



KENTUCKY COMMUNITY AND TECHNICAL COLLEGE SYSTEM

REQUEST FOR PROPOSAL ADDENDUM #2

RFP NO.: RFP-0190
ADDENDUM NO.: 2
RFP ISSUE DATE: January 14, 2019
ADDENDUM DATE: January 24, 2019
OPENING DATE: REVISED – February 4, 2019 @ 4:00pm EDT
TITLE: Actuarial Services

NOTICE:

RFP-0190 Actuarial Services will now be due no later than 4:00 pm EDT on February 4, 2019.

The following information is provided in response to questions submitted by potential Offerors:

1. What special and/or out of scope services have been billed in the last three years in addition to the fixed fees? How many hours were billed for these services?
 - a. **Additional services for the KCTCS OPEB related to implementation of GASB 75 – approximately 30 additional hours were billed. No additional services for the LTD.**
2. Our standard consulting agreement terms and conditions include some limitation on liability for mere negligence or from consequential damages.
 - a. **Please review the RFP document, Page 5, Item 7. “OFFEROR TERMS & CONDITIONS”.**
3. Is the System open to accepting mutually-agreeable contract terms, which include some limitation of liability on the work performed by the contracting actuarial firm?
 - a. **Please review the RFP document, Page 5, Item 7. “OFFEROR TERMS & CONDITIONS”.**
4. Are there any statutory requirements regarding limitation of liability of which we should be aware?
 - a. **Please review the RFP document, Page 5, Item 7. “OFFEROR TERMS & CONDITIONS”.**

5. We wanted to see if we could get a copy of the last full valuation for OPEB benefits and LTD. This might be under GASB75 or prior GASB45.
 - a. **Please see the Attachment A and Attachment B.**
6. Can you share historical fees for the project and advice if the fees reflect the current scope of services, or if there are slight differences in services?

Fiscal Year	KCTCS OPEB	LTD
6.30.16	\$45,261	\$5,000
6.30.17	8,000	5,000
6.30.18	34,133	5,000

7. What are the reasons for issuing the current RFP?
 - a. **Please review the RFP document, Page 2, Item 2. "STATEMENT OF INTENT AND PURPOSE".**
8. Will the current actuary be allowed to bid?
 - a. **Yes**
9. What is the current submission process for data to your actuary: via email, disk or secure FTP?
 - a. **Email with password protected files.**
10. How many on-site meetings do you currently have with your actuary? How many meetings should be anticipated for our proposal?
 - a. **No on-site meetings. We would anticipate no more than three 1-hour meetings via conference call to ensure we are providing the actuary with correct information and to ensure any questions / concerns are addressed about assumptions and/or changes in assumptions. We would anticipate no more than two ½ hour phone calls in an effort to understand the reports provided. We may send a few e-mails in connection with clarifying the reports provided. In addition, during the audit process, the external auditors may have questions about the reports.**
11. Please provide a copy of the most recent actuarial valuation reports that provide accounting disclosure determinations and recommended funding.
 - a. **Please see the attached document.**
12. What have been your past practices for frequencies of valuations?
 - a. **A full valuation is performed every 2 years with roll-forward in the year between.**
13. Please provide the most recent data collection request letter from your current actuary.
 - a. **Please see Attachment C**
14. The multiple-employer LTD plan was not prominent in the financial report. Could you please forward a copy of the latest report as well?
 - a. **Since the LTD obligation is not material to KCTCS' financial statements, we do not prepare GASB 75 disclosures.**

15. Does KCTCS participate in the KYRX coalition?

a. **No**

16. What length of contract are you seeking? It appears from page three that the contract will end upon delivery of the report in December 2020 (for fiscal 2021 reporting), but some audits occur well beyond the valuation delivery date.

a. **Please review the RFP document, Page 11, Item 27. "TERM OF CONTRACT" and Page 11, Item 28. "EFFECTIVE DATE".**

17. Are there GASB 75 allocations made in the single-employer health plan? If so, how many?

a. **Total OPEB liability must be allocated for the System Office, Corrections, Fire Commission, Kentucky Board of Emergency Medical Services and the 16 colleges.**

18. When was the last demographics (retirement, turnover, etc.) experience study done for the health plan?

a. **The last study was done in 2017.**

All other terms, conditions & specifications remained unchanged.

Offerors should acknowledge receipt of this and any addenda either with proposal or by separate letter prior to award of contract. If by separate letter, the following information should be placed in the lower left hand corner of the envelope:

RFP No.: RFP-0190
Title: Actuarial Services
Opening Date: REVISED – February 4, 2019 @ 4:00pm
EDT

Name of Firm: _____

Signature: _____

Attachment A



CLARITY IN NUMBERS, LLC
Actuaries | Consultants

**GASB 75 Fiscal 2018 Disclosure,
Fiscal 2018 Expense and Estimated Fiscal 2019 Expense**

Kentucky Community & Technical College System
Long-Term Disability Plan

May 23, 2018

Prepared by:

Lynne B. Pasi, FSA, EA, MAAA
Consulting Actuary
312.893.5447
lynne.pasi@clarity-llc.com

Dmitriy Sherman, ASA, MAAA
Consulting Actuary
470.539.8512
dmitriy.sherman@clarity-llc.com

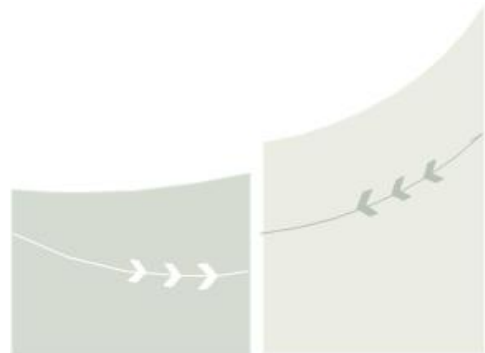




Table of Contents

ACTUARIAL CERTIFICATION	1
SECTION 1 – SUMMARY	2
SECTION 2 – SUMMARY OF DISCLOSURE INFORMATION	3
TABLE 2.1 – RECONCILIATION OF TOTAL OPEB LIABILITY AND FIDUCIARY NET POSITION	3
SECTION 3 – EXPENSE FOR FISCAL 2018	4
TABLE 3.1 – EXPENSE FOR FISCAL 2018	4
SECTION 4 – ESTIMATED EXPENSE FOR FISCAL 2019	5
TABLE 4.1 – ESTIMATED EXPENSE FOR FISCAL 2019	5
TABLE 4.2 – LIABILITY GAIN/LOSS	6
TABLE 4.3 – LIABILITY GAIN/LOSS DEFERRED INFLOWS	7
TABLE 4.4 – LIABILITY GAIN/LOSS DEFERRED OUTFLOWS	7
TABLE 4.5 – DEFERRED OUTFLOWS AND INFLOWS PROJECTION	7
SECTION 5 – PLAN PARTICIPANTS	8
SECTION 6 – PLAN PROVISIONS	9
SECTION 7 – ACTUARIAL ASSUMPTIONS AND METHODS	11
SECTION 8 – HEALTH CARE CLAIMS DEVELOPMENT	15
SECTION 9 – REQUIRED SUPPLEMENTARY INFORMATION (RSI)	16
TABLE 9.1 – SCHEDULE OF CHANGES IN NET OPEB LIABILITY AND RELATED RATIOS	16
TABLE 9.2 – CONTRIBUTION INFORMATION	17





Actuarial Certification

This report documents the results of an actuarial valuation and contains financial reporting information for the fiscal year ending June 30, 2018, the fiscal 2018 OPEB Expense, and the estimated fiscal 2019 OPEB Expense for the Kentucky Community & Technical College System Long-Term Disability Plan as set forth in GASB Statement of Accounting Standard No. 75 (“GASB 75”).

The calculations are based on census, plan information and health care related information provided by Kentucky Community & Technical College System as of April 1, 2017. We reviewed this information for reasonability but did not formally audit the data and do not attest to the accuracy of this information.

Actuarial computations under GASB 75 are for purposes of fulfilling employer financial accounting requirements. Determinations for purposes other than meeting employer financial accounting requirements may be significantly different from the results reported here (e.g., the report does not address the funding adequacy of benefits related to this Plan). These calculations have been made on a basis consistent with our understanding of GASB 75. Actuarial assumptions and methods used are described in the “Actuarial Assumptions and Methods” section.

The valuation complies with the generally accepted accounting principles including the Actuarial Standards Board Actuarial Standards of Practices (“ASOPs”) relating to Other Post-Employment Benefits (“OPEBs”).

The American Academy of Actuaries (AAA) maintains Qualification Standards for actuaries issuing Statements of Actuarial Opinion. The standard (effective January 1, 2008) increased its continuing education requirements and expands the applicability of the Qualification Standards to all actuaries issuing Statements of Actuarial Opinion in the United States.

The undersigned have satisfied the basic education, experience, and continuing education requirements and are qualified to issue a Statement of Actuarial Opinion for this project in accordance with the Qualification Standards in the AAA’s Code of Professional Conduct.

Clarity in Numbers, LLC (“Clarity”) has no relationships with Kentucky Community & Technical College System or its personnel (other than this project) that would impair our independence in performing these calculations.

We welcome any questions and will provide further explanations on this material as requested.

