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GASB STATEMENT NO. 68 REPORT
FOR THE
TEACHERS' RETIREMENT SYSTEM
OF THE STATE OF KENTUCKY
PREPARED AS OF JUNE 30, 2019





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

May 20, 2020

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, 2019 (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, 2018. 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 20, 2020
Page 2

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
Chief Executive Officer

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

Alisa Bennett, FSA, EA, FCA, MAAA
President

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

Cathy Turcot
Principal and Managing Director



TABLE OF CONTENTS

<u>Section</u>	<u>Item</u>	<u>Page No.</u>
I	Introduction	1
II	Summary of Principal Results	3
III	Notes to the Financial Statements	4
IV	Pension Expense	12
V	Required Supplemental Information	14

Schedule

A	Schedule of Employer Allocations	15
B	Schedule of Pension Amounts by Employer	24
C	Schedule of Remaining Deferred Outflows and (Inflows)	38
D	Summary of Main Plan Provisions	39
E	Statement of Actuarial Assumptions and Methods	44
F	Funding Policy	47



**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, 2019

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, 2019 (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, 2020 (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, 2018. The results of that valuation were detailed in a report dated November 12, 2018.

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, 2019 and submitted October 10, 2019 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, 2019 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)

	2019
Valuation Date:	June 30, 2018
Prior Measurement Date:	June 30, 2018
Measurement Date:	June 30, 2019
Reporting Date:	June 30, 2020
Single Equivalent Interest Rate (SEIR):	
Long-Term Expected Rate of Return	7.50%
Municipal Bond Index Rate at Prior Measurement Date	3.89%
Municipal Bond Index Rate at Measurement Date	3.50%
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	7.50%
Single Equivalent Interest Rate at Measurement Date	7.50%
Net Pension Liability:	
Total Pension Liability (TPL)	\$34,666,795
Fiduciary Net Position (FNP)	<u>20,371,910</u>
Net Pension Liability (NPL = TPL – FNP)	\$ 14,294,885
FNP as a percentage of TPL	58.8%
Pension Expense (PE):	(\$1,491,144)
Deferred Outflows of Resources:	\$1,302,101
Deferred Inflows of Resources:	\$8,796,809



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, 2018, 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	3.89 percent
Measurement Date	3.50 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	7.50 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, 2018 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.

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	\$18,252,330	\$14,294,885	\$10,964,314



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, 2018 is the actuarial valuation date upon which the TPL is based. An expected TPL is determined as of June 30, 2019 using standard roll forward techniques. The procedure used to determine the TPL as of June 30, 2019 is shown on page 5 of the GASB 67 report for TRS submitted on October 10, 2019.

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	\$132,175	\$149,634
Changes of actuarial assumptions or other inputs	1,169,926	8,429,425
Net difference between projected and actual earnings on plan investments	<u>0</u>	<u>217,750</u>
Total	<u>\$1,302,101</u>	<u>\$8,796,809</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: (\$ thousands)	
Year 1	(\$2,934,220)
Year 2	(3,320,464)
Year 3	(1,324,032)
Year 4	84,008
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 (\$ thousands)

	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)
2019	\$93,650	\$0	4.3	\$0	\$0	\$93,650	\$0	\$21,779	\$0	\$71,871	\$0
2018	0	222,473	4.4	0	171,911	0	0	0	50,562	0	121,349
2017	199,471	0	4.3	106,693	0	0	0	46,389	0	60,304	0
2016	0	58,035	5.5	0	26,379	0	0	0	10,552	0	\$15,827
2015	0	323,868	5.2	0	74,740	0	0	0	62,282	0	12,458
2014	0	0	5.8	0	0	0	0	0	0	0	0
Total				<u>\$106,693</u>	<u>\$273,030</u>	<u>\$93,650</u>	<u>\$0</u>			<u>\$132,175</u>	<u>\$149,634</u>



Collective Deferred Outflows and Inflows for Differences from Assumption Changes or Other Inputs (\$ thousands)

	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)
2019	\$0	\$0	4.3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2018	\$0	14,167,315	4.4	0	10,947,471	0	0	0	3,219,844	0	7,727,627
2017	\$0	2,321,327	4.3	0	1,241,641	0	0	0	539,843	0	701,798
2016	4,030,834	0	5.5	1,832,197	0	0	0	732,879	0	1,099,318	0
2015	1,835,828	0	5.2	423,652	0	0	0	353,044	0	70,608	0
2014	0	353,043	5.8	0	48,698	0	0	0	48,698	0	0
Total				<u>\$2,255,849</u>	<u>\$12,237,810</u>	<u>\$0</u>	<u>\$0</u>			<u>\$1,169,926</u>	<u>\$8,429,425</u>



Collective Deferred Outflows and Inflows for Differences in Investment Experience (\$ thousands)

	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)
2019	\$387,374	\$0	5.0	\$0	\$0	\$387,374	\$0	\$77,475	\$0	\$309,899	\$0
2018	0	576,610	5.0	0	460,488	0	0	0	115,122	0	345,366
2017	0	1,236,574	5.0	0	741,944	0	0	0	247,315	0	494,629
2016	1,561,734	0	5.0	624,693	0	0	0	312,347	0	312,346	\$0
2015	460,803	0	5.0	92,159	0	0	0	92,159	0	0	0
2014	0	1,627,260	5.0	0	0	0	0	0	0	0	0
Total				<u>\$716,852</u>	<u>\$1,202,432</u>	<u>\$387,374</u>	<u>\$0</u>			<u>\$622,245</u>	<u>\$839,995</u>
Net difference between projected and actual earnings on investments										\$0	\$217,750



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, 2019, 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. The number of years to use for the amortization is the weighted average for all active and inactive members, or 4.3 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	\$542,970
Interest on the TPL and net cash flow	2,448,387
Current-period benefit changes	0
Expensed portion of current-period difference between expected and actual experience in the total pension liability	21,779
Expensed portion of current-period changes of assumptions or other inputs	0
Member contributions	(321,172)
Projected earnings on plan investments	(1,472,563)
Expensed portion of current-period differences between projected and actual earnings on plan investments	77,475
Administrative expense	12,352
Other	(42,972)
Recognition of beginning deferred outflows of resources as pension expense	1,174,381
Recognition of beginning deferred inflows of resources as pension expense	<u>(3,931,781)</u>
Collective Pension Expense	<u>(\$1,491,144)</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, 2019

Code	University Employers	Contributions			Allocation Percentage		
		Employer	State	Total	Employer	State	Total
263	Eastern Kentucky University	\$ 7,076,144	\$ 7,667,694	\$ 14,743,838	13.2822%	14.3925%	27.6747%
266	Kentucky State University	1,813,761	1,965,387	3,779,148	3.4045%	3.6891%	7.0936%
269	Morehead State University	3,934,245	4,263,139	8,197,384	7.3847%	8.0021%	15.3868%
270	Murray State University	3,996,612	4,330,720	8,327,332	7.5018%	8.1289%	15.6307%
273	Western Kentucky University	6,540,082	7,086,818	13,626,900	12.2759%	13.3022%	25.5781%
500	KCTCS Central Office - University	<u>2,208,185</u>	<u>2,392,784</u>	<u>4,600,969</u>	<u>4.1448%</u>	<u>4.4913%</u>	<u>8.6361%</u>
	Total University Contributions	\$ 25,569,029	\$ 27,706,542	\$ 53,275,571	47.9939%	52.0061%	100.0000%



SCHEDULE A (continued)

Code	Non-University Employers	Contributions			Allocation Percentage		
		Employer	State	Total	Employer	State	Total
400	KCTCS Central Office	\$ 1,742,106	\$ 2,588,344	\$ 4,330,450	0.1697%	0.2521%	0.4218%
801	KY High School Athletic Association	96,522	143,408	239,930	0.0094%	0.0140%	0.0234%
805	KY School Boards Association	181,772	270,069	451,841	0.0177%	0.0263%	0.0440%
806	KY Education Association	23,836	35,414	59,250	0.0023%	0.0034%	0.0057%
807	KY Academic Association	15,602	23,181	38,783	0.0015%	0.0023%	0.0038%
809	Jefferson County Teachers' Association	7,110	10,564	17,674	<u>0.0007%</u>	<u>0.0010%</u>	<u>0.0017%</u>
		\$ 2,066,948	\$ 3,070,980	\$ 5,137,928	0.2013%	0.2991%	0.5004%

Code	State Agencies	Contributions			Allocation Percentage		
		Employer	State	Total	Employer	State	Total
301	Technical Education District - Madisonville	\$ 831,799	\$ 1,235,850	\$ 2,067,649	0.0810%	0.1204%	0.2014%
302	Technical Education District - Bowling Green	814,763	1,210,539	2,025,302	0.0794%	0.1179%	0.1973%
303	Technical Education District - Elizabethtown	-	-	-	0.0000%	0.0000%	0.0000%
304	Technical Education District - Frankfort	618,259	918,582	1,536,841	0.0602%	0.0895%	0.1497%
305	Technical Education District - Hazard	784,664	1,165,819	1,950,483	0.0764%	0.1135%	0.1899%
308	Adult Council on Post Secondary Education	42,156	62,634	104,790	0.0041%	0.0061%	0.0102%
316	Office of Career and Technical Education	228,892	340,078	568,970	0.0223%	0.0331%	0.0554%
317	Office of Secretary of Workforce Investment	9,962	14,801	24,763	0.0010%	0.0014%	0.0024%
318	Department for Vocational Rehabilitation	1,177,176	1,748,996	2,926,172	0.1146%	0.1703%	0.2849%
320	School for the Blind	356,354	529,455	885,809	0.0347%	0.0516%	0.0863%
330	School for the Deaf	250,072	371,546	621,618	0.0244%	0.0362%	0.0606%
345	Department of Education	1,717,561	2,551,876	4,269,437	0.1672%	0.2485%	0.4157%
728	Department of Corrections	8,811	13,091	21,902	0.0009%	0.0013%	0.0022%
896	Education Professional Standards Board	72,052	107,052	179,104	<u>0.0070%</u>	<u>0.0104%</u>	<u>0.0174%</u>
		\$ 6,912,521	\$ 10,270,319	\$ 17,182,840	0.6732%	1.0002%	1.6734%



SCHEDULE A (continued)

