

**PUBLIC SCHOOL RETIREMENT SYSTEM
OF THE CITY OF ST. LOUIS**
MINUTES OF THE BOARD OF TRUSTEES REGULAR MEETING
December 18, 2017

I. ROLL CALL AND ANNOUNCEMENT OF A QUORUM

The December meeting of the Board of Trustees of the Public School Retirement System of the City of St. Louis (PSRSSTL) was called to order at around 4:35 p.m., Monday, December 18, 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 Angela Banks, Christina Bennett, Paula Bentley, Joseph Clark, Louis Cross, Bobbie Richardson, Rick Sullivan and Eural Thomas were present. The Board of Trustees had a quorum at the meeting. Trustee Sheila Goodwin joined the meeting in progress. Trustees Darnetta Clinkscale and Yvette Levy were absent.

Executive Director, Andrew Clark, Accounting Specialist, Terry Mayes, PSRSSTL Attorney Representatives, Matt Gierse and Jim Faul, PSRSSTL Actuary, Troy Jaros, Actuary Representative, Matthew Mantia, and an interested party were also in attendance.

II. APPROVAL OF MINUTES FROM LAST MEETING

Louis Cross made a motion, seconded by Paula Bentley, to approve the minutes of the Board of Trustees Regular Meeting of October 16, 2017.

By voice vote, motion carried.

III. SEATING OF NEW MEMBERS

The Chairman congratulated and welcomed Angela Banks as a recently appointed school board Trustee. Rick Sullivan will send an updated certification letter extending Ms. Banks appointment through the next term beginning January 1, 2018, and ending December 31, 2021.

IV. READING OF COMMUNICATIONS TO THE BOARD OF TRUSTEES

None

V. PRESENTATIONS BY INTERESTED PARTIES

None

VI. CONSENT AGENDA

Christina Bennett made a motion, seconded by Bobbie Richardson, to approve the Retirements and Benefits of November and December 2017.

By voice vote, motion carried.

Christina Bennett made a motion, seconded by Paula Bentley, to approve the Refunds and Bills of October and November 2017.

By voice vote, motion carried.

VII. UNFINISHED BUSINESS

None

VIII. REPORT OF THE CHAIRPERSON

The Chairperson asked the Attorney to conduct the election of the 2018 officers of the Board of Trustees. The floor was opened for nominations of a Chairperson. Paula Bentley nominated Joe Clark, seconded by Eural Thomas, and Rick Sullivan nominated Christina Bennett, seconded by Angela Banks. The nominations on the floor were closed. The Board of Trustees cast votes by written ballot for Chairperson; the results were five votes for Joe Clark and three votes for Christina Bennett.

Joe Clark was elected to serve as Chairperson of the Board of Trustees in 2018.

The floor was opened for nominations of the 2018 Vice Chairperson of the Board of Trustees. Rick Sullivan nominated Christina Bennett, seconded by Angela Banks, and Paula Bentley nominated Bobbie Richardson, seconded by Eural Thomas. The nominations on the floor were closed. The Board of Trustees cast votes by written ballot for Vice Chairperson; the results were four votes for Christina Bennett and four votes for Bobbie Richardson.

Since there was a tie, the Board of Trustees voted a second time by written ballot for Vice Chairperson; the results were again four votes for Christina Bennett and four votes for Bobbie Richardson. There was discussion on "how to" proceed.

Louis Cross made a motion, seconded by Paula Bentley to table the election of the Vice Chairperson until the February meeting.

By voice vote, motion carried.

IX. REPORT OF THE EXECUTIVE DIRECTOR

The Executive Director referred the Trustees to the proposed Board of Trustees Meeting Schedule for Calendar Year 2018 that needed approval.

Louis Cross made a motion, seconded by Eural Thomas, to approve the Board of Trustees Meeting Schedule for 2018, as presented by the Executive Director.

By voice vote, motion carried.

Sheila Goodwin joined the meeting, and Louis Cross made a motion, seconded by Paula Bentley, to reopen the election of the 2018 Vice Chairperson of the Board of Trustees.

A voice vote was made, with both yeas and nays, a roll call vote was then taken.

Angela Banks	No	Christina Bennett	No	Paula Bentley	Yes
Joseph Clark	Yes	Louis Cross	Yes	Sheila Goodwin	Yes
Bobbie Richardson	Yes	Rick Sullivan	No	Eural Thomas	Yes

With six yes votes, and three no votes, motion carried.

The floor was opened for nominations of the 2018 Vice Chairperson of the Board of Trustees. Rick Sullivan nominated Christina Bennett, seconded by Angela Banks, and Paula Bentley nominated Bobbie Richardson, seconded by Eural Thomas. The nominations on the floor were closed. The Board of Trustees cast votes by written ballot for Vice Chairperson; the results were five votes for Bobbie Richardson and four votes for Christina Bennett.

Bobbie Richardson was elected to serve as Vice Chairperson of the Board of Trustees in 2018.

The Executive Director reported on Trustee travel by pointing out that one Trustee is still ineligible for travel for lack of filing a complete travel expense voucher. The Executive Director informed the Trustees that at the Trustee Business Committee meeting, the Committee agreed to start collection proceedings. There was discussion regarding the consequences of not filing a complete travel expense voucher. The Executive Director stated the only consequence as the Trustee is ineligible for future travel until the delinquent travel voucher is resolved. The overall delinquent travel voucher issue remains a concern for several Trustees.

X. REPORT OF THE INVESTMENT CONSULTANT

None

XI. REPORT OF THE ACTUARY

The Actuary presented the Trustees with findings from the Actuarial Cost Statement prepared for the PSRSSTL to measure the impact of the changes made in Senate Bill No. 62, that was signed into law by the Governor earlier in 2017. During the presentation, it appeared that most of the Trustees realized the long-term negative impact the changes will have on the ability of the PSRSSTL to meet its future financial obligations to all members. The Actuary reported that by 2033, given that all actuarial assumptions are met, that the PSRSSTL will experience a shortfall in contributions from its employers of approximately \$233 million, and that the funding percentage will fall by around 10%.

The Actuary also presented a scenario where, instead of returning the assumed 7.5%, the investments of the plan return 0% in 2018. The Trustees appeared to recognize that the results of this scenario could be devastating on the plan. The Actuary reported that by 2033, under the 2018 0% investment return scenario, that the PSRSSTL will experience a shortfall in contributions from its employers of approximately \$443 million, and that the funding percentage will fall by around 20%.

There was also discussion on the impact of the new "Rule of 80" and the contributions needed to fulfill the benefit increase for qualifying members.

The Trustees were reminded that a portion of the meeting would be closed further down the Agenda to discuss options available to the PSRSSTL on "how to" approach the significant impacts on the plan presented in the Actuarial Cost Statement.

XII. REPORTS OF COMMITTEES OF THE BOARD OF TRUSTEES

The Chairman asked for reports from the Committees.

Benefits Committee

None

Trustee Business Committee

Sheila Goodwin, Chair of the Trustee Business Committee, reported on the meeting of December 6, 2017, and informed the Trustees that two recommendations were being brought forward by the Committee for consideration by the Trustees.

Joe Clark made a motion, seconded by Paula Bentley, to approve the total 2017 travel expenses as recommended and accepted by the Trustee Business Committee at a meeting on December 6, 2017.

A roll call vote was taken.

Angela Banks	Yes	Christina Bennett	Yes	Paula Bentley	Yes
Joseph Clark	Yes	Louis Cross	Yes	Sheila Goodwin	Yes
Bobbie Richardson	Yes	Rick Sullivan	Yes	Eural Thomas	Yes

With nine yes votes, motion carried.

Joe Clark made a motion, seconded by Bobbie Richardson, to approve the 2018 Operating Budget as recommended and accepted by the Trustee Business Committee at a meeting on December 6, 2017.

A roll call vote was taken.

Angela Banks	Yes	Christina Bennett	Abstain	Paula Bentley	Yes
Joseph Clark	Yes	Louis Cross	Yes	Sheila Goodwin	Yes
Bobbie Richardson	Yes	Rick Sullivan	Yes	Eural Thomas	Yes

With eight yes votes, and one abstention, motion carried.

Investment Committee

Joe Clark, Chair of the Investment Committee, reported on the meeting of October 19, 2017, and informed the Trustees that one recommendation was being brought forward by the Committee for consideration by the Trustees.

Christina Bennett made a motion, seconded by Sheila Goodwin, to hire Basis Investment Group, LLC, as a real estate debt money manager and commit \$8mm to the BIG Real Estate Fund I, as recommended by the Investment Committee at a meeting on October 19, 2017.

A roll call vote was taken.

Angela Banks	Yes	Christina Bennett	Yes	Paula Bentley	Yes
Joseph Clark	Yes	Louis Cross	Yes	Sheila Goodwin	Yes
Bobbie Richardson	Yes	Rick Sullivan	Yes	Eural Thomas	Yes

With nine yes votes, motion carried.

The Chair reminded the Board of Trustees of the upcoming Investment Committee meeting scheduled for 4:30, Thursday, December 21, 2017.

Legislative, Rules & Regulations Committee

None

Professional Contracts Committee

Eural Thomas, Chair of the Professional Contracts Committee, reported on the meeting of November 20, 2017.

XIII. NEW BUSINESS

Trustee Rick Sullivan asked about the changes to the “Code of Ethics Policy” adopted by the board earlier in 2017. The Executive Director informed the Trustees that the Annual Disclosure Statement required under the “Code of Ethics Policy” should be mailed to the Trustees in January, and that two new questions will be added to the list regarding gifts extended to a relative, spouse or guest of a Trustee, and conflicts of interest.

XIV. REPORT OF THE ATTORNEY

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

Christina Bennett made a motion, seconded by Louis Cross, 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.

Angela Banks	Yes	Christina Bennett	Yes	Paula Bentley	Yes
Joseph Clark	Yes	Louis Cross	Yes	Sheila Goodwin	Yes
Bobbie Richardson	Yes	Rick Sullivan	Yes	Eural Thomas	Yes

With nine yes votes, motion carried, and the meeting closed at around 5:55 p.m.

Rick Sullivan left the meeting, and during the closed portion of the meeting, several decisions were made.

The Trustees agreed to refer further discussion about the state of the \$8mm commitment to Elm Tree Net Lease Fund III to the Investment Committee.

Louis Cross made a motion, seconded by Sheila Goodwin, to authorize the PSRSSTL Attorney to take any and all legal action against Senate Bill No. 62, and the changes contained therein, and to expend attorney's fees in an initial amount no greater than \$100k, and if attorney's fees exceeding the initial amount are needed, the Attorney shall return to the Board of Trustees.

A roll call vote was taken.

Angela Banks	Abstain	Christina Bennett	Yes	Paula Bentley	Yes
Joseph Clark	Yes	Louis Cross	Yes	Sheila Goodwin	Yes
Bobbie Richardson	Yes	Eural Thomas	Yes		

With seven yes votes, and one abstention, motion carried.

Louis Cross made a motion, seconded by Christina Bennet, to authorize the PSRSSTL Actuary to take any action necessary for the furtherance of legal proceedings in an initial amount no greater than \$20k, without further Board of Trustees approval.

A roll call vote was taken.

Angela Banks	Abstain	Christina Bennett	Yes	Paula Bentley	Yes
Joseph Clark	Yes	Louis Cross	Yes	Sheila Goodwin	Yes
Bobbie Richardson	Yes	Eural Thomas	Yes		

With seven yes votes, and one abstention, motion carried.

Christina Bennett made a motion, seconded by Louis Cross, to open the meeting.

A roll call vote was taken.

Angela Banks	Yes	Christina Bennett	Yes	Paula Bentley	Yes
Joseph Clark	Yes	Louis Cross	Yes	Sheila Goodwin	Yes
Bobbie Richardson	Yes	Eural Thomas	Yes		

With eight yes votes, motion carried, and the meeting opened at around 6:45 p.m.

XV. ADJOURNMENT

Louis Cross made a motion, seconded by Sheila Goodwin, to adjourn the meeting.

By voice vote, motion carried, and the meeting adjourned at around 6:45 p.m.

