FINDLEY

TO: Ms. Donna S. Early

FROM: Findley

DATE: October 30, 2019

RE: Kentucky Judicial Retirement Plan – Addendum to July 1, 2019 Actuarial Valuation Report – Update of Annual Required Contribution for Administrative Expenses

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It is our understanding that starting with the 2020-21 fiscal year, administrative and personnel expenses will begin to be paid from plan assets. Due to this change, the Annual Required Contribution amounts shown in the July 1, 2019 Actuarial Valuation Report ("Valuation Report"), dated October 1, 2019, require an adjustment to include the expenses expected to be paid out of the plan assets during the 2020-21 and 2021-22 fiscal years. This memorandum shall serve as an Addendum to the Valuation Report and documents such adjustments to the Annual Required Contributions.

This change is expected to have minimal impact on the other results shown in the Valuation Report. For the projections shown on pages 40-41 of the Valuation Report, the Annual Contribution Requirements would increase by the expected expenses in each year. However, since anticipated expenses for a particular year will be paid out during that year, this increased contribution is assumed to have no impact on the projected Unfunded Liability or Funded Ratio.

The Preliminary Annual Required Contribution as of July 1, 2019 below is the amount shown on pages 2 and 8 of the Valuation Report. Because the actual contributions, based on this July 1, 2019 measurement date calculation, will be made during the 2020-21 and 2021-22 fiscal years, one and two years after the date the requirement was calculated, the Annual Required Contribution has been increased at the interest rate assumption of 6.50%. This adjustment is being made for the time value of money (i.e., there is a time lag between the date of the calculation, July 1, 2019, and the time in which monies are actually contributed to the plan trust).

	Pension	+	OPEB	=	Total
1. Preliminary Annual Required Contribution as of July 1, 2019	6,168,523		-		6,168,523
<u>Annual Required Contribution for 2020-21 Fiscal Year</u>					
2a. Preliminary Annual Required Contribution for 2020-21 Fiscal Year [(1) * 1.065]	6,569,477		-		6,569,477
2b. Requested Expenses for 2020-21 Fiscal Year (split based on July 1, 2019 liability)	691,470		88,630		780,100
2c. Final Annual Required Contribution for 2020-21 Fiscal Year	**7,260,947**		**88,630**		**7,349,577**
<u>Annual Required Contribution for 2021-22 Fiscal Year</u>					
3a. Preliminary Annual Required Contribution for 2021-22 Fiscal Year [(1) * 1.065 * 1.065]	6,996,493		-		6,996,493
3b. Requested Expenses for 2021-22 Fiscal Year (split based on July 1, 2019 liability)	714,516		91,584		806,100
3c. Final Annual Required Contribution for 2021-22 Fiscal Year	**7,711,009**		**91,584**		**7,802,593**

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Kentucky Judicial Retirement Plan

Actuarial Valuation and Report
as of July 1, 2019

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Introduction

An actuarial valuation of the Kentucky Judicial Retirement Plan ("KJRP") has been performed as of July 1, 2019. Actuarial valuations are based on the integrity of employee data, plan asset data, plan provisions and an extensive set of assumptions regarding future events. There is necessary uncertainty with any actuarial calculation based on the accuracy of the data provided, the correct interpretation of plan provisions and the realization of the assumptions made. These results were based on participant data and asset information provided by the Kentucky Judicial Form Retirement System. This information was not audited but was reviewed for reasonableness.

Detailed explanations of the actuarial assumptions and methods used in the report are contained in later sections of this report. Also included in this report is a summary of provisions of the plan as we understand them.

This report provides details on the actuarial valuation underlying the recommended contribution to the KJRP for plan years commencing in 2020 and 2021. This determination was performed pursuant to Kentucky Revised Statute ("KRS") §21.525 for the retirement system defined in KRS §21.350 to §21.580.

Governmental Accounting Standards Board Statement 67 ("GASB 67") and Statement 74 ("GASB 74") establish financial reporting standards for defined benefit pension plans and other postemployment benefit (OPEB) plans sponsored by employers that are subject to governmental accounting standards. Governmental Accounting Standards Board Statement 68 ("GASB 68") and Statement ("GASB 75") provide standards for reporting pension and OPEB expenditures and expense, and related liabilities and assets for such plans. The purpose of this report is to provide pertinent financial statement disclosure information for the fiscal year ending in 2019. Actuarial computations under Statements 67, 68, 74, and 75 are for purposes of fulfilling plan and employer governmental accounting requirements and may not be appropriate for other purposes. This report has been prepared on a basis consistent with our understanding of the statements and does not constitute legal, accounting, tax or investment advice.