Code	Local School Districts and Educational Cooperatives	Contributions			Allocation Percentage		
		Employer	State	Total	Employer	State	Total
1	Adair County Schools	\$ -	\$ 3,234,538	\$ 3,234,538	0.0000%	0.3150%	0.3150%
2	Allen County Schools	-	3,965,879	3,965,879	0.0000%	0.3862%	0.3862%
3	Anderson County Schools	-	4,666,620	4,666,620	0.0000%	0.4545%	0.4545%
4	Ballard County Schools	-	1,529,191	1,529,191	0.0000%	0.1489%	0.1489%
5	Barren County Schools	-	6,658,569	6,658,569	0.0000%	0.6485%	0.6485%
6	Bath County Schools	-	2,430,649	2,430,649	0.0000%	0.2367%	0.2367%
7	Bell County Schools	-	3,150,343	3,150,343	0.0000%	0.3068%	0.3068%
8	Boone County Schools	-	32,349,695	32,349,695	0.0000%	3.1506%	3.1506%
9	Bourbon County Schools	-	3,481,762	3,481,762	0.0000%	0.3391%	0.3391%
10	Boyd County Schools	-	4,606,642	4,606,642	0.0000%	0.4486%	0.4486%
11	Boyle County Schools	-	4,427,115	4,427,115	0.0000%	0.4312%	0.4312%
12	Bracken County Schools	-	1,641,876	1,641,876	0.0000%	0.1599%	0.1599%
13	Breathitt County Schools	-	2,375,369	2,375,369	0.0000%	0.2313%	0.2313%
14	Breckinridge County Schools	-	3,462,864	3,462,864	0.0000%	0.3373%	0.3373%
15	Bullitt County Schools	-	18,650,159	18,650,159	0.0000%	1.8164%	1.8164%
16	Butler County Schools	-	2,686,610	2,686,610	0.0000%	0.2617%	0.2617%
17	Caldwell County Schools	-	2,376,168	2,376,168	0.0000%	0.2314%	0.2314%
18	Calloway County Schools	-	3,934,770	3,934,770	0.0000%	0.3832%	0.3832%
19	Campbell County Schools	-	7,224,652	7,224,652	0.0000%	0.7036%	0.7036%
20	Carlisle County Schools	-	1,123,666	1,123,666	0.0000%	0.1094%	0.1094%
21	Carroll County Schools	-	2,937,324	2,937,324	0.0000%	0.2861%	0.2861%
22	Carter County Schools	-	5,411,445	5,411,445	0.0000%	0.5270%	0.5270%
23	Casey County Schools	-	2,900,189	2,900,189	0.0000%	0.2825%	0.2825%
24	Christian County Schools	-	10,427,531	10,427,531	0.0000%	1.0155%	1.0155%
25	Clark County Schools	-	7,476,134	7,476,134	0.0000%	0.7281%	0.7281%
26	Clay County Schools	-	4,114,985	4,114,985	0.0000%	0.4008%	0.4008%
27	Clinton County Schools	-	2,263,578	2,263,578	0.0000%	0.2205%	0.2205%
28	Crittenden County Schools	-	1,636,601	1,636,601	0.0000%	0.1594%	0.1594%
29	Cumberland County Schools	-	1,239,205	1,239,205	0.0000%	0.1207%	0.1207%



SCHEDULE A (continued)

Code	Local School Districts and Educational Cooperatives	Contributions			Allocation Percentage		
		Employer	State	Total	Employer	State	Total
30	Daviess County Schools	-	16,440,617	16,440,617	0.0000%	1.6012%	1.6012%
31	Edmonson County Schools	-	2,414,369	2,414,369	0.0000%	0.2351%	0.2351%
32	Elliott County Schools	-	1,374,228	1,374,228	0.0000%	0.1338%	0.1338%
33	Estill County Schools	-	2,960,398	2,960,398	0.0000%	0.2883%	0.2883%
34	Fayette County Schools	-	77,201,469	77,201,469	0.0000%	7.5187%	7.5187%
35	Fleming County Schools	-	2,951,794	2,951,794	0.0000%	0.2875%	0.2875%
36	Floyd County Schools	-	7,374,983	7,374,983	0.0000%	0.7183%	0.7183%
37	Franklin County Schools	-	8,861,940	8,861,940	0.0000%	0.8631%	0.8631%
38	Fulton County Schools	-	852,737	852,737	0.0000%	0.0830%	0.0830%
39	Gallatin County Schools	-	2,251,749	2,251,749	0.0000%	0.2193%	0.2193%
40	Garrard County Schools	-	3,392,795	3,392,795	0.0000%	0.3304%	0.3304%
41	Grant County Schools	-	4,627,503	4,627,503	0.0000%	0.4507%	0.4507%
42	Graves County Schools	-	5,599,146	5,599,146	0.0000%	0.5453%	0.5453%
43	Grayson County Schools	-	5,294,044	5,294,044	0.0000%	0.5156%	0.5156%
44	Green County Schools	-	2,140,707	2,140,707	0.0000%	0.2085%	0.2085%
45	Greenup County Schools	-	3,718,330	3,718,330	0.0000%	0.3621%	0.3621%
46	Hancock County Schools	-	2,447,947	2,447,947	0.0000%	0.2384%	0.2384%
47	Hardin County Schools	-	20,600,898	20,600,898	0.0000%	2.0063%	2.0063%
48	Harlan County Schools	-	4,419,530	4,419,530	0.0000%	0.4304%	0.4304%
49	Harrison County Schools	-	3,669,515	3,669,515	0.0000%	0.3574%	0.3574%
50	Hart County Schools	-	3,396,971	3,396,971	0.0000%	0.3308%	0.3308%
51	Henderson County Schools	-	10,014,474	10,014,474	0.0000%	0.9753%	0.9753%
52	Henry County Schools	-	2,931,367	2,931,367	0.0000%	0.2855%	0.2855%
53	Hickman County Schools	-	1,155,504	1,155,504	0.0000%	0.1125%	0.1125%
54	Hopkins County Schools	-	8,740,404	8,740,404	0.0000%	0.8512%	0.8512%
55	Jackson County Schools	-	3,034,177	3,034,177	0.0000%	0.2955%	0.2955%
56	Jefferson County Schools	-	200,449,299	200,449,299	0.0000%	19.5216%	19.5216%
57	Jessamine County Schools	-	11,483,330	11,483,330	0.0000%	1.1184%	1.1184%
58	Johnson County Schools	-	4,922,138	4,922,138	0.0000%	0.4794%	0.4794%



SCHEDULE A (continued)

Code	Local School Districts and Educational Cooperatives	Contributions			Allocation Percentage		
		Employer	State	Total	Employer	State	Total
59	Kenton County Schools	-	20,143,809	20,143,809	0.0000%	1.9618%	1.9618%
60	Knott Counts Schools	-	2,959,983	2,959,983	0.0000%	0.2883%	0.2883%
61	Knox County Schools	-	5,763,720	5,763,720	0.0000%	0.5613%	0.5613%
62	Larue County Schools	-	3,329,734	3,329,734	0.0000%	0.3243%	0.3243%
63	Laurel County Schools	-	11,657,133	11,657,133	0.0000%	1.1353%	1.1353%
64	Lawrence County Schools	-	3,326,735	3,326,735	0.0000%	0.3240%	0.3240%
65	Lee County Schools	-	1,032,781	1,032,781	0.0000%	0.1006%	0.1006%
66	Leslie County Schools	-	2,210,882	2,210,882	0.0000%	0.2153%	0.2153%
67	Letcher County Schools	-	4,181,099	4,181,099	0.0000%	0.4072%	0.4072%
68	Lewis County Schools	-	2,775,341	2,775,341	0.0000%	0.2703%	0.2703%
69	Lincoln County Schools	-	4,502,141	4,502,141	0.0000%	0.4385%	0.4385%
70	Livingston County Schools	-	1,703,194	1,703,194	0.0000%	0.1659%	0.1659%
71	Logan County Schools	-	4,644,737	4,644,737	0.0000%	0.4524%	0.4524%
72	Lyon County Schools	-	1,125,503	1,125,503	0.0000%	0.1096%	0.1096%
73	Madison County Schools	-	14,367,231	14,367,231	0.0000%	1.3992%	1.3992%
74	Magoffin County Schools	-	2,614,237	2,614,237	0.0000%	0.2546%	0.2546%
75	Marion County Schools	-	4,789,000	4,789,000	0.0000%	0.4664%	0.4664%
76	Marshall County Schools	-	6,680,178	6,680,178	0.0000%	0.6506%	0.6506%
77	Martin County Schools	-	2,239,401	2,239,401	0.0000%	0.2181%	0.2181%
78	Mason County Schools	-	3,839,868	3,839,868	0.0000%	0.3740%	0.3740%
79	McCracken County Schools	-	9,784,487	9,784,487	0.0000%	0.9529%	0.9529%
80	McCreary County Schools	-	3,456,510	3,456,510	0.0000%	0.3366%	0.3366%
81	McLean County Schools	-	2,140,413	2,140,413	0.0000%	0.2085%	0.2085%
82	Meade County Schools	-	6,132,603	6,132,603	0.0000%	0.5973%	0.5973%
83	Menifee County Schools	-	1,275,348	1,275,348	0.0000%	0.1242%	0.1242%
84	Mercer County Schools	-	4,046,976	4,046,976	0.0000%	0.3941%	0.3941%
85	Metcalf County Schools	-	1,733,437	1,733,437	0.0000%	0.1688%	0.1688%
86	Monroe County Schools	-	2,541,426	2,541,426	0.0000%	0.2475%	0.2475%
87	Montgomery County Schools	-	5,765,058	5,765,058	0.0000%	0.5615%	0.5615%



SCHEDULE A (continued)

