



Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

March 4, 2019

Mr. Robert B. Barnes
Deputy Executive Secretary and General Counsel
Kentucky Teachers' Retirement System
479 Versailles Road
Frankfort, KY 40601-3800

Actuarial Impact – House Bill 505 - 19 RS BR 1234 (REVISED)

AA Statement 1 of 2

Dear Beau:

We have prepared an actuarial analysis of the impact of House Bill 505 - 19 RS BR 1234 (HB 505) on the Teachers' Retirement System of the State of Kentucky (TRS). HB 505 changes actuarial funding beginning with the June 30, 2019 actuarial valuation. The major provisions of HB 505 are summarized below and the estimated cost impacts are provided in the attached Exhibits.

Beginning July 1, 2020, each employer shall pay the additional contribution required to fund TRS on an actuarially sound basis. While fixed based statutory employer contribution rates will still be provided by employers and/or the State, the determination of the Actuarially Determined Contribution (ADC) will be calculated as follows:

- Normal cost plus an amortization payment for the Unfunded Accrued Liability (UAL),
- Normal cost determined using the Entry Age Normal cost method as a percentage of payroll,
- UAL payment methodology will be as follows:
 - Closed 30-year period beginning June 30, 2014 ○
Phase into level dollar amortization as follows:
 - The level percentage of payroll amortization method in the 2019 actuarial valuation with a payroll growth assumption of three percent (3.00%);
 - The level percentage of payroll amortization method in the 2020 actuarial valuation with a payroll growth assumption of two and one-half percent (2.50%);
 - The level percentage of payroll amortization method in the 2021 actuarial valuation with a payroll growth assumption of two percent (2.00%);



- The level percentage of payroll amortization method in the 2022 actuarial valuation with a payroll growth assumption of one and one-half percent (1.50%);
 - The level percentage of payroll amortization method in the 2023 actuarial valuation with a payroll growth assumption of one percent (1.00%);
 - The level percentage of payroll amortization method in the 2024 actuarial valuation with a payroll growth assumption of one-half percent (0.50%);
 - The level dollar amortization method in the 2025 actuarial valuation and for each valuation occurring thereafter.
- The UAL payment above the fixed base statutory employer rate will be set as a dollar amount and will be prorated to each employer based upon the employer's share of the total payroll for fiscal years 2015-2017. The state will pay this cost for local school districts.

Conclusion

In the June 30, 2018 actuarial valuation before HB 505, there is 26 years remaining on the amortization period to pay off the Unfunded Accrued Liability. HB 505 does not reset this amortization period. As shown in Exhibit 2, after the first year, there is a cost for the next twelve years of the twenty-year projection due to the phase in to the level dollar amortization methodology, but the last seven years of the twenty-year projection generate subsequent savings.

Over the twenty-year projection period, there is an overall total cost of HB 505 of approximately \$467 million, but if the projection period was extended to when the UAL is ultimately paid off (26 years), HB 505 would generate a savings of approximately \$3.7 billion.

Projections are designed to identify anticipated trends rather than predicting some future state of events. The projections are based on TRS' estimated financial status on June 30, 2018, and project future events using one set of assumptions out of a range of many possibilities. The projections do not predict TRS' financial condition or its ability to pay benefits in the future and do not provide any guarantee of future financial soundness of the DB Plan. Over time, a defined benefit plan's total cost will depend on a number of factors, including the amount of benefits paid, the number of people paid benefits, the duration of the benefit payments, plan expenses, and the amount of earnings on assets invested to pay benefits. These amounts and other variables are uncertain at the time the projections were made. Because actual experience will not unfold exactly as expected, actual results can be expected to differ from the projections. To the extent that actual experience deviates significantly from the assumptions, results could be significantly better or significantly worse than indicated in this study.

Mr. Robert B. Barnes
March 4, 2019
Page 3



The undersigned, Edward J. Koebel, is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

If you have any questions, please do not hesitate to contact us.