Statements 68 and 75 set forth a methodology for the calculation of the annual Pension Expense for the upcoming fiscal year. GASB 68 and GASB 75 provide a method for reflecting prior gains and losses from asset and plan experience, as well as other areas including plan amendments. Amounts not reflected previously or in the upcoming year are reflected in the Deferred Outflows and Inflows of Resources shown.

Findley does not have access to and is not providing information concerning liabilities other than benefits, such as for legal or accounting fees.

Findley is not aware of any significant events subsequent to the current year's measurement date that could materially affect the information contained in this report. However, we are aware that legislation has been passed that makes substantial changes to the state-wide retirement systems, including KJRP, but that legislation has since been voided by a Kentucky Supreme Court ruling. This report does not consider this piece of legislation.

We are not aware of any relationship between the plan or plan sponsor and Findley which would impair or appear to impair our objectivity.

To the best of our knowledge, all information provided in this report is complete and accurate and disclosures for GASB purposes have been determined in accordance with generally accepted accounting principles.

Summary of Report

An actuarial valuation of the Kentucky Judicial Retirement Plan ("KJRP") was conducted as of July 1, 2019. The purpose of the valuation is to determine the cost implications of the plan including a determination of annual funding levels for the fiscal years beginning July 1, 2020 and July 1, 2021.

In 2013 the applicable state statutes were amended to close participation in the traditional defined benefit, with all individuals first electing to participate in KJRP on or after January 1, 2014 being covered under a new hybrid cash balance tier. **This report covers only the traditional defined benefit/OPEB tier of KJRP.**

It is our understanding that this plan is a "governmental plan" as defined in Internal Revenue Code Section 414(d) and this report has been prepared on that basis.

On the basis of the valuation, it has been determined that the annual funding requirements for the State for the fiscal year beginning in 2020 for the plan, prior to adjusting with interest, as described in the Summary of Benefits section of this report, are as follows:

	Total Amount	Percent of Payroll
Annual Required Contribution	$ 6,168,523	24.32%
Recommended Contribution	$ 10,585,153	41.74%

The Annual Required Contribution is determined based on assumptions and methods set forth in the statute and established by the KJRP Investment Committee. The Recommended Contribution uses assumptions and methods that we believe produce an actuarially sound approach to funding.

The Annual Required Contribution and Recommended Contribution shown above are calculated using asset and liability values as of July 1, 2019. These amounts are used to determine contributions for the fiscal years beginning July 1, 2020 and July 1, 2021.

Due to the lag period between the calculated date and the actual contributions, we have adjusted the Annual Required Contributions and Recommended Contributions for the plan years 2020-2021 and 2021-2022 with one and two years of interest, respectively, at the interest rate assumption of 6.50%.

	2020-2021 (1 year of interest)	2021-2022 (2 years of interest)
Annual Required Contribution (with interest)	$ 6,569,477	$ 6,996,493
Recommended Contribution (with interest)	$ 11,273,188	$ 12,005,945

Summary of Selected Plan Information [1]

	Plan Year Beginning			
	7/1/2019	7/1/2017	7/1/2015	7/1/2013
Number of Participants				
Active	197	227	247	270
Terminated Vested	13	17	20	21
Retired	279	258	250	233
Beneficiaries	75	74	79	75
Total	564	576	596	599
Average Age (for actives)	57.6	56.8	55.3	54.1
Average Service (for actives)	16.3	15.1	13.5	11.9
Annual Covered Payroll	$ 25,360,897	$ 27,590,586	$ 30,009,326	$ 32,930,076
Average Salary	128,736	121,544	121,495	121,963
Accrued Liability	415,164,771	414,323,736	411,794,639	385,857,736
Actuarial Asset Value	397,969,676	352,785,778	296,799,155	231,588,007
Market Asset Value	429,719,315	371,315,604	332,948,126	272,020,292
Unfunded Accrued Liability (UAL)	17,195,095	61,537,958	114,995,484	154,269,729
Annual Funding Level [2]				
State Portion of Normal Cost	$ 2,466,705	$ 3,197,933	$ 3,903,075	$ 4,048,278
Expected Employee Contributions	1,320,470	1,430,327	1,555,936	1,698,032
Total Normal Cost	3,787,175	4,628,260	5,459,011	5,746,310
State Annual Required Contribution	6,168,523	8,637,525	13,102,714	16,389,856
Percent of Covered Payroll	24.32%	31.31%	43.66%	49.77%

[1]Our current understanding of IRS regulations is that they prohibit the use of surplus OPEB assets for retirement benefits. We recommend continuing discussions with plan council on possible options. Please refer to page 8 of this report for the asset and liabilities split between the Pension and OPEB plans.