Attachments:

- Retirements & Benefits: November and December 2017
- Refunds & Bills: October and November 2017
- 2018 Regular Board of Trustees Meeting Schedule
- 2017 Actuarial Cost Statement & Presentation to the Board of Trustees
- 2016 Trustee Travel Expenses
- 2017 Trustee Travel Expenses Approved by the Board of Trustees
- 2018 Operating Budget

APPLICATIONS FOR RETIREMENT

NAME \ POSITION	RETIREMENT DATE	TYPE	CREDITED SERVICE	FINAL AVG SALARY	MONTHLY BENEFIT
Carol Anderson Teacher	10/1/2017	Normal	29.2722	\$66,508.96	\$3,244.77
Sarah Kemp Teacher	10/1/2017	Early	10.7833	\$47,197.69	\$626.74
Sandra Metzner Secretary II	10/1/2017	Normal	27.1399	\$40,105.33	\$1,814.09
Karessa Morrow Principal	10/1/2017	Normal	30.3453	\$94,507.97	\$4,725.40
James Percifull Stationary Engineer	10/1/2017	Normal	31.1143	\$51,672.53	\$2,296.84
Susan Raster Nutritionist	10/1/2017	Normal	20.9756	\$43,557.38	\$1,522.74
Vasilika Tschlis Teacher	10/1/2017	Normal	30.2500	\$94,993.60	\$3,923.24
Dorris Walker-McGahee Compliance Clerk	10/1/2017	Early	16.6305	\$53,229.35	\$1,360.62

APPLICATIONS FOR RETIREMENT

NAME \ POSITION	RETIREMENT DATE	TYPE	CREDITED SERVICE	FINAL AVG SALARY	MONTHLY BENEFIT
Richard Burke Jr. Teacher	11/1/2017	Normal	27.9556	\$66,807.04	\$2,798.34
Nicholas Clement Gifted Enrichment Specialist	11/1/2017	Normal	17.4000	\$60,753.11	\$1,409.47
Essie Cotton Teacher	11/1/2017	Early	8.9167	\$57,494.22	\$849.68
Ella Davis Teacher	11/1/2017	Normal	30.0000	\$91,349.01	\$4,567.45
Pamela Dear Teacher Assistant	11/1/2017	Normal	28.3333	\$35,279.91	\$1,665.99
Peter Hess Teacher	11/1/2017	Normal	16.4000	\$59,017.34	\$1,238.89
Joseph Hoard Teacher Aide II	11/1/2017	Disability	22.1056	\$29,305.56	\$1,079.69
Debra Johnson Teacher	11/1/2017	Normal	28.8333	\$74,103.75	\$3,561.09
Robert Landers Teacher	11/1/2017	Normal	10.4555	\$56,604.89	\$986.39
Erin Petrie Teacher	11/1/2017	Normal	24.2556	\$71,601.06	\$2,894.55
Angela Powell Book Clerk Treasurer	11/1/2017	Normal	27.3095	\$38,016.32	\$2,043.70
Millicent Smith Teacher	11/1/2017	Normal	31.7834	\$69,041.50	\$3,452.08
Elizabeth Wagner Teacher	11/1/2017	Normal	20.1028	\$53,606.72	\$1,481.77

Distributions - October, 2017

CHECK NUMBER	CHECK DATE	LAST NAME	FIRST NAME/MI	GROSS PAY	FEDERAL TAXES W/H	NET PAY	A(ative) R(etired)	D(eath) S(eparation)	NOTES
073266	09/08/17	BUB	CAITLIN	(1,204.42)		(1,204.42)	A	S	GSA-STL VOID AND REISSUE
073389	10/10/17	AKINS	LESLIE	18,935.32	3,787.06	15,148.26	A	S	SLPS IACA OTOEHL
073390	10/10/17	BAHR	CHRISTOPHER	2,349.75	469.95	1,879.80	A	S	CA
073391	10/10/17	CARROLL	JOHN	11,928.63		11,928.63	A	S	CGMS
073392	10/10/17	FERRELL	RONALD	24,108.96	4,821.79	19,287.17	A	S	CA
073393	10/10/17	HARRIS	AMANDA K	2,146.92	429.38	1,717.54	A	S	CA
073394	10/10/17	HARRIS	MARIA	2,220.92	444.18	1,776.74	A	S	KIPP
073395	10/10/17	HUNTER	SHELDIA	10,191.05	2,038.21	8,152.84	A	S	EHL, OTO, SLPS
073396	10/10/17	JOHNSON	JUANITA	13,447.26	2,689.45	10,757.81	A	S	CA
073397	10/10/17	KELLY	NESRINE	1,512.15	302.43	1,209.72	A	S	SLLIS
073398	10/10/17	MCCAIN	DESTINY C	4,705.39	941.08	3,764.31	A	S	CA
073399	10/10/17	MOOREHEAD	CHARI	2,081.35	416.27	1,665.08	A	S	CA
073400	10/10/17	PASSENHEIM	KRISTINA	8,114.52	1,622.90	6,491.62	A	S	JAMAA SLPS
073401	10/10/17	STANDIFER	GWENDOLYN	9,289.78	1,857.96	7,431.82	A	S	CA
073402	10/10/17	STEPHENS	JEFFERSON	14,284.52	2,856.90	11,427.62	A	S	LFL
073403	10/10/17	CURRY	BRIDGET	2,415.01	483.00	1,932.01	A	S	
073404	10/10/17	FORD	JOHN	821.41	164.28	657.13	A	S	
073405	10/10/17	JEHLING	MARY K	4,756.26		4,756.26	A	S	
073406	10/10/17	LAMPKIN-HENDERSON	LORI	862.02	172.40	689.62	A	S	
073407	10/10/17	LYLES	MARK	3,692.73	738.55	2,954.18	A	S	
073408	10/10/17	MITCHELL	LINDA	7,785.72		7,785.72	A	S	
073409	10/10/17	THOMAS	LADONIA	21,160.55	4,232.11	16,928.44	A	S	
073410	10/10/17	STEWART	TIFFANY	2,337.43	467.49	1,869.94	A	S	
073411	10/10/17	TURNERY	RACHEL	10,664.14		10,664.14	A	S	
073413	10/10/17	WILLIS	COREY	2,536.23	507.25	2,028.98	A	S	
073414	10/10/17	AUBUCHON	AMY N	1,134.81		1,134.81	A	D	DEC: K COX
073415	10/10/17	SHEROD	MARLSALIS	3,068.61	306.86	2,761.75	A	D	DEC: A SHEROD
073416	10/10/17	TANKSLEY	JOAQUIN O	1,816.90	181.69	1,635.21	A	D	DEC: D TANKSLEY
073417	10/10/17	TANKSLEY	WILLENA C	1,816.91	181.69	1,635.22	A	D	DEC: D TANKSLEY
073418	10/10/17	WILLIAMS	AUDRIA	5,516.66	1,103.33	4,413.33	A	S	
073447	10/24/17	AGBANLOG	MARA	1,999.75	399.95	1,599.80	A	S	CA
073448	10/24/17	AUSTON	CHRISTIANE	4,709.50	941.90	3,767.60	A	S	HLSG
073449	10/24/17	CARPENTER	ANGELA I	15,230.11	3,046.02	12,184.09	A	S	CA
073450	10/24/17	CORRIGAN	CAROLEE	338.06	67.61	270.45	A	S	LSMS

Distributions - October, 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
073451	10/24/17	DAVIS	JASON	11,214.31	2,242.86	8,971.45	A	S	SLISS
073452	10/24/17	GREENE	TERRIE	1,492.75	298.55	1,194.20	A	S	KIPP
073453	10/24/17	HANDLEY	DEMETRIA	2,121.92	424.38	1,697.54	A	S	CA
073454	10/24/17	HARRIS	LAUREN	5,060.91		5,060.91	A	S	KIPP EAGLE
073455	10/24/17	HEEMBROCK	SUSAN	1,962.59	392.52	1,570.07	A	S	CA
073456	10/24/17	JONES	JESSICA	12,242.37	2,448.47	9,793.90	A	S	GCAA CA
073457	10/24/17	KING	ASHLEY	1,266.77	253.35	1,013.42	A	S	CA
073458	10/24/17	MITCHELL	BERNITA	29,127.61		29,127.61	A	S	CA
073459	10/24/17	THEODORE	FOMBRUN	26,368.82	5,273.76	21,095.06	A	S	LFL SLPS
073460	10/24/17	THODE	SHAWNA	5,101.98	1,020.40	4,081.58	A	S	PREM
073461	10/24/17	TROGLER	MEGAN	7,758.48		7,758.48	A	S	GSA
073462	10/24/17	WADE	DEXTER	1,415.12	283.02	1,132.10	A	S	CA
073463	10/24/17	WEBER	JULIA	2,166.90		2,166.90	A	S	PREM
073464	10/24/17	WHITLEY	LISA	5,418.32	1,083.66	4,334.66	A	S	CA
073465	10/24/17	WILHITE	LOREAL	15,701.99	3,140.40	12,561.59	A	S	CA
073466	10/24/17	CASHMAN	MATTHEW	10,000.00		10,000.00	A	S	
073467	10/24/17	CASHMAN	MATTHEW	16,707.57	3,341.51	13,366.06	A	S	
073468	10/24/17	DALE	COLIN	4,775.39		4,775.39	A	S	
073469	10/24/17	JONES	KRISTINIA	924.35	184.87	739.48	A	S	
073470	10/24/17	MCCARTHY	DANIEL	9,053.34		9,053.34	A	S	
073471	10/24/17	SCOTT	DEMETRI	2,962.87	592.57	2,370.30	A	S	
073472	10/24/17	SMITH	KOURTNEY	13,298.04	2,659.61	10,638.43	A	S	
073473	10/24/17	ALI	DONISHA S	2,537.49	507.50	2,029.99	A	D	DEC: A ALI
073474	10/24/17	WILLIAMS	JACQUELINE D	13,059.36		13,059.36	A	D	DEC: E WILLIAMS
073475	10/24/17	BUB	CAITLIN	1,204.42		1,204.42	A	S	GSA-STL VOID AND REISSUE
TOTAL				\$ 419,718.58	\$ 59,819.12	\$ 359,899.46			

