability of being married	Probability of children if married
Male	Female				
55	52	13	1.28	.84	.31
56	53	13	1.28	.83	.28
57	54	13	1.28	.83	.25
58	55	13	1.28	.83	.23
59	56	13	1.20	.82	.21
60	57	13	1.20	.81	.19
61	58	13	1.20	.80	.17
62	59	13	1.20	.79	.15
63	60	13	1.20	.78	.13
64	61	13	1.20	.77	.11
65	62	13	1.13	.76	.09
66	63	13	1.13	.75	.07
67	64	13	1.13	.74	.05
68	65	13	1.13	.73	.04
69	66	13	1.05	.72	.03
70	67	13	1.05	.71	.02
71	68	13	1.05	.70	.01

3.9 Definition of Actuarial Terms

Accrued benefit

The benefit earned by a participant as of the date at which the determination is made payable in the form of an annual benefit commencing at normal retirement age. The accrued benefit is payable for the member's lifetime only, however if the total monthly payments at the member's death are less than contributions accumulated with interest, the remaining employee contribution balance will be paid to the member's beneficiary.

Accumulated plan benefits

The accrued benefits and any other benefits, whether vested or not, that have been earned by the participants covered by the plan as of the date at which the determination is made. These other benefits include any death, early retirement or disability benefits provided under the plan.

Actuarial accrued liability

Equal to the actuarial present value of future benefits less the present value of future annual normal costs.

Actuarial cost method

The method for allocating the actuarial present value of a pension plan's benefits and expenses to various time periods. An actuarial cost method is also referred to as a funding method.

Actuarial gain/(loss)

The difference between the plan's actual experience and that expected based upon a set of actuarial assumptions. A gain occurs when the experience of the plan is more favorable (in terms of cost) than the assumptions projected; a loss occurs when experience is less favorable. May also be referred to as experience gains/(losses).

Actuarial present value

See present value.

Actuarial valuation

The determination, as of a valuation date, of the annual normal cost, actuarial accrued liability, actuarial value of assets and related actuarial present values for a pension plan.

Actuarial value of assets

The value of cash, investments and other property belonging to a pension plan determined by the actuary for the purpose of an actuarial valuation. Actuarial asset methods are generally designed to reduce fluctuations in asset value due to large variations in returns from year to year. Actuarial values are generally a smoothed market value that recognize gains and losses over time.

Amortization

The spreading of a present value or a cost over a period of years. A plan's unfunded actuarial accrued liability is amortized over a period of years.

3.9 Definition of Actuarial Terms

Fiscal year

The year on which the plan sponsor maintains its financial records.

Funded

Provided by plan assets. A liability is fully funded when assets exceed or equal the liability.

Normal cost

That portion of the actuarial present value of pension plan benefits and expenses which is allocated to a valuation year by the actuarial cost method.

Normal retirement age

An age defined in the plan for purposes of establishing when a terminated participant is entitled to an accrued benefit.

Normal retirement benefit

The benefit payable when it commences at the normal retirement age.

Participant

A person covered by a pension plan in accordance with its terms including active participants, retired participants and beneficiaries, vested terminations and vested transfers.

Plan year

The year on which the plan maintains its financial records.

Present value

The value of an amount or series of amounts payable at various times, determined as of a given date by the application based on a particular set of actuarial assumptions. It is a single sum which reflects the time value of money and the probabilities of payment.

Rate of return

The actual or expected investment income as a percentage of a plan's average assets.

System

Public School Retirement System of the City of St. Louis, Missouri.

Unfunded actuarial accrued liability

The excess of the actuarial accrued liability over the actuarial value of assets.

Vested benefit

A benefit that is not forfeited if the participant terminates employment.

Public School Retirement System of the City of St. Louis, Missouri

2017 Valuation Results

August 21, 2017

Data – Population as of 1/1/2017

	2017	2016	Change
Retirees and Beneficiaries	4,561	4,587	-26
Inactives	2,554	2,271	283
Actives			
School District	3,808	3,800	8
Charter Schools	1,286	1,228	58
Retirement System	7	6	1
Total Actives	5,101	5,034	67
Total	12,216	11,892	324

Data – Member Census Information

CONDUENT

	As of January 1	
	2017	**2016**
Active Members		
Number	5,101	5,034
Average Age	43.68	43.77
Average Service	7.82	7.93
Average Annual Base Pay	$51,014	$50,085
Vested Terminated Members		
Number	522	479
Average Account Balance	$29,781	$28,905
Non-vested Terminated Members		
Number	2,032	1,792
Average Account Balance	$ 3,585	$ 3,532
Benefit Recipients		
Number	4,561	4,587
Average Age	74.03	73.66
Average Monthly Benefit	$ 1,926	$ 1,913

Valuation Results – Summary

	January 1, 2017	January 1, 2016
System Assets		
Expense and contingency reserve	$ 30,921,897	$ 29,537,454
Market value, excluding expense & contingency reserve	819,258,525	839,141,595
Actuarial value	901,076,683	915,391,079
System liabilities		
Unfunded actuarial accrued liability	$ 232,478,771	$ 162,302,064
Projected unit credit liability	$ 1,223,329,683	$ 1,165,766,472
Funding Ratio (PUC)		
Actuarial value funding ratio	73.7%	78.5%
Market value funding ratio	67.0%	72.0%
Employer Cost (% of active payroll)	19.10%	15.73%

Valuation Results – Annual Required Contribution

	2017 Valuation	2016 Valuation	Increase / (Decrease)
Normal cost contribution	26,350,187	23,127,132	3,223,055
Actuarial accrued liability contribution	23,343,402	16,530,824	6,812,578
Annual required contribution (ARC)	49,693,589	39,657,956	10,035,633
Covered compensation	260,223,066	252,127,288	8,095,778
ARC as % of covered compensation	19.10%	15.73%	3.37%