[2]In accordance with KRS 21.405 (does not recognize cost of living increases effective after the most recent valuation date) and KRS 21.525 (legally prescribed funding method).

Reconciliation of Total Funding Requirement

	Accrued Liability ($M)	Annual Recommended Contribution ($M)
Prior Valuation ARC Calculation	**414.32**	**8.64**
+ *Impact of Current Year Asset Gain/Loss*		+0.09
+ *Recognition of Prior Asset Gain/Loss*		-0.75
+ *Other Gain/Loss*		-1.71
Current Year Calculation w/ Prior Assumptions	415.92	6.27
+ *Updated Salary Scale, Medical Trend, Medical Claims Aging*	-0.76	-0.10
Annual Required Contribution [1]	**415.16**	**6.17**
+ *25 Year Amortization of Unfunded Liability*	+0.00	+0.11
Subtotal	415.16	6.28
+ *Included Full COLA Assumption*	+50.86	+4.31
Minimum Recommended Contribution [2]	**466.02**	**10.59**

[1] In accordance with KRS 21.405 (does not recognize cost of living increases effective after the most recent valuation date) and KRS 21.525 (legally prescribed funding method).

[2] Without regards to KRS 21.405 or KRS 21.525, COLA's will not be granted until the plan is 100% funded (unless current year COLA is prefunded). If all future assumptions are met, ignoring future COLA's in the funding valuation will result in a funding percentage which is always less than 100% when future COLA's are assumed.

Legislative and Regulatory Background

As stated previously, state statutes were amended in 2013 such that all participants entering KJRP on or after January 1, 2014 will be covered under a hybrid cash balance/OPEB tier; those entering before that date will continue to be covered under the traditional defined benefit/OPEB tier. The legislation making this change also restricted the availability of future cost-of-living adjustments (COLA's) to plan benefits.

Actuarial Standard of Practice No. 51 (ASOP 51) is effective for actuarial valuations on or after November 1, 2018. This standard calls for explicit disclosure of risks associated with the pension plan and any recommended actions for better understanding the nature and impact of those risks. Please let us know if any additional analysis or information is desired.

Sensitivity analysis along with 20-year projections of results (before and after any assumption changes) have been included in this report pursuant to HB 238, passed in 2016.

Actuarial Soundness

A plan that has adopted a reasonable funding method, that adopts reasonable assumptions and which contributes at a rate at or above the recommended contribution rate (based on these reasonable methods and assumptions), could be considered to be actuarially sound.

In order to ensure KJRP is funded in an "actuarially sound manner", we would recommend the following:

1. Reflect a 1.5% future COLA assumption when calculating the funding requirement for KJRP, to the extent future cost-of-living increases are expected to occur, or intended to be provided.

2. Revise the actuarial funding method to amortize all past unfunded as well as new liabilities over a period not more than 30 years (we suggest shorter periods for various sources of new liability) and amortize future gains and losses over a period not more than 15 years. (Note that GASB 68 may require the expensing of liabilities at a faster pace than these amortization periods.)

3. Contribute at least the recommended contribution each year.

Deviations from these recommendations may result in an "actuarially unsound" approach to funding KJRP and may eventually result in KJRP becoming insolvent – that is, exhausting assets at which time all future benefits would be provided on a pay as you go basis.

Although the Actuarial Standards of Practice 4 "Measuring Pension Obligations" allows for plan liabilities to be calculated under a legally prescribed method, the statement goes on to say,

> "If, in the actuary's professional judgment, such an actuarial cost method or amortization method is significantly inconsistent with the plan accumulating adequate assets to make benefit payments when due, assuming that all actuarial assumptions will be realized and that the plan sponsor or other contributing entity will make contributions when due, the actuary should disclose this."

It is our professional actuarial opinion that the current legally prescribed method, which requires contributions of normal cost plus interest on the unfunded liability plus 1% of the unfunded liability (per KRS 21.525) and which (per KRS 21.405) does not recognize cost of living increases effective after the most recent valuation (assuming future increases are expected), is inconsistent with the plan accumulating adequate assets to make benefit payments when due, assuming all actuarial assumptions are realized. The current method of amortizing unfunded liabilities will not result in the full amortization of those liabilities.

Changes in Actuarial Assumptions

The following changes were made to the actuarial assumptions effective June 30, 2019:

	Previous	Current
Medical Trend Rates	8.00% decreasing to 5.00% over 12 years beginning July 1, 2017	7.00% level for 3 years, then 6.75% and following the Getzen model thereafter until reaching an ultimate rate of 3.94% in the year 2075

The medical trend rates change described above resulted in a decrease in liabilities and no change in the annual recommended contribution.

