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GASB STATEMENT NO. 68 REPORT

FOR THE

TEACHERS' RETIREMENT SYSTEM

OF THE STATE OF KENTUCKY

PREPARED AS OF JUNE 30, 2018





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

May 14, 2019

Board of Trustees
Teachers' Retirement System of the
State of Kentucky
479 Versailles Road
Frankfort, KY 40601-3800

Members of the Board:

Presented in this report is information to assist the Teachers' Retirement System of the State of Kentucky (TRS) in meeting the requirements of the Governmental Accounting Standards Board (GASB) Statement No. 68 and to identify the information to be provided by the actuary, Cavanaugh Macdonald Consulting (CMC). This report has been prepared as of June 30, 2018 (the Measurement Date).

GASB Statement Number 68 established accounting and financial reporting requirements for governmental employers that provide pension benefits to their employees through a trust.

The annual actuarial valuation used as a basis for much of the information presented in this report was performed as of June 30, 2017. The valuation was based upon data, furnished by the TRS staff, for active, inactive and retired members along with pertinent financial information. While not verifying data at the source, the actuary performed tests for consistency and reasonableness.

The actuarial calculations were performed by qualified actuaries according to generally accepted actuarial principles and practices, as well as in conformity with Actuarial Standards of Practice issued by the Actuarial Standards Board. The calculations are based on the current provisions of the Plan, and on actuarial assumptions that are, internally consistent and individually reasonable based on the actual experience of the Plan. In addition, the calculations were completed in compliance with the laws governing the Plan and, in our opinion, meet the requirements of GASB 68. The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.



Board of Trustees
May 14, 2019
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These results are only for financial reporting and may not be appropriate for funding purposes or other types of analysis. Calculations for purposes other than satisfying the requirements of GASB 67 and GASB 68 may produce significantly different results. Future actuarial results may differ significantly from the current results presented in this report due to such factors as changes in plan experience or changes in economic or demographic assumptions.

Sincerely yours,

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

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

A handwritten signature in blue ink that reads 'Alisa Bennett'.

Alisa Bennett, FSA, EA, FCA, MAAA
Principal and Consulting Actuary

A handwritten signature in blue ink that reads 'Cathy Turcot'.

Cathy Turcot
Principal and Managing Director



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**REPORT OF THE ANNUAL GASB STATEMENT NO. 68
REQUIRED INFORMATION FOR THE
EMPLOYERS PARTICIPATING IN THE TEACHERS' RETIREMENT SYSTEM
OF THE STATE OF KENTUCKY**

PREPARED AS OF JUNE 30, 2018

SECTION I – INTRODUCTION

The Governmental Accounting Standards Board issued Statement No. 68 (GASB 68), *“Accounting and Financial Reporting For Pensions”* in June 2012. The Teachers' Retirement System of the State of Kentucky (TRS) is a cost-sharing multiple employer defined benefit pension plan.

This report, prepared as of June 30, 2018 (the Measurement Date), presents information to assist the employers participating in TRS in meeting the requirements of GASB 68 for the fiscal year ending June 30, 2019 (Reporting Date). Much of the material provided in this report is based on the data, assumptions and results of the annual actuarial valuation of TRS as of June 30, 2017. The results of that valuation were detailed in a report dated November 14, 2017.

The NPL shown in the GASB Statement No. 67 Report for the Teachers' Retirement System of the State of Kentucky Prepared as of June 30, 2018 and submitted November 6, 2018 is the collective NPL used for purposes of GASB 68. Please refer to that report for the derivation of the collective NPL.

Pension Expense (PE) includes amounts for service cost (the normal cost under the Entry Age Normal actuarial cost method for the year), interest on the Total Pension Liability (TPL), changes in benefit structure, amortization of increases/decreases in liability due to actuarial experience and actuarial assumption changes, and amortization of investment gains/losses. The actuarial experience and assumption change impacts are amortized over the average expected remaining service life of the Plan membership as of the Measurement Date, and investment gains/losses are amortized over five years. The development of the collective PE is shown in Section IV.

The unamortized portions of each year's experience, assumption changes and investment gains/losses are used to develop deferred inflows and outflows, which also must be included in the employer's financial statements. The development of the collective deferred inflows and outflows is shown in Section III.

These collective amounts have been allocated based on actual contributions made to TRS during the measurement period to determine the proportionate share to each participating employer. In addition, TRS receives contributions directly from the State of Kentucky for all participating employers. These employers are considered to be in a special funding situation as defined by GASB 68 and the State is treated as a non-employer contributing entity in TRS.

Schedule A of this report shows the total amount of employer contributions for the year ending June 30, 2018 from each participating employer, the amount of contributions from the State associated with each employer in special funding situation and the total amount of State contributions. Schedule A also shows the proportionate share percentages that have been determined based on these contributions.

Based on these percentages we have determined the proportionate share amounts of the NPL, PE and Deferred Inflows and Outflows for each participating employer. These amounts are shown in Schedule B.



The proportionate share amounts of each of these items associated with each employer in a special funding situation, and the total proportionate share amounts of each item for the State are also provided.

Section II of this report is a summary of the principal results of the collective amounts under GASB 68. Section III provides the results of all the necessary calculations, presented in the order laid out in GASB 68 for note disclosure and Required Supplementary Information (RSI).



SECTION II - SUMMARY OF COLLECTIVE AMOUNTS
(\$ IN THOUSANDS)

	2018
Valuation Date:	June 30, 2017
Prior Measurement Date:	June 30, 2017
Measurement Date:	June 30, 2018
Reporting Date:	June 30, 2019
Single Equivalent Interest Rate (SEIR):	
Long-Term Expected Rate of Return	7.50%
Municipal Bond Index Rate at Prior Measurement Date	3.56%
Municipal Bond Index Rate at Measurement Date	3.89%
Fiscal Year in which Plan's Fiduciary Net Position is projected to be depleted from future benefit payments for current members	N/A
Single Equivalent Interest Rate at Prior Measurement Date	4.49%
Single Equivalent Interest Rate at Measurement Date	7.50%
Net Pension Liability:	
Total Pension Liability (TPL)	\$33,708,555
Fiduciary Net Position (FNP)	<u>19,981,633</u>
Net Pension Liability (NPL = TPL – FNP)	\$ 13,726,922
FNP as a percentage of TPL	59.3%
Pension Expense (PE):	(\$1,655,568)
Deferred Outflows of Resources:	\$2,362,542
Deferred Inflows of Resources:	\$12,996,420



SECTION III – NOTES TO THE FINANCIAL STATEMENTS

The material presented herein will follow the order presented in GASB 68. Paragraph numbers are provided for ease of reference. Amounts are shown in aggregate. Please refer to Schedule B of this report for the proportionate share of certain pension amounts as required by GASB 68.

Paragraphs 77 and 78(a)-(e): These paragraphs require information to be disclosed regarding the actuarial assumptions used to measure the TPL. The complete set of actuarial assumptions utilized in developing the TPL are outlined in Schedule C. The TPL was determined by an actuarial valuation as of June 30, 2017, using the following key actuarial assumptions:

Inflation	3.00 percent
Salary increases, including inflation	3.50 – 7.30 percent
Long-Term Investment Rate of Return, net of pension plan investment expense, including inflation	7.50 percent
Municipal Bond Index Rate	
Prior Measurement Date	3.56 percent
Measurement Date	3.89 percent
Year FNP is projected to be depleted	N/A
Single Equivalent Interest Rate, net of pension plan investment expense, including inflation	
Prior Measurement Date	4.49 percent
Measurement Date	7.50 percent
Post-Retirement Benefit Increases	1.50% annually

Mortality rates were based on the RP-2000 Combined Mortality Table for Males or Females, as appropriate, with adjustments for mortality improvements based on a projection of Scale BB to 2025, set forward two years for males and one year for females.

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period July 1, 2010 – June 30, 2015 adopted by the Board on November 19, 2016.

The long-term expected rate of return on pension plan investments was determined using a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.



The target asset allocation and best estimates of arithmetic real rates of return for each major asset class, as provided by TRS's investment consultant, are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
U.S. Equity	40.0%	4.2%
International Equity	22.0%	5.2%
Fixed Income	15.0%	1.2%
Additional Categories*	8.0%	3.3%
Real Estate	6.0%	3.8%
Private Equity	7.0%	6.3%
Cash	2.0%	0.9%
Total	100.00%	

**Includes High Yield, Non-US Developed Bonds and Private Credit Strategies*

Discount rate. The discount rate used to measure the TPL as of the Measurement Date was 7.50%. The projection of cash flows used to determine the discount rate was performed in accordance with GASB 67. We assumed that Plan member contributions will be made at the current contribution rates and that Employer contributions will be made at the Actuarially Determined Contribution rates, adjusted by 95%, for all fiscal years in the future. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability. The change in the discount rate from the 4.49% used in the 2017 disclosure reports is considered a change in actuarial assumptions or other inputs under GASB 68.

Paragraph 78 (g): This paragraph requires disclosure of the sensitivity of the net pension liability to changes in the discount rate. The following presents the net pension liability of the System, calculated using the discount rate of 7.50 percent, as well as what the System's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.50 percent) or 1-percentage-point higher (8.50 percent) than the current rate (\$ thousands):

	1% Decrease (6.50%)	Current Discount Rate (7.50%)	1% Increase (8.50%)
System's net pension liability	\$17,595,452	\$13,726,922	\$10,472,071



Paragraph 80(a): This paragraph requires disclosure of the employer's proportionate share of the collective NPL and if an employer has a special funding situation the portion of the non-employer contributing entities' proportional share of the collective NPL that is associated with the employer. These amounts are shown in Schedule B.

Paragraph 80(b): This paragraph requires disclosure of the employer's proportion (percentage) of the collective NPL and the changes in proportion since the prior measurement date. These amounts are shown for all entities in Schedule A.

Paragraph 80(c): June 30, 2017 is the actuarial valuation date upon which the TPL is based. An expected TPL is determined as of June 30, 2018 using standard roll forward techniques. The procedure used to determine the TPL as of June 30, 2018 is shown on page 5 of the GASB 67 report for TRS submitted on November 6, 2018.

Paragraph 80(g): Please see Section IV of this report for the development of the collective pension expense. The PE for each employer is shown in Schedule B.

Paragraph 80(h): Since certain expense items are amortized over closed periods each year, the deferred portions of these items must be tracked annually. If the amounts serve to reduce pension expense they are labeled deferred inflows. If they will increase pension expense they are labeled deferred outflows. The amortization of these amounts is accomplished on a level dollar basis, with no interest included in the deferred amounts. Experience gains/losses and the impact of changes in actuarial assumptions or other inputs, if any, are amortized over the average expected remaining service life of the active and inactive Plan members at the beginning of the fiscal year. Investment gains and losses are amortized over a fixed five year period.



The table below provides a summary of the collective deferred inflows and outflows as of the Measurement Date. The allocation of the collective deferred inflows and outflows is provided in Schedule B.

	Collective Deferred Outflows of Resources (\$ thousands)	Collective Deferred Inflows of Resources (\$ thousands)
Differences between expected and actual experience	\$106,693	\$273,030
Changes of actuarial assumptions or other inputs	2,255,849	12,237,810
Net difference between projected and actual earnings on plan investments	<u>0</u>	<u>485,580</u>
Total	<u>\$2,362,542</u>	<u>\$12,996,420</u>

Paragraph 80(i): Collective amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Deferred Amounts to be Recognized in Fiscal Years Following the Reporting Date:	
Year 1	(\$2,757,400)
Year 2	(3,033,474)
Year 3	(3,419,718)
Year 4	(1,423,286)
Year 5	0
Thereafter	<u>0</u>

The allocation of these deferred amounts for each participating employer is shown in Schedule C.