Code	Local School Districts and Educational Cooperatives	Contributions			Allocation Percentage		
		Employer	State	Total	Employer	State	Total
88	Morgan County Schools	-	2,427,974	2,427,974	0.0000%	0.2365%	0.2365%
89	Muhlenberg County Schools	-	6,359,916	6,359,916	0.0000%	0.6194%	0.6194%
90	Nelson County Schools	-	6,376,306	6,376,306	0.0000%	0.6210%	0.6210%
91	Nicholas County Schools	-	1,283,479	1,283,479	0.0000%	0.1250%	0.1250%
92	Ohio County Schools	-	4,998,418	4,998,418	0.0000%	0.4868%	0.4868%
93	Oldham County Schools	-	18,233,799	18,233,799	0.0000%	1.7758%	1.7758%
94	Owen County Schools	-	2,232,794	2,232,794	0.0000%	0.2175%	0.2175%
95	Owsley County Schools	-	860,099	860,099	0.0000%	0.0838%	0.0838%
96	Pendleton County Schools	-	2,859,500	2,859,500	0.0000%	0.2785%	0.2785%
97	Perry County Schools	-	4,711,918	4,711,918	0.0000%	0.4589%	0.4589%
98	Pike County Schools	-	11,010,813	11,010,813	0.0000%	1.0724%	1.0724%
99	Powell County Schools	-	2,891,948	2,891,948	0.0000%	0.2817%	0.2817%
100	Pulaski County Schools	-	10,274,741	10,274,741	0.0000%	1.0007%	1.0007%
101	Robertson County Schools	-	508,831	508,831	0.0000%	0.0496%	0.0496%
102	Rockcastle County Schools	-	3,903,793	3,903,793	0.0000%	0.3802%	0.3802%
103	Rowan County Schools	-	3,962,269	3,962,269	0.0000%	0.3859%	0.3859%
104	Russell County Schools	-	3,858,437	3,858,437	0.0000%	0.3758%	0.3758%
105	Scott County Schools	-	12,270,424	12,270,424	0.0000%	1.1950%	1.1950%
106	Shelby County Schools	-	10,523,841	10,523,841	0.0000%	1.0249%	1.0249%
107	Simpson County Schools	-	4,201,834	4,201,834	0.0000%	0.4092%	0.4092%
108	Spencer County Schools	-	3,900,935	3,900,935	0.0000%	0.3799%	0.3799%
109	Taylor County Schools	-	3,263,738	3,263,738	0.0000%	0.3179%	0.3179%
110	Todd County Schools	-	2,304,170	2,304,170	0.0000%	0.2244%	0.2244%
111	Trigg County Schools	-	2,946,504	2,946,504	0.0000%	0.2870%	0.2870%
112	Trimble County Schools	-	1,574,689	1,574,689	0.0000%	0.1534%	0.1534%
113	Union County Schools	-	3,000,538	3,000,538	0.0000%	0.2922%	0.2922%
114	Warren County Schools	-	20,497,255	20,497,255	0.0000%	1.9963%	1.9963%
115	Washington County Schools	-	2,408,137	2,408,137	0.0000%	0.2345%	0.2345%
116	Wayne County Schools	-	4,053,338	4,053,338	0.0000%	0.3948%	0.3948%



SCHEDULE A (continued)

Code	Local School Districts and Educational Cooperatives	Contributions			Allocation Percentage		
		Employer	State	Total	Employer	State	Total
117	Webster County Schools	-	2,795,004	2,795,004	0.0000%	0.2722%	0.2722%
118	Whitley County Schools	-	5,951,694	5,951,694	0.0000%	0.5796%	0.5796%
119	Wolfe County Schools	-	1,932,585	1,932,585	0.0000%	0.1882%	0.1882%
120	Woodford County Schools	-	5,659,216	5,659,216	0.0000%	0.5512%	0.5512%
122	Anchorage City Schools	-	1,122,021	1,122,021	0.0000%	0.1093%	0.1093%
124	Ashland City Schools	-	4,691,431	4,691,431	0.0000%	0.4569%	0.4569%
125	Augusta City Schools	-	457,480	457,480	0.0000%	0.0446%	0.0446%
126	Barbourville City Schools	-	983,011	983,011	0.0000%	0.0957%	0.0957%
127	Bardstown City Schools	-	4,405,907	4,405,907	0.0000%	0.4291%	0.4291%
128	Beechwood Independent Schools	-	2,140,482	2,140,482	0.0000%	0.2085%	0.2085%
129	Bellevue City Schools	-	1,122,851	1,122,851	0.0000%	0.1094%	0.1094%
131	Berea City Schools	-	1,730,347	1,730,347	0.0000%	0.1685%	0.1685%
134	Bowling Green City Schools	-	6,203,349	6,203,349	0.0000%	0.6042%	0.6042%
136	Burgin City Schools	-	718,096	718,096	0.0000%	0.0699%	0.0699%
140	Campbellsville City Schools	-	1,725,742	1,725,742	0.0000%	0.1681%	0.1681%
144	Caverna City Schools	-	1,081,164	1,081,164	0.0000%	0.1053%	0.1053%
147	Cloverport City Schools	-	487,024	487,024	0.0000%	0.0474%	0.0474%
150	Corbin City Schools	-	3,902,900	3,902,900	0.0000%	0.3801%	0.3801%
151	Covington City Schools	-	6,666,852	6,666,852	0.0000%	0.6493%	0.6493%
154	Danville City Schools	-	3,688,195	3,688,195	0.0000%	0.3592%	0.3592%
155	Dawson Springs City Schools	-	887,096	887,096	0.0000%	0.0864%	0.0864%
156	Dayton City Schools	-	1,367,684	1,367,684	0.0000%	0.1332%	0.1332%
158	East Bernstadt City Schools	-	680,598	680,598	0.0000%	0.0663%	0.0663%
160	Elizabethtown City Schools	-	3,682,560	3,682,560	0.0000%	0.3586%	0.3586%
161	Eminence Independent Schools	-	1,290,992	1,290,992	0.0000%	0.1257%	0.1257%
162	Erlanger-Elsmere City Schools	-	3,561,786	3,561,786	0.0000%	0.3469%	0.3469%
163	Fairview Independent Schools	-	868,080	868,080	0.0000%	0.0845%	0.0845%
166	Fort Thomas Independent Schools	-	4,968,170	4,968,170	0.0000%	0.4839%	0.4839%
167	Frankfort City Schools	-	1,504,670	1,504,670	0.0000%	0.1465%	0.1465%



SCHEDULE A (continued)

Code	Local School Districts and Educational Cooperatives	Contributions			Allocation Percentage		
		Employer	State	Total	Employer	State	Total
170	Fulton City Schools	-	569,711	569,711	0.0000%	0.0555%	0.0555%
173	Glasgow City Schools	-	3,315,708	3,315,708	0.0000%	0.3229%	0.3229%
180	Harlan City Schools	-	942,727	942,727	0.0000%	0.0918%	0.0918%
182	Hazard Independent Schools	-	1,447,319	1,447,319	0.0000%	0.1410%	0.1410%
190	Jackson City Schools	-	351,265	351,265	0.0000%	0.0342%	0.0342%
191	Jenkins City Schools	-	667,571	667,571	0.0000%	0.0650%	0.0650%
206	Ludlow City Schools	-	1,280,130	1,280,130	0.0000%	0.1247%	0.1247%
210	Mayfield City Schools	-	2,285,826	2,285,826	0.0000%	0.2226%	0.2226%
214	Middlesboro City Schools	-	1,624,540	1,624,540	0.0000%	0.1582%	0.1582%
221	Murray City Schools	-	2,395,576	2,395,576	0.0000%	0.2333%	0.2333%
222	Newport City Schools	-	2,862,202	2,862,202	0.0000%	0.2788%	0.2788%
224	Owensboro City Schools	-	8,120,628	8,120,628	0.0000%	0.7909%	0.7909%
226	Paducah City Schools	-	4,312,012	4,312,012	0.0000%	0.4200%	0.4200%
227	Paintsville City Schools	-	1,294,897	1,294,897	0.0000%	0.1261%	0.1261%
228	Paris City Schools	-	974,292	974,292	0.0000%	0.0949%	0.0949%
230	Pikeville City Schools	-	2,143,653	2,143,653	0.0000%	0.2088%	0.2088%
231	Pineville City Schools	-	700,891	700,891	0.0000%	0.0683%	0.0683%
235	Raceland City Schools	-	1,388,967	1,388,967	0.0000%	0.1353%	0.1353%
238	Russell City Schools	-	3,327,279	3,327,279	0.0000%	0.3240%	0.3240%
239	Russellville City Schools	-	1,398,557	1,398,557	0.0000%	0.1362%	0.1362%
240	Science Hill City Schools	-	561,366	561,366	0.0000%	0.0547%	0.0547%
245	Silver Grove City Schools	-	378,057	378,057	0.0000%	0.0368%	0.0368%
246	Somerset City Schools	-	2,411,073	2,411,073	0.0000%	0.2348%	0.2348%
247	Southgate City Schools	-	398,193	398,193	0.0000%	0.0388%	0.0388%
258	Walton-Verona Independent Schools	-	2,539,545	2,539,545	0.0000%	0.2473%	0.2473%
259	West Point City Schools	-	194,063	194,063	0.0000%	0.0189%	0.0189%
260	Williamsburg City Schools	-	1,078,097	1,078,097	0.0000%	0.1050%	0.1050%
261	Williamstown City Schools	-	1,009,044	1,009,044	0.0000%	0.0983%	0.0983%
870	Ohio Valley Educational Cooperative	-	654,772	654,772	0.0000%	0.0638%	0.0638%



SCHEDULE A (continued)

Code	Local School Districts and Educational Cooperatives	Contributions			Allocation Percentage		
		Employer	State	Total	Employer	State	Total
871	West Kentucky Educational Cooperative	-	359,638	359,638	0.0000%	0.0350%	0.0350%
872	Southeast South-Central Educational Cooperative	-	101,740	101,740	0.0000%	0.0099%	0.0099%
890	Green River Regional Educational Cooperative	-	267,678	267,678	0.0000%	0.0261%	0.0261%
891	Central KY Special Education Cooperative	-	150,309	150,309	0.0000%	0.0146%	0.0146%
892	KY Valley Educational Cooperative	-	89,228	89,228	0.0000%	0.0087%	0.0087%
894	KY Educational Development Corporation	-	554,415	554,415	0.0000%	0.0540%	0.0540%
895	Northern KY Cooperative for Educational Services	-	468,781	468,781	0.0000%	0.0457%	0.0457%
		\$ -	\$ 1,004,466,632	1,004,466,632	0.0000%	97.8262%	97.8262%
	Total Non-University Contributions	8,979,469	1,017,807,931	1,026,787,400	0.8745%	99.1255%	100.0000%