Clarity in Numbers, LLC



Lynne B. Pasi, FSA, EA, MAAA
Consulting Actuary

May 23, 2018



Dmitriy Sherman, ASA, MAAA
Consulting Actuary

May 23, 2018

KCTCS - UK LTD Plan
GASB 75 Fiscal 2018 Disclosure,
Fiscal 2018 Expense and Estimated Fiscal 2019 Expense



Section 1 – Summary

Summary	Fiscal 2018
Valuation Date	July 1, 2017
Measurement Date	June 30, 2017
Total OPEB Liability (TOL)	
Actives	\$ 49,905
Inactives Entitled To But Not Yet Receiving Benefit Payments	0
Inactives Currently Receiving Benefit Payments	1,259,145
Total	<u>\$ 1,309,050</u>
Plan Fiduciary Net Position (FNP)	\$ 0
Net OPEB Liability (NOL)	\$ 1,309,050
Net OPEB Liability 1% Discount Rate Increase	\$ 1,285,995
Net OPEB Liability 1% Discount Rate Decrease	\$ 1,328,531
Net OPEB Liability 1% Healthcare Trend Rate Increase	\$ 1,309,050
Net OPEB Liability 1% Healthcare Trend Rate Decrease	\$ 1,309,050
Participant Information	
Actives	187
Inactives Entitled To But Not Yet Receiving Benefit Payments	0
Inactives Currently Receiving Benefit Payments	23
Total	<u>210</u>
Weighted Average Assumptions Used to Determine Benefit Obligation	
Discount Rate	3.13%
Expected Return on Assets	N/A
Salary Scale	3.00%
Health Care Trend Rate	
Current Rate	N/A
Ultimate Rate / Year Reached	N/A



Section 2 – Summary of Disclosure Information

The following tables summarize disclosure information for the Long-Term Disability Plan under GASB 75.

Table 2.1 – Reconciliation of Total OPEB Liability and Fiduciary Net Position

	Fiscal 2018
Valuation Date	July 1, 2017
Measurement Date	June 30, 2017
Change in Total OPEB Liability (TOL)	
TOL, Beginning of Year	\$ 1,463,226
Service Cost	85,045
Interest	36,041
Change in Benefit Terms	0
Difference Between Expected and Actual Experience	0
Employee Contributions	0
Benefits Paid	(266,578)
Changes in Assumptions	(8,684)
TOL, End of Year	<u>\$ 1,309,050</u>
Change In Plan Fiduciary Net Position (FNP)	
FNP, Beginning of Year	\$ 0
Net Investment Income	0
Employee Contributions	0
Employer Contributions	266,578
Benefits Paid	(266,578)
FNP, End of Year	<u>\$ 0</u>
Net OPEB Liability (NOL), Beginning of Year	\$ 1,463,226
Net OPEB Liability (NOL), End of Year	\$ 1,309,050



Section 3 – Expense for Fiscal 2018

The following summarizes the development of Expense for fiscal 2018 (July 1, 2017 - June 30, 2018).

Table 3.1 – Expense for Fiscal 2018

Service Cost	\$ 85,045
Interest	36,041
Expected Return on Assets	0
Amortization of:	
Total OPEB Liability and Assumption (Gain)/Loss	0
Fiduciary Net Position (Gain)/Loss	0
Expense	\$ 121,086
Weighted Average Assumptions to Determine Expense	
Actual Benefit Payments	266,578
Discount Rate	2.71%
Expected Return on Assets	N/A
Salary Scale	3.00%
Health Care Trend Rate	
Current Rate	N/A
Ultimate Rate / Year Reached	N/A



Section 4 – Estimated Expense for Fiscal 2019

The following summarizes the development of Estimated Expense for fiscal 2019 (July 1, 2018 - June 30, 2019).

Table 4.1 – Estimated Expense for Fiscal 2019

Service Cost	\$ 83,737
Interest	36,538
Expected Return on Assets	0
Amortization of:	
Total OPEB Liability and Assumption (Gain)/Loss	(2,155)
Fiduciary Net Position (Gain)/Loss	0
Estimated Expense	\$ 118,120
Weighted Average Assumptions to Determine Expense	
Expected Benefit Payments	\$ 283,412
Discount Rate	3.13%
Expected Return on Assets	N/A
Salary Scale	3.00%
Health Care Trend Rate	
Current Rate	N/A
Ultimate Rate / Year Reached	N/A



Section 4 – Estimated Expense for Fiscal 2019 (Continued)

The development of the 2018 liability (gain)/loss is as follows.

Table 4.2 – Liability Gain/Loss

Total OPEB Liability (Gain)/Loss	
(1) TOL, June 30, 2017	\$ 1,463,226
(2) Service Cost	85,045
(3) Interest	36,041
(4) Net Benefit Payments	(266,578)
(5) Plan Amendments	0
(6) Expected TOL [(1) + (2) + (3) + (4) + (5)], June 30, 2018	\$ 1,317,734
(7) Actual TOL, June 30, 2018, Before Changes	1,317,734
(8) 2018 (Gain)/Loss [(7) - (6)]	\$ 0
Assumption Change (Gain)/Loss	
(1) TOL, June 30, 2018, Before Changes	\$ 1,317,734
(2) TOL, June 30, 2018, After Changes	1,309,050
(8) 2018 (Gain)/Loss [(2) - (1)]	\$ (8,684)
Amortization of Liability (Gain)/Loss	
(1) (Gain)/Loss	\$ (8,684)
(2) Expected Future Service at Measurement Date	4.03
(3) Amortization of (Gain)/Loss [(1) / (2)]	\$ (2,155)



Section 4 – Estimated Expense for Fiscal 2019 (Continued)

The schedule of liability gain/loss deferred inflows and outflows.

Table 4.3 – Liability Gain/Loss Deferred Inflows

Date Amortization Base Set	Net Amount at June 30, 2018	Amortization Period Remaining at June 30, 2018	Amount Recognized During Fiscal 2019	Net Amount at June 30, 2019
6/30/2018	\$ 8,684	4.03	\$ 2,155	\$ 6,529
Total	\$ 8,684		\$ 2,155	\$ 6,529

Table 4.4 – Liability Gain/Loss Deferred Outflows

Date Amortization Base Set	Net Amount at June 30, 2018	Amortization Period Remaining at June 30, 2018	Amount Recognized During Fiscal 2019	Net Amount at June 30, 2019
Total	\$ -		\$ -	\$ -

Table 4.5 – Deferred Outflows and Inflows Projection

Amounts reported as deferred outflows of resources and deferred inflows of resources will be recognized in expense as follows:

Year Ended June 30:	
2019	\$ (2,155)
2020	\$ (2,155)
2021	\$ (2,155)
2022	\$ (2,155)
2022	\$ (64)
Thereafter	\$ -





Section 5 – Plan Participants

A high-level summary of the census data provided by Kentucky Community & Technical College System is summarized below.

Participants as of April 1, 2017			
	Number	Average Age	Average Service
Actives	187	59.3	26.6
Inactives Entitled To But Not Yet Receiving Benefit Payments	0	N/A	
Inactives Currently Receiving Benefit Payments	<u>23</u>	59.0	
Total	210		



Section 6 – Plan Provisions

This summary of plan provisions has been prepared for valuation purposes only. It outlines the major plan provisions used to determine the Total OPEB Liability.

Kentucky Community & Technical College System Long-Term Disability Plan	
Eligibility:	<p>One full year of service for the former UK Faculty and Staff.</p> <p>Total disability is defined as the inability of the employee, due to sickness or bodily injury, to engage in any occupation for which the employee is fitted by education, training or experience for more than 12 calendar months. LTD eligibility terminates as follows: (a) Upon termination of employment, (b) On the first day of the seventh month of an approved leave with or without pay, (c) Upon discontinuation of the Program by the University, or (d) Upon retirement.</p> <p>LTD payments cease at the earliest following occurrences: (a) At the time LTD ceases as defined in the policy, (b) At the beginning of the month in which the participant reaches age 65, if the onset of the LTD condition occurred prior to age 64, (c) For long term disabilities arising during age 64 or later, the duration of LTD payments is limited to 12 months, (d) Death, or (e) Failure of the employee to comply with the plan.</p>
Benefit:	<p>University's LTD trust pays 60% of the basic regular monthly salary, less offsets. Offsets include Social Security disability payments, Worker's compensation payments and other offsets. The University will continue to fund the employer retirement contribution to the LTD participant's retirement plan carrier equal to 10% of the basic regular monthly salary while the LTD participant receives long-term disability benefits from the University.</p>



Section 6 – Plan Provisions (continued)

Statement by Kentucky Community & Technical College System to ensure accuracy of provisions

The above plan provisions represent an accurate assessment of the Other Post-Employment Benefit Plan (OPEB) benefits, offered by Kentucky Community & Technical College System.

Printed Name

Signature

Date





Section 7 – Actuarial Assumptions and Methods

Actuarial Standards of Practice

Actuarial Standards of Practice No. 6 (“ASOP 6”) provides guidance on measuring retiree group benefits obligations and determining retiree group benefits periodic costs or actuarially determined contributions.

Actuarial Standards of Practice No. 35 (“ASOP 35”) requires that each demographic and other noneconomic assumption should be reasonable individually and in conjunction with one another.