Collective Deferred Outflows and Inflows for Differences between Expected and Actual Experience

	Initial Balance of Losses / Deferred Outflow	Initial Balance of Gains / Deferred Inflow	Amortization Period	Beginning Balance Deferred Outflows (a)	Beginning Balance Deferred Inflows (b)	Losses / Deferred Outflows (c)	Gains / Deferred Inflows (d)	Amounts Recognized in Pension Expense / Deferred Outflow (e)	Amounts Recognized in Pension Expense / Deferred Inflow (f)	Ending Balance Deferred Outflows (a) + (c) - (e)	Ending Balance Deferred Inflows (b) + (d) - (f)
2018	\$0	\$222,473	4.4	\$0	\$0	\$0	\$222,473	\$0	\$50,562	\$0	\$171,911
2017	199,471	0	4.3	153,082	0	0	0	46,389	0	106,693	0
2016	0	58,035	5.5	0	36,931	0	0	0	10,552	0	\$26,379
2015	0	323,868	5.2	0	137,022	0	0	0	62,282	0	74,740
2014	0	0	5.8	0	0	0	0	0	0	0	0
Total				<u>\$153,082</u>	<u>\$173,953</u>	<u>\$0</u>	<u>\$222,473</u>			<u>\$106,693</u>	<u>\$273,030</u>



Collective Deferred Outflows and Inflows for Differences from Assumption Changes or Other Inputs

	Initial Balance of Losses / Deferred Outflow	Initial Balance of Gains / Deferred Inflow	Amortization Period	Beginning Balance Deferred Outflows (a)	Beginning Balance Deferred Inflows (b)	Losses / Deferred Outflows (c)	Gains / Deferred Inflows (d)	Amounts Recognized in Pension Expense / Deferred Outflow (e)	Amounts Recognized in Pension Expense / Deferred Inflow (f)	Ending Balance Deferred Outflows (a) + (c) - (e)	Ending Balance Deferred Inflows (b) + (d) - (f)
2018	\$0	\$14,167,315	4.4	\$0	\$0	\$0	\$14,167,315	\$0	\$3,219,844	\$0	\$10,947,471
2017	\$0	2,321,327	4.3	0	1,781,484	0	0	0	539,843	0	1,241,641
2016	4,030,834	0	5.5	2,565,076	0	0	0	732,879	0	1,832,197	0
2015	1,835,828	0	5.2	776,696	0	0	0	353,044	0	423,652	0
2014	0	353,043	5.8	0	109,567	0	0	0	60,869	0	48,698
Total				<u>\$3,341,772</u>	<u>\$1,891,051</u>	<u>\$0</u>	<u>\$14,167,315</u>			<u>\$2,255,849</u>	<u>\$12,237,810</u>



Collective Deferred Outflows and Inflows for Differences in Investment Experience

	Initial Balance of Losses / Deferred Outflow	Initial Balance of Gains / Deferred Inflow	Amortization Period	Beginning Balance Deferred Outflows (a)	Beginning Balance Deferred Inflows (b)	Losses / Deferred Outflows (c)	Gains / Deferred Inflows (d)	Amounts Recognized in Pension Expense / Deferred Outflow (e)	Amounts Recognized in Pension Expense / Deferred Inflow (f)	Ending Balance Deferred Outflows (a) + (c) - (e)	Ending Balance Deferred Inflows (b) + (d) - (f)
2018	\$0	\$575,610	5.0	\$0	\$0	\$0	\$575,610	\$0	\$115,122	\$0	\$460,488
2017	0	1,236,574	5.0	0	989,259	0	0	0	247,315	0	741,944
2016	1,561,734	0	5.0	937,040	0	0	0	312,347	0	624,693	\$0
2015	460,803	0	5.0	184,320	0	0	0	92,161	0	92,159	0
2014	0	1,627,260	5.0	0	325,452	0	0	0	325,452	0	0
Total				<u>\$1,121,360</u>	<u>\$1,314,711</u>	<u>\$0</u>	<u>\$575,610</u>			<u>\$716,852</u>	<u>\$1,202,432</u>
Net difference between projected and actual earnings on investments										\$0	\$485,580



Paragraph 80(j): The amount of revenue recognized for the support provided by non-employer contributing entities for the participating employers is provided in Schedule B.

Paragraphs 81(a)-(b): CMC was not required to supply this information.



SECTION IV – PENSION EXPENSE

As noted earlier, the collective Pension Expense (PE) consists of a number of different items. GASB 68 refers to the first as Service Cost which is the Normal Cost using the Entry Age Normal actuarial funding method. The second item is interest on the beginning Total Pension Liability (TPL) and the cash flow during the year at the SEIR rate of return in effect as of the previous measurement date.

The next three items refer to any changes that occurred in the TPL due to:

- benefit changes, or
- actual versus expected experience, or
- changes in actuarial assumptions or other inputs.

Benefit changes, which are reflected immediately in PE, can be positive, if there is a benefit improvement for existing Plan members, or negative if there is a benefit reduction. For the year ended June 30, 2018, there were no benefit changes to be recognized.

The next item to be recognized is the portion of current year changes in TPL due to actual versus expected Plan experience for the year. The portion to recognize in the current year is determined by spreading the total change over the average expected remaining service life of the entire Plan membership determined at the beginning of the year. The average expected remaining service life of active members is the average number of years the active members are expected to remain active. For the year ended June 30, 2018, the average expected remaining service life for the active members is 10.7 years. The average expected remaining service life of the inactive members is zero. Therefore, the number of years to use for the amortization is the weighted average for all active and inactive members, or 4.4 years.

The last item under changes in TPL are changes in actuarial assumptions or other inputs. There was a change in assumptions or other inputs since the last measurement date due to the change in discount rate. Changes in actuarial assumptions or other inputs are recognized over the average expected remaining service life of the plan membership.

Member contributions for the year and projected earnings on the Fiduciary Net Position (FNP), again at the discount rate used to calculate the liabilities, are subtracted from the amount determined thus far. One-fifth of current period differences between projected and actual investment earnings on the FNP are recognized in the pension expense.

The current year portions of previously determined experience, assumption and earnings amounts, recognized as deferred outflows and inflows (see Section V) are included also. Deferred outflows are added to the PE while deferred inflows are subtracted from the PE. Finally, administrative expenses and other miscellaneous items are included.

The calculation of the Collective Pension Expense determined as of the measurement date is shown in the following table:



Collective Pension Expense Determined as of the Measurement Date (\$ thousands)	
Service Cost at end of year	\$1,104,102
Interest on the TPL and net cash flow	2,063,109
Current-period benefit changes	0
Expensed portion of current-period difference between expected and actual experience in the total pension liability	(50,562)
Expensed portion of current-period changes of assumptions or other inputs	(3,219,844)
Member contributions	(319,127)
Projected earnings on plan investments	(1,377,604)
Expensed portion of current-period differences between projected and actual earnings on plan investments	(115,122)
Administrative expense	11,388
Other	(42,415)
Recognition of beginning deferred outflows of resources as pension expense	1,132,312
Recognition of beginning deferred inflows of resources as pension expense	<u>(841,805)</u>
Collective Pension Expense	<u>(\$1,655,568)</u>



SECTION V – REQUIRED SUPPLEMENTAL INFORMATION

Paragraphs 82:

Changes of benefit terms. None

Changes of assumptions.

- In 2014, the calculation of the Single Equivalent Interest Rate (SEIR) resulted in an assumption change from 5.16% to 5.23%.
- In 2015, the calculation of the Single Equivalent Interest Rate (SEIR) resulted in an assumption change from 5.23% to 4.88%.
- In the 2016 valuation, rates of withdrawal, retirement, disability and mortality were adjusted to more closely reflect actual experience. In the 2016 valuation, the Assumed Salary Scale, Price Inflation, and Wage Inflation were adjusted to reflect a decrease. In addition, the calculation of the Single Equivalent Interest Rate (SEIR) resulted in an assumption change from 4.88% to 4.20%.
- In 2017, the calculation of the Single Equivalent Interest Rate (SEIR) resulted in an assumption change from 4.20% to 4.49%.
- In 2018, the calculation of the Single Equivalent Interest Rate (SEIR) resulted in an assumption change from 4.49% to 7.50%.



SCHEDULE A

Teachers' Retirement System of the State of Kentucky Schedule of Employer Allocations as of June 30, 2018

Code	University Employers	Contributions			Allocation Percentage		
		Employer	State	Total	Employer	State	Total
263	Eastern Kentucky University	\$ 8,827,988	\$ 6,567,954	\$ 15,395,942	15.3570%	11.4255%	26.7825%
266	Kentucky State University	2,054,713	1,528,690	3,583,403	3.5743%	2.6593%	6.2336%
269	Morehead State University	4,778,344	3,555,051	8,333,395	8.3123%	6.1843%	14.4966%
270	Murray State University	5,349,835	3,980,235	9,330,070	9.3064%	6.9239%	16.2303%
273	Western Kentucky University	9,561,239	7,113,487	16,674,726	16.6325%	12.3744%	29.0069%
500	KCTCS Central Office - University	<u>2,389,759</u>	<u>1,777,962</u>	<u>4,167,721</u>	<u>4.1572%</u>	<u>3.0929%</u>	<u>7.2501%</u>
	Total University Contributions	\$ 32,961,878	\$ 24,523,379	\$ 57,485,257	57.3397%	42.6603%	100.0000%



SCHEDULE A (continued)

Code	Non-University Employers	Contributions			Allocation Percentage		
		Employer	State	Total	Employer	State	Total
400	KCTCS Central Office	\$ 2,049,020	\$ 2,687,501	\$ 4,736,521	0.2160%	0.2833%	0.4993%
801	KY High School Athletic Association	86,129	112,967	199,096	0.0091%	0.0119%	0.0210%
805	KY School Boards Association	198,586	260,466	459,052	0.0209%	0.0275%	0.0484%
806	KY Education Association	24,069	31,569	55,638	0.0025%	0.0033%	0.0058%
807	KY Academic Association	15,461	20,279	35,740	0.0016%	0.0021%	0.0037%
809	Jefferson County Teachers' Association	7,095	9,306	16,401	<u>0.0007%</u>	<u>0.0010%</u>	<u>0.0017%</u>
		\$ 2,380,360	\$ 3,122,088	\$ 5,502,448	0.2508%	0.3291%	0.5799%

Code	State Agencies	Contributions			Allocation Percentage		
		Employer	State	Total	Employer	State	Total
301	Technical Education District - Madisonville	\$ 830,193	\$ 1,088,884	\$ 1,919,077	0.0875%	0.1148%	0.2023%
302	Technical Education District - Bowling Green	815,234	1,069,263	1,884,497	0.0859%	0.1127%	0.1986%
303	Technical Education District - Elizabethtown	-	-	-	0.0000%	0.0000%	0.0000%
304	Technical Education District - Frankfort	638,283	837,174	1,475,457	0.0673%	0.0882%	0.1555%
305	Technical Education District - Hazard	765,613	1,004,180	1,769,793	0.0807%	0.1058%	0.1865%
308	Adult Council on Post Secondary Education	51,349	67,350	118,699	0.0054%	0.0071%	0.0125%
316	Office of Career and Technical Education	198,095	259,822	457,917	0.0209%	0.0274%	0.0483%
317	Office of Secretary of Workforce Investment	10,256	13,452	23,708	0.0011%	0.0014%	0.0025%
318	Department for Vocational Rehabilitation	1,050,046	1,377,244	2,427,290	0.1107%	0.1452%	0.2559%
320	School for the Blind	363,468	476,726	840,194	0.0383%	0.0502%	0.0885%
330	School for the Deaf	433,271	568,280	1,001,551	0.0457%	0.0599%	0.1056%
345	Department of Education	1,855,889	2,434,190	4,290,079	0.1956%	0.2566%	0.4522%
728	Department of Corrections	9,568	12,549	22,117	0.0010%	0.0013%	0.0023%
896	Education Professional Standards Board	131,478	172,447	303,925	<u>0.0139%</u>	<u>0.0182%</u>	<u>0.0321%</u>
		\$ 7,152,743	\$ 9,381,561	\$ 16,534,304	0.7540%	0.9888%	1.7428%



SCHEDULE A (continued)

Code	Local School Districts and Educational Cooperatives	Contributions			Allocation Percentage		
		Employer	State	Total	Employer	State	Total
1	Adair County Schools	\$ -	\$ 3,189,240	\$ 3,189,240	0.0000%	0.3361%	0.3361%
2	Allen County Schools	-	3,643,500	3,643,500	0.0000%	0.3840%	0.3840%
3	Anderson County Schools	-	4,347,913	4,347,913	0.0000%	0.4583%	0.4583%
4	Ballard County Schools	-	1,524,368	1,524,368	0.0000%	0.1607%	0.1607%
5	Barren County Schools	-	6,085,790	6,085,790	0.0000%	0.6414%	0.6414%
6	Bath County Schools	-	2,432,255	2,432,255	0.0000%	0.2564%	0.2564%
7	Bell County Schools	-	2,856,946	2,856,946	0.0000%	0.3011%	0.3011%
8	Boone County Schools	-	29,274,238	29,274,238	0.0000%	3.0855%	3.0855%
9	Bourbon County Schools	-	3,320,763	3,320,763	0.0000%	0.3500%	0.3500%
10	Boyd County Schools	-	4,185,825	4,185,825	0.0000%	0.4412%	0.4412%
11	Boyle County Schools	-	4,068,145	4,068,145	0.0000%	0.4288%	0.4288%
12	Bracken County Schools	-	1,482,953	1,482,953	0.0000%	0.1563%	0.1563%
13	Breathitt County Schools	-	2,314,342	2,314,342	0.0000%	0.2439%	0.2439%
14	Breckinridge County Schools	-	3,303,559	3,303,559	0.0000%	0.3482%	0.3482%
15	Bullitt County Schools	-	17,235,764	17,235,764	0.0000%	1.8166%	1.8166%
16	Butler County Schools	-	2,498,350	2,498,350	0.0000%	0.2633%	0.2633%
17	Caldwell County Schools	-	2,158,489	2,158,489	0.0000%	0.2275%	0.2275%
18	Calloway County Schools	-	3,795,832	3,795,832	0.0000%	0.4001%	0.4001%
19	Campbell County Schools	-	6,448,259	6,448,259	0.0000%	0.6796%	0.6796%
20	Carlisle County Schools	-	1,029,936	1,029,936	0.0000%	0.1086%	0.1086%
21	Carroll County Schools	-	2,708,657	2,708,657	0.0000%	0.2855%	0.2855%
22	Carter County Schools	-	5,014,678	5,014,678	0.0000%	0.5285%	0.5285%
23	Casey County Schools	-	2,863,784	2,863,784	0.0000%	0.3018%	0.3018%
24	Christian County Schools	-	10,136,569	10,136,569	0.0000%	1.0684%	1.0684%
25	Clark County Schools	-	6,704,924	6,704,924	0.0000%	0.7067%	0.7067%
26	Clay County Schools	-	3,962,512	3,962,512	0.0000%	0.4176%	0.4176%
27	Clinton County Schools	-	2,089,114	2,089,114	0.0000%	0.2202%	0.2202%
28	Crittenden County Schools	-	1,557,411	1,557,411	0.0000%	0.1642%	0.1642%
29	Cumberland County Schools	-	1,051,459	1,051,459	0.0000%	0.1108%	0.1108%



SCHEDULE A (continued)