Valuation Results – Reconciliation of ARC

	ARC as a % of payroll
2016 valuation cost	15.73%
Demographic experience	(0.44)%
Asset experience	0.68%
Method changes	0.00%
Assumption changes	3.13%
2017 valuation cost	19.10%

Increases positive
(Decreases negative)

Valuation Results – ARC By Employer Group

	Board of Education	Retirement System	Charter Schools	Total
Normal cost contribution	19,818,916	53,325	6,477,946	26,350,187
Actuarial accrued liability contribution	17,557,407	47,240	5,738,755	23,343,402
Annual required contribution (ARC)	37,376,323	100,565	12,216,701	49,693,589
Covered compensation	195,723,057	526,616	63,973,393	260,223,066
ARC as % of covered compensation	19.10%	19.10%	19.10%	19.10%

Gain/Loss – Liability

CONDUENT

	Dollar amounts in millions
A. 2016 Entry Age Normal Liability	$1,196.8
B. Expected 2017 Entry Age Normal Liability	$1,197.9
C. Impact of assumption changes	$72.7
D. Actual 2017 Entry Age Normal Liability	$1,258.2
Gain / (Loss): B + C - D	$12.4
Gain / (Loss) as a Percent of Expected	1.0%

Gain/Loss – Assets

CONDUENT

	Actuarial Value of Assets ($ in millions)	Market Value of Assets ($ in millions)
A. 2016 Assets	$915.4	$868.7
B. Expected 2017 Assets	$921.6	$871.1
C. Actual 2017 Assets	$901.1	$850.2
D. Gain/(Loss): C – B	$(20.5)	$(20.9)
E. Expected Return	8.0%	8.0%
F. Actual Return	5.5%	5.3%
G. Gain/(Loss): F - E	(2.5)%	(2.7)%

Actual return calculation assumes mid-year cash flows

Certification

CONDUENT

The results were prepared under the direction of Troy Jaros who meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. These results have been prepared in accordance with all applicable Actuarial Standards of Practice, and we are available to answer questions about them.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law.

The assumptions, methods, asset information and data information are presented in the January 1, 2017 actuarial report. The data and asset information have been updated for results contained in this presentation and reflects information provided by the Plan sponsor. All of the statements of reliance, assumptions, descriptions and caveats in the actuarial valuation report are incorporated by reference.

Where presented, references to “funded ratio” and “unfunded accrued liability” typically are measured on an actuarial value of assets basis. It should be noted that the same measurements using market value of assets would result in different funded ratios and unfunded accrued liabilities. Moreover, the funded ratio presented is appropriate for evaluating the need and level of future contributions but makes no assessment regarding the funded status of the plan if the plan were to settle (i.e. purchase annuities) for a portion or all of its liabilities.

Troy Jaros, FSA, EA, MAAA, FCA

Senior Consultant, Retirement Actuary

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Any Final Questions on the Valuation?

Request Board Approval of Report Results

CONDUENT™

CONDUENT
231 S. Bemiston, Suite 400
St. Louis, MO 63105

June 5, 2017

Mr. Andrew Clark
Executive Director
PSRS of the City of St. Louis
3641 Olive Street, Suite 300
St. Louis, MO 63108-3601

Re: Public School Retirement System of the City of St. Louis, Missouri
GASB 67 & GASB 68 Disclosures for Fiscal Year Ending December 31, 2016

Dear Members of the Board:

We have prepared certain required liability and asset accounting information for Governmental Accounting Standards Board (GASB) Statement No. 67 and GASB Statement No. 68 for The Public School Retirement System of the City of St. Louis, Missouri (PSRS) for fiscal year ending December 31, 2016.

Please note that GASB Statement No. 25 (*Financial Reporting for Defined Benefit Pension Plans*) is applicable for fiscal years ending prior to 2014 and has been replaced by GASB Statement No. 67 (*Financial Reporting for Pension Plans)* for fiscal years ending 2014 and later. Similarly, GASB Statement No. 27 (*Accounting for Pensions by State and Local Governmental Employers*) is applicable for fiscal years ending prior to 2015 and has been replaced by GASB Statement No. 68 (*Accounting and Financial Reporting for Pensions*) for fiscal years ending 2015 and later.

GASB Statement No. 67

GASB Statement No. 67 set forth certain items of information to be disclosed in the financial statements of the Plan.

1. Following is the schedule of Net Pension Liability.

Net Pension Liability (Asset)

Total Pension Liability	$ 1,265,862,200
Plan Fiduciary Net Position	850,180,422
Net Pension Liability (Asset)	$ 415,681,778
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability (Asset)	67.16%

2. Following is the sensitivity of the net pension liability to changes in the discount rate.

Sensitivity of the Net Pension Liability
To Changes in the Discount Rate

	1% Decrease	Current	1% Increase
Discount Rate	6.50%	7.50%	8.50%
Net Pension Liability (Asset)	541,091,150	415,681,778	309,269,186

3. The discount rate used to measure the total pension liability was 7.50%. The projection of cash flows used to determine the discount rate assumed that System contributions will continue to follow the current funding policy. Based on those assumptions, the System's fiduciary net position was projected to be sufficient to make all projected future benefit payments of current plan members. Please see Appendix A for additional detail.

4. A schedule of changes in the net pension liability for the year ending December 31, 2016 is provided in Appendix B.

5. Under GASB Statement No. 68, employers participating in the plan would recognize a total pension expense of $78,088,817 for their fiscal year beginning after June 15, 2016. Details of this calculation are included in Appendix C.