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, 2019

					Deferred Outflows of Resources							
					June 30, 2019			Difference	Net Difference Between Projected and Actual	Change of Assumptions	Changes in Proportion and Differences Between Employer	Total
		Code	Employer	Proportionate Share of Net Pension Liability	Proportionate Share of Net Pension Liability	Total Net Pension Liability	Between Expected and Actual Experience	Investment Earnings on Pension Plan Investments		Contributions and Proportionate Share of Contributions	Deferred Outflows of Resources	
<u>University Employers</u>												
263	Eastern Kentucky University	\$ 86,450,077	\$ 93,677,114	\$ 180,127,191	\$ 257,727	\$ -	\$ 7,326,722	\$ 4,359,228	\$ 11,943,677			
266	Kentucky State University	22,158,930	24,011,362	46,170,292	66,061	-	1,877,989	2,686,182	4,630,232			
269	Morehead State University	48,065,129	52,083,266	100,148,395	143,293	-	4,073,563	3,096,554	7,313,410			
270	Murray State University	48,827,074	52,908,913	101,735,987	145,564	-	4,138,139	2,649,026	6,932,729			
273	Western Kentucky University	79,900,958	86,580,480	166,481,438	238,202	-	6,771,679	3,840,385	10,850,266			
500	KCTCS Central Office - University	26,977,655	29,232,920	56,210,575	80,426	-	2,286,381	743,621	3,110,428			
	Total University	\$ 312,379,823	\$ 338,494,055	\$ 650,873,878	\$ 931,273	\$ -	\$ 26,474,473	\$ 17,374,996	\$ 44,780,742			

CodeEmployer		Deferred Inflows of Resources										
		Differences Between Expected and Actual Experience		Change of Assumptions	Net Difference Between Projected and Actual 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	Contributions and Proportionate Share of Contributions	Total Pension Expense
<u>University Employers</u>												
263	Eastern Kentucky University	\$ 5,515,285	\$ 46,033,783	\$ 725,202	\$ 52,123,397	\$ 104,397,667	\$ (8,601,265)	\$ (9,320,311)	\$ (17,921,576)	\$ (27,450,878)	\$ (45,372,454)	
266	Kentucky State University	1,413,681	11,799,404	185,884	9,987,269	23,386,238	(2,204,680)	(2,388,987)	(4,593,667)	(6,957,390)	(11,551,057)	
269	Morehead State University	3,066,427	25,594,190	403,203	27,779,939	56,843,759	(4,782,192)	(5,181,973)	(9,964,165)	(15,405,133)	(25,369,298)	
270	Murray State University	3,115,037	25,999,918	409,595	38,407,587	67,932,137	(4,858,001)	(5,264,120)	(10,122,121)	(20,197,917)	(30,320,038)	
273	Western Kentucky University	5,097,468	42,546,445	670,264	73,693,954	122,008,131	(7,949,667)	(8,614,238)	(16,563,905)	(37,619,738)	(54,183,643)	
500	KCTCS Central Office - University	1,721,103	14,365,325	226,307	12,156,121	28,468,856	(2,684,115)	(2,908,500)	(5,592,615)	(9,239,550)	(14,832,165)	
Total University		\$ 19,929,001	\$ 166,339,065	\$ 2,620,455	\$ 214,148,267	\$ 403,036,788	\$ (31,079,920)	\$ (33,678,129)	\$ (64,758,049)	\$ (116,870,606)	\$ (181,628,655)	



SCHEDULE B (continued)

					Deferred Outflows of Resources					
					Difference Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	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						
Code	Employer									
<u>Non-University Employers</u>										
400	KCTCS Central Office	\$ 23,149,384	\$ 34,393,959	\$ 57,543,343	\$ 220,967	\$ -	\$ 1,891,388	\$ -	\$ 2,112,355	
801	KY High School Athletic Association	1,282,537	1,905,659	3,188,196	12,242	-	104,788	96,609	213,639	
805	KY School Boards Association	2,415,399	3,588,648	6,004,047	23,056	-	197,347	204,446	424,849	
806	KY Education Association	316,677	470,582	787,259	3,023	-	25,874	37,800	66,697	
807	KY Academic Association	207,253	308,082	515,335	1,978	-	16,933	2,707	21,618	
809	Jefferson County Teachers' Association	94,417	140,397	234,814	901	-	7,714	4,767	13,382	
	Total - Other Employers	\$ 27,465,667	\$ 40,807,327	\$ 68,272,994	\$ 262,167	\$ -	\$ 2,244,044	\$ 346,329	\$ 2,852,540	

		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	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	
Code	Employer											
<u>Non-University Employers</u>												
400	KCTCS Central Office	\$ 183,425	\$ 13,713,911	\$ 360,185	\$ 35,828,272	\$ 50,085,793	\$ (2,420,101)	\$ (3,595,641)	\$ (6,015,742)	\$ (24,784,578)	\$ (30,800,320)	
801	KY High School Athletic Association	10,162	759,787	19,955	594,822	1,384,726	(134,080)	(199,223)	(333,303)	(410,240)	(743,543)	
805	KY School Boards Association	19,138	1,430,905	37,582	2,277,103	3,764,728	(252,513)	(375,167)	(627,680)	(1,309,833)	(1,937,513)	
806	KY Education Association	2,509	187,603	4,927	255,295	450,334	(33,106)	(49,196)	(82,302)	(154,983)	(237,285)	
807	KY Academic Association	1,642	122,778	3,225	135,800	263,445	(21,666)	(32,208)	(53,874)	(92,601)	(146,475)	
809	Jefferson County Teachers' Association	748	55,933	1,469	61,552	119,702	(9,871)	(14,677)	(24,548)	(39,558)	(64,106)	
	Total - Other Employers	\$ 217,624	\$ 16,270,917	\$ 427,343	\$ 39,152,844	\$ 56,068,728	\$ (2,871,337)	\$ (4,266,112)	\$ (7,137,449)	\$ (26,791,793)	\$ (33,929,242)	



SCHEDULE B (continued)

Code	Employer				Deferred Outflows of Resources				
		June 30, 2019			Difference Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	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	\$ 11,053,013	\$ 16,422,068	\$ 27,475,081	\$ 105,504	\$ -	\$ 903,071	\$ 1,392,838	\$ 2,401,413
302	Technical Education District - Bowling Green	10,826,659	16,085,743	26,912,402	103,343	-	884,577	676,608	1,664,528
303	Technical Education District - Elizabethtown	-	-	-	-	-	-	65,332	65,332
304	Technical Education District - Frankfort	8,215,468	12,206,205	20,421,673	78,419	-	671,233	296,634	1,046,286
305	Technical Education District - Hazard	10,426,617	15,491,410	25,918,027	99,525	-	851,892	572,031	1,523,448
308	Adult Council on Post Secondary Education	560,223	832,285	1,392,508	5,347	-	45,772	-	51,119
316	Office of Career and Technical Education	3,041,523	4,519,033	7,560,556	29,032	-	248,503	1,042,762	1,320,297
317	Office of Secretary of Workforce Investment	132,347	196,610	328,957	1,263	-	10,813	8,627	20,703
318	Department for Vocational Rehabilitation	15,642,449	23,240,799	38,883,248	149,311	-	1,278,044	784,282	2,211,637
320	School for the Blind	4,735,290	7,035,398	11,770,688	45,200	-	386,890	613,100	1,045,190
330	School for the Deaf	3,322,999	4,937,085	8,260,084	31,719	-	271,501	-	303,220
345	Department of Education	22,823,019	33,909,461	56,732,480	217,852	-	1,864,723	571,603	2,654,178
728	Department of Corrections	117,066	173,961	291,027	1,117	-	9,565	19,993	30,675
896	Education Professional Standards Board	957,400	1,422,525	2,379,925	9,139	-	78,223	100,763	188,125
Total - State Agencies		\$ 91,854,073	\$ 136,472,583	\$ 228,326,656	\$ 876,771	\$ -	\$ 7,504,807	\$ 6,144,573	\$ 14,526,151



SCHEDULE B (continued)

		Deferred Inflows of Resources									
				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			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
Code	Employer	Differences Between Expected and Actual Experience	Change of Assumptions				Net Employer Pension Expense	Revenue State Support			
State Agencies											
301	Technical Education District - Madisonville	\$ 87,579	\$ 6,547,908	\$ 171,976	\$ 4,710,133	\$ 11,517,596	\$ (1,155,513)	\$ (1,716,809)	\$ (2,872,322)	\$ (1,335,151)	\$ (4,207,473)
302	Technical Education District - Bowling Green	85,785	6,413,814	168,454	4,789,536	11,457,589	(1,131,849)	(1,681,649)	(2,813,498)	(2,654,435)	(5,467,933)
303	Technical Education District - Elizabethtown	-	-	-	8,218,225	8,218,225	-	-	-	(5,898,078)	(5,898,078)
304	Technical Education District - Frankfort	65,095	4,866,920	127,826	6,792,774	11,852,615	(858,868)	(1,276,071)	(2,134,939)	(5,306,804)	(7,441,743)
305	Technical Education District - Hazard	82,616	6,176,825	162,229	5,175,877	11,597,547	(1,090,028)	(1,619,515)	(2,709,543)	(3,811,220)	(6,520,763)
308	Adult Council on Post Secondary Education	4,439	331,881	8,717	950,119	1,295,156	(58,568)	(87,009)	(145,577)	(642,218)	(787,795)
316	Office of Career and Technical Education	24,100	1,801,827	47,324	2,230,865	4,104,116	(317,970)	(472,432)	(790,402)	430,058	(360,344)
317	Office of Secretary of Workforce Investment	1,049	78,404	2,059	106,526	188,038	(13,836)	(20,554)	(34,390)	(123,825)	(158,215)
318	Department for Vocational Rehabilitation	123,943	9,266,733	243,383	11,774,773	21,408,832	(1,635,306)	(2,429,658)	(4,064,964)	(8,057,943)	(12,122,907)
320	School for the Blind	37,520	2,805,230	73,677	3,800,051	6,716,478	(495,041)	(735,500)	(1,230,541)	(2,372,464)	(3,603,005)
330	School for the Deaf	26,330	1,968,576	51,703	8,079,123	10,125,732	(347,395)	(516,137)	(863,532)	(4,471,536)	(5,335,068)
345	Department of Education	180,839	13,520,570	355,107	18,951,323	33,007,839	(2,385,982)	(3,544,990)	(5,930,972)	(11,741,442)	(17,672,414)
728	Department of Corrections	928	69,351	1,821	85,285	157,385	(12,239)	(18,186)	(30,425)	(68,516)	(98,941)
896	Education Professional Standards Board	7,586	567,173	14,896	2,381,945	2,971,600	(100,089)	(148,715)	(248,804)	(1,054,935)	(1,303,739)
	Total - State Agencies	\$ 727,809	\$ 54,415,212	\$ 1,429,172	\$ 78,046,555	\$ 134,618,748	\$ (9,602,684)	\$ (14,267,225)	\$ (23,869,909)	\$ (47,108,509)	\$ (70,978,418)



SCHEDULE B (continued)