Code	Local School Districts and Educational Cooperatives	Contributions			Allocation Percentage		
		Employer	State	Total	Employer	State	Total
30	Daviess County Schools	-	14,986,869	14,986,869	0.0000%	1.5796%	1.5796%
31	Edmonson County Schools	-	2,261,177	2,261,177	0.0000%	0.2383%	0.2383%
32	Elliott County Schools	-	1,324,634	1,324,634	0.0000%	0.1396%	0.1396%
33	Estill County Schools	-	2,824,809	2,824,809	0.0000%	0.2977%	0.2977%
34	Fayette County Schools	-	71,846,318	71,846,318	0.0000%	7.5726%	7.5726%
35	Fleming County Schools	-	2,757,075	2,757,075	0.0000%	0.2906%	0.2906%
36	Floyd County Schools	-	6,889,028	6,889,028	0.0000%	0.7261%	0.7261%
37	Franklin County Schools	-	8,059,990	8,059,990	0.0000%	0.8495%	0.8495%
38	Fulton County Schools	-	745,803	745,803	0.0000%	0.0786%	0.0786%
39	Gallatin County Schools	-	2,112,241	2,112,241	0.0000%	0.2226%	0.2226%
40	Garrard County Schools	-	3,107,858	3,107,858	0.0000%	0.3276%	0.3276%
41	Grant County Schools	-	4,371,107	4,371,107	0.0000%	0.4607%	0.4607%
42	Graves County Schools	-	5,289,275	5,289,275	0.0000%	0.5575%	0.5575%
43	Grayson County Schools	-	5,018,854	5,018,854	0.0000%	0.5290%	0.5290%
44	Green County Schools	-	2,068,440	2,068,440	0.0000%	0.2180%	0.2180%
45	Greenup County Schools	-	3,608,628	3,608,628	0.0000%	0.3803%	0.3803%
46	Hancock County Schools	-	2,306,687	2,306,687	0.0000%	0.2431%	0.2431%
47	Hardin County Schools	-	18,926,425	18,926,425	0.0000%	1.9948%	1.9948%
48	Harlan County Schools	-	4,178,621	4,178,621	0.0000%	0.4404%	0.4404%
49	Harrison County Schools	-	3,523,451	3,523,451	0.0000%	0.3714%	0.3714%
50	Hart County Schools	-	3,335,685	3,335,685	0.0000%	0.3516%	0.3516%
51	Henderson County Schools	-	9,159,759	9,159,759	0.0000%	0.9654%	0.9654%
52	Henry County Schools	-	2,644,341	2,644,341	0.0000%	0.2787%	0.2787%
53	Hickman County Schools	-	1,072,145	1,072,145	0.0000%	0.1130%	0.1130%
54	Hopkins County Schools	-	8,451,232	8,451,232	0.0000%	0.8908%	0.8908%
55	Jackson County Schools	-	2,829,659	2,829,659	0.0000%	0.2982%	0.2982%
56	Jefferson County Schools	-	179,806,772	179,806,772	0.0000%	18.9522%	18.9522%
57	Jessamine County Schools	-	10,358,909	10,358,909	0.0000%	1.0918%	1.0918%
58	Johnson County Schools	-	4,461,241	4,461,241	0.0000%	0.4702%	0.4702%



SCHEDULE A (continued)

Code	Local School Districts and Educational Cooperatives	Contributions			Allocation Percentage		
		Employer	State	Total	Employer	State	Total
59	Kenton County Schools	-	18,453,387	18,453,387	0.0000%	1.9450%	1.9450%
60	Knott Counts Schools	-	2,877,279	2,877,279	0.0000%	0.3033%	0.3033%
61	Knox County Schools	-	5,553,977	5,553,977	0.0000%	0.5854%	0.5854%
62	Larue County Schools	-	3,239,888	3,239,888	0.0000%	0.3415%	0.3415%
63	Laurel County Schools	-	10,962,108	10,962,108	0.0000%	1.1554%	1.1554%
64	Lawrence County Schools	-	3,128,702	3,128,702	0.0000%	0.3298%	0.3298%
65	Lee County Schools	-	938,453	938,453	0.0000%	0.0989%	0.0989%
66	Leslie County Schools	-	2,080,987	2,080,987	0.0000%	0.2193%	0.2193%
67	Letcher County Schools	-	3,920,742	3,920,742	0.0000%	0.4132%	0.4132%
68	Lewis County Schools	-	2,515,849	2,515,849	0.0000%	0.2652%	0.2652%
69	Lincoln County Schools	-	4,374,155	4,374,155	0.0000%	0.4610%	0.4610%
70	Livingston County Schools	-	1,634,149	1,634,149	0.0000%	0.1722%	0.1722%
71	Logan County Schools	-	4,430,383	4,430,383	0.0000%	0.4670%	0.4670%
72	Lyon County Schools	-	1,070,567	1,070,567	0.0000%	0.1128%	0.1128%
73	Madison County Schools	-	13,535,807	13,535,807	0.0000%	1.4267%	1.4267%
74	Magoffin County Schools	-	2,433,070	2,433,070	0.0000%	0.2564%	0.2564%
75	Marion County Schools	-	4,569,554	4,569,554	0.0000%	0.4816%	0.4816%
76	Marshall County Schools	-	6,239,004	6,239,004	0.0000%	0.6576%	0.6576%
77	Martin County Schools	-	2,106,074	2,106,074	0.0000%	0.2220%	0.2220%
78	Mason County Schools	-	3,598,535	3,598,535	0.0000%	0.3793%	0.3793%
79	McCracken County Schools	-	9,028,718	9,028,718	0.0000%	0.9516%	0.9516%
80	McCreary County Schools	-	3,254,205	3,254,205	0.0000%	0.3430%	0.3430%
81	McLean County Schools	-	1,978,765	1,978,765	0.0000%	0.2086%	0.2086%
82	Meade County Schools	-	5,484,050	5,484,050	0.0000%	0.5780%	0.5780%
83	Menifee County Schools	-	1,155,720	1,155,720	0.0000%	0.1218%	0.1218%
84	Mercer County Schools	-	3,759,824	3,759,824	0.0000%	0.3963%	0.3963%
85	Metcalf County Schools	-	1,870,131	1,870,131	0.0000%	0.1971%	0.1971%
86	Monroe County Schools	-	2,371,611	2,371,611	0.0000%	0.2500%	0.2500%
87	Montgomery County Schools	-	5,633,636	5,633,636	0.0000%	0.5938%	0.5938%



SCHEDULE A (continued)

Code	Local School Districts and Educational Cooperatives	Contributions			Allocation Percentage		
		Employer	State	Total	Employer	State	Total
88	Morgan County Schools	-	2,203,343	2,203,343	0.0000%	0.2322%	0.2322%
89	Muhlenberg County Schools	-	5,780,200	5,780,200	0.0000%	0.6092%	0.6092%
90	Nelson County Schools	-	6,079,753	6,079,753	0.0000%	0.6408%	0.6408%
91	Nicholas County Schools	-	1,224,489	1,224,489	0.0000%	0.1291%	0.1291%
92	Ohio County Schools	-	4,689,029	4,689,029	0.0000%	0.4942%	0.4942%
93	Oldham County Schools	-	16,466,682	16,466,682	0.0000%	1.7356%	1.7356%
94	Owen County Schools	-	2,117,853	2,117,853	0.0000%	0.2232%	0.2232%
95	Owsley County Schools	-	817,282	817,282	0.0000%	0.0861%	0.0861%
96	Pendleton County Schools	-	2,793,208	2,793,208	0.0000%	0.2944%	0.2944%
97	Perry County Schools	-	4,470,625	4,470,625	0.0000%	0.4712%	0.4712%
98	Pike County Schools	-	10,417,762	10,417,762	0.0000%	1.0980%	1.0980%
99	Powell County Schools	-	2,717,390	2,717,390	0.0000%	0.2864%	0.2864%
100	Pulaski County Schools	-	9,697,747	9,697,747	0.0000%	1.0221%	1.0221%
101	Robertson County Schools	-	484,114	484,114	0.0000%	0.0510%	0.0510%
102	Rockcastle County Schools	-	3,684,482	3,684,482	0.0000%	0.3883%	0.3883%
103	Rowan County Schools	-	3,767,621	3,767,621	0.0000%	0.3971%	0.3971%
104	Russell County Schools	-	3,705,167	3,705,167	0.0000%	0.3905%	0.3905%
105	Scott County Schools	-	11,135,767	11,135,767	0.0000%	1.1737%	1.1737%
106	Shelby County Schools	-	9,671,770	9,671,770	0.0000%	1.0194%	1.0194%
107	Simpson County Schools	-	3,846,097	3,846,097	0.0000%	0.4054%	0.4054%
108	Spencer County Schools	-	3,683,956	3,683,956	0.0000%	0.3883%	0.3883%
109	Taylor County Schools	-	3,112,642	3,112,642	0.0000%	0.3281%	0.3281%
110	Todd County Schools	-	2,171,974	2,171,974	0.0000%	0.2289%	0.2289%
111	Trigg County Schools	-	2,747,779	2,747,779	0.0000%	0.2896%	0.2896%
112	Trimble County Schools	-	1,542,723	1,542,723	0.0000%	0.1626%	0.1626%
113	Union County Schools	-	2,715,241	2,715,241	0.0000%	0.2862%	0.2862%
114	Warren County Schools	-	18,091,385	18,091,385	0.0000%	1.9068%	1.9068%
115	Washington County Schools	-	2,344,604	2,344,604	0.0000%	0.2471%	0.2471%
116	Wayne County Schools	-	3,918,489	3,918,489	0.0000%	0.4130%	0.4130%



SCHEDULE A (continued)

Code	Local School Districts and Educational Cooperatives	Contributions			Allocation Percentage		
		Employer	State	Total	Employer	State	Total
117	Webster County Schools	-	2,572,782	2,572,782	0.0000%	0.2712%	0.2712%
118	Whitley County Schools	-	5,603,567	5,603,567	0.0000%	0.5906%	0.5906%
119	Wolfe County Schools	-	1,810,065	1,810,065	0.0000%	0.1908%	0.1908%
120	Woodford County Schools	-	5,186,980	5,186,980	0.0000%	0.5467%	0.5467%
122	Anchorage City Schools	-	1,029,094	1,029,094	0.0000%	0.1085%	0.1085%
124	Ashland City Schools	-	4,302,907	4,302,907	0.0000%	0.4535%	0.4535%
125	Augusta City Schools	-	421,998	421,998	0.0000%	0.0445%	0.0445%
126	Barbourville City Schools	-	834,019	834,019	0.0000%	0.0879%	0.0879%
127	Bardstown City Schools	-	3,996,408	3,996,408	0.0000%	0.4212%	0.4212%
128	Beechwood Independent Schools	-	1,923,407	1,923,407	0.0000%	0.2027%	0.2027%
129	Bellevue City Schools	-	1,093,087	1,093,087	0.0000%	0.1152%	0.1152%
131	Berea City Schools	-	1,536,185	1,536,185	0.0000%	0.1619%	0.1619%
134	Bowling Green City Schools	-	5,593,210	5,593,210	0.0000%	0.5895%	0.5895%
136	Burgin City Schools	-	662,921	662,921	0.0000%	0.0699%	0.0699%
140	Campbellsville City Schools	-	1,624,624	1,624,624	0.0000%	0.1712%	0.1712%
144	Caverna City Schools	-	1,005,824	1,005,824	0.0000%	0.1060%	0.1060%
147	Cloverport City Schools	-	447,983	447,983	0.0000%	0.0472%	0.0472%
150	Corbin City Schools	-	3,555,029	3,555,029	0.0000%	0.3747%	0.3747%
151	Covington City Schools	-	6,137,931	6,137,931	0.0000%	0.6469%	0.6469%
154	Danville City Schools	-	3,312,368	3,312,368	0.0000%	0.3491%	0.3491%
155	Dawson Springs City Schools	-	822,191	822,191	0.0000%	0.0867%	0.0867%
156	Dayton City Schools	-	1,326,758	1,326,758	0.0000%	0.1398%	0.1398%
158	East Bernstadt City Schools	-	612,777	612,777	0.0000%	0.0646%	0.0646%
160	Elizabethtown City Schools	-	3,399,956	3,399,956	0.0000%	0.3584%	0.3584%
161	Eminence Independent Schools	-	1,148,094	1,148,094	0.0000%	0.1210%	0.1210%
162	Erlanger-Elsmere City Schools	-	3,486,794	3,486,794	0.0000%	0.3675%	0.3675%
163	Fairview Independent Schools	-	914,710	914,710	0.0000%	0.0964%	0.0964%
166	Fort Thomas Independent Schools	-	4,517,619	4,517,619	0.0000%	0.4762%	0.4762%
167	Frankfort City Schools	-	1,315,682	1,315,682	0.0000%	0.1387%	0.1387%



SCHEDULE A (continued)

