



Section I – Summary of Principal Results

LIFE INSURANCE TRUST (Dollar amounts in \$1,000's)

Valuation Date	June 30, 2021	June 30, 2020
Number of Active Members*	65,604	73,151
Annual Salaries	\$ 3,784,400	\$ 3,723,482
Number of Vested Former Members	10,388	9,139
Number of Retirees in Life Insurance Plan	51,731	52,262
Assets:		
Market Value	\$ 107,427	\$ 87,368
Actuarial Value	\$ 95,483	\$ 92,229
Unfunded Actuarial Accrued Liability**	\$ 21,173	\$ 29,965
Funded Ratio Based on Actuarial Value of Assets	81.9%	75.5%
Amortization Period (Years)	23	24
Discount Rate	7.10%	7.50%
Contribution for fiscal year ending:	June 30, 2024	June 30, 2023
Normal	0.02 %	0.03 %
Accrued Liability	0.04	0.05
Total	0.06 %	0.08 %

*There were initially 69,256 active members and 10,538 deferred vested members. However, 3,652 active members and 150 deferred vested members were also listed as a retiree and were ultimately valued in their retired status. There were initially 52,960 retired or disabled members. However, 1,229 were listed multiple times, reflecting different pension benefits earned under multiple roles as an employee. Beginning with the June 30, 2021 valuation date, the counts in the exhibit above reflect all adjustments. Prior to June 30, 2021, the exhibit reflected the initial member counts.

** Includes liability for death in active service. This amount could be segregated from the OPEB liability and assets could be split for active and post-employment purposes. However, since this could be administratively burdensome and since death in active service liabilities can be considered de minimis, we will consider the entire liability an OPEB liability under GASB 74 and 75.



Section I – Summary of Principal Results

2. The valuation indicates combined member, employer, and State contributions of 4.64% of active member payroll would be sufficient to support the current benefits of the Retiree Medical Plan and State contributions of 0.06% of active member payroll would be sufficient to support the current benefits of the Life Insurance Plan. Comments on the valuation results as of June 30, 2021 are given in Section IV and further discussion of the contribution levels is set out in Sections VI and VII.
3. Schedule B shows the development of the actuarial value of assets. The assumed investment rate of return is 7.10% for the health trust and 7.10% for the life trust.
4. Schedule D of this report outlines the full set of actuarial assumptions and methods employed in the current valuation. Since the previous valuation, the initial per capita costs of health care and the rates of health care inflation used to project the per capita health care costs have been revised to reflect recent experience. Additionally, various economic and demographic assumptions have been revised to reflect the results of the experience investigation for the five-year period ending June 30, 2020. The changes adopted by the Board on September 20, 2021, include various demographic and economic assumptions summarized below:
 - Price Inflation changed assumed rate from 3.00% to 2.50%,
 - Wage Inflation changed assumed rate from 3.50% to 2.75%,
 - Assumed investment rate of return changed from 8.00% for the Health Trust and 7.50% for the Life Trust to 7.10% for both,
 - Assumed Salary Scale adjusted to reflect a decrease of 0.25% in merit & promotion for all ages,
 - Assumed rates of mortality have been revised to the Pub-2010 (Teachers Benefit-Weighted) Mortality Table projected generationally with the MP-2020 improvement scale with various set-forwards, set-backs, and adjustments,
 - Assumed rates of Withdrawal, Disability, Retirement, and Mortality have been adjusted to more closely reflect experience, and
 - Assumed rates of member and spousal participation have been adjusted to more closely reflect experience.



Section I – Summary of Principal Results

5. The impact of the COVID-19 pandemic was considered in this valuation; however, no changes were incorporated at this time due to the level of uncertainty regarding the impact on both plan costs and contribution levels going forward. Given the uncertainty regarding COVID-19 (e.g., the impact of routine care being deferred, direct COVID-19 treatment and prevention costs, changes in contribution and budget projections), continued monitoring of the impact on the Plan's liability will be required. TRS and UnitedHealthcare have a gain share in place should actual claims costs drop below a medical loss ratio of 90%. Due to deferred care in 2020 because of COVID-19, TRS will receive approximately \$16 million to \$18 million in subsidy revenue returned from UnitedHealthcare in early 2022.
6. Provisions of the System, as summarized in Schedule E, were taken into account in the current valuation. As in the previous valuation, the phase out of the KEHP dependent subsidies offered to retirees has been reflected. Beginning in 2021, no subsidy is allowed by law.
7. The funded ratio shown in the Summary of Principal Results is the ratio of actuarial value of assets to the actuarial accrued liability. The funded status would be different based on the market value of assets. The funded ratio is an indication of progress in funding the promised benefits. Since the ratio is less than 100%, there is a need for additional contributions toward the payment of the unfunded actuarial accrued liability. In addition, this funded ratio does not have any relationship to measuring the sufficiency if the plan had to settle its liabilities.



Section II – Membership Data

1. Data regarding the membership of the Retiree Medical and Life Insurance Plans for use as a basis of the valuation were furnished by the System's office. The following tables summarize the membership of the System as of June 30, 2021, upon which the valuation was based. Detailed tabulations of the data are given in Schedule F.

ACTIVE MEMBERS AS OF JUNE 30, 2021

Group	Number*	Annual Salaries (\$1,000's)
University Full Time hired before 7/1/2008	1,197	\$ 91,384
University Full Time hired after 7/1/2008	1,850	100,077
Non-University Full Time hired before 7/1/2008	28,937	2,038,325
Non-University Full Time hired after 7/1/2008	28,866	1,497,694
Non-University Part Time hired before 7/1/2008	914	8,393
Non-University Part Time hired after 7/1/2008	7,492	48,527
Total	69,256	\$ 3,784,400

*The active member counts above reflect the initial active membership. Approximately 3,652 of these active members were ultimately valued in their retired status.

2. The following tables show the number of retired members and their beneficiaries receiving health care as of the valuation date as well as average ages.

RETIREES RECEIVING HEALTH BENEFITS AS OF JUNE 30, 2021

	Under 65	Over 65	Total
Number	9,519	31,656	41,175
Average Age	59.55	74.83	71.30

SPOUSES RECEIVING HEALTH BENEFITS AS OF JUNE 30, 2021

	Under 65	Over 65	Total
Number	1,727	5,001	6,728
Average Age	60.16	75.05	71.23



Section II – Membership Data

3. The Retiree Medical Plan valuation includes 7,658 deferred vested members eligible for health care at age 60, and the Life Insurance Plan valuation includes 10,388 deferred vested members eligible for retiree life insurance at age 60. There were initially 10,538 deferred vested members eligible for retiree life insurance at age 60. However, approximately 150 of these were also listed as retirees and were valued in their retired status versus deferred vested status.



Section III – Assets

1. As of June 30, 2021, the market value of the health trust assets held by the Retiree Medical Plan amounted to \$2,300,504,416 and the market value of the life trust assets held by the Life Insurance Plan amounted to \$107,426,916. The market investment return for the plan year was 31.10% for the health trust and 28.17% for the life trust.
2. The five-year market related value of the health trust assets used for valuation purposes as of June 30, 2021 was \$2,072,648,389 and the five-year market related value of the life trust assets used for valuation purposes as of June 30, 2021 was \$95,483,312. Schedule B shows the development of the actuarial value of assets as of June 30, 2021.
3. Schedule C shows the receipts and disbursements for the year preceding the valuation date and a reconciliation of the asset balances for the health trust and the life trust.



Section IV – Comments on Valuation

1. Schedule A of this report outlines the results of the actuarial valuation. The valuation was prepared in accordance with the actuarial assumptions and the actuarial cost method, which are described in Schedule D.
2. The valuation shows the Retiree Medical Plan has an actuarial accrued liability of \$1,766,335,902 for benefits expected to be paid on account of the present active membership, based on service to the valuation date. The liability on account of deferred vested members amounts to \$54,652,546. The liability on account of benefits payable to retirees and covered spouses amounts to \$1,635,688,645. The total actuarial accrued liability of the Retiree Medical Plan amounts to \$3,456,677,093. Against these liabilities, the Retiree Medical Plan has present assets for valuation purposes of \$2,072,648,389. When this amount is deducted from the actuarial accrued liability of \$3,456,677,093, there remains \$1,384,028,704 as the unfunded actuarial accrued liability for the Retiree Medical Plan.
3. The normal contribution is equal to the actuarial present value of benefits accruing during the current year. The normal contribution for the Retiree Medical Plan is determined to be \$72,689,615, or 1.92% of payroll.
4. The valuation shows that the Life Insurance Plan has an actuarial accrued liability of \$15,986,112 for benefits expected to be paid on account of the present active membership, based on service to the valuation date. The liability on account of deferred vested members amounts to \$4,162,441. The liability on account of benefits payable to retirees amounts to \$96,507,445. The total actuarial accrued liability of the Life Insurance Plan amounts to \$116,655,998. This amount includes liability for death in active service. The liability for death in active service could be segregated from the OPEB liability and assets could be split for active and post-employment purposes. As this could be administratively burdensome and, as death in active service liabilities can be considered de minimis, we will consider the entire liability an OPEB liability under GASB 74 and 75. Against these liabilities, the Life Insurance Plan has present assets for valuation purposes of \$95,483,312. When this amount is deducted from the actuarial accrued liability of \$116,655,998, there remains \$21,172,686 as the unfunded actuarial accrued liability for the life insurance plan.



Section IV – Comments on Valuation

5. The normal contribution is equal to the actuarial present value of benefits accruing during the current year. The normal contribution for the life insurance plan is determined to be \$880,340, or 0.02% of payroll.



Section V – Derivation of Experience Gains and Losses

Actual experience will never (except by coincidence) coincide exactly with assumed experience. It is assumed that gains and losses will be in balance over a period of years, but sizable year-to-year fluctuations are common. Detail on the derivation of the experience gain (loss) for the year ended June 30, 2021 is shown below (\$1,000's).

Experience (Gain)/Loss* of the:		Health Insurance Trust	Life Insurance Trust
(1)	UAAL as of 6/30/2020	\$ 1,056,685	\$ 29,965
(2)	Normal cost from last valuation	54,948	1,199
(3)	Expected employer contributions	131,774	2,290
(4)	Interest accrual: [(1) + (2)] x .080 - (3) x .080/2 for Health [(1) + (2)] x .075 - (3) x .075/2 for Life	<u>83,660</u>	<u>2,251</u>
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	\$ 1,063,519	\$ 31,125
(6)	Change due to Experience Study	369,834	(5,022)
(7)	Change due to claims experience and trend	<u>184,017</u>	<u>0</u>
(8)	Expected UAAL after changes: (5) + (6) + (7)	\$ 1,617,370	\$ 26,103
(9)	Actual UAAL as of 6/30/2021	<u>1,384,029</u>	<u>21,173</u>
(10)	Total (gain)/loss: (9) - (8)	(233,341)	(4,930)
	(a) Contribution and investment (gain)/loss	<u>(234,432)</u>	<u>(310)</u>
	(b) Experience (gain)/loss (10) - (10a)	1,091	(4,620)
(11)	Accrued liabilities as of 6/30/2020	\$ 2,757,653	\$ 122,194
(12)	Experience (gain)/loss as percent of actuarial accrued liabilities at start of year (10b) / (11)	0.0%	(3.8%)

* Rows labeled as a change, rather than a gain/(loss), are expressed as negative if the UAAL is decreased and positive if the UAAL is increased.



Section VI – Contributions Payable Under the Plans

- Sections 161.420 and 161.550 of the Kentucky Revised Statutes provide the amounts employers and the State are required to contribute to the Health Insurance Trust. These contribution amounts vary by date of membership and employee type.