6. Summary of Significant Accounting Policies.

   - **Method used to value investments**. Investments are reported at fair value.

   - **Actuarial cost method**. Entry Age Normal – Level Percent of Pay Method.

The plan sponsor selected the assumptions used for the accounting results in this letter, based on a study of actual Plan experience for the five years ending December 31, 2015. We believe that these assumptions are reasonable and comply with the requirements of GASB Statement No. 67 and GASB Statement No. 68, as applicable. We prepared this letter in accordance with the requirements of this standard. Full summaries of the assumptions, methods and plan provisions used in the preparation of this required accounting information are provided in Appendix D through Appendix F.

Conduent performed the valuation using participant data and financial data supplied by the Retirement Systems staffs. Conduent reviewed the data for reasonableness and consistency with data for the prior valuation, but performed no audit of the data. The results of the valuation are dependent on the accuracy of the data.

The primary purpose of this letter is to provide information for the PSRS of St. Louis. Use of this report for any other purposes or by anyone other than the PSRS of St. Louis and its auditors may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose. Because of the risk of misinterpretation of actuarial results, you should ask us to review any statement you wish to make on the results contained in this report. Conduent will accept no liability for any such statement made without our prior review.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. Because of limited scope, Conduent performed no analysis of the potential range of such future differences other than the sensitivity to changes in the discount rate required by GASB Statement No. 67.

The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained in this report. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and we are available to answer questions about it.

Please let us know if you require additional information.

Sincerely,

Paul M. Baugher, FSA, EA, MAAA
Principal, Retirement Actuary
Conduent Human Resource Services

Troy Jaros, FSA, EA, MAAA, FCA
Senior Consultant, Retirement Actuary
Conduent Human Resource Services

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Appendix A, Table 1 – Projection of Fiduciary Net Position (000's omitted)

Year	Projected Beginning Fiduciary Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Investment Earnings	Projected Ending Fiduciary Net Position
2017	$ 850,180	$ 50,742	$ 108,181	$ 60,122	$ 852,863
2018	$ 852,863	$ 54,774	$ 107,587	$ 60,301	$ 860,351
2019	$ 860,351	$ 54,659	$ 106,925	$ 60,853	$ 868,938
2020	$ 868,938	$ 54,195	$ 106,265	$ 61,496	$ 878,364
2021	$ 878,364	$ 53,767	$ 106,022	$ 62,191	$ 888,301
2022	$ 888,301	$ 53,357	$ 105,824	$ 62,926	$ 898,759
2023	$ 898,759	$ 52,806	$ 105,516	$ 63,706	$ 909,755
2024	$ 909,755	$ 52,110	$ 105,058	$ 64,532	$ 921,339
2025	$ 921,339	$ 51,252	$ 104,534	$ 65,407	$ 933,465
2026	$ 933,465	$ 50,282	$ 103,962	$ 66,325	$ 946,110
2027	$ 946,110	$ 49,185	$ 103,334	$ 67,284	$ 959,245
2028	$ 959,245	$ 47,975	$ 102,826	$ 68,276	$ 972,670
2029	$ 972,670	$ 46,666	$ 102,318	$ 69,291	$ 986,309
2030	$ 986,309	$ 45,242	$ 101,868	$ 70,319	$ 1,000,003
2031	$ 1,000,003	$ 43,687	$ 101,384	$ 71,353	$ 1,013,659
2032	$ 1,013,659	$ 42,011	$ 101,017	$ 72,381	$ 1,027,033
2033	$ 1,027,033	$ 40,177	$ 100,810	$ 73,381	$ 1,039,781
2034	$ 1,039,781	$ 38,089	$ 100,538	$ 74,336	$ 1,051,668
2035	$ 1,051,668	$ 35,545	$ 100,343	$ 75,225	$ 1,062,095
2036	$ 1,062,095	$ 31,572	$ 99,934	$ 76,012	$ 1,069,745
2037	$ 1,069,745	$ 6,767	$ 99,501	$ 76,592	$ 1,053,602
2038	$ 1,053,602	$ 3,939	$ 98,924	$ 75,394	$ 1,034,011
2039	$ 1,034,011	$ 3,220	$ 98,013	$ 73,950	$ 1,013,167
2040	$ 1,013,167	$ 2,957	$ 97,228	$ 72,407	$ 991,304
2041	$ 991,304	$ 2,743	$ 96,231	$ 70,797	$ 968,613
2042	$ 968,613	$ 2,545	$ 95,259	$ 69,124	$ 945,022
2043	$ 945,022	$ 2,353	$ 94,197	$ 67,388	$ 920,567
2044	$ 920,567	$ 2,178	$ 92,803	$ 65,599	$ 895,540
2045	$ 895,540	$ 2,018	$ 91,318	$ 63,772	$ 870,012
2046	$ 870,012	$ 1,870	$ 89,767	$ 61,910	$ 844,026
2047	$ 844,026	$ 1,742	$ 88,014	$ 60,022	$ 817,777
2048	$ 817,777	$ 1,632	$ 86,018	$ 58,124	$ 791,515
2049	$ 791,515	$ 1,541	$ 84,041	$ 56,225	$ 765,240
2050	$ 765,240	$ 1,465	$ 81,851	$ 54,334	$ 739,187
2051	$ 739,187	$ 1,403	$ 79,409	$ 52,469	$ 713,650
2052	$ 713,650	$ 1,354	$ 76,836	$ 50,648	$ 688,817
2053	$ 688,817	$ 1,313	$ 74,050	$ 48,889	$ 664,969
2054	$ 664,969	$ 1,282	$ 71,122	$ 47,209	$ 642,337
2055	$ 642,337	$ 1,257	$ 68,169	$ 45,621	$ 621,046
2056	$ 621,046	$ 1,238	$ 65,228	$ 44,134	$ 601,190
2057	$ 601,190	$ 1,225	$ 62,321	$ 42,753	$ 582,848
2058	$ 582,848	$ 1,215	$ 59,448	$ 41,485	$ 566,101
2059	$ 566,101	$ 1,208	$ 56,609	$ 40,335	$ 551,035
2060	$ 551,035	$ 1,204	$ 53,806	$ 39,310	$ 537,743