Sincerely,

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

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

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

Cathy Turcot
Principal and Managing Director



Exhibit 1
Teachers' Retirement System of the State of Kentucky
Current Funding Status for the Defined Benefit Plan
 (\$ in thousands)

Fiscal Year	Non-University Payroll (1)	University Payroll (2)	Total Payroll (3)	Unfunded Accrued Liability (4)	Funding Ratio (5)	Actuarially Determined Contribution in Dollars for DB Plan (6)
FY 2020-21	\$3,571,435	\$207,866	\$3,779,301	\$14,299,615	57.7%	\$1,167,279
FY 2021-22	3,658,514	213,749	3,872,263	14,374,218	58.3%	1,181,007
FY 2022-23	3,746,792	220,674	3,967,466	14,487,014	59.0%	1,214,393
FY 2023-24	3,835,236	227,740	4,062,976	14,298,343	60.5%	1,221,607
FY 2024-25	3,923,547	235,953	4,159,500	14,343,329	61.2%	1,250,400
FY 2025-26	4,011,064	245,602	4,256,666	14,487,484	61.7%	1,290,583
FY 2026-27	4,099,537	256,214	4,355,751	14,635,297	62.2%	1,332,372
FY 2027-28	4,189,469	267,785	4,457,254	14,768,060	62.6%	1,375,446
FY 2028-29	4,283,439	279,938	4,563,377	14,874,398	63.1%	1,419,935
FY 2029-30	4,380,892	292,275	4,673,167	14,944,400	63.7%	1,465,930
FY 2030-31	4,482,233	305,373	4,787,606	14,971,832	64.3%	1,513,669
FY 2031-32	4,589,338	318,575	4,907,913	14,949,175	65.0%	1,563,155
FY 2032-33	4,701,338	331,935	5,033,273	14,868,607	65.8%	1,614,477
FY 2033-34	4,816,709	346,267	5,162,976	14,727,533	66.7%	1,667,676
FY 2034-35	4,939,271	360,392	5,299,663	14,518,959	67.7%	1,722,803
FY 2035-36	5,068,854	375,000	5,443,854	14,229,065	68.9%	1,779,869
FY 2036-37	5,207,360	390,751	5,598,111	13,852,357	70.2%	1,839,156
FY 2037-38	5,354,372	406,856	5,761,228	13,378,366	71.6%	1,956,286
FY 2038-39	5,510,376	423,758	5,934,134	12,798,356	73.2%	1,968,615
FY 2039-40	5,675,485	441,297	6,116,782	12,100,524	75.1%	2,103,045



Exhibit 2
Teachers' Retirement System of the State of Kentucky
Funding Requirements under House Bill 505 and Comparison to Current Plan
 (\$ in thousands)

Fiscal Year	Non-University Payroll (7)	University Payroll (8)	Total Payroll (9)=(7)+(8)	Unfunded Accrued Liability under HB 505 (10)	HB 505 Funding Ratio (11)	Total Employer Contribution for Proposed Bill (12)	Total Employer Contribution for Current Plan (13)=(6)	Cost/(Savings) to TRS Employers due to HB 505 (14)=(13)-(12)
FY 2020-21	\$3,571,435	\$207,866	\$3,779,301	\$14,299,615	57.7%	\$1,167,279	\$1,167,279	\$ 0
FY 2021-22	3,658,514	213,749	3,872,263	14,358,646	58.4%	1,234,857	1,181,007	53,850
FY 2022-23	3,746,792	220,674	3,967,466	14,453,246	59.1%	1,324,324	1,214,393	109,931
FY 2023-24	3,835,236	227,740	4,062,976	14,182,186	60.7%	1,385,522	1,221,607	163,915
FY 2024-25	3,923,547	235,953	4,159,500	14,100,805	61.8%	1,465,592	1,250,400	215,192
FY 2025-26	4,011,064	245,602	4,256,666	14,051,969	62.8%	1,546,129	1,290,583	255,546
FY 2026-27	4,099,537	256,214	4,355,751	13,955,611	63.8%	1,562,335	1,332,372	229,963
FY 2027-28	4,189,469	267,785	4,457,254	13,792,082	65.0%	1,617,728	1,375,446	242,282
FY 2028-29	4,283,439	279,938	4,563,377	13,558,464	66.3%	1,638,319	1,419,935	218,384
FY 2029-30	4,380,892	292,275	4,673,167	13,252,080	67.6%	1,642,668	1,465,930	176,738
FY 2030-31	4,482,233	305,373	4,787,606	12,876,318	69.1%	1,647,300	1,513,669	133,631
FY 2031-32	4,589,338	318,575	4,907,913	12,490,167	70.6%	1,652,166	1,563,155	89,011
FY 2032-33	4,701,338	331,935	5,033,273	12,091,040	72.0%	1,657,304	1,614,477	42,827
FY 2033-34	4,816,709	346,267	5,162,976	11,662,227	73.5%	1,634,344	1,667,676	(33,332)
FY 2034-35	4,939,271	360,392	5,299,663	11,203,132	74.9%	1,639,896	1,722,803	(82,907)
FY 2035-36	5,068,854	375,000	5,443,854	10,706,812	76.4%	1,645,651	1,779,869	(134,218)
FY 2036-37	5,207,360	390,751	5,598,111	10,171,495	77.9%	1,651,820	1,839,156	(187,336)
FY 2037-38	5,354,372	406,856	5,761,228	9,590,320	79.4%	1,671,261	1,956,286	(285,025)
FY 2038-39	5,510,376	423,758	5,934,134	8,962,527	81.1%	1,639,364	1,968,615	(329,251)
FY 2039-40	5,675,485	441,297	6,116,782	8,285,532	82.7%	1,690,838	2,103,045	(412,207)



