

February 21, 2020

Mr. David Eager
Executive Director
Kentucky Retirement Systems
1260 Louisville Road
Frankfort, KY 40601

Re: Actuarial Analysis of Proposed Pension Reform Legislation HB 171, GA Version (27-year amortization period as of July 1, 2019) and its Financial Impact on the Kentucky Retirement Systems

AA Statement 1 of 1

Dear Mr. Eager:

We have reviewed the proposed changes in the pension reform legislation HB 171, GA Version (27-year amortization period as of July 1, 2019) and the purpose of this letter is to communicate the actuarial analysis of this legislation on the KERS Non-Hazardous retirement and insurance funds.

Provisions of Proposed Legislation

This version of the proposed legislation would change the amortization period for financing the unfunded liability for the KERS non-hazardous retirement and insurance funds from 24 years to 27 years as of June 30, 2019.

Additionally, beginning with the 2020/2021 fiscal year, this proposed legislation would change the method for allocating the contribution requirement related to the amortization of the unfunded actuarial accrued liability among employers from a percentage of payroll to a percentage of each individual employer's percentage of the System's total actuarial accrued liability based on the June 30, 2019 actuarial valuation. Employers would continue contributing a normal cost as a percentage of their employees' covered payroll.

Summary of Cost Impact

The change in the amortization period decreases the employer contribution by \$70 million (retirement and insurance funds combined) for the 2020/2021 fiscal year (or a decrease from 93.01% of pay to 88.15% of pay). However, this contribution savings is offset by the fact that the participating employers will be financing the unfunded actuarial accrued liability an additional three years (i.e. to fiscal year 2045/2046 in the proposed legislation versus fiscal year 2042/2043 in the current plan).

The change to the method of allocating the contribution requirement among employers would have no fiscal impact to the Retirement System as a whole; **however, we believe this legislation will significantly reduce the System's risk of receiving insufficient contributions because employers will no longer be able to reduce their pension cost by reducing their covered payroll. In summary, we believe this legislation (including the change to the 27 year amortization period) will result in improved and sustainable funding policy for the KERS Non-Hazardous System.**

While the proposed legislation reduces the employer contributions to the System in total, the proposed legislation modifies the method for allocating the total contribution requirement to the participating employers in the System from being based on covered payroll to the employer's share of the System's actuarial accrued liability. As a result, each participating employer's contribution requirement could increase or decrease.

Below is a table summarizing the expected magnitude of the change in the contribution requirement by employer type.

**Table 1. Comparison of Contribution Effort for Current and Proposed Method
(\$ in Millions)**

Agency Type	Projected FY 20/21 Payroll	Effective Contribution Rate		Estimated Required Contribution	
		Current	Proposed	Current	Proposed
(1)	(2)	(3)	(4)	(5)	(6)
Health Department	\$93.2	93.01%	90.73%	\$86.7	\$84.6
Non-P1 State Assoc/Corp	27.6	93.01%	57.41%	25.7	15.8
Non-P1 State Agencies	10.1	93.01%	32.34%	9.4	3.3
Reg Mental Health Units	89.7	93.01%	85.62%	83.4	76.8
Universities	104.0	93.01%	71.74%	96.7	74.6
County Attorneys	14.4	93.01%	48.31%	13.4	7.0
Legislative Branch	20.8	93.01%	106.83%	19.4	22.2
Judicial Branch	58.7	93.01%	57.07%	54.6	33.6
Executive Branch	<u>1,019.2</u>	93.01%	93.16%	<u>947.9</u>	<u>949.5</u>
Total for all employers	\$1,437.7	93.01%	88.15%	\$1,337.2	\$1,267.4

Please refer to Exhibits 1. and 2. for the expected fiscal impact of the proposed legislation for the Commonwealth and each individual agency.

Exhibits 3. and 4. provide a 30-year projection of the liability and contribution requirements of the pension and insurance funds under the current plan and the proposed plan, as well as a summary of the fiscal impact of the proposed legislation.

Comments regarding the Proposed Legislation

Amortization Period Change – Increasing the amortization period from 24 years to 27 years as of June 30, 2019 does not change the liability of or the projected benefit payments to be paid from the retirement and insurance funds. Rather it increases the number of years employers are expected to pay for the current unfunded liability, which results in a decrease in the annual contribution requirement.

As we have noted in the 2019 actuarial valuation report, the KERS Non-Hazardous Retirement Fund has \$16.5 billion in liability and only \$2.2 billion in plan assets. Also benefit payments and expenses during fiscal year 2018/2019 totaled \$1.012 billion and the fund is expected to receive \$0.996 billion in employer and member contributions for fiscal year 2019/2020. It is imperative that the Commonwealth maintain or increase the contribution effort for this fund until the financial condition of the fund substantially improves.

The proposed legislation decreases the employer's near-term contribution effort, which may result in some increased risk of plan assets being exhausted. However, we believe this proposed change in the amortization period and contributing the full actuarially determined rate is a more transparent and responsible method for lowering the near-term contribution requirement than other possible methods, such as mandating more optimistic actuarial assumptions (such as increasing the investment return assumption). Additionally, as previously noted, we believe the change in allocation method will significantly reduce the System's risk of receiving insufficient contributions because employers will no longer be able to reduce their pension cost by reducing their covered payroll. In summary, we believe the combination of the use of the proposed 27-year amortization and the fixed allocation method will result in a more sustainable funding outlook compared to the current payroll based contribution method.

Allocation of Contributions to Employers – Currently KRS collects contributions from participating employers based on the employer's total payroll of employees who are earning benefits in KERS (i.e. covered payroll). The actuarially determined contribution rate is comprised of two components - the normal cost rate (to pay for the benefits accruing in the next year) and the unfunded amortization (to pay for the benefits accrued by members in previous years). The unfunded amortization is calculated by first determining the dollar amount necessary to pay for the unfunded liability based on KRS's funding policy and then by dividing that dollar amount by expected covered payroll to convert that contribution requirement to a percentage of payroll (i.e. a contribution rate). Based on the June 30, 2019 actuarial valuation and a 24-year amortization period, the contribution rate for the KERS Non-Hazardous System beginning July 1, 2020 will be 93.01% of pay (pension and insurance) which is comprised of a 10.35% normal cost rate and a 82.66% amortization cost rate.

Under the current plan (24-year amortization period and contribution allocation based on pay), an employer can decrease their pension cost by \$930.10 for every \$1,000 reduction in their reported payroll to the System. Consequently, it is not surprising to see many employers participating in KRS performing deliberate workforce actions to reduce their payroll reported to the System (e.g.

through use of technology improvements, or contractors and outsourcing agencies) in order to reduce their pension cost. The reported payroll and active membership in the KERS Non-Hazardous System has decreased from \$1.732 billion in payroll and 46.6k active members in 2011 to \$1.438 billion in payroll and 33.7k active members in 2019. This is a 17% decrease in covered payroll and a 28% reduction in active membership over the last eight years. This decrease in the covered payroll requires subsequent increases in the unfunded amortization contribution rate in order to maintain the same contribution dollars to the System.

Based on historical employer behavior and the current contribution rates, we believe employers will continue reducing their covered payroll in future years if the current method for collecting contributions on covered payroll remains unchanged, which will result in contribution rates continuing to increase in future years, thereby further increasing employers' incentive to reduce covered payroll. Maintaining the current method poses a significant risk to the KERS Non-Hazardous System of receiving insufficient contributions. This proposed legislation is expected to significantly reduce this risk by reducing employers' ability to control their pension contribution requirement through covered payroll reduction.

Under the proposed legislation, employers would continue contributing a normal cost rate (10.35% of pay) times the payroll of their employees earning benefits in KERS plus an allocated portion of the System's annual amortization cost. The amortization cost will be based on the employer's portion of the System's total actuarial accrued liability based on the June 30, 2019 actuarial valuation. Since the amortization cost is no longer tied to employer payroll, the System would be expected to receive the entire contribution requirement regardless of employer workforce actions to reduce covered payroll. Also, since an employer's allocated portion of the amortization cost is fixed as a percentage of the System's total amortization cost, an employer can increase their payroll without seeing large increases in their pension contributions. In other words, the employers pension cost would increase by \$103.50 for every \$1,000 increase in covered payroll (versus the current \$930.10).

The dollar amount of the employer's amortization cost will increase or decrease from year-to-year, depending the System's liability and investment experience, but is expected to remain relatively level during the duration of the funding period, which would be 27 years as of July 1, 2019 under the proposed legislation. The basis for determining each employer's required amortization cost is a policy decision, but it is relatively easy to reason that this allocation method is fair because the contributions from each employer are more directly linked to the liability attributable to their current and former employees. **However, the change in allocation method will result in a number of employers experiencing a significant increase or decrease in their pension contribution requirement. This could be a significant fiscal budgeting problem for those employers experiencing an increase in pension cost.** Please refer to Exhibit 2. for a list of the expected changes in the contribution requirements for individual employers.

Basis of Calculations

GRS based the calculations and analysis in this letter on the member and financial data provided by KRS for use in performing the actuarial valuation as of June 30, 2019. The projections assume no actuarial gains or losses will occur in the future, and that members will terminate, retire, become disabled, or die as anticipated by the actuarial assumptions used to perform the June 30, 2019 actuarial valuation. The analysis and projections were performed without regard to HB 1 that was enacted during the 2019 special session as individual employer elections regarding their future cessation from participating in KERS is unknown at this time.

Our calculations are based upon assumptions regarding future events, which may or may not materialize. Depending on actual plan experience, actual results could deviate significantly from our projections.

Closing

We are not attorneys and we cannot provide a legal opinion regarding the changes in this proposed legislation. Nothing in this letter should be construed as providing legal, investment or tax advice.

Mr. White is an Enrolled Actuary. Both of the undersigned are members of the American Academy of Actuaries and we meet all of the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. In addition, all of the undersigned are experienced in performing valuations for large public retirement systems.

Sincerely,



Daniel J. White, FSA, MAAA, EA



Janie Shaw, ASA, MAAA

Enclosures

Kentucky Employees Retirement Plan (Non-Hazardous) - Retirement and Insurance Combined
HB171, GA Version (27-year amortization period as of July 1, 2019 and executive, judicial, and legislative branch agencies grouped)
Based on the June 30, 2019 Actuarial Valuation

Exhibit 1. Calculation of Employer Required Contributions under Proposed Legislation