At each measurement date, the actuary should consider whether the selected assumptions continue to be reasonable. If the actuary determines that one or more of the previously selected assumptions are no longer reasonable, the actuary will perform an experience study to determine the best estimate for the Plan’s population.

Actuarial Standards of Practice No. 27 Revised (“ASOP 27”) requires that each economic assumption be reasonable based on the following characteristics: (a) appropriate for the purpose of the measurement; (b) reflects the actuary's professional judgement; (c) takes into account historical and current economic data that is relevant as of the measurement date; (d) reflects the actuary's estimate of future experience, observation of the estimates inherent in market data, or a combination thereof; and (e) has no significant bias. Given the uncertain nature of the items for which assumptions are selected, different actuaries will apply different professional judgement and may choose different reasonable assumptions. As a result, a range of reasonable assumptions may develop both for an individual actuary and across actuarial practice.

This section summarizes the economic, demographic and noneconomic actuarial assumptions and the actuarial cost method used to determine plan liabilities and expense.





Section 7 – Actuarial Assumptions and Methods (continued)

Actuarial Methods	
Valuation Date:	July 1, 2017
Data Collection Date:	April 1, 2017
Measurement Date:	June 30, 2017
Fiscal Year:	July 1, 2017 - June 30, 2018
Actuarial Cost Method:	<p>Entry Age Normal (“EAN”) - Under EAN, the Normal Cost (NC) for each participant is calculated as a level percentage of pay that would exactly fund his/her benefits if contributed from his/her entry age in the Plan to his/her assumed retirement age.</p> <p>Normal Cost (“NC”) – The portion of the Present Value which is allocated to the valuation year by the actuarial cost method.</p> <p>Total OPEB Liability (“TOL”) – Present value of the past service liability of the employee’s total Present Value of Benefits.</p>
Asset Valuation Method:	N/A
Actuarial Gains and Losses:	Actuarial gains and losses due to differences between expected and actual experience with regard to economic or demographic factors and due to changes of assumptions about future economic or demographic factors are amortized over a closed period equal to the average of the expected remaining service lives of all participants.
Actuarial Valuation Frequency:	An actuarial valuation is prepared biennially with a 'roll-forward' valuation in the interim year, provided no significant events have occurred during the interim year warranting a new measurement. Fiscal 2018 valuation was based on a full valuation.
Changes from Valuation as of the Beginning of Measurement Year:	- Actuarial gains and losses are being amortized as required by GASB 75.





Section 7 – Actuarial Assumptions and Methods (continued)

Actuarial Assumptions																												
Discount Rate:	3.13% for determining fiscal 2018 disclosure and estimated fiscal 2019 expense; 2.71% for determining fiscal 2017 liability and fiscal 2018 expense.																											
Discount Rate Determination Method:	Under GASB 75, the discount rate for unfunded plans must be based on a yield or index rate for a 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher. Rates were taken from the S&P municipal bond 20 year high grade rate index as of the measurement dates.																											
Health Care Trend Rate:	No increase in benefit level has been assumed.																											
Mortality Table:	RP-2014 Combined Healthy Mortality Table for males and females backed off to 2006 and projected generationally using Scale MP-2017. Rationale: Most current mortality table and projection scale as issued by the Society of Actuaries in 2014 and 2017, respectively.																											
Salary Increase Rate:	3.00% per year (based on anticipated plan experience).																											
Expected Return on Plan Assets:	N/A																											
Participation:	Active employees are assumed to participate upon becoming disabled.																											
Lapse Rate:	0% of current retirees are assumed to lapse coverage per year.																											
Medicare Eligibility:	All participants are assumed to be eligible for Medicare upon attainment of age 65.																											
Full Attribution Age:	Age at which retirement rate is 100%.																											
Marriage Assumption:	Spouses are not covered in this plan.																											
Social Security National Average Wage and CPI Increases:	2.50%																											
ACA Excise Tax:	N/A																											
Disability Rates:	1985 CIDA Class 1 claim incidence rates for males and females; Class 1 tables are used for professional, technical, and managerial occupations that are generally office duties only. Sample rates are shown below.																											
	<table border="1"> <thead> <tr> <th><u>Age</u></th> <th><u>Male</u></th> <th><u>Female</u></th> </tr> </thead> <tbody> <tr> <td>25</td> <td>0.001</td> <td>0.002</td> </tr> <tr> <td>30</td> <td>0.001</td> <td>0.002</td> </tr> <tr> <td>35</td> <td>0.001</td> <td>0.003</td> </tr> <tr> <td>40</td> <td>0.001</td> <td>0.004</td> </tr> <tr> <td>45</td> <td>0.002</td> <td>0.005</td> </tr> <tr> <td>50</td> <td>0.003</td> <td>0.006</td> </tr> <tr> <td>55</td> <td>0.005</td> <td>0.007</td> </tr> <tr> <td>60</td> <td>0.009</td> <td>0.009</td> </tr> </tbody> </table>	<u>Age</u>	<u>Male</u>	<u>Female</u>	25	0.001	0.002	30	0.001	0.002	35	0.001	0.003	40	0.001	0.004	45	0.002	0.005	50	0.003	0.006	55	0.005	0.007	60	0.009	0.009
<u>Age</u>	<u>Male</u>	<u>Female</u>																										
25	0.001	0.002																										
30	0.001	0.002																										
35	0.001	0.003																										
40	0.001	0.004																										
45	0.002	0.005																										
50	0.003	0.006																										
55	0.005	0.007																										
60	0.009	0.009																										



Section 7 – Actuarial Assumptions and Methods (continued)

Actuarial Assumptions																																				
Withdrawal Rates:	<p>115% of the V Select and Ultimate Table presented in The Pension Forum, Copyright 1992, Society of Actuaries. Sample rates are shown below.</p> <table border="1"> <thead> <tr> <th>Age</th> <th><1</th> <th>1-2</th> <th>2-3</th> <th>3+</th> </tr> </thead> <tbody> <tr> <td>25</td> <td>0.320</td> <td>0.259</td> <td>0.213</td> <td>0.156</td> </tr> <tr> <td>30</td> <td>0.297</td> <td>0.230</td> <td>0.184</td> <td>0.116</td> </tr> <tr> <td>35</td> <td>0.274</td> <td>0.205</td> <td>0.159</td> <td>0.091</td> </tr> <tr> <td>40</td> <td>0.251</td> <td>0.182</td> <td>0.136</td> <td>0.075</td> </tr> <tr> <td>45</td> <td>0.228</td> <td>0.162</td> <td>0.116</td> <td>0.063</td> </tr> <tr> <td>50</td> <td>0.205</td> <td>0.145</td> <td>0.099</td> <td>0.052</td> </tr> </tbody> </table> <p>Withdrawal rates are based on actual experience and anticipated experience.</p>	Age	<1	1-2	2-3	3+	25	0.320	0.259	0.213	0.156	30	0.297	0.230	0.184	0.116	35	0.274	0.205	0.159	0.091	40	0.251	0.182	0.136	0.075	45	0.228	0.162	0.116	0.063	50	0.205	0.145	0.099	0.052
Age	<1	1-2	2-3	3+																																
25	0.320	0.259	0.213	0.156																																
30	0.297	0.230	0.184	0.116																																
35	0.274	0.205	0.159	0.091																																
40	0.251	0.182	0.136	0.075																																
45	0.228	0.162	0.116	0.063																																
50	0.205	0.145	0.099	0.052																																
Retirement Rates:	<p>30% are assumed to retire at full eligibility (rule of 75 with 15 years of service). The following rates apply thereafter.</p> <table border="1"> <thead> <tr> <th>Age</th> <th>Rate</th> </tr> </thead> <tbody> <tr> <td>50-54</td> <td>1%</td> </tr> <tr> <td>55</td> <td>5%</td> </tr> <tr> <td>56-59</td> <td>3%</td> </tr> <tr> <td>60-61</td> <td>8%</td> </tr> <tr> <td>62</td> <td>20%</td> </tr> <tr> <td>63-64</td> <td>10%</td> </tr> <tr> <td>65</td> <td>50%</td> </tr> <tr> <td>66-69</td> <td>75%</td> </tr> <tr> <td>70+</td> <td>100%</td> </tr> </tbody> </table> <p>Retirements rates are based on actual experience and anticipated experience.</p>	Age	Rate	50-54	1%	55	5%	56-59	3%	60-61	8%	62	20%	63-64	10%	65	50%	66-69	75%	70+	100%															
Age	Rate																																			
50-54	1%																																			
55	5%																																			
56-59	3%																																			
60-61	8%																																			
62	20%																																			
63-64	10%																																			
65	50%																																			
66-69	75%																																			
70+	100%																																			
Benefit Offsets:	<p>It was assumed that offsets for future disableds will only include Social Security disability payments.</p>																																			
Changes from Valuation as of the Beginning of Measurement Year:	<p>- The discount rate was updated from 2.71% to 3.13%.</p>																																			



Section 8 – Health Care Claims Development

Health Care Claims Development	
General Description:	Per capita costs were not developed for the Long-Term Disability plan.