Employer Percentage of Payroll Contribution Made to Health Insurance Trust					
University Employees		School District Employees (Non-Federal)*		Other Employees	
Hired Before 7/1/2008	Hired On or After 7/1/2008	Hired Before 7/1/2008	Hired On or After 7/1/2008	Hired Before 7/1/2008	Hired On or After 7/1/2008
2.775	1.775	3.000	3.000	3.750	2.750

* In addition to the amounts contributed by School Districts on behalf of Non-Federal employees, the State contributes 0.75%.

- For the fiscal year ending June 30, 2021, member contributions will be 2.775% for University employees and 3.750% for all other members. Based upon the amortization of the unfunded actuarial accrued liability over a 19-year period as a level percentage of payroll, the valuation indicates employer and State contributions of 1.865% of payroll for University employees and 0.890% of payroll for all other members.
- The State is scheduled to contribute 0.08% of salary to the Life Insurance Trust for the fiscal year ending June 30, 2023. Based upon the amortization of the unfunded actuarial liability over a 23-year period as a level percentage of payroll, CMC's valuation indicates a contribution of 0.06% for the fiscal year ending June 30, 2024 is required to support sufficiently the benefits of the Life Insurance Plan.



Section VI – Contributions Payable Under the Plans

REQUIRED CONTRIBUTION RATES

Health Insurance Trust						
For Fiscal Year Ending June 30, 2022						
Normal	1.92 %					
Accrued Liability	<u>2.72</u>					
Total	4.64 %					
	University Employees		School District Employees (Non-Federal)		Other Employees	
	Hired prior to 7/1/08	Hired on or after 7/1/08	Hired prior to 7/1/08	Hired on or after 7/1/08	Hired prior to 7/1/08	Hired on or after 7/1/08
Member	2.775 %	2.775 %	3.750 %	3.750 %	3.750 %	3.750 %
Employer	2.775	1.775	3.000	3.000	3.750	2.750
State	2.330	2.330	2.330	2.330	2.330	2.330
Statutorily Required Prefunding*	<u>(3.240)</u>	<u>(2.240)</u>	<u>(4.440)</u>	<u>(4.440)</u>	<u>(5.190)</u>	<u>(4.190)</u>
Total	4.640 %	4.640 %	4.640 %	4.640 %	4.640 %	4.640 %

Life Insurance Trust	
For Fiscal Year Ending June 30, 2024	
Normal	0.02 %
Accrued Liability	<u>0.04</u>
Total	0.06 %
Member	0.00 %
State	<u>0.06</u>
Total	0.06 %

* This represents funding by active members, local school districts, universities and other employers toward the unfunded liability of the health trust. See KRS 161.540(1)(c)(3) & 161.550(5).

4. The valuation indicates that a total normal contribution of 1.92% of payroll is required to meet the cost of benefits currently accruing under the Retiree Medical Plan and 0.02% of payroll is required to meet the cost of benefits currently accruing under the Life Insurance Plan. The difference between the total contribution and the normal contribution remains to be applied toward the liquidation of the unfunded actuarial accrued liability. This accrued liability payment is 2.72% of payroll for the Retiree Medical Plan and 0.04% of payroll for the Life Insurance Plan.



Section VI – Contributions Payable Under the Plans

5. The unfunded actuarial accrued liability amounts to \$1,384,028,704 for the Retiree Medical Plan and \$21,172,686 for the Life Insurance Plan as of the valuation date. An accrued liability contribution rate of 2.72% of payroll for the Retiree Medical Plan and 0.04% of payroll for the Life Insurance Plan is sufficient to amortize the unfunded actuarial accrued liabilities over a 19-year period for the Retiree Medical Plan and a 23-year period for the Life Insurance Plan, based on the assumption that the payroll will increase by 2.75% annually.



Section VII – Comments on Level of Funding

1. Beneficiary contributions and the System's monthly contribution for retirees who opt into the Retiree Medical Plan is based upon date of hire, date of attaining age 65, years of service at retirement, plan election, Medicare eligibility, and tobacco use. Beneficiary contributions for dependents are targeted to be 100% of the cost of expected claims and/or insured premiums for spouses age 65 and older. Historically, this target has been achieved. 100% of the full cost for non-Medicare eligible dependents is paid through a combination of payments from beneficiaries and the State on a current disbursement basis. Current employer and State contributions have been determined to be sufficient to fund the cost of the benefits to be provided. Benefits for university, school district (non-Federal), and other members are identical, although active employee contributions collected from university, school district (non-Federal), and other members differ. A listing of active member Retiree Medical Plan contributions by fiscal year, date of membership, and employer type is provided in Schedule E.
2. This valuation provides the contributions required to fund sufficiently the Retiree Medical Plan and to ensure the future solvency of the Health Insurance Trust. For University employees, a member contribution of 2.775% of payroll together with employer and State contributions of 1.865% of payroll are required to meet the cost of benefits currently accruing and provide for the amortization of the unfunded actuarial accrued liability over a period of 19 years. For the remaining membership, a member contribution of 3.750% of payroll together with employer and State contributions of 0.890% of payroll is required to meet the cost of benefits currently accruing and provide for the amortization of the unfunded actuarial accrued liability over a period of 19 years.



Section VIII – Accounting Information

1. The information required under Governmental Accounting Standards Board (GASB) Statements No. 74 and 75 will be issued in separate reports. The following information is provided for informational purposes only.

NUMBER OF ACTIVE AND RETIRED MEMBERS IN RETIREE MEDICAL PLAN AS OF JUNE 30, 2021	
GROUP	NUMBER*
Retirees currently receiving health benefits	41,175
Spouses of retirees currently receiving health benefits	6,728
Terminated employees entitled to benefits but not yet receiving benefits	7,658
Active plan members	<u>65,604</u>
Total	121,165

NUMBER OF ACTIVE AND RETIRED MEMBERS IN LIFE INSURANCE PLAN AS OF JUNE 30, 2021	
GROUP	NUMBER*
Retirees	51,731
Terminated employees	10,388
Active plan members	<u>65,604</u>
Total	127,723

**There were initially 69,256 active members and 10,538 deferred vested members. However, 3,652 active members and 150 deferred vested members were also listed as a retiree and were ultimately valued in their retired status. There were initially 52,960 retired or disabled members. However, 1,229 were listed multiple times, reflecting different pension benefits earned under multiple roles as an employee. Beginning with the June 30, 2021 valuation date, the counts in the exhibit above reflect all adjustments. Prior to June 30, 2021, the exhibit reflected the initial member counts*



Section VIII – Accounting Information

SCHEDULE OF FUNDING PROGRESS Health Insurance Trust (Dollar amounts in \$1,000's)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Annual Salary (c)	UAAL as a Percentage of Covered Payroll ((b - a) / c)
6/30/2013	\$ 412,185	\$ 3,521,073	\$ 3,108,888	11.7 %	\$ 3,480,066	89.3 %
6/30/2014	508,913	3,194,689	2,685,776	15.9	3,486,327	77.0
6/30/2015	637,839	3,525,584	2,887,745	18.1	3,515,113	82.2
6/30/2016 ¹	795,055	3,634,073	2,839,018	21.9	3,537,226	80.3
6/30/2017	985,694	3,691,719	2,706,025	26.7	3,563,584	75.9
6/30/2018	1,213,918	3,340,709	2,126,791	36.3	3,605,116	58.9
6/30/2019	1,442,522	3,133,202	1,690,680	46.0	3,648,428	46.3
6/30/2020	1,700,968	2,757,653	1,056,685	61.7	3,723,482	28.4
6/30/2021	2,072,648	3,456,677	1,384,029	60.0	3,784,400	36.6

¹Reflects change in decrement and participation assumptions.

SCHEDULE OF FUNDING PROGRESS Life Insurance Trust (Dollar amounts in \$1,000's)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Annual Salary (c)	UAAL as a Percentage of Covered Payroll ((b - a) / c)
6/30/2013	\$ 94,863	\$ 94,325	\$ (538)	100.6 %	\$ 3,480,066	(0.02) %
6/30/2014	96,130	97,354	1,224	98.7	3,486,327	0.04
6/30/2015	97,186	98,739	1,553	98.4	3,515,113	0.04
6/30/2016 ¹	97,269	106,059	8,790	91.7	3,537,226	0.25
6/30/2017	95,730	109,069	13,339	87.8	3,563,584	0.37
6/30/2018	93,808	112,471	18,663	83.4	3,605,116	0.52
6/30/2019	92,506	117,485	24,979	78.7	3,648,428	0.68
6/30/2020	92,229	122,194	29,965	75.5	3,723,482	0.80
6/30/2021	95,483	116,656	21,173	81.9	3,784,400	0.56

¹Reflects change in decrement and participation assumptions.



Section VIII – Accounting Information

2. The information presented in the required supplementary schedules was determined as part of the actuarial valuation at June 30, 2021. Additional information as of the latest actuarial valuation follows.

Valuation date	6/30/2021	
Actuarial Cost Method	Entry Age	
Amortization Method	Level Percent of Pay, Closed	
Remaining Amortization Period	19 Years Retiree Medical Plan	
	23 Years Life Insurance Plan	
Asset Valuation Method	5-Year Smoothed Market	
Actuarial Assumptions:		
Investment Rate of Return*	7.10% Retiree Medical Plan	
	7.10% Life Insurance Plan	
Medical Trend Assumption	Pre-Medicare**	Medicare
	7.00%	5.125%
	Ultimate Trend Rate	4.50%
Year of Ultimate Trend Rate	2031	2024

*Includes price inflation at 2.50%.

**Alternate trend rates were used for Medicare Part B premiums and are disclosed in Schedule D.



Section VIII – Accounting Information

SCHEDULE OF EMPLOYER CONTRIBUTIONS - Health Insurance Trust

Fiscal Year Ending Date	Statutorily Required Contribution (a)	Actual Employer Contribution (b)	Percentage of Statutory Contributed ((b) / (a))
6/30/2014	\$ 157,688,414	\$ 157,688,414	100.0 %
6/30/2015	145,263,926	145,263,926	100.0
6/30/2016	178,638,370	178,638,370	100.0
6/30/2017	180,375,986	180,375,986	100.0
6/30/2018	187,102,413	187,102,413	100.0
6/30/2019	183,146,155	183,146,155	100.0
6/30/2020	184,625,474	184,625,474	100.0
6/30/2021	184,887,065	184,887,065	100.0

SCHEDULE OF EMPLOYER CONTRIBUTIONS - Life Insurance Trust

Fiscal Year Ending Date	Actuarially Determined Contribution (a)	Actual Employer Contribution (b)	Percentage of ADC Contributed ((b) / (a))
6/30/2014	\$ 1,044,959	\$ 1,006,091	96.3 %
6/30/2015	1,050,216	1,019,519	97.1
6/30/2016	1,057,851	1,037,769	98.1
6/30/2017	1,065,122	1,049,683	98.6
6/30/2018	1,075,305	1,058,329	98.4
6/30/2019	1,081,535	1,421,227	131.4
6/30/2020	1,842,977	1,796,389	97.5
6/30/2021	2,252,365	2,138,375	94.9



Schedule A – Results of the Valuation and Solvency Test

RESULTS OF THE VALUATION AS OF JUNE 30, 2021
(Dollar amounts in \$1,000's)