					Deferred Outflows of Resources				
		June 30, 2019			Difference Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	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 Net Pension Liability	Total Net Pension Liability					
Code	Employer								
Local School Districts and Educational Cooperatives									
1	Adair County Schools	\$ -	\$ 42,980,681	\$ 42,980,681					
2	Allen County Schools	-	52,698,765	52,698,765					
3	Anderson County Schools	-	62,010,256	62,010,256					
4	Ballard County Schools	-	20,320,026	20,320,026					
5	Barren County Schools	-	88,479,501	88,479,501					
6	Bath County Schools	-	32,298,649	32,298,649					
7	Bell County Schools	-	41,862,009	41,862,009					
8	Boone County Schools	-	429,864,664	429,864,664					
9	Bourbon County Schools	-	46,265,886	46,265,886					
10	Boyd County Schools	-	61,213,310	61,213,310					
11	Boyle County Schools	-	58,827,791	58,827,791					
12	Bracken County Schools	-	21,817,319	21,817,319					
13	Breathitt County Schools	-	31,564,055	31,564,055					
14	Breckinridge County Schools	-	46,014,700	46,014,700					
15	Bullitt County Schools	-	247,824,359	247,824,359					
16	Butler County Schools	-	35,699,828	35,699,828					
17	Caldwell County Schools	-	31,574,697	31,574,697					
18	Calloway County Schools	-	52,285,488	52,285,488					
19	Campbell County Schools	-	96,001,581	96,001,581					
20	Carlisle County Schools	-	14,931,323	14,931,323					
21	Carroll County Schools	-	39,031,286	39,031,286					
22	Carter County Schools	-	71,907,622	71,907,622					
23	Casey County Schools	-	38,537,918	38,537,918					
24	Christian County Schools	-	138,561,618	138,561,618					
25	Clark County Schools	-	99,343,272	99,343,272					
26	Clay County Schools	-	54,680,148	54,680,148					
27	Clinton County Schools	-	30,078,495	30,078,495					
28	Crittenden County Schools	-	21,747,189	21,747,189					
29	Cumberland County Schools	-	16,466,684	16,466,684					
30	Daviess County Schools	-	218,463,948	218,463,948					
31	Edmonson County Schools	-	32,082,255	32,082,255					
32	Elliott County Schools	-	18,260,871	18,260,871					
33	Estill County Schools	-	39,338,003	39,338,003					
34	Fayette County Schools	-	1,025,857,579	1,025,857,579					
35	Fleming County Schools	-	39,223,666	39,223,666					
36	Floyd County Schools	-	97,999,201	97,999,201					
37	Franklin County Schools	-	117,757,912	117,757,912					
38	Fulton County Schools	-	11,331,215	11,331,215					
39	Gallatin County Schools	-	29,921,316	29,921,316					
40	Garrard County Schools	-	45,083,633	45,083,633					



SCHEDULE B (continued)

Code	Employer	June 30, 2019			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	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	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	-	61,490,556	61,490,556					
42	Graves County Schools	-	74,401,747	74,401,747					
43	Grayson County Schools	-	70,347,566	70,347,566					
44	Green County Schools	-	28,445,853	28,445,853					
45	Greenup County Schools	-	49,409,330	49,409,330					
46	Hancock County Schools	-	32,528,414	32,528,414					
47	Hardin County Schools	-	273,745,933	273,745,933					
48	Harlan County Schools	-	58,726,962	58,726,962					
49	Harrison County Schools	-	48,760,694	48,760,694					
50	Hart County Schools	-	45,139,164	45,139,164					
51	Henderson County Schools	-	133,072,905	133,072,905					
52	Henry County Schools	-	38,952,151	38,952,151					
53	Hickman County Schools	-	15,354,424	15,354,424					
54	Hopkins County Schools	-	116,143,007	116,143,007					
55	Jackson County Schools	-	40,318,325	40,318,325					
56	Jefferson County Schools	-	2,663,581,788	2,663,581,788					
57	Jessamine County Schools	-	152,591,208	152,591,208					
58	Johnson County Schools	-	65,405,705	65,405,705					
59	Kenton County Schools	-	267,672,165	267,672,165					
60	Knott County Schools	-	39,332,409	39,332,409					
61	Knox County Schools	-	76,588,609	76,588,609					
62	Larue County Schools	-	44,245,754	44,245,754					
63	Laurel County Schools	-	154,900,730	154,900,730					
64	Lawrence County Schools	-	44,205,914	44,205,914					
65	Lee County Schools	-	13,723,692	13,723,692					
66	Leslie County Schools	-	29,378,285	29,378,285					
67	Letcher County Schools	-	55,558,686	55,558,686					
68	Lewis County Schools	-	36,878,943	36,878,943					
69	Lincoln County Schools	-	59,824,759	59,824,759					
70	Livingston County Schools	-	22,632,140	22,632,140					
71	Logan County Schools	-	61,719,503	61,719,503					
72	Lyon County Schools	-	14,955,746	14,955,746					
73	Madison County Schools	-	190,912,596	190,912,596					
74	Maggoffin County Schools	-	34,738,198	34,738,198					
75	Marion County Schools	-	63,636,486	63,636,486					
76	Marshall County Schools	-	88,766,571	88,766,571					
77	Martin County Schools	-	29,757,315	29,757,315					
78	Mason County Schools	-	51,024,372	51,024,372					
79	McCracken County Schools	-	130,016,783	130,016,783					
80	McCreary County Schools	-	45,930,244	45,930,244					



SCHEDULE B (continued)

Code	Employer	June 30, 2019			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	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	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	-	28,441,896	28,441,896					
82	Meade County Schools	-	81,490,357	81,490,357					
83	Menifee County Schools	-	16,946,953	16,946,953					
84	Mercer County Schools	-	53,776,505	53,776,505					
85	Metcalfe County Schools	-	23,033,956	23,033,956					
86	Monroe County Schools	-	33,770,565	33,770,565					
87	Montgomery County Schools	-	76,606,483	76,606,483					
88	Morgan County Schools	-	32,263,038	32,263,038					
89	Muhlenberg County Schools	-	84,510,868	84,510,868					
90	Nelson County Schools	-	84,728,763	84,728,763					
91	Nicholas County Schools	-	17,054,877	17,054,877					
92	Ohio County Schools	-	66,419,319	66,419,319					
93	Oldham County Schools	-	242,291,849	242,291,849					
94	Owen County Schools	-	29,669,448	29,669,448					
95	Owsley County Schools	-	11,429,042	11,429,042					
96	Pendleton County Schools	-	37,997,206	37,997,206					
97	Perry County Schools	-	62,612,230	62,612,230					
98	Pike County Schools	-	146,312,371	146,312,371					
99	Powell County Schools	-	38,428,357	38,428,357					
100	Pulaski County Schools	-	136,531,389	136,531,389					
101	Robertson County Schools	-	6,761,426	6,761,426					
102	Rockcastle County Schools	-	51,873,848	51,873,848					
103	Rowan County Schools	-	52,650,874	52,650,874					
104	Russell County Schools	-	51,271,192	51,271,192					
105	Scott County Schools	-	163,050,162	163,050,162					
106	Shelby County Schools	-	139,841,426	139,841,426					
107	Simpson County Schools	-	55,834,158	55,834,158					
108	Spencer County Schools	-	51,835,917	51,835,917					
109	Taylor County Schools	-	43,368,717	43,368,717					
110	Todd County Schools	-	30,617,979	30,617,979					
111	Trigg County Schools	-	39,153,263	39,153,263					
112	Trimble County Schools	-	20,924,592	20,924,592					
113	Union County Schools	-	39,871,348	39,871,348					
114	Warren County Schools	-	272,368,707	272,368,707					
115	Washington County Schools	-	31,999,436	31,999,436					
116	Wayne County Schools	-	53,860,962	53,860,962					
117	Webster County Schools	-	37,140,226	37,140,226					
118	Whitley County Schools	-	79,086,418	79,086,418					
119	Wolfe County Schools	-	25,680,348	25,680,348					
120	Woodford County Schools	-	75,200,058	75,200,058					



SCHEDULE B (continued)

Code	Employer	June 30, 2019			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	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Change of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources
122	Anchorage City Schools	-	14,909,493	14,909,493					
124	Ashland City Schools	-	62,340,032	62,340,032					
125	Augusta City Schools	-	6,079,089	6,079,089					
126	Barbourville City Schools	-	13,062,367	13,062,367					
127	Bardstown City Schools	-	58,545,906	58,545,906					
128	Beechwood Independent Schools	-	28,442,851	28,442,851					
129	Bellevue City Schools	-	14,920,545	14,920,545					
131	Berea City Schools	-	22,992,887	22,992,887					
134	Bowling Green City Schools	-	82,430,429	82,430,429					
136	Burgin City Schools	-	9,542,076	9,542,076					
140	Campbellsville City Schools	-	22,931,762	22,931,762					
144	Caverna City Schools	-	14,366,598	14,366,598					
147	Cloverport City Schools	-	6,471,627	6,471,627					
150	Corbin City Schools	-	51,861,977	51,861,977					
151	Covington City Schools	-	88,589,472	88,589,472					
154	Danville City Schools	-	49,009,015	49,009,015					
155	Dawson Springs City Schools	-	11,787,743	11,787,743					
156	Dayton City Schools	-	18,173,823	18,173,823					
158	East Bernstadt City Schools	-	9,043,796	9,043,796					
160	Elizabethtown City Schools	-	48,934,109	48,934,109					
161	Eminence Independent Schools	-	17,154,752	17,154,752					
162	Erlanger-Elsmere City Schools	-	47,329,164	47,329,164					
163	Fairview Independent Schools	-	11,535,056	11,535,056					
166	Fort Thomas Independent Schools	-	66,017,366	66,017,366					
167	Frankfort City Schools	-	19,994,207	19,994,207					
170	Fulton City Schools	-	7,570,380	7,570,380					
173	Glasgow City Schools	-	44,059,377	44,059,377					
180	Harlan City Schools	-	12,526,976	12,526,976					
182	Hazard Independent Schools	-	19,232,052	19,232,052					
190	Jackson City Schools	-	4,667,616	4,667,616					
191	Jenkins City Schools	-	8,870,790	8,870,790					
206	Ludlow City Schools	-	17,010,398	17,010,398					
210	Mayfield City Schools	-	30,374,161	30,374,161					
214	Middlesboro City Schools	-	21,587,009	21,587,009					
221	Murray City Schools	-	31,832,569	31,832,569					
222	Newport City Schools	-	38,033,090	38,033,090					
224	Owensboro City Schools	-	107,907,345	107,907,345					
226	Paducah City Schools	-	57,298,297	57,298,297					
227	Paintsville City Schools	-	17,206,735	17,206,735					
228	Paris City Schools	-	12,946,393	12,946,393					