Agency Name ¹	Agency Classification ¹	Projected Payroll FY 20/21	Fixed Percentage of the Total Amortization Cost		Required Contribution ¹			Effective Employer Contribution Rate ² Required Contribution / Payroll		
			Accrued Liability based on June 30, 2019 Valuation	Fixed Allocation of Amortization Cost	Normal Cost Contributions	Amortization Cost	Total Required Contribution	Normal Cost Contributions	Amortization Cost	Total Estimated Required Contribution as a % of Expected Pay
(1)	(2)	(3)	(4)	(5) = (4) / \$19,128M	(6) = (3) x 10.35%	(7) = (5) x \$1,118M	(8) = (6) + (7)	(9) = (6) / (3)	(10) = (7) / (3)	(11) = (8) / (3)
LEGISLATIVE BRANCH AGENCIES	LEGISLATIVE BRANCH	20,809,165	343,338,931	1.79500%	2,153,748	20,076,888	22,230,636	10.35%	96.48%	106.83%
JUDICIAL BRANCH AGENCIES	JUDICIAL BRANCH	58,730,183	469,266,488	2.45334%	6,078,573	27,440,358	33,518,931	10.35%	46.72%	57.07%
EXECUTIVE BRANCH AGENCIES	EXECUTIVE BRANCH	1,019,181,420	14,434,001,594	75.46175%	105,485,273	844,031,811	949,517,084	10.35%	82.81%	93.16%
LEX FAYETTE CO HLTH DEPT	Health Departments	6,279,010	89,050,918	0.46556%	649,878	5,207,240	5,857,118	10.35%	82.93%	93.28%
LAKE CUMBERLAND DISTRICT	Health Departments	5,547,445	73,620,021	0.38489%	574,161	4,304,955	4,879,116	10.35%	77.60%	87.95%
BARREN RVR DIST HLTH DEPT	Health Departments	5,032,523	68,855,538	0.35998%	520,866	4,026,339	4,547,205	10.35%	80.01%	90.36%
GREEN RVR DIST HLTH DEPT	Health Departments	6,319,042	82,561,808	0.43164%	654,021	4,827,848	5,481,869	10.35%	76.40%	86.75%
NORTHERN KY DIST HLTH DEP	Health Departments	6,243,649	54,194,473	0.28333%	646,218	3,169,017	3,815,235	10.35%	50.76%	61.11%
LINCOLN TRL DIST HLTH DEP	Health Departments	3,473,278	67,158,260	0.35111%	359,484	3,927,129	4,286,613	10.35%	113.07%	123.42%
KY RIVER DIST HEALTH DEPT	Health Departments	2,808,126	70,590,492	0.36905%	290,641	4,127,786	4,418,427	10.35%	146.99%	157.34%
MADISON CO HEALTH DEP	Health Departments	3,681,668	53,565,044	0.28004%	381,053	3,132,218	3,513,271	10.35%	85.08%	95.43%
CUMBERLAND VLY DIST HEALT	Health Departments	2,393,958	89,949,862	0.47026%	247,775	5,259,809	5,507,584	10.35%	219.71%	230.06%
WEDCO DIST HEALTH DEPT	Health Departments	2,630,208	28,173,710	0.14729%	272,227	1,647,423	1,919,650	10.35%	62.63%	72.98%
FRANKLIN CO HEALTH DEPT	Health Departments	2,420,588	22,689,496	0.11862%	250,531	1,326,752	1,577,283	10.35%	54.81%	65.16%
WHITLEY CO HEALTH DEPT	Health Departments	1,836,382	28,890,387	0.15104%	190,066	1,689,367	1,879,433	10.35%	91.99%	102.34%
PIKE CO HEALTH DEPT	Health Departments	1,816,056	25,165,288	0.13157%	187,962	1,471,597	1,659,559	10.35%	81.03%	91.38%
THREE RIVERS DIST HLTH	Health Departments	1,405,324	22,852,018	0.11947%	145,451	1,336,260	1,481,711	10.35%	95.09%	105.44%
KNOX CO HEALTH DEPT	Health Departments	1,871,943	28,079,768	0.14680%	193,746	1,641,943	1,835,689	10.35%	87.71%	98.06%
PURCHASE DIST HLTH DEPT	Health Departments	1,962,251	44,833,499	0.23439%	203,093	2,621,628	2,824,721	10.35%	133.60%	143.95%
CLARK CO HEALTH DEPT	Health Departments	1,731,244	17,846,746	0.09330%	179,184	1,043,551	1,222,735	10.35%	60.28%	70.63%
GATEWAY DIST HEALTH DEPT	Health Departments	2,071,219	25,855,364	0.13517%	214,371	1,511,862	1,726,233	10.35%	72.99%	83.34%
N CENTRAL DIST HLTH DEPT	Health Departments	1,534,303	21,562,812	0.11273%	158,800	1,260,873	1,419,673	10.35%	82.18%	92.53%
BREATHITT CO HEALTH DEPT	Health Departments	1,335,524	18,565,852	0.09706%	138,227	1,085,606	1,223,833	10.35%	81.29%	91.64%
PENNYRILE DIST HLTH DEPT	Health Departments	1,606,165	16,344,611	0.08545%	166,238	955,749	1,121,987	10.35%	59.51%	69.86%
MARSHALL CO HEALTH DEPT	Health Departments	1,436,565	17,193,457	0.08989%	148,684	1,005,410	1,154,094	10.35%	69.99%	80.34%
CHRISTIAN CO HEALTH DEPT	Health Departments	1,287,747	13,360,854	0.06985%	133,282	781,265	914,547	10.35%	60.67%	71.02%
MONTGOMERY CO HEALTH DEPT	Health Departments	1,435,257	11,887,257	0.06215%	148,549	695,141	843,690	10.35%	48.43%	58.78%
HOPKINS CO HEALTH DEPT	Health Departments	1,446,874	17,815,060	0.09314%	149,751	1,041,761	1,191,512	10.35%	72.00%	82.35%
JOHNSON CO HEALTH DEPT	Health Departments	1,214,044	15,484,079	0.08095%	125,654	905,417	1,031,071	10.35%	74.58%	84.93%
FLOYD CO HEALTH CENTER	Health Departments	940,121	12,800,870	0.06692%	97,303	748,493	845,796	10.35%	79.62%	89.97%
ASHLAND BOYD CO HEALTH DP	Health Departments	1,077,672	17,780,422	0.09296%	111,539	1,039,748	1,151,287	10.35%	96.48%	106.83%
LAUREL CO HEALTH DEPT	Health Departments	1,137,856	14,475,341	0.07568%	117,768	846,473	964,241	10.35%	74.39%	84.74%
BULLITT CO HEALTH DEPT	Health Departments	1,194,114	13,823,739	0.07227%	123,591	808,332	931,923	10.35%	67.69%	78.04%
BELL CO HEALTH DEPT	Health Departments	852,505	10,731,667	0.05611%	88,234	627,585	715,819	10.35%	73.62%	83.97%
GREENUP CO HLTH DEPT	Health Departments	921,572	11,509,071	0.06017%	95,383	672,995	768,378	10.35%	73.03%	83.38%
JESSAMINE CO HEALTH DEPT	Health Departments	952,499	8,686,531	0.04541%	98,584	507,906	606,490	10.35%	53.32%	63.67%
GRAVES CO HEALTH CENTER	Health Departments	1,080,652	6,110,503	0.03195%	111,847	357,357	469,204	10.35%	33.07%	43.42%
HARLAN CO HEALTH DEPT	Health Departments	934,178	7,218,470	0.03774%	96,687	422,118	518,805	10.35%	45.19%	55.54%
OLDHAM CO HEALTH DEPT	Health Departments	987,904	10,480,598	0.05479%	102,248	612,820	715,068	10.35%	62.03%	72.38%
ALLEN CO HEALTH DEPT	Health Departments	840,564	7,911,333	0.04136%	86,998	462,607	549,605	10.35%	55.04%	65.39%
BUFFALO TRACE HEALTH DEPT	Health Departments	779,156	10,788,599	0.05640%	80,643	630,828	711,471	10.35%	80.96%	91.31%
MUHLENBERG CO.HEALTH DEPT	Health Departments	661,770	7,886,100	0.04123%	68,493	461,153	529,646	10.35%	69.68%	80.03%
MERCER CO HEALTH DEPT	Health Departments	696,882	10,106,660	0.05284%	72,127	591,010	663,137	10.35%	84.81%	95.16%
LAWRENCE CO HEALTH DEPT	Health Departments	690,884	3,868,705	0.02023%	71,506	226,270	297,776	10.35%	32.75%	43.10%
WOODFORD CO HEALTH DEPT	Health Departments	512,541	5,453,322	0.02851%	53,048	318,881	371,929	10.35%	62.22%	72.57%
CALLOWAY CO HEALTH DEPT	Health Departments	565,019	4,137,638	0.02163%	58,479	241,929	300,408	10.35%	42.82%	53.17%
MAGOFFIN CO HEALTH DEPT	Health Departments	544,522	6,467,092	0.03381%	56,358	378,161	434,519	10.35%	69.45%	79.80%
MARTIN CO HEALTH DEPT	Health Departments	453,796	5,286,010	0.02764%	46,968	309,151	356,119	10.35%	68.13%	78.48%
BOYLE CO HEALTH DEPT	Health Departments	551,379	6,346,920	0.03318%	57,068	371,115	428,183	10.35%	67.31%	77.66%
BOURBON CO HEALTH CENTER	Health Departments	522,078	10,577,403	0.05530%	54,035	618,525	672,560	10.35%	118.47%	128.82%
ANDERSON CO HEALTH DEPT	Health Departments	424,133	5,076,042	0.02654%	43,898	296,847	340,745	10.35%	69.99%	80.34%
LEWIS CO HEALTH DEPT	Health Departments	548,857	3,061,131	0.01600%	56,807	178,958	235,765	10.35%	32.61%	42.96%
ESTILL CO HEALTH DEPT	Health Departments	481,325	5,579,547	0.02917%	49,817	326,263	376,080	10.35%	67.78%	78.13%
LINCOLN CO HEALTH DEPT	Health Departments	434,068	4,897,375	0.02560%	44,926	286,333	331,259	10.35%	65.97%	76.32%
BRECKINRIDGE CO HEALTH BD	Health Departments	544,432	7,704,261	0.04028%	56,349	450,528	506,877	10.35%	82.75%	93.10%
GRAYSON COUNTY HEALTH DEPT	Health Departments	451,991	4,598,067	0.02404%	46,781	268,885	315,666	10.35%	59.49%	69.84%
LITTLE SANDY DIST HEALTH	Health Departments	-	7,237,775	0.03784%	-	423,236	423,236	N/A	N/A	N/A

Kentucky Employees Retirement Plan (Non-Hazardous) - Retirement and Insurance Combined
HB171, GA Version (27-year amortization period as of July 1, 2019 and executive, judicial, and legislative branch agencies grouped)
Based on the June 30, 2019 Actuarial Valuation

Exhibit 1. Calculation of Employer Required Contributions under Proposed Legislation

Agency Name ¹	Agency Classification ¹	Projected Payroll FY 20/21	Fixed Percentage of the Total Amortization Cost		Required Contribution ¹			Effective Employer Contribution Rate ² Required Contribution / Payroll		
			Accrued Liability based on June 30, 2019 Valuation	Fixed Allocation of Amortization Cost	Normal Cost Contributions	Amortization Cost	Total Required Contribution	Normal Cost Contributions	Amortization Cost	Total Estimated Required Contribution as a % of Expected Pay
(1)	(2)	(3)	(4)	(5) = (4) / \$19,128M	(6) = (3) x 10.35%	(7) = (5) x \$1,118M	(8) = (6) + (7)	(9) = (6) / (3)	(10) = (7) / (3)	(11) = (8) / (3)
GARRARD COUNTY HEALTH DPT	Health Departments	325,193	3,926,271	0.02053%	33,657	229,626	263,283	10.35%	70.61%	80.96%
TODD CO HEALTH DEPT	Health Departments	586,208	4,687,868	0.02451%	60,673	274,142	334,815	10.35%	46.77%	57.12%
FLEMING CO HEALTH DEP	Health Departments	348,816	4,386,549	0.02293%	36,102	256,470	292,572	10.35%	73.53%	83.88%
MONROE CO HEALTH DEPT	Health Departments	379,290	3,137,459	0.01640%	39,257	183,432	222,689	10.35%	48.36%	58.71%
BRACKEN CO HEALTH DEPT	Health Departments	348,044	2,410,616	0.01260%	36,023	140,930	176,953	10.35%	40.49%	50.84%
POWELL CO HEALTH DEPT	Health Departments	298,757	4,200,545	0.02196%	30,921	245,620	276,541	10.35%	82.21%	92.56%
CARTER CO HEALTH DEPT	Health Departments	328,054	1,936,351	0.01012%	33,954	113,191	147,145	10.35%	34.50%	44.85%
KY HIGHER ED STUD LN CORP	Non-P1 State Assoc/Corp.	11,081,890	81,896,904	0.42816%	1,146,976	4,788,925	5,935,901	10.35%	43.21%	53.56%
KENTUCKY HOUSING CORP	Non-P1 State Assoc/Corp.	9,887,127	98,280,874	0.51382%	1,023,318	5,747,023	6,770,341	10.35%	58.13%	68.48%
CSG HEADQUARTERS	Non-P1 State Assoc/Corp.	3,572,893	19,274,916	0.10077%	369,794	1,127,102	1,496,896	10.35%	31.55%	41.90%
KET FOUNDATION	Non-P1 State Assoc/Corp.	1,718,678	15,066,238	0.07877%	177,883	881,034	1,058,917	10.35%	51.26%	61.61%
ASST OF COMMONWEALTH ATTY	Non-P1 State Assoc/Corp.	1,086,231	5,807,856	0.03036%	112,425	339,573	451,998	10.35%	31.26%	41.61%
HIGHSCHOOL ATHLETIC ASSOC	Non-P1 State Assoc/Corp.	205,880	1,413,847	0.00739%	21,309	82,656	103,965	10.35%	40.15%	50.50%
O A S I S	Non-P1 State Agencies	640,209	2,304,549	0.01205%	66,262	134,778	201,040	10.35%	21.05%	31.40%
KDVA	Non-P1 State Agencies	871,207	2,431,059	0.01271%	90,170	142,160	232,330	10.35%	16.32%	26.67%
B.R.A.S.S.	Non-P1 State Agencies	638,864	2,132,362	0.01115%	66,122	124,712	190,834	10.35%	19.52%	29.87%
BLUEGRASS RAPE CRISIS CTR	Non-P1 State Agencies	569,641	2,744,493	0.01435%	58,958	160,503	219,461	10.35%	28.18%	38.53%
SAFE HARBOR	Non-P1 State Agencies	651,225	1,312,696	0.00686%	67,402	76,728	144,130	10.35%	11.78%	22.13%
SANCTUARY INC	Non-P1 State Agencies	634,076	2,510,255	0.01312%	65,627	146,746	212,373	10.35%	23.14%	33.49%
LOTUS	Non-P1 State Agencies	820,631	1,074,054	0.00562%	84,935	62,859	147,794	10.35%	7.66%	18.01%
BETHANY HOUSE ABUSE SHEL	Non-P1 State Agencies	462,201	1,675,224	0.00876%	47,838	97,980	145,818	10.35%	21.20%	31.55%
SPRINGHAVEN INC	Non-P1 State Agencies	364,635	1,527,812	0.00799%	35,877	89,367	125,244	10.35%	25.78%	36.13%
KASAP	Non-P1 State Agencies	401,601	943,862	0.00493%	41,566	55,142	96,708	10.35%	13.73%	24.08%
SILVERLEAF	Non-P1 State Agencies	411,241	2,017,711	0.01055%	42,563	118,001	160,564	10.35%	28.69%	39.04%
WOMEN AWARE	Non-P1 State Agencies	213,308	975,811	0.00510%	22,077	57,043	79,120	10.35%	26.74%	37.09%
D.O.V.E.S.	Non-P1 State Agencies	433,267	1,319,147	0.00690%	44,843	77,176	122,019	10.35%	17.81%	28.16%
NURSING HOME OMBUDSMAN	Non-P1 State Agencies	235,384	879,808	0.00460%	24,362	51,451	75,813	10.35%	21.86%	32.21%
HOPE HARBOR INC	Non-P1 State Agencies	349,924	824,202	0.00431%	36,217	48,207	84,424	10.35%	13.78%	24.13%
KY OFFICE OF BAR ADMISSIO	Non-P1 State Agencies	204,270	2,552,890	0.01335%	21,142	149,318	170,460	10.35%	73.10%	83.45%
CHILD WATCH ADVOCACY CTR	Non-P1 State Agencies	227,648	759,321	0.00397%	23,562	44,404	67,966	10.35%	19.51%	29.86%
FRANKLIN CO COUNCIL AGING	Non-P1 State Agencies	110,250	2,147,140	0.01123%	11,411	125,606	137,017	10.35%	113.93%	124.28%
JUDI'S PLACE FOR KIDS, INC.	Non-P1 State Agencies	363,068	777,468	0.00406%	37,578	45,411	82,989	10.35%	12.51%	22.86%
CUMBERLAND V C A CENTER	Non-P1 State Agencies	300,383	821,917	0.00430%	31,090	48,095	79,185	10.35%	16.01%	26.36%
KY ASSOC OF REGIONAL PROG	Non-P1 State Agencies	118,750	1,817,343	0.00950%	12,291	106,257	118,548	10.35%	89.48%	99.83%
BARREN RIVER CHILD ADVOCA	Non-P1 State Agencies	215,348	406,450	0.00212%	22,289	23,712	46,001	10.35%	11.01%	21.36%
CHILD ADV CTR OF GRN RVR	Non-P1 State Agencies	156,406	572,517	0.00299%	16,188	33,443	49,631	10.35%	21.38%	31.73%
MUN ELEC POW ASSOC OF KY	Non-P1 State Agencies	135,616	1,745,743	0.00913%	14,036	102,118	116,154	10.35%	75.30%	85.65%
KY RIVER CHILD ADVOCACY	Non-P1 State Agencies	127,195	290,885	0.00152%	13,165	17,001	30,166	10.35%	13.37%	23.72%
PENNYRILE CHILD ADV CTR	Non-P1 State Agencies	125,509	460,162	0.00241%	12,990	26,956	39,946	10.35%	21.48%	31.83%
LAKE CUMB CHILD ADV CTR	Non-P1 State Agencies	178,427	545,959	0.00285%	18,467	31,877	50,344	10.35%	17.87%	28.22%
BUFFALO TR CHILD ADV INC	Non-P1 State Agencies	96,571	252,189	0.00132%	9,995	14,764	24,759	10.35%	15.29%	25.64%
GATEWAY CHILD ADVOCACY	Non-P1 State Agencies	34,000	53,228	0.00028%	3,519	3,132	6,651	10.35%	9.21%	19.56%
NEW VISTA OF THE BLUEGRASS, INC.	Reg Mental Hlth Units	36,821,842	375,801,295	1.96471%	3,811,061	21,975,077	25,786,138	10.35%	59.68%	70.03%
CUMBERLAND RIVER MHMR	Reg Mental Hlth Units	11,237,059	98,266,354	0.51374%	1,163,036	5,746,128	6,909,164	10.35%	51.14%	61.49%
LIFESKILLS INC	Reg Mental Hlth Units	8,097,314	75,680,895	0.39566%	838,072	4,425,416	5,263,488	10.35%	54.65%	65.00%
COMMUNICARE INC	Reg Mental Hlth Units	5,611,288	66,588,437	0.34813%	580,768	3,893,798	4,474,566	10.35%	69.39%	79.74%
ADANTA/BEHAVIORAL HLTH SR	Reg Mental Hlth Units	5,028,478	89,023,918	0.46542%	520,447	5,205,674	5,726,121	10.35%	103.52%	113.87%
PENNYROYAL REG MHMR BD	Reg Mental Hlth Units	6,603,427	68,135,236	0.35621%	683,455	3,984,172	4,667,627	10.35%	60.33%	70.68%
MOUNTAIN COMP CARE CENTER	Reg Mental Hlth Units	5,284,559	45,921,039	0.24008%	546,952	2,685,270	3,232,222	10.35%	50.81%	61.16%
GREEN RVR REG MHMR BD	Reg Mental Hlth Units	2,625,640	32,599,922	0.17043%	271,754	1,906,242	2,177,996	10.35%	72.60%	82.95%
NORTHERN KY REG MHMR BD	Reg Mental Hlth Units	148,611	57,312,274	0.29963%	15,381	3,351,330	3,366,711	10.35%	2255.10%	2265.45%
WESTERN KY REG MHMR ADV	Reg Mental Hlth Units	3,595,880	35,526,557	0.18573%	372,174	2,077,371	2,449,545	10.35%	57.77%	68.12%
COMPREHEND INC REG MHMR B	Reg Mental Hlth Units	4,656,035	29,064,447	0.15195%	481,900	1,699,545	2,181,445	10.35%	36.50%	46.85%
SEVEN CO SERVICES INC	Reg Mental Hlth Units	-	154,213,520	0.80624%	-	9,017,710	9,017,710	N/A	N/A	N/A
KY RIVER COMM CARE INC	Reg Mental Hlth Units	-	26,687,511	0.13952%	-	1,560,517	1,560,517	N/A	N/A	N/A
NORTHERN KY UNIVERSITY	Universities	33,051,008	216,716,312	1.13300%	3,420,779	12,672,487	16,093,266	10.35%	38.34%	48.69%
EASTERN KY UNIV	Universities	14,964,357	239,050,334	1.24977%	1,548,811	13,978,547	15,527,358	10.35%	93.41%	103.76%
KCTCS	Universities	19,171,232	156,357,525	0.81745%	1,984,223	9,143,093	11,127,316	10.35%	47.69%	58.04%