Appendix A, Table 1 – Projection of Fiduciary Net Position (000's omitted)

Year	Projected Beginning Fiduciary Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Investment Earnings	Projected Ending Fiduciary Net Position
2061	$ 537,743	$ 1,200	$ 51,043	$ 38,417	$ 526,317
2062	$ 526,317	$ 1,198	$ 48,318	$ 37,662	$ 516,858
2063	$ 516,858	$ 1,196	$ 45,631	$ 37,053	$ 509,477
2064	$ 509,477	$ 1,196	$ 42,985	$ 36,599	$ 504,287
2065	$ 504,287	$ 1,195	$ 40,383	$ 36,307	$ 501,406
2066	$ 501,406	$ 1,195	$ 37,829	$ 36,187	$ 500,958
2067	$ 500,958	$ 0	$ 35,328	$ 36,247	$ 501,878
2068	$ 501,878	$ 0	$ 32,883	$ 36,408	$ 505,402
2069	$ 505,402	$ 0	$ 30,501	$ 36,761	$ 511,662
2070	$ 511,662	$ 0	$ 28,187	$ 37,318	$ 520,793

Appendix A, Table 2 – Actuarial Present Values of Projected Benefit Payments (000's omitted)

Fiscal Year Ending 12/31		Beginning Fiduciary Net Position		Benefit Payments	Benefit Payments Funded Portion	Unfunded Portion	Present Value of Benefit Payments Funded Portion at 7.50%	Unfunded Portion at 3.71%	Using a Single Discount Rate of 7.50%
2017	$	850,180	$	108,181	108,181	-	104,339	-	104,339
2018	$	852,863	$	107,587	107,587	-	96,527	-	96,527
2019	$	860,351	$	106,925	106,925	-	89,240	-	89,240
2020	$	868,938	$	106,265	106,265	-	82,501	-	82,501
2021	$	878,364	$	106,022	106,022	-	76,570	-	76,570
2022	$	888,301	$	105,824	105,824	-	71,095	-	71,095
2023	$	898,759	$	105,516	105,516	-	65,942	-	65,942
2024	$	909,755	$	105,058	105,058	-	61,075	-	61,075
2025	$	921,339	$	104,534	104,534	-	56,531	-	56,531
2026	$	933,465	$	103,962	103,962	-	52,299	-	52,299
2027	$	946,110	$	103,334	103,334	-	48,356	-	48,356
2028	$	959,245	$	102,826	102,826	-	44,762	-	44,762
2029	$	972,670	$	102,318	102,318	-	41,433	-	41,433
2030	$	986,309	$	101,868	101,868	-	38,373	-	38,373
2031	$	1,000,003	$	101,384	101,384	-	35,526	-	35,526
2032	$	1,013,659	$	101,017	101,017	-	32,928	-	32,928
2033	$	1,027,033	$	100,810	100,810	-	30,568	-	30,568
2034	$	1,039,781	$	100,538	100,538	-	28,358	-	28,358
2035	$	1,051,668	$	100,343	100,343	-	26,329	-	26,329
2036	$	1,062,095	$	99,934	99,934	-	24,392	-	24,392
2037	$	1,069,745	$	99,501	99,501	-	22,592	-	22,592
2038	$	1,053,602	$	98,924	98,924	-	20,894	-	20,894
2039	$	1,034,011	$	98,013	98,013	-	19,257	-	19,257
2040	$	1,013,167	$	97,228	97,228	-	17,770	-	17,770
2041	$	991,304	$	96,231	96,231	-	16,361	-	16,361
2042	$	968,613	$	95,259	95,259	-	15,066	-	15,066
2043	$	945,022	$	94,197	94,197	-	13,858	-	13,858
2044	$	920,567	$	92,803	92,803	-	12,701	-	12,701
2045	$	895,540	$	91,318	91,318	-	11,626	-	11,626
2046	$	870,012	$	89,767	89,767	-	10,631	-	10,631
2047	$	844,026	$	88,014	88,014	-	9,696	-	9,696
2048	$	817,777	$	86,018	86,018	-	8,815	-	8,815
2049	$	791,515	$	84,041	84,041	-	8,012	-	8,012
2050	$	765,240	$	81,851	81,851	-	7,258	-	7,258
2051	$	739,187	$	79,409	79,409	-	6,551	-	6,551
2052	$	713,650	$	76,836	76,836	-	5,896	-	5,896
2053	$	688,817	$	74,050	74,050	-	5,286	-	5,286
2054	$	664,969	$	71,122	71,122	-	4,723	-	4,723
2055	$	642,337	$	68,169	68,169	-	4,211	-	4,211
2056	$	621,046	$	65,228	65,228	-	3,748	-	3,748
2057	$	601,190	$	62,321	62,321	-	3,331	-	3,331
2058	$	582,848	$	59,448	59,448	-	2,956	-	2,956

Appendix A, Table 2 – Actuarial Present Values of Projected Benefit Payments (000’s omitted)