Section 9 – Required Supplementary Information (RSI)

Table 9.1 – Schedule of Changes in Net OPEB Liability and Related Ratios¹

Total OPEB Liability (TOL) Change					
Fiscal Year	2018	2017	2016	2015	2014
Service Cost	\$ 85,045				
Interest	36,041				
Experience (Gain)/Loss	0				
Assumption Changes	(8,684)				
Employee Contributions	0				
Benefit Payments	(266,578)				
Net Change in TOL	(154,176)				
TOL Beginning of Year	1,463,226				
TOL End of Year (a)	1,309,050				
FNP End of Year (b)	0				

Net OPEB Liability (NOL) Information					
Fiscal Year	2018	2017	2016	2015	2014
NOL (a) - (b)	\$ 1,309,050				
FNP as Percent of TOL	0.00%				
Covered Payroll²	\$ 10,595,743				
NOL as Percent of Payroll	12.35%				

¹ Since it is the first year of implementation, there is only one year available for the required 10-year schedule.

² Covered payroll reflects the payroll for the measurement period (i.e., fiscal 2017). It was estimated by rolling back the fiscal 2018 payroll with a salary scale of 3.00%.



→ → →

Section 9 – Required Supplementary Information (RSI) (continued)

Table 9.2 – Contribution Information¹

Employer Contribution Information					
Fiscal Year	2018	2017	2016	2015	2014
Actuarially Determined Employer Contribution	\$ 0				
Actual Employer Contribution	266,578				
Contribution Deficiency (Excess)	(266,578)				
Contributions as Percent of Payroll	2.52%				

¹ Since it is the first year of implementation, there is only one year available for the required 10-year schedule.



Attachment B



CLARITY IN NUMBERS, LLC
Actuaries | Consultants

**GASB 75 Fiscal 2018 Disclosure
Fiscal 2018 Expense and Estimated Fiscal 2019 Expense**

Kentucky Community & Technical College System
Postretirement Benefit Plan

May 23, 2018

Prepared by:

Lynne B. Pasi, FSA, EA, MAAA
Consulting Actuary
312.893.5447
lynne.pasi@clarity-llc.com

Dmitriy Sherman, ASA, MAAA
Consulting Actuary
470.539.8512
dmitriy.sherman@clarity-llc.com

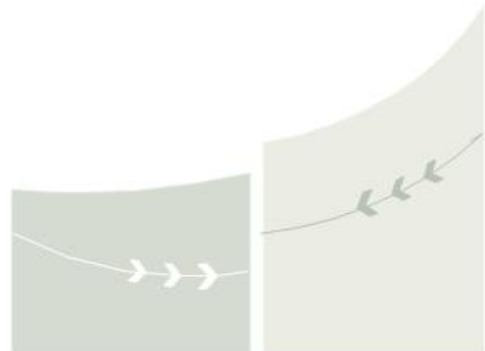




Table of Contents

ACTUARIAL CERTIFICATION	1
SECTION 1 – SUMMARY	2
SECTION 2 – SUMMARY OF DISCLOSURE INFORMATION	3
TABLE 2.1 – RECONCILIATION OF TOTAL OPEB LIABILITY AND FIDUCIARY NET POSITION	3
SECTION 3 – EXPENSE FOR FISCAL 2018	4
SECTION 4 – ESTIMATED EXPENSE FOR FISCAL 2019	5
TABLE 4.1 – ESTIMATED EXPENSE FOR FISCAL 2019	5
TABLE 4.2 – LIABILITY GAIN/LOSS	6
TABLE 4.3 – ASSET GAIN/LOSS	7
TABLE 4.4 – LIABILITY GAIN/LOSS DEFERRED INFLOWS	8
TABLE 4.5 – LIABILITY GAIN/LOSS DEFERRED OUTFLOWS	8
TABLE 4.6 – ASSET GAIN/LOSS DEFERRED INFLOWS	9
TABLE 4.7 – ASSET GAIN/LOSS DEFERRED OUTFLOWS	9
TABLE 4.8 – DEFERRED OUTFLOWS AND INFLOWS PROJECTION	9
SECTION 5 – ASSET SUMMARY	10
SECTION 6 – PLAN PARTICIPANTS	11
SECTION 7 – PLAN PROVISIONS	12
SECTION 8 – ACTUARIAL ASSUMPTIONS AND METHODS	16
SECTION 9 – HEALTH CARE CLAIMS DEVELOPMENT	23
SECTION 10 – REQUIRED SUPPLEMENTARY INFORMATION (RSI)	24
TABLE 10.1 – SCHEDULE OF CHANGES IN NET OPEB LIABILITY AND RELATED RATIOS	24
TABLE 10.2 – CONTRIBUTION INFORMATION AND ADDITIONAL INFORMATION	25
APPENDIX A – TOTAL OPEB LIABILITY BY COLLEGE	26





Actuarial Certification

This report documents the results of an actuarial valuation and contains financial reporting information for the fiscal year ending June 30, 2018, the fiscal 2018 OPEB Expense, and the estimated fiscal 2019 OPEB Expense for the Kentucky Community & Technical College System Postretirement Benefit Plan as set forth in GASB Statement of Accounting Standard No. 75 (“GASB 75”).

The calculations are based on census, plan information and health care related information provided by Kentucky Community & Technical College System as of April 1, 2017. We reviewed this information for reasonability but did not formally audit the data and do not attest to the accuracy of this information.

Actuarial computations under GASB 75 are for purposes of fulfilling employer financial accounting requirements. Determinations for purposes other than meeting employer financial accounting requirements may be significantly different from the results reported here (e.g., the report does not address the funding adequacy of benefits related to this Plan). These calculations have been made on a basis consistent with our understanding of GASB 75. Actuarial assumptions and methods used are described in the “Actuarial Assumptions and Methods” section.

The valuation complies with the generally accepted accounting principles including the Actuarial Standards Board Actuarial Standards of Practices (“ASOPs”) relating to Other Post-Employment Benefits (“OPEBs”).

The American Academy of Actuaries (AAA) maintains Qualification Standards for actuaries issuing Statements of Actuarial Opinion. The standard (effective January 1, 2008) increased its continuing education requirements and expands the applicability of the Qualification Standards to all actuaries issuing Statements of Actuarial Opinion in the United States.

The undersigned have satisfied the basic education, experience, and continuing education requirements and are qualified to issue a Statement of Actuarial Opinion for this project in accordance with the Qualification Standards in the AAA’s Code of Professional Conduct.

Clarity in Numbers, LLC (“Clarity”) has no relationships with Kentucky Community & Technical College System or its personnel (other than this project) that would impair our independence in performing these calculations.

We welcome any questions and will provide further explanations on this material as requested.

Clarity in Numbers, LLC



Lynne B. Pasi, FSA, EA, MAAA
Consulting Actuary
May 23, 2018



Dmitriy Sherman, ASA, MAAA
Consulting Actuary
May 23, 2018

Kentucky Community Technical College System
GASB 75 Fiscal 2018 Disclosure
and Estimated Fiscal 2019 Expense



Section 1 – Summary

Summary	Fiscal 2018
Valuation Date	July 1, 2017
Measurement Date	June 30, 2017
Total OPEB Liability (TOL)	
Actives	\$ 104,749,673
Inactives Entitled To But Not Yet Receiving Benefit Payments	0
Inactives Currently Receiving Benefit Payments	58,647,371
Total	\$ 163,397,044
Plan Fiduciary Net Position (FNP)	\$ 186,116,782
Net OPEB Liability (NOL)	\$ (22,719,738)
Net OPEB Liability 1% Discount Rate Increase	\$ (43,982,586)
Net OPEB Liability 1% Discount Rate Decrease	\$ 3,638,091
Net OPEB Liability 1% Healthcare Trend Rate Increase	\$ 4,927,144
Net OPEB Liability 1% Healthcare Trend Rate Decrease	\$ (45,007,866)
Participant Information	
Actives	1,581
Inactives Entitled To But Not Yet Receiving Benefit Payments	0
Inactives Currently Receiving Benefit Payments	908
Total	2,489
Weighted Average Assumptions Used to Determine Benefit Obligation	
Discount Rate	7.00%
Expected Return on Assets	7.00%
Salary Scale	3.00%
Health Care Trend Rate	
KCTCS (Pre-65 and Post-65)	7.50%
UK Pre-65	7.00%
UK Post-65	6.00%
Ultimate Rate / Year Reached	4.50% / 2038



Section 2 – Summary of Disclosure Information

The following tables summarize disclosure information for the Postretirement Benefit Plan under GASB 75.

Table 2.1 – Reconciliation of Total OPEB Liability and Fiduciary Net Position

	Fiscal 2018
Valuation Date	July 1, 2017
Measurement Date	June 30, 2017
Change in Total OPEB Liability (TOL)	
TOL, Beginning of Year ¹	\$ 191,648,950
Service Cost	4,839,271
Interest	11,366,312
Change in Benefit Terms	0
Difference Between Expected and Actual Experience	(39,171,680)
Employee Contributions	0
Benefits Paid	(3,356,637)
Changes in Assumptions	(1,929,172)
TOL, End of Year	<u>\$ 163,397,044</u>
Change In Plan Fiduciary Net Position (FNP)	
FNP, Beginning of Year	\$ 170,932,728
Net Investment Income	15,184,054
Employee Contributions	0
Employer Contributions	0
Benefits Paid	0
FNP, End of Year	<u>\$ 186,116,782</u>
Net OPEB Liability (NOL), Beginning of Year	\$ 20,716,222
Net OPEB Liability (NOL), End of Year	<u>\$ (22,719,738)</u>

¹ Based on Entry Age Normal Actuarial Cost Method.