Code	Local School Districts and Educational Cooperatives	Contributions			Allocation Percentage		
		Employer	State	Total	Employer	State	Total
170	Fulton City Schools	-	529,723	529,723	0.0000%	0.0558%	0.0558%
173	Glasgow City Schools	-	3,020,112	3,020,112	0.0000%	0.3183%	0.3183%
180	Harlan City Schools	-	863,902	863,902	0.0000%	0.0911%	0.0911%
182	Hazard Independent Schools	-	1,292,361	1,292,361	0.0000%	0.1362%	0.1362%
190	Jackson City Schools	-	345,221	345,221	0.0000%	0.0364%	0.0364%
191	Jenkins City Schools	-	617,872	617,872	0.0000%	0.0651%	0.0651%
206	Ludlow City Schools	-	1,251,782	1,251,782	0.0000%	0.1319%	0.1319%
210	Mayfield City Schools	-	2,147,262	2,147,262	0.0000%	0.2263%	0.2263%
214	Middlesboro City Schools	-	1,522,830	1,522,830	0.0000%	0.1605%	0.1605%
221	Murray City Schools	-	2,189,568	2,189,568	0.0000%	0.2308%	0.2308%
222	Newport City Schools	-	2,555,915	2,555,915	0.0000%	0.2694%	0.2694%
224	Owensboro City Schools	-	7,127,583	7,127,583	0.0000%	0.7512%	0.7512%
226	Paducah City Schools	-	4,045,089	4,045,089	0.0000%	0.4264%	0.4264%
227	Paintsville City Schools	-	1,200,666	1,200,666	0.0000%	0.1265%	0.1265%
228	Paris City Schools	-	949,618	949,618	0.0000%	0.1001%	0.1001%
230	Pikeville City Schools	-	2,018,605	2,018,605	0.0000%	0.2128%	0.2128%
231	Pineville City Schools	-	617,499	617,499	0.0000%	0.0651%	0.0651%
235	Raceland City Schools	-	1,363,629	1,363,629	0.0000%	0.1437%	0.1437%
238	Russell City Schools	-	3,112,045	3,112,045	0.0000%	0.3280%	0.3280%
239	Russellville City Schools	-	1,355,180	1,355,180	0.0000%	0.1428%	0.1428%
240	Science Hill City Schools	-	541,150	541,150	0.0000%	0.0570%	0.0570%
245	Silver Grove City Schools	-	329,115	329,115	0.0000%	0.0347%	0.0347%
246	Somerset City Schools	-	2,259,161	2,259,161	0.0000%	0.2381%	0.2381%
247	Southgate City Schools	-	354,681	354,681	0.0000%	0.0374%	0.0374%
258	Walton-Verona Independent Schools	-	2,338,058	2,338,058	0.0000%	0.2464%	0.2464%
259	West Point City Schools	-	206,978	206,978	0.0000%	0.0218%	0.0218%
260	Williamsburg City Schools	-	1,001,631	1,001,631	0.0000%	0.1056%	0.1056%
261	Williamstown City Schools	-	969,594	969,594	0.0000%	0.1022%	0.1022%
870	Ohio Valley Educational Cooperative	-	551,865	551,865	0.0000%	0.0582%	0.0582%



SCHEDULE A (continued)

Code	Local School Districts and Educational Cooperatives	Contributions			Allocation Percentage		
		Employer	State	Total	Employer	State	Total
871	West Kentucky Educational Cooperative	-	274,953	274,953	0.0000%	0.0290%	0.0290%
872	Southeast South-Central Educational Cooperative	-	69,121	69,121	0.0000%	0.0073%	0.0073%
890	Green River Regional Educational Cooperative	-	256,217	256,217	0.0000%	0.0270%	0.0270%
891	Central KY Special Education Cooperative	-	156,574	156,574	0.0000%	0.0165%	0.0165%
892	KY Valley Educational Cooperative	-	243,028	243,028	0.0000%	0.0256%	0.0256%
894	KY Educational Development Corporation	-	484,642	484,642	0.0000%	0.0511%	0.0511%
895	Northern KY Cooperative for Educational Services	-	464,860	464,860	<u>0.0000%</u>	<u>0.0490%</u>	<u>0.0490%</u>
		\$ -	\$926,734,172	926,734,172	0.0000%	97.6773%	97.6773%
	Total Non-University Contributions	<u>9,533,103</u>	<u>939,237,821</u>	<u>948,770,924</u>	<u>1.0048%</u>	<u>98.9952%</u>	<u>100.0000%</u>



SCHEDULE B

Teachers' Retirement System of the State of Kentucky Schedules of Pension Amounts by Employer As of and for the fiscal year ended June 30, 2018

					Deferred Outflows of Resources						
					June 30, 2018			Difference Between Expected and Actual Experience	Change of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources
Code	Employer										
<u>University Employers</u>											
263	Eastern Kentucky University	\$ 97,174,796	\$ 72,297,288	\$ 169,472,084	\$ 787,688	\$ 16,369,882	\$ 8,797,787	\$ 25,955,357			
266	Kentucky State University	22,617,418	16,827,179	39,444,597	183,334	3,810,087	3,805,424	7,798,845			
269	Morehead State University	52,598,012	39,132,513	91,730,525	426,354	8,860,562	5,392,158	14,679,074			
270	Murray State University	58,888,744	43,812,760	102,701,504	477,346	9,920,286	4,829,208	15,226,840			
273	Western Kentucky University	105,246,128	78,302,284	183,548,412	853,113	17,729,564	5,706,021	24,288,698			
500	KCTCS Central Office - University	26,305,464	19,571,063	45,876,527	213,229	4,431,369	1,053,463	5,698,061			
Total University		\$ 362,830,562	\$ 269,943,087	\$ 632,773,649	\$ 2,941,064	\$ 61,121,750	\$ 29,584,061	\$ 93,646,875			

CodeEmployer		Deferred Inflows of Resources							Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions			
		Differences Between Expected and Actual Experience	Change of Assumptions	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Net Employer Pension Expense	Revenue State Support	Proportionate Share of Plan Pension Expense	Total Pension Expense		
University Employers												
263	Eastern Kentucky University	\$ 9,792,591	\$ 77,539,941	\$ 2,401,876	\$ 61,078,507	\$ 150,812,915	\$ (11,304,258)	\$ (8,410,279)	\$ (19,714,537)	\$ (22,117,314)	\$ (41,831,851)	
266	Kentucky State University	2,279,224	18,047,409	559,036	16,186,525	37,072,194	(2,631,064)	(1,957,491)	(4,588,555)	(6,520,791)	(11,109,346)	
269	Morehead State University	5,300,457	41,970,212	1,300,069	35,227,372	83,798,110	(6,118,680)	(4,552,251)	(10,670,931)	(13,020,644)	(23,691,575)	
270	Murray State University	5,934,392	46,989,857	1,455,557	40,837,302	95,217,108	(6,850,475)	(5,096,700)	(11,947,175)	(15,558,758)	(27,505,933)	
273	Western Kentucky University	10,605,962	83,980,404	2,601,376	65,023,139	162,210,881	(12,243,189)	(9,108,835)	(21,352,024)	(26,420,622)	(47,772,646)	
500	KCTCS Central Office - University	2,650,879	20,990,259	650,194	21,569,198	45,860,530	(3,060,092)	(2,276,684)	(5,336,776)	(9,207,849)	(14,544,625)	
Total University		\$ 36,563,505	\$ 289,518,082	\$ 8,968,108	\$ 239,922,043	\$ 574,971,738	\$ (42,207,758)	\$ (31,402,240)	\$ (73,609,998)	\$ (92,845,978)	\$ (166,455,976)	



SCHEDULE B (continued)

Code	Employer				Deferred Outflows of Resources			
		June 30, 2018			Difference Between Expected and Actual Experience	Change of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources
		Employer's Proportionate Share of Net Pension Liability	State's Proportionate Share of Net Pension Liability	Total Net Pension Liability				
<u>Non-University Employers</u>								
400	KCTCS Central Office	\$ 28,278,776	\$ 37,090,614	\$ 65,369,390	\$ 219,340	\$ 4,641,637	\$ -	\$ 4,860,977
801	KY High School Athletic Association	1,188,687	1,559,120	2,747,807	9,220	195,109	67,236	271,565
805	KY School Boards Association	2,740,736	3,594,736	6,335,472	21,259	449,860	377,651	848,770
806	KY Education Association	332,199	435,642	767,841	2,577	54,527	61,873	118,977
807	KY Academic Association	213,435	279,822	493,257	1,656	35,033	5,273	41,962
809	Jefferson County Teachers' Association	97,944	128,454	226,398	760	16,076	7,899	24,735
	Total - Other Employers	\$ 32,851,777	\$ 43,088,388	\$ 75,940,165	\$ 254,812	\$ 5,392,242	\$ 519,932	\$ 6,166,986

		Deferred Inflows of Resources									
							Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions				
		Differences Between Expected and Actual Experience	Change of Assumptions	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Net Employer Pension Expense	Revenue State Support	Proportionate Share of Plan Pension Expense	Employer Contributions and Proportionate Share of Contributions	Total Pension Expense
Code	Employer										
<u>Non-University Employers</u>											
400	KCTCS Central Office	\$ 451,931	\$ 25,338,934	\$ 1,014,898	\$ 49,846,056	\$ 76,651,819	\$ (3,416,480)	\$ (4,481,078)	\$ (7,897,558)	\$ (22,280,672)	\$ (30,178,230)
801	KY High School Athletic Association	18,997	1,065,112	42,661	1,050,571	2,177,341	(143,610)	(188,364)	(331,974)	(427,654)	(759,628)
805	KY School Boards Association	43,801	2,455,811	98,363	3,009,456	5,607,431	(331,120)	(434,296)	(765,416)	(1,135,255)	(1,900,671)
806	KY Education Association	5,309	297,663	11,922	384,119	699,013	(40,134)	(52,632)	(92,766)	(143,301)	(236,067)
807	KY Academic Association	3,411	191,246	7,660	205,153	407,470	(25,786)	(33,806)	(59,592)	(86,598)	(146,190)
809	Jefferson County Teachers' Association	1,565	87,762	3,515	91,219	184,061	(11,833)	(15,519)	(27,352)	(36,529)	(63,881)
	Total - Other Employers	\$ 525,014	\$ 29,436,528	\$ 1,179,019	\$ 54,586,574	\$ 85,727,135	\$ (3,968,963)	\$ (5,205,695)	\$ (9,174,658)	\$ (24,110,009)	\$ (33,284,667)



SCHEDULE B (continued)

Code	Employer				Deferred Outflows of Resources				
		June 30, 2018			Difference Between Expected and Actual Experience	Change of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions		Total Deferred Outflows of Resources
		Employer's Proportionate Share of Net Pension Liability	State's Proportionate Share of Net Pension Liability	Total Net Pension Liability					
<u>State Agencies</u>									
301	Technical Education District - Madisonville	\$ 11,457,641	\$ 15,027,892	\$ 26,485,533	\$ 88,871	\$ 1,880,640	\$ 3,140,708	\$ 5,110,219	
302	Technical Education District - Bow ling Green	11,251,147	14,757,105	26,008,252	87,270	1,846,746	1,159,449	3,093,465	
303	Technical Education District - Elizabethtow n	-	-	-	-	-	391,998	391,998	
304	Technical Education District - Frankfort	8,809,088	11,554,014	20,363,102	68,328	1,445,910	420,232	1,934,470	
305	Technical Education District - Hazard	10,566,323	13,858,846	24,425,169	81,958	1,734,340	810,377	2,626,675	
308	Adult Council on Post Secondary Education	708,655	929,554	1,638,209	5,497	116,318	-	121,815	
316	Office of Career and Technical Education	2,733,927	3,585,832	6,319,759	21,206	448,743	2,727,226	3,197,175	
317	Office of Secretary of Workforce Investment	141,548	185,675	327,223	1,098	23,233	12,268	36,599	
318	Department for Vocational Rehabilitation	14,491,817	19,007,596	33,499,413	112,406	2,378,665	451,273	2,942,344	
320	School for the Blind	5,016,237	6,579,417	11,595,654	38,908	823,358	868,559	1,730,825	
330	School for the Deaf	5,979,705	7,842,871	13,822,576	46,382	981,500	-	1,027,882	
345	Department of Education	25,613,463	33,594,608	59,208,071	198,671	4,204,155	1,012,161	5,414,987	
728	Department of Corrections	131,989	173,236	305,225	1,024	21,664	31,496	54,184	
896	Education Professional Standards Board	1,814,587	2,379,992	4,194,579	14,075	297,844	253,881	565,800	
	Total - State Agencies	\$ 98,716,127	\$ 129,476,638	\$ 228,192,765	\$ 765,694	\$ 16,203,116	\$ 11,279,628	\$ 28,248,438	



SCHEDULE B (continued)

		Deferred Inflows of Resources									
Code	Employer	Differences Between Expected and Actual Experience	Change of Assumptions	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Net Employer Pension Expense	Revenue State Support	Proportionate Share of Plan Pension Expense	Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	
										Share of Contributions	Total Pension Expense
State Agencies											
301	Technical Education District - Madisonville	\$ 183,108	\$ 10,266,513	\$ 411,205	\$ 6,283,412	\$ 17,144,238	\$ (1,384,247)	\$ (1,815,584)	\$ (3,199,831)	\$ (984,048)	\$ (4,183,879)
302	Technical Education District - Bow ling Green	179,808	10,081,485	403,794	6,398,001	17,063,088	(1,359,300)	(1,782,869)	(3,142,169)	(2,298,898)	(5,441,067)
303	Technical Education District - Elizabethtow n	-	-	-	14,442,969	14,442,969	-	-	-	(5,898,078)	(5,898,078)
304	Technical Education District - Frankfort	140,781	7,893,301	316,150	10,580,878	18,931,110	(1,064,264)	(1,395,890)	(2,460,154)	(4,924,874)	(7,385,028)
305	Technical Education District - Hazard	168,864	9,467,855	379,216	8,231,041	18,246,976	(1,276,563)	(1,674,347)	(2,950,910)	(3,579,964)	(6,530,874)
308	Adult Council on Post Secondary Education	11,325	634,984	25,433	1,288,621	1,960,363	(85,616)	(112,303)	(197,919)	(571,586)	(769,505)
316	Office of Career and Technical Education	43,692	2,449,710	98,118	3,813,870	6,405,390	(330,297)	(433,220)	(763,517)	353,640	(409,877)
317	Office of Secretary of Workforce Investment	2,262	126,833	5,080	208,178	342,353	(17,101)	(22,432)	(39,533)	(117,822)	(157,355)
318	Department for Vocational Rehabilitation	231,599	12,985,258	520,098	20,423,645	34,160,600	(1,750,819)	(2,296,390)	(4,047,209)	(8,272,812)	(12,320,021)
320	School for the Blind	80,166	4,494,753	180,028	5,590,081	10,345,028	(606,033)	(794,888)	(1,400,921)	(2,177,605)	(3,578,526)
330	School for the Deaf	95,564	5,358,059	214,606	7,594,464	13,262,693	(722,434)	(947,531)	(1,669,965)	(3,318,933)	(4,988,898)
345	Department of Education	409,338	22,950,705	919,244	24,543,900	48,823,187	(3,094,473)	(4,058,709)	(7,153,182)	(10,209,018)	(17,362,200)
728	Department of Corrections	2,109	118,268	4,737	130,421	255,535	(15,946)	(20,929)	(36,875)	(60,404)	(97,279)
896	Education Professional Standards Board	29,000	1,625,944	65,124	1,999,095	3,719,163	(219,228)	(287,537)	(506,765)	(684,958)	(1,191,723)
Total - State Agencies		\$ 1,577,616	\$ 88,453,668	\$ 3,542,833	\$ 111,528,576	\$ 205,102,693	\$ (11,926,321)	\$ (15,642,629)	\$ (27,568,950)	\$ (42,745,360)	\$ (70,314,310)