			Benefit Payments		Present Value of Benefit Payments		
Fiscal Year Ending 12/31	Beginning Fiduciary Net Position	Benefit Payments	Funded Portion	Unfunded Portion	Funded Portion at 7.50%	Unfunded Portion at 3.71%	Using a Single Discount Rate of 7.50%
2059	$ 566,101	$ 56,609	56,609	-	2,618	-	2,618
2060	$ 551,035	$ 53,806	53,806	-	2,315	-	2,315
2061	$ 537,743	$ 51,043	51,043	-	2,043	-	2,043
2062	$ 526,317	$ 48,318	48,318	-	1,799	-	1,799
2063	$ 516,858	$ 45,631	45,631	-	1,580	-	1,580
2064	$ 509,477	$ 42,985	42,985	-	1,385	-	1,385
2065	$ 504,287	$ 40,383	40,383	-	1,210	-	1,210
2066	$ 501,406	$ 37,829	37,829	-	1,055	-	1,055
2067	$ 500,958	$ 35,328	35,328	-	916	-	916
2068	$ 501,878	$ 32,883	32,883	-	793	-	793
2069	$ 505,402	$ 30,501	30,501	-	685	-	685
2070	$ 511,662	$ 28,187	28,187	-	588	-	588

Appendix B – Schedule of Changes in System's Net Pension Liability and Related Ratios

	2015	2016
Total pension liability		
Service cost	$ 19,136,245	$ 19,260,511
Interest	93,242,628	92,358,115
Changes of benefit terms	0	0
Differences between expected and actual experience	(10,065,347)	6,392,416
Changes of assumptions	0	70,532,232
Benefit payments	(113,384,329)	(113,608,409)
Net change in total pension liability	(11,070,803)	74,934,865
Total pension liability-beginning	1,201,998,138	1,190,927,335
Total pension liability-ending (a)	1,190,927,335	1,265,862,200
Plan fiduciary net pension		
Contributions-employer	$ 40,708,503	$ 39,519,979
Contributions-employee	11,664,711	12,652,029
Net investment income	(5,342,651)	44,492,088
Benefit payments, including refunds of employee contributions	(113,384,329)	(113,608,409)
Administrative expense	(1,466,261)	(1,554,314)
Other	(431,423)	0
Net change in plan fiduciary net position	(68,251,450)	(18,498,627)
Plan fiduciary net position-beginning	936,930,499	868,679,049
Plan fiduciary net position-ending (b)	868,679,049	850,180,422
System's net pension liability-ending (a)-(b)	322,248,286	415,681,778
Plan fiduciary net position as a percentage of the total pension liability	72.94%	67.16%
Covered-employee payroll	$ 225,343,383	$ 226,842,483
Net pension liability as a percentage of covered-employee payroll	143.00%	183.25%

Notes to Schedule:

A. Benefit changes

None.

B. Changes of assumptions

Mortality, withdrawal rates, retirement rates, salary scale, and the discount rate were changed to reflect the most recent experience study for the five years ending December 31, 2015.

Appendix C – Pension Expense and Deferred Inflows & Outflows of Resources Related to Pensions

Table 1: Pension Expense

Under GASB 68, employers participating in the Plan would recognize a total pension expense of $78,088,817 for the fiscal year beginning after June 15, 2016 which has been determined as of December 31, 2016. The corresponding results for the previous fiscal year determined as of December 31, 2015 are shown for comparison purposes.

Pension Expense	2015	2016
Service cost	$19,136,245	$19,260,511
Interest cost	93,242,628	92,358,115
Projected earnings on plan investments	(72,560,944)	(67,084,144)
Employee contributions	(11,664,711)	(12,652,029)
Administrative expense	1,466,261	1,554,314
Current period		
Changes of benefit terms	0	0
Changes in assumptions	0	17,633,058
Differences between expected and actual experience	(2,287,579)	1,598,104
Differences between projected and actual investment earnings	15,580,719	4,518,412
Recognition of prior years'		
Deferred inflows	0	(2,287,579)
Deferred outflows	7,609,336	23,190,055
Other changes in fiduciary net position	431,423	0
Total pension expense	$50,953,378	$78,088,817

For 2016, the additional liability due to changes in actuarial assumptions is recognized over the average expected remaining service lives of active and inactive members as of January 1, 2016 (4.0 years).

For 2016, the difference between expected and actual experience is recognized over the average expected remaining service lives of active and inactive members as of January 1, 2016 (4.0 years).

The difference between projected and actual investment earnings is recognized over 5.0 years.

Details of the deferred inflows and outflows of resources are shown in Table 2, Table 3, and Table 4.

The Employer allocation percentages are shown in Table 5.

Appendix C – Pension Expense and Deferred Inflows & Outflows of Resources and Related to Pensions

Table 2: Amortization of Differences between Expected and Actual Liability Experience

Measurement Year	2014	2015	2016	2017	2018
Amount Established	$ 0	$ (10,065,347)	$ 6,392,416		
Recognition Period		4.4	4.0		
Annual Recognition		$ (2,287,579)	$ 1,598,104		

	Amount Recognized							
Measurement Year	2014	2015	2016	2017	2018	Outflows	Inflows	Total
2014	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
2015	0	(2,287,579)	0	0	0	0	(2,287,579)	(2,287,579)
2016	0	(2,287,579)	1,598,104	0	0	1,598,104	(2,287,579)	(689,475)
2017	0	(2,287,579)	1,598,104	0	0	1,598,104	(2,287,579)	(689,475)
2018	0	(2,287,579)	1,598,104	0	0	1,598,104	(2,287,579)	(689,475)
2019	0	(915,031)	1,598,104	0	0	1,598,104	(915,031)	683,073
2020	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0
2022	0	0	0	0	0	0	0	0
2023	0	0	0	0	0	0	0	0