Section 3 – Expense for Fiscal 2018

The following summarizes the development of Expense for fiscal 2018 (July 1, 2017 - June 30, 2018).

Table 3.1 – Expense for Fiscal 2018

Service Cost	\$ 4,839,271
Interest	11,366,312
Expected Return on Assets	(10,123,339)
Amortization of:	
Total OPEB Liability and Assumption (Gain)/Loss	0
Fiduciary Net Position (Gain)/Loss	0
Expense	\$ 6,082,244
Weighted Average Assumptions to Determine Expense	
Expected Benefit Payments	4,420,839
Discount Rate	6.00%
Expected Return on Assets	6.00%
Salary Scale	3.00%
Health Care Trend Rate	
Current Rate	7.00%
Ultimate Rate / Year Reached	4.00% / 2036



Section 4 – Estimated Expense for Fiscal 2019

The following summarizes the development of Estimated Expense for fiscal 2019 (July 1, 2018 - June 30, 2019).

Table 4.1 – Estimated Expense for Fiscal 2019

Service Cost	\$ 2,901,484
Interest	11,277,718
Expected Return on Assets	(12,868,100)
Amortization of:	
Total OPEB Liability and Assumption (Gain)/Loss	(9,033,154)
Fiduciary Net Position (Gain)/Loss	<u>(1,012,143)</u>
Estimated Expense	<u>\$ (8,734,195)</u>
Weighted Average Assumptions to Determine Expense	
Expected Benefit Payments	4,573,565
Discount Rate	7.00%
Expected Return on Assets	7.00%
Salary Scale	3.00%
Health Care Trend Rate	
KCTCS (Pre-65 and Post-65)	7.50%
UK Pre-65	7.00%
UK Post-65	6.00%
Ultimate Rate / Year Reached	4.50% / 2038



Section 4 – Estimated Expense for Fiscal 2019 (Continued)

The development of the fiscal 2018 liability (gain)/loss is as follows.

Table 4.2 – Liability Gain/Loss

Total OPEB Liability (Gain)/Loss	
(1) TOL, Beginning of Year	\$ 191,648,950
(2) Service Cost	4,839,271
(3) Interest	11,366,312
(4) Net Benefit Payments	(3,356,637)
(5) Plan Amendments	0
(6) Expected TOL [(1) + (2) + (3) + (4) + (5)], End of Year	\$ 204,497,896
(7) Actual TOL, End of Year, Before Changes	165,326,216
(8) Fiscal 2018 (Gain)/Loss [(7) - (6)]	\$ (39,171,680)
Assumption Change (Gain)/Loss	
(1) TOL, End of Year, Before Changes	\$ 165,326,216
(2) TOL, End of Year, After Changes	163,397,044
(8) Fiscal 2018 (Gain)/Loss [(2) - (1)]	\$ (1,929,172)
Amortization of Liability (Gain)/Loss	
(1) (Gain)/Loss	\$ (41,100,852)
(2) Expected Future Service at Measurement Date	4.55
(3) Amortization of (Gain)/Loss [(1) / (2)]	\$ (9,033,154)



Section 4 – Estimated Expense for Fiscal 2019 (Continued)

The development of the fiscal 2018 asset (gain)/loss is as follows.

Table 4.3 – Asset Gain/Loss

Plan Fiduciary Net Position (Gain)/Loss	
(1) FNP, Beginning of Year	\$ 170,932,728
(2) Employee Contributions	0
(3) Employer Contributions	0
(4) Net Benefit Payments	0
(5) Expected Return on Assets	10,123,339
(6) Expected FNP [(1) + (2) + (3) + (4) + (5)], End of Year	\$ 181,056,067
(7) Actual FNP, End of Year, Before Changes	186,116,782
(8) Fiscal 2018 (Gain)/Loss [(6) - (7)]	\$ (5,060,715)
Amortization of Asset (Gain)/Loss	
(1) (Gain)/Loss	\$ (5,060,715)
(2) Asset Amortization Period	5.00
(3) Amortization of (Gain)/Loss [(1) / (2)]	\$ (1,012,143)



→ → →

Section 4 – Estimated Expense for Fiscal 2019 (Continued)

The schedule of liability gain/loss deferred inflows and outflows.

Table 4.4 – Liability Gain/Loss Deferred Inflows

Date Amortization Base Set	Net Amount at June 30, 2018	Amortization Period Remaining at June 30, 2018	Amount Recognized During Fiscal 2019	Net Amount at June 30, 2019
6/30/2018	\$ 41,100,852	4.55	\$ 9,033,154	\$ 32,067,698
Total	\$ 41,100,852		\$ 9,033,154	\$ 32,067,698

Table 4.5 – Liability Gain/Loss Deferred Outflows

Date Amortization Base Set	Net Amount at June 30, 2018	Amortization Period Remaining at June 30, 2018	Amount Recognized During Fiscal 2019	Net Amount at June 30, 2019
Total	\$ -		\$ -	\$ -



Section 4 – Estimated Expense for Fiscal 2019 (Continued)

The schedule of asset gain/loss deferred inflows and outflows.

Table 4.6 – Asset Gain/Loss Deferred Inflows

Date Amortization Base Set	Net Amount at June 30, 2018	Amortization Period Remaining at June 30, 2018	Amount Recognized During Fiscal 2019	Net Amount at June 30, 2019
6/30/2018	\$ 5,060,715	5.00	\$ 1,012,143	\$ 4,048,572
Total	\$ 5,060,715		\$ 1,012,143	\$ 4,048,572

Table 4.7 – Asset Gain/Loss Deferred Outflows

Date Amortization Base Set	Net Amount at June 30, 2018	Amortization Period Remaining at June 30, 2018	Amount Recognized During Fiscal 2019	Net Amount at June 30, 2019
Total	\$ -		\$ -	\$ -

Table 4.8 – Deferred Outflows and Inflows Projection

Amounts reported as deferred outflows of resources and deferred inflows of resources will be recognized in expense as follows:

Year Ended June 30:	
2019	\$ (10,045,297)
2020	\$ (10,045,297)
2021	\$ (10,045,297)
2022	\$ (10,045,297)
2023	\$ (5,980,379)
Thereafter	\$ -



Section 5 – Asset Summary

The following is the asset allocation information as of June 30, 2017:

Asset Class	Current Allocation	Target Allocation	Long-Term Expected Real Rate of Return ¹
Global Equity ²	\$ 105,695,721	55.0%	9.4%
Public Natural Resources	\$ 10,087,530	5.0%	8.6%
Distressed Debt	\$ 1,153,924	0.0%	8.1%
Global Hedged Equity	\$ 1,805,333	0.0%	8.0%
Hedge Strategies ³	\$ 35,231,907	16.0%	6.7%
Core Bonds	\$ 27,508,060	10.0%	4.5%
TIPS	\$ 4,020,122	3.0%	3.9%
Credit	\$ 614,185	6.0%	10.1%
Private Real Estate	\$ -	5.0%	6.4%
Total	\$ 186,116,782	100.0%	

¹ Based on Capital Market 20-Year Geometric Return from the May 3, 2017 Asset Allocation Analysis.

² Includes U.S. Equity, International Equity and Emerging Markets Equity.

³ Includes Opportunistic and Relative Value.





Section 6 – Plan Participants

A high-level summary of the census data provided by Kentucky Community & Technical College System is summarized below.

Participants as of April 1, 2017			
	Count	Average Age	Average Service
Actives:			
KCTCS	1,385	53.7	17.5
Former UK	<u>196</u>	59.6	26.8
Total Actives	1,581	54.4	18.7
Retirees, Spouses, LTD:			
KCTCS	412	65.6	
Former UK	<u>496</u>	70.9	
Total Retirees, Spouses, LTD	908	68.5	
Total Participants	2,489		



Section 7 – Plan Provisions

This summary of plan provisions, as of the measurement date, has been prepared for valuation purposes only. It outlines the major plan provisions used to determine the Total OPEB Liability.

Kentucky Community & Technical College System Postretirement Benefit Plan	
Eligibility:	Rule of 75, with a minimum of fifteen years of service. Employees hired on or after July 1, 2009 are not eligible for KCTCS retiree health benefits, and employees hired on or after January 1, 2006 are not eligible for UK retiree health benefits.
Benefits: <i>Former UK Faculty and Staff:</i>	<p>Medical benefits for retirees are provided through the following plans based on Medicare status: Pre-Medicare: Same plan choices as active employees. Post-Medicare: Medicare Carve-Out Plan.</p> <p>Pre-65 retirees who were eligible to retire as of July 1, 2007 receive a credit equal to approximately 90% of the cost of the least expensive pre-Medicare plan for single coverage. Retirees must pay the difference between the credit and the rate for the plan option and tier chosen (which is a retiree rate, not an active rate). The credit for 2016-2017 is \$707 per month. There is no dependent subsidy.</p> <p>Pre-65 retirees who were not eligible to retire as of July 1, 2007 receive a lower percentage of the cost of the least expensive pre-Medicare plan for single coverage. The percentage varies based on age and years of service at retirement. However, such employees may opt over to the KCTCS personnel system and its health insurance.</p> <p>Retirees age 65 and older are required to pay the difference between the credit and post-Medicare cost. The post-Medicare credit for 2017 is \$285 per month. This arrangement post-Medicare generates no "hidden" employer subsidy.</p>



Section 7 – Plan Provisions (continued)

This summary of plan provisions, as of the measurement date, has been prepared for valuation purposes only. It outlines the major plan provisions used to determine the Total OPEB Liability.