	Health Insurance Trust	Life Insurance Trust
PAYROLL	\$ 3,784,400	\$ 3,784,400
ACTUARIAL ACCRUED LIABILITY Present value of prospective benefits payable in respect of:		
(a) Present active members	\$ 1,766,336	\$ 15,986
(b) Present terminated vested members	54,653	4,162
(c) Present retired members and covered spouses	1,635,688	96,508
(d) Total actuarial accrued liability	\$ 3,456,677	\$ 116,656
PRESENT ASSETS FOR VALUATION PURPOSES	\$ 2,072,648	\$ 95,483
UNFUNDED ACTUARIAL ACCRUED LIABILITY	\$ 1,384,029	\$ 21,173
CONTRIBUTIONS:	Fiscal Year Ending June 30, 2022	Fiscal Year Ending June 30, 2024
Normal	1.92 %	0.02 %
Accrued Liability	<u>2.72</u>	<u>0.04</u>
Total	4.64 %	0.06 %



Schedule A – Results of the Valuation and Solvency Test

**HEALTH INSURANCE TRUST
SOLVENCY TEST**
(Dollar amounts in millions)

Valuation Date	(1) Active Member Contributions	(2) (3) Accrued Liabilities		Valuation Assets	Portion of Accrued Liabilities Covered by Assets		
		Deferred Vested, Retirants, And Beneficiaries	Active Members (Employer Financed Portion)		(1)	(2)	(3)
6/30/2014	n/a	\$ 1,771.9	\$ 1,422.8	\$ 508.9	n/a	29	0
6/30/2015	n/a	1,982.2	1,543.4	637.8	n/a	32	0
6/30/2016	n/a	1,950.9	1,683.2	795.1	n/a	41	0
6/30/2017	n/a	1,985.1	1,706.6	985.7	n/a	50	0
6/30/2018	n/a	1,692.3	1,648.4	1,213.9	n/a	72	0
6/30/2019	n/a	1,604.3	1,528.9	1,442.5	n/a	90	0
6/30/2020	n/a	1,354.0	1,403.7	1,701.0	n/a	100	25
6/30/2021	n/a	1,690.3	1,766.3	2,072.6	n/a	100	22

**LIFE INSURANCE TRUST
SOLVENCY TEST**
(Dollar amounts in millions)

Valuation Date	(1) Active Member Contributions	(2) (3) Accrued Liabilities		Valuation Assets	Portion of Accrued Liabilities Covered by Assets		
		Deferred Vested, Retirants, And Beneficiaries	Active Members (Employer Financed Portion)		(1)	(2)	(3)
6/30/2013	n/a	\$ 78.1	\$ 16.2	\$ 94.9	n/a	100	104
6/30/2014	n/a	81.0	16.3	96.1	n/a	100	93
6/30/2015	n/a	82.7	16.0	97.2	n/a	100	91
6/30/2016	n/a	89.0	17.1	97.3	n/a	100	49
6/30/2017	n/a	92.1	17.0	95.7	n/a	100	21
6/30/2018	n/a	94.2	18.3	93.8	n/a	99	0
6/30/2019	n/a	99.1	18.4	92.5	n/a	93	0
6/30/2020	n/a	103.5	18.7	92.2	n/a	89	0
6/30/2021	n/a	100.7	16.0	95.5	n/a	95	0



Schedule B – Development of the Actuarial Value of Assets

HEALTH INSURANCE TRUST

AS OF JUNE 30, 2021

(1) Actuarial Value of Assets Beginning of Year	\$ 1,700,968,245
(2) Market Value of Assets End of Year	\$ 2,300,504,416
(3) Market Value of Assets Beginning of Year	\$ 1,616,675,260
(4) Cash Flow	
a. Contributions	\$ 433,785,743
b. Benefit Payments	251,429,328
c. Administrative Expense	1,728,008
d. Net: (4)a - (4)b - (4)c	\$ 180,628,407
(5) Investment Income	
a. Market Total: (2) - (3) - (4)d	\$ 503,200,749
b. Assumed Rate	8.00%
c. Amount for Immediate Recognition: [(3) x (5)b] + [(4)d x (5)b x 0.5]	136,559,157
d. Amount for Phased-In Recognition: 5(a) - 5(c)	\$ 366,641,592
(6) Phased-In Recognition of Investment Income	
a. Current Year: 0.20 x (5)d	\$ 73,328,318
b. First Prior Year	(17,490,773)
c. Second Prior Year	(5,362,227)
d. Third Prior Year	(2,260,479)
e. Fourth Prior Year	6,277,741
f. Total Recognized Investment Gain/(Loss)	\$ 54,492,580
(7) Actuarial Value of Assets End of Year (1) + (4)d + (5)c + (6)f	\$ 2,072,648,389
(8) Difference Between Market & Actuarial Values: (2) - (7)	\$ 227,856,027
(9) Rate of Return on Actuarial Value:	10.67%



Schedule B – Development of the Actuarial Value of Assets

LIFE INSURANCE TRUST

AS OF JUNE 30, 2021

(1) Actuarial Value of Assets Beginning of Year	\$	92,228,536
(2) Market Value of Assets End of Year	\$	107,426,916
(3) Market Value of Assets Beginning of Year	\$	87,367,891
(4) Cash Flow		
a. Contributions	\$	2,138,375
b. Benefit Payments		6,120,000
c. Administrative Expense		34,498
d. Net: (4)a - (4)b - (4)c	\$	(4,016,123)
(5) Investment Income		
a. Market Total: (2) - (3) - (4)d	\$	24,075,148
b. Assumed Rate		7.50%
c. Amount for Immediate Recognition: [(3) x (5)b] + [(4)d x (5)b x 0.5]		6,401,987
d. Amount for Phased-In Recognition: 5(a) - 5(c)	\$	17,673,161
(6) Phased-In Recognition of Investment Income		
a. Current Year: 0.20 x (5)d	\$	3,534,632
b. First Prior Year		(226,459)
c. Second Prior Year		(227,080)
d. Third Prior Year		(1,061,385)
e. Fourth Prior Year		(1,150,796)
f. Total Recognized Investment Gain/(Loss)	\$	868,912
(7) Actuarial Value of Assets End of Year (1) + (4)d + (5)c + (6)f	\$	95,483,312
(8) Difference Between Market & Actuarial Values: (2) - (7)	\$	11,943,604
(9) Rate of Return on Actuarial Value:		8.06%



Schedule C – Summary of Receipts and Disbursements

**HEALTH INSURANCE TRUST
SUMMARY OF RECEIPTS AND DISBURSEMENTS
(Market Value)**

	For the Year Ending	
	June 30, 2021	June 30, 2020
Receipts for the Year		
Contributions		
Members Statutory	\$ 128,117,484	\$ 133,588,771
Payment by Retired Members	59,507,609	59,220,473
Total Members	\$ 187,625,093	\$ 192,809,244
State Statutory Contributions	\$ 23,155,586	\$ 23,157,120
Employer Contributions	106,670,323	107,434,414
State Contributions	55,061,156	54,033,940
Total Employer	\$ 184,887,065	\$ 184,625,474
Grand Total	\$ 372,512,158	\$ 377,434,718
Recovery Income	120,781,194	100,375,749
Net Investment Income	503,200,749	32,474,949
TOTAL	\$ 996,494,101	\$ 510,285,416
Disbursements for the Year		
Administrative Expense	\$ 1,728,008	\$ 2,047,238
Medical Insurance Expense	310,936,937	305,582,974
TOTAL	\$ 312,664,945	\$ 307,630,212
Excess of Receipts over Disbursements	\$ 683,829,156	\$ 202,655,204
Reconciliation of Asset Balances		
Asset Balance as of the Beginning of the Year	\$ 1,616,675,260	\$ 1,414,020,056
Excess of Receipts over Disbursements	683,829,156	202,655,204
Asset Balance as of the End of the Year	\$ 2,300,504,416	\$ 1,616,675,260
Investment Rate of Return on Market Value	31.10%	2.30%



Schedule C – Summary of Receipts and Disbursements

LIFE INSURANCE TRUST SUMMARY OF RECEIPTS AND DISBURSEMENTS (Market Value)

	For the Year Ending	
	June 30, 2021	June 30, 2020
Receipts for the Year		
Contributions		
Members	\$ 0	\$ 0
State	1,852,447	1,543,413
Employer	285,928	252,976
Total	\$ 2,138,375	\$ 1,796,389
Net Investment Income	24,075,148	5,166,203
TOTAL	\$ 26,213,523	\$ 6,962,592
Disbursements for the Year		
Benefit Payments	\$ 6,120,000	\$ 5,317,000
Miscellaneous, including expenses	34,498	35,980
TOTAL	\$ 6,154,498	\$ 5,352,980
Excess of Receipts over Disbursements	\$ 20,059,025	\$ 1,609,612
Reconciliation of Asset Balances		
Asset Balance as of the Beginning of the Year	\$ 87,367,891	\$ 85,758,279
Excess of Receipts over Disbursements	20,059,025	1,609,612
Asset Balance as of the End of the Year	\$ 107,426,916	\$ 87,367,891
Investment Rate of Return on Market Value	28.17%	6.32%



Schedule D – Statement of Actuarial Assumptions and Methods

The rates of retirement, disability, mortality, termination, salary increases, and rates of future benefit participation used in the valuation were selected based on the actuarial experience study prepared as of June 30, 2020, submitted to, and adopted by the Board on September 20, 2021. The health care cost trend rates, and expected plan costs were determined by the actuary based on recent experience.

VALUATION DATE: June 30, 2021

DISCOUNT RATE: 7.10% per annum, compounded annually for the Health Insurance Trust
7.10% per annum, compounded annually for the Life Insurance Trust

HEALTH CARE COST TREND RATES: Following is a chart detailing health care trend assumptions.

Fiscal Year Ended	Annual Trend Rate		
	Medicare Part B	Under Age 65	Ages 65 and Older
2022	6.97%	7.00%	5.125%
2023	6.73	6.75	5.00
2024	5.22	6.50	4.75
2025	4.96	6.25	4.50
2026	5.68	6.00	4.50
2027	5.82	5.75	4.50
2028	5.91	5.50	4.50
2029	5.65	5.25	4.50
2030	5.27	5.00	4.50
2031	5.06	4.75	4.50
2032	4.87	4.50	4.50
2033	4.62	4.50	4.50
2034 and beyond	4.50	4.50	4.50

AGE RELATED MORBIDITY: For retirees ages 65 and older, per capita health care costs are adjusted to reflect expected health care cost changes related to age. The increase to the net incurred health care claims is assumed to be:

Participant Age	Annual Increase
65 – 69	3.0%
70 – 74	2.5
75 – 79	2.0
80 – 84	1.0
85 - 89	0.5
90 and over	0.0



Schedule D – Statement of Actuarial Assumptions and Methods

For the retiree health care liabilities of those under age 65, the current premium charged by the Kentucky Employees' Health Plan (KEHP) is used as the base cost and is projected forward using the health care trend assumption. No implicit rate subsidy is calculated or recognized, as the implicit rate subsidy is deemed the responsibility of the KEHP. Under Actuarial Standard of Practice No. 6 (ASOP No. 6), aging subsidies (or implicit rate subsidies) should be recognized, as the differences in health care utilization and cost due to age have been demonstrated and well quantified.

The impact of aging on a valuation's results can be as significant as the use of mortality, trend, and discounting. It has been the long-standing position that the responsibility for compliance with GASB Statement No. 43, when it relates to KEHP implicit subsidies, rests with KEHP, not the System, as the System has no operational authority over KEHP. As such, KEHP implicit subsidies are excluded from the OPEB valuation process of the Retiree Medical Plan. As GASB 74 and 75 prohibit such a deviation from ASOP No. 6, additional consideration to the current treatment of KEHP implicit rate subsidies may be needed in the future. Valuing the KEHP implicit subsidies will increase the actuarial accrued liability for GASB 74 and 75 purposes.