Kentucky Employees Retirement Plan (Non-Hazardous) - Retirement and Insurance Combined
HB171, GA Version (27-year amortization period as of July 1, 2019 and executive, judicial, and legislative branch agencies grouped)
Based on the June 30, 2019 Actuarial Valuation

Exhibit 1. Calculation of Employer Required Contributions under Proposed Legislation

Agency Name ¹	Agency Classification ¹	Projected Payroll FY 20/21	Fixed Percentage of the Total Amortization Cost		Required Contribution ¹			Effective Employer Contribution Rate ² Required Contribution / Payroll		
			Accrued Liability based on June 30, 2019 Valuation	Fixed Allocation of Amortization Cost	Normal Cost Contributions	Amortization Cost	Total Required Contribution	Normal Cost Contributions	Amortization Cost	Total Estimated Required Contribution as a % of Expected Pay
(1)	(2)	(3)	(4)	(5) = (4) / \$19,128M	(6) = (3) x 10.35%	(7) = (5) x \$1,118M	(8) = (6) + (7)	(9) = (6) / (3)	(10) = (7) / (3)	(11) = (8) / (3)
WESTERN KENTUCKY UNIV	Universities	15,854,956	180,798,950	0.94523%	1,640,988	10,572,299	12,213,287	10.35%	66.68%	77.03%
MURRAY STATE UNIV	Universities	11,391,807	133,053,240	0.69561%	1,179,052	7,780,325	8,959,377	10.35%	68.30%	78.65%
MOREHEAD STATE UNIVERSITY	Universities	4,766,363	121,265,619	0.63398%	493,319	7,091,000	7,584,319	10.35%	148.77%	159.12%
KENTUCKY STATE UNIVERSITY	Universities	4,775,638	44,391,511	0.23208%	494,279	2,595,791	3,090,070	10.35%	54.35%	64.70%
ALLEN COUNTY ATTORNEY	County Attorneys	73,736	1,658,981	0.00867%	7,632	96,973	104,605	10.35%	131.51%	141.86%
ANDERSON COUNTY ATTORNEY	County Attorneys	161,079	1,971,500	0.01031%	16,672	115,316	131,988	10.35%	71.59%	81.94%
BARREN COUNTY ATTORNEY	County Attorneys	418,342	2,875,029	0.01503%	43,298	168,109	211,407	10.35%	40.18%	50.53%
BATH COUNTY ATTORNEY	County Attorneys	-	2,729	0.00001%	-	112	112	N/A	N/A	N/A
BELL COUNTY ATTORNEY	County Attorneys	346,120	1,931,690	0.01010%	35,823	112,967	148,790	10.35%	32.64%	42.99%
BOONE COUNTY ATTORNEY	County Attorneys	1,005,496	5,092,956	0.02663%	104,069	297,854	401,923	10.35%	29.62%	39.97%
BOYLE COUNTY ATTORNEY	County Attorneys	171,740	155,378	0.00081%	17,775	9,060	26,835	10.35%	5.28%	15.63%
BRECKINRIDGE CO ATTORNEY	County Attorneys	256,024	1,029,674	0.00538%	26,498	60,175	86,673	10.35%	23.50%	33.85%
BULLITT COUNTY ATTORNEY	County Attorneys	105,419	703,350	0.00368%	10,911	41,160	52,071	10.35%	39.04%	49.39%
CALLOWAY COUNTY ATTORNEY	County Attorneys	-	54,643	0.00029%	-	3,244	3,244	N/A	N/A	N/A
CARROLL COUNTY ATTORNEY	County Attorneys	212,670	873,614	0.00457%	22,011	51,115	73,126	10.35%	24.03%	34.38%
CASEY COUNTY ATTORNEY	County Attorneys	176,393	947,428	0.00495%	18,257	55,365	73,622	10.35%	31.39%	41.74%
CHILD SUPPORT ENFORCEMENT	County Attorneys	377,891	255,979	0.00134%	39,112	14,988	54,100	10.35%	3.97%	14.32%
CHRISTIAN COUNTY ATTORNEY	County Attorneys	126,490	984,086	0.00514%	13,092	57,490	70,582	10.35%	45.45%	55.80%
CLARK COUNTY ATTORNEY	County Attorneys	264,741	1,322,750	0.00692%	27,401	77,399	104,800	10.35%	29.24%	39.59%
CRITTENDEN CO ATTORNEY	County Attorneys	114,306	365,437	0.00191%	11,831	21,363	33,194	10.35%	18.69%	29.04%
DAVIESS COUNTY ATTORNEY	County Attorneys	227,589	1,578,350	0.00825%	23,555	92,275	115,830	10.35%	40.54%	50.89%
EDMONSON COUNTY ATTORNEY	County Attorneys	149,318	474,886	0.00248%	15,454	27,739	43,193	10.35%	18.58%	28.93%
FAYETTE CO ATTORNEY OFF	County Attorneys	214,370	3,136,743	0.01640%	22,187	183,432	205,619	10.35%	85.57%	95.92%
FLOYD COUNTY ATTORNEY	County Attorneys	101,215	1,121,075	0.00586%	10,476	65,543	76,019	10.35%	64.76%	75.11%
FRANKLIN COUNTY ATTORNEY	County Attorneys	488,950	4,833,960	0.02527%	50,606	282,642	333,248	10.35%	57.81%	68.16%
GARRARD COUNTY ATTORNEY	County Attorneys	207,457	988,761	0.00517%	21,472	57,826	79,298	10.35%	27.87%	38.22%
GRANT COUNTY CHILD SUPPOR	County Attorneys	202,677	363,477	0.00190%	20,977	21,251	42,228	10.35%	10.49%	20.84%
GRAVES COUNTY ATTORNEY	County Attorneys	463,368	3,272,663	0.01711%	47,959	191,374	239,333	10.35%	41.30%	51.65%
HANCOCK COUNTY ATTORNEY	County Attorneys	172,169	386,098	0.00202%	17,819	22,593	40,412	10.35%	13.12%	23.47%
HARRISON COUNTY ATTORNEY	County Attorneys	36,413	114,873	0.00060%	3,769	6,711	10,480	10.35%	18.43%	28.78%
HICKMAN COUNTY ATTORNEY	County Attorneys	185,703	1,028,593	0.00538%	19,220	60,175	79,395	10.35%	32.40%	42.75%
HOPKINS COUNTY ATTORNEY	County Attorneys	240,933	1,751,470	0.00916%	24,937	102,454	127,391	10.35%	42.52%	52.87%
JACKSON COUNTY ATTORNEY	County Attorneys	102,216	700,551	0.00366%	10,579	40,937	51,516	10.35%	40.05%	50.40%
JEFFERSON CO ATTORNEY	County Attorneys	741,449	17,151,984	0.08967%	76,740	1,002,950	1,079,690	10.35%	135.27%	145.62%
JOHNSON COUNTY ATTORNEY	County Attorneys	-	230,506	0.00121%	-	13,534	13,534	N/A	N/A	N/A
KENTON COUNTY ATTORNEY	County Attorneys	115,000	1,021,997	0.00534%	11,903	59,727	71,630	10.35%	51.94%	62.29%
KNOTT COUNTY ATTORNEY	County Attorneys	281,869	900,207	0.00471%	29,173	52,681	81,854	10.35%	18.69%	29.04%
KNOX COUNTY ATTORNEY	County Attorneys	-	5,454	0.00003%	-	336	336	N/A	N/A	N/A
LARUE COUNTY ATTORNEY	County Attorneys	256,453	1,041,769	0.00545%	26,543	60,958	87,501	10.35%	23.77%	34.12%
LAUREL COUNTY ATTORNEY	County Attorneys	72,261	353,526	0.00185%	7,479	20,692	28,171	10.35%	28.64%	38.99%
LAWRENCE COUNTY ATTORNEY	County Attorneys	-	144	0.00000%	-	-	-	N/A	N/A	N/A
LEE COUNTY ATTORNEY	County Attorneys	312,678	888,298	0.00464%	32,362	51,898	84,260	10.35%	16.60%	26.95%
LOGAN COUNTY ATTORNEY	County Attorneys	230,550	1,781,059	0.00931%	23,862	104,131	127,993	10.35%	45.17%	55.52%
MADISON COUNTY ATTORNEY	County Attorneys	944,115	6,472,384	0.03384%	97,716	378,497	476,213	10.35%	40.09%	50.44%
MAGOFFIN CO ATTORNEY	County Attorneys	77,520	195,563	0.00102%	8,023	11,409	19,432	10.35%	14.72%	25.07%
MCCRACKEN COUNTY ATTORNEY	County Attorneys	111,033	1,092,697	0.00571%	11,492	63,866	75,358	10.35%	57.52%	67.87%
MCCREARY COUNTY ATTORNEY	County Attorneys	336,834	1,920,823	0.01004%	34,862	112,296	147,158	10.35%	33.34%	43.69%
MEADE COUNTY ATTORNEY	County Attorneys	193,193	1,485,282	0.00777%	19,995	86,907	106,902	10.35%	44.98%	55.33%
MENIFEE COUNTY ATTORNEY	County Attorneys	105,186	568,840	0.00297%	10,887	33,219	44,106	10.35%	31.58%	41.93%
MERCER COUNTY ATTORNEY	County Attorneys	67,783	507,084	0.00265%	7,016	29,640	36,656	10.35%	43.73%	54.08%
MONROE CO ATTORNEY	County Attorneys	129,168	617,699	0.00323%	13,369	36,127	49,496	10.35%	27.97%	38.32%
MONTGOMERY CO ATTORNEY	County Attorneys	280,759	1,684,951	0.00881%	29,059	98,539	127,598	10.35%	35.10%	45.45%
MORGAN COUNTY ATTORNEY	County Attorneys	92,503	1,815,404	0.00949%	9,574	106,145	115,719	10.35%	114.75%	125.10%
OLDHAM COUNTY ATTORNEY	County Attorneys	425,395	1,690,959	0.00884%	44,028	98,874	142,902	10.35%	23.24%	33.59%
OWEN COUNTY ATTORNEY	County Attorneys	153,193	490,212	0.00256%	15,855	28,633	44,488	10.35%	18.69%	29.04%
PENDLETON COUNTY ATTORNEY	County Attorneys	-	155,600	0.00081%	-	9,060	9,060	N/A	N/A	N/A
POWELL COUNTY ATTORNEY	County Attorneys	-	26,895	0.00014%	-	1,566	1,566	N/A	N/A	N/A
PULASKI COUNTY ATTORNEY	County Attorneys	589,655	1,602,159	0.00838%	61,029	93,729	154,758	10.35%	15.90%	26.25%