	Deferred Balance							
Measurement Year	2014	2015	2016	2017	2018	Outflows	Inflows	Total
2014	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
2015	0	(7,777,768)	0	0	0	0	(7,777,768)	(7,777,768)
2016	0	(5,490,189)	4,794,312	0	0	4,794,312	(5,490,189)	(695,877)
2017	0	(3,202,610)	3,196,208	0	0	3,196,208	(3,202,610)	(6,402)
2018	0	(915,031)	1,598,104	0	0	1,598,104	(915,031)	683,073
2019	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0
2022	0	0	0	0	0	0	0	0
2023	0	0	0	0	0	0	0	0

Appendix C – Pension Expense and Deferred Inflows & Outflows of Resources and Related to Pensions

Table 3: Amortization of Additional Liability Attributable to Actuarial Assumption Changes

Measurement Year	2014	2015	2016	2017	2018
Amount Established			$ 70,532,232		
Recognition Period			4.0		
Annual Recognition			$ 17,633,058		

Measurement Year	Amount Recognized					Outflows	Inflows	Total
	2014	2015	2016	2017	2018			
2014	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
2015	0	0	0	0	0	0	0	0
2016	0	0	17,633,058	0	0	17,633,058	0	17,633,058
2017	0	0	17,633,058	0	0	17,633,058	0	17,633,058
2018	0	0	17,633,058	0	0	17,633,058	0	17,633,058
2019	0	0	17,633,058	0	0	17,633,058	0	17,633,058
2020	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0
2022	0	0	0	0	0	0	0	0
2023	0	0	0	0	0	0	0	0

Measurement Year	Deferred Balance					Outflows	Inflows	Total
	2014	2015	2016	2017	2018			
2014	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
2015	0	0	0	0	0	0	0	0
2016	0	0	52,899,174	0	0	52,899,174	0	52,899,174
2017	0	0	35,266,116	0	0	35,266,116	0	35,266,116
2018	0	0	17,633,058	0	0	17,633,058	0	17,633,058
2019	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0
2022	0	0	0	0	0	0	0	0
2023	0	0	0	0	0	0	0	0

Appendix C – Pension Expense and Deferred Inflows & Outflows of Resources and Related to Pensions

Table 4: Amortization of Differences between Projected and Actual Earnings

Measurement Year	2014	2015	2016	2017	2018
Amount Established	$ 38,046,679	$77,903,595	$22,592,056		
Recognition Period	5.0	5.0	5.0		
Annual Recognition	$ 7,609,336	$15,580,719	$ 4,518,412		

Measurement Year	Amount Recognized					Outflows	Inflows	Total
	2014	2015	2016	2017	2018			
2014	$ 7,609,336	$ 0	$ 0	$ 0	$ 0	$ 7,609,336	$ 0	$ 7,609,336
2015	7,609,336	15,580,719	0	0	0	23,190,055	0	23,190,055
2016	7,609,336	15,580,719	4,518,412	0	0	27,708,467	0	27,708,467
2017	7,609,336	15,580,719	4,518,412	0	0	27,708,467	0	27,708,467
2018	7,609,335	15,580,719	4,518,412	0	0	27,708,466	0	27,708,466
2019	0	15,580,719	4,518,412	0	0	20,099,131	0	20,099,131
2020	0	0	4,518,408	0	0	4,518,408	0	4,518,408
2021	0	0	0	0	0	0	0	0
2022	0	0	0	0	0	0	0	0
2023	0	0	0	0	0	0	0	0

Measurement Year	Deferred Balance					Outflows	Inflows	Total
	2014	2015	2016	2017	2018			
2014	$ 30,437,343	$ 0	$ 0	$ 0	$ 0	$ 30,437,343	$ 0	$ 30,437,343
2015	22,828,007	62,322,876	0	0	0	85,150,883	0	85,150,883
2016	15,218,671	46,742,157	18,073,644	0	0	80,034,472	0	80,034,472
2017	7,609,335	31,161,438	13,555,232	0	0	52,326,005	0	52,326,005
2018	0	15,580,719	9,036,820	0	0	24,617,539	0	24,617,539
2019	0	0	4,518,408	0	0	4,518,408	0	4,518,408
2020	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0
2022	0	0	0	0	0	0	0	0
2023	0	0	0	0	0	0	0	0

Appendix C – Pension Expense and Deferred Inflows & Outflows of Resources and Related to Pensions

Table 5: Employer Allocation Percentage

EMPLOYER	Total Employer Payroll	Ratio of Employer Payroll over Total Payroll
Retirement System	$ 478,280	0.21%
Board of Education	$ 173,412,355	76.45%
Charter Schools		
Confluence Academy	$ 13,937,922	6.14%
City Garden Montessori School	$ 1,332,315	0.59%
Gateway Science Academy of St. Louis	$ 4,794,992	2.11%
KIPP Inspire Academy	$ 6,452,042	2.84%
Lift for Life Academy	$ 3,636,601	1.60%
North Side Community School	$ 2,001,352	0.88%
Preclarus Mastery Academy	$ 608,211	0.27%
South City Preparatory Academy	$ 1,476,991	0.65%
St. Louis Language Immersion School	$ 3,158,352	1.39%
Premier Charter School (formerly St. Louis Charter School)	$ 5,976,622	2.63%
EAGLE College Preparatory School	$ 1,655,809	0.73%
Grand Center Arts Academy	$ 3,155,676	1.39%
Lafayette Preparatory Academy	$ 931,056	0.41%
Carondelet Leadership Academy	$ 2,007,245	0.88%
Hawthorne Leadership School for Girls	$ 879,164	0.39%
The Biome	$ 352,189	0.16%
La Salle Middle School	$ 595,310	0.26%
Total Charter Schools	$ 52,951,847	23.34%
TOTAL	$ 226,842,483*	100.00%*

* Totals may differ from summation of the individual components due to rounding

Appendix D – Assumptions and Methods

In this appendix, "2016 valuation report" refers to the actuarial valuation report issued in June 2016.