Distributions - November, 2017

CHECK NUMBER	CHECK DATE	LAST NAME	FIRST NAME/MI	GROSS PAY	FEDERAL TAXES W/H	NET PAY	A(Active) R(retired)	D(eath) S(eparation)	NOTES
072919	05/19/17	AYLOR	ARNITA	(20,800.72)		(20,800.72)	A	D	REPAYMT COLL FROM L SMITH
073293	09/08/17	AYLOR	ARNITA	(10,400.36)	(1,040.04)	(9,360.32)	A	D	REPAYMT COLL FROM L SMITH
073499	11/09/17	AUGUSTYN	KAREN	775.09		775.09	A	S	SLIS
073500	11/09/17	CONKLIN	AMANDA	7,050.49	1,410.10	5,640.39	A	S	JAMMA SLPs
073501	11/09/17	DELOYA	ANGEL	6,890.00	1,378.00	5,512.00	A	S	SLIS KIPP
073502	11/09/17	GANT	ANDREA	12,259.92		12,259.92	A	S	PREM
073503	11/09/17	GONZALEZ	RICH	1,083.48	216.70	866.78	A	S	CA
073504	11/09/17	JACKSON	RENALDO	4,886.82	977.36	3,909.46	A	S	CA
073505	11/09/17	JAMES	CHRISTOPHER	7,529.61		7,529.61	A	S	CA
073506	11/09/17	KACZMARCZYK	MARY L	8,840.38	1,768.08	7,072.30	A	S	GCAA
073507	11/09/17	PROSPERI	JESSICA	2,276.86		2,276.86	A	S	CA
073508	11/09/17	THOMPSON	HAYLEE	910.93	182.19	728.74	A	S	CLA
073509	11/09/17	WUERDEMAN	DANNY	10,084.40	2,016.88	8,067.52	A	S	SLIS
073510	11/09/17	BOOSE	TOMMY	1,911.65	382.33	1,529.32	A	S	
073511	11/09/17	DURBIN	CLIFTON	102.18		102.18	A	S	
073512	11/09/17	FOWLER-WILLIAMS	JENNIE	854.80	170.96	683.84	A	S	
073513	11/09/17	KLAUS	LAUREN	7,671.84	1,534.37	6,137.47	A	S	
073514	11/09/17	LENHARDT	STEPHANIE	1,057.54	211.51	846.03	A	S	
073515	11/09/17	MERRIDITH	SHANEE	6,315.84	1,263.17	5,052.67	A	S	
073516	11/09/17	SCHAUBLE	BARBARA	1,267.55		1,267.55	A	S	
073517	11/09/17	FOGGY	MATTANIAH	3,737.45	373.75	3,363.70	A	D	DEC: B BOYD
073518	11/09/17	WILLIAMS	TERRENETTE M	3,737.44	373.74	3,363.70	A	D	DEC: B BOYD
073519	11/09/17	DIAZ	SIMONE B	45,624.73	4,562.47	41,062.26	A	D	DEC: S DIAZ
073520	11/09/17	DAVISON	ALAN D	48,662.79	8,538.22	40,124.57	A	D	DEC: E DAVISON
073521	11/09/17	FISHER	LORETTA Y	9,503.45		9,503.45	A	D	DEC: W FISHER 1 OF 2
073522	11/09/17	OCONNER	ROBIN	1,814.67		1,814.67	A	D	498,440,500.00
073523	11/09/17	ASCHEMEYER	ERIC C	2,714.63	542.93	2,171.70	A	D	DEC: C SCHEPPNER 1 OF 4
073547	11/22/17	DANIEL	ALLISON	1,962.24		1,962.24	A	S	GSA
073548	11/22/17	HACKETT	SAMUEL	476.37	95.27	381.10	A	S	CA
073549	11/22/17	HENRY	PATRICIA	39,137.29	7,827.46	31,309.83	A	S	CA
073550	11/22/17	KOSINSKI	JANE	1,529.53	305.91	1,223.62	A	S	SLIS
073551	11/22/17	MOOREHEAD-NEAL	JASMUN	4,681.44		4,681.44	A	S	HLSG
073552	11/22/17	PESTI	CHRISTINE	19,108.63		19,108.63	A	S	CA
073553	11/22/17	WHITE	LASHONDA	426.48	85.30	341.18	A	S	KIPP
073554	11/22/17	WILLIAMS	GERALD	2,393.11	478.62	1,914.49	A	S	CA
073555	11/22/17	WIPPER	MICHAEL	18,705.35		18,705.35	A	S	CLA AQS-CLA
073556	11/22/17	YASEIN	IBRAHIM	459.19	91.84	367.35	A	S	LPA

Distributions - November, 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
073557	11/22/17	BOATMAN	CHE	1,646.81	329.36	1,317.45	A	S	
073558	11/22/17	DANIELS	ANTWONE	2,147.57	429.51	1,718.06	A	S	
073559	11/22/17	JONES	BRIANNA	1,787.48	357.50	1,429.98	A	S	
073560	11/22/17	KENDLE-ROBERSON	KIMBERLY	416.84	83.37	333.47	A	S	
073561	11/22/17	RECKE	CAROLYN	44,372.67	8,874.53	35,498.14	A	S	
073562	11/22/17	RICHARDSON	KELSEY	9,854.22	1,970.84	7,883.38	A	S	
073563	11/22/17	TROUPE	DANIELLE	4,772.59	954.52	3,818.07	A	S	
073564	11/22/17	SHAW	LAINE C	23,179.85	4,420.50	18,759.35	A	S	
073565	11/22/17	WINDOM	TYWANSLY	3,594.18	718.84	2,875.34	A	S	
073566	11/22/17	FORD LUSTER	SANDRA	19,143.71	1,723.55	17,420.16	A	D	DEC: R FORD
073567	11/22/17	BOYCE	CHRISTOPHER J	10,698.30	1,069.83	9,628.47	A	D	DEC: J BOYCE 1 OF 2
073568	11/22/17	BREWSTER	MIKIEA A	4,530.46		4,530.46	A	D	DEC: L BERRY 1 OF 2
TOTAL				\$ 381,387.77	\$ 54,679.47	\$ 326,708.30			

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

<u>Payee</u>	<u>Ck. Number</u>	<u>Description</u>	<u>Amount</u>
Date Paid October 5, 2017			
Ameren Missouri	73369	Electric Service	1,564.28
AT&T	73370	U-Verse Internet	60.81
OffsiteDataSync	73371	Online Backups	208.12
Windstream Communications	73372	Telephone, Data	561.99
Office Essentials	73373	Office Supplies	450.00
Minuteman Press	73374	Members Handbook, Business Cards	1,803.54
Blade Technologies, Inc.	73375	Professional Services	357.30
BuildingStars STL Operations, Inc.	73376	Janitorial Services and Supplies	1,852.65
MSD	73377	Sewer Services	64.17
Gregory F.X. Daly, Collector of Revenue	73378	City Earnings Tax, Third Quarter 2017	1,045.73
Gregory F.X. Daly, Collector of Revenue	73379	Water - City	115.66
CBRE - 608844	73380	Management Fee - September 2017	1,108.00
CBRE - 608844	73381	Engineer Services	409.15
St. Louis Mat & Linen Company	73382	Floor Mats	53.00
Blue Chip Pest Services	73383	Pest Control	44.00
Yardi Marketplace	73384	Supplies	253.60
Holland Capital Management LLC	73385	3rd Quarter 2017 Management Fee	32,907.33
Board of Education St. Louis Benefits Trust	73386	Office Employees Insurance - Dental	248.99
Board of Education St. Louis Benefits Trust	73387	Office Employees Insurance - Vision	17.00
Board of Education St. Louis Benefits Trust	73388	Office Employees Insurance - Life	87.35
Date Paid October 13, 2017			
Office Payroll	ACH	Office Payroll	10,353.16
AXA Equitable	ACH	457 Contributions	2,223.00
Date Paid October 16, 2017			
Speciality Mailing	73419	Postage - Annual Open Enrollment	4,813.76
Date Paid October 19, 2017			
Absopure Water Company	73420	Water Cooler Service	69.70
Conduent HR Consulting, LLC	73421	Acturial & Consulting Services-Sept. and Oct.	9,066.00
AT&T	73422	Monthly Service Charge	147.44
Parking Management Services, LLC	73423	Parking Ticket Validations - September 2017	31.50
Hartnett Gladney Hettermann, L.L.C.	73424	Legal Fees	2,373.50
Blade Technologies, Inc.	73425	Professional Services	1,336.84
Crossroads Courier, Inc.	73426	Courier Service	7.22
Office Essentials	73427	Office Supplies	215.96
Charter Communications	73428	Charter Internet and Voice	179.96
Access	73429	Scanning Services	411.35
Speciality Mailing	73430	Postage - Daily Pickup	190.00
Speciality Mailing	73431	Service - Election Notice, Summer Newsletter	2,839.75
Gallagher Benefits Services, Inc.	73432	Group Ins. Consulting Services Monthly Fee	3,320.25
Jupiter Consulting Services, LLC	73433	Programming Consulting	6,804.00
MSD	73434	Sewer Service	52.26
BarnesCare	73435	Joseph W. Hoard	100.00
GCI Security, Inc.	73436	Security Guard 10/16/2017	144.00
American Solutions for Business	73437	Laser Checks - Operating Account	282.90
Crain Communications	73438	11 Subscriptions for P&I Magazine	2,629.00
Chicago Equity Partners, LLC	73439	3rd Quarter 2017 Management Fee	40,268.48
The Edgar Lomax Company	73440	3rd Quarter 2017 Management Fee	42,271.52
EARNEST Partners, LLC	73441	3rd Quarter 2017 Management Fee	7,655.53
Systematic Financial Management, LP	73442	3rd Quarter 2017 Management Fee	70,805.04
Mellon Capital Management Corporation	73443	3rd Quarter 2017 Management Fee	66,474.24
Mellon Capital Management Corporation	73444	3rd Quarter 2017 Management Fee	848.17
TCW Asset Management Company	73445	3rd Quarter 2017 Management Fee	48,969.89
Date Paid October 23, 2017			
Machinist's District 9 Building Corporation	73446	Hall Rental - Open Enrollment November 30	900.00
Date Paid October 27, 2017			
Office Payroll	ACH	Office Payroll	10,353.16
AXA Equitable	ACH	457 Contributions	2,223.00
		TOTAL	<u><u>\$381,573.55</u></u>

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

<u>Payee</u>	<u>Ck. Number</u>	<u>Description</u>	<u>Amount</u>
Date Paid November 6, 2017			
Ameren Missouri	73476	Electric Service	1,370.50
AT&T	73477	U-Verse Internet	60.81
OffsiteDataSync	73478	Online Backups	208.12
Windstream Communications	73479	Telephone, Data	563.33
Office Essentials	73480	Printer and Toner	693.90
Office Essentials	73481	Office Supplies	684.64
Minuteman Press	73482	Medicare Summaries, Booklets and Envelopes	9,941.91
BuildingStars STL Operations, Inc.	73483	Janitorial Services and Supplies	1,487.88
Anders CPAs & Advisors	73484	GASB 68 Report, CAFR Proof & Review	5,000.00
Anders CPAs & Advisors	73485	Retired Member Trustee Election	5,388.00
Hartnett Gladney Hetterman, L.L.C.	73486	Legal Fees	12,173.00
Speciality Mailing	73487	Service-Election Notice, Open Enroll., Bene. Stmts	2,663.10
Purchase Power	73488	Postage	1,000.00
UPS	73489	UPS Delivery	35.65
NCTR	73490	NCTR Annual Conference - Bobbie Richardson	1,285.00
Causeway Capital Management LLC	73491	3rd Quarter 2017 Management Fee	84,079.14
INTECH Investment Management LLC	73492	3rd Quarter 2017 Management Fee	30,606.46
Piedmont Investment Advisors, LLC	73493	3rd Quarter 2017 Management Fee	8,599.90
Progress Investment Management Co., LLC	73494	3rd Quarter 2017 Management Fee	78,825.43
Westfield Capital Management Company, LP	73495	3rd Quarter 2017 Management Fee	62,254.86
Board of Education St. Louis Benefits Trust	73496	Office Employees Insurance - Dental	248.99
Board of Education St. Louis Benefits Trust	73497	Office Employees Insurance - Vision	17.00
Board of Education St. Louis Benefits Trust	73498	Office Employees Insurance - Life	87.35
Date Paid November 9, 2017			
Office Payroll	ACH	Office Payroll	10,353.16
AXA Equitable	ACH	457 Contributions	2,223.00
Date Paid November 20, 2017			
Absopure Water Company	73524	Water Cooler Service	86.75
Conduent HR Consulting, LLC	73525	Actuarial & Consulting Services - Oct. and Nov.	15,766.00
AT&T	73526	Monthly Service Charge	147.37
Blade Technologies, Inc.	73527	Professional Services	1,727.04
Crossroads Courier, Inc.	73528	Courier Service	6.01
Office Essentials	73529	Office Supplies	527.21
Charter Communications	73530	Charter Internet and Voice	179.96
Access	73531	Scanning Services	411.35
Speciality Mailing	73532	Postage - Fall Newsletter	2,220.79
Gallagher Benefits Services, Inc.	73533	Group Ins. Consulting Services Monthly Fee	3,320.25
Jupiter Consulting Services, LLC	73534	Programming Consulting	9,387.00
Tom Kinealy	73535	Office Supplies	226.50
Sheila P. Goodwin	73536	Reimbursement - NCTR Conference	1,780.26
Eural R. Thomas	73537	Reimbursement - NASP Conference	1,787.08
Republic Services #346	73538	Trash Pick-Up	277.12
CBRE - 60884	73539	Management Fee - October and November	2,216.00
CBRE - 60884	73540	Engineer Services	526.05
St. Louis Mat & Linen Company	73541	Floor Mats	53.00
Blue Chip Pest Services	73542	Pest Control	44.00
Yardi Marketplace	73543	Supplies	78.62
Tech Electronics	73544	Central Monitoring of Fire Alarm System	99.00
Fidelity Institutional Asset Mgmt. Trust Co.	73545	3rd Quarter 2017 Management Fee	73,333.84
US Bank	73546	3rd Quarter 2017 Custodial Fee	28,681.00
Date Paid November 24, 2017			
Office Payroll	ACH	Office Payroll	10,353.16
AXA Equitable	ACH	457 Contributions	2,223.30
		TOTAL	\$475,309.79