SCHEDULE B (continued)

Code	Employer	June 30, 2019			Deferred Outflows of Resources				
		Employer's	State's	Total	Difference Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	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	-	28,485,011	28,485,011					
231	Pineville City Schools	-	9,313,538	9,313,538					
235	Raceland City Schools	-	18,456,663	18,456,663					
238	Russell City Schools	-	44,213,145	44,213,145					
239	Russellville City Schools	-	18,584,098	18,584,098					
240	Science Hill City Schools	-	7,459,454	7,459,454					
245	Silver Grove City Schools	-	5,023,588	5,023,588					
246	Somerset City Schools	-	32,038,457	32,038,457					
247	Southgate City Schools	-	5,291,147	5,291,147					
258	Walton-Verona Independent Schools	-	33,745,596	33,745,596					
259	West Point City Schools	-	2,578,718	2,578,718					
260	Williamsburg City Schools	-	14,325,802	14,325,802					
261	Williamstown City Schools	-	13,408,243	13,408,243					
870	Ohio Valley Educational Cooperative	-	8,700,649	8,700,649					
871	West Kentucky Educational Cooperative	-	4,778,951	4,778,951					
872	Southeast South-Central Educational Cooperative	-	1,351,985	1,351,985					
890	Green River Regional Educational Cooperative	-	3,556,857	3,556,857					
891	Central KY Special Education Cooperative	-	1,997,347	1,997,347					
892	KY Valley Educational Cooperative	-	1,185,665	1,185,665					
894	KY Educational Development Corporation	-	7,367,084	7,367,084					
895	Northern KY Cooperative for Educational Services	-	6,229,173	6,229,173					
	Total - Local School Districts	\$ -	\$ 13,347,411,381	\$ 13,347,411,381					
	Total Non University	\$ 119,319,740	\$ 13,524,691,291	\$ 13,644,011,031	\$ 1,138,938		\$ 9,748,851	\$ 6,490,902	\$ 17,378,691
	State's Proportionate Share of Outflow s/Inflow s				\$ 130,106,025	\$ -	\$ 1,133,703,633	\$ 321,665,425	\$ 1,585,475,083



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 Pension Plan Expense	Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of	Total Pension Expense
<u>Local School Districts and Educational Cooperatives</u>											
1	Adair County Schools						\$ -	\$ (4,493,321)	\$ (4,493,321)	\$ -	\$ (4,493,321)
2	Allen County Schools						-	(5,509,277)	(5,509,277)	-	(5,509,277)
3	Anderson County Schools						-	(6,482,726)	(6,482,726)	-	(6,482,726)
4	Ballard County Schools						-	(2,124,312)	(2,124,312)	-	(2,124,312)
5	Barren County Schools						-	(9,249,895)	(9,249,895)	-	(9,249,895)
6	Bath County Schools						-	(3,376,591)	(3,376,591)	-	(3,376,591)
7	Bell County Schools						-	(4,376,372)	(4,376,372)	-	(4,376,372)
8	Boone County Schools						-	(44,939,256)	(44,939,256)	-	(44,939,256)
9	Bourbon County Schools						-	(4,836,765)	(4,836,765)	-	(4,836,765)
10	Boyd County Schools						-	(6,399,411)	(6,399,411)	-	(6,399,411)
11	Boyle County Schools						-	(6,150,022)	(6,150,022)	-	(6,150,022)
12	Bracken County Schools						-	(2,280,844)	(2,280,844)	-	(2,280,844)
13	Breathitt County Schools						-	(3,299,795)	(3,299,795)	-	(3,299,795)
14	Breckinridge County Schools						-	(4,810,506)	(4,810,506)	-	(4,810,506)
15	Bullitt County Schools						-	(25,908,253)	(25,908,253)	-	(25,908,253)
16	Butler County Schools						-	(3,732,160)	(3,732,160)	-	(3,732,160)
17	Caldwell County Schools						-	(3,300,907)	(3,300,907)	-	(3,300,907)
18	Calloway County Schools						-	(5,466,071)	(5,466,071)	-	(5,466,071)
19	Campbell County Schools						-	(10,036,274)	(10,036,274)	-	(10,036,274)
20	Carlisle County Schools						-	(1,560,962)	(1,560,962)	-	(1,560,962)
21	Carroll County Schools						-	(4,080,440)	(4,080,440)	-	(4,080,440)
22	Carter County Schools						-	(7,517,424)	(7,517,424)	-	(7,517,424)
23	Casey County Schools						-	(4,028,862)	(4,028,862)	-	(4,028,862)
24	Christian County Schools						-	(14,485,620)	(14,485,620)	-	(14,485,620)
25	Clark County Schools						-	(10,385,624)	(10,385,624)	-	(10,385,624)
26	Clay County Schools						-	(5,716,416)	(5,716,416)	-	(5,716,416)
27	Clinton County Schools						-	(3,144,490)	(3,144,490)	-	(3,144,490)
28	Crittenden County Schools						-	(2,273,512)	(2,273,512)	-	(2,273,512)
29	Cumberland County Schools						-	(1,721,473)	(1,721,473)	-	(1,721,473)
30	Daviess County Schools						-	(22,838,833)	(22,838,833)	-	(22,838,833)
31	Edmonson County Schools						-	(3,353,969)	(3,353,969)	-	(3,353,969)
32	Elliott County Schools						-	(1,909,043)	(1,909,043)	-	(1,909,043)
33	Estill County Schools						-	(4,112,505)	(4,112,505)	-	(4,112,505)
34	Fayette County Schools						-	(107,246,025)	(107,246,025)	-	(107,246,025)
35	Fleming County Schools						-	(4,100,552)	(4,100,552)	-	(4,100,552)
36	Floyd County Schools						-	(10,245,111)	(10,245,111)	-	(10,245,111)
37	Franklin County Schools						-	(12,310,742)	(12,310,742)	-	(12,310,742)
38	Fulton County Schools						-	(1,184,597)	(1,184,597)	-	(1,184,597)
39	Gallatin County Schools						-	(3,128,058)	(3,128,058)	-	(3,128,058)
40	Garrard County Schools						-	(4,713,169)	(4,713,169)	-	(4,713,169)



SCHEDULE B (continued)

		Deferred Inflows of Resources									
		Differences Between Expected and Actual Experience		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			
				Change of Assumptions	Share of Contributions	Total Deferred Inflows of Resources	Net Employer Pension Expense	Revenue State Support	Proportionate Share of Plan Pension Expense	Total Pension Expense	
Code	Employer										
41	Grant County Schools						-	(6,428,395)	(6,428,395)	-	(6,428,395)
42	Graves County Schools						-	(7,778,167)	(7,778,167)	-	(7,778,167)
43	Grayson County Schools						-	(7,354,332)	(7,354,332)	-	(7,354,332)
44	Green County Schools						-	(2,973,809)	(2,973,809)	-	(2,973,809)
45	Greenup County Schools						-	(5,165,390)	(5,165,390)	-	(5,165,390)
46	Hancock County Schools						-	(3,400,612)	(3,400,612)	-	(3,400,612)
47	Hardin County Schools						-	(28,618,167)	(28,618,167)	-	(28,618,167)
48	Harlan County Schools						-	(6,139,481)	(6,139,481)	-	(6,139,481)
49	Harrison County Schools						-	(5,097,580)	(5,097,580)	-	(5,097,580)
50	Hart County Schools						-	(4,718,975)	(4,718,975)	-	(4,718,975)
51	Henderson County Schools						-	(13,911,814)	(13,911,814)	-	(13,911,814)
52	Henry County Schools						-	(4,072,167)	(4,072,167)	-	(4,072,167)
53	Hickman County Schools						-	(1,605,195)	(1,605,195)	-	(1,605,195)
54	Hopkins County Schools						-	(12,141,915)	(12,141,915)	-	(12,141,915)
55	Jackson County Schools						-	(4,214,991)	(4,214,991)	-	(4,214,991)
56	Jefferson County Schools						-	(278,458,303)	(278,458,303)	-	(278,458,303)
57	Jessamine County Schools						-	(15,952,312)	(15,952,312)	-	(15,952,312)
58	Johnson County Schools						-	(6,837,696)	(6,837,696)	-	(6,837,696)
59	Kenton County Schools						-	(27,983,198)	(27,983,198)	-	(27,983,198)
60	Knott Counts Schools						-	(4,111,920)	(4,111,920)	-	(4,111,920)
61	Knox County Schools						-	(8,006,788)	(8,006,788)	-	(8,006,788)
62	Larue County Schools						-	(4,625,575)	(4,625,575)	-	(4,625,575)
63	Laurel County Schools						-	(16,193,756)	(16,193,756)	-	(16,193,756)
64	Law rence County Schools						-	(4,621,410)	(4,621,410)	-	(4,621,410)
65	Lee County Schools						-	(1,434,713)	(1,434,713)	-	(1,434,713)
66	Leslie County Schools						-	(3,071,288)	(3,071,288)	-	(3,071,288)
67	Letcher County Schools						-	(5,808,261)	(5,808,261)	-	(5,808,261)
68	Lew is County Schools						-	(3,855,428)	(3,855,428)	-	(3,855,428)
69	Lincoln County Schools						-	(6,254,248)	(6,254,248)	-	(6,254,248)
70	Livingston County Schools						-	(2,366,027)	(2,366,027)	-	(2,366,027)
71	Logan County Schools						-	(6,452,330)	(6,452,330)	-	(6,452,330)
72	Lyon County Schools						-	(1,563,516)	(1,563,516)	-	(1,563,516)
73	Madison County Schools						-	(19,958,538)	(19,958,538)	-	(19,958,538)
74	Magoffin County Schools						-	(3,631,629)	(3,631,629)	-	(3,631,629)
75	Marion County Schools						-	(6,652,737)	(6,652,737)	-	(6,652,737)
76	Marshall County Schools						-	(9,279,906)	(9,279,906)	-	(9,279,906)
77	Martin County Schools						-	(3,110,913)	(3,110,913)	-	(3,110,913)
78	Mason County Schools						-	(5,334,231)	(5,334,231)	-	(5,334,231)
79	McCracken County Schools						-	(13,592,319)	(13,592,319)	-	(13,592,319)
80	McCreary County Schools						-	(4,801,676)	(4,801,676)	-	(4,801,676)