Interest

7.50% per annum.

Participant account interest crediting rate

5.0% per annum.

Expenses

The rate of interest assumed is net of expenses.

Mortality

a) RP-2014 Combined Healthy Mortality Table (rolled back to 2006) for active Members, and deferred vested Members, projected fully generationally using projection scale MP-2015.

b) RP-2014 Combined Healthy Mortality Table (rolled back to 2006) for Inactive (In Receipt) Members adjusted by an additional 10% to account for the higher mortality experienced by the Plan, projected fully generationally using projection scale MP-2015.

Disability Mortality

The RP-2014 Disabled Mortality Table (rolled back to 2006) for disabled retired Members, projected fully generationally using projection scale MP-2015

Withdrawal

Withdrawals are assumed to occur at rates based on actual experience of the retirement system. During the first five 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%	35.0%
2nd	20.0%	35.0%
3rd	20.0%	35.0%
4th	20.0%	25.0%
5th	15.0%	15.0%

The rates used after the first five years of membership are shown in Table 1 of Appendix D.

Salary scale

Salaries are assumed to increase at the rate of 5.00% per year for the first 5 years of employment and 3.50% per year thereafter.

Disability

Disabilities are assumed to occur at rates based on the actual experience of the retirement system. The rates are shown in Table 5 of the 2016 valuation report.

Appendix D – Assumptions and Methods (continued)

Retirement

Retirements occur at rates based on the actual experience of the retirement system. The age-related rates used are shown in Table 2 of Appendix D.

Family Structure

The probability of a participant being married and the probable number of children are based on a table constructed by the Social Security Administration, modified to reflect the experience of the retirement system. The rates used are shown in Table 7 of the 2016 valuation report. For married participants, husbands are assumed to be 3 years older than their wives.

Usage of Cash-out Option

Participants terminating in vested status are given the option of taking a refund of their accumulated participant contributions instead of a deferred retirement 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.

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.

Actuarial Method – Frozen Entry Age (Funding Purposes)

The actuarial cost method used by the System is the "frozen entry age actuarial cost method." Under this method, on the initial actuarial valuation date for which the cost method is used, the annual cost accruals (individual normal costs for each participant) are determined as a level percentage of pay for each year from entry age until retirement or termination. The UFAAL was originally determined as of January 1, 1981. Entry age is determined at the date each participant would have entered the System. The sum of these individual normal costs for all active participants whose attained ages are under the assumed retirement age is the normal cost for the initial plan year. The excess of all normal costs falling due prior to the initial actuarial valuation date, accumulated with interest, over the plan assets establishes the initial Unfunded Frozen Actuarial Accrued Liability (UFAAL).

The UFAAL is only frozen in that it is not adjusted due to experience gains and losses. Instead, gains and losses are reflected through changes in the normal cost accrual rate. The UFAAL does change, increasing due to interest and additional normal costs, and decreasing due to contributions. Any changes to plan provisions or actuarial assumptions results in a change to the UFAAL. The amount of the change is determined by computing the impact in the actuarial accrued liability as of the valuation date coincident with or next following the change.

Appendix D – Assumptions and Methods (continued)

Normal costs are calculated as the level percentage of pay required to fund the excess of the actuarial present value of future benefits over the sum of the actuarial value of current assets and the remaining UFAAL.

Effective January 1, 2006, UFAAL was reestablished to better reflect an appropriate relationship between the normal cost and the actuarial accrued liability.

The funding requirement for each plan year is the sum of the "normal cost contribution" (equal to the normal cost for that year), plus the "actuarial accrued liability contribution." The "actuarial accrued liability contribution" is the payment required to amortize the UFAAL over 30 years, from January 1, 2006, the date that it was reestablished.

Valuation of Assets (Funding Purposes)

The actuarial value of assets is determined using the assumed yield method of valuing assets. Under the assumed yield asset valuation method, the prior year's actuarial value is increased at the assumed rate of return with appropriate adjustments for contributions and disbursements to produce an expected actuarial value of assets at the end of the year. The expected actuarial value is compared to the market value of assets less the expense and contingency reserve, and 20% of the difference is added to the expected actuarial value. The actuarial value of assets was "fresh-started" as of January 1, 2006 and set equal to the market value of assets as of that date.

Assumption Changes effective as of Year-end 2016:

1. Revised investment return assumption of 7.50% based on analysis of asset allocation.
2. Updated Withdrawal assumption based on Plan experience for the 5 years ending December 31, 2015.
3. Updated Retirement assumption based on Plan experience for the 5 years ending December 31, 2015.
4. Revised Salary increase assumption.
5. Updated mortality assumption, reflecting most recent mortality improvements.

Cumulative impact on Net Pension Liability at year-end 2016 an increase of $70.5 million.

Appendix E – Summary of Plan Provisions

Participants

All persons regularly employed by the board of education, charter schools, and employees of the board of trustees are in the System.

Retirement age

Normal

Age 65 or any age if age plus the years of credited service equals or exceeds 85 (Rule of 85)

Early

Age 60 with 5 years of service

Service retirement allowance

a. 2% (1-1/4% if terminated prior to July 1, 1999) times years of credited service, subject to a maximum of 60%
b. Times average final compensation (AFC)
c. Subject to a maximum of 60% of AFC.
    i. AFC is the highest average compensation for any three consecutive years of the last 10 years of service.
    ii. Compensation is the regular wages plus what your employer pays towards your health and welfare benefits.
    iii. Minimum monthly benefit is $10.00 for each year of credited service, up to 15 years, retirement age 65 and over.
    iv. Unused sick leave is added to a participant's credited service and age.