Public School Retirement System of the
City of St. Louis (PSRSSTL)
3641 Olive Street, 2nd Floor Boardroom
St. Louis, MO 63108

Voice: (314) 534-7444
Fax: (314) 534-0531
Website: <http://www.psrssl.org>

**Board of Trustees
Regular Meeting Schedule
Calendar Year 2018**

Unless otherwise posted, trustee meetings are conducted in the Boardroom on the
2nd floor of the Retirement System's office building (address above)

February 26, 2018

April 16, 2018

June 18, 2018

August 20, 2018

October 15, 2018

December 17, 2018

Public School Retirement System of the City of St. Louis
Travel Activity and Expenses - Calendar Year 2016

NAME	SPONSOR	DATES		LOCATION	ADVANCES TO	REIMBURSEMENTS		TOTAL COST	EXP RPT	VOUCHER STATUS*	NOTES
		FROM	TO			TO	FROM				
Bennett, Christina	NASP	06/12/2016	06/15/2016	Atlanta, GA		\$1,636.22		\$1,636.22	Y	Approved	Monday, December 19, 2016
Bentley, Paula	NASP	06/12/2016	06/15/2016	Atlanta, GA	\$1,770.00	\$236.09		\$2,006.09	Y	Approved	Monday, December 19, 2016
	MAPERS	07/11/2016	07/13/2016	Osage Beach, MO	\$958.76	\$5.43		\$964.19	Y	Approved	Monday, December 19, 2016
	NCTR	07/24/2016	07/27/2016	Berkley, CA	\$1,769.00	\$3.13		\$1,772.13	Y	Approved	Monday, December 19, 2016
	NEPC	05/09/2016	05/11/2016	Boston, MA		\$2,111.55		\$2,111.55	Y	Approved	Monday, December 19, 2016
Goodwin, Sheila	NASP	06/13/2016	06/15/2016	Atlanta, GA		\$2,058.31		\$2,058.31	Y	Approved	Monday, December 19, 2016
	MAPERS	07/11/2016	07/13/2016	Osage Beach, MO		\$905.74		\$905.74	Y	Approved	Monday, December 19, 2016
	NCTR	07/24/2016	07/27/2016	Berkley, CA		\$2,197.70		\$2,197.70	Y	Approved	Monday, December 19, 2016
	NCTR	10/08/2016	10/12/2016	Providence, RI		\$2,428.90		\$2,428.90	Y	Approved	Monday, December 19, 2016
Levy, Yvette	NEPC	05/09/2016	05/11/2016	Boston, MA	\$1,475.00	\$6.33		\$1,481.33	Y	Approved	Monday, December 19, 2016
	NASP	06/13/2016	06/15/2016	Atlanta, GA	\$2,000.00		\$84.63	\$1,915.37	Y		Need reimbursement
Moten, John	NEPC	05/09/2016	05/11/2016	Boston, MA		\$1,446.52		\$1,446.52	Y	Approved	Monday, December 19, 2016
	NASP	06/12/2016	06/15/2016	Atlanta, GA		\$1,011.88		\$1,011.88	Y	Approved	Monday, December 19, 2016
Shelton, Charles	NEPC	05/09/2016	05/11/2016	Boston, MA	\$1,921.00	\$441.40		\$2,362.40	Y	Approved	Monday, December 19, 2016
	NASP	06/13/2016	06/15/2016	Atlanta, GA	\$1,422.97	\$388.73		\$1,811.70	Y	Approved	Monday, December 19, 2016
	NCTR	10/08/2016	10/12/2016	Providence, RI	\$2,080.00	\$340.43		\$2,420.43	Y	Approved	Monday, December 19, 2016
Thomas, Eural	NASP	06/12/2016	06/15/2016	Atlanta, GA		\$1,698.36		\$1,698.36	Y	Approved	Monday, December 19, 2016
Total Cost								\$30,228.82			

MAPERS - Missouri Association of Public Employees Retirement Systems
NASP - National Association of Securities Professionals
NCTR - National Council on Teacher Retirement
NEPC - New England Pension Consultants

*Pending = pending board approval

December 12, 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 - Section 105.665 Cost Statement

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

The purpose of this letter is to provide the Public School Retirement System of the City of St. Louis Board with a cost statement that may be required under the Missouri Revised Statute Section 105.665 in connection with the changes contained in CCS HCS SS SB 62 or other legislation containing the same provisions.

A summary of the changes in plan provisions contained in CCS HCS SS SB 62 that are subject to this statement are as follows:

1. Reduce the "Rule of 85" unreduced retirement from age plus service equal to 85 to 80 (i.e. change it to a "Rule of 80").
2. Change the percent of pay benefit multiplier from 2.00% of Average Final Compensation to 1.75% of Average Final Compensation for members hired on or after January 1, 2018.
3. For employees hired before January 1, 2018, change the employee contribution requirement from a flat 5.0% of compensation to 9.0% in 0.5% annual increments. For employees hired on or after January 1, 2018, the employee contribution requirement will be a flat 9.0% immediately upon entering the system.
4. The employer contribution rate will be set at a flat 16.0% of covered payroll for Plan Year 2018. This contribution rate shall be decreased by 0.5% in each subsequent Plan Year until reaching 9.0% of covered payroll. After this, the employer contribution rate will remain at 9.0% of covered payroll.

Our cost statement, numbered to correspond with Section 105.665, follows below:

1. The level normal cost of plan benefits currently in effect is \$26,350,187 or 10.13% of expected mid-year covered payroll, as calculated in our January 1, 2017 actuarial valuation.

Public School Retirement System of the City of St. Louis
Section 105.665 Cost Statement

2. The contribution amount for the Unfunded Actuarial Accrued Liability is \$23,343,402 or 8.97% of expected mid-year covered payroll. The amortization period used to determine this amount is 19 years.
3. The total required contribution amount from items one and two above is \$49,693,589 or 19.10% of expected mid-year covered payroll.
4. The total contribution rate under the current plan provisions as defined in item three above is currently being paid by all of the employers in the Plan.
5. The plan's actuarial value of assets is \$901,076,683, the market value of assets is \$850,180,422, the actuarial accrued liability under the Entry Age Normal cost method is \$1,258,219,995, and the funded ratio is 71.62%.
6. The total required post-change contribution amount is \$47,352,279, or 18.20% of expected mid-year covered payroll. This amount was determined assuming that the changes in the plan provisions were effective with the January 1, 2017 actuarial valuation. The calculation of this amount is presented in Exhibit I.
7. A 15-year projection of annual plan costs and funded ratios is presented in Exhibit II. There are three different projection results shown: i) using the current plan provisions, ii) only reflecting changing the Rule of 85 to the Rule of 80, and iii) reflecting all plan changes contained in CCS HCS SS SB 62. The funded ratios under the proposed plan decrease temporarily during the projection period due to the lost revenue from the statutory contribution rate being lower than the actuarially determined contribution rate. The funded percentage is increasing each year by the end of the projection period.
8. CCS HCS SS SB 62 mandates employer contributions as 16.0% in the first year of implementation, 15.5% in the second year, 15.0% in the third year, 14.5% in the fourth year, 14.0% in the fifth year, 13.5% in the sixth year, 13.0% in the seventh year, 12.5% in the eighth year, 12.0% in the ninth year, 11.5% in the tenth year, 11.0% in the eleventh year, 10.5% in the twelfth year, 10.0% in the thirteenth year, 9.5% in the fourteenth year, or 9.0% in the fifteenth year or any year thereafter.
9. The proposed plan changes will impair the ability of the plan to meet the obligations due to the employer contribution being lower than the actuarially determined contribution in years when the statutory employer contribution rate is lower than the actuarially determined contribution rate. The total amount of the shortfall of employer contributions through 2033 is projected to be \$232,533,000.
10. The actuarial assumptions used in the January 1, 2017 actuarial valuation are presented in Exhibit III. Any assumptions used for the projections that are not listed in Exhibit III are included with the projection results in Exhibit II.

Public School Retirement System of the City of St. Louis
Section 105.665 Cost Statement

11. The Actuary's certification is below.

12. The actuarial funding method used in preparing the valuation along with the method applied in amortizing the Unfunded Actuarial Accrued Liability is described in Exhibit III.

In preparing the actuarial valuation and this cost analysis, 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 cost analysis 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 used are as described in 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 cost analysis 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.

Public School Retirement System of the City of St. Louis
Section 105.665 Cost Statement

I believe that the assumptions and methods used for these estimates 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,

A handwritten signature in black ink, appearing to read "TJ Jaros".

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

Conduent HR Services

**St. Louis PSRS
Determination of Employer Contribution
2017**

	Current Plan Provisions	Rule of 80 Only	All Plan Changes
1. Actuarial present value of future benefits			
a. Active participants			
i. Retirement benefits	377,645,587	399,813,261	400,357,167
ii. Vested withdrawal benefits	52,391,382	49,415,853	49,585,707
iii. Refund of contributions	7,458,189	7,458,189	7,659,810
iv. Survivor benefits	4,900,733	4,493,888	4,506,619
v. Disability benefits	11,653,311	10,815,530	10,816,869
Total	454,049,202	471,996,721	472,926,172
b. Retired participants and beneficiaries	903,313,279	870,531,894	870,531,894
c. Inactive participants			
i. Vested participants	23,318,439	23,318,439	23,318,439
ii. Nonvested participants	7,285,103	7,285,103	7,285,103
Total	30,603,542	30,603,542	30,603,542
d. Total actuarial present value of future benefits	1,387,966,023	1,405,913,543	1,406,842,992
2. Unfunded frozen actuarial accrued liability as of January 1, 2017	232,478,771	248,762,896	249,224,076
3. Actuarial value of assets as of December 31, 2016	901,076,683	901,076,683	901,076,683
4. Actuarial present value of future participant contributions	86,206,082	83,453,860	118,567,308
5. Actuarial present value of future employer normal costs (1)(d) - (2) - (3) - (4), not less than \$0	168,204,487	172,620,104	137,974,925
6. Actuarial present value of future covered compensation of current participants	1,724,121,645	1,669,077,198	1,669,077,198
7. Employer normal cost rate, (5) / (6)	9.76%	10.34%	8.27%
8. Total covered payroll	260,223,066	260,223,066	260,223,066
9. Normal cost for 2017	25,397,771	26,907,065	21,520,448
10. Normal cost contribution for 2017 (9) adjusted for interest to end of year	26,350,187	27,916,080	22,327,465
11. AAL contribution for 2017	23,343,402	24,978,506	25,024,814
12. Recommend Employer Contribution for 2017	49,693,589	52,894,586	47,352,279
Recommended Contribution by Employer Type			
Board of Education	37,376,323	39,783,907	35,615,340
Retirement System	100,565	107,043	95,827
Charter Schools	12,216,701	13,003,636	11,641,112
	49,693,589	52,894,586	47,352,279

January 1, 2017 Projections

Baseline Projection - Current Plan Provisions
(numbers in thousands)