RETIREE MEDICAL PLAN COSTS: Assumed per capita health care costs were based on past experience and trended based on the assumptions. Following are charts detailing retiree per capita assumptions. These amounts include medical, drug, and administrative costs and represent the amount that the System pays as the full contribution amount. An additional \$8.00 per month is paid to the Department of Employee Insurance (DEI) and is not included in the under age 65 costs listed below. For retirees ages 65 and older, the average costs shown are normalized to age 65 and then age adjusted in calculating liabilities.

Monthly Under Age 65 KEHP Full Costs as of January 1, 2022				
Tier Elected	LivingWell CDHP	LivingWell PPO	LivingWell Basic CDHP	LivingWell Limited HDHP
Single	\$750.30	\$772.16	\$721.54	\$642.02
Parent Plus	\$1,036.40	\$1,101.08	\$994.72	\$914.78
Couple	\$1,453.30	\$1,691.64	\$1,537.72	\$1,407.32
Family	\$1,623.94	\$1,883.60	\$1,713.58	\$1,566.78
Family C-R	\$866.72	\$929.70	\$846.38	\$772.32

RETIREE MEDICAL PLAN CONTRIBUTION: The portion of the medical plan premiums paid by participants is composed of a Plan Option Cost, a Time-Specific Adjustment Cost and a Shared Responsibility Cost. Retirees under the age of 65 who do not complete their LivingWell Promise will be charged an additional \$40 per month above the Plan Option Cost detailed below. An additional contribution is required to be paid by retirees under the age of 65 who use tobacco (\$40 for Single or Family Cross-Reference, and \$80 for Parent Plus, Couple or Family).

Monthly Under Age 65 KEHP Plan Option Cost as of January 1, 2022				
Tier Elected	LivingWell CDHP	LivingWell PPO	LivingWell Basic CDHP	LivingWell Limited HDHP
Single	\$53.46	\$89.14	\$28.34	\$25.50
Parent Plus	\$137.06	\$254.10	\$67.52	\$60.78
Couple	\$339.34	\$571.76	\$281.42	\$253.28
Family	\$398.92	\$716.64	\$337.68	\$303.92
Family C-R*	\$86.90	\$170.48	\$31.50	\$28.34
Spouse – Single	\$758.30	\$780.16	\$729.54	\$650.02
Spouse – Parent Plus	\$1,044.40	\$1,109.08	\$1,002.72	\$922.78

*Per employee/retiree



Schedule D – Statement of Actuarial Assumptions and Methods

TIME-SPECIFIC ADJUSTMENT PLUS SHARED RESPONSIBILITY COST: The chart below and on the page following are the Time-Specific Adjustment costs paid by Retirees in addition to the Plan Option Costs shown prior.

Abbreviations for Time-Specific Adjustment Charts:

LW CDHP = LivingWell CDHP

LW PPO = LivingWell PPO

LW Basic = LivingWell Basic CDHP

LW Limited = LivingWell Limited HDHP

Time-Specific Adjustments for Retirees Employed Before July 1, 2002 as of January 1, 2022						
Plan	Years of Service	Single	Parent Plus	Couple	Family	Family C-R
LW CDHP	5 – 9.99	\$559.76	\$762.26	\$976.88	\$1,087.94	\$642.74
	10 – 14.99	422.67	625.17	839.79	950.85	505.65
	15 – 19.99	285.59	488.09	702.71	813.77	368.57
	20 or More	148.50	351.00	565.62	676.68	231.48
LW PPO	5 – 9.99	\$549.39	\$709.90	\$982.80	\$1,029.88	\$622.14
	10 – 14.99	415.76	572.81	845.71	892.79	485.05
	15 – 19.99	282.13	435.73	708.63	755.71	347.97
	20 or More	148.50	298.64	571.54	618.62	210.88
LW Basic	5 – 9.99	\$557.03	\$790.12	\$1,119.22	\$1,238.82	\$677.80
	10 – 14.99	420.85	653.03	982.13	1,101.73	540.71
	15 – 19.99	284.68	515.95	845.05	964.65	403.63
	20 or More	148.50	378.86	707.96	827.56	266.54
LW Limited	5 – 9.99	\$499.52	\$716.92	\$1,016.96	\$1,125.78	\$606.90
	10 – 14.99	382.51	579.83	879.87	988.69	469.81
	15 – 19.99	265.51	442.75	742.79	851.61	332.73
	20 or More	148.50	305.66	605.70	714.52	195.64



Schedule D – Statement of Actuarial Assumptions and Methods

Time-Specific Adjustments for Retirees Employed On/After July 1, 2002 as of January 1, 2022						
Plan	Years of Service	Single	Parent Plus	Couple	Family	Family C-R
LW CDHP	5 – 9.99	\$642.01	\$844.51	\$1,059.13	\$1,170.19	\$724.99
	10 – 14.99	559.76	762.26	976.88	1,087.94	642.74
	15 – 19.99	450.09	652.59	867.21	978.27	533.07
	20 – 24.99	340.42	542.92	757.54	868.60	423.40
	25 – 25.99	203.33	405.83	620.45	731.51	286.31
	26 – 26.99	175.92	378.42	593.04	704.10	258.90
	27 or More	148.50	351.00	565.62	676.68	231.48
LW PPO	5 – 9.99	\$629.57	\$792.15	\$1,065.05	\$1,112.13	\$704.39
	10 – 14.99	549.39	709.90	982.80	1,029.88	622.14
	15 – 19.99	442.49	600.23	873.13	920.21	512.47
	20 – 24.99	335.59	490.56	763.46	810.54	402.80
	25 – 25.99	201.95	353.47	626.37	673.45	265.71
	26 – 26.99	175.23	326.06	598.96	646.04	238.30
	27 or More	148.50	298.64	571.54	618.62	210.88
LW Basic	5 – 9.99	\$638.73	\$872.37	\$1,201.47	\$1,321.07	\$760.05
	10 – 14.99	557.03	790.12	1,119.22	1,238.82	677.80
	15 – 19.99	448.09	680.45	1,009.55	1,129.15	568.13
	20 – 24.99	333.23	559.21	880.29	996.97	449.63
	25 – 25.99	201.28	426.37	747.45	864.13	316.79
	26 – 26.99	174.89	399.81	720.89	837.57	290.23
	27 or More	148.50	373.24	694.32	811.00	263.66
LW Limited	5 – 9.99	\$556.18	\$780.05	\$1,072.77	\$1,178.93	\$672.71
	10 – 14.99	499.52	716.92	1,016.96	1,125.78	606.90
	15 – 19.99	405.92	607.25	907.29	1,016.11	497.23
	20 – 24.99	312.31	497.58	797.62	906.44	387.56
	25 – 25.99	195.30	360.49	660.53	769.35	250.47
	26 – 26.99	171.91	333.08	633.12	741.94	223.06
	27 or More	148.50	305.66	605.72	714.52	195.64

CURRENT RETIREE MEDICAL PLAN PARTICIPATION: Actual census data and current plan elections (including waivers) provided by the System were used for those retirees currently participating in the Retiree Medical Plan. Current participants are assumed to maintain their current Retiree Medical Plan coverage until they are no longer eligible.

ANTICIPATED RETIREE MEDICAL PLAN PARTICIPATION: The assumed annual rates of health care plan participation for future retirees are as follows:

Years of Service	Member Participation		
	Entered System Before 7/1/2002	Entered System After 6/30/2002 and Before 7/1/2008	Entered System After 6/30/2008
5-9.99	20%	20%	Not Eligible
10-14.99	40	20	Not Eligible
15-19.99	70	40	40%
20-24.99	90	50	50
25-25.99	90	80	80
26-26.99	90	85	85
27 or more	90	90	90



Schedule D – Statement of Actuarial Assumptions and Methods

ANTICIPATED RETIREE MEDICAL PLAN ELECTIONS: The assumed rates of plan election for future retirees participating in the KEHP plans are provided in the following table. As the assumed plan election rates are estimates and actual results may be materially different, this assumption will need to be revised as experience evolves.

LivingWell CDHP	LivingWell PPO	LivingWell Basic CDHP	LivingWell Limited HDHP
54%	42%	3%	1%

SPOUSE COVERAGE IN RETIREE MEDICAL PLAN: Actual census data and current plan elections were used for MEHP and KEHP covered spouses (including beneficiaries) of current retirees. For spouses of future retirees, 30% of future male retirees are assumed to cover their spouse and 25% of future female retirees are assumed to cover their spouse. Male retirees are assumed to be three years older than their spouse and female retirees are assumed to be one year younger than their spouse.

DISABLED DEPENDENT CHILDREN IN RETIREE MEDICAL PLAN: The liability associated with disabled dependent children was determined to be de minimis and was therefore excluded from this valuation.

WITHDRAWAL ASSUMPTION: Future vested members who terminate employment prior to retirement are assumed to elect to withdraw their contributions based upon their age and service at termination of employment as follows:

Rates of Withdrawal Upon Termination of Employment			
Age at Termination of Employment	Years of Service		
	5 - 9	10 - 14	15+
Under Age 55	20%	15%	10%
Ages 55+	10%	10%	10%

All vested members who terminate employment prior to retirement are assumed to elect to withdraw their contributions prior to receiving a pension benefit based upon their service as follows:

Rates of Withdrawal Prior to Receiving a Pension Benefit			
Years of Service			
5 - 9	10 - 14	15 - 26	27+
25%	15%	10%	25%

All vested members who terminate employment prior to retirement and who are assumed to elect to receive a pension benefit are assumed to begin receiving their benefit at age 60.



Schedule D – Statement of Actuarial Assumptions and Methods

SALARY INCREASES: Representative values of the assumed annual rates of future salary increases are as follows and include wage inflation at 2.75% per annum:

Service	Annual Rate
1	7.50%
2	5.50%
3	5.00%
4	5.00%
5	5.00%
6	4.75%
7	4.50%
8	4.25%
9	4.00%
10	4.00%
11	4.00%
12	3.75%
13	3.50%
14	3.50%
15	3.25%
16	3.25%
>=17	3.00%

PAYROLL GROWTH: 2.75% per annum, compounded annually.

PRICE INFLATION: 2.50% per annum, compounded annually.

AFFORDABLE CARE ACT (ACA): The impact of the Affordable Care Act (ACA) was addressed in this valuation. Review of the information currently available did not identify any specific provisions of the ACA that are anticipated to significantly impact results other than plan design features and fees currently mandated by the ACA and incorporated in the plan designs, which are included in the current baseline claims costs. Continued monitoring of the ACA’s impact on the Plan’s liability will be required.

COVID-19: The impact of the COVID-19 pandemic was considered in this valuation; however, no changes were incorporated at this time due to the level of uncertainty regarding the impact on both plan costs and contribution levels going forward. Given the uncertainty regarding COVID-19 (e.g., the impact of routine care being deferred, direct COVID-19 treatment and prevention costs, changes in contribution and budget projections), continued monitoring of the impact on the Plan’s liability will be required.

TRS and UnitedHealthcare have a gain share in place should actual claims costs drop below a medical loss ratio of 90%. Due to deferred care in 2020 because of COVID-19, TRS will receive approximately \$16 million to \$18 million in subsidy revenue returned from UnitedHealthcare in early 2022.

ASSET VALUATION METHOD: Five-year market related actuarial value, as developed in Schedule B. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected actuarial value of assets, based on the ultimate assumed valuation rate of return. The amount recognized each year is 20% of the difference between market value and expected actuarial value. The ultimate assumed valuation rate of return is assumed to be 7.10% for the Health Insurance Trust and 7.10% for the Life Insurance Trust.