Kentucky Community & Technical College System Postretirement Benefit Plan	
Benefits (cont'd): <i>KCTCS "403b"</i> Retirees:	<p>Pre-Medicare retirees continue coverage under the KEHP (state health plan). Pre-Medicare retirees receive the same credit as active employees for single coverage. Retirees must pay the difference between the credit and the rate of the plan chosen. The premium paid by retirees is less than the actual cost for early retirees. Dependent coverage has the same credit subsidy as active employees.</p> <p>Post-Medicare retirees may elect Medicare "Medigap" with a low option (no prescription drugs) or a high option (with a prescription drug rider). Post-Medicare retirees are required to pay the difference between the credit and post-Medicare plan cost. The post-Medicare credit for 2017 is \$415.50 per month, not to exceed the cost of the plan the retiree elects.</p>
UK Opt-Over Retirees:	<p>Employees under the UK personnel system who met the eligibility requirements to retire under UK were allowed to retire from the UK personnel system, then opt over into the KCTCS personnel system. They have KCTCS benefits but were allowed to either keep their UK retiree health and be subject to the UK Actively Working contribution schedule (the credit is \$495 per month) or defer their UK retiree health and enroll in a KCTCS active plan. When they cease working, they will go back to a UK Retiree Health Plan or go into a Medicare Carve-Out plan if they are over age 65.</p>
Surviving Spouses:	<p>Former UK Faculty and Staff: The surviving spouse may receive one-half of the single credit if the retiree had coverage on the spouse and was eligible to receive the credit at the time of death. Surviving spouse coverage continues for life, but the credit ends if the spouse remarries.</p> <p>KCTCS "403(b)" Retirees: The surviving spouse may receive one-half of the single credit if the retiree had coverage on the spouse through KCTCS at the time of death. Surviving spouse coverage continues for life, but the credit ends if the spouse remarries.</p>



Section 7 – Plan Provisions (continued)

This summary of plan provisions, as of the measurement date, has been prepared for valuation purposes only. It outlines the major plan provisions used to determine the Total OPEB Liability.

Kentucky Community & Technical College System Postretirement Benefit Plan						
Disabled Participants:	Disabled participants are covered on the retiree health plan upon attainment of age 65 unless disability commences after age 60. Then it follows the following schedule:					
	KCTCS personnel system					
	Age	Duration				
	60-64	5 years				
	65-68	to age 70				
	69 or older	one year				
	UK personnel system					
	Age	Duration				
	60	60 months				
	61	48 months				
62	42 months					
63	36 months					
64	30 months					
65	24 months					
66	21 months					
67	18 months					
68	15 months					
69 and over	12 months					
Contributions:	Retirees are required to pay the difference between the premium for the medical plan and tier they elect and the credit outlined above. Below are the contributions KCTCS and UK Pre-65 and Post-65 retirees pay for retiree health coverage (i.e., active premium rate less credit paid by employer).					
		KCTCS				
		<u>Pre-65</u> <u>Standard</u> <u>PPO</u>	<u>Pre-65</u> <u>Standard</u> <u>CDHP</u>	<u>Pre-65</u> <u>Living Well</u> <u>PPO</u>	<u>Pre-65</u> <u>Living Well</u> <u>CDHP</u>	<u>Post-65</u>
	Single	\$36.34	\$9.82	\$59.98	\$35.98	\$37.00
		UK				
	Single	\$78.00	\$32.00			
Changes Since Last Valuation:	Contributions and credits were changed to the rates listed above.					



Section 7 – Plan Provisions (continued)

Statement by Kentucky Community & Technical College System to ensure accuracy of provisions

The above plan provisions represent an accurate assessment of the Other Post-Employment Benefit Plan (OPEB) benefits, offered by Kentucky Community & Technical College System.

Printed Name

Signature

Date





Section 8 – Actuarial Assumptions and Methods

Actuarial Standards of Practice

Actuarial Standards of Practice No. 6 (“ASOP 6”) provides guidance on measuring retiree group benefits obligations and determining retiree group benefits periodic costs or actuarially determined contributions.

Actuarial Standards of Practice No. 35 (“ASOP 35”) requires that each demographic and other noneconomic assumption should be reasonable individually and in conjunction with one another.

At each measurement date, the actuary should consider whether the selected assumptions continue to be reasonable. If the actuary determines that one or more of the previously selected assumptions are no longer reasonable, the actuary will perform an experience study to determine the best estimate for the Plan’s population.

Actuarial Standards of Practice No. 27 Revised (“ASOP 27”) requires that each economic assumption be reasonable based on the following characteristics: (a) appropriate for the purpose of the measurement; (b) reflects the actuary's professional judgement; (c) takes into account historical and current economic data that is relevant as of the measurement date; (d) reflects the actuary's estimate of future experience, observation of the estimates inherent in market data, or a combination thereof; and (e) has no significant bias. Given the uncertain nature of the items for which assumptions are selected, different actuaries will apply different professional judgement and may choose different reasonable assumptions. As a result, a range of reasonable assumptions may develop both for an individual actuary and across actuarial practice.

This section summarizes the economic, demographic and noneconomic actuarial assumptions and the actuarial cost method used to determine plan liabilities and expense.





Section 8 – Actuarial Assumptions and Methods (continued)

Actuarial Methods	
Valuation Date:	July 1, 2017
Measurement Date:	June 30, 2017
Data Collection Date:	April 1, 2017
Fiscal Year:	July 1, 2017 - June 30, 2018
Insurance Year:	Pre-Medicare - KCTCS: January 1, 2017 - December 31, 2017 Pre-Medicare - UK: July 1, 2016 - June 30, 2017 Medicare Plans: January 1, 2017 - December 31, 2017
Actuarial Cost Method:	Entry Age Normal (“EAN”) - Under EAN, the Normal Cost (NC) for each participant is calculated as a level percentage of pay that would exactly fund his/her benefits if contributed from his/her entry age in the Plan to his/her assumed retirement age. Normal Cost (“NC”) – The portion of the Present Value which is allocated to the valuation year by the actuarial cost method. Total OPEB Liability (“TOL”) – Present value of the past service liability of the employee’s total Present Value of Benefits.
Asset Valuation Method:	Market Value of Assets.
Actuarial Gains and Losses:	Actuarial gains and losses due to differences between expected and actual experience with regard to economic or demographic factors and due to changes of assumptions about future economic or demographic factors are amortized over a closed period equal to the average of the expected remaining service lives of all employees. Actuarial gains and losses due to the difference between projected and actual earnings on Plan investments are amortized over a closed 5-year period.
Actuarial Valuation Frequency:	An actuarial valuation is prepared biennially with a "roll-forward" valuation in the interim year, provided no significant events have occurred during the interim year warranting a new measurement. Fiscal 2018 valuation was based on a was based on a "full" valuation.
Changes Since Last Valuation:	- Actuarial gains and losses are being amortized as required by GASB 75. - Actuarial cost method was updated effective July 1, 2016 from Projected Unit Credit to Entry Age Normal as required by GASB 75. - Data collection date was updated from July 1 to April 1.



Section 8 – Actuarial Assumptions and Methods (continued)

Actuarial Assumptions				
Discount Rate:	7.00% for determining fiscal 2018 disclosure and fiscal 2019 expense; 6.00% for determining fiscal 2017 liability and fiscal 2018 expense.			
Discount Rate Determination Method:	The projection of cash flows used to determine the discount rate assumed that the contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the plan's Fiduciary Net Position was projected to be available to make all projected payments for current active and inactive employees. Therefore, the long-term expected rate of return on the plan investments was applied to all periods of projected benefit payments to determine the Total OPEB Liability.			
Expected Return on Plan Assets:	7.00%. Rationale: This rate was based on the expectation that Plan assets will earn at least 7.00% on a long-term basis.			
Salary Increase Rate:	3.00% (based on anticipated plan experience).			
Health Care and Retiree Contribution Trend Rates:¹	<u>Fiscal Year</u>	<u>KCTCS</u>	<u>UK Pre-65</u>	<u>UK Post-65</u>
	2018	7.50%	7.00%	6.00%
	2019	7.35%	6.88%	5.93%
	2020	7.20%	6.75%	5.85%
	2021	7.05%	6.63%	5.78%
	2022	6.90%	6.50%	5.70%
	2023	6.75%	6.38%	5.63%
	2024	6.60%	6.25%	5.55%
	2025	6.45%	6.13%	5.48%
	2026	6.30%	6.00%	5.40%
	2027	6.15%	5.88%	5.33%
	2028	6.00%	5.75%	5.25%
	2029	5.85%	5.63%	5.18%
	2030	5.70%	5.50%	5.10%
	2031	5.55%	5.38%	5.03%
	2032	5.40%	5.25%	4.95%
	2033	5.25%	5.13%	4.88%
2034	5.10%	5.00%	4.80%	
2035	4.95%	4.88%	4.73%	
2036	4.80%	4.75%	4.65%	
2037	4.65%	4.63%	4.58%	
2038+	4.50%	4.50%	4.50%	

¹ Healthcare trend rates developed by Clarity in Numbers, LLC healthcare actuary. Ultimate trend rate is based on 2.50% long-term inflation, 1.00% real GDP growth and 1.00% medical technology.