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Liabilities																	
Present Value of Future Benefits	1,387,966	1,383,334	1,388,133	1,392,065	1,396,539	1,401,924	1,407,638	1,414,030	1,421,749	1,430,753	1,442,257	1,455,017	1,470,010	1,487,016	1,505,225	1,526,004	1,549,195
Entry Age Normal (EAN) Accrued Liability	1,258,220	1,250,431	1,252,266	1,253,467	1,255,226	1,257,727	1,260,484	1,263,809	1,268,416	1,274,225	1,282,382	1,291,712	1,303,095	1,316,359	1,330,733	1,347,481	1,366,461
Funded Percent*	71.62%	71.23%	71.25%	71.49%	72.02%	72.79%	73.76%	74.90%	76.20%	77.64%	79.21%	80.87%	82.61%	84.43%	86.30%	88.22%	90.16%
Salary																	
Legacy	260,223	223,759	198,108	179,133	164,942	153,620	144,133	135,435	127,488	120,041	112,992	106,247	99,699	93,462	87,322	81,307	75,108
New Employees	-	35,494	62,368	84,079	102,111	117,847	132,446	146,601	160,365	173,933	187,384	200,745	214,112	227,465	240,852	254,335	268,112
Total	260,223	259,253	260,476	263,212	267,053	271,467	276,579	282,036	287,853	293,974	300,376	306,992	313,811	320,927	328,174	335,642	343,220
Employee Contribution Rates																	
Legacy	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
New Employees	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Employer Contribution Rates																	
Calculated Rate	15.73%	19.10%	19.25%	19.40%	19.37%	19.17%	18.82%	18.37%	17.86%	17.30%	16.71%	16.10%	15.49%	14.88%	14.26%	13.67%	13.06%
Statutory Rate	15.73%	19.10%	19.25%	19.40%	19.37%	19.17%	18.82%	18.37%	17.86%	17.30%	16.71%	16.10%	15.49%	14.88%	14.26%	13.67%	13.06%
Employee Contributions																	
Legacy	13,011	11,188	9,905	8,957	8,247	7,681	7,207	6,772	6,374	6,002	5,650	5,312	4,985	4,673	4,366	4,065	3,755
New Employees	-	1,775	3,118	4,204	5,106	5,892	6,622	7,330	8,018	8,697	9,369	10,037	10,706	11,373	12,043	12,717	13,406
Total Employee Contributions	13,011	12,963	13,023	13,161	13,353	13,573	13,829	14,102	14,392	14,699	15,019	15,349	15,691	16,046	16,409	16,782	17,161
Employer Contributions																	
Statutory	40,933	49,517	50,142	51,063	51,728	52,040	52,052	51,810	51,411	50,858	50,133	49,426	48,609	47,754	46,798	45,882	44,825
Assets																	
Market Value (MVA)	850,180	853,085	866,057	879,859	896,141	914,938	935,404	957,691	982,277	1,009,006	1,038,906	1,070,701	1,105,164	1,142,232	1,181,100	1,222,969	1,267,685
Actuarial Value (AVA)	901,077	890,672	892,197	896,155	903,971	915,488	929,693	946,595	966,549	989,296	1,015,771	1,044,620	1,076,551	1,111,440	1,148,434	1,188,693	1,232,023
Contribution Development for Following Year																	
Amortization Period	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3
Plan Changes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Unfunded Actuarial Accrued Liability**	232,479	236,284	230,964	225,138	218,265	210,323	201,314	191,328	180,427	168,603	155,831	142,124	127,482	111,879	95,252	77,682	59,023
Amortization of UAAL	23,343	24,344	24,482	24,628	24,727	24,776	24,775	24,734	24,664	24,563	24,429	24,264	24,069	23,835	23,543	23,193	22,696
Normal Cost	26,350	25,553	26,052	26,352	26,460	26,306	26,026	25,633	25,146	24,552	23,934	23,283	22,628	21,942	21,314	20,650	20,012
Annual Required Contribution***	49,694	49,897	50,534	50,961	51,187	51,081	50,801	50,367	49,810	49,115	48,363	47,547	46,696	45,778	44,857	43,843	42,709
Contribution Rate	19.10%	19.25%	19.40%	19.37%	19.17%	18.82%	18.37%	17.86%	17.30%	16.71%	16.10%	15.49%	14.88%	14.26%	13.67%	13.06%	12.44%
* Using EAN Liability and AVA																	
**Includes any plan changes																	
***May differ from summing due to rounding																	

Protection Assumptions:

(1) New Entrants: Active membership assumed to stay at the January 1, 2017 level throughout projection (5,101 active members). New Entrants coming into the plan have the average characteristics of new employees over the last five years.

(2) Expenses: Plan expenses paid are assumed to remain at the 2016 level (\$1,554,000)

(3) Expense & Contingency Reserve: The expense & contingency reserve is assumed to remain at the January 1, 2017 level (\$30,922,000)

(4) Deferred Vested Members: Deferred vested members are assumed to receive 150% of their account balance at age 65.

(5) Non-vested Terminated Members: Non-vested terminated members are assumed to receive 100% of their account balance at age 65.

Public School Retirement System of the City of St. Louis
January 1, 2017 Projections

Rule of 80 Projection - Rule of 85 changed to Rule of 80
(Numbers in thousands)

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Liabilities																	
Present Value of Future Benefits	1,387,966	1,402,913	1,409,127	1,414,306	1,420,055	1,426,732	1,433,627	1,441,129	1,449,902	1,459,895	1,472,237	1,485,550	1,500,913	1,518,227	1,536,631	1,557,529	1,580,643
Entry Age Normal (EAN) Accrued Liability	1,258,220	1,268,261	1,271,461	1,273,914	1,276,949	1,280,739	1,284,655	1,289,077	1,294,718	1,301,469	1,310,381	1,320,128	1,331,792	1,345,285	1,359,735	1,376,522	1,395,310
Funded Percent*	71.62%	70.23%	70.11%	70.49%	71.16%	72.08%	73.19%	74.46%	75.89%	77.45%	79.12%	80.88%	82.72%	84.63%	86.58%	88.58%	90.60%
Salary																	
Legacy	260,223	223,127	197,119	177,947	163,501	151,991	142,315	133,349	125,129	117,341	109,862	102,818	96,031	89,529	83,142	77,027	70,917
New Employees	-	35,867	62,955	84,798	102,984	118,828	133,541	147,869	161,829	175,614	189,317	202,858	216,366	229,863	243,407	256,947	270,689
Total	260,223	258,994	260,074	262,745	266,485	270,819	275,856	281,218	286,958	292,955	299,179	305,676	312,397	319,392	326,549	333,974	341,606
Employee Contribution Rates																	
Legacy	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
New Employees	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Employer Contribution Rates																	
Calculated Rate	15.73%	19.10%	20.57%	20.82%	20.76%	20.48%	20.08%	19.58%	19.01%	18.39%	17.74%	17.09%	16.42%	15.77%	15.11%	14.46%	13.83%
Statutory Rate	15.73%	19.10%	20.57%	20.82%	20.76%	20.48%	20.08%	19.58%	19.01%	18.39%	17.74%	17.09%	16.42%	15.77%	15.11%	14.46%	13.83%
Employee Contributions																	
Legacy	13,011	11,156	9,856	8,897	8,175	7,600	7,116	6,667	6,256	5,867	5,493	5,141	4,802	4,476	4,157	3,851	3,546
New Employees	-	1,793	3,148	4,240	5,149	5,941	6,677	7,393	8,091	8,781	9,466	10,143	10,818	11,493	12,170	12,847	13,534
Total Employee Contributions	13,011	12,949	13,004	13,137	13,324	13,541	13,793	14,060	14,347	14,648	14,959	15,284	15,620	15,969	16,327	16,698	17,080
Employer Contributions																	
Statutory	40,933	49,468	53,497	54,703	55,322	55,464	55,392	55,062	54,551	53,874	53,074	52,240	51,296	50,368	49,342	48,293	47,244
Assets																	
Market Value (MVA)	850,180	853,085	865,326	881,688	900,889	922,630	945,919	970,987	998,317	1,027,664	1,059,948	1,093,815	1,130,314	1,169,287	1,209,931	1,253,533	1,299,794
Actuarial Value (AVA)	901,077	890,672	891,465	897,964	908,719	923,179	940,208	959,891	982,589	1,007,954	1,036,813	1,067,734	1,101,700	1,138,495	1,177,266	1,219,256	1,264,131
Contribution Development for Following Year																	
Amortization Period	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3
Plan Changes	N/A	17,831	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Unfunded Actuarial Accrued Liability**	232,479	254,115	251,770	245,617	238,004	229,150	219,258	208,304	196,345	183,388	169,438	154,512	138,538	121,578	103,504	84,356	64,147
Amortization of UAAL	23,343	26,181	26,688	26,868	26,963	26,993	26,983	26,929	26,840	26,717	26,562	26,379	26,156	25,901	25,582	25,186	24,667
Normal Cost	26,350	27,086	27,468	27,669	27,620	27,395	27,017	26,521	25,931	25,257	24,552	23,817	23,109	22,367	21,649	20,998	20,343
Annual Required Contribution***	49,694	53,267	54,156	54,537	54,583	54,388	54,000	53,450	52,771	51,975	51,115	50,196	49,265	48,269	47,231	46,184	45,010
Contribution Rate	19.10%	20.57%	20.82%	20.76%	20.48%	20.08%	19.58%	19.01%	18.39%	17.74%	17.09%	16.42%	15.77%	15.11%	14.46%	13.83%	13.18%
* Using EAN Liability and AVA																	
**Includes any plan changes																	
***May differ from summing due to rounding																	

Projection Assumptions:

(1) New Entrants: Active membership assumed to stay at the January 1, 2017 level throughout projection (5,101 active members), New Entrants coming into the plan have the average characteristics of new employees over the last five years.

(2) Expenses: Plan expenses paid are assumed to remain at the 2016 level (\$1,554,000)

(3) Expense & Contingency Reserve: The expense & contingency reserve is assumed to remain at the January 1, 2017 level (\$30,922,000)

(4) Deferred Vested Members: Deferred vested members are assumed to receive 150% of their account balance at age 65.

(5) Non-vested Terminated Members: Non-vested terminated members are assumed to receive 100% of their account balance at age 65.

Proposed Plan Projection - All Changes Reflected (Rule of 80, 1.75% Multiplier, and Employee and Employer Contributions)
(Numbers in thousands)

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Liabilities																	
Present Value of Future Benefits	1,387,966	1,403,598	1,409,399	1,413,950	1,418,614	1,423,752	1,429,059	1,434,766	1,441,588	1,449,528	1,459,551	1,470,417	1,483,115	1,497,454	1,512,707	1,530,196	1,549,552
Entry Age Normal (EAN) Accrued Liability	1,258,220	1,268,379	1,271,110	1,272,800	1,274,667	1,276,843	1,279,033	1,281,592	1,285,225	1,289,804	1,296,343	1,303,530	1,312,409	1,322,874	1,334,061	1,347,321	1,362,303
Funded Percent*	71.62%	70.22%	70.33%	70.12%	70.12%	70.30%	70.65%	71.15%	71.81%	72.60%	73.50%	74.45%	75.48%	76.57%	77.69%	78.86%	80.06%
Salary																	
Legacy	260,223	223,127	197,119	177,947	163,501	151,991	142,315	133,349	125,129	117,341	109,862	102,818	96,031	89,529	83,142	77,027	70,917
New Employees	-	35,867	62,955	84,798	102,984	118,828	133,541	147,869	161,829	175,614	189,317	202,858	216,366	229,863	243,407	256,947	270,689
Total	260,223	258,994	260,074	262,745	266,485	270,819	275,856	281,218	286,958	292,955	299,179	305,676	312,397	319,392	326,549	333,974	341,606
Employee Contribution Rates																	
Legacy	5.00%	5.50%	6.00%	6.50%	7.00%	7.50%	8.00%	8.50%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
New Employees	5.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
Employer Contribution Rates																	
Calculated Rate	15.73%	19.10%	17.84%	17.65%	17.60%	17.48%	17.31%	17.11%	16.92%	16.77%	16.66%	16.65%	16.76%	17.07%	17.66%	18.72%	20.59%
Statutory Rate	15.73%	19.10%	16.00%	15.50%	15.00%	14.50%	14.00%	13.50%	13.00%	12.50%	12.00%	11.50%	11.00%	10.50%	10.00%	9.50%	9.00%
Shortfall in Statutory Rate	0.00%	0.00%	-1.84%	-2.15%	-2.60%	-2.98%	-3.31%	-3.61%	-3.92%	-4.27%	-4.66%	-5.15%	-5.76%	-6.57%	-7.66%	-9.22%	-11.59%
Employee Contributions																	
Legacy	13,011	12,272	11,827	11,567	11,445	11,399	11,385	11,335	11,262	10,561	9,888	9,254	8,643	8,058	7,483	6,932	6,383
New Employees	-	3,228	5,666	7,632	9,269	10,695	12,019	13,308	14,565	15,805	17,039	18,257	19,473	20,688	21,907	23,125	24,362
Total Employee Contributions	13,011	15,500	17,493	19,199	20,714	22,094	23,404	24,643	25,827	26,366	26,927	27,511	28,116	28,746	29,390	30,057	30,745
Employer Contributions																	
Calculated	40,933	49,468	46,397	46,374	46,901	47,339	47,751	48,116	48,553	49,129	49,843	50,895	52,358	54,520	57,669	62,520	70,337
Statutory	40,933	49,468	41,612	40,725	39,973	39,269	38,620	37,964	37,305	36,619	35,901	35,153	34,364	33,536	32,655	31,728	30,745
Shortfall in Statutory Contribution	-	-	(4,785)	(5,649)	(6,928)	(8,070)	(9,131)	(10,152)	(11,248)	(12,510)	(13,942)	(15,742)	(17,994)	(20,984)	(25,014)	(30,792)	(39,592)
Cumulative Shortfall Amount	-	-	(4,785)	(10,434)	(17,362)	(25,432)	(34,563)	(44,715)	(55,963)	(68,473)	(82,415)	(98,157)	(116,151)	(137,135)	(162,149)	(192,941)	(232,533)
Assets																	
Market Value (MVA)	850,180	853,085	867,820	876,244	885,985	897,126	909,334	922,943	938,594	956,127	975,886	996,598	1,019,252	1,043,720	1,069,136	1,096,768	1,126,255
Actuarial Value (AVA)	901,077	890,672	893,960	892,540	893,815	897,675	903,622	911,846	922,867	936,417	952,751	970,518	990,639	1,012,928	1,036,471	1,062,492	1,090,593
Contribution Development for Following Year																	
Amortization Period	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3
Plan Changes	N/A	17,948	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Unfunded Actuarial Accrued Liability**	232,479	254,232	244,574	241,994	239,896	238,026	236,144	234,036	231,581	228,704	225,299	221,314	216,693	211,443	205,542	199,010	191,901
Amortization of UAAL	23,343	26,193	25,925	26,472	27,177	28,039	29,061	30,256	31,657	33,319	35,319	37,784	40,912	45,047	50,803	59,418	73,793
Normal Cost	26,350	20,019	19,967	19,763	19,409	18,853	18,145	17,331	16,464	15,501	14,496	13,447	12,413	11,366	10,333	9,355	8,400
Annual Required Contribution***	49,694	46,212	45,892	46,235	46,586	46,892	47,206	47,586	48,120	48,820	49,815	51,231	53,325	56,413	61,136	68,773	82,193
Contribution Rate	19.10%	17.84%	17.65%	17.60%	17.48%	17.31%	17.11%	16.92%	16.77%	16.66%	16.65%	16.76%	17.07%	17.66%	18.72%	20.59%	24.06%