	Previous	Current
Medical Claims Aging Table	Claims were adjusted downward 3% for each year of age reduction from age 65 to age 55.	Claims were adjusted downward using the aging factors in the Dale Yamamoto study released by the Society of Actuaries in June 2013 for attained ages 55 to 65.

The medical claims aging table change described above resulted in a decrease in liabilities and no change in the annual recommended contribution.

Summaries of the plan provisions, actuarial assumptions and methods can be found in the Basis of Valuation section of this report.

Other Signficant Changes

1. As of July 1, 2019, the monthly premium rates for Medicare eligible participants in the OPEB plan are $297.90, a drop from the premium rates of $312.79 that were effective two years ago in our actuarial valuation. The post-65 OPEB liability is approximately 5% lower than it would have been if the premium rates had not changed.

Actuarial Certification

The information contained in this document (including any attachments) is not intended by Findley to be used, and it cannot be used, for the purpose of avoiding penalties under the Internal Revenue Code that may be imposed on the taxpayer. The information and valuation results shown in this report are, to the best of our knowledge, complete and accurate and are based upon the following:

1. Employee census data as of July 1, 2019, submitted by the Kentucky Judicial Form Retirement System. This data was not audited by us but appears to be sufficient and reliable for purposes of the report.
2. Financial data as of June 30, 2019, submitted by the Kentucky Judicial Form Retirement System. This data was not audited by us but appears to be sufficient and reliable for purposes of the report.
3. Actuarial assumptions and methods as established either by statute or the KJRP Investment Committee. The actuarial assumptions currently adopted by the Committee appear to be reasonable, both individually and in aggregate. However, exclusion of retiree cost-of-living adjustments that can be reasonably anticipated to occur in future years (or for which there is an intent to provide in future years) does not reflect our best estimate of expected experience under the plan. As such, the valuation results presented in this report do not fully reflect the potential liability for future retiree cost-of-living adjustments. For purposes of the calculation of the Recommended Contribution, full future retiree cost-of-living adjustments have been reflected.
4. For purposes of GASB 67, 68, 74, and 75 disclosures, assets were split between pension and retiree medical liabilities on the basis of accrued liability as of July 1, 2008 and have been brought forward each year from that date based on actual cash flows and a prorata allocation of investment return. This methodology, initiated by the prior actuary, was based on guidance from the plan's auditor.

We believe the information is sufficiently complete and reliable. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice.

The actuarial valuation summarized in this report has been performed utilizing generally accepted actuarial principles. It is my opinion that the results fully and fairly disclose the actuarial position of the plan on the valuation date. I am a senior consultant for Findley, member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

Certified by:

Matthew Widick

Matthew Widick, F.S.A., E.A., C.E.R.A., M.A.A.A.	October 1, 2019
Senior Consultant	Date

David L. Shaub

David L. Shaub, F.S.A., M.A.A.A.	October 1, 2019
Managing Consultant	Date
(OPEB Plan Only)	

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Annual Required Contribution

Determination of Annual Required Contribution as of July 1, 2019

1. Accrued Liability	Pension	+	OPEB	=	Total
Actives					
Actives	115,874,037		-		115,874,037
Medical Premium Supplement	-		22,134,987		22,134,987
Total Active Liability	115,874,037		22,134,987		138,009,024
Inactives					
Retired	222,546,509		-		222,546,509
Deferred Vested	3,791,452		-		3,791,452
Beneficiaries	25,784,395		-		25,784,395
Medical Premium Supplement	-		25,033,391		25,033,391
Total Inactive Liability	252,122,356		25,033,391		277,155,747
Total Accrued Liability	367,996,393		47,168,378		415,164,771
2. Valuation Assets	309,829,279		88,140,397		397,969,676
3. Unfunded Past Service Liability	58,167,114		(40,972,019)		17,195,095
4. Gross Normal Cost					
Retirement Related	3,126,459		-		3,126,459
Medical Premium Supplement Related	-		660,716		660,716
Total Normal Cost	3,126,459		660,716		3,787,175
5. Annual Covered Payroll	25,360,897		25,360,897		25,360,897
6. Estimated Employee Contributions for the Next 12 Months	1,320,470		-		1,320,470
7. Net Normal Cost (4 - 6)	1,805,989		660,716		2,466,705
8. Interest plus 1% of Unfunded Past Service Liability	4,362,534		(3,072,901)		n/a
9. Total Annual Required Contribution (max (0, 7 + 8))	6,168,523		-		6,168,523
10 . Payment as a Percentage of Covered Payoll (9 / 5)	24.32%		0.00%		24.32%

Estimated Cost of a One-Time COLA as of July 1, 2019

It is our understanding, effective July 1, 2013, that any future COLA's must be pre-funded (either by additional contributions or by excess assets). As of July 1, 2019, the plan has no available excess assets.