Kentucky Employees Retirement Plan (Non-Hazardous) - Retirement and Insurance Combined
HB171, GA Version (27-year amortization period as of July 1, 2019 and executive, judicial, and legislative branch agencies grouped)
Based on the June 30, 2019 Actuarial Valuation

Exhibit 1. Calculation of Employer Required Contributions under Proposed Legislation

Agency Name ³	Agency Classification ³	Projected Payroll FY 20/21	Fixed Percentage of the Total Amortization Cost		Required Contribution ¹			Effective Employer Contribution Rate ² Required Contribution / Payroll		
			Accrued Liability based on June 30, 2019 Valuation	Fixed Allocation of Amortization Cost	Normal Cost Contributions	Amortization Cost	Total Required Contribution	Normal Cost Contributions	Amortization Cost	Total Estimated Required Contribution as a % of Expected Pay
(1)	(2)	(3)	(4)	(5) = (4) / \$19,128M	(6) = (3) x 10.35%	(7) = (5) x \$1,118M	(8) = (6) + (7)	(9) = (6) / (3)	(10) = (7) / (3)	(11) = (8) / (3)
ROCKCASTLE CO ATTORNEY	County Attorneys	178,219	774,276	0.00405%	18,446	45,299	63,745	10.35%	25.42%	35.77%
ROWAN COUNTY ATTORNEY	County Attorneys	280,274	820,120	0.00429%	29,008	47,983	76,991	10.35%	17.12%	27.47%
SHELBY COUNTY ATTORNEY	County Attorneys	67,085	400,120	0.00209%	6,943	23,376	30,319	10.35%	34.85%	45.19%
SIMPSON COUNTY ATTORNEY	County Attorneys	67,315	521,989	0.00273%	6,967	30,535	37,502	10.35%	45.36%	55.71%
SPENCER COUNTY ATTORNEY	County Attorneys	353,031	1,200,709	0.00628%	36,539	70,241	106,780	10.35%	19.90%	30.25%
TRIGG COUNTY ATTORNEY	County Attorneys	258,541	933,350	0.00488%	26,759	54,582	81,341	10.35%	21.11%	31.46%
TRIMBLE COUNTY ATTORNEY	County Attorneys	293,780	749,934	0.00392%	30,406	43,845	74,251	10.35%	14.92%	25.27%
UNION COUNTY ATTORNEY	County Attorneys	46,000	293,278	0.00153%	4,761	17,113	21,874	10.35%	37.20%	47.55%
WAYNE COUNTY ATTORNEY	County Attorneys	110,319	668,657	0.00350%	11,418	39,147	50,565	10.35%	35.49%	45.84%
WEBSTER COUNTY ATTORNEY	County Attorneys	339,019	1,413,256	0.00739%	35,088	82,656	117,744	10.35%	24.38%	34.73%
WHITLEY COUNTY ATTORNEY	County Attorneys	285,233	2,013,956	0.01053%	29,522	117,777	147,299	10.35%	41.29%	51.64%
Total		1,437,647,279	19,127,580,191	100.00000%	148,796,493	1,118,489,583	1,267,286,076	10.35%	77.80%	88.15%
Agencies that have ceased participation in the System:										
KENTUCKY BAR ASSOCIATION	Non-P1 State Agencies	-	9,726,855	N/A	N/A	N/A	N/A	N/A	N/A	N/A
KENTUCKY ASSOCIATION OF CHILDREN'S ADVOCACY C	Non-P1 State Agencies	-	14,508	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COMMONWEALTH CREDIT UNION	Non-P1 State Agencies	-	46,950,704	N/A	N/A	N/A	N/A	N/A	N/A	N/A
KENTUCKY EMPLOYERS MUTUAL INSURANCE	Non-P1 State Agencies	-	15,220,243	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total		1,437,647,279	19,199,492,501	100.00000%	148,796,493	1,118,489,583	1,267,286,076	10.35%	77.80%	88.15%

Summary of Above Information by Agency Classification

Agency Classification	Projected Payroll FY 20/21	Fixed Percentage of the Total Amortization Cost		Required Contribution ¹			Effective Employer Contribution Rate ² Required Contribution / Payroll		
		Accrued Liability based on June 30, 2019 Valuation	Fixed Allocation of Amortization Cost	Normal Cost Contributions	Amortization Cost	Total Required Contribution	Normal Cost Contributions	Amortization Cost	Total Estimated Required Contribution as a % of Expected Pay
Health Departments	93,217,225	1,281,433,525	6.69938%	9,647,985	74,931,864	84,579,849	10.35%	80.38%	90.73%
Non-P1 State Assoc/Corp.	27,552,699	221,740,635	1.15927%	2,851,705	12,966,313	15,818,018	10.35%	47.06%	57.41%
Non-P1 State Agencies	10,072,855	37,876,257	0.19803%	1,042,542	2,214,947	3,257,489	10.35%	21.99%	32.34%
Reg Mental Hlth Units	89,710,133	1,154,821,405	6.03745%	9,285,000	67,528,250	76,813,250	10.35%	75.27%	85.62%
Universities	103,975,361	1,091,633,491	5.70712%	10,761,451	63,833,542	74,594,993	10.35%	61.39%	71.74%
County Attorneys	14,398,238	93,467,865	0.48866%	1,490,216	5,465,610	6,955,826	10.35%	37.96%	48.31%
Legislative Branch	20,809,165	343,338,931	1.79500%	2,153,748	20,076,888	22,230,636	10.35%	96.48%	106.83%
Judicial Branch	58,730,183	469,266,488	2.45334%	6,078,573	27,440,358	33,518,931	10.35%	46.72%	57.07%
Executive Branch	1,019,181,420	14,434,001,594	75.46175%	105,485,273	844,031,811	949,517,084	10.35%	82.81%	93.16%

Notes and Assumptions

¹ Actual normal cost contributions will be based on an employer's actual salary for the fiscal year 2020/2021 multiplied by 10.35%.

² Required contribution as a percentage of pay shown for illustrative purposes only. Actual required contributions will be equal to 10.35% of an employer's actual payroll for fiscal year 2020/2021 plus the amortization cost shown in column (7).

³ Agency names and classification information has been provided to GRS by KRS. We have reviewed this data for consistency but did not audit the data. GRS is not responsible for the accuracy or completeness of the information provided to us by KRS.

Kentucky Employees Retirement Plan (Non-Hazardous) - Retirement and Insurance Combined
HB171, GA Version (27-year amortization period as of July 1, 2019 and executive, judicial, and legislative branch agencies grouped)
Based on the June 30, 2019 Actuarial Valuation

Exhibit 2. Impact of Proposed Legislation on Employer Contribution Rates

Agency Name ¹	Agency Classification ¹	Projected Payroll FY 20/21	Required Contribution			Effective Employer Contribution Rate Required Contribution / Payroll		
			Current Funding Arrangement	Proposed Legislation	Increase/(Decrease) due to Legislation	Current Funding Arrangement	Proposed Legislation	Increase/(Decrease) due to Legislation
(1)	(2)	(3)	(4) = (3) x 93.01%	(5) = Exhibit 1, Column (8)	(6) = (5) - (4)	(7) = (4) / (3)	(8) = Exhibit 1, Column (11)	(9) = (8) - (7)
LEGISLATIVE BRANCH AGENCIES	LEGISLATIVE BRANCH	20,809,165	19,354,605	22,230,636	2,876,031	93.01%	106.83%	13.82%
JUDICIAL BRANCH AGENCIES	JUDICIAL BRANCH	58,730,183	54,624,943	33,518,931	(21,106,012)	93.01%	57.07%	-35.94%
EXECUTIVE BRANCH AGENCIES	EXECUTIVE BRANCH	1,019,181,420	947,940,636	949,517,084	1,576,448	93.01%	93.16%	0.15%
LEX FAYETTE CO HLTH DEPT	Health Departments	6,279,010	5,840,107	5,857,118	17,011	93.01%	93.28%	0.27%
LAKE CUMBERLAND DISTRICT	Health Departments	5,547,445	5,159,679	4,879,116	(280,563)	93.01%	87.95%	-5.06%
BARREN RVR DIST HLTH DEPT	Health Departments	5,032,523	4,680,750	4,547,205	(133,545)	93.01%	90.36%	-2.65%
GREEN RVR DIST HLTH DEPT	Health Departments	6,319,042	5,877,341	5,481,869	(395,472)	93.01%	86.75%	-6.26%
NORTHERN KY DIST HLTH DEP	Health Departments	6,243,649	5,807,218	3,815,235	(1,991,983)	93.01%	61.11%	-31.90%
LINCOLN TRL DIST HLTH DEP	Health Departments	3,473,278	3,230,496	4,286,613	1,056,117	93.01%	123.42%	30.41%
KY RIVER DIST HEALTH DEPT	Health Departments	2,808,126	2,611,838	4,418,427	1,806,589	93.01%	157.34%	64.33%
MADISON CO HEALTH DEPT	Health Departments	3,681,668	3,424,319	3,513,271	88,952	93.01%	95.43%	2.42%
CUMBERLAND VLY DIST HEALT	Health Departments	2,393,958	2,226,620	5,507,584	3,280,964	93.01%	230.06%	137.05%
WEDCO DIST HEALTH DEPT	Health Departments	2,630,208	2,446,356	1,919,650	(526,706)	93.01%	72.98%	-20.03%
FRANKLIN CO HEALTH DEPT	Health Departments	2,420,588	2,251,389	1,577,283	(674,106)	93.01%	65.16%	-27.85%
WHITLEY CO HEALTH DEPT	Health Departments	1,836,382	1,708,019	1,879,433	171,414	93.01%	102.34%	9.33%
PIKE CO HEALTH DEPT	Health Departments	1,816,056	1,689,114	1,659,559	(29,555)	93.01%	91.38%	-1.63%
THREE RIVERS DIST HLTH	Health Departments	1,405,324	1,307,092	1,481,711	174,619	93.01%	105.44%	12.43%
KNOX CO HEALTH DEPT	Health Departments	1,871,943	1,741,094	1,835,689	94,595	93.01%	98.06%	5.05%
PURCHASE DIST HLTH DEPT	Health Departments	1,962,251	1,825,090	2,824,721	999,631	93.01%	143.95%	50.94%
CLARK CO HEALTH DEPT	Health Departments	1,731,244	1,610,230	1,222,735	(387,495)	93.01%	70.63%	-22.38%
GATEWAY DIST HEALTH DEPT	Health Departments	2,071,219	1,926,441	1,726,233	(200,208)	93.01%	83.34%	-9.67%
N CENTRAL DIST HLTH DEPT	Health Departments	1,534,303	1,427,055	1,419,673	(7,382)	93.01%	92.53%	-0.48%
BREATHITT CO HEALTH DEPT	Health Departments	1,335,524	1,242,171	1,223,833	(18,338)	93.01%	91.64%	-1.37%
PENNYRILE DIST HLTH DEPT	Health Departments	1,606,165	1,493,894	1,121,987	(371,907)	93.01%	69.86%	-23.15%
MARSHALL CO HEALTH DEPT	Health Departments	1,436,565	1,336,149	1,154,094	(182,055)	93.01%	80.34%	-12.67%
CHRISTIAN CO HEALTH DEPT	Health Departments	1,287,747	1,197,733	914,547	(283,186)	93.01%	71.02%	-21.99%
MONTGOMERY CO HEALTH DEPT	Health Departments	1,435,257	1,334,933	843,690	(491,243)	93.01%	58.78%	-34.23%
HOPKINS CO HEALTH DEPT	Health Departments	1,446,874	1,345,738	1,191,512	(154,226)	93.01%	82.35%	-10.66%
JOHNSON CO HEALTH DEPT	Health Departments	1,214,044	1,129,182	1,031,071	(98,111)	93.01%	84.93%	-8.08%
FLOYD CO HEALTH CENTER	Health Departments	940,121	874,407	845,796	(28,611)	93.01%	89.97%	-3.04%
ASHLAND BOYD CO HEALTH DP	Health Departments	1,077,672	1,002,343	1,151,287	148,944	93.01%	106.83%	13.82%
LAUREL CO HEALTH DEPT	Health Departments	1,137,856	1,058,320	964,241	(94,079)	93.01%	84.74%	-8.27%
BULLITT CO HEALTH DEPT	Health Departments	1,194,114	1,110,645	931,923	(178,722)	93.01%	78.04%	-14.97%
BELL CO HEALTH DEPT	Health Departments	852,505	792,915	715,819	(77,096)	93.01%	83.97%	-9.04%
GREENUP CO HLTH DEPT	Health Departments	921,572	857,154	768,378	(88,776)	93.01%	83.38%	-9.63%
JESSAMINE CO HEALTH DEPT	Health Departments	952,499	885,919	606,490	(279,429)	93.01%	63.67%	-29.34%
GRAVES CO HEALTH CENTER	Health Departments	1,080,652	1,005,114	469,204	(535,910)	93.01%	43.42%	-49.59%
HARLAN CO HEALTH DEPT	Health Departments	934,178	868,879	518,805	(350,074)	93.01%	55.54%	-37.47%
OLDHAM CO HEALTH DEPT	Health Departments	987,904	918,850	715,068	(203,782)	93.01%	72.38%	-20.63%
ALLEN CO HEALTH DEPT	Health Departments	840,564	781,809	549,605	(232,204)	93.01%	65.39%	-27.62%
BUFFALO TRACE HEALTH DEPT	Health Departments	779,156	724,693	711,471	(13,222)	93.01%	91.31%	-1.70%
MUHLNBERG CO HEALTH DEPT	Health Departments	661,770	615,512	529,646	(85,866)	93.01%	80.03%	-12.98%
MERCER CO HEALTH DEPT	Health Departments	696,882	648,170	663,137	14,967	93.01%	95.16%	2.15%
LAWRENCE CO HEALTH DEPT	Health Departments	690,884	642,591	297,776	(344,815)	93.01%	43.10%	-49.91%
WOODFORD CO HEALTH DEPT	Health Departments	512,541	476,714	371,929	(104,785)	93.01%	72.57%	-20.44%
CALLOWAY CO HEALTH DEPT	Health Departments	565,019	525,524	300,408	(225,116)	93.01%	53.17%	-39.84%
MAGOFFIN CO HEALTH DEPT	Health Departments	544,522	506,460	434,519	(71,941)	93.01%	79.80%	-13.21%
MARTIN CO HEALTH DEPT	Health Departments	453,796	422,076	356,119	(65,957)	93.01%	78.48%	-14.53%
BOYLE CO HEALTH DEPT	Health Departments	551,379	512,838	428,183	(84,655)	93.01%	77.66%	-15.35%
BOURBON CO HEALTH CENTER	Health Departments	522,078	485,585	672,560	186,975	93.01%	128.82%	35.81%
ANDERSON CO HEALTH DEPT	Health Departments	424,133	394,486	340,745	(53,741)	93.01%	80.34%	-12.67%
LEWIS CO HEALTH DEPT	Health Departments	548,857	510,492	235,765	(274,727)	93.01%	42.96%	-50.05%
ESTILL CO HEALTH DEPT	Health Departments	481,325	447,680	376,080	(71,600)	93.01%	78.13%	-14.88%
LINCOLN CO HEALTH DEPT	Health Departments	434,068	403,727	331,259	(72,468)	93.01%	76.32%	-16.69%
BRECKINRIDGE CO HEALTH BD	Health Departments	544,432	506,376	506,877	501	93.01%	93.10%	0.09%
GRAYSON COUNTY HEALTH DEPT	Health Departments	451,991	420,397	315,666	(104,731)	93.01%	69.84%	-23.17%
LITTLE SANDY DIST HEALTH	Health Departments	-	-	423,236	423,236	N/A	N/A	N/A