SCHEDULE B (continued)

CodeEmployer					Deferred Outflows of Resources			
					Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions		Total Deferred Outflows of Resources	
		Employer's Proportionate Share of Net Pension Liability	State's Proportionate Share of Net Pension Liability	Total Net Pension Liability	Difference Between Expected and Actual Experience	Change of Assumptions		
Local School Districts and Educational Cooperatives								
1	Adair County Schools	\$ -	\$ 44,015,193	\$ 44,015,193				
2	Allen County Schools	-	50,284,540	50,284,540				
3	Anderson County Schools	-	60,006,290	60,006,290				
4	Ballard County Schools	-	21,038,106	21,038,106				
5	Barren County Schools	-	83,990,972	83,990,972				
6	Bath County Schools	-	33,568,027	33,568,027				
7	Bell County Schools	-	39,429,229	39,429,229				
8	Boone County Schools	-	404,018,757	404,018,757				
9	Bourbon County Schools	-	45,830,434	45,830,434				
10	Boyd County Schools	-	57,769,286	57,769,286				
11	Boyle County Schools	-	56,145,219	56,145,219				
12	Bracken County Schools	-	20,466,546	20,466,546				
13	Breathitt County Schools	-	31,940,686	31,940,686				
14	Breckinridge County Schools	-	45,593,038	45,593,038				
15	Bullitt County Schools	-	237,873,661	237,873,661				
16	Butler County Schools	-	34,480,165	34,480,165				
17	Caldwell County Schools	-	29,789,710	29,789,710				
18	Calloway County Schools	-	52,386,936	52,386,936				
19	Campbell County Schools	-	88,993,460	88,993,460				
20	Carlisle County Schools	-	14,214,352	14,214,352				
21	Carroll County Schools	-	37,382,614	37,382,614				
22	Carter County Schools	-	69,208,464	69,208,464				
23	Casey County Schools	-	39,523,507	39,523,507				
24	Christian County Schools	-	139,896,567	139,896,567				
25	Clark County Schools	-	92,535,820	92,535,820				
26	Clay County Schools	-	54,687,316	54,687,316				
27	Clinton County Schools	-	28,832,266	28,832,266				
28	Crittenden County Schools	-	21,494,044	21,494,044				
29	Cumberland County Schools	-	14,511,328	14,511,328				
30	Daviess County Schools	-	206,836,340	206,836,340				
31	Edmonson County Schools	-	31,206,890	31,206,890				
32	Elliott County Schools	-	18,281,526	18,281,526				
33	Estill County Schools	-	38,985,731	38,985,731				
34	Fayette County Schools	-	991,563,128	991,563,128				
35	Fleming County Schools	-	38,050,808	38,050,808				
36	Floyd County Schools	-	95,076,608	95,076,608				
37	Franklin County Schools	-	111,237,275	111,237,275				
38	Fulton County Schools	-	10,292,917	10,292,917				
39	Gallatin County Schools	-	29,151,371	29,151,371				
40	Garrard County Schools	-	42,892,108	42,892,108				



SCHEDULE B (continued)

Code	Employer	June 30, 2018			Deferred Outflows of Resources			
		Employer's Proportionate Share of Net Pension Liability	State's Proportionate Share of Net Pension Liability	Total Net Pension Liability	Difference Between Expected and Actual Experience	Change of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources
41	Grant County Schools	-	60,326,442	60,326,442				
42	Graves County Schools	-	72,998,173	72,998,173				
43	Grayson County Schools	-	69,266,079	69,266,079				
44	Green County Schools	-	28,546,945	28,546,945				
45	Greenup County Schools	-	49,803,330	49,803,330				
46	Hancock County Schools	-	31,835,016	31,835,016				
47	Hardin County Schools	-	261,206,778	261,206,778				
48	Harlan County Schools	-	57,669,901	57,669,901				
49	Harrison County Schools	-	48,627,737	48,627,737				
50	Hart County Schools	-	46,036,405	46,036,405				
51	Henderson County Schools	-	126,415,356	126,415,356				
52	Henry County Schools	-	36,494,962	36,494,962				
53	Hickman County Schools	-	14,796,911	14,796,911				
54	Hopkins County Schools	-	116,636,909	116,636,909				
55	Jackson County Schools	-	39,052,642	39,052,642				
56	Jefferson County Schools	-	2,481,543,345	2,481,543,345				
57	Jessamine County Schools	-	142,965,050	142,965,050				
58	Johnson County Schools	-	61,570,386	61,570,386				
59	Kenton County Schools	-	254,678,297	254,678,297				
60	Knott County Schools	-	39,709,837	39,709,837				
61	Knox County Schools	-	76,651,440	76,651,440				
62	Larue County Schools	-	44,714,289	44,714,289				
63	Laurel County Schools	-	151,289,917	151,289,917				
64	Lawrence County Schools	-	43,179,786	43,179,786				
65	Lee County Schools	-	12,951,684	12,951,684				
66	Leslie County Schools	-	28,720,049	28,720,049				
67	Letcher County Schools	-	54,110,781	54,110,781				
68	Lewis County Schools	-	34,721,621	34,721,621				
69	Lincoln County Schools	-	60,368,474	60,368,474				
70	Livingston County Schools	-	22,553,230	22,553,230				
71	Logan County Schools	-	61,144,433	61,144,433				
72	Lyon County Schools	-	14,775,044	14,775,044				
73	Madison County Schools	-	186,810,019	186,810,019				
74	Magoffin County Schools	-	33,579,157	33,579,157				
75	Marion County Schools	-	63,065,214	63,065,214				
76	Marshall County Schools	-	86,105,546	86,105,546				
77	Martin County Schools	-	29,066,259	29,066,259				
78	Mason County Schools	-	49,664,008	49,664,008				
79	McCracken County Schools	-	124,606,924	124,606,924				
80	McCreary County Schools	-	44,911,880	44,911,880				



SCHEDULE B (continued)

Code	Employer	June 30, 2018			Deferred Outflows of Resources			
		Employer's Proportionate Share of Net Pension Liability	State's Proportionate Share of Net Pension Liability	Total Net Pension Liability	Difference Between Expected and Actual Experience	Change of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources
81	McLean County Schools	-	27,309,286	27,309,286				
82	Meade County Schools	-	75,686,270	75,686,270				
83	Menifee County Schools	-	15,950,244	15,950,244				
84	Mercer County Schools	-	51,890,013	51,890,013				
85	Metcalfe County Schools	-	25,810,006	25,810,006				
86	Monroe County Schools	-	32,731,049	32,731,049				
87	Montgomery County Schools	-	77,750,825	77,750,825				
88	Morgan County Schools	-	30,408,671	30,408,671				
89	Muhlenberg County Schools	-	79,773,478	79,773,478				
90	Nelson County Schools	-	83,907,693	83,907,693				
91	Nicholas County Schools	-	16,899,438	16,899,438				
92	Ohio County Schools	-	64,714,029	64,714,029				
93	Oldham County Schools	-	227,259,413	227,259,413				
94	Owen County Schools	-	29,228,888	29,228,888				
95	Owsley County Schools	-	11,279,430	11,279,430				
96	Pendleton County Schools	-	38,549,564	38,549,564				
97	Perry County Schools	-	61,699,887	61,699,887				
98	Pike County Schools	-	143,777,280	143,777,280				
99	Powell County Schools	-	37,503,211	37,503,211				
100	Pulaski County Schools	-	133,840,262	133,840,262				
101	Robertson County Schools	-	6,681,289	6,681,289				
102	Rockcastle County Schools	-	50,850,207	50,850,207				
103	Rowan County Schools	-	51,997,516	51,997,516				
104	Russell County Schools	-	51,135,659	51,135,659				
105	Scott County Schools	-	153,686,538	153,686,538				
106	Shelby County Schools	-	133,481,744	133,481,744				
107	Simpson County Schools	-	53,080,664	53,080,664				
108	Spencer County Schools	-	50,842,874	50,842,874				
109	Taylor County Schools	-	42,958,102	42,958,102				
110	Todd County Schools	-	29,975,778	29,975,778				
111	Trigg County Schools	-	37,922,617	37,922,617				
112	Trimble County Schools	-	21,291,346	21,291,346				
113	Union County Schools	-	37,473,487	37,473,487				
114	Warren County Schools	-	249,682,225	249,682,225				
115	Washington County Schools	-	32,358,258	32,358,258				
116	Wayne County Schools	-	54,079,748	54,079,748				
117	Webster County Schools	-	35,507,401	35,507,401				
118	Whitley County Schools	-	77,335,740	77,335,740				
119	Wolfe County Schools	-	24,981,015	24,981,015				
120	Woodford County Schools	-	71,586,362	71,586,362				



SCHEDULE B (continued)

Code	Employer	June 30, 2018			Deferred Outflows of Resources			
		Employer's	State's	Total	Difference Between Expected and Actual Experience	Change of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources
		Proportionate Share of Net Pension Liability	Proportionate Share of Net Pension Liability					
122	Anchorage City Schools	-	14,202,699	14,202,699				
124	Ashland City Schools	-	59,385,104	59,385,104				
125	Augusta City Schools	-	5,824,015	5,824,015				
126	Barbourville City Schools	-	11,510,411	11,510,411				
127	Bardstown City Schools	-	55,155,039	55,155,039				
128	Beechwood Independent Schools	-	26,545,242	26,545,242				
129	Bellevue City Schools	-	15,085,899	15,085,899				
131	Berea City Schools	-	21,201,128	21,201,128				
134	Bowling Green City Schools	-	77,192,883	77,192,883				
136	Burgin City Schools	-	9,149,143	9,149,143				
140	Campbellsville City Schools	-	22,421,764	22,421,764				
144	Caverna City Schools	-	13,881,499	13,881,499				
147	Cloverport City Schools	-	6,182,664	6,182,664				
150	Corbin City Schools	-	49,063,511	49,063,511				
151	Covington City Schools	-	84,710,626	84,710,626				
154	Danville City Schools	-	45,714,551	45,714,551				
155	Dawson Springs City Schools	-	11,347,258	11,347,258				
156	Dayton City Schools	-	18,310,857	18,310,857				
158	East Bernstadt City Schools	-	8,456,986	8,456,986				
160	Elizabethtown City Schools	-	46,923,403	46,923,403				
161	Eminence Independent Schools	-	15,845,098	15,845,098				
162	Erlanger-Elsmere City Schools	-	48,121,779	48,121,779				
163	Fairview Independent Schools	-	12,624,068	12,624,068				
166	Fort Thomas Independent Schools	-	62,348,440	62,348,440				
167	Frankfort City Schools	-	18,157,917	18,157,917				
170	Fulton City Schools	-	7,310,856	7,310,856				
173	Glasgow City Schools	-	41,681,030	41,681,030				
180	Harlan City Schools	-	11,922,876	11,922,876				
182	Hazard Independent Schools	-	17,836,063	17,836,063				
190	Jackson City Schools	-	4,764,437	4,764,437				
191	Jenkins City Schools	-	8,527,302	8,527,302				
206	Ludlow City Schools	-	17,276,026	17,276,026				
210	Mayfield City Schools	-	29,634,676	29,634,676				
214	Middlesboro City Schools	-	21,016,893	21,016,893				
221	Murray City Schools	-	30,218,544	30,218,544				
222	Newport City Schools	-	35,274,587	35,274,587				
224	Owensboro City Schools	-	98,369,001	98,369,001				
226	Paducah City Schools	-	55,826,900	55,826,900				
227	Paintsville City Schools	-	16,570,644	16,570,644				
228	Paris City Schools	-	13,105,802	13,105,802				



SCHEDULE B (continued)