Section 8 – Actuarial Assumptions and Methods (continued)

Actuarial Assumptions				
Monthly Per Capita Claims Costs: ¹	Sample costs are shown below.			
	<u>Age</u>	<u>KCTCS Standard PPO</u>	<u>KCTCS Standard CDHP</u>	<u>KCTCS Living Well PPO</u>
	50	\$ 535	\$ 524	\$ 569
	55	659	645	700
	60	807	790	858
	64	966	945	1,027
	<u>Age</u>	<u>KCTCS Living Well CDHP</u>		
	50	\$554		
	55	\$682		
	60	\$836		
	64	\$1,000		
	KCTCS Post-65 Credit (\$452.50 - \$37):			\$ 415.50
	UK Ret Elig 7/1/2007 Pre-65 Credit (\$785-\$78):			\$ 707.00
	UK Post-65 Credit (\$317-\$32):			\$ 285.00
	Note: UK Not Ret Elig 7/1/2007 Pre-65: Assumed to elect UK benefits.			

¹ Methodology for developing age-adjusted per capita costs reviewed by Clarity in Numbers, LLC healthcare actuary.





Section 8 – Actuarial Assumptions and Methods (continued)

Actuarial Assumptions																																							
Mortality Table:	<p>Healthy lives: RP-2014 Combined Healthy Mortality Table for Males and Females Backed off to 2006 and Projected Generationally with Scale MP-2016.</p> <p>Disabled lives: RP-2014 Disabled Mortality Table for Males and Females Backed off to 2006 and Projected Generationally with Scale MP-2016.</p> <p>Rationale: Most current mortality tables and projection scale as issued by the Society of Actuaries in 2014 and 2016, respectively.</p>																																						
Withdrawal Rates:	<p>115% of the V Select and Ultimate Table presented in The Pension Forum, Copyright 1992, Society of Actuaries. Sample rates are shown below.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Age</th> <th style="text-align: center;"><u><1</u></th> <th style="text-align: center;"><u>1-2</u></th> <th style="text-align: center;"><u>2-3</u></th> <th style="text-align: center;"><u>3+</u></th> </tr> </thead> <tbody> <tr> <td>25</td> <td style="text-align: center;">0.320</td> <td style="text-align: center;">0.259</td> <td style="text-align: center;">0.213</td> <td style="text-align: center;">0.156</td> </tr> <tr> <td>30</td> <td style="text-align: center;">0.297</td> <td style="text-align: center;">0.230</td> <td style="text-align: center;">0.184</td> <td style="text-align: center;">0.116</td> </tr> <tr> <td>35</td> <td style="text-align: center;">0.274</td> <td style="text-align: center;">0.205</td> <td style="text-align: center;">0.159</td> <td style="text-align: center;">0.091</td> </tr> <tr> <td>40</td> <td style="text-align: center;">0.251</td> <td style="text-align: center;">0.182</td> <td style="text-align: center;">0.136</td> <td style="text-align: center;">0.075</td> </tr> <tr> <td>45</td> <td style="text-align: center;">0.228</td> <td style="text-align: center;">0.162</td> <td style="text-align: center;">0.116</td> <td style="text-align: center;">0.063</td> </tr> <tr> <td>50</td> <td style="text-align: center;">0.205</td> <td style="text-align: center;">0.145</td> <td style="text-align: center;">0.099</td> <td style="text-align: center;">0.052</td> </tr> </tbody> </table> <p>Withdrawal rates are based on actual experience and anticipated experience.</p>				Age	<u><1</u>	<u>1-2</u>	<u>2-3</u>	<u>3+</u>	25	0.320	0.259	0.213	0.156	30	0.297	0.230	0.184	0.116	35	0.274	0.205	0.159	0.091	40	0.251	0.182	0.136	0.075	45	0.228	0.162	0.116	0.063	50	0.205	0.145	0.099	0.052
Age	<u><1</u>	<u>1-2</u>	<u>2-3</u>	<u>3+</u>																																			
25	0.320	0.259	0.213	0.156																																			
30	0.297	0.230	0.184	0.116																																			
35	0.274	0.205	0.159	0.091																																			
40	0.251	0.182	0.136	0.075																																			
45	0.228	0.162	0.116	0.063																																			
50	0.205	0.145	0.099	0.052																																			
Lapse Rate:	<p>3% of current and future retirees and their spouses are assumed to lapse coverage (based on nature of the Plan as well as actual experience and anticipated experience).</p>																																						
Marriage Assumption:	<p>60% of males and 40% of females are assumed to be married with husbands three years older than wives (based on actual experience and anticipated experience). Actual spouse data used for current retirees.</p>																																						



Section 8 – Actuarial Assumptions and Methods (continued)

Actuarial Assumptions																					
Retirement Rates:	30% are assumed to retire at full eligibility (rule of 75 with 15 years of service). The following rates apply thereafter.																				
	<table border="1"> <thead> <tr> <th style="text-align: center;">Age</th> <th style="text-align: center;">Rate</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">50-54</td> <td style="text-align: center;">1%</td> </tr> <tr> <td style="text-align: center;">55</td> <td style="text-align: center;">5%</td> </tr> <tr> <td style="text-align: center;">56-59</td> <td style="text-align: center;">3%</td> </tr> <tr> <td style="text-align: center;">60-61</td> <td style="text-align: center;">8%</td> </tr> <tr> <td style="text-align: center;">62</td> <td style="text-align: center;">20%</td> </tr> <tr> <td style="text-align: center;">63-64</td> <td style="text-align: center;">10%</td> </tr> <tr> <td style="text-align: center;">65</td> <td style="text-align: center;">50%</td> </tr> <tr> <td style="text-align: center;">66-69</td> <td style="text-align: center;">75%</td> </tr> <tr> <td style="text-align: center;">70+</td> <td style="text-align: center;">100%</td> </tr> </tbody> </table>	Age	Rate	50-54	1%	55	5%	56-59	3%	60-61	8%	62	20%	63-64	10%	65	50%	66-69	75%	70+	100%
	Age	Rate																			
	50-54	1%																			
	55	5%																			
	56-59	3%																			
	60-61	8%																			
	62	20%																			
	63-64	10%																			
	65	50%																			
66-69	75%																				
70+	100%																				
Retirements rates are based on actual experience and anticipated experience.																					
Medicare Eligibility:	All participants are assumed to be eligible for Medicare upon attainment of age 65.																				
Full Attribution Age:	Age at which retirement rate is 100%.																				
Participation:	90% of all future retirees are assumed to elect medical coverage. 15% of retirees electing coverage who are married are assumed to elect spousal coverage. Future UK pre-65 retirees not eligible to retire as of July 1, 2007 are assumed to to elect UK benefits. Future KCTCS pre-65 retirees are assumed to elect the same medical plan they currently have as actives. 75% of those who have waived coverage are assumed to elect coverage at age 65.																				
	Participation rates are based on actual experience and anticipated experience.																				
ACA Excise Tax:¹	Results include an estimate of future ACA Excise Tax costs based upon loading health care trend rates by .643% in fiscal years 2025 and beyond. In estimating the ACA Excise Tax, the tax payer (i.e., health plan) is assumed to be non-taxable.																				

¹ Methodology for developing ACA impact reviewed by Clarity in Numbers, LLC healthcare actuary.



Section 8 – Actuarial Assumptions and Methods (continued)

Actuarial Assumptions		
Aging Factors:	<u>Age</u>	<u>Factor</u>
	62	4.66%
	65	-0.16%
	70	1.29%
	75	1.23%
	80	1.45%
	85	1.05%
Changes Since Last Valuation:	<ul style="list-style-type: none"> - KCTCS health per capita costs were changed to the rates shown above based on updated premium information and census data. - The discount rate was updated from 6.00% to 7.00%. - The salary increase rate was set at 3.00%. - Mortality for healthy employees was updated from RP-2014 Combined Healthy Mortality Table for Males and Females Projected Generationally with scale MP-2014 to RP-2014 Combined Healthy Mortality Table for Males and Females Backed off to 2006 and Projected Generationally with Scale MP-2016. - Mortality for disabled employees was updated from RP-2014 Disabled Mortality Table for Males and Females Projected Generationally with scale MP-2014 to RP-2014 Disabled Mortality Table for Males and Females Backed off to 2006 and Projected Generationally with Scale MP-2016. - Health Care and Contribution trend rates were updated from 7.00% initial in fiscal 2016 and an ultimate rate of 4.00% in fiscal 2036 to an initial rate of 7.50%, 7.00%, and 6.00% in fiscal 2018 for KCTCS, UK Pre 65, UK Post-65, respectively, and an ultimate rate of 4.50% in fiscal 2038 for all plans. - The lapse rate for current and future retirees and their spouses was updated from 10% to 3%. - The participation rate was updated from 95% to 90%. - Retirees electing spousal coverage was updated from 30% to 15%. - 75% of future KCTCS retirees who have waived coverage are assumed to stay without coverage until age 65 and to elect coverage at age 65 (updated from 100%). - The impact of the ACA excise tax on high-cost healthcare plans was estimated and updated. 	