Kentucky Employees Retirement Plan (Non-Hazardous) - Retirement and Insurance Combined
HB171, GA Version (27-year amortization period as of July 1, 2019 and executive, judicial, and legislative branch agencies grouped)
Based on the June 30, 2019 Actuarial Valuation

Exhibit 2. Impact of Proposed Legislation on Employer Contribution Rates

Agency Name ¹	Agency Classification ¹	Projected Payroll FY 20/21	Required Contribution			Effective Employer Contribution Rate Required Contribution / Payroll		
			Current Funding Arrangement	Proposed Legislation	Increase/(Decrease) due to Legislation	Current Funding Arrangement	Proposed Legislation	Increase/(Decrease) due to Legislation
			(4) = (3) x 93.01%	(5) = Exhibit 1, Column (8)	(6) = (5) - (4)	(7) = (4) / (3)	(8) = Exhibit 1, Column (11)	(9) = (8) - (7)
GARRARD COUNTY HEALTH DPT	Health Departments	325,193	302,462	263,283	(39,179)	93.01%	80.96%	-12.05%
TODD CO HEALTH DEPT	Health Departments	586,208	545,232	334,815	(210,417)	93.01%	57.12%	-35.89%
FLEMING CO HEALTH DEP	Health Departments	348,816	324,434	292,572	(31,862)	93.01%	83.88%	-9.13%
MONROE CO HEALTH DEPT	Health Departments	379,290	352,778	222,689	(130,089)	93.01%	58.71%	-34.30%
BRACKEN CO HEALTH DEPT	Health Departments	348,044	323,716	176,953	(146,763)	93.01%	50.84%	-42.17%
POWELL CO HEALTH DEPT	Health Departments	298,757	277,874	276,541	(1,333)	93.01%	92.56%	-0.45%
CARTER CO HEALTH DEPT	Health Departments	328,054	305,123	147,145	(157,978)	93.01%	44.85%	-48.16%
KY HIGHER ED STUD LN CORP	Non-P1 State Assoc/Corp.	11,081,890	10,307,266	5,935,901	(4,371,365)	93.01%	53.56%	-39.45%
KENTUCKY HOUSING CORP	Non-P1 State Assoc/Corp.	9,887,127	9,196,017	6,770,341	(2,425,676)	93.01%	68.48%	-24.53%
CSG HEADQUARTERS	Non-P1 State Assoc/Corp.	3,572,893	3,323,148	1,496,896	(1,826,252)	93.01%	41.90%	-51.11%
KET FOUNDATION	Non-P1 State Assoc/Corp.	1,718,678	1,598,542	1,058,917	(539,625)	93.01%	61.61%	-31.40%
ASST OF COMMONWEALTH ATTY	Non-P1 State Assoc/Corp.	1,086,231	1,010,303	451,998	(558,305)	93.01%	41.61%	-51.40%
HIGHSCHOOL ATHLETIC ASSOC	Non-P1 State Assoc/Corp.	205,880	191,489	103,965	(87,524)	93.01%	50.50%	-42.51%
O A S I S	Non-P1 State Agencies	640,209	595,458	201,040	(394,418)	93.01%	31.40%	-61.61%
KDVA	Non-P1 State Agencies	871,207	810,310	232,330	(577,980)	93.01%	26.67%	-66.34%
B.R.A.S.S.	Non-P1 State Agencies	638,864	594,207	190,834	(403,373)	93.01%	29.87%	-63.14%
BLUEGRASS RAPE CRISIS CTR	Non-P1 State Agencies	569,641	529,823	219,461	(310,362)	93.01%	38.53%	-54.48%
SAFE HARBOR	Non-P1 State Agencies	651,225	605,704	144,130	(461,574)	93.01%	22.13%	-70.88%
SANCTUARY INC	Non-P1 State Agencies	634,076	589,754	212,373	(377,381)	93.01%	33.49%	-59.52%
LOTUS	Non-P1 State Agencies	820,631	763,269	147,794	(615,475)	93.01%	18.01%	-75.00%
BETHANY HOUSE ABUSE SHEL	Non-P1 State Agencies	462,201	429,893	145,818	(284,075)	93.01%	31.55%	-61.46%
SPRINGHAVEN INC	Non-P1 State Agencies	346,635	322,405	125,244	(197,161)	93.01%	36.13%	-56.88%
KASAP	Non-P1 State Agencies	401,601	373,529	96,708	(276,821)	93.01%	24.08%	-68.93%
SILVERLEAF	Non-P1 State Agencies	411,241	382,495	160,564	(221,931)	93.01%	39.04%	-53.97%
WOMEN AWARE	Non-P1 State Agencies	213,308	198,398	79,120	(119,278)	93.01%	37.09%	-55.92%
D.O.V.E.S.	Non-P1 State Agencies	433,267	402,982	122,019	(280,963)	93.01%	28.16%	-64.85%
NURSING HOME OMBUDSMAN	Non-P1 State Agencies	235,384	218,931	75,813	(143,118)	93.01%	32.21%	-60.80%
HOPE HARBOR INC	Non-P1 State Agencies	349,924	325,464	84,424	(241,040)	93.01%	24.13%	-68.88%
KY OFFICE OF BAR ADMISSIO	Non-P1 State Agencies	204,270	189,992	170,460	(19,532)	93.01%	83.45%	-9.56%
CHILD WATCH ADVOCACY CTR	Non-P1 State Agencies	227,648	211,735	67,966	(143,769)	93.01%	29.86%	-63.15%
FRANKLIN CO COUNCIL AGING	Non-P1 State Agencies	110,250	102,544	137,017	34,473	93.01%	124.28%	31.27%
JUDI'S PLACE FOR KIDS, INC.	Non-P1 State Agencies	363,068	337,690	82,989	(254,701)	93.01%	22.86%	-70.15%
CUMBERLAND V C A CENTER	Non-P1 State Agencies	300,383	279,386	79,185	(200,201)	93.01%	26.36%	-66.65%
KY ASSOC OF REGIONAL PROG	Non-P1 State Agencies	118,750	110,449	118,548	8,099	93.01%	99.83%	6.82%
BARREN RIVER CHILD ADVOCA	Non-P1 State Agencies	215,348	200,295	46,001	(154,294)	93.01%	21.36%	-71.65%
CHILD ADV CTR OF GRN RVR	Non-P1 State Agencies	156,406	145,473	49,631	(95,842)	93.01%	31.73%	-61.28%
MUN ELEC POW ASSOC OF KY	Non-P1 State Agencies	135,616	126,136	116,154	(9,982)	93.01%	85.65%	-7.36%
KY RIVER CHILD ADVOCACY	Non-P1 State Agencies	127,195	118,304	30,166	(88,138)	93.01%	23.72%	-69.29%
PENNYRILE CHILD ADV CTR	Non-P1 State Agencies	125,509	116,736	39,946	(76,790)	93.01%	31.83%	-61.18%
LAKE CUMB CHILD ADV CTR	Non-P1 State Agencies	178,427	165,955	50,344	(115,611)	93.01%	28.22%	-64.79%
BUFFALO TR CHILD ADV INC	Non-P1 State Agencies	96,571	89,821	24,759	(65,062)	93.01%	25.64%	-67.37%
GATEWAY CHILD ADVOCACY	Non-P1 State Agencies	34,000	31,623	6,651	(24,972)	93.01%	19.56%	-73.45%
NEW VISTA OF THE BLUEGRASS, INC.	Reg Mental Hlth Units	36,821,842	34,247,995	25,786,138	(8,461,857)	93.01%	70.03%	-22.98%
CUMBERLAND RIVER MHMR	Reg Mental Hlth Units	11,237,059	10,451,589	6,909,164	(3,542,425)	93.01%	61.49%	-31.52%
LIFESKILLS INC	Reg Mental Hlth Units	8,097,314	7,531,312	5,263,488	(2,267,824)	93.01%	65.00%	-28.01%
COMMUNICARE INC	Reg Mental Hlth Units	5,611,288	5,219,059	4,474,566	(744,493)	93.01%	79.74%	-13.27%
ADANTA/BEHAVIORAL HLTH SR	Reg Mental Hlth Units	5,028,478	4,676,987	5,726,121	1,049,134	93.01%	113.87%	20.86%
PENNYROYAL REG MHMR BD	Reg Mental Hlth Units	6,603,427	6,141,847	4,667,627	(1,474,220)	93.01%	70.68%	-22.33%
MOUNTAIN COMP CARE CENTER	Reg Mental Hlth Units	5,284,559	4,915,168	3,232,222	(1,682,946)	93.01%	61.16%	-31.85%
GREEN RVR REG MHMR BD	Reg Mental Hlth Units	2,625,640	2,442,108	2,177,996	(264,112)	93.01%	82.95%	-10.06%
NORTHERN KY REG MHMR BD	Reg Mental Hlth Units	148,611	138,223	3,366,711	3,228,488	93.01%	2265.45%	2172.44%
WESTERN KY REG MHMR ADV	Reg Mental Hlth Units	3,595,880	3,344,528	2,449,545	(894,983)	93.01%	68.12%	-24.89%
COMPREHEND INC REG MHMR B	Reg Mental Hlth Units	4,656,035	4,330,578	2,181,445	(2,149,133)	93.01%	46.85%	-46.16%
SEVEN CO SERVICES INC	Reg Mental Hlth Units	-	-	9,017,710	9,017,710	N/A	N/A	N/A
KY RIVER COMM CARE INC	Reg Mental Hlth Units	-	-	1,560,517	1,560,517	N/A	N/A	N/A
NORTHERN KY UNIVERSITY	Universities	33,051,008	30,740,743	16,093,266	(14,647,477)	93.01%	48.69%	-44.32%
EASTERN KY UNIV	Universities	14,964,357	13,918,348	15,527,358	1,609,010	93.01%	103.76%	10.75%
KCTCS	Universities	19,171,232	17,831,163	11,127,316	(6,703,847)	93.01%	58.04%	-34.97%