Early retirement benefit

Service retirement allowance reduced five-ninths of one percent for each month of commencement prior to age 65 or the age at which the Rule of 85 would have been satisfied had the employee continued working until that age, if earlier.

Disability benefit

Service retirement allowance using actual service, or 25% of AFC if larger, provided that in no case will the benefit exceed that payable if service had continued to age 65.

a. Disability must be incurred while an employee as determined by the medical board and approved by the board of trustees.
b. The participant must have a minimum of five years of credited service and not be eligible for normal retirement.

Continued disability is subject to routine verification.

Withdrawal benefit

Accumulated contributions of participant with interest credited to the participant's account.

Appendix E – Summary of Plan Provisions (continued)

Vested benefit

Full vesting on termination of employment after at least five years of service is provided if contributions are left with the System. The full accrued benefit is payable at age 65 or a reduced early retirement benefit prior to age 65.

Retirement options

In lieu of the benefit paid only over the lifetime of the participant, a reduced benefit payable for life of participant with:

- Option 1 Same retirement allowance continued after death to the beneficiary.
- Option 2 One-half of the retirement allowance continued after death to the beneficiary.
- Option 3 Same retirement allowance continued after death to the beneficiary. If the beneficiary predeceases the participant, the retirement allowance is adjusted back to the unreduced allowance.
- Option 4 One-half of retirement allowance continued after death to the beneficiary. If the beneficiary predeceases the participant, the retirement allowance is adjusted back to the unreduced allowance.
- Option 5 Increased retirement allowance is provided up to age 62, such that benefit provided prior to age 62 is approximately equal to the sum of the reduced retirement allowance paid after age 62 and Social Security.
- Option 6 Options 1 and 5 combined.
- Option 7 Options 2 and 5 combined.

Survivor benefits

If an active participant dies after completing 18 months of service, leaving a surviving spouse or other dependent beneficiaries, survivor benefits are payable. The widow or dependent beneficiary may elect to receive either a refund of accumulated contributions, or:

a. A survivor who is the widow at least age 62 and married to a participant for at least one year receives $60 a month.
b. A widow with dependent, unmarried children under age 22 receives $60 a month plus $60 per dependent child, not to exceed $180 per month. The benefit ceases when youngest child is age 22 and resumes again under (a) at age 62.
c. If no benefits are payable under (a) or (b), minor children may receive a benefit of $60 per child or $180 divided among them if more than three children.
d. If no benefits are payable under (a), (b) or (c), a dependent parent or parents may receive or share $60 per month upon attaining age 62.

If an active participant dies after completing 5 years of service, the widow or dependent beneficiary may elect to receive either a refund of accumulated contributions or:

a. If the survivor is the widow, a survivor benefit calculated as if the participant had been age 60 at death and elected Option 1, plus $60 per dependent child not to exceed $180 per month.
b. If there is no widow, a survivor benefit calculated as if the participant had been age 60 at death and elected Option 1.

Appendix E – Summary of Plan Provisions (continued)

Return of contributions upon death

If after the death of a participant, no further monthly are payable to a beneficiary under an optional form of payment, or under the survivor benefit provisions, the participant's beneficiary shall be paid the excess, if any, of the participant's accumulated contributions over all payments made to or on behalf of the deceased participant.

DROP

Effective July 1, 2001, active participants may elect to enter the deferred retirement option plan (DROP) for up to four years. Upon entering the DROP, the participant's retirement benefit is frozen and credited to the participant's DROP account. At the end of the DROP, or upon earlier termination of employment, the DROP account is paid in a lump sum or installments, at the participant's option. During the DROP, the participant continues as an active participant, but does not pay contributions. To enter the DROP the participant must be age 65 or meet the Rule of 85. The DROP program is no longer available, ending June 30, 2008.

Contributions by participants

Participants contribute 5% of compensation. Accumulated contributions are credited at the rate of interest established by the board of trustees. The current crediting rate is 5%.

Contributions by employers

As needed to keep the System actuarially sound.

Expenses

Administrative expenses paid out of investment income.

Note: There have been no changes to the System's plan provisions since 2002.

Appendix F – Tables of Assumptions

Table 1
Withdrawal Rates
Annual Rates Per 1,000 Members

Age	Rate	Age	Rate
20	204.0	45	44.0
21	197.0	46	41.0
22	190.0	47	37.0
23	184.0	48	34.0
24	177.0	49	31.0
25	171.0	50	28.0
26	161.0	51	26.0
27	151.0	52	25.0
28	141.0	53	24.0
29	131.0	54	23.0
30	121.0	55	22.0
31	117.0	56	21.0
32	112.0	57	20.0
33	108.0	58	19.0
34	103.0	59	18.0
35	99.0	60	17.0
36	96.0		
37	92.0		
38	89.0		
39	86.0		
40	83.0		
41	75.0		
42	67.0		
43	59.0		
44	52.0		

Appendix F – Tables of Assumptions (continued)

Table 2
Retirement Rates
Annual Rates Per 1,000 Members

Age	Rule of 85 Rate	Not Rule of 85 Rate
< 60	150.0	N/A
60	200.0	100.0
61	200.0	100.0
62	250.0	150.0
63	250.0	150.0
64	250.0	200.0
65	300.0	300.0
66	300.0	300.0
67	300.0	300.0
68	300.0	300.0
69	300.0	300.0
70 - 71	300.0	300.0
72	1,000.0	1,000.0