KENTUCKY RETIREMENT SYSTEMS

David L. Eager, Executive Director

Perimeter Park West • 1260 Louisville Road • Frankfort, Kentucky 40601
kyret.ky.gov • Phone: 502-696-8800 • Fax: 502-696-8822



February 27, 2019

Ms. Katie Carney
Office of Fiscal Statement Review
Legislative Research Commission
Capitol Annex, Room 104
Frankfort, KY 40601

RE: House Bill 505 (2019 RS BR 1234)
AA Statement Required by KRS 6.350
AA Statement 2 of 2

Dear Ms. Carney:

House Bill 505 (2019 RS BR 1234) proposes to repeal, reenact, and amend KRS 161.550 to require employers to pay the full actuarially required contribution to Teachers' Retirement Systems; provides that for the employer rates payable on or after July 1, 2020, the unfunded liabilities shall be financed with a reduced payroll growth assumption so that by the 2025 valuation the level dollar amortization method is used; prorates unfunded liability payments to each employer based upon the employer's average share of payroll over fiscal years 2015, 2016, and 2017; provides that employer funding requirements shall be determined using the entry age normal cost method, a five-year asset smoothing method, and assumptions adopted by the TRS board; defines "normal cost" and "actuarially accrued unfunded liability contribution," and provides that local school districts shall pay 2% of pay towards the costs of new TRS members retirement benefits; amends KRS 161.400 to make conforming amendments; creates a new section of KRS 78.510 to 78.852 to provide that CERS employer contribution rates shall not increase by more than 12% per year over the prior fiscal year from July 1, 2018, to June 30, 2028; and provides that the CERS rate increase limit is retroactive to July 1, 2018. The bill includes a severability clause.

Kentucky Retirement Systems (KRS) staff members have consulted with our actuaries and examined House Bill 505 (2019 RS BR 1234). Our analysis only pertains to the CERS plans. We have determined that the bill will not increase or decrease benefits in any of the retirement systems administered by Kentucky Retirement Systems, and would not increase or decrease the participation in benefits within the retirement systems administered by KRS.

House Bill 505 (2019 RS BR 1234) would have no fiscal impact to the liability and contribution requirement for the CERS Non-Hazardous and CERS Hazardous plans. Rather, this proposed legislation is making a technical update to this provision, which was enacted in HB 362 during the 2018 Regular Session.



KENTUCKY RETIREMENT SYSTEMS

David L. Eager, Executive Director

Perimeter Park West • 1260 Louisville Road • Frankfort, Kentucky 40601
kyret.ky.gov • Phone: 502-696-8800 • Fax: 502-696-8822



House Bill 505 (2019 RS BR 1234)
AA Statement Required by KRS 6.350
Page 2

In accordance with KRS 6.350 (2)(c), Kentucky Retirement Systems certifies the following:

1. The estimated number of individuals affected as of June 30, 2018 are 84,435 active, 81,608 inactive, and 56,629 retired members in the CERS Non-Hazardous plan; and 9,285 active, 2,581 inactive, and 7,647 retired members in the CERS Hazardous plan;
2. There is no estimated change in benefit payments;
3. There is no estimated increase in employer costs; and
4. There is no estimated change to administrative expenses.

We have not requested any further actuarial analysis of House Bill 505 (2019 RS BR 1234) by the Systems' independent actuary.

Please let me know if you have any questions regarding our analysis of House Bill 505 (2019 RS BR 1234).

Sincerely,

A handwritten signature in cursive script that reads "David Eager".

David L. Eager
Executive Director
Kentucky Retirement Systems