Kentucky Employees Retirement Plan (Non-Hazardous) - Retirement and Insurance Combined
HB171, GA Version (27-year amortization period as of July 1, 2019 and executive, judicial, and legislative branch agencies grouped)
Based on the June 30, 2019 Actuarial Valuation

Exhibit 2. Impact of Proposed Legislation on Employer Contribution Rates

Agency Name ¹	Agency Classification ¹	Projected Payroll FY 20/21	Required Contribution			Effective Employer Contribution Rate Required Contribution / Payroll		
			Current Funding Arrangement	Proposed Legislation	Increase/(Decrease) due to Legislation	Current Funding Arrangement	Proposed Legislation	Increase/(Decrease) due to Legislation
(1)	(2)	(3)	(4) = (3) x 93.01%	(5) = Exhibit 1, Column (8)	(6) = (5) - (4)	(7) = (4) / (3)	(8) = Exhibit 1, Column (11)	(9) = (8) - (7)
WESTERN KENTUCKY UNIV	Universities	15,854,956	14,746,695	12,213,287	(2,533,408)	93.01%	77.03%	-15.98%
MURRAY STATE UNIV	Universities	11,391,807	10,595,520	8,959,377	(1,636,143)	93.01%	78.65%	-14.36%
MOREHEAD STATE UNIVERSITY	Universities	4,766,363	4,433,194	7,584,319	3,151,125	93.01%	159.12%	66.11%
KENTUCKY STATE UNIVERSITY	Universities	4,775,638	4,441,821	3,090,070	(1,351,751)	93.01%	64.70%	-28.31%
ALLEN COUNTY ATTORNEY	County Attorneys	73,736	68,582	104,605	36,023	93.01%	141.86%	48.85%
ANDERSON COUNTY ATTORNEY	County Attorneys	161,079	149,820	131,988	(17,832)	93.01%	81.94%	-11.07%
BARREN COUNTY ATTORNEY	County Attorneys	418,342	389,100	211,407	(177,693)	93.01%	50.53%	-42.48%
BATH COUNTY ATTORNEY	County Attorneys	-	-	112	112	N/A	N/A	N/A
BELL COUNTY ATTORNEY	County Attorneys	346,120	321,926	148,790	(173,136)	93.01%	42.99%	-50.02%
BOONE COUNTY ATTORNEY	County Attorneys	1,005,496	935,212	401,923	(533,289)	93.01%	39.97%	-53.04%
BOYLE COUNTY ATTORNEY	County Attorneys	171,740	159,735	26,835	(132,900)	93.01%	15.63%	-77.38%
BRECKINRIDGE CO ATTORNEY	County Attorneys	256,024	238,128	86,673	(151,455)	93.01%	33.85%	-59.16%
BULLITT COUNTY ATTORNEY	County Attorneys	105,419	98,050	52,071	(45,979)	93.01%	49.39%	-43.62%
CALLOWAY COUNTY ATTORNEY	County Attorneys	-	-	3,244	3,244	N/A	N/A	N/A
CARROLL COUNTY ATTORNEY	County Attorneys	212,670	197,804	73,126	(124,678)	93.01%	34.38%	-58.63%
CASEY COUNTY ATTORNEY	County Attorneys	176,393	164,063	73,622	(90,441)	93.01%	41.74%	-51.27%
CHILD SUPPORT ENFORCEMENT	County Attorneys	377,891	351,476	54,100	(297,376)	93.01%	14.32%	-78.69%
CHRISTIAN COUNTY ATTORNEY	County Attorneys	126,490	117,648	70,582	(47,066)	93.01%	55.80%	-37.21%
CLARK COUNTY ATTORNEY	County Attorneys	264,741	246,236	104,800	(141,436)	93.01%	39.59%	-53.42%
CRITTENDEN CO ATTORNEY	County Attorneys	114,306	106,316	33,194	(73,122)	93.01%	29.04%	-63.97%
DAVIESS COUNTY ATTORNEY	County Attorneys	227,589	211,681	115,830	(95,851)	93.01%	50.89%	-42.12%
EDMONSON COUNTY ATTORNEY	County Attorneys	149,318	138,881	43,193	(95,688)	93.01%	28.93%	-64.08%
FAYETTE CO ATTORNEY OFF	County Attorneys	214,370	199,386	205,619	6,233	93.01%	95.92%	2.91%
FLOYD COUNTY ATTORNEY	County Attorneys	101,215	94,140	76,019	(18,121)	93.01%	75.11%	-17.90%
FRANKLIN COUNTY ATTORNEY	County Attorneys	488,950	454,772	333,248	(121,524)	93.01%	68.16%	-24.85%
GARRARD COUNTY ATTORNEY	County Attorneys	207,457	192,956	79,298	(113,658)	93.01%	38.22%	-54.79%
GRANT COUNTY CHILD SUPPOR	County Attorneys	202,677	188,510	42,228	(146,282)	93.01%	20.84%	-72.17%
GRAVES COUNTY ATTORNEY	County Attorneys	463,368	430,979	239,333	(191,646)	93.01%	51.65%	-41.36%
HANCOCK COUNTY ATTORNEY	County Attorneys	172,169	160,134	40,412	(119,722)	93.01%	23.47%	-69.54%
HARRISON COUNTY ATTORNEY	County Attorneys	36,413	33,868	10,480	(23,388)	93.01%	28.78%	-64.23%
HICKMAN COUNTY ATTORNEY	County Attorneys	185,703	172,722	79,395	(93,327)	93.01%	42.75%	-50.26%
HOPKINS COUNTY ATTORNEY	County Attorneys	240,933	224,092	127,391	(96,701)	93.01%	52.87%	-40.14%
JACKSON COUNTY ATTORNEY	County Attorneys	102,216	95,071	51,516	(43,555)	93.01%	50.40%	-42.61%
JEFFERSON CO ATTORNEY	County Attorneys	741,449	689,622	1,079,690	390,068	93.01%	145.62%	52.61%
JOHNSON COUNTY ATTORNEY	County Attorneys	-	-	13,534	13,534	N/A	N/A	N/A
KENTON COUNTY ATTORNEY	County Attorneys	115,000	106,962	71,630	(35,332)	93.01%	62.29%	-30.72%
KNOTT COUNTY ATTORNEY	County Attorneys	281,869	262,166	81,854	(180,312)	93.01%	29.04%	-63.97%
KNOX COUNTY ATTORNEY	County Attorneys	-	-	336	336	N/A	N/A	N/A
LARUE COUNTY ATTORNEY	County Attorneys	256,453	238,527	87,501	(151,026)	93.01%	34.12%	-58.89%
LAUREL COUNTY ATTORNEY	County Attorneys	72,261	67,210	28,171	(39,039)	93.01%	38.99%	-54.02%
LAWRENCE COUNTY ATTORNEY	County Attorneys	-	-	-	-	N/A	N/A	N/A
LEE COUNTY ATTORNEY	County Attorneys	312,678	290,822	84,260	(206,562)	93.01%	26.95%	-66.06%
LOGAN COUNTY ATTORNEY	County Attorneys	230,550	214,435	127,993	(86,442)	93.01%	55.52%	-37.49%
MADISON COUNTY ATTORNEY	County Attorneys	944,115	878,121	476,213	(401,908)	93.01%	50.44%	-42.57%
MAGOFFIN CO ATTORNEY	County Attorneys	77,520	72,101	19,432	(52,669)	93.01%	25.07%	-67.94%
MCCRACKEN COUNTY ATTORNEY	County Attorneys	111,033	103,272	75,358	(27,914)	93.01%	67.87%	-25.14%
MCCREARY COUNTY ATTORNEY	County Attorneys	336,834	313,289	147,158	(166,131)	93.01%	43.69%	-49.32%
MEADE COUNTY ATTORNEY	County Attorneys	193,193	179,689	106,902	(72,787)	93.01%	55.33%	-37.68%
MENIFEE COUNTY ATTORNEY	County Attorneys	105,186	97,833	44,106	(53,727)	93.01%	41.93%	-51.08%
MERCER COUNTY ATTORNEY	County Attorneys	67,783	63,045	36,656	(26,389)	93.01%	54.08%	-38.93%
MONROE CO ATTORNEY	County Attorneys	129,168	120,139	49,496	(70,643)	93.01%	38.32%	-54.69%
MONTGOMERY CO ATTORNEY	County Attorneys	280,759	261,134	127,598	(133,536)	93.01%	45.45%	-47.56%
MORGAN COUNTY ATTORNEY	County Attorneys	92,503	86,037	115,719	29,682	93.01%	125.10%	32.09%
OLDHAM COUNTY ATTORNEY	County Attorneys	425,395	395,660	142,902	(252,758)	93.01%	33.59%	-59.42%
OWEN COUNTY ATTORNEY	County Attorneys	153,193	142,485	44,488	(97,997)	93.01%	29.04%	-63.97%
PENDLETON COUNTY ATTORNEY	County Attorneys	-	-	9,060	9,060	N/A	N/A	N/A
POWELL COUNTY ATTORNEY	County Attorneys	-	-	1,566	1,566	N/A	N/A	N/A
PULASKI COUNTY ATTORNEY	County Attorneys	589,655	548,438	154,758	(393,680)	93.01%	26.25%	-66.76%

Kentucky Employees Retirement Plan (Non-Hazardous) - Retirement and Insurance Combined
HB171, GA Version (27-year amortization period as of July 1, 2019 and executive, judicial, and legislative branch agencies grouped)
Based on the June 30, 2019 Actuarial Valuation

Exhibit 2. Impact of Proposed Legislation on Employer Contribution Rates

Agency Name ¹	Agency Classification ¹	Projected Payroll FY 20/21	Required Contribution			Effective Employer Contribution Rate Required Contribution / Payroll		
			Current Funding Arrangement	Proposed Legislation	Increase/(Decrease) due to Legislation	Current Funding Arrangement	Proposed Legislation	Increase/(Decrease) due to Legislation
(1)	(2)	(3)	(4) = (3) x 93.01%	(5) = Exhibit 1, Column (8)	(6) = (5) - (4)	(7) = (4) / (3)	(8) = Exhibit 1, Column (11)	(9) = (8) - (7)
ROCKCASTLE CO ATTORNEY	County Attorneys	178,219	165,761	63,745	(102,016)	93.01%	35.77%	-57.24%
ROWAN COUNTY ATTORNEY	County Attorneys	280,274	260,683	76,991	(183,692)	93.01%	27.47%	-65.54%
SHELBY COUNTY ATTORNEY	County Attorneys	67,085	62,396	30,319	(32,077)	93.01%	45.19%	-47.82%
SIMPSON COUNTY ATTORNEY	County Attorneys	67,315	62,610	37,502	(25,108)	93.01%	55.71%	-37.30%
SPENCER COUNTY ATTORNEY	County Attorneys	353,031	328,354	106,780	(221,574)	93.01%	30.25%	-62.76%
TRIGG COUNTY ATTORNEY	County Attorneys	258,541	240,469	81,341	(159,128)	93.01%	31.46%	-61.55%
TRIMBLE COUNTY ATTORNEY	County Attorneys	293,780	273,245	74,251	(198,994)	93.01%	25.27%	-67.74%
UNION COUNTY ATTORNEY	County Attorneys	46,000	42,785	21,874	(20,911)	93.01%	47.55%	-45.46%
WAYNE COUNTY ATTORNEY	County Attorneys	110,319	102,608	50,565	(52,043)	93.01%	45.84%	-47.17%
WEBSTER COUNTY ATTORNEY	County Attorneys	339,019	315,322	117,744	(197,578)	93.01%	34.73%	-58.28%
WHITLEY COUNTY ATTORNEY	County Attorneys	285,233	265,295	147,299	(117,996)	93.01%	51.64%	-41.37%
Total		1,437,647,279	1,337,155,734	1,267,286,076	(69,869,658)	93.01%	88.15%	-4.86%

Summary of Above Information by Agency Classification

Agency Classification	Projected Payroll FY 20/21	Required Contribution			Effective Employer Contribution Rate		
		Current Plan	Proposed Legislation	Increase/(Decrease) due to Legislation	Current Plan	Proposed Legislation	Increase/(Decrease) due to Legislation
Health Departments	93,217,225	86,701,343	84,579,849	(2,121,494)	93.01%	90.73%	-2.28%
Non-P1 State Assoc/Corp.	27,552,699	25,626,765	15,818,018	(9,808,747)	93.01%	57.41%	-35.60%
Non-P1 State Agencies	10,072,855	9,368,761	3,257,489	(6,111,272)	93.01%	32.34%	-60.67%
Reg Mental Hlth Units	89,710,133	83,439,394	76,813,250	(6,626,144)	93.01%	85.62%	-7.39%
Universities	103,975,361	96,707,484	74,594,993	(22,112,491)	93.01%	71.74%	-21.27%
County Attorneys	14,398,238	13,391,803	6,955,826	(6,435,977)	93.01%	48.31%	-44.70%
Legislative Branch	20,809,165	19,354,605	22,230,636	2,876,031	93.01%	106.83%	13.82%
Judicial Branch	58,730,183	54,624,943	33,518,931	(21,106,012)	93.01%	57.07%	-35.94%
Executive Branch	1,019,181,420	947,940,636	949,517,084	1,576,448	93.01%	93.16%	0.15%

Notes and Assumptions

¹ Agency names and classification information has been provided to GRS by KRS. We have reviewed this data for consistency but did not audit the data. GRS is not responsible for the accuracy or completeness of the information provided to us by KRS.