Schedule D – Statement of Actuarial Assumptions and Methods

ACTUARIAL COST METHOD: The valuation is prepared on the projected benefit basis, under which the present value, at the interest rate assumed to be earned in the future, of each active member's expected benefit at retirement or death is determined, based on his/her age, service, and gender. The calculations take into account the probability of a member's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of his/her terminating with a service, disability or survivor's benefit. The present value of the expected benefits payable on account of the active members is added to the present value of the expected future payments to retired members and beneficiaries and deferred vested members to obtain the present value of all expected benefits payable from the System on account of the present group of members and beneficiaries.

The employer contributions required to support the benefits of the System are determined following a level funding approach, and consist of a normal contribution and an accrued liability contribution.

The normal contribution is determined using the "entry age normal" method. Under this method, a calculation is made to determine the uniform and constant percentage rate of employer contribution which, if applied to the compensation of the average new member during the entire period of his/her anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on his/her behalf.

The unfunded actuarial accrued liability is determined by subtracting the present value of prospective employer normal contributions and member contributions, together with the current actuarial value of assets held, from the present value of expected benefits to be paid from the System.



Schedule D – Statement of Actuarial Assumptions and Methods

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

MALES							
Age	Annual Rate of						
	DEATH*	DISABILITY	WITHDRAWAL			RETIREMENT	
			Service			Before 27 Years of Service	After 27 Years of Service**
			0 – 4	5 – 9	10+		
20	0.0309%	0.01%	20.00%				
25	0.0200	0.01	11.00	3.25%			
30	0.0315	0.01	10.00	3.60	2.80%		
35	0.0419	0.02	11.00	3.60	1.55		
40	0.0522	0.07	12.50	4.00	1.25		
45	0.0722	0.18	11.50	4.00	1.10		17.00%
50	0.1153	0.28	14.25	4.50	1.10		25.00
55	0.1871	0.40	15.00	6.00	1.25	5.25%	40.00
60	0.3041	0.50	15.00	0.00	0.00	13.50	33.00
62	0.3660	0.50	15.00	0.00	0.00	15.00	30.00
65	0.4775	0.50	20.00	0.00	0.00	20.00	30.00
70	0.7232	0.50	20.00	0.00	0.00	25.00	30.00
75	1.1408	0.50	20.00	0.00	0.00	100.00	100.00

*Base Rates

**Plus 8.5% in year when first eligible for unreduced retirement with 27 years of service.

FEMALES							
Age	Annual Rate of						
	DEATH*	DISABILITY	WITHDRAWAL			RETIREMENT	
			Service			Before 27 Years of Service	After 27 Years of Service**
			0 – 4	5 – 9	10+		
20	0.0135%	0.01%	13.00%				
25	0.0099	0.01	9.00	4.50%			
30	0.0134	0.02	11.00	4.25	1.00%		
35	0.0215	0.06	11.00	3.50	1.60		
40	0.0299	0.10	12.50	4.00	1.20		
45	0.0405	0.24	13.50	4.00	1.00		17.00%
50	0.0584	0.38	15.00	4.50	1.25		20.00
55	0.0908	0.50	15.00	5.00	1.60	5.00%	50.00
60	0.1407	0.60	17.50	0.00	0.00	15.00	40.00
62	0.1656	0.62	17.50	0.00	0.00	15.00	40.00
65	0.2123	0.65	25.00	0.00	0.00	25.00	40.00
70	0.3435	0.65	25.00	0.00	0.00	30.00	35.00
75	0.6389	0.65	25.00	0.00	0.00	100.00	100.00

*Base Rates

**Plus 10.0% in year when first eligible for unreduced retirement with 27 years of service



Schedule D – Statement of Actuarial Assumptions and Methods

DEATHS AFTER RETIREMENT:

Mortality Assumption: All mortality rates use Pub-2010 benefit-weighted tables.

Mortality Projection: All mortality rates are projected from 2010 using generational improvement with Scale MP-2020 adjusted to 75% of the standard rates.

Service Retirements: Mortality rates are based on the Teachers Mortality Table for Retirees. Rates for male members are set forward 2 years and multiplied by 102%. Rates for female members are set forward 2 years and multiplied by 98%.

Survivors of Deceased Members: Mortality rates are based on the Teachers Mortality Table for Contingent Survivors. Rates for male members are set forward 2 years and multiplied by 101%.

Disabled Members at Retirement: Mortality rates are based on the Teachers Mortality Table for Disabled Retirees. Rates for male members are set forward 1 year and multiplied by 96%. Rates for female members are set back 2 years and multiplied by 98%.

Representative values of the assumed annual rates of death after service retirement, disability retirement, and survivors of deceased members are shown below:

Age	Annual Rate of Death After*					
	Service Retirement		Disability Retirement		Survivors of Deceased Members	
	Male	Female	Male	Female	Male	Female
45	0.0836%	0.0568%	1.0646%	0.7755%	0.6020%	0.2620%
50	0.1357	0.0843	1.6435	1.1910	0.7545	0.3200
55	0.2744	0.2215	2.1130	1.5416	0.8959	0.4460
60	0.4427	0.3322	2.4806	1.7616	1.1413	0.6220
65	0.7579	0.5351	3.0653	1.9834	1.6443	0.8990
70	1.4066	0.9682	3.9485	2.4149	2.5876	1.3530
75	2.6816	1.8649	5.3155	3.2562	4.1006	2.1510
80	5.0500	3.5819	7.6118	4.7705	6.5630	3.5730
85	9.4585	6.8071	11.2109	7.3423	10.7717	6.3160
90	16.9116	12.6077	16.9738	11.1653	17.7306	11.3290
95	26.9423	21.5110	24.2170	15.7356	26.8670	18.5900

*Base Rates



Schedule E – Summary of Main Plan Provisions

AS INTERPRETED FOR VALUATION PURPOSES

ELIGIBILITY FOR ACCESS TO RETIREE MEDICAL PLAN COVERAGE:

Service Retirement: For employees hired prior to July 1, 2008, Retiree Medical Plan coverage eligibility is attained when an employee retires, which is possible after the completion of 27 years of service or attainment of age 55 and 5 years of service with reduced pension benefits. For employees hired on or after July 1, 2008, employees may retire after the completion of 27 years of service, the attainment of age 55 and 10 years of service with reduced pension benefits, or the attainment of age 60 and 5 years of service with unreduced pension benefits, but must complete a minimum of 15 years of service to be eligible for Retiree Medical Plan coverage.

Disability Retirement: Disabled employees hired prior to July 1, 2008 with at least 5 years of service, who are totally and permanently incapable of being employed as a teacher, are eligible for Retiree Medical Plan coverage upon approval for TRS disability retirement benefits. Disabled employees hired after July 1, 2008 must have 15 years of service to be eligible for Retiree Medical Plan coverage upon approval for TRS disability retirement benefits.

Members and dependents under age 65 and eligible for Medicare due to a disability after January 1, 2013 are only eligible to enroll in the MEHP. Under age 65 members who retired prior to January 1, 2013, are grandfathered from this requirement and allowed a choice of KEHP or MEHP coverage. Actual census data and current plan elections were used for current disabled retirees. All future disabled members under the age of 65 with Medicare are placed on the MEHP and not the KEHP. This has been consistently applied since 2013.

Survivors: Spouses of employees who die in service while eligible to retire, as well as survivors of service and disabled retirees, are eligible for Retiree Medical Plan coverage if elected within 30 days of the employee's/retiree's death with no future remarriage. Otherwise, survivor is not eligible for Retiree Medical Plan coverage.

Spousal Shared Risk Waiver for MEHP: Beginning in 2013, eligible spouses who waive the MEHP coverage will no longer have the opportunity to enroll during any annual MEHP open enrollment, so most spousal waivers on the MEHP are now permanent waivers unless a TRS specific qualifying event is met. This does not apply to the KEHP. This MEHP eligibility rule became necessary to mitigate spousal adverse selection with zero premium Medicare Advantage plans on the individual and open market.

Termination: For employees hired prior to July 1, 2008 and who terminated with at least 5 years of service, Retiree Medical Plan coverage is assumed to begin at age 60. For employees hired on or after July 1, 2008 and who terminated with at least 15 years of service, Retiree Medical Plan coverage is assumed to begin at age 60.

Reemployed Retirees: Effective January 1, 2019 and because of the Affordable Care Act (ACA) and Medicare secondary payer (MSP) federal rules, if a TRS retiree returns to work and is offered the same health insurance coverage as any full time employee (whether the KEHP, MEHP, or another plan), then the member must waive coverage through TRS. For valuation purposes, active employees identified as currently receiving retiree health care through the System are valued as retirees. Retirees making active contributions into a second account do not qualify for insurance on that second account.



Schedule E – Summary of Main Plan Provisions

COVERED MEMBER RETIREE MEDICAL PLAN CONTRIBUTIONS:

Under Age 65 Retiree Shared Responsibility Contribution: Effective July 1, 2010, retirees under the age of 65 began a three-year phase-in of the Shared Responsibility Contribution. This contribution reduces the applicable amount of the full contribution provided by the System to retirees, by adjusting the Shared Responsibility Contribution amount by 100% less the appropriate percentage from the Retiree Percentage Contribution table below. Effective July 1, 2012, the full Shared Responsibility Contribution equals the Standard Medicare Part B premium paid by retirees ages 65 and older.

Monthly Under Age 65 Shared Responsibility Contribution Timeline			
Effective Date	Medicare Part B Monthly Cost	Formula	Shared Responsibility Contribution
July 1, 2010	\$110.50	$(1/3 \times \$110.50)$	\$ 37.00
January 1, 2011	115.40	$(1/3 \times 115.40)$	39.00
July 1, 2011	115.40	$(2/3 \times 115.40)$	77.00
January 1, 2012	99.90	$(2/3 \times 99.90)$	66.00
July 1, 2012	99.90	99.90	99.90
January 1, 2013	104.90	104.90	104.90
January 1, 2014	104.90	104.90	104.90
January 1, 2015	104.90	104.90	104.90
January 1, 2016	121.80	121.80	121.80
January 1, 2017	134.00	134.00	134.00
January 1, 2018	134.00	134.00	134.00
January 1, 2019	135.50	135.50	135.50
January 1, 2020	144.60	144.60	144.60
January 1, 2021	148.50	148.50	148.50
January 1, 2022	148.50	148.50	148.50

Retiree Years of Service Percentage Contribution: Retirees contribute the following percentages based on years of service at retirement, which are then applied to the Retiree Contribution Rate Basis:

Retiree Percentage Contribution*				
Year of Service	Entered System Before 7/1/2002		Entered System After 6/30/2002 and Before 7/1/2008	Entered System After 6/30/2008
	Age 65 or Older and Covered Before 1/1/2005	Age 65 After or Covered After 12/31/2004		
5 – 9.99	30%	75%	90%	Not Eligible
10 – 14.99	20	50	75	Not Eligible
15 – 19.99	10	25	55	55%
20 – 24.99	0	0	35	35
25 – 25.99	0	0	10	10
26 – 26.99	0	0	5	5
27 or more	0	0	0	0

*0% for disabled retirees that retired prior to 1/1/2002



Schedule E – Summary of Main Plan Provisions

COVERED MEMBER RETIREE MEDICAL PLAN CONTRIBUTIONS (CONTINUED):

For 2022, the TRS Board of Trustees approved a single contribution amount of up to \$696.84. TRS will contribute this amount towards insurance costs, less the Shared Responsibility cost of \$148.50. Under-65 retirees who are not Medicare eligible and continue on the Kentucky Employees' Health Plan (KEHP) are responsible for the remaining costs left from the total premium costs. The total premium costs are shown below.