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 Earnings on Pension Plan Investments	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	Employer Contributions and Proportionate Share of	Total Pension Expense
81	McLean County Schools						-	(2,973,396)	(2,973,396)	-	(2,973,396)
82	Meade County Schools						-	(8,519,230)	(8,519,230)	-	(8,519,230)
83	Menifee County Schools						-	(1,771,682)	(1,771,682)	-	(1,771,682)
84	Mercer County Schools						-	(5,621,947)	(5,621,947)	-	(5,621,947)
85	Metcalf County Schools						-	(2,408,034)	(2,408,034)	-	(2,408,034)
86	Monroe County Schools						-	(3,530,469)	(3,530,469)	-	(3,530,469)
87	Montgomery County Schools						-	(8,008,656)	(8,008,656)	-	(8,008,656)
88	Morgan County Schools						-	(3,372,868)	(3,372,868)	-	(3,372,868)
89	Muhlenberg County Schools						-	(8,835,003)	(8,835,003)	-	(8,835,003)
90	Nelson County Schools						-	(8,857,782)	(8,857,782)	-	(8,857,782)
91	Nicholas County Schools						-	(1,782,965)	(1,782,965)	-	(1,782,965)
92	Ohio County Schools						-	(6,943,662)	(6,943,662)	-	(6,943,662)
93	Oldham County Schools						-	(25,329,869)	(25,329,869)	-	(25,329,869)
94	Owen County Schools						-	(3,101,727)	(3,101,727)	-	(3,101,727)
95	Owsley County Schools						-	(1,194,824)	(1,194,824)	-	(1,194,824)
96	Pendleton County Schools						-	(3,972,334)	(3,972,334)	-	(3,972,334)
97	Perry County Schools						-	(6,545,658)	(6,545,658)	-	(6,545,658)
98	Pike County Schools						-	(15,295,905)	(15,295,905)	-	(15,295,905)
99	Powell County Schools						-	(4,017,408)	(4,017,408)	-	(4,017,408)
100	Pulaski County Schools						-	(14,273,374)	(14,273,374)	-	(14,273,374)
101	Robertson County Schools						-	(706,858)	(706,858)	-	(706,858)
102	Rockcastle County Schools						-	(5,423,037)	(5,423,037)	-	(5,423,037)
103	Rowan County Schools						-	(5,504,270)	(5,504,270)	-	(5,504,270)
104	Russell County Schools						-	(5,360,034)	(5,360,034)	-	(5,360,034)
105	Scott County Schools						-	(17,045,721)	(17,045,721)	-	(17,045,721)
106	Shelby County Schools						-	(14,619,414)	(14,619,414)	-	(14,619,414)
107	Simpson County Schools						-	(5,837,059)	(5,837,059)	-	(5,837,059)
108	Spencer County Schools						-	(5,419,072)	(5,419,072)	-	(5,419,072)
109	Taylor County Schools						-	(4,533,887)	(4,533,887)	-	(4,533,887)
110	Todd County Schools						-	(3,200,889)	(3,200,889)	-	(3,200,889)
111	Trigg County Schools						-	(4,093,192)	(4,093,192)	-	(4,093,192)
112	Trimble County Schools						-	(2,187,515)	(2,187,515)	-	(2,187,515)
113	Union County Schools						-	(4,168,262)	(4,168,262)	-	(4,168,262)
114	Warren County Schools						-	(28,474,188)	(28,474,188)	-	(28,474,188)
115	Washington County Schools						-	(3,345,311)	(3,345,311)	-	(3,345,311)
116	Wayne County Schools						-	(5,630,776)	(5,630,776)	-	(5,630,776)
117	Webster County Schools						-	(3,882,743)	(3,882,743)	-	(3,882,743)
118	Whitley County Schools						-	(8,267,916)	(8,267,916)	-	(8,267,916)
119	Wolfe County Schools						-	(2,684,696)	(2,684,696)	-	(2,684,696)
120	Woodford County Schools						-	(7,861,625)	(7,861,625)	-	(7,861,625)



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	Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of	Total Pension Expense
				Investments	Contributions						
122	Anchorage City Schools						-	(1,558,680)	(1,558,680)	-	(1,558,680)
124	Ashland City Schools						-	(6,517,202)	(6,517,202)	-	(6,517,202)
125	Augusta City Schools						-	(635,525)	(635,525)	-	(635,525)
126	Barbourville City Schools						-	(1,365,576)	(1,365,576)	-	(1,365,576)
127	Bardstown City Schools						-	(6,120,553)	(6,120,553)	-	(6,120,553)
128	Beechwood Independent Schools						-	(2,973,495)	(2,973,495)	-	(2,973,495)
129	Bellevue City Schools						-	(1,559,836)	(1,559,836)	-	(1,559,836)
131	Berea City Schools						-	(2,403,741)	(2,403,741)	-	(2,403,741)
134	Bowling Green City Schools						-	(8,617,508)	(8,617,508)	-	(8,617,508)
136	Burgin City Schools						-	(997,555)	(997,555)	-	(997,555)
140	Campbellsville City Schools						-	(2,397,351)	(2,397,351)	-	(2,397,351)
144	Caverna City Schools						-	(1,501,924)	(1,501,924)	-	(1,501,924)
147	Cloverport City Schools						-	(676,562)	(676,562)	-	(676,562)
150	Corbin City Schools						-	(5,421,796)	(5,421,796)	-	(5,421,796)
151	Covington City Schools						-	(9,261,392)	(9,261,392)	-	(9,261,392)
154	Danville City Schools						-	(5,123,540)	(5,123,540)	-	(5,123,540)
155	Dawson Springs City Schools						-	(1,232,324)	(1,232,324)	-	(1,232,324)
156	Dayton City Schools						-	(1,899,942)	(1,899,942)	-	(1,899,942)
158	East Bernstadt City Schools						-	(945,464)	(945,464)	-	(945,464)
160	Elizabethtown City Schools						-	(5,115,709)	(5,115,709)	-	(5,115,709)
161	Eminence Independent Schools						-	(1,793,406)	(1,793,406)	-	(1,793,406)
162	Erlanger-Elsmere City Schools						-	(4,947,923)	(4,947,923)	-	(4,947,923)
163	Fairview Independent Schools						-	(1,205,907)	(1,205,907)	-	(1,205,907)
166	Fort Thomas Independent Schools						-	(6,901,640)	(6,901,640)	-	(6,901,640)
167	Frankfort City Schools						-	(2,090,250)	(2,090,250)	-	(2,090,250)
170	Fulton City Schools						-	(791,429)	(791,429)	-	(791,429)
173	Glasgow City Schools						-	(4,606,091)	(4,606,091)	-	(4,606,091)
180	Harlan City Schools						-	(1,309,605)	(1,309,605)	-	(1,309,605)
182	Hazard Independent Schools						-	(2,010,573)	(2,010,573)	-	(2,010,573)
190	Jackson City Schools						-	(487,966)	(487,966)	-	(487,966)
191	Jenkins City Schools						-	(927,377)	(927,377)	-	(927,377)
206	Ludlow City Schools						-	(1,778,315)	(1,778,315)	-	(1,778,315)
210	Mayfield City Schools						-	(3,175,400)	(3,175,400)	-	(3,175,400)
214	Middlesboro City Schools						-	(2,256,766)	(2,256,766)	-	(2,256,766)
221	Murray City Schools						-	(3,327,866)	(3,327,866)	-	(3,327,866)
222	Newport City Schools						-	(3,976,086)	(3,976,086)	-	(3,976,086)
224	Owensboro City Schools						-	(11,280,936)	(11,280,936)	-	(11,280,936)
226	Paducah City Schools						-	(5,990,125)	(5,990,125)	-	(5,990,125)
227	Paintsville City Schools						-	(1,798,840)	(1,798,840)	-	(1,798,840)
228	Paris City Schools						-	(1,353,452)	(1,353,452)	-	(1,353,452)



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						-	(2,977,903)	(2,977,903)	-	(2,977,903)
231	Pineville City Schools						-	(973,663)	(973,663)	-	(973,663)
235	Raceland City Schools						-	(1,929,511)	(1,929,511)	-	(1,929,511)
238	Russell City Schools						-	(4,622,166)	(4,622,166)	-	(4,622,166)
239	Russellville City Schools						-	(1,942,834)	(1,942,834)	-	(1,942,834)
240	Science Hill City Schools						-	(779,832)	(779,832)	-	(779,832)
245	Silver Grove City Schools						-	(525,180)	(525,180)	-	(525,180)
246	Somerset City Schools						-	(3,349,390)	(3,349,390)	-	(3,349,390)
247	Southgate City Schools						-	(553,151)	(553,151)	-	(553,151)
258	Walton-Verona Independent Schools						-	(3,527,859)	(3,527,859)	-	(3,527,859)
259	West Point City Schools						-	(269,586)	(269,586)	-	(269,586)
260	Williamsburg City Schools						-	(1,497,660)	(1,497,660)	-	(1,497,660)
261	Williamstown City Schools						-	(1,401,735)	(1,401,735)	-	(1,401,735)
870	Ohio Valley Educational Cooperative						-	(909,590)	(909,590)	-	(909,590)
871	West Kentucky Educational Cooperative						-	(499,605)	(499,605)	-	(499,605)
872	Southeast South-Central Educational Cooperative						-	(141,340)	(141,340)	-	(141,340)
890	Green River Regional Educational Cooperative						-	(371,844)	(371,844)	-	(371,844)
891	Central KY Special Education Cooperative						-	(208,808)	(208,808)	-	(208,808)
892	KY Valley Educational Cooperative						-	(123,953)	(123,953)	-	(123,953)
894	KY Educational Development Corporation						-	(770,176)	(770,176)	-	(770,176)
895	Northern KY Cooperative for Educational Services						-	(651,215)	(651,215)	-	(651,215)
Total - Local School Districts							\$ 0	\$ (1,395,375,780)	\$ (1,395,375,780)	\$ -	\$ (1,395,375,780)
Total Non University		\$ 945,433	\$ 70,686,129	\$ 1,856,515	\$ 117,199,399	\$ 190,687,476	\$ (12,474,021)	\$ (1,413,909,117)	\$ (1,426,383,138)	\$ (73,900,302)	\$ (1,500,283,440)
State's Proportionate Share of Outflow s/Inflow s		\$ 128,758,192	\$ 8,192,398,029	\$ 213,272,302	\$ 14,183,640	\$ 8,548,612,163				\$ 190,770,903	