Kentucky Retirement Systems
Exhibit 3-1
KERS Non-Hazardous Retirement Fund
HB171, GA Version (27-year amortization period as of July 1, 2019)
Comparison of Current Plan and Proposed Legislation
(\$ in Millions)

Fiscal Year Beginning July 1,	Unfunded Actuarial Accrued Liability			Funded Ratio			Employer Contributions			Employer Contribution Rate		
	Current	Proposed	Difference	Current	Proposed	Difference	Current	Proposed	Difference	Current	Proposed	Difference
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2019	\$ 14,260	\$ 14,260	\$ -	13%	13%	0%	\$ 924	\$ 924	\$ -	64.3%	64.3%	0.0%
2020	14,192	14,192	-	14%	14%	0%	1,156	1,094	(62)	81.0%	76.6%	-4.4%
2021	13,840	13,903	63	16%	16%	0%	1,151	1,089	(62)	81.0%	76.6%	-4.4%
2022	13,490	13,620	130	18%	17%	-1%	1,150	1,088	(62)	81.2%	76.8%	-4.4%
2023	13,127	13,329	202	20%	19%	-1%	1,147	1,085	(62)	81.2%	76.8%	-4.4%
2024	12,746	13,022	276	22%	21%	-1%	1,144	1,082	(62)	81.2%	76.8%	-4.4%
2025	12,345	12,699	354	24%	22%	-2%	1,142	1,079	(63)	81.2%	76.8%	-4.4%
2026	11,922	12,359	437	27%	24%	-3%	1,139	1,076	(63)	81.2%	76.7%	-4.5%
2027	11,476	12,000	524	29%	26%	-3%	1,136	1,074	(62)	81.2%	76.7%	-4.5%
2028	11,007	11,622	615	31%	27%	-4%	1,134	1,071	(63)	81.2%	76.7%	-4.5%
2029	10,512	11,224	712	34%	29%	-5%	1,132	1,069	(63)	81.2%	76.7%	-4.5%
2030	9,991	10,805	814	36%	31%	-5%	1,130	1,067	(63)	81.2%	76.6%	-4.6%
2031	9,442	10,363	921	39%	33%	-6%	1,130	1,067	(63)	81.2%	76.6%	-4.6%
2032	8,861	9,896	1,035	42%	36%	-6%	1,128	1,065	(63)	81.0%	76.5%	-4.5%
2033	8,250	9,405	1,155	46%	38%	-8%	1,129	1,065	(64)	81.0%	76.5%	-4.5%
2034	7,605	8,885	1,280	49%	41%	-8%	1,126	1,062	(64)	80.7%	76.2%	-4.5%
2035	6,926	8,339	1,413	53%	43%	-10%	1,128	1,064	(64)	80.7%	76.2%	-4.5%
2036	6,210	7,762	1,552	57%	47%	-10%	1,126	1,062	(64)	80.4%	75.8%	-4.6%
2037	5,457	7,155	1,698	62%	50%	-12%	1,130	1,066	(64)	80.4%	75.8%	-4.6%
2038	4,657	6,511	1,854	67%	54%	-13%	1,126	1,062	(64)	79.7%	75.2%	-4.5%
2039	3,821	5,837	2,016	72%	58%	-14%	1,131	1,067	(64)	79.7%	75.2%	-4.5%
2040	2,934	5,122	2,188	78%	62%	-16%	1,123	1,060	(63)	78.7%	74.3%	-4.4%
2041	2,009	4,377	2,368	85%	67%	-18%	1,128	1,065	(63)	78.7%	74.3%	-4.4%
2042	1,031	3,587	2,556	92%	73%	-19%	1,118	1,058	(60)	77.8%	73.6%	-4.2%
2043	-	2,762	2,762	100%	79%	-21%	64	1,062	998	4.4%	73.6%	69.2%
2044	-	1,889	1,889	100%	85%	-15%	64	1,057	993	4.4%	73.0%	68.6%
2045	-	976	976	100%	92%	-8%	63	1,060	997	4.4%	73.0%	68.6%
2046	-	-	-	100%	100%	0%	63	63	-	4.3%	4.3%	0.0%
2047	-	-	-	100%	100%	0%	63	63	-	4.3%	4.3%	0.0%
2048	-	-	-	100%	100%	0%	63	63	-	4.3%	4.3%	0.0%

Gabriel Roeder Smith & Company

Kentucky Retirement Systems
Exhibit 3-2
KERS Non-Hazardous Retirement Fund
HB171, GA Version (27-year amortization period as of July 1, 2019)
Current Plan (Amortization Period = 24 Years at June 30, 2019)
(\$ in Millions)

Fiscal Year Beginning July 1,	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio (3) / (2)	Total Employer Contribution	Member Contribution	Covered Payroll	Total Employer Contribution as % of Covered Payroll	Employer Actuarial Determined Contribution Rate	Annual Cash Flow Analysis			
										Member and Employer Contributions	Benefit Payments and Expenses	Net External Cash Flow	Investment Income
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
2019	\$ 16,466	\$ 2,206	\$ 14,260	13%	\$ 924	\$ 72	\$ 1,438	64.26%	74.54%	\$ 996	\$ (1,008)	\$ (12)	\$ 117
2020	16,493	2,301	14,192	14%	1,156	71	1,428	80.98%	80.98%	1,227	(1,024)	203	128
2021	16,500	2,660	13,840	16%	1,151	71	1,422	80.98%	81.27%	1,222	(1,038)	184	145
2022	16,489	2,999	13,490	18%	1,150	71	1,417	81.21%	81.21%	1,221	(1,051)	170	162
2023	16,459	3,332	13,127	20%	1,147	71	1,412	81.21%	81.20%	1,218	(1,065)	153	179
2024	16,410	3,664	12,746	22%	1,144	70	1,409	81.23%	81.23%	1,214	(1,077)	137	196
2025	16,342	3,997	12,345	24%	1,142	70	1,406	81.23%	81.22%	1,212	(1,089)	123	213
2026	16,255	4,333	11,922	27%	1,139	70	1,402	81.20%	81.20%	1,209	(1,100)	109	230
2027	16,149	4,673	11,476	29%	1,136	70	1,399	81.20%	81.19%	1,206	(1,110)	96	248
2028	16,024	5,017	11,007	31%	1,134	70	1,396	81.20%	81.20%	1,204	(1,118)	86	266
2029	15,880	5,368	10,512	34%	1,132	70	1,394	81.20%	81.19%	1,202	(1,121)	81	284
2030	15,724	5,733	9,991	36%	1,130	70	1,393	81.16%	81.16%	1,200	(1,126)	74	303
2031	15,552	6,110	9,442	39%	1,130	70	1,393	81.16%	81.12%	1,200	(1,128)	72	323
2032	15,366	6,505	8,861	42%	1,128	70	1,393	81.00%	81.00%	1,198	(1,128)	70	343
2033	15,168	6,918	8,250	46%	1,129	70	1,394	81.00%	80.88%	1,199	(1,127)	72	365
2034	14,959	7,354	7,605	49%	1,126	70	1,395	80.72%	80.72%	1,196	(1,124)	72	388
2035	14,740	7,814	6,926	53%	1,128	70	1,397	80.72%	80.57%	1,198	(1,119)	79	412
2036	14,515	8,305	6,210	57%	1,126	70	1,401	80.36%	80.36%	1,196	(1,109)	87	438
2037	14,286	8,829	5,457	62%	1,130	70	1,406	80.36%	80.07%	1,200	(1,097)	103	466
2038	14,056	9,399	4,657	67%	1,126	71	1,413	79.66%	79.66%	1,197	(1,082)	115	496
2039	13,830	10,009	3,821	72%	1,131	71	1,420	79.66%	79.26%	1,202	(1,067)	135	529
2040	13,608	10,674	2,934	78%	1,123	71	1,426	78.73%	78.73%	1,194	(1,049)	145	564
2041	13,392	11,383	2,009	85%	1,128	72	1,433	78.73%	78.39%	1,200	(1,032)	168	602
2042	13,183	12,152	1,031	92%	1,118	72	1,438	77.75%	77.75%	1,190	(1,014)	176	643
2043	12,980	12,980	-	100%	64	72	1,444	4.44%	4.44%	136	(996)	(860)	658
2044	12,785	12,785	-	100%	64	72	1,448	4.40%	4.40%	136	(979)	(843)	648
2045	12,599	12,599	-	100%	63	73	1,453	4.36%	4.36%	136	(961)	(825)	639
2046	12,421	12,421	-	100%	63	73	1,457	4.32%	4.32%	136	(943)	(807)	629
2047	12,252	12,252	-	100%	63	73	1,461	4.29%	4.29%	136	(925)	(789)	620
2048	12,093	12,093	-	100%	63	73	1,465	4.27%	4.27%	136	(907)	(771)	612

Notes and assumptions:

The projection is based on the results of the June 30, 2019 actuarial valuation and assumes that all actuarial assumptions are realized, including the assumed annual asset return of 5.25%.

New active members are assumed to be hired to replace the current active members as they are assumed to terminate employment or retire, but the total active population is assumed to decrease by 2% each year over the next 30 years.

The contribution rate established in the Commonwealth's biennium budget is based on the calculated actuarial determined contribution rate.

The 64.26% employer contribution rate for FY 2020 is the effective contribution rate after reflecting HB 1 (passed during the 2019 Special Session) which provided that

Regional Mental Health/Mental Retardation Boards, Local and District Health Departments, State Universities, Community Colleges and any other agency eligible to voluntarily cease participating in the KERS to contribute a 41.06% of pay contribution rate for FY 2019. Collectively these entities reflect approximately 23% of the covered payroll in the System.

Kentucky Retirement Systems
Exhibit 3-3
KERS Non-Hazardous Retirement Fund
HB171, GA Version (27-year amortization period as of July 1, 2019)
Proposed Plan (Amortization Period = 27 Years at June 30, 2019)
(\$ in Millions)

Fiscal Year Beginning July 1,	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio (3) / (2)	Total Employer Contribution	Member Contribution	Covered Payroll	Total Employer Contribution as % of Covered Payroll	Employer Actuarial Determined Contribution Rate	Annual Cash Flow Analysis			
										Member and Employer Contributions	Benefit Payments and Expenses	Net External Cash Flow	Investment Income
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
2019	\$ 16,466	\$ 2,206	\$ 14,260	13%	\$ 924	\$ 72	\$ 1,438	64.26%	74.54%	\$ 996	\$ (1,008)	\$ (12)	\$ 117
2020	16,493	2,301	14,192	14%	1,094	71	1,428	76.62%	76.62%	1,165	(1,024)	141	126
2021	16,500	2,597	13,903	16%	1,089	71	1,422	76.62%	76.88%	1,160	(1,038)	122	140
2022	16,489	2,869	13,620	17%	1,088	71	1,417	76.81%	76.81%	1,159	(1,051)	108	153
2023	16,459	3,130	13,329	19%	1,085	71	1,412	76.81%	76.79%	1,156	(1,065)	91	167
2024	16,410	3,388	13,022	21%	1,082	70	1,409	76.80%	76.80%	1,152	(1,077)	75	180
2025	16,342	3,643	12,699	22%	1,079	70	1,406	76.80%	76.77%	1,149	(1,089)	60	193
2026	16,255	3,896	12,359	24%	1,076	70	1,402	76.74%	76.74%	1,146	(1,100)	46	206
2027	16,149	4,149	12,000	26%	1,074	70	1,399	76.74%	76.71%	1,144	(1,110)	34	219
2028	16,024	4,402	11,622	27%	1,071	70	1,396	76.70%	76.70%	1,141	(1,118)	23	232
2029	15,880	4,656	11,224	29%	1,069	70	1,394	76.70%	76.68%	1,139	(1,121)	18	245
2030	15,724	4,919	10,805	31%	1,067	70	1,393	76.63%	76.63%	1,137	(1,126)	11	259
2031	15,552	5,189	10,363	33%	1,067	70	1,393	76.63%	76.58%	1,137	(1,128)	9	273
2032	15,366	5,470	9,896	36%	1,065	70	1,393	76.45%	76.45%	1,135	(1,128)	7	287
2033	15,168	5,763	9,405	38%	1,065	70	1,394	76.45%	76.33%	1,135	(1,127)	8	303
2034	14,959	6,074	8,885	41%	1,062	70	1,395	76.17%	76.17%	1,132	(1,124)	8	319
2035	14,740	6,401	8,339	43%	1,064	70	1,397	76.17%	76.01%	1,134	(1,119)	15	336
2036	14,515	6,753	7,762	47%	1,062	70	1,401	75.80%	75.80%	1,132	(1,109)	23	355
2037	14,286	7,131	7,155	50%	1,066	70	1,406	75.80%	75.52%	1,136	(1,097)	39	375
2038	14,056	7,545	6,511	54%	1,062	71	1,413	75.15%	75.15%	1,133	(1,082)	51	397
2039	13,830	7,993	5,837	58%	1,067	71	1,420	75.15%	74.78%	1,138	(1,067)	71	421
2040	13,608	8,486	5,122	62%	1,060	71	1,426	74.33%	74.33%	1,131	(1,049)	82	448
2041	13,392	9,015	4,377	67%	1,065	72	1,433	74.33%	73.99%	1,137	(1,032)	105	476
2042	13,183	9,596	3,587	73%	1,058	72	1,438	73.56%	73.56%	1,130	(1,014)	116	507
2043	12,980	10,218	2,762	79%	1,062	72	1,444	73.56%	73.31%	1,134	(996)	138	540
2044	12,785	10,896	1,889	85%	1,057	72	1,448	72.97%	72.97%	1,129	(979)	150	576
2045	12,599	11,623	976	92%	1,060	73	1,453	72.97%	72.96%	1,133	(961)	172	615
2046	12,421	12,421	-	100%	63	73	1,457	4.32%	4.32%	136	(943)	(807)	630
2047	12,252	12,252	-	100%	63	73	1,461	4.29%	4.29%	136	(925)	(789)	622
2048	12,093	12,093	-	100%	63	73	1,465	4.27%	4.27%	136	(907)	(771)	613

Notes and assumptions:

The projection is based on the same methods and assumptions as the projection under the Current Plan (Exhibit 3-2), except that the funding period is 27 years at June 30, 2019 (rather than the current funding period of 24 years at June 30, 2019).