Monthly Under Age 65 (KEHP) Full Costs* Effective January 1, 2022					
Tier Elected	Under Age 65 (KEHP)				Ages-65 and Older (MEHP)
	LivingWell CDHP	LivingWell PPO	LivingWell Basic CDHP	LivingWell Limited HDHP	
Single	\$750.30	\$772.16	\$721.54	\$642.02	\$211.00
Parent Plus	\$1,036.40	\$1,101.08	\$994.72	\$914.78	n/a
Couple	\$1,453.30	\$1,691.64	\$1,537.72	\$1,407.32	n/a
Family	\$1,623.94	\$1,883.60	\$1,713.58	\$1,566.78	n/a
Family C-R	\$866.72	\$929.70	\$846.38	\$772.32	n/a

* Does not include the additional contribution required to be paid by retirees under the age of 65 who use tobacco (\$40 for Single or Family Cross-Reference, and \$80 for Parent Plus, Couple or Family). Also, this does not include the additional contribution required to be paid by retirees under the age of 65 who do not complete their LivingWell Promise, which is an additional \$40 per month for all levels of coverage—single, parent +, couple, and family. Approximately 1,500 retirees across all four KEHP plans did not complete their LivingWell Promise for 2019. The additional contribution for these retirees will begin in 2020. For valuation purposes, it is conservatively assumed that, over time, 100% of KEHP retirees will complete their LivingWell Promise. This assumption will be monitored in future experience studies.

Spouse Contributions: 100% of the full cost for non-Medicare eligible dependents is paid through a combination of payments from beneficiaries and the State. For 2021, neither the State nor TRS will pay any subsidy for family style coverage.

Survivors: Spouses of employees who die in service while eligible to retire, as well as survivors of service and disabled retirees, are eligible for Retiree Medical Plan coverage if elected within 30 days of the employee's/retiree's death with no future remarriage. Otherwise, survivor is not eligible for Retiree Medical Plan coverage.

Spousal Shared Risk Waiver for MEHP: Beginning in 2013, eligible spouses who waive the MEHP coverage, will no longer have the opportunity to enroll during any annual MEHP open enrollment so most spousal waivers on the MEHP are now permanent waivers unless a TRS specific qualifying event is met. This does not apply to the KEHP. This MEHP eligibility rule became necessary to mitigate spousal adverse selection with zero premium Medicare Advantage plans on the individual and open market.

Monthly Surviving Spouse Contribution Effective January 1, 2022					
Tier Elected by Surviving Spouse	Under Age 65 (KEHP)				Ages 65 and Older (MEHP)
	LivingWell CDHP	LivingWell PPO	LivingWell Basic CDHP	LivingWell Limited HDHP	
Single	\$758.30	\$780.16	\$729.54	\$650.02	\$211.00
Parent Plus	\$1,044.40	\$1,109.08	\$1,002.72	\$922.78	n/a



Schedule E – Summary of Main Plan Provisions

SYSTEM RETIREE MEDICAL PLAN CONTRIBUTIONS: The System Contribution Rate Basis is determined annually by the System, and the full cost is projected based on historical claims data. For retirees, the following percentages are based on years of service at retirement and are then applied to the System Contribution Rate Basis:

Percentage of System Contribution Rate Provided to Retirees*				
Year of Service	Entered System Before 7/1/2002		Entered System After 6/30/2002 and Before 7/1/2008	Entered System After 6/30/2008
	Age 65 or Older and Covered Before 1/1/2005	Age 65 After or Covered After 12/31/2004		
5 – 9.99	70%	25%	10%	Not Eligible
10 – 14.99	80	50	25	Not Eligible
15 – 19.99	90	75	45	45%
20 – 24.99	100	100	65	65
25 – 25.99	100	100	90	90
26 – 26.99	100	100	95	95
27 or more	100	100	100	100

*100% for disabled retirees that retired prior to 1/1/2002

For 2022, the TRS Board of Trustees approved a single contribution amount of up to \$696.84. TRS will contribute this amount towards insurance costs, less the Shared Responsibility cost of \$148.50. Under-65 retirees who are not Medicare eligible and continue on the Kentucky Employees' Health Plan (KEHP) are responsible for the remaining costs left from the total premium costs. The total premium costs are shown below.

Monthly Under Age 65 (KEHP) Full Costs* Effective January 1, 2022					
Tier Elected	Under Age 65 (KEHP)				Ages-65 and Older (MEHP)
	LivingWell CDHP	LivingWell PPO	LivingWell Basic CDHP	LivingWell Limited HDHP	
Single	\$750.30	\$772.16	\$721.54	\$642.02	\$211.00
Parent Plus	\$1,036.40	\$1,101.08	\$994.72	\$914.78	n/a
Couple	\$1,453.30	\$1,691.64	\$1,537.72	\$1,407.32	n/a
Family	\$1,623.94	\$1,883.60	\$1,713.58	\$1,566.78	n/a
Family C-R	\$866.72	\$929.70	\$846.38	\$772.32	n/a

ACTIVE MEMBER RETIREE MEDICAL PLAN CONTRIBUTIONS: Actively employed members make payroll contributions to the Health Insurance Trust based upon the following schedule:

Active Member Percentage of Payroll Contribution Made to Health Insurance Trust					
University Employees		School District Employees (Non-Federal)		Other Employees	
Hired Before 7/1/2008	Hired On or After 7/1/2008	Hired Before 7/1/2008	Hired On or After 7/1/2008	Hired Before 7/1/2008	Hired On or After 7/1/2008
2.775	2.775	3.750	3.750	3.750	3.750



Schedule E – Summary of Main Plan Provisions

LIFE INSURANCE PLAN BENEFITS:

(1) Effective July 1, 2000, the Teachers' Retirement System shall:

- (a) Provide a life insurance benefit in a minimum amount of five thousand dollars (\$5,000) for its members who are retired for service or disability. This life insurance benefit shall be payable upon the death of a member retired for service or disability to the member's estate or to a party designated by the member on a form prescribed by the retirement system; and
- (b) Provide a life insurance benefit in a minimum amount of two thousand dollars (\$2,000) for its active contributing members. This life insurance benefit shall be payable upon the death of an active contributing member to the member's estate or to a party designated by the member on a form prescribed by the retirement system.

Note: Members employed on a substitute or part-time basis and working at least 69% of a full contract year in a single fiscal year will be eligible for a life insurance benefit for the balance of the fiscal year or the immediately succeeding fiscal year under certain conditions. For non-vested members employed on a substitute or part-time basis, the life insurance benefit is provided if death occurs as the result of a physical injury on the job. For vested members employed on a substitute or part-time basis, death does not have to be the result of a physical injury on the job for life insurance benefits to be provided.



Schedule F – Tables of Member Data

**TABLE 1
ACTIVE MEMBER AGE AND SERVICE TABLE AS OF JUNE 30, 2021**

Distribution of Active Members as of June 30, 2021 by Age and Service Groups

Attained Age	Completed Years of Service									Total	
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 & Over	No.*	Payroll
Under 25	1,532	1,856	4	0	0	0	0	0	0	3,392	\$ 90,641,018
25 to 29	632	4,433	1,933	0	0	0	0	0	0	6,998	299,260,435
30 to 34	418	1,885	4,250	1,499	2	0	0	0	0	8,054	404,571,295
35 to 39	370	1,328	2,108	4,212	1,596	6	0	0	0	9,620	546,010,412
40 to 44	402	1,176	1,363	2,008	4,383	1,308	4	0	0	10,644	653,419,418
45 to 49	258	859	988	1,336	1,995	3,895	1,012	3	0	10,346	680,678,821
50 to 54	459	704	642	1,005	1,360	2,001	2,425	374	4	8,974	582,342,175
55 to 59	605	717	422	535	843	1,017	802	291	23	5,255	301,740,472
60 to 64	452	766	281	256	421	433	356	113	63	3,141	147,378,070
65 to 69	357	568	221	103	137	186	121	49	32	1,774	57,690,361
70 & Over	252	410	174	59	52	37	34	15	25	1,058	20,667,746
Total Count	5,737	14,702	12,386	11,013	10,789	8,883	4,754	845	147	69,256	\$ 3,784,400,223

*The active member counts above reflect the initial active membership. Approximately 3,652 of these active members were ultimately valued in their retired status.

Average Age: 43.4
Average Service: 11.7



Schedule F – Tables of Member Data

**TABLE 2
SCHEDULE OF TOTAL ACTIVE MEMBER VALUATION DATA**

Valuation Date	Number*	Annual Payroll	Annual Average Payroll	Percentage Increase in Average Pay
6/30/2021	69,256	\$ 3,784,400,223	\$ 54,644	7.35 %
6/30/2020	73,151	3,723,481,576	50,901	1.35
6/30/2019	72,647	3,648,427,710	50,221	0.58
6/30/2018	72,205	3,605,115,787	49,929	1.06
6/30/2017	72,130	3,563,584,342	49,405	0.35
6/30/2016	71,848	3,537,226,348	49,232	1.19
6/30/2015	72,246	3,515,113,126	48,655	2.45
6/30/2014	73,407	3,486,326,799	47,493	2.12
6/30/2013	74,831	3,480,066,406	46,506	1.51

**TABLE 3
ELIGIBLE DEFERRED VESTED MEMBERS AS OF JUNE 30, 2021
MALE AND FEMALE DEMOGRAPHIC BREAKDOWN**

Attained Age	Health Insurance Trust			Life Insurance Trust		
	Number of		Total	Number of		Total
	Males	Female	Number	Males	Female	Number*
Under 30	0	0	0	25	76	101
30 - 34	30	59	89	188	602	790
35 - 39	217	761	978	348	1,195	1,543
40 - 44	374	1,042	1,416	473	1,371	1,844
45 - 49	314	1,093	1,407	390	1,369	1,759
50 - 54	335	1,249	1,584	387	1,460	1,847
55 - 59	263	901	1,164	304	1,025	1,329
60 & Over	238	782	1,020	287	888	1,175
Total	1,771	5,887	7,658	2,402	7,986	10,388

**There were initially 69,256 active members and 10,538 deferred vested members. However, 3,652 active members and 150 deferred vested members were also listed as a retiree and were ultimately valued in their retired status. The counts in the exhibit above reflect the initial member counts without adjustment.*



Schedule F – Tables of Member Data

TABLE 4
ALL RETIREES AND SPOUSES RECEIVING HEALTH CARE BENEFITS AS OF JUNE 30, 2021
MALE AND FEMALE DEMOGRAPHIC BREAKDOWN

Attained Age	Number of		Total Number
	Males	Female	
Under 40	1	12	13
40 - 44	5	29	34
45 - 49	55	128	183
50 - 54	383	994	1,377
55 - 59	1,107	2,440	3,547
60 - 64	1,837	4,255	6,092
65 - 69	2,887	6,935	9,822
70 - 74	3,922	8,213	12,135
75 - 79	2,556	4,582	7,138
80 - 84	1,428	2,702	4,130
85 - 89	774	1,438	2,212
90 - 94	246	702	948
95 - 99	47	189	236
100 & Over	7	29	36
Total	15,255	32,648	47,903



Schedule F – Tables of Member Data

TABLE 5
SCHEDULE OF RETIRANTS, BENEFICIARIES AND SURVIVORS ADDED TO AND REMOVED FROM ROLLS*

Health Insurance Trust									
Fiscal Year Ending June 30	Number of Members Added to Rolls	Number of Spouses** Added to Rolls	Total Number Added to Rolls	Number of Members Removed from Rolls	Number of Spouses** Removed from Rolls	Total Number Removed from Rolls	Number of Members on Rolls at the End of the Year	Number of Spouses** on Rolls at the End of the Year	Total Number on Rolls at the End of the Year
2013	1,853	664	2,517	1,076	619	1,695	36,777	7,053	43,830
2014	1,663	638	2,301	1,165	660	1,825	37,275	7,031	44,306
2015	1,990	731	2,721	1,190	633	1,823	38,075	7,129	45,204
2016	2,045	726	2,771	1,305	674	1,979	38,815	7,181	45,996
2017	1,835	699	2,534	1,153	691	1,844	39,497	7,189	46,686
2018	1,903	828	2,731	1,170	422	1,592	40,230	7,595	47,825
2019	1,701	666	2,367	1,220	692	1,912	40,711	7,569	48,280
2020	1,500	487	1,987	1,057	1,173	2,230	41,154	6,883	48,037
2021	1,548	448	1,996	1,527	603	2,130	41,175	6,728	47,903

*Reflects members, spouses, and beneficiaries participating in a health care plan.