* Using EAN Liability and AVA

**Includes any plan changes

***May differ from summing due to rounding

Protection Assumptions:

(1) New Entrants: Active membership assumed to stay at the January 1, 2017 level throughout projection (5,101 active members),

New Entrants coming into the plan have the average characteristics of new employees over the last five years.

(2) Expenses: Plan expenses paid are assumed to remain at the 2016 level (\$1,554,000)

(3) Expense & Contingency Reserve: The expense & contingency reserve is assumed to remain at the January 1, 2017 level (\$30,922,000)

(4) Deferred Vested Members: Deferred vested members are assumed to receive 150% of their account balance at age 65.

(5) Non-vested Terminated Members: Non-vested terminated members are assumed to receive 100% of their account balance at age 65.

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
1 st	25.0%	35.0%
2 nd	20.0%	35.0%
3 rd	20.0%	35.0%
4 th	20.0%	25.0%
5 th	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.

Summary of Methods and Assumptions (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. 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.

Summary of Methods and Assumptions (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

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.

Summary of Methods and Assumptions (Continued)

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		

Summary of Methods and Assumptions (Continued)

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

Summary of Methods and Assumptions (Continued)

Table 3
Disability Rates
Annual Rates Per 1,000 Members

Age	Rate		Age	Rate	
	Males	Females		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			

Summary of Methods and Assumptions (Continued)

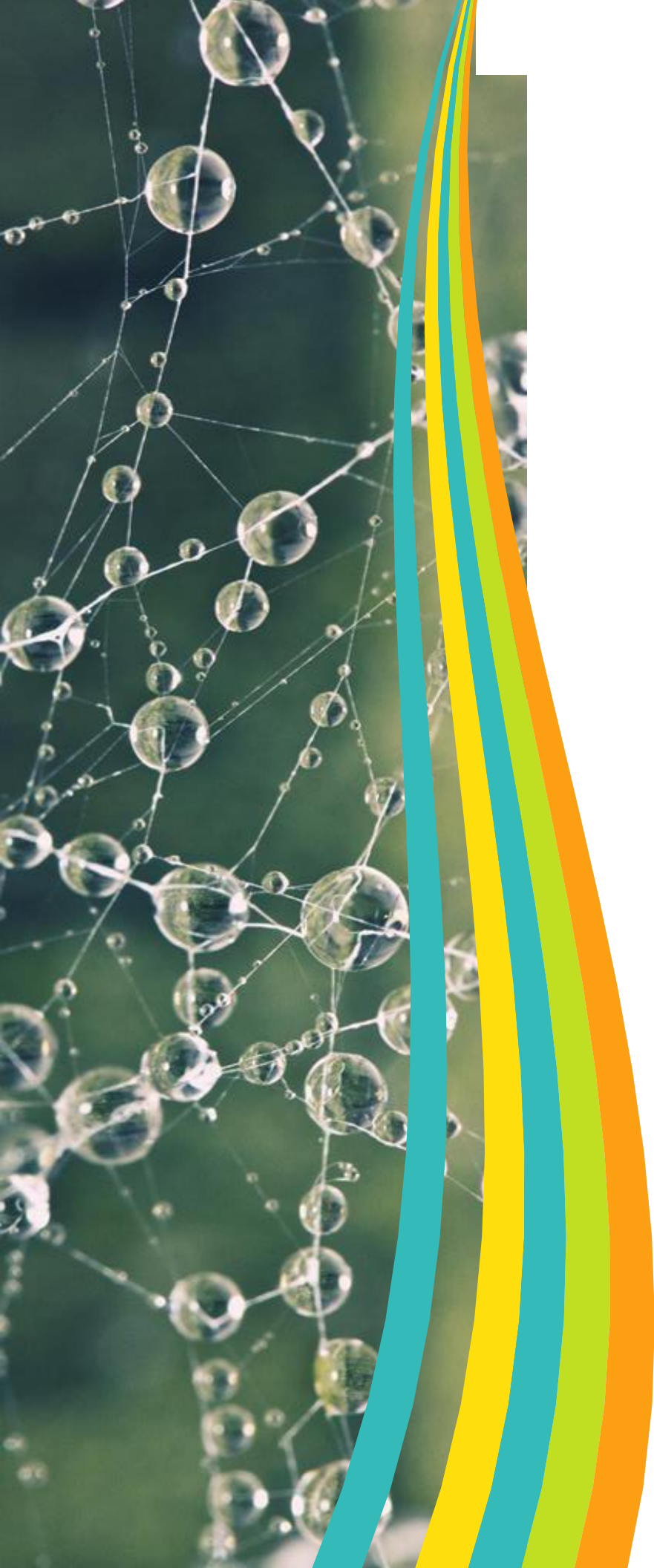
Table 4
Family Structure

Male	Age Female	Age of youngest child	Average number of children	Probability of being married	Probability of children if married
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

Summary of Methods and Assumptions (Continued)

Table 4
Family Structure
(continued)

Male	Age Female	Age of youngest child	Average number of children	Probability of being married	Probability of children if married
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



Presentation to the Board of Trustees

2017 Cost Analysis for Legislative Plan Changes

December 18, 2017

Summary of Plan Changes

- A summary of the changes in plan provisions contained in CCS HCS SS SB 62 are as follows:
 1. Reduce the "Rule of 85" unreduced retirement from age plus service equal to 85 to 80 (i.e. change it to a "Rule of 80").
 2. Change the percent of pay benefit multiplier from 2.00% of Average Final Compensation to 1.75% of Average Final Compensation for members hired on or after January 1, 2018.
 3. For employees hired before January 1, 2018, change the employee contribution requirement from a flat 5.0% of compensation to 9.0% in 0.5% annual increments. For employees hired on or after January 1, 2018, the employee contribution requirement will be a flat 9.0% immediately upon entering the system.
 4. The employer contribution rate will be set at a flat 16.0% of covered payroll for Plan Year 2018. This contribution rate shall be decreased by 0.5% in each subsequent Plan Year until reaching 9.0% of covered payroll. After this, the employer contribution rate will remain at 9.0% of covered payroll.

Impact on January 1, 2017 Valuation Results

- Below is a summary of what the impact would have been if the plan changes would have been effective for the January 1, 2017 valuation:

	Current Plan Provisions	Rule of 80 Only	All Plan Changes
Unfunded frozen actuarial accrued liability	232,478,771	248,762,896	249,224,076
a - Increase in EAN accrued liability	-	16,284,125	461,180
Normal cost contribution for 2017	26,350,187	27,916,080	22,327,465
AAL contribution for 2017	<u>23,343,402</u>	<u>24,978,506</u>	<u>25,024,814</u>
Recommended Employer Contribution for 2017	49,693,589	52,894,586	47,352,279
a - Contribution rate	19.10%	20.33%	18.20%
<u>Recommended Contribution by Employer Type:</u>			
Board of Education	37,376,323	39,783,907	35,615,340
Retirement System	100,565	107,043	95,827
Charter Schools	<u>12,216,701</u>	<u>13,003,636</u>	<u>11,641,112</u>
Total	49,693,589	52,894,586	47,352,279

- If Rule of 80 were the only change, the contribution increases
 - Contribution amount increases by \$3.2 million. Contribution rate increases by 1.23%
 - Members expected to retire sooner – benefits paid longer
- With all changes incorporated, the contribution decreases
 - Contribution amount decreases by \$2.3 million. Contribution rate decreases by 0.90%
 - Primarily due to normal cost contribution going down, which reflects future participant contributions.

Impact on Future Financial Health of the Plan

- Below is a summary of the projected funded percentage in 2033, along with the cumulative shortfall in contributions:

	Current Plan Provisions	Rule of 80 Only	All Plan Changes
Funded Percentage	90.16%	90.60%	80.06%
Cumulative Contribution Shortfall	-	-	232,533,000

- Only reflecting Rule of 80 change comes out slightly better than current plan
 - This is due to higher contribution rates and additional investment returns
- All changes reflected has a negative impact on future status of the plan
 - Funded percentage is 10% lower
 - Total contribution shortfall is \$232.5 million

- The above results are assuming all assumptions are realized. Adverse plan experience will add to the negative impact of all plan changes. Below is a summary if assets were to return 0% in 2018:

	Current Plan Provisions	Rule of 80 Only	All Plan Changes
Funded Percentage	87.31%	87.94%	67.93%
Cumulative Contribution Shortfall	-	-	442,889,000

- The 0% asset return has a negative impact on all scenarios
 - Current provisions and only Rule of 80 slight impact because the impact is reflected in contributions
 - All changes impact is significant, as any additional required contributions will not be paid

Disclosures

- The cost analysis results in this presentation were developed for the Public School Retirement System of the City of St. Louis (“PSRS”) by Conduent HR Consulting, LLC using generally accepted actuarial principles and techniques in accordance with all applicable Actuarial Standards of Practice (ASOPs).
- The cost analysis results are based on member data and financial information as provided by the PSRS staff. We reviewed the data for reasonableness and consistency with data for the prior valuation, but performed no audit of the data.
- The cost analysis results are based on the assumptions as those shown in the cost analysis letter with exhibits, dated December 12, 2017.
- Future actuarial measurements may differ significantly from the current measurements shown in this presentation due to plan experience differing from that anticipated by the economic and demographic assumptions, changes expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions, applicable law or regulations. An analysis of the potential range of such future differences is beyond the scope of the valuations summarized here.
- Use of these cost analysis results for any other purpose may not be appropriate and may result in mistaken conclusions due to failure to understand applicable assumptions, methodologies, or inapplicability of the valuation results for that purpose. Because of the risk of misinterpretation of actuarial results, Conduent HR Consulting, LLC should be asked to review any statement to be made on the basis of the results contained in this presentation. Conduent will not accept any liability for any such statement made without such prior review.
- Troy Jaros is a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. He meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained in this presentation. He is available to answer any questions on the material contained in this presentation, or to provide explanations or further details as may be appropriate.