Kentucky Retirement Systems
Exhibit 4-1
KERS Non-Hazardous Insurance Fund
HB171, GA Version (27-year amortization period as of July 1, 2019)
Comparison of Current Plan and Proposed Legislation
(\$ in Millions)

Fiscal Year Beginning July 1,	Unfunded Actuarial Accrued Liability			Funded Ratio			Employer Contributions			Employer Contribution Rate		
	Current	Proposed	Difference	Current	Proposed	Difference	Current	Proposed	Difference	Current	Proposed	Difference
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2019	\$ 1,742	\$ 1,742	\$ -	36%	36%	0%	\$ 165	\$ 165	\$ -	11.5%	11.5%	0.0%
2020	1,718	1,718	-	39%	39%	0%	171	164	(7)	12.0%	11.5%	-0.5%
2021	1,673	1,681	8	42%	42%	0%	170	163	(7)	12.0%	11.5%	-0.5%
2022	1,633	1,648	15	45%	44%	-1%	167	160	(7)	11.8%	11.3%	-0.5%
2023	1,595	1,618	23	47%	46%	-1%	166	159	(7)	11.8%	11.3%	-0.5%
2024	1,550	1,582	32	50%	49%	-1%	163	156	(7)	11.6%	11.1%	-0.5%
2025	1,505	1,546	41	52%	50%	-2%	163	156	(7)	11.6%	11.1%	-0.5%
2026	1,454	1,505	51	54%	52%	-2%	159	152	(7)	11.4%	10.9%	-0.5%
2027	1,403	1,465	62	56%	54%	-2%	159	152	(7)	11.4%	10.9%	-0.5%
2028	1,346	1,419	73	58%	56%	-2%	155	148	(7)	11.2%	10.6%	-0.6%
2029	1,288	1,373	85	60%	58%	-2%	155	148	(7)	11.2%	10.6%	-0.6%
2030	1,225	1,322	97	62%	59%	-3%	151	144	(7)	10.9%	10.4%	-0.5%
2031	1,161	1,272	111	64%	61%	-3%	151	144	(7)	10.9%	10.4%	-0.5%
2032	1,090	1,215	125	66%	62%	-4%	148	141	(7)	10.7%	10.2%	-0.5%
2033	1,018	1,158	140	68%	64%	-4%	148	141	(7)	10.7%	10.2%	-0.5%
2034	940	1,097	157	71%	66%	-5%	146	139	(7)	10.5%	10.0%	-0.5%
2035	858	1,031	173	73%	68%	-5%	146	139	(7)	10.5%	10.0%	-0.5%
2036	770	962	192	76%	70%	-6%	144	137	(7)	10.3%	9.8%	-0.5%
2037	679	889	210	78%	72%	-6%	145	138	(7)	10.3%	9.8%	-0.5%
2038	581	811	230	81%	74%	-7%	143	136	(7)	10.1%	9.7%	-0.4%
2039	478	730	252	85%	76%	-9%	143	137	(6)	10.1%	9.7%	-0.4%
2040	368	642	274	88%	79%	-9%	141	135	(6)	9.9%	9.5%	-0.4%
2041	252	551	299	92%	82%	-10%	142	135	(7)	9.9%	9.5%	-0.4%
2042	128	451	323	96%	85%	-11%	139	134	(5)	9.7%	9.3%	-0.4%
2043	-	349	349	100%	88%	-12%	6	134	128	0.4%	9.3%	8.9%
2044	-	239	239	100%	92%	-8%	6	133	127	0.4%	9.2%	8.8%
2045	-	123	123	100%	96%	-4%	6	133	127	0.4%	9.2%	8.8%
2046	-	-	-	100%	100%	0%	6	6	-	0.4%	0.4%	0.0%
2047	-	-	-	100%	100%	0%	6	6	-	0.4%	0.4%	0.0%
2048	-	-	-	100%	100%	0%	5	5	-	0.4%	0.4%	0.0%

Gabriel Roeder Smith & Company

Kentucky Retirement Systems
Exhibit 4-2
KERS Non-Hazardous Insurance Fund
HB171, GA Version (27-year amortization period as of July 1, 2019)
Current Plan (Amortization Period = 24 Years at June 30, 2019)
(\$ in Millions)

Fiscal Year Beginning July 1,	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio (3) / (2)	Total Employer Contribution	Member Contribution	Covered Payroll	Total Employer Contribution as % of Covered Payroll	Employer Actuarial Determined Contribution Rate	Annual Cash Flow Analysis			
										Member and Employer Contributions	Benefit Payments and Expenses	Net External Cash Flow	Investment Income
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
2019	\$ 2,733	\$ 991	\$ 1,742	36%	\$ 165	\$ 6	\$ 1,431	11.50%	10.65%	\$ 171	\$ (133)	\$ 38	\$ 63
2020	2,808	1,090	1,718	39%	171	6	1,421	12.03%	12.03%	177	(137)	40	70
2021	2,882	1,209	1,673	42%	170	7	1,415	12.03%	11.99%	177	(145)	32	76
2022	2,951	1,318	1,633	45%	167	7	1,410	11.83%	11.83%	174	(153)	21	83
2023	3,015	1,420	1,595	47%	166	8	1,406	11.83%	11.73%	174	(161)	13	89
2024	3,072	1,522	1,550	50%	163	8	1,402	11.63%	11.63%	171	(170)	1	95
2025	3,123	1,618	1,505	52%	163	9	1,399	11.63%	11.53%	172	(180)	(8)	101
2026	3,165	1,711	1,454	54%	159	9	1,396	11.40%	11.40%	168	(189)	(21)	106
2027	3,200	1,797	1,403	56%	159	10	1,393	11.40%	11.28%	169	(199)	(30)	111
2028	3,224	1,878	1,346	58%	155	10	1,390	11.15%	11.15%	165	(208)	(43)	116
2029	3,239	1,951	1,288	60%	155	11	1,388	11.15%	11.03%	166	(217)	(51)	120
2030	3,245	2,020	1,225	62%	151	11	1,387	10.89%	10.89%	162	(224)	(62)	124
2031	3,244	2,083	1,161	64%	151	11	1,387	10.89%	10.78%	162	(229)	(67)	128
2032	3,235	2,145	1,090	66%	148	12	1,387	10.66%	10.66%	160	(233)	(73)	132
2033	3,221	2,203	1,018	68%	148	12	1,388	10.66%	10.58%	160	(236)	(76)	135
2034	3,203	2,263	940	71%	146	13	1,389	10.48%	10.48%	159	(238)	(79)	139
2035	3,180	2,322	858	73%	146	13	1,391	10.48%	10.40%	159	(238)	(79)	143
2036	3,156	2,386	770	76%	144	13	1,395	10.32%	10.32%	157	(236)	(79)	147
2037	3,132	2,453	679	78%	145	13	1,401	10.32%	10.23%	158	(234)	(76)	151
2038	3,108	2,527	581	81%	143	14	1,407	10.13%	10.13%	157	(232)	(75)	156
2039	3,085	2,607	478	85%	143	14	1,414	10.13%	10.05%	157	(229)	(72)	161
2040	3,063	2,695	368	88%	141	14	1,421	9.93%	9.93%	155	(226)	(71)	166
2041	3,043	2,791	252	92%	142	14	1,427	9.93%	9.87%	156	(223)	(67)	172
2042	3,024	2,896	128	96%	139	14	1,433	9.67%	9.67%	153	(219)	(66)	179
2043	3,009	3,009	-	100%	6	14	1,438	0.42%	0.42%	20	(216)	(196)	182
2044	2,995	2,995	-	100%	6	14	1,443	0.41%	0.41%	20	(214)	(194)	181
2045	2,983	2,983	-	100%	6	14	1,447	0.40%	0.40%	20	(212)	(192)	180
2046	2,971	2,971	-	100%	6	14	1,451	0.38%	0.38%	20	(212)	(192)	180
2047	2,960	2,960	-	100%	6	15	1,455	0.38%	0.38%	21	(212)	(191)	179
2048	2,947	2,947	-	100%	5	15	1,459	0.37%	0.37%	20	(212)	(192)	178

Notes and assumptions:

The projection is based on the results of the June 30, 2019 actuarial valuation and assumes that all actuarial assumptions are realized, including the assumed annual asset return of 6.25%.

New active members are assumed to be hired to replace the current active members as they are assumed to terminate employment or retire, but the total active population is assumed to decrease by 2% each year over the next 30 years.

The contribution rate established in the Commonwealth's biennium budget is based on the calculated actuarial determined contribution rate.

The 11.50% employer contribution rate for FY 2020 is the effective contribution rate after reflecting HB 1 (passed during the 2019 Special Session) which provided that

Regional Mental Health/Mental Retardation Boards, Local and District Health Departments, State Universities, Community Colleges and any other agency eligible to voluntarily cease participating in the KERS to contribute a 8.41% of pay contribution rate for FY 2019. Collectively these entities reflect approximately 23% of the covered payroll in the System.

Kentucky Retirement Systems
Exhibit 4-3
KERS Non-Hazardous Insurance Fund
HB171, GA Version (27-year amortization period as of July 1, 2019)
Proposed Plan (Amortization Period = 27 Years at June 30, 2019)
(\$ in Millions)

Fiscal Year Beginning July 1,	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio (3) / (2)	Total Employer Contribution	Member Contribution	Covered Payroll	Total Employer Contribution as % of Covered Payroll	Employer Actuarial Determined Contribution Rate	Annual Cash Flow Analysis			
										Member and Employer Contributions	Benefit Payments and Expenses	Net External Cash Flow	Investment Income
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
2019	\$ 2,733	\$ 991	\$ 1,742	36%	\$ 165	\$ 6	\$ 1,431	11.50%	10.65%	\$ 171	\$ (133)	\$ 38	\$ 63
2020	2,808	1,090	1,718	39%	164	6	1,421	11.53%	11.53%	170	(137)	33	70
2021	2,882	1,201	1,681	42%	163	7	1,415	11.53%	11.48%	170	(145)	25	76
2022	2,951	1,303	1,648	44%	160	7	1,410	11.32%	11.32%	167	(153)	14	82
2023	3,015	1,397	1,618	46%	159	8	1,406	11.32%	11.23%	167	(161)	6	87
2024	3,072	1,490	1,582	49%	156	8	1,402	11.13%	11.13%	164	(170)	(6)	93
2025	3,123	1,577	1,546	50%	156	9	1,399	11.13%	11.02%	165	(180)	(15)	98
2026	3,165	1,660	1,505	52%	152	9	1,396	10.89%	10.89%	161	(189)	(28)	103
2027	3,200	1,735	1,465	54%	152	10	1,393	10.89%	10.77%	162	(199)	(37)	107
2028	3,224	1,805	1,419	56%	148	10	1,390	10.64%	10.64%	158	(208)	(50)	111
2029	3,239	1,866	1,373	58%	148	11	1,388	10.64%	10.52%	159	(217)	(58)	115
2030	3,245	1,923	1,322	59%	144	11	1,387	10.38%	10.38%	155	(224)	(69)	118
2031	3,244	1,972	1,272	61%	144	11	1,387	10.38%	10.27%	155	(229)	(74)	121
2032	3,235	2,020	1,215	62%	141	12	1,387	10.15%	10.15%	153	(233)	(80)	124
2033	3,221	2,063	1,158	64%	141	12	1,388	10.15%	10.08%	153	(236)	(83)	126
2034	3,203	2,106	1,097	66%	139	13	1,389	9.98%	9.98%	152	(238)	(86)	129
2035	3,180	2,149	1,031	68%	139	13	1,391	9.98%	9.91%	152	(238)	(86)	132
2036	3,156	2,194	962	70%	137	13	1,395	9.83%	9.83%	150	(236)	(86)	134
2037	3,132	2,243	889	72%	138	13	1,401	9.83%	9.75%	151	(234)	(83)	138
2038	3,108	2,297	811	74%	136	14	1,407	9.66%	9.66%	150	(232)	(82)	141
2039	3,085	2,355	730	76%	137	14	1,414	9.66%	9.58%	151	(229)	(78)	145
2040	3,063	2,421	642	79%	135	14	1,421	9.49%	9.49%	149	(226)	(77)	149
2041	3,043	2,492	551	82%	135	14	1,427	9.49%	9.43%	149	(223)	(74)	153
2042	3,024	2,573	451	85%	134	14	1,433	9.33%	9.33%	148	(219)	(71)	159
2043	3,009	2,660	349	88%	134	14	1,438	9.33%	9.29%	148	(216)	(68)	164
2044	2,995	2,756	239	92%	133	14	1,443	9.22%	9.22%	147	(214)	(67)	170
2045	2,983	2,860	123	96%	133	14	1,447	9.22%	9.17%	147	(212)	(65)	177
2046	2,971	2,971	-	100%	6	14	1,451	0.38%	0.38%	20	(212)	(192)	180
2047	2,960	2,960	-	100%	6	15	1,455	0.38%	0.38%	21	(212)	(191)	179
2048	2,947	2,947	-	100%	5	15	1,459	0.37%	0.37%	20	(212)	(192)	178

Notes and assumptions:

The projection is based on the same methods and assumptions as the projection under the Current Plan (Exhibit 4-2), except that the funding period is 27 years at June 30, 2019 (rather than the current funding period of 24 years at June 30, 2019).