**Includes spouses, beneficiaries, and surviving spouses.

TABLE 6
SCHEDULE OF RETIRANTS, BENEFICIARIES AND SURVIVORS ADDED TO AND REMOVED FROM ROLLS*

Life Insurance Trust								
Fiscal Year Ending June 30	Number Added to Rolls	Life Insurance Benefit (\$1,000's)	Number Removed from Rolls	Life Insurance Benefit (\$1,000's)	Number on Rolls at the End of the Year	Life Insurance Benefit (\$1,000's)	Increase in Life Insurance Benefit	Average Life Insurance Benefit
2013	2,195	10,975	952	4,760	43,845	219,225	2.92 %	5,000
2014	1,964	9,820	954	4,770	44,855	224,275	2.30	5,000
2015	2,270	11,350	1,641	8,205	45,484	227,420	1.40	5,000
2016	2,394	11,970	807	4,035	47,071	235,355	3.49	5,000
2017	2,175	10,875	1,021	5,105	48,225	241,125	2.45	5,000
2018	2,605	13,025	1,408	7,040	49,422	247,110	2.48	5,000
2019	2,226	11,130	210	1,050	51,438	257,190	4.08	5,000
2020	2,003	10,015	1,179	5,895	52,262	261,310	1.60	5,000
2021	1,886	9,430	2,417	12,085	51,731	258,655	(1.02)	5,000

*The life insurance benefit is payable upon the death of only members retired for service or disability. Numbers do not include life insurance benefits payable upon the death of an active contributing member. There were initially 52,960 retired or disabled members. However, 1,229 were listed multiple times, reflecting different pension benefits earned under multiple roles as an employee. Beginning with the June 30, 2021 valuation date, the counts in the exhibit above reflect all adjustments, which resulted in a larger number removed from rolls. Prior to June 30, 2021, the exhibit reflected the initial member counts.



Schedule G – Health Insurance Trust Sensitivity Analysis

The June 30, 2021 valuation results of the Health Insurance Trust (health trust) are projections based on the actuarial assumptions. Actual experience will differ from these assumptions, either increasing or decreasing cost. The charts on the following pages provide a simple analysis on how the costs are sensitive to changes to the assumed discount rate, the assumed inflation rate, the assumed rate of payroll growth, and the assumed rates of health care inflation (trend). The charts show the actuarial accrued liability, the unfunded liability, the funded ratio, and the employer contribution rate under the following scenarios:

- The discount rate assumption sensitivity analysis shows the valuation results with the baseline discount rate assumption, 7.10%, together with a decrease in the discount rate to 6.10% and an increase in the discount rate to 8.10%. Under this scenario, the underlying inflation rate assumption is held constant at 2.50% and the payroll growth assumption is held constant at 2.75%.
- The inflation assumption sensitivity analysis shows the valuation results with the baseline underlying inflation rate assumption, 2.50%, together with decreases in the inflation rate to 2.25% and 2.00%. Under this scenario, the decrease in the underlying inflation rate assumption leads to corresponding decreases in the discount rate, the payroll growth assumption, and the assumed rates of salary increase for active members. The assumed decreases in inflation are not assumed to impact the assumed rates of health care inflation (trend).
- The wage inflation assumption sensitivity analysis shows the valuation results with the baseline underlying payroll growth assumption, 2.75%, together with decreases in the wage inflation assumption to 1.25% and 0.00%. Under this scenario, all other assumptions, including the individual member salary scale, are held constant so that the only impact is in the amortization of the unfunded liability, leading to higher employer contribution rates.
- The health care inflation (trend) assumption sensitivity analysis shows the valuation results with the baseline trend assumption along with a 1.00% increase in all assumed trend rates and a 1.00% decrease in all assumed trend rates.



Schedule G – Health Insurance Trust Sensitivity Analysis

TEACHERS' RETIREMENT SYSTEM OF KENTUCKY HEALTH INSURANCE TRUST ASSUMED DISCOUNT RATE SENSITIVITY ANALYSIS (\$1,000's)			
	Decrease Discount Rate	Valuation Results	Increase Discount Rate
Actuarial Accrued Liability	\$ 3,961,216	\$ 3,456,677	\$ 3,045,462
Actuarial Value of Assets	2,072,648	2,072,648	2,072,648
Unfunded Liability	\$ 1,888,568	\$ 1,384,029	\$ 972,814
Funded Ratio	52.32%	59.96%	68.06%
Contributions			
Normal Cost	2.55%	1.92%	1.45%
Accrued Liability	3.45%	2.72%	2.06%
Total	6.00%	4.64%	3.51%
Member	(3.70%)	(3.70%)	(3.70%)
Employer	(2.96%)	(2.96%)	(2.96%)
State	(2.33%)	(2.33%)	(2.33%)
Statutorily Required Prefunding*	(2.99%)	(4.35%)	(5.48%)
Discount Rate	6.10%	7.10%	8.10%
Payroll Growth	2.75%	2.75%	2.75%
Inflation Rate	2.50%	2.50%	2.50%

* This represents funding by active members, local school districts, universities and other employers toward the unfunded liability of the health trust. See KRS 161.540(1)(c)(3) & 161.550(5).



Schedule G – Health Insurance Trust Sensitivity Analysis

TEACHERS' RETIREMENT SYSTEM OF KENTUCKY HEALTH INSURANCE TRUST INFLATION ASSUMPTION SENSITIVITY ANALYSIS (\$1,000's)			
	Valuation Results	Decrease Inflation Rate 0.25%	Decrease Inflation Rate 0.50%
Actuarial Accrued Liability	\$ 3,456,677	\$ 3,588,768	\$ 3,729,282
Actuarial Value of Assets	2,072,648	2,072,648	2,072,648
Unfunded Liability	\$ 1,384,029	\$ 1,516,120	\$ 1,656,634
Funded Ratio	59.96%	57.75%	55.58%
Contributions			
Normal Cost	1.92%	2.05%	2.18%
Accrued Liability	2.72%	2.99%	3.27%
Total	<u>4.64%</u>	<u>5.04%</u>	<u>5.45%</u>
Member	(3.70%)	(3.70%)	(3.70%)
Employer	(2.96%)	(2.96%)	(2.96%)
State	(2.33%)	(2.33%)	(2.33%)
Statutorily Required Prefunding*	<u>(4.35%)</u>	<u>(3.95%)</u>	<u>(3.54%)</u>
Discount Rate	7.10%	6.85%	6.60%
Payroll Growth	2.75%	2.50%	2.25%
Inflation Rate	2.50%	2.25%	2.00%

* This represents funding by active members, local school districts, universities and other employers toward the unfunded liability of the health trust. See KRS 161.540(1)(c)(3) & 161.550(5).



Schedule G – Health Insurance Trust Sensitivity Analysis

TEACHERS' RETIREMENT SYSTEM OF KENTUCKY HEALTH INSURANCE TRUST WAGE INFLATION ASSUMPTION SENSITIVITY ANALYSIS (\$1,000's)			
	Valuation Results	Decrease Wage Inflation to 1.25%	No Wage Inflation
Actuarial Accrued Liability	\$ 3,456,677	\$ 3,456,677	\$ 3,456,677
Actuarial Value of Assets	2,072,648	2,072,648	2,072,648
Unfunded Liability	\$ 1,384,029	\$ 1,384,029	\$ 1,384,029
Funded Ratio	59.96%	59.96%	59.96%
Contributions			
Normal Cost	1.92%	1.92%	1.92%
Accrued Liability	2.72%	3.04%	3.33%
Total	<u>4.64%</u>	<u>4.96%</u>	<u>5.25%</u>
Member	(3.70%)	(3.70%)	(3.70%)
Employer	(2.96%)	(2.96%)	(2.96%)
State	<u>(2.33%)</u>	<u>(2.33%)</u>	<u>(2.33%)</u>
Statutorily Required Prefunding*	(4.35%)	(4.03%)	(3.74%)
Discount Rate	7.10%	7.10%	7.10%
Payroll Growth	2.75%	1.25%	0.00%
Inflation Rate	2.50%	2.50%	2.50%

* This represents funding by active members, local school districts, universities and other employers toward the unfunded liability of the health trust. See KRS 161.540(1)(c)(3) & 161.550(5).



Schedule G – Health Insurance Trust Sensitivity Analysis

TEACHERS' RETIREMENT SYSTEM OF KENTUCKY HEALTH INSURANCE TRUST HEALTH CARE TREND ASSUMPTION SENSITIVITY ANALYSIS (\$1,000's)			
	Decrease Trend Rates 1.00%	Valuation Results	Increase Trend Rates 1.00%
Actuarial Accrued Liability	\$ 3,005,712	\$ 3,456,677	\$ 4,022,592
Actuarial Value of Assets	2,072,648	2,072,648	2,072,648
Unfunded Liability	\$ 933,064	\$ 1,384,029	\$ 1,949,944
Funded Ratio	68.96%	59.96%	51.53%
Contributions			
Normal Cost	1.51%	1.92%	2.48%
Accrued Liability	1.84%	2.72%	3.84%
Total	3.35%	4.64%	6.32%
Member	(3.70%)	(3.70%)	(3.70%)
Employer	(2.96%)	(2.96%)	(2.96%)
State	(2.33%)	(2.33%)	(2.33%)
Statutorily Required Prefunding*	(5.64%)	(4.35%)	(2.67%)
Discount Rate	7.10%	7.10%	7.10%
Payroll Growth	2.75%	2.75%	2.75%
Inflation Rate	2.50%	2.50%	2.50%

* This represents funding by active members, local school districts, universities and other employers toward the unfunded liability of the health trust. See KRS 161.540(1)(c)(3) & 161.550(5).



Schedule H – Life Insurance Trust Sensitivity Analysis

The June 30, 2021 valuation results of the Life Insurance Trust (life trust) are projections based on the actuarial assumptions. Actual experience will differ from these assumptions, either increasing or decreasing cost. The charts on the following pages provide a simple analysis on how the costs are sensitive to changes to the assumed discount rate, the assumed inflation rate, and the assumed rate of payroll growth. The charts show the actuarial accrued liability, the unfunded liability, the funded ratio and the employer contribution rate under the following scenarios:

- The discount rate assumption sensitivity analysis shows the valuation results with the baseline discount rate assumption, and 7.10% together with a decrease in the discount rate to 6.10% and an increase in the discount rate to 8.10%. Under this scenario, the underlying inflation rate assumption is held constant at 2.50% and the payroll growth assumption is held constant at 2.75%.
- The inflation assumption sensitivity analysis shows the valuation results with the baseline underlying inflation rate assumption, 2.50%, together with decreases in the inflation rate to 2.25% and 2.00%. Under this scenario, the decrease in the underlying inflation rate assumption leads to corresponding decreases in the discount rate, the payroll growth assumption, and the assumed rates of salary increase for active members.
- The wage inflation assumption sensitivity analysis shows the valuation results with the baseline underlying wage inflation assumption, 2.75%, together with decreases in the wage inflation assumption to 1.25% and 0.00%. Under this scenario, all other assumptions, including the individual member salary scale, are held constant so that the only impact is in the amortization of the unfunded liability, leading to higher employer contribution rates.