TRAVEL EXPENSES
APPROVED BY THE BOARD OF TRUSTEES
December 18, 2017

The following travel expenses were approved by the Board of Trustees at a meeting on December 18, 2017.

<u>Name</u>	<u>Sponsor</u>	<u>Beginning Date</u>	<u>Ending Date</u>	<u>Location</u>	<u>Expenses</u>
Paula Bentley	NASP	06/25/17	06/29/17	Los Angeles, CA	1,781.53
Paula Bentley	MAPERS	07/12/17	07/14/17	Osage Beach, MO	655.42
Paula Bentley	NCTR	07/23/17	07/26/17	Cambridge, MA	1,664.01
Darnetta Clinkscale	NASP	06/25/17	06/29/17	Los Angeles, CA	1,487.04
Sheila Goodwin	NASP	06/25/17	06/29/17	Los Angeles, CA	1,795.98
Sheila Goodwin	MAPERS	07/11/17	07/15/17	Osage Beach, MO	831.76
Sheila Goodwin	NCTR	07/23/17	07/26/17	Cambridge, MA	1,874.48
Sheila Goodwin	NCTR	10/06/17	10/11/17	Tucson, AZ	1,780.26
Bobbie Richardson	NASP	06/25/17	06/29/17	Los Angeles, CA	2,003.44
Bobbie Richardson	MAPERS	07/12/17	07/14/17	Osage Beach, MO	785.59
Bobbie Richardson	NCTR	10/07/17	10/10/17	Tucson, AZ	1,702.76
Eural Thomas	NASP	06/25/17	06/29/17	Los Angeles, CA	1,787.08
Total 2017 Travel Expenses					<u><u>\$18,149.35</u></u>

**PUBLIC SCHOOL RETIREMENT SYSTEM
OF THE CITY OF ST. LOUIS**

2018 Operating Budget

December 18, 2017

**Public School Retirement System
of the City of St. Louis
Operating Budget - Calendar Year 2018**

DESCRIPTION	2014	2015	2016	2017			2018			
	ACTUAL EXPENSES	ACTUAL EXPENSES	ACTUAL EXPENSES	BUDGETED	PROJECTED	BUDGET VARIANCE	NOTES (If Variance +/- 10%)	BUDGET	INCREASE (DECREASE)	NOTES
SALARIES	\$ 450,456	\$461,927	\$460,743	\$472,967	\$472,967	\$0	0.0%	\$ 484,791	\$11,824	2.5%
BENEFITS	177,081	181,654	176,470	176,366	175,684	(682)	-0.4%	207,156	\$30,790	17.5% ▲ ER contribution %
INVESTMENT MANAGEMENT FEES	3,203,463	3,153,931	2,958,108	3,357,286	2,905,513	(451,773)	-13.5% ▼ 2017 direct invoices	3,194,571	(\$162,715)	-4.8%
TRUST & CUSTODY BANK SERVICES	149,027	147,454	148,709	150,645	130,275	(20,370)	-13.5% ▲ mutual fund accounts	117,245	(\$33,400)	-22.2% ▼ direct custody accts
INVESTMENT CONSULTING	196,336	192,090	182,156	180,655	183,778	3,123	1.7%	186,775	\$6,120	3.4%
ACTUARIAL SERVICES	103,946	122,856	124,788	151,000	146,485	(4,515)	-3.0%	156,000	\$5,000	3.3%
LEGAL SERVICES	22,316	47,209	63,943	70,000	92,000	22,000	▲ legislation & investments	185,000	\$115,000	164.3% 12-18-17 meeting minutes, lawsuit
AUDITING SERVICES	44,340	76,980	68,886	69,000	69,000	0	0.0%	71,610	\$2,610	3.8%
TRUSTEE ELECTIONS	17,930	40,883	28,090	41,262	37,908	(3,354)	-8.1%	23,554	(\$17,708)	-42.9% 2 elections budgeted in 2018 vs. 3 in 2017
TECHNOLOGY SERVICES	73,407	109,292	111,412	98,110	93,721	(4,389)	-4.5%	125,865	\$27,755	28.3% Doc Imaging Project
DISABILITY MEDICAL EVALUATIONS	800	400	700	2,000	800	(1,200)	▼ evaluations	2,000	No Change	0.0%
PROPERTY MANAGEMENT	115,651	98,119	99,718	117,516	110,112	(7,404)	-6.3%	119,488	\$1,972	1.7%
POSTAGE & DELIVERY	51,775	52,880	47,310	51,127	50,051	(1,076)	-2.1%	51,239	\$112	0.2%
PRINTING & OFFICE SUPPLIES	43,706	43,284	44,753	48,500	45,600	(2,900)	-6.0%	48,718	\$218	0.4%
EQUIPMENT MAINTENANCE & PURCHASES	8,467	13,891	24,841	23,190	16,568	(6,622)	-28.6% security equip. ◀ estimate	16,540	(\$6,650)	-28.7% ▼ purchases
BUSINESS INSURANCE	88,490	90,230	91,316	93,826	93,142	(684)	-0.7%	95,595	\$1,769	1.9%
TRUSTEE EDUCATIONAL EXPENSES	32,666	21,086	36,793	37,000	24,876	(12,124)	-32.8% ▼ participation	35,000	(\$2,000)	-5.4%
RETIREE INSURANCE & CONSULTING	2,735,844	2,641,868	2,556,643	2,653,002	2,487,847	(165,155)	-6.2%	2,557,002	(\$96,000)	-3.6%
MISCELLANEOUS EXPENSES	51,306	46,397	40,326	43,500	33,900	(9,600)	-22.1% ▼ bank account fees	37,900	(\$5,600)	-12.9% ▼ bank acct. fees
SPECIAL PROJECTS	0	0	5,000	5,000	4,000	(1,000)	-20.0% carry over to 2018	5,000	No Change	0.0%
SECURITIES LENDING REVENUE	(114,676)	(128,409)	(149,246)	(150,000)	(140,196)	9,804	-6.5%	(150,000)	No Change	0.0%
COMMISSION RECAPTURE REVENUE	(31,651)	(27,171)	(23,168)	(50,000)	(12,000)	38,000	-76.0% returns ◀ expected	(25,000)	\$25,000	-50.0% continues to decrease
VA LEASE REVENUE	(143,754)	(146,007)	(150,427)	(153,547)	(153,100)	447	-0.3%	(157,530)	(\$3,983)	2.6%
TOTAL	7,276,926	7,240,844	6,947,864	7,488,405	\$6,868,931	(\$619,474)	-8.3% ▼ Mgmt fees & ret. Ins.	\$7,388,519	(\$99,886)	-1.3%

2018 Budget Increase (Decrease) relative to amount budgeted in calendar year 2017.

See Attached Budget Notes and Supporting Budget Detail.

**Public School Retirement System
of the City of St. Louis
Operating Budget - Calendar Year 2018**

Asset Assumptions (as of 10/31/17)

Investment Accounts Billed Indirectly (fees not budgeted)	\$314.8 million	
Investment Accounts Billed Directly	<u>463.7 million</u>	
Financial Investments		\$778.5 million
Real Estate Investments		54.3 million
Private Equity Investments (fees not budgeted)		<u>26.0 million</u>
Total Fund		\$858.8 million

Investment Management Fees

Investment Accounts Billed Directly		
\$463.7 million in assets at 57.3 basis points	\$2,657,001	
Real Estate Investments		
\$54.3 million in assets at 99 basis points	<u>537,570</u>	
Investment Management Fees		\$3,194,571

Trust & Custody Bank Services

U.S. Bank

15 Separate Accounts at \$1,000/account	\$15,000	
Domestic Assets of \$313.9 million at 1.5 basis points	47,085	
Foreign Equity Assets of \$50.2 million at 8 basis points	40,160	
Miscellaneous Administrative Fees (Global Equities)	<u>15,000</u>	
Trust & Custody Bank Services		\$117,245

Investment Consulting

New England Pension Consultants

Financial Composite		
First \$100 million at 3 basis points	\$30,000	
Second \$100 million at 2 basis points	20,000	
Next \$578.5 million at 1.5 basis point	<u>86,775</u>	
Financial Composite Expenses		\$136,775
Alternative Investments Expenses	<u>50,000</u>	
Investment Consulting		\$186,775

**Public School Retirement System
of the City of St. Louis
Operating Budget - Calendar Year 2018**

Actuarial Services

Buck Consultants, LLC

Retirement and Purchase of Service Calculations, Retirement Estimates	\$70,000
Valuation Report, Board Meetings, Annual Audit, General Consulting	66,000
Annual Benefit Statements, Miscellaneous Actuarial Services	<u>20,000</u>
Actuarial Services.....	\$156,000

Legal Services

Hartnett Gladney Hetterman, LLC

General Legal Counsel	\$155,000
Investment Agreement Reviews	<u>30,000</u>
Legal Services	\$185,000

Auditing Services

Anders Minkler Huber & Helm LLP

Annual Audit (financial statements & GASB No. 68)	\$65,100
Accounting Services (CAFR & other requirements)	<u>6,510</u>
Auditing Services	\$71,610

Trustee Elections

Active Trustee Elections (5,050 eligible voters)

Election Commissioner Costs	\$3,000
Miscellaneous Costs (i.e. ballot return postage)	1,000
Printing at 68¢/voter	3,434
Mailings at 86¢/voter	<u>4,343</u>
Cost Per Active Trustee Election	<u>11,777</u>
Two Active Trustee Elections at \$11,777	<u>23,554</u>

Trustee Elections.....\$23,554

Technology Services, Computer Consulting & Software

(see Technology Budget, page 8)

Technical Services, Consulting & Support	\$119,880
Software Purchases & Licenses	<u>5,985</u>
Technology Services, Computer Consulting & Software	\$125,865

Physician Fees

Disability Medical Evaluations\$2,000

**Public School Retirement System
of the City of St. Louis
Operating Budget - Calendar Year 2018**

Property Management, Security & Utilities

Property Management at \$1,133/month	\$13,596	
Property Management Services (trash, janitorial, maintenance)	60,000	
Security Monitoring	<u>1,800</u>	
Property Management & Security Monitoring		\$75,396
Charter Internet Service 3 @ \$179/month	\$ 537	
Fiber Optic Internet Service 9 @ \$628/month	5,652	
AT&T Telephone Service at \$310/month	3,720	
Windstream Communications Telephone Service 3 @ \$565/month	1,695	
Freedom Voice Telephone Service 9 @ \$532/month	4,788	
Ameren UE Electric Service	26,500	
MSD/St. Louis City Water	<u>1,200</u>	
Utilities		<u>\$44,092</u>

Property Management, Security & Utilities \$119,488

Postage & Delivery

Quarterly Newsletter at \$3,350/ mailing	\$13,400
Health Insurance Open Enrollment Packets – 3,200 at \$1.86 each	5,952
Annual Report Summaries – 9,700 at 59¢ each	5,723
1099R Forms – 5,600 at 59¢ each	3,304
Annual Benefit Statements – 5,200 at 55¢ each	2,860
Miscellaneous Postage & Delivery	<u>20,000</u>

Postage & Delivery \$51,239

Printing & Office Supplies

Quarterly Newsletter at \$1,668/ mailing	\$6,672
Annual Reports – 150 at \$12.60 each	1,890
Annual Report Summaries – 10,000 at 82¢ each	8,200
Health Insurance Open Enrollment Packets – 3,800 at \$2.62 each	9,956
Miscellaneous Printing & Office Supplies	<u>22,000</u>

Printing & Office Supplies..... \$48,718

Equipment Maintenance & Purchases

Maintenance Contracts & Leases

IBM AS 400 Computer	\$1,500	
Paymaster Check Writer	500	
Telephone System	500	
Dynamic Microfiche Reader/Printer	500	
Firewall Maintenance & Subscription Service	500	
Konica & Toshiba Printers	3,000	
Pitney Bowes Mail System	<u>5,640</u>	
Maintenance Contract & Leases		\$12,140

Equipment Purchases (see Technology Budget, page 8) 4,400

Equipment Maintenance & Purchases..... \$16,540

**Public School Retirement System
of the City of St. Louis
Operating Budget - Calendar Year 2018**

Business Insurance

Fiduciary Coverage	\$60,925
Crime Coverage & Treasurer's Bond	3,170
Property, Casualty & Workers' Compensation Coverage	16,500
Insurance Brokerage Services	<u>15,000</u>
Business Insurance	\$95,595