Section 9 – Health Care Claims Development

Health Care Claims Development	
General Description:	Benefits provided are pre-65 and post-65 retiree medical and prescription drug to eligible retirees and their dependents.
Analysis:	<p>KCTCS pre-Medicare costs: As represented to us, the same premium rates are charged to both the active and pre-65 retiree groups for each medical plan. As such, the premium rates are viewed as composite rates for the combined active group and pre-65 retiree groups. According to GASB Statement No. 75 (“GASB 75”), when an employer provides benefits to both active employees and retirees through the same plan, the benefits to retirees should be segregated and measured independently for actuarial measurement purposes. The projection of future retiree benefits should be based on claims costs, or age-adjusted premiums approximating claims costs, for retirees, in accordance with actuarial standards issued by the Actuarial Standards Board. The resulting “implicit rate subsidy”, as defined in GASB 75, is the difference between the calculated claims cost and the cost upon which retiree contributions are determined (in this case, the premium rates). Retiree premiums were estimated for the pre-65 retiree group as if they were rated on a stand-alone basis. The premium rates being charged were adjusted to reflect a premium for a pre-65 retiree group only. The results were then disaggregated into age-specific starting costs based on average ages and assumptions on the relationships of costs and increasing age.</p> <p>UK Pre-Medicare retirees eligible to retire as of July 1, 2007: Claims costs were calculated based on the credits paid by UK (i.e., \$785 - \$78 = \$707).</p> <p>UK Pre-Medicare retirees not eligible to retire as of July 1, 2007: It is assumed that these retirees will not opt over to KCTCS benefits. As such, the UK Pre-Medicare claims costs were assumed.</p> <p>Post-Medicare costs for KCTCS and UK retirees: Claims costs were calculated based on the credits paid by KCTCS (i.e., \$452.50 - \$37 = \$415.50) and UK (i.e., \$317 - \$32 = \$285).</p>



Section 10 – Required Supplementary Information (RSI)

Table 10.1 – Schedule of Changes in Net OPEB Liability and Related Ratios¹

Total OPEB Liability (TOL) Change					
Fiscal Year	2018	2017	2016	2015	2014
Service Cost	\$ 4,839,271				
Interest	11,366,312				
Experience (Gain)/Loss	(39,171,680)				
Assumption Changes	(1,929,172)				
Employee Contributions	0				
Benefit Payments	(3,356,637)				
Net Change in TOL	(28,251,906)				
TOL Beginning of Year	191,648,950				
TOL End of Year (a)	163,397,044				

Plan Fiduciary Net Position (FNP) Change					
Fiscal Year	2018	2017	2016	2015	2014
Employer Contributions	\$ 0				
Employee Contributions	0				
Net Investment Income	15,184,054				
Benefit Payments	0				
Other	0				
Net Change in FNP	15,184,054				
FNP Beginning of Year	170,932,728				
FNP End of Year (b)	186,116,782				

Net OPEB Liability (NOL) Information					
Fiscal Year	2018	2017	2016	2015	2014
NOL (a) - (b)	\$ (22,719,738)				
FNP as Percent of TOL	113.90%				
Covered Payroll	\$ 137,767,993				
NOL as Percent of Payroll	-16.49%				

¹ Since it is the first year of implementation, there is only one year available for the required 10-year schedule.



→ → →

Section 10 – Required Supplementary Information (RSI) (continued)

Table 10.2 – Contribution Information and Additional Information¹

Employer Contribution Information					
Fiscal Year	2018	2017	2016	2015	2014
Actuarially Determined Employer Contribution ²	\$ 1,607,114				
Actual Employer Contribution	0				
Contribution Deficiency (Excess)	1,607,114				
Contributions as Percent of Payroll	0.00%				

Additional Information					
Fiscal Year	2018	2017	2016	2015	2014
Annual Money-Weighted Rate of Return ³	Not Available				

¹ Since it is the first year of implementation, there is only one year available for the required 10-year schedule.

² Based on the Annual Required Contribution (ARC) under GASB 45.

³ Annual Money-Weighted Rate of Return should be provided by investments advisor.



Appendix A – Total OPEB Liability by College

Agency	Fiscal 2018 TOL
Ashland Community & Technical College	\$ 7,645,552
Big Sandy Community & Technical College	\$ 8,161,082
Bluegrass Community & Technical College	\$ 14,805,752
Corrections	\$ 116,445
Elizabethtown Community & Technical College	\$ 11,080,140
Fire Commission	\$ 620,752
Gateway Community & Technical College	\$ 2,582,657
Hazard Community & Technical College	\$ 12,401,550
Henderson Community College	\$ 7,885,711
Hopkinsville Community College	\$ 7,601,750
Jefferson Community & Technical College	\$ 24,031,842
Kentucky Board of Emergency Medical Services	\$ 47,607
Madisonville Community College	\$ 7,400,623
Maysville Community & Technical College	\$ 6,028,232
Owensboro Community & Technical College	\$ 8,402,513
Somerset Community & Technical College	\$ 10,764,438
Southcentral Community & Technical College	\$ 702,198
Southeast Community & Technical College	\$ 9,204,446
System Office	\$ 14,080,647
Western Kentucky Community & Technical College	\$ 9,833,107
Total	\$ 163,397,044



Attachment C

Kentucky Community & Technical College System (KCTCS)

Information Needed for Actuarial Valuations of Postretirement Benefit Plan and Long-Term Disability (LTD) Plan

Postretirement Benefit Plan

1. Please provide the following information for all individuals currently receiving benefits under the Plan and all active employees eligible to receive benefits under the Plan, both as of January 1, 2017:
 - a. Name
 - b. ID Number
 - c. Status (e.g., Active, Retired, Surviving Spouse, Other)
 - d. Gender
 - e. Birth Date
 - f. Hire Date
 - g. Service as of January 1, 2017 (if available; otherwise, we will calculate from Hire Date)
 - h. Location (i.e., College)
 - i. Flag identifying if Former UK or KCTCS employee
 - j. Medical Plan Elected
 - k. Coverage Code (e.g., Single, Couple)
 - l. Flag identifying if retirement eligible as of July 1, 2007 (for Former UK employees; if not available, we will calculate from Birth Date and Hire Date provided)
 - m. Date of Retirement (for individuals receiving benefits)
 - n. Spouse Date of Birth
2. Please provide documents or summaries identifying the terms of the Plan's provisions
3. Please provide the following premium information:
 - a. Former UK, Pre-65: Pre-65 retiree rates for all medical plans offered, and the credit provided by the Plan. Provide for 2017 fiscal year and 2018 fiscal year (if known).
 - b. Former UK, Medicare: Rates and the credit provided by the Plan for 2017 fiscal year and 2018 fiscal year (if known).
 - c. KCTCS, Pre-65: Active employee and Pre-65 retiree rates for all medical plans offered. Provide for 2017 fiscal year and 2018 fiscal year (if known).
 - d. KCTCS, Medicare: Rates and credits provided by the Plan for 2017 fiscal year and 2018 fiscal year (if known).
4. Financial Information
 - a. Trust Agreement, Funding Policy and Intended Asset Allocation
 - b. Trust statement showing asset value, by asset category, as of June 30, 2017 (when available)
 - c. Contributions made to the trust during fiscal 2017 (when available)
 - d. Benefits paid (by KCTCS and/or the trust) during fiscal 2017 (when available)
 - e. Financial statements and notes for the fiscal years ending June 30, 2015 and June 30, 2016
5. Covered Payroll
 - a. Please provide the covered payroll for the period from July 1, 2016 through June 30, 2017 (when available)

Long-Term Disability (LTD) Plan

1. Please provide the following information for all individuals eligible to receive benefits under the Plan, as of January 1, 2017:
 - a. Name
 - b. ID Number
 - c. Gender
 - d. Birth Date
 - e. Date of Disability
 - f. Monthly Benefit
2. Please provide documents or summaries identifying the terms of the Plan's provisions.

Kentucky Community & Technical College System (KCTCS)

Information Needed for Actuarial Valuations of Postretirement Benefit Plan and Long-Term Disability (LTD) Plan for the fiscal 2018 valuation based on the “roll-forward” methodology:

Postretirement Benefit Plan

1. Financial Information
 - a. Trust Agreement, Funding Policy and Intended Asset Allocation
 - b. Trust statement showing asset value by asset category as of June 30, 2018 including any cash balance, accrued expenses, deferred outflows, deferred inflows, etc. (when available)
 - c. Contributions made to the trust during fiscal 2018 (when available)
 - d. Benefits paid (by KCTCS and/or the trust) during fiscal 2018 (when available)
 - e. Contributions collected from retirees during fiscal 2018 (when available)
 - f. Financial statements and notes for the fiscal year ending June 30, 2017
2. Covered Payroll
 - a. Please provide the covered payroll for the period from July 1, 2017 through June 30, 2018 (when available)

Long-Term Disability (LTD) Plan

1. Financial Information
 - a. Benefits paid by KCTCS during fiscal 2018 (when available)
 - b. Financial statements and notes for the fiscal year ending June 30, 2017