Code	Employer	June 30, 2018			Deferred Outflows of Resources			
		Employer's	State's	Total	Difference Between Expected and Actual Experience	Change of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources
		Proportionate Share of Net Pension Liability	Proportionate Share of Net Pension Liability	Net Pension Liability				
230	Pikeville City Schools	-	27,859,109	27,859,109				
231	Pineville City Schools	-	8,522,195	8,522,195				
235	Raceland City Schools	-	18,819,695	18,819,695				
238	Russell City Schools	-	42,949,853	42,949,853				
239	Russellville City Schools	-	18,703,026	18,703,026				
240	Science Hill City Schools	-	7,468,509	7,468,509				
245	Silver Grove City Schools	-	4,542,229	4,542,229				
246	Somerset City Schools	-	31,178,999	31,178,999				
247	Southgate City Schools	-	4,894,985	4,894,985				
258	Walton-Verona Independent Schools	-	32,267,909	32,267,909				
259	West Point City Schools	-	2,856,488	2,856,488				
260	Williamsburg City Schools	-	13,823,623	13,823,623				
261	Williamstown City Schools	-	13,381,565	13,381,565				
870	Ohio Valley Educational Cooperative	-	7,616,342	7,616,342				
871	West Kentucky Educational Cooperative	-	3,794,684	3,794,684				
872	Southeast South-Central Educational Cooperative	-	953,909	953,909				
890	Green River Regional Educational Cooperative	-	3,536,075	3,536,075				
891	Central KY Special Education Cooperative	-	2,160,927	2,160,927				
892	KY Valley Educational Cooperative	-	3,354,066	3,354,066				
894	KY Educational Development Corporation	-	6,688,622	6,688,622				
895	Northern KY Cooperative for Educational Services	-	6,415,609	6,415,609				
	Total - Local School Districts	\$ -	\$ 12,790,015,038	\$ 12,790,015,038				
	Total Non University	\$ 131,567,904	\$ 12,962,580,064	\$ 13,094,147,968	\$ 1,020,506	\$ 21,595,358	\$ 11,799,560	\$ 34,415,424
	State's Proportionate Share of Outflows/Inflows				\$ 102,732,418	\$ 2,173,132,433	\$ 387,122,116	\$ 2,662,986,967



SCHEDULE B (continued)

		Deferred Inflows of Resources					Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of				
Code	Employer	Differences Between Expected and Actual Experience	Change of Assumptions	Net Difference Between Projected and Actual Investment Earnings on Pension Plan	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Net Employer Pension Expense	Revenue State Support	Proportionate Share of Plan Pension Expense	Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Pension Expense
<u>Local School Districts and Educational Cooperatives</u>											
1	Adair County Schools						\$ -	\$ (5,317,665)	\$ (5,317,665)	\$ -	\$ (5,317,665)
2	Allen County Schools						-	(6,075,092)	(6,075,092)	-	(6,075,092)
3	Anderson County Schools						-	(7,249,619)	(7,249,619)	-	(7,249,619)
4	Ballard County Schools						-	(2,541,704)	(2,541,704)	-	(2,541,704)
5	Barren County Schools						-	(10,147,312)	(10,147,312)	-	(10,147,312)
6	Bath County Schools						-	(4,055,498)	(4,055,498)	-	(4,055,498)
7	Bell County Schools						-	(4,763,615)	(4,763,615)	-	(4,763,615)
8	Boone County Schools						-	(48,811,249)	(48,811,249)	-	(48,811,249)
9	Bourbon County Schools						-	(5,536,972)	(5,536,972)	-	(5,536,972)
10	Boyd County Schools						-	(6,979,357)	(6,979,357)	-	(6,979,357)
11	Boyle County Schools						-	(6,783,146)	(6,783,146)	-	(6,783,146)
12	Bracken County Schools						-	(2,472,652)	(2,472,652)	-	(2,472,652)
13	Breathitt County Schools						-	(3,858,892)	(3,858,892)	-	(3,858,892)
14	Breckinridge County Schools						-	(5,508,292)	(5,508,292)	-	(5,508,292)
15	Bullitt County Schools						-	(28,738,543)	(28,738,543)	-	(28,738,543)
16	Butler County Schools						-	(4,165,697)	(4,165,697)	-	(4,165,697)
17	Caldwell County Schools						-	(3,599,023)	(3,599,023)	-	(3,599,023)
18	Calloway County Schools						-	(6,329,092)	(6,329,092)	-	(6,329,092)
19	Campbell County Schools						-	(10,751,684)	(10,751,684)	-	(10,751,684)
20	Carlisle County Schools						-	(1,717,297)	(1,717,297)	-	(1,717,297)
21	Carroll County Schools						-	(4,516,355)	(4,516,355)	-	(4,516,355)
22	Carter County Schools						-	(8,361,373)	(8,361,373)	-	(8,361,373)
23	Casey County Schools						-	(4,775,005)	(4,775,005)	-	(4,775,005)
24	Christian County Schools						-	(16,901,508)	(16,901,508)	-	(16,901,508)
25	Clark County Schools						-	(11,179,652)	(11,179,652)	-	(11,179,652)
26	Clay County Schools						-	(6,607,011)	(6,607,011)	-	(6,607,011)
27	Clinton County Schools						-	(3,483,350)	(3,483,350)	-	(3,483,350)
28	Crittenden County Schools						-	(2,596,788)	(2,596,788)	-	(2,596,788)
29	Cumberland County Schools						-	(1,753,176)	(1,753,176)	-	(1,753,176)
30	Daviess County Schools						-	(24,988,790)	(24,988,790)	-	(24,988,790)
31	Edmonson County Schools						-	(3,770,239)	(3,770,239)	-	(3,770,239)
32	Elliott County Schools						-	(2,208,670)	(2,208,670)	-	(2,208,670)
33	Estill County Schools						-	(4,710,034)	(4,710,034)	-	(4,710,034)
34	Fayette County Schools						-	(119,795,018)	(119,795,018)	-	(119,795,018)
35	Fleming County Schools						-	(4,597,082)	(4,597,082)	-	(4,597,082)
36	Floyd County Schools						-	(11,486,615)	(11,486,615)	-	(11,486,615)
37	Franklin County Schools						-	(13,439,055)	(13,439,055)	-	(13,439,055)
38	Fulton County Schools						-	(1,243,532)	(1,243,532)	-	(1,243,532)
39	Gallatin County Schools						-	(3,521,903)	(3,521,903)	-	(3,521,903)
40	Garrard County Schools						-	(5,181,981)	(5,181,981)	-	(5,181,981)



SCHEDULE B (continued)

		Deferred Inflows of Resources					Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of				
Code	Employer	Differences Between Expected and Actual Experience	Change of Assumptions	Net Difference Between Projected and Actual Investment Earnings on Pension Plan	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of	Total Deferred Inflows of Resources	Net Employer Pension Expense	Revenue State Support	Proportionate Share of Plan Pension Expense	Total Pension Expense	
				Investments	Contributions						
41	Grant County Schools						-	(7,288,298)	(7,288,298)	-	(7,288,298)
42	Graves County Schools						-	(8,819,224)	(8,819,224)	-	(8,819,224)
43	Grayson County Schools						-	(8,368,334)	(8,368,334)	-	(8,368,334)
44	Green County Schools						-	(3,448,880)	(3,448,880)	-	(3,448,880)
45	Greenup County Schools						-	(6,016,955)	(6,016,955)	-	(6,016,955)
46	Hancock County Schools						-	(3,846,126)	(3,846,126)	-	(3,846,126)
47	Hardin County Schools						-	(31,557,517)	(31,557,517)	-	(31,557,517)
48	Harlan County Schools						-	(6,967,349)	(6,967,349)	-	(6,967,349)
49	Harrison County Schools						-	(5,874,927)	(5,874,927)	-	(5,874,927)
50	Hart County Schools						-	(5,561,857)	(5,561,857)	-	(5,561,857)
51	Henderson County Schools						-	(15,272,784)	(15,272,784)	-	(15,272,784)
52	Henry County Schools						-	(4,409,114)	(4,409,114)	-	(4,409,114)
53	Hickman County Schools						-	(1,787,679)	(1,787,679)	-	(1,787,679)
54	Hopkins County Schools						-	(14,091,408)	(14,091,408)	-	(14,091,408)
55	Jackson County Schools						-	(4,718,118)	(4,718,118)	-	(4,718,118)
56	Jefferson County Schools						-	(299,805,957)	(299,805,957)	-	(299,805,957)
57	Jessamine County Schools						-	(17,272,224)	(17,272,224)	-	(17,272,224)
58	Johnson County Schools						-	(7,438,584)	(7,438,584)	-	(7,438,584)
59	Kenton County Schools						-	(30,768,784)	(30,768,784)	-	(30,768,784)
60	Knott County Schools						-	(4,797,517)	(4,797,517)	-	(4,797,517)
61	Knox County Schools						-	(9,260,591)	(9,260,591)	-	(9,260,591)
62	Larue County Schools						-	(5,402,126)	(5,402,126)	-	(5,402,126)
63	Laurel County Schools						-	(18,277,987)	(18,277,987)	-	(18,277,987)
64	Lawrence County Schools						-	(5,216,736)	(5,216,736)	-	(5,216,736)
65	Lee County Schools						-	(1,564,749)	(1,564,749)	-	(1,564,749)
66	Leslie County Schools						-	(3,469,793)	(3,469,793)	-	(3,469,793)
67	Letcher County Schools						-	(6,537,357)	(6,537,357)	-	(6,537,357)
68	Lewis County Schools						-	(4,194,869)	(4,194,869)	-	(4,194,869)
69	Lincoln County Schools						-	(7,293,376)	(7,293,376)	-	(7,293,376)
70	Livingston County Schools						-	(2,724,753)	(2,724,753)	-	(2,724,753)
71	Logan County Schools						-	(7,387,123)	(7,387,123)	-	(7,387,123)
72	Lyon County Schools						-	(1,785,037)	(1,785,037)	-	(1,785,037)
73	Madison County Schools						-	(22,569,324)	(22,569,324)	-	(22,569,324)
74	Magoffin County Schools						-	(4,056,843)	(4,056,843)	-	(4,056,843)
75	Marion County Schools						-	(7,619,180)	(7,619,180)	-	(7,619,180)
76	Marshall County Schools						-	(10,402,782)	(10,402,782)	-	(10,402,782)
77	Martin County Schools						-	(3,511,620)	(3,511,620)	-	(3,511,620)
78	Mason County Schools						-	(6,000,123)	(6,000,123)	-	(6,000,123)
79	McCracken County Schools						-	(15,054,300)	(15,054,300)	-	(15,054,300)
80	McCreary County Schools						-	(5,425,998)	(5,425,998)	-	(5,425,998)



SCHEDULE B (continued)

		Deferred Inflows of Resources									
		Differences Between Expected and Actual Experience			Change of Assumptions	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions		
									Net Employer Pension Expense	Revenue State Support	Proportionate Share of Plan Pension Expense
Code	Employer										
81	McLean County Schools						-	(3,299,353)	(3,299,353)	-	(3,299,353)
82	Meade County Schools						-	(9,143,985)	(9,143,985)	-	(9,143,985)
83	Menifee County Schools						-	(1,927,018)	(1,927,018)	-	(1,927,018)
84	Mercer County Schools						-	(6,269,056)	(6,269,056)	-	(6,269,056)
85	Metcalfe County Schools						-	(3,118,218)	(3,118,218)	-	(3,118,218)
86	Monroe County Schools						-	(3,954,379)	(3,954,379)	-	(3,954,379)
87	Montgomery County Schools						-	(9,393,412)	(9,393,412)	-	(9,393,412)
88	Morgan County Schools						-	(3,673,803)	(3,673,803)	-	(3,673,803)
89	Muhlenberg County Schools						-	(9,637,778)	(9,637,778)	-	(9,637,778)
90	Nelson County Schools						-	(10,137,250)	(10,137,250)	-	(10,137,250)
91	Nicholas County Schools						-	(2,041,694)	(2,041,694)	-	(2,041,694)
92	Ohio County Schools						-	(7,818,381)	(7,818,381)	-	(7,818,381)
93	Oldham County Schools						-	(27,456,190)	(27,456,190)	-	(27,456,190)
94	Owen County Schools						-	(3,531,268)	(3,531,268)	-	(3,531,268)
95	Owsley County Schools						-	(1,362,717)	(1,362,717)	-	(1,362,717)
96	Pendleton County Schools						-	(4,657,339)	(4,657,339)	-	(4,657,339)
97	Perry County Schools						-	(7,454,229)	(7,454,229)	-	(7,454,229)
98	Pike County Schools						-	(17,370,353)	(17,370,353)	-	(17,370,353)
99	Powell County Schools						-	(4,530,925)	(4,530,925)	-	(4,530,925)
100	Pulaski County Schools						-	(16,169,819)	(16,169,819)	-	(16,169,819)
101	Robertson County Schools						-	(807,195)	(807,195)	-	(807,195)
102	Rockcastle County Schools						-	(6,143,433)	(6,143,433)	-	(6,143,433)
103	Rowan County Schools						-	(6,282,044)	(6,282,044)	-	(6,282,044)
104	Russell County Schools						-	(6,177,920)	(6,177,920)	-	(6,177,920)
105	Scott County Schools						-	(18,567,534)	(18,567,534)	-	(18,567,534)
106	Shelby County Schools						-	(16,126,505)	(16,126,505)	-	(16,126,505)
107	Simpson County Schools						-	(6,412,904)	(6,412,904)	-	(6,412,904)
108	Spencer County Schools						-	(6,142,547)	(6,142,547)	-	(6,142,547)
109	Taylor County Schools						-	(5,189,954)	(5,189,954)	-	(5,189,954)
110	Todd County Schools						-	(3,621,503)	(3,621,503)	-	(3,621,503)
111	Trigg County Schools						-	(4,581,595)	(4,581,595)	-	(4,581,595)
112	Trimble County Schools						-	(2,572,299)	(2,572,299)	-	(2,572,299)
113	Union County Schools						-	(4,527,334)	(4,527,334)	-	(4,527,334)
114	Warren County Schools						-	(30,165,186)	(30,165,186)	-	(30,165,186)
115	Washington County Schools						-	(3,909,341)	(3,909,341)	-	(3,909,341)
116	Wayne County Schools						-	(6,533,608)	(6,533,608)	-	(6,533,608)
117	Webster County Schools						-	(4,289,802)	(4,289,802)	-	(4,289,802)
118	Whitley County Schools						-	(9,343,264)	(9,343,264)	-	(9,343,264)
119	Wolfe County Schools						-	(3,018,064)	(3,018,064)	-	(3,018,064)
120	Woodford County Schools						-	(8,648,657)	(8,648,657)	-	(8,648,657)