Trustee Educational Expenses

Projected for 2018	\$35,000
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Retiree Insurance, Consulting & Open Enrollment

(Based on November 2017 enrollment levels)

Retiree Health Care Insurance Subsidy

Medical Insurance:	
2,300 members @ \$80.00/member/month	\$2,208,000
Dental Insurance:	
2,900 members @ \$5.95/member/month	207,060
Vision Insurance:	
3,100 members @ \$2.61/member/month	97,092
Health Insurance Consulting	39,850
Open Enrollment Assistance	<u>5,000</u>
Retiree Insurance, Consulting & Open Enrollment.....	\$2,557,002

Miscellaneous Expenses

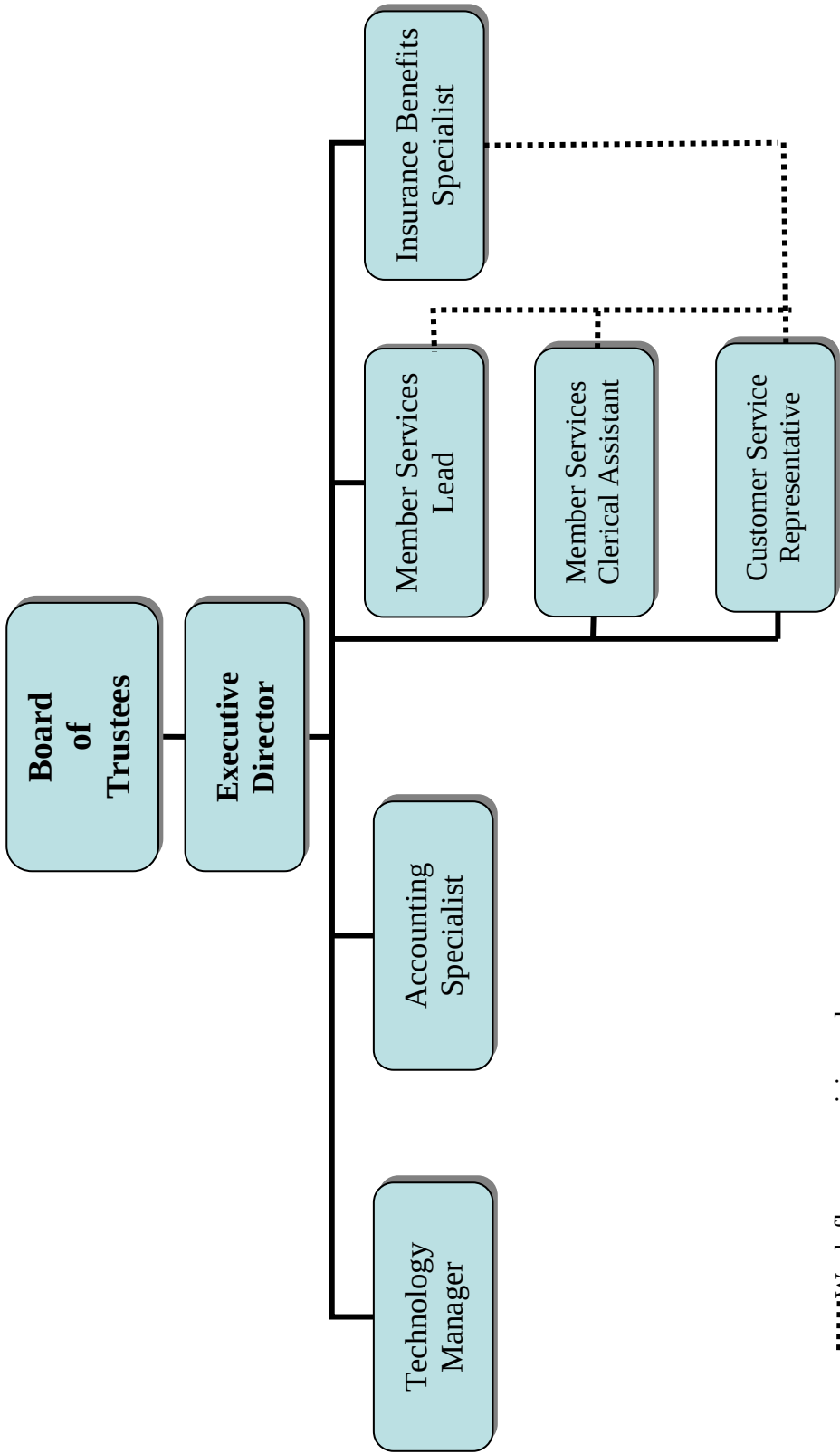
Bank Account Fees	\$32,400
Public Parking, Subscriptions & Meetings	4,000
Unforeseen Building Supplies & Equipment	<u>1,500</u>
Miscellaneous Expenses	\$37,900

Special Projects Planned for 2018

Boardroom Director Chairs	<u>5,000</u>
Special Projects Planned for 2018	\$5,000

PUBLIC SCHOOL RETIREMENT SYSTEM
OF THE CITY OF ST. LOUIS

2018 Organizational Chart



.....Work-flow supervision only

PUBLIC SCHOOL RETIREMENT SYSTEM OF THE CITY OF ST. LOUIS

2017 INVESTMENT MANAGEMENT FEES

MONEY MANAGER	1st QUARTER			2nd QUARTER			3rd QUARTER		
	Fees	Market Value	Fee Rate	Fees	Market Value	Fee Rate	Fees	Market Value	Fee Rate
Manager Fees Billed Directly									
Causeway Capital Management	73,575	43,738,194	0.673%	77,254	46,002,282	0.672%	84,079	50,263,315	0.669%
Chicago Equity Partners	39,984	45,695,960	0.350%	40,100	45,829,131	0.350%	40,268	46,021,117	0.350%
EARNEST Partners	7,472	11,955,491	0.250%	7,589	12,142,690	0.250%	7,656	12,248,843	0.250%
Edgar Lomax Co.	42,917	34,814,690	0.493%	43,307	35,161,996	0.493%	42,272	34,241,354	0.494%
Fidelity Institutional Asset Mgmt Co.	65,581	42,465,157	0.618%	70,144	46,115,278	0.608%	73,334	48,667,069	0.603%
Holland Capital Management	46,913	31,530,479	0.595%	49,387	33,509,565	0.590%	32,907	29,617,162	0.601%
Intech	30,457	24,611,687	0.495%	29,753	24,042,558	0.495%	30,606	24,732,494	0.495%
Loomis Sayles (High-Yield Fixed Income)	53,851	43,081,009	0.500%	36,678	43,887,910	0.500%			
Mellon Capital Management	1,757	13,836,300	0.051%	1,573	12,199,834	0.052%	848	6,304,283	0.054%
Mellon Global Expanded Alpha 1	66,903	33,916,296	0.789%	65,163	32,671,203	0.798%	66,474	32,966,165	0.807%
Manulife Asset Management U.S. LLC	31,240	41,653,558	0.300%	31,804	42,405,467	0.300%	32,124	42,832,595	0.300%
Mondrian	40,081	35,092,332	0.457%	41,424	36,627,945	0.452%			
Piedmont Investments (NCM Capital)	8,245	10,993,521	0.300%	8,420	11,227,094	0.300%	8,600	11,466,529	0.300%
Progress Investment Management	71,437	43,961,103	0.650%	74,964	46,131,966	0.650%	78,825	48,507,959	0.650%
Systematic Financial Mgmt., LP	65,077	26,374,458	0.987%	66,605	27,189,258	0.980%	70,805	29,429,353	0.962%
TCW Asset Management Co.	45,070	30,046,534	0.600%	48,944	32,629,640	0.600%	48,970	32,646,592	0.600%
Westfield Capital Mgmt.	57,519	23,007,468	1.000%	59,695	23,878,081	1.000%	62,255	24,901,945	1.000%
TOTAL MANAGER FEES BILLED DIRECTLY	\$748,079	\$536,774,238	0.557%	\$752,807	\$551,651,897	0.546%	\$680,024	\$474,846,775	0.573%
Manager Fees Billed Indirectly									
DFA	46,079	36,863,520	0.500%	47,218	37,774,784	0.500%	50,113	40,090,576	0.500%
ENTRUST	72,604	21,570,347	1.346%	73,320	21,790,653	1.346%	73,079	21,716,596	1.346%
GMO Global Balanced	49,491	36,660,073	0.540%	46,826	34,685,598	0.540%	48,300	35,777,710	0.540%
Grosvenor	74,606	25,949,820	1.150%	74,862	26,038,870	1.150%	76,043	26,449,666	1.150%
Lazard Emerging Markets Debt	56,470	26,574,216	0.850%	57,178	26,907,487	0.850%	58,205	27,390,753	0.850%
Loomis Sayles (Absolute Return Fixed Income)				18,553	14,842,032	0.500%	55,278	43,861,713	0.504%
Neuberger Berman							26,565	35,420,000	0.300%
OFI Global Asset Management (Emerging Markets)	47,111	22,170,027	0.850%	51,107	24,050,450	0.850%	55,780	26,249,527	0.850%
Passport	41,247	8,249,422	2.000%	41,900	8,380,010	2.000%	2,095	419,000	2.000%
PIMCO	79,604	36,810,898	0.865%	74,479	34,441,373	0.865%	76,899	35,560,396	0.865%
UBS Trumbull (Real Estate Funds)	122,430	52,889,312	0.926%	117,340	53,388,576	0.879%	119,576	53,944,720	0.887%
Whitebox	65,484	17,462,363	1.500%	55,475	14,793,448	1.500%	67,375	17,966,536	1.500%
TOTAL MANAGER FEES BILLED INDIRECTLY	\$655,126	\$285,199,997	0.919%	\$658,259	\$297,093,280	0.886%	\$709,308	\$364,847,194	0.778%
TOTAL ALL FEES	\$1,403,204	\$821,974,235	0.683%	\$1,411,066	\$848,745,177	0.665%	\$1,389,333	\$839,693,968	0.662%

TOTAL YEAR-TO-DATE MANAGER FEES BILLED DIRECTLY \$2,180,910

TOTAL YEAR-TO-DATE MANAGER FEES BILLED INDIRECTLY \$2,022,692

TOTAL YEAR-TO-DATE MANAGER FEES \$4,203,603

**PUBLIC SCHOOL RETIREMENT SYSTEM
OF THE CITY OF ST. LOUIS
2018 TECHNOLOGY BUDGET**

TYPE	DESCRIPTION	HARDWARE	SOFTWARE	SERVICES	TOTAL
Hardware	Replace Two Security Cameras	\$4,000			
	Replace Two HP Desktop Printers	400			
Total Hardware (see page 4 - equipment maintenance & purchases)		\$4,400			\$4,400
Software	Adobe PDF Professional Software Licenses		\$480		
	General Ledger Software Replacement		2,500		
	Lenel Building Security System		275		
	Quickbooks Premier Server and License		400		
	Relius Government Forms 1099 Forms and Envelopes		1,000		
	Relius Government Forms Annual License		400		
	Microsoft Office 365 (Office 2016)		250		
	PRISM Scanpath Software for Konica/Minolta Printer		180		
	Miscellaneous Software		500		
Total Software (see page 3 - technology services)			\$5,985		\$5,985
Services	Annual Member Address Verification Service			\$1,000	
	Monthly DeathScan Verification Service			2,000	
	Blade Technology ServicePlus Remote Monitoring and Maintenance			16,800	
	Blade Technology Security Audit & Disaster Recovery			6,120	
	Blade Technology On-Site Maintenance (estimated 24 hours)			3,360	
	Blade Technology Conversion to Freedomvoice Telephone Service			3,600	
	Document Imaging Service & Licensing			7,400	
	Document Imaging Conversion			18,500	
	VEEAM Off-site Data Backup			2,520	
	General Ledger Analysis & Conversion			7,200	
	Jupiter Consulting Services			50,000	
	Website Hosting			200	
	Website Modifications			1,080	
	Efax.com Internet Service			100	
Total Services (see page 3 - technology services)				\$119,880	\$119,880
TOTAL		\$4,400	\$5,985	\$119,880	\$130,265