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

CodeEmployer		NPL Sensitivity		Recognition of Existing Deferred Outflows (Inflows) of Resources for Future Plan Years Ending June 30,						
		Less 1%- 6.50% Employer's Proportionate Share of Net Pension Liability	Plus 1%- 8.50% Employer's Proportionate Share of Net Pension Liability							
		2021	2022	2023	2024	2025	Thereafter			
<u>University Employers</u>										
263	Eastern Kentucky University	\$ 110,305,776	\$ 66,261,522	\$ (46,826,604)	\$ (31,705,635)	\$ (12,784,480)	\$ (1,137,271)	\$ -	\$ -	
266	Kentucky State University	28,273,635	16,984,188	(10,264,089)	(6,521,051)	(1,958,510)	(12,356)	-	-	
269	Morehead State University	61,328,590	36,840,552	(25,744,044)	(16,901,749)	(6,426,520)	(458,036)	-	-	
270	Murray State University	62,300,792	37,424,562	(31,099,431)	(20,192,800)	(8,576,819)	(1,130,358)	-	-	
273	Western Kentucky University	101,949,442	61,241,808	(53,896,133)	(36,491,664)	(17,838,075)	(2,931,993)	-	-	
500	KCTCS Central Office - University	34,422,076	20,677,604	(14,428,805)	(8,758,845)	(2,305,688)	134,910	-	-	
	Total University	\$ 398,580,311	\$ 239,430,236	\$ (182,259,106)	\$ (120,571,744)	\$ (49,890,092)	\$ (5,535,104)	\$ -	\$ -	
	State's Proportionate Share of NPL - University	\$ 431,900,704	\$ 259,446,051	\$ 49,462,573	\$ (28,727,942)	\$ (7,963,194)	\$ 9,019,470	\$ -	\$ -	
<u>Non-University Employers</u>										
400	KCTCS CENTRAL OFFICE	\$ 29,559,129	\$ 17,756,394	\$ (27,567,552)	\$ (14,862,885)	\$ (4,928,453)	\$ (614,548)	\$ -	\$ -	
801	KY High School Athletic Association	1,637,654	983,751	(683,861)	(404,511)	(95,511)	12,796	-	-	
805	KY School Boards Association	3,084,190	1,852,696	(1,855,094)	(1,058,958)	(387,710)	(38,117)	-	-	
806	KY Education Association	404,361	242,903	(219,392)	(122,293)	(40,318)	(1,634)	-	-	
807	KY Academic Association	264,638	158,970	(136,410)	(80,002)	(24,836)	(579)	-	-	
809	Jefferson County Teachers' Association	120,559	72,421	(59,456)	(35,123)	(11,391)	(350)	-	-	
		\$ 35,070,531	\$ 21,067,135	\$ (30,521,765)	\$ (16,563,772)	\$ (5,488,219)	\$ (642,432)	\$ -	\$ -	
<u>State Agencies</u>										
301	Technical Education District - Madisonville	\$ 14,113,440	\$ 8,478,051	\$ (4,593,661)	\$ (3,273,718)	\$ (1,208,706)	\$ (40,098)	\$ -	\$ -	
302	Technical Education District - Bowling Green	13,824,411	8,304,429	(5,036,028)	(3,447,397)	(1,266,869)	(42,767)	-	-	
303	Technical Education District - Elizabethtown	-	-	(6,159,412)	(1,984,808)	(8,673)	-	-	-	
304	Technical Education District - Frankfort	10,490,218	6,301,554	(6,208,915)	(3,436,427)	(1,094,895)	(66,092)	-	-	
305	Technical Education District - Hazard	13,313,603	7,997,583	(5,541,911)	(3,420,829)	(1,103,517)	(7,842)	-	-	
308	Adult Council on Post Secondary Education	715,341	429,711	(724,452)	(378,329)	(123,373)	(17,883)	-	-	
316	Office of Career and Technical Education	3,883,679	2,332,955	(1,495,597)	(1,060,366)	(268,732)	40,876	-	-	
317	Office of Secretary of Workforce Investment	168,992	101,515	(99,226)	(50,210)	(16,877)	(1,022)	-	-	
318	Department for Vocational Rehabilitation	19,973,627	11,998,310	(11,570,535)	(6,384,809)	(1,398,631)	156,780	-	-	
320	School for the Blind	6,046,427	3,632,135	(3,334,606)	(1,774,056)	(532,117)	(30,509)	-	-	
330	School for the Deaf	4,243,091	2,548,857	(4,987,915)	(3,002,204)	(1,506,221)	(326,172)	-	-	
345	Department of Education	29,142,398	17,506,061	(16,604,151)	(9,861,966)	(3,562,513)	(325,031)	-	-	
728	Department of Corrections	149,479	89,793	(67,124)	(40,083)	(17,759)	(1,744)	-	-	
896	Education Professional Standards Board	1,222,491	734,360	(1,348,500)	(883,559)	(446,072)	(105,344)	-	-	
		\$ 117,287,197	\$ 70,455,314	\$ (67,772,033)	\$ (38,998,761)	\$ (12,554,955)	\$ (766,848)	\$ -	\$ -	
	State's Proportionate Share of NPL - Non-University	\$ 17,269,491,259	\$ 10,373,915,263	\$ (2,703,127,426)	\$ (3,115,599,843)	\$ (1,248,134,135)	\$ 81,933,417	\$ -	\$ -	



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, 2019. 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

FUNDING POLICY

Introduction

Pursuant to the provisions of KRS 161.250, the Board of Trustees (board) of the Teachers' Retirement System of the State of Kentucky (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 shall control if any inconsistency exists between state law and this policy.

The board's policy is to achieve full funding within specific, closed 30-year periods. The underpinning of this is to request, as a minimum appropriation, amounts consistent with the annual actuarial valuations. The actuary focuses on a long investment horizon to promote cost stability, predictability and equity among current and future taxpayers. This policy, as detailed below for each trust, confirms the board's process for recommending annual appropriations payable and the primary actuarial assumptions and methodologies associated with calculating the annual 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.

Also, the board will provide options for funding the Retirement Annuity Trust that could accelerate the paying of its unfunded liability ahead of the amortization schedule and reduce costs for the state thereafter to the normal cost.

This policy is in keeping with the board's direction for the Investment Committee to continue investing for maximum returns within the parameters of prudent risk.

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

Background

The level of benefits and funding for teachers' pension and health care are mandated in law by the General Assembly. Also, state law requires that the board, as fiduciary, adopt reasonable actuarial assumptions based upon the advice of a qualified independent actuary and other professionals. Additionally, state law mandates that actuarial assumptions be set using rigorous and transparent processes that adhere to recognized actuarial and financial standards. These processes reflect national best practices, including the Government Finance Officers Association's best practice guidelines for valuations, experience studies and actuarial audits.



SCHEDULE F (continued)

TRS evaluates actuarial assumptions (demographic and economic) each year during the actuarial valuation. Several other regular reviews are conducted as well. The return assumptions are reviewed annually by the board's Investment Committee as it evaluates asset allocation. Every five years, the actuary conducts an experience investigation and recommends to the board adjustments to assumptions based upon past trends, current behavior and forecasted experience. TRS also conducts an actuarial audit (an audit of the actuary) at least every 10 years to ensure that assumptions are reasonable and appropriately reflect the cost of the plans. In the investment context, TRS conducts an asset liability modeling study at least every five years — and more often if material changes warrant an updated study. The annual valuation determines the additional required employer contribution that is included in TRS's biennial budget requests.

The amount that the state owes for benefits consists of two components, normal cost and amortization of unfunded liability. The normal cost is included in the statutory payroll contributions made by members, the state and employers. The amortization of the unfunded liability includes the balance of the statutory payroll contributions paid by the state and employers above amounts needed for the normal cost. In addition, TRS requests additional contributions necessary to amortize the unfunded liability. The funding for medical insurance is outlined by statute as a shared responsibility of employees, employers, retirees and the state.

State law requires, and the TRS board uses, a qualified independent actuary that follows the generally accepted actuarial standards of practice. Some factors considered by the actuary include the length of amortization periods; the projected pattern of cash flows; current and projected interest rates and rates of inflation; and historical and projected returns of the funds. The actuary focuses on a long investment horizon to promote cost stability, predictability and equity among current and future taxpayers.

Retirement Annuity Trust Appropriations

KRS 161.714 provides that the retirement benefits promised to members of TRS are “an inviolable contract of the Commonwealth.” To satisfy this solemn commitment, the Commonwealth of Kentucky (state) is required to pay annual retirement appropriations necessary to fund the benefit requirements of retirement system members. 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 — solely is 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 under KRS 161.550.

Beginning in 2019, the state made its full actuarially determined contribution. Prior to that, from fiscal year 2009 through 2018, the state did not pay the full annual retirement appropriations necessary to prefund the benefit requirements of members of the retirement system. Over this period, primarily because of the failure to fund, the state's annual retirement appropriations grew.



SCHEDULE F (continued)

Fiscal Year	Requested Minimum Additional Payment for Unfunded Liability	Appropriated
2009	\$ 60,499,800	\$ 0
2010	82,331,200	0
2011	121,457,000	0
2012	208,649,000	0
2013	260,980,000	0
2014	299,420,000	0
2015	386,400,000	0
2016	487,400,000	0
2017	520,372,000	498,537,600
2018	512,883,000	474,724,700
2019	553,597,000	553,597,000
2020	538,253,000	538,253,000

(Source: TRS Report of the Actuary on the Annual Valuation Prepared as of June 30, 2018)

The board always has acted as required by state law and requested annual retirement appropriations payable by the state that would ensure that the state meets the contractual obligations to members.

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 present the actuarially determined annual retirement appropriations payable by the state, which if paid, are the minimum to meet the benefit requirements of the members of the retirement system, consistent with generally accepted actuarial principles. Based upon technical advice from the board's actuary, the board hereby adopts the following principles for calculating the recommended annual retirement appropriations payable by the state:



SCHEDULE F (continued)

- A. Use the Entry Age Normal actuarial cost method;
- B. Use a five-year asset smoothing method;
- C. Use a 30-year closed period that began fiscal year 2014 to amortize the unfunded liability. This is calculated by the actuary as the minimum dollar amount for the state to pay each year;
- D. Use a 20-year closed period to amortize new sources of unfunded liability (new sources of unfunded liability are the 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
- E. Reach a minimum funded ratio of 100% within the 30-year closed amortization period.

Accelerated Funding Options

In recognition that the state may want to pay off the unfunded liability earlier than the closed amortization period and thereby reduce its costs long-term, the board will provide options for funding over and above the actuarially required minimum. The board will provide the analytical support showing the impact of each of these on the current costs and the potential savings.

Adopted December 16, 2013; amended December 9, 2015, September 19, 2016,
September 18, 2017, November 14, 2017, September 16, 2019