SCHEDULE B (continued)

		Deferred Inflows of Resources					Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of				
Code	Employer	Differences Between Expected and Actual Experience	Change of Assumptions	Net Difference Between Projected and Actual Investment Earnings on Pension Plan	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Net Employer Pension Expense	Revenue State Support	Proportionate Share of Plan Pension Expense	Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Pension Expense
122	Anchorage City Schools						-	(1,715,889)	(1,715,889)	-	(1,715,889)
124	Ashland City Schools						-	(7,174,570)	(7,174,570)	-	(7,174,570)
125	Augusta City Schools						-	(703,624)	(703,624)	-	(703,624)
126	Barbourville City Schools						-	(1,390,622)	(1,390,622)	-	(1,390,622)
127	Bardstown City Schools						-	(6,663,518)	(6,663,518)	-	(6,663,518)
128	Beechwood Independent Schools						-	(3,207,045)	(3,207,045)	-	(3,207,045)
129	Bellevue City Schools						-	(1,822,593)	(1,822,593)	-	(1,822,593)
131	Berea City Schools						-	(2,561,400)	(2,561,400)	-	(2,561,400)
134	Bowling Green City Schools						-	(9,326,005)	(9,326,005)	-	(9,326,005)
136	Burgin City Schools						-	(1,105,347)	(1,105,347)	-	(1,105,347)
140	Campbellsville City Schools						-	(2,708,870)	(2,708,870)	-	(2,708,870)
144	Caverna City Schools						-	(1,677,084)	(1,677,084)	-	(1,677,084)
147	Cloverport City Schools						-	(746,954)	(746,954)	-	(746,954)
150	Corbin City Schools						-	(5,927,574)	(5,927,574)	-	(5,927,574)
151	Covington City Schools						-	(10,234,256)	(10,234,256)	-	(10,234,256)
154	Danville City Schools						-	(5,522,972)	(5,522,972)	-	(5,522,972)
155	Dawson Springs City Schools						-	(1,370,911)	(1,370,911)	-	(1,370,911)
156	Dayton City Schools						-	(2,212,214)	(2,212,214)	-	(2,212,214)
158	East Bernstadt City Schools						-	(1,021,725)	(1,021,725)	-	(1,021,725)
160	Elizabethtown City Schools						-	(5,669,019)	(5,669,019)	-	(5,669,019)
161	Eminence Independent Schools						-	(1,914,315)	(1,914,315)	-	(1,914,315)
162	Erlanger-Elsmere City Schools						-	(5,813,800)	(5,813,800)	-	(5,813,800)
163	Fairview Independent Schools						-	(1,525,168)	(1,525,168)	-	(1,525,168)
166	Fort Thomas Independent Schools						-	(7,532,584)	(7,532,584)	-	(7,532,584)
167	Frankfort City Schools						-	(2,193,736)	(2,193,736)	-	(2,193,736)
170	Fulton City Schools						-	(883,256)	(883,256)	-	(883,256)
173	Glasgow City Schools						-	(5,035,665)	(5,035,665)	-	(5,035,665)
180	Harlan City Schools						-	(1,440,454)	(1,440,454)	-	(1,440,454)
182	Hazard Independent Schools						-	(2,154,852)	(2,154,852)	-	(2,154,852)
190	Jackson City Schools						-	(575,612)	(575,612)	-	(575,612)
191	Jenkins City Schools						-	(1,030,220)	(1,030,220)	-	(1,030,220)
206	Ludlow City Schools						-	(2,087,191)	(2,087,191)	-	(2,087,191)
210	Mayfield City Schools						-	(3,580,293)	(3,580,293)	-	(3,580,293)
214	Middlesboro City Schools						-	(2,539,142)	(2,539,142)	-	(2,539,142)
221	Murray City Schools						-	(3,650,833)	(3,650,833)	-	(3,650,833)
222	Newport City Schools						-	(4,261,675)	(4,261,675)	-	(4,261,675)
224	Owensboro City Schools						-	(11,884,383)	(11,884,383)	-	(11,884,383)
226	Paducah City Schools						-	(6,744,689)	(6,744,689)	-	(6,744,689)
227	Paintsville City Schools						-	(2,001,971)	(2,001,971)	-	(2,001,971)
228	Paris City Schools						-	(1,583,368)	(1,583,368)	-	(1,583,368)



SCHEDULE B (continued)

		Deferred Inflows of Resources					Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions				
Code	Employer	Differences Between Expected and Actual Experience	Change of Assumptions	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Net Employer Pension Expense	Revenue State Support	Proportionate Share of Plan Pension Expense	Employer Contributions and Proportionate Share of Contributions	Total Pension Expense
230	Pikeville City Schools						-	(3,365,779)	(3,365,779)	-	(3,365,779)
231	Pineville City Schools						-	(1,029,603)	(1,029,603)	-	(1,029,603)
235	Raceland City Schools						-	(2,273,689)	(2,273,689)	-	(2,273,689)
238	Russell City Schools						-	(5,188,957)	(5,188,957)	-	(5,188,957)
239	Russellville City Schools						-	(2,259,593)	(2,259,593)	-	(2,259,593)
240	Science Hill City Schools						-	(902,303)	(902,303)	-	(902,303)
245	Silver Grove City Schools						-	(548,766)	(548,766)	-	(548,766)
246	Somerset City Schools						-	(3,766,869)	(3,766,869)	-	(3,766,869)
247	Southgate City Schools						-	(591,384)	(591,384)	-	(591,384)
258	Walton-Verona Independent Schools						-	(3,898,425)	(3,898,425)	-	(3,898,425)
259	West Point City Schools						-	(345,105)	(345,105)	-	(345,105)
260	Williamsburg City Schools						-	(1,670,092)	(1,670,092)	-	(1,670,092)
261	Williamstown City Schools						-	(1,616,685)	(1,616,685)	-	(1,616,685)
870	Ohio Valley Educational Cooperative						-	(920,163)	(920,163)	-	(920,163)
871	West Kentucky Educational Cooperative						-	(458,452)	(458,452)	-	(458,452)
872	Southeast South-Central Educational Cooperative						-	(115,246)	(115,246)	-	(115,246)
890	Green River Regional Educational Cooperative						-	(427,208)	(427,208)	-	(427,208)
891	Central KY Special Education Cooperative						-	(261,071)	(261,071)	-	(261,071)
892	KY Valley Educational Cooperative						-	(405,219)	(405,219)	-	(405,219)
894	KY Educational Development Corporation						-	(808,081)	(808,081)	-	(808,081)
895	Northern KY Cooperative for Educational Services						-	(775,097)	(775,097)	-	(775,097)
Total - Local School Districts							\$ 0	\$ (1,545,216,883)	\$ (1,545,216,883)	\$ -	\$ (1,545,216,883)
Total Non University		\$ 2,102,630	\$ 117,890,196	\$ 4,721,852	\$ 166,115,150	\$ 290,829,828	\$ (15,895,284)	\$ (1,566,065,207)	\$ (1,581,960,491)	\$ (66,855,369)	\$ (1,648,815,860)
State's Proportionate Share of Outflow s/Inflow s		\$ 234,362,395	\$ 11,830,398,530	\$ 471,887,617	\$ 22,468,528	\$ 12,559,117,070				\$ 97,285,312	



SECTION C
Teachers' Retirement System of the State of Kentucky
Schedules of Remaining Deferred Outflows and (Inflows)

Code	Employer	NPL Sensitivity		Recognition of Existing Deferred Outflows (Inflows) of Resources for					
		Less 1%- 6.50% Employer's Proportionate Share of Net Pension Liability	Plus 1%- 8.50% Employer's Proportionate Share of Net Pension Liability	Future Plan Years Ending June 30,					
				2020	2021	2022	2023	2024	Thereafter
University Employers									
263	Eastern Kentucky University	\$ 124,568,033	\$ 74,137,640	\$ (40,976,655)	\$ (44,752,171)	\$ (29,973,611)	\$ (9,155,121)	\$ -	\$ -
266	Kentucky State University	28,993,190	17,255,524	(10,910,300)	(10,170,307)	(6,455,298)	(1,737,444)	-	-
269	Morehead State University	67,425,209	40,128,641	(23,228,680)	(24,864,086)	(16,174,872)	(4,851,398)	-	-
270	Murray State University	75,489,276	44,928,034	(26,987,677)	(29,162,162)	(18,553,360)	(5,287,069)	-	-
273	Western Kentucky University	134,914,645	80,295,506	(46,846,421)	(49,028,088)	(32,342,588)	(9,705,086)	-	-
500	KCTCS Central Office - University	33,720,882	20,069,247	(14,313,120)	(14,549,878)	(8,881,953)	(2,417,518)	-	-
	Total University	\$ 465,111,235	\$ 276,814,592	\$ (163,262,853)	\$ (172,526,692)	\$ (112,381,682)	\$ (33,153,636)	\$ -	\$ -
	State's Proportionate Share of NPL - University	\$ 346,039,102	\$ 205,947,881	\$ 40,456,378	\$ 36,449,157	\$ (40,199,007)	\$ (27,980,656)	\$ -	\$ -
Non-University Employers									
400	KCTCS CENTRAL OFFICE	\$ 36,248,217	\$ 21,573,412	\$ (27,970,466)	\$ (26,567,916)	\$ (14,034,432)	\$ (3,218,028)	\$ -	\$ -
801	KY High School Athletic Association	1,523,679	906,829	(666,822)	(700,966)	(420,427)	(117,561)	-	-
805	KY School Boards Association	3,513,122	2,090,862	(1,686,701)	(1,791,034)	(1,006,833)	(274,093)	-	-
806	KY Education Association	425,818	253,429	(210,141)	(216,196)	(119,895)	(33,804)	-	-
807	KY Academic Association	273,584	162,826	(129,542)	(135,081)	(79,083)	(21,802)	-	-
809	Jefferson County Teachers' Association	125,547	74,720	(56,236)	(58,714)	(34,588)	(9,788)	-	-
		\$ 42,109,967	\$ 25,062,078	\$ (30,719,908)	\$ (29,469,907)	\$ (15,695,258)	\$ (3,675,076)	\$ -	\$ -
State Agencies									
301	Technical Education District - Madisonville	\$ 14,686,600	\$ 8,740,845	\$ (3,289,368)	\$ (4,508,405)	\$ (3,212,465)	\$ (1,023,781)	\$ -	\$ -
302	Technical Education District - Bowling Green	14,421,911	8,583,313	(4,562,670)	(4,947,121)	(3,382,797)	(1,077,035)	-	-
303	Technical Education District - Elizabethtown	-	-	(5,898,078)	(6,159,412)	(1,984,808)	(8,673)	-	-
304	Technical Education District - Frankfort	11,291,639	6,720,307	(6,697,295)	(6,089,387)	(3,343,010)	(866,948)	-	-
305	Technical Education District - Hazard	13,544,092	8,060,873	(5,705,947)	(5,507,889)	(3,402,617)	(1,003,848)	-	-
308	Adult Council on Post Secondary Education	908,366	540,621	(714,170)	(695,601)	(354,306)	(74,471)	-	-
316	Office of Career and Technical Education	3,504,394	2,085,668	(196,436)	(1,552,469)	(1,112,013)	(347,297)	-	-
317	Office of Secretary of Workforce Investment	181,438	107,984	(146,302)	(97,370)	(48,765)	(13,317)	-	-
318	Department for Vocational Rehabilitation	18,575,858	11,055,567	(11,188,619)	(11,780,321)	(6,579,904)	(1,669,412)	-	-
320	School for the Blind	6,429,898	3,826,804	(3,186,890)	(3,277,449)	(1,730,220)	(419,644)	-	-
330	School for the Deaf	7,664,887	4,561,818	(4,522,072)	(4,476,179)	(2,569,267)	(667,293)	-	-
345	Department of Education	32,831,775	19,540,086	(15,362,541)	(16,053,243)	(9,415,823)	(2,576,593)	-	-
728	Department of Corrections	169,186	100,692	(86,961)	(64,182)	(37,695)	(12,513)	-	-
896	Education Professional Standards Board	2,325,969	1,384,318	(1,050,060)	(1,183,468)	(743,822)	(176,013)	-	-
		\$ 126,536,013	\$ 75,308,896	\$ (62,607,409)	\$ (66,392,496)	\$ (37,917,512)	\$ (9,936,838)	\$ -	\$ -
	State's Proportionate Share of NPL - Non-University	\$ 16,615,655,687	\$ 9,888,937,554	\$ (2,541,263,600)	\$ (2,801,531,675)	\$ (3,213,522,456)	\$ (1,348,538,244)	\$ -	\$ -



SCHEDULE D

SUMMARY OF MAIN PLAN PROVISIONS AS INTERPRETED FOR ACCOUNTING AND REPORTING VALUATION PURPOSES

The Teachers' Retirement System of the State of Kentucky was established on July 1, 1940. The valuation took into account amendments to the System effective through June 30, 2018. The following summary describes the main benefit and contribution provisions of the System as interpreted for the valuation.

1 - DEFINITIONS

"Final average salary" means the average of the five highest annual salaries which the member has received for service in a covered position and on which the member has made contributions or on which the public board, institution or agency has picked up the member contributions. For a member who retires after attaining age 55 with 27 years of service, "final average salary" means the average of the three highest annual salaries.

2 - BENEFITS

Service Retirement Allowance

Members Before 7/1/2008

Condition for Allowance

Completion of 27 years of service or attainment of age 55 and 5 years of service.