Schedule H – Life Insurance Trust Sensitivity Analysis

TEACHERS' RETIREMENT SYSTEM OF KENTUCKY LIFE INSURANCE TRUST ASSUMED DISCOUNT RATE SENSITIVITY ANALYSIS (\$1,000's)			
	Decrease Discount Rate	Valuation Results	Increase Discount Rate
Actuarial Accrued Liability	\$ 133,390	\$ 116,656	\$ 103,136
Actuarial Value of Assets	95,483	95,483	95,483
Unfunded Liability	\$ 37,907	\$ 21,173	\$ 7,653
Funded Ratio	71.58%	81.85%	92.58%
Contributions			
Normal Cost	0.03%	0.02%	0.02%
Accrued Liability	0.06%	0.04%	0.01%
Total	<u>0.09%</u>	<u>0.06%</u>	<u>0.03%</u>
Member	<u>(0.00%)</u>	<u>(0.00%)</u>	<u>(0.00%)</u>
Employer/State	0.09%	0.06%	0.03%
Discount Rate	6.10%	7.10%	8.10%
Payroll Growth	2.75%	2.75%	2.75%
Inflation Rate	2.50%	2.50%	2.50%



Schedule H – Life Insurance Trust Sensitivity Analysis

TEACHERS' RETIREMENT SYSTEM OF KENTUCKY LIFE INSURANCE TRUST INFLATION ASSUMPTION SENSITIVITY ANALYSIS (\$1,000's)			
	Valuation Results	Decrease Inflation Rate 0.25%	Decrease Inflation Rate 0.50%
Actuarial Accrued Liability	\$ 116,656	\$ 120,655	\$ 124,893
Actuarial Value of Assets	95,483	95,483	95,483
Unfunded Liability	\$ 21,173	\$ 25,172	\$ 29,410
Funded Ratio	81.85%	79.14%	76.45%
Contributions			
Normal Cost	0.02%	0.02%	0.03%
Accrued Liability	0.04%	0.04%	0.05%
Total	0.06%	0.06%	0.08%
Member	(0.00%)	(0.00%)	(0.00%)
Employer/State	0.06%	0.06%	0.08%
Discount Rate	7.10%	6.85%	6.60%
Payroll Growth	2.75%	2.50%	2.25%
Inflation Rate	2.50%	2.25%	2.00%



Schedule H – Life Insurance Trust Sensitivity Analysis

TEACHERS' RETIREMENT SYSTEM OF KENTUCKY LIFE INSURANCE TRUST WAGE INFLATION ASSUMPTION SENSITIVITY ANALYSIS (\$1,000's)			
	Valuation Results	Decrease Wage Inflation to 1.25%	No Wage Inflation
Actuarial Accrued Liability	\$ 116,656	\$ 116,656	\$ 116,656
Actuarial Value of Assets	95,483	95,483	95,483
Unfunded Liability	\$ 21,173	\$ 21,173	\$ 21,173
Funded Ratio	81.85%	81.85%	81.85%
Contributions			
Normal Cost	0.02%	0.02%	0.02%
Accrued Liability	0.04%	0.04%	0.05%
Total	0.06%	0.06%	0.07%
Member	(0.00%)	(0.00%)	(0.00%)
Employer/State	0.06%	0.06%	0.07%
Discount Rate	7.10%	7.10%	7.10%
Payroll Growth	2.75%	1.25%	0.00%
Inflation Rate	2.50%	2.50%	2.50%



Schedule I – Health Insurance Trust 30-Year Baseline Projection

The results of actuarial valuations are a “snapshot” of the financial position on the valuation date, based on the assumed number of active employees and current beneficiaries. Projections simulate future actuarial valuation results over a forecast period (thirty years in this case) by “creating” future new hires and performing valuations using the projected membership. The following items are assumed for the projected results provided on the following page.

- Active Employee Growth Rate: 0.00%
- Valuation Discount Rate: 7.10%
- Investment Rate of Return: 7.10% each year
- Actuarial Value of Assets: 5-year smoothing, No Corridor
- Amortization Method: Level Percent of Payroll, Closed
- Amortization Period: 19-year period as of Valuation Date
- Future Contributions: Based on the contribution rates defined in statute

All other demographic and economic changes are assumed to occur in accordance with the actuarial assumptions used for the actuarial valuation.



Schedule I – Health Insurance Trust 30-Year Baseline Projection

Projections assume all actuarial assumptions are met and do not include any adjustment for adverse experience due to COVID-19 (either impacting claims or demographics), changes in the ACA, larger than expected increases to Medicare Advantage premiums, or lower than expected investment return or payroll growth.

(Dollar amounts in \$1,000s)

Valuation Year	Contribution Fiscal Year	Non-University Payroll (1)	University Payroll (2)	Total Payroll (3)	Unfunded Accrued Liability (4)	Funding Ratio (5)	Total Employer Contribution (6)
2021	2022	\$3,592,938	\$191,462	\$3,784,400	\$1,384,029	60.0%	\$198,993
2022	2023	3,666,832	187,411	3,854,243	1,146,623	68.4%	207,458
2023	2024	3,741,188	185,734	3,926,922	884,279	76.8%	216,201
2024	2025	3,820,104	185,749	4,005,853	591,963	85.2%	226,110
2025	2026	3,898,507	186,882	4,085,389	254,567	93.9%	236,627
2026	2027	3,975,581	188,813	4,164,394	0	100.0%	83,919
2027	2028	4,050,739	191,451	4,242,190	0	100.0%	86,327
2028	2029	4,129,944	194,633	4,324,577	0	100.0%	88,825
2029	2030	4,212,725	197,906	4,410,631	0	100.0%	91,461
2030	2031	4,298,254	201,505	4,499,759	0	100.0%	94,299
2031	2032	4,387,777	205,190	4,592,967	0	100.0%	97,310
2032	2033	4,479,972	208,861	4,688,833	0	100.0%	100,439
2033	2034	4,574,251	213,126	4,787,377	0	100.0%	103,712
2034	2035	4,675,295	217,000	4,892,295	0	100.0%	107,187
2035	2036	4,781,412	220,949	5,002,361	0	100.0%	110,878
2036	2037	4,893,087	225,617	5,118,704	0	100.0%	116,700
2037	2038	5,010,582	230,473	5,241,055	0	100.0%	123,572
2038	2039	5,134,077	235,905	5,369,982	0	100.0%	132,210
2039	2040	5,264,820	241,651	5,506,471	0	100.0%	145,618
2040	2041	5,402,983	247,798	5,650,781	0	100.0%	142,004
2041	2042	5,547,579	254,319	5,801,898	0	100.0%	147,201
2042	2043	5,697,678	261,031	5,958,709	0	100.0%	152,973
2043	2044	5,855,417	267,978	6,123,395	0	100.0%	159,056
2044	2045	6,018,865	275,693	6,294,558	0	100.0%	165,409
2045	2046	6,190,667	283,654	6,474,321	0	100.0%	172,075
2046	2047	6,368,553	292,095	6,660,648	0	100.0%	179,046
2047	2048	6,553,581	300,751	6,854,332	0	100.0%	186,358
2048	2049	6,747,104	309,746	7,056,850	0	100.0%	194,039
2049	2050	6,956,808	318,529	7,275,337	0	100.0%	202,429
2050	2051	7,169,332	326,984	7,496,316	0	100.0%	211,394



Schedule J – Life Insurance Trust 30-Year Baseline Projection

The results of actuarial valuations are a “snapshot” of the financial position on the valuation date, based on the assumed number of active employees and current beneficiaries. Projections simulate future actuarial valuation results over a forecast period (thirty years in this case) by “creating” future new hires and performing valuations using the projected membership. The following items are assumed for the projected results provided on the following page.

- Active Employee Growth Rate: 0.00%
- Valuation Discount Rate: 7.10%
- Investment Rate of Return: 7.10% each year
- Actuarial Value of Assets: 5-year smoothing, No Corridor
- Amortization Method: Level Percent of Payroll, Closed
- Amortization Period: 23-year period as of Valuation Date
- Future Contributions: Based on Expected Actuarially Determined Contributions

All other demographic and economic changes are assumed to occur in accordance with the actuarial assumptions used for the actuarial valuation



Schedule J – Life Insurance Trust 30-Year Baseline Projection

(Dollar amounts in \$1,000s)

Valuation Year	Contribution Fiscal Year	Non-University Payroll (1)	University Payroll (2)	Total Payroll (3)	Unfunded Accrued Liability (4)	Funding Ratio (5)	Actuarially Determined Contribution in Dollars (6)
2021	2024	\$3,592,938	\$191,462	\$3,784,400	\$21,173	81.9%	\$2,279
2022	2025	3,666,832	187,411	3,854,243	18,432	84.6%	2,135
2023	2026	3,741,188	185,734	3,926,922	14,733	88.0%	1,917
2024	2027	3,820,104	185,749	4,005,853	10,995	91.2%	1,685
2025	2028	3,898,507	186,882	4,085,389	7,247	94.3%	1,437
2026	2029	3,975,581	188,813	4,164,394	7,282	94.4%	1,464
2027	2030	4,050,739	191,451	4,242,190	7,299	94.5%	1,492
2028	2031	4,129,944	194,633	4,324,577	7,294	94.6%	1,522
2029	2032	4,212,725	197,906	4,410,631	7,266	94.7%	1,555
2030	2033	4,298,254	201,505	4,499,759	7,210	94.8%	1,589
2031	2034	4,387,777	205,190	4,592,967	7,124	95.0%	1,623
2032	2035	4,479,972	208,861	4,688,833	7,005	95.1%	1,658
2033	2036	4,574,251	213,126	4,787,377	6,846	95.3%	1,694
2034	2037	4,675,295	217,000	4,892,295	6,645	95.4%	1,732
2035	2038	4,781,412	220,949	5,002,361	6,394	95.6%	1,772
2036	2039	4,893,087	225,617	5,118,704	6,089	95.9%	1,814
2037	2040	5,010,582	230,473	5,241,055	5,720	96.1%	1,860
2038	2041	5,134,077	235,905	5,369,982	5,281	96.5%	1,910
2039	2042	5,264,820	241,651	5,506,471	4,760	96.8%	1,967
2040	2043	5,402,983	247,798	5,650,781	4,143	97.2%	2,033
2041	2044	5,547,579	254,319	5,801,898	3,415	97.7%	2,115
2042	2045	5,697,678	261,031	5,958,709	2,551	98.3%	2,227
2043	2046	5,855,417	267,978	6,123,395	1,508	99.0%	2,430
2044	2047	6,018,865	275,693	6,294,558	0	100.0%	1,099
2045	2048	6,190,667	283,654	6,474,321	0	100.0%	1,052
2046	2049	6,368,553	292,095	6,660,648	0	100.0%	1,050
2047	2050	6,553,581	300,751	6,854,332	0	100.0%	1,051
2048	2051	6,747,104	309,746	7,056,850	0	100.0%	1,051
2049	2052	6,956,808	318,529	7,275,337	0	100.0%	1,053
2050	2053	7,169,332	326,984	7,496,316	0	100.0%	1,054