Amount of Allowance

The annual retirement allowance for non-university members is equal to:

- (a) 2.0% of final average salary multiplied by service before July 1, 1983, plus
- (b) 2.5% of final average salary multiplied by service after July 1, 1983.
- (c) For individuals who become members of the Retirement System on or after July 1, 2002 and have less than 10 years of service at retirement, the retirement allowance is 2.0% of final average salary multiplied by service. If, however, they have 10 or more years, they receive a benefit percentage of 2.5% for all years of service up to 30 years.



SCHEDULE D (continued)

- (d) For members retiring on or after July 1, 2004, the retirement allowance formula is 3.0% of final average salary for each year of service credit earned in excess of 30 years.

The annual retirement allowance for university members is equal to 2.0% of final average salary multiplied by all years of service.

For all members, the annual allowance is reduced by 5% per year from the earlier of age 60 or the date the member would have completed 27 years of service.

The minimum annual service allowance for all members is \$440 multiplied by credited service.

Members on and after 7/1/2008

Condition for Retirement

Completion of 27 years of service, attainment of age 60 and 5 years of service or attainment of age 55 and 10 years of service.

Amount of Allowance

The annual retirement allowance for non-university members is equal to:

- 1.7% of final average salary if service is 10 years or less.
- 2.0% of final average salary if service is greater than 10 years and no more than 20 years.
- 2.3% of final average salary if service is greater than 20 years but no more than 26 years.
- 2.5% of final average salary if service is greater than 26 years but no more than 30 years.
- 3.0% of final average salary for years of service greater than 30 years.

The annual retirement allowance for university members is equal to:

- 1.5% of final average salary if service is 10 years or less.
- 1.7% of final average salary if service is greater than 10 years and no more than 20 years.
- 1.85% of final average salary if service is greater than 20 years but less than 27 years.
- 2.0% of final average salary if service is greater than or equal to 27 years.

For all members, the annual allowance is reduced by 6% per year from the earlier of age 60 or the date the member would have completed 27 years of service.



SCHEDULE D (continued)

Disability Retirement Allowance

Condition for Allowance

Totally and permanently incapable of being employed as a teacher and under age 60 but after completing 5 years of service.

Amount of Allowance

The disability allowance is equal to the greater of the service retirement allowance or 60% of the member's final average salary. The disability allowance is payable over an entitlement period equal to 25% of the service credited to the member at the date of disability or five years, whichever is longer. After the disability entitlement period has expired and if the member remains disabled, he will be retired under service retirement. The service retirement allowance will be computed with service credit given for the period of disability retirement. The allowance will not be less than \$6,000 per year. The service retirement allowance will not be reduced for commencement of the allowance before age 60 or the completion of 27 years of service.

Benefits Payable on Separation from Service

Any member who ceases to be in service is entitled to receive his contributions with allowable interest. A member who has completed 5 years of creditable service and leaves his contributions with the System may be continued in the membership of the System after separation from service, and file application for service retirement after the attainment of age 60.

Life Insurance

A separate Life Insurance fund has been created as of June 30, 2000 to pay benefits on behalf of deceased TRS active and retired members.



SCHEDULE D (continued)

Death Benefits

A surviving spouse of an active member with less than 10 years of service may elect to receive an annual allowance of \$2,880 except that if income from other sources exceeds \$6,600 per year the annual allowance will be \$2,160.

A surviving spouse of an active member with 10 or more years of service may elect to receive an allowance which is the actuarial equivalent of the allowance the deceased member would have received upon retirement. The allowance will commence on the date the deceased member would have been eligible for service retirement and will be payable during the life of the spouse.

If the deceased member is survived by unmarried children under age 18 the following schedule of annual allowances applies:

<u>Number of Children</u>	<u>Annual Allowance</u>
1	\$ 2,400
2	4,080
3	4,800
4 or more	5,280

The allowances are payable until a child attains age 18, or age 23 if a full-time student.

If the member has no eligible survivor, a refund of his accumulated contributions is payable to his estate.

Options

In lieu of the regular Option 1, a retirement allowance payable in the form of a life annuity with refundable balance, any member before retirement may elect to receive a reduced allowance which is actuarially equivalent to the full allowance, in one of the following forms:

Option 2. A single life annuity payable during the member's lifetime with payments for 10 years certain.

Option 3. At the death of the member his allowance is continued throughout the life of his beneficiary.

Option 3(a). At the death of the beneficiary designated by the member under Option 3, the member's benefit will revert to what would have been paid had he not selected an option.

Option 4. At the death of the member one half of his allowance is continued throughout the life of his beneficiary.

Option 4(a). At the death of the beneficiary designated by the member under Option 4, the member's benefit will revert to what would have been paid had he not selected an option.



SCHEDULE D (continued)

Post-Retirement Adjustments

The retirement allowance of each retired member and of each beneficiary shall be increased by 1.50% each July 1.

3 - CONTRIBUTIONS

Member Contributions

University members contribute 7.625% of salary to the Retirement System. Non-university members contribute 9.105% of salary to the Retirement System. Member contributions are picked up by the employer.



SCHEDULE E

STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

The assumptions and methods used in the valuation were selected based on the actuarial experience study prepared as of June 30, 2015, submitted to and adopted by the Board on September 19, 2016.

INVESTMENT RATE OF RETURN: 7.50% per annum, compounded annually, including price inflation at 3.00% per annum.

SALARY INCREASES: Representative values of the assumed annual rates of future salary increases are as follows and include wage inflation at 3.50% per annum:

<u>Age</u>	<u>Annual Rate</u>
20	7.20%
25	6.40
30	5.40
35	4.70
40	4.20
45	3.80
50	3.70
55	3.50
60	3.50
65	3.50

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

Males

Age	Annual Rate of						
	DEATH	DISABILITY	WITHDRAWAL			RETIREMENT	
			Service			Before 27 Years of Service	After 27 Years of Service*
			0 – 4	5 – 9	10+		
20	0.019%	0.01%	11.00%				
25	0.021	0.01	11.00	3.00%			
30	0.025	0.01	11.00	3.00	3.00%		
35	0.043	0.04	12.00	3.50	1.40		
40	0.060	0.09	12.00	4.50	1.40		
45	0.084	0.20	12.00	4.50	1.30		17.0%
50	0.119	0.30	14.00	4.50	1.90		17.0
55	0.202	0.58	15.00	4.50	2.40	5.0%	45.0
60	0.340	0.75	15.00	4.00	2.40	13.0	35.0
62	0.419	0.75	15.00	3.80	2.40	15.0	25.0
65	0.565	0.75	15.00	3.50	2.40	20.0	25.0
70	0.913	0.75	20.00	0.00	0.00	20.0	20.0
75	1.556	0.75	20.00	0.00	0.00	100.0	100.0

*Plus 7.5% in year when first eligible for unreduced retirement with 27 years of service.



SCHEDULE E (continued)

Females

Age	Annual Rate of						
	DEATH	DISABILITY	WITHDRAWAL			RETIREMENT	
			Service			Before 27 Years of Service	After 27 Years of Service*
			0 – 4	5 – 9	10+		
20	0.007%	0.01%	9.00%				
25	0.008	0.01	9.00	4.00%			
30	0.010	0.03	12.00	4.00	1.65%		
35	0.018	0.06	12.00	4.00	1.50		
40	0.026	0.12	12.00	4.00	1.30		
45	0.042	0.25	13.00	4.00	1.20		15.0%
50	0.062	0.44	13.00	5.00	1.50		18.0
55	0.096	0.65	15.00	5.00	2.00	5.5%	50.0
60	0.157	0.85	15.00	5.00	2.00	14.0	40.0
62	0.197	0.85	15.00	4.60	2.00	14.0	40.0
65	0.287	0.85	15.00	4.00	2.00	22.0	35.0
70	0.495	0.85	15.00	0.00	0.00	20.0	35.0
75	0.831	0.85	15.00	0.00	0.00	100.0	100.0

*Plus 7.5% in year when first eligible for unreduced retirement with 27 years of service.

DEATHS AFTER RETIREMENT: The RP-2000 Combined Mortality Table projected to 2025 using scale BB (set forward two years for males and one year for females) is used for death after service retirement and beneficiaries. The RP-2000 Disabled Mortality Table (set forward two years for males and seven years for females) is used for death after disability retirement. There is a margin for future mortality improvement in the tables used by the System. Based on the results of the most recent experience study adopted by the Board on September 19, 2016, the numbers of expected future deaths are 15-19% less than the actual number of deaths that occurred during the study period for healthy retirees and 13-17% less than expected under the selected table for disabled retirees. Representative values of the assumed annual rates of death after service retirement and after disability retirement are shown below:

Age	Annual Rate of Death After			
	Service Retirement		Disability Retirement	
	Male	Female	Male	Female
45	0.1609%	0.1135%	2.3306%	1.2482%
50	0.2474	0.1718	2.9279	1.5650
55	0.4246	0.2658	3.4400	1.7807
60	0.6985	0.4409	3.5881	2.3164
65	1.1300	0.8100	3.8275	3.1687
70	1.8697	1.3739	4.7566	4.4032
75	3.2147	2.2899	6.3153	6.0857
80	5.5160	3.7551	8.3527	8.4679
85	9.5631	6.3873	10.9122	12.7572
90	17.2787	11.2476	17.2787	19.4718
95	27.1263	18.1190	27.1263	24.2074



SCHEDULE E (continued)

ASSETS: Market Value

EXPENSE LOAD: None.

PERCENT MARRIED: 100%, with females 3 years younger than males.

LOADS: Unused sick leave: 2% of active liability



SCHEDULE F

BOARD FUNDING POLICY

Introduction

Pursuant to the provisions of KRS 161.250, the Board of Trustees (“Board”) of the Kentucky Teachers’ Retirement Systems (“TRS”) is vested with the responsibility for the general administration and management of the retirement system. The Board may adopt procedures necessary to conduct the business of the retirement system as needed. The applicable provisions of the Kentucky Revised Statutes (“state law”) shall control if any inconsistency exists between state law and this policy.

Retirement Appropriations:

State law provides that the retirement benefits promised to members of TRS are “...an inviolable contract of the Commonwealth....” (KRS 161.714.) To satisfy this solemn commitment, the Commonwealth of Kentucky (“state”) is required to pay annual retirement appropriations necessary to fund the benefit requirements of members of the retirement system. All employers participating in TRS are responsible for paying the fixed employer contribution rate set forth in state law. However, the state—as plan guarantor—is solely responsible for paying the additional annual retirement appropriations necessary to keep the retirement system actuarially sound and able to satisfy the contract with members to provide promised benefits. (KRS 161.550(6).)

Since fiscal year 2008, the state has not paid the recommended annual retirement appropriations necessary to pre-fund the benefit requirements of members of the retirement system as determined by the actuary. Over this period of time, because of the failure to fund, the state's annual retirement appropriations have grown significantly from \$60.5 million (Fiscal Year 2009) to \$520 million (Fiscal Year 2017). The following schedule details the growth of the annual retirement appropriations payable by the state:



SCHEDULE E (continued)

	Cumulative Increase as a % of Payroll	Cumulative Increase of Annual Retirement Appropriations Payable by the State
2009	1.88	\$ 60,499,800
2010	2.46	82,331,200
2011	3.59	121,457,000
2012	5.81	208,649,000
2013	7.27	260,980,000
2014	8.02	299,420,000
2015	10.42	386,400,000
2016	12.97	487,400,000
2017	13.80	520,372,000
2018	13.49	512,883,000
2019	14.61	553,597,000

(Source: TRS Report of the Actuary on the Annual Valuation Prepared as of June 30, 2016).

The Board has always taken action as required by state law and recommended annual retirement appropriations payable by the state that would ensure that the state meets the contractual obligations to members. This policy confirms the Board's process for recommending annual retirement appropriations payable by the state and the primary actuarial assumptions and methodologies associated with calculating the annual retirement appropriations. Other related actuarial assumptions and methodologies not listed in this policy are reported in annual valuations, the most recent experience study, or resolutions adopted by the Board.

Annual Retirement Appropriations Payable by the State: In each biennial budget request, the Board will recommend annual retirement appropriations payable by the state to meet the benefit requirements of the members of the retirement system. The annual retirement appropriations payable by the state are the sum of the fixed employer contribution rate set by state law and the additional annual retirement appropriations necessary to fund the benefit requirements of members of the retirement system. (KRS 161.550.) The recommended additional annual retirement appropriations payable by the state are calculated by the Board's actuary based upon the results of an annual valuation preceding the beginning of each biennium. (KRS 161.400.)

Calculation of Annual Retirement Appropriations Payable by the State: The Board will recommend annual retirement appropriations payable by the state, which—if paid—will meet the benefit requirements of the members of the retirement system consistent with generally accepted actuarial principles. Based upon technical advice from



SCHEDULE E (continued)

the Board's actuary, the Board hereby adopts the following principles for calculating the recommended annual retirement appropriations payable by the state:

- Use the Entry Age Normal actuarial cost method;
- Use a five-year asset smoothing method;
- Use a thirty-year closed period to amortize legacy unfunded liability ("legacy unfunded liability" is that unfunded liability recognized as of the valuation prepared for June 30, 2014);
- Use a twenty-year closed period to amortize new sources of unfunded liability ("new sources of unfunded liability" is that unfunded liability consisting of all benefit changes, assumption and method changes, and experience gains and/or losses that have occurred since the previous valuation); and
- Reach a minimum funding ratio of 100 percent within the thirty-year closed amortization period.

The Board also recognizes that, from time to time, the state may desire to contribute lump sum payments toward satisfaction of unfunded liability rather than amortization of the debt. Total unfunded liability is published in every annual valuation of the retirement system and TRS will work with the state to develop reasonable and appropriate plans for receipt of lump sum payments toward the satisfaction of unfunded liability.

This policy will be reviewed regularly and amended or revised as necessary.