<u>Approximate Cost of One Time 1.5% COLA</u>

1. Liability In Payment		
a)	Retired	222,546,509
b)	Beneficiaries	25,784,395
	Total Liability In Payment	248,330,904
2. Desired COLA Percentage		1.50%
3. Estimated Cost of One Time COLA for First Year (1 * 2)		3,724,964*
4. Estimated Cost of One Time COLA for Second Year (3 * 1.015)		3,780,838*

* Cost of 1.5% COLA increase applied to all members in pay status as of the valuation date.

Actuarial Asset Value

Determination of Actuarial Asset Value as of July 1, 2019

	2018-19 Plan Year	2017-18 Plan Year	2016-17 Plan Year	2015-16 Plan Year
Interest Return Assumption	6.50%	6.50%	7.00%	7.00%
Market Value at Beginning of Year				
Amount	$ 396,516,522	$ 371,315,604	$ 337,461,016	$ 332,948,126
Interest to End of Year	25,773,574	24,135,514	23,622,271	23,306,369
Employer Contributions				
Amount	8,637,500	13,102,700	13,102,700	16,389,900
Interest to End of Year	280,719	425,838	458,595	573,647
Member Contributions				
Amount	1,336,849	2,002,292	1,639,675	1,776,150
Interest to End of Year	43,448	65,074	57,389	62,165
Transfers from KERS				
Amount	-	633,475	41,161	117,590
Interest to End of Year	-	20,588	1,441	4,116
Benefits Paid				
Amount	26,224,887	25,155,782	24,950,417	24,816,275
Interest to End of Year	852,309	817,563	873,265	940,950
Expected End of Year Assets	405,511,416	385,727,740	350,560,566	349,420,838
Market Value at End of Year	429,719,315	396,516,522	371,315,604	337,461,016
Investment Gain (Loss)	24,207,899	10,788,782	20,755,038	(11,959,822)
Adjustment Percentage	80%	60%	40%	20%
Actuarial Asset Value Adjustment	(19,366,319)	(6,473,269)	(8,302,015)	2,391,964
Actuarial Asset Value (Market Value plus Adjustment)	**$ 397,969,676**			

	Retirement	Medical Supplement
Market Value at Beginning of Year	$310,330,341	$86,186,181
State Contributions	8,637,500	-
Member Contributions	1,336,849	-
Transfers In Payments	-	-
Distributions	24,258,175	1,966,712
Allocated Investment Return	38,500,647	10,952,684
Market Value at End of Year	$334,547,162	$95,172,153
Allocation of Actuarial Asset Value	$309,829,279	$88,140,397

Summary of Benefits

This summary is not a Summary Plan Description or a plan document. You should not rely solely on this summary in making a determination of eligibility of benefits. Liabilities and plan provisions are based on the plan data and provisions as of July 1, 2019. This report covers only the traditional defined benefit/OPEB tier of KJRP.

Source

Sections 21.345-21.580 of the Kentucky Revised Statutes.

Eligibility for Membership

District, Circuit, Court of Appeals and Supreme Court Judges may, within 30 days after taking office, elect to make monthly contributions, and thereby become eligible for membership in the KJRP plan. Individuals commencing participation on or after January 1, 2014 will participate in the hybrid plan.

Employee Contributions

Members entering the plan on or after September 1, 2008 must contribute 6% of their “official salary”. Members entering the plan prior to September 1, 2008 must contribute 5% of their “official salary”. Once a member has earned sufficient service credit to have accrued a benefit of 100% of final average compensation, then employee contributions shall cease.

Normal Retirement

Condition

Members who have completed at least 8 years of service and have attained age 65. However, the age 65 requirement shall be reduced by one year for each five years of service, and one year for each year beyond the years of service needed to accrue a benefit of 100% of final average compensation, but with total reduction not to reduce the age requirement below 60. The full accrued benefit will also be payable upon completion of 27 years of service.

For purposes of determining years of service for vesting only, years of service under other authorized state systems will count.

Benefit Formula

The monthly retirement income, payable for the member’s lifetime, is based on the following formula:

Members who first participated before July 1, 1978, 5% of final average compensation multiplied by years of service, so long as his service continues without interruption. In no event shall the monthly retirement benefit exceed 100% of final average compensation. (Final average compensation means the average monthly compensation of the member for the 60 months of service immediately preceding retirement date, except for retirements occurring between January 1, 2003 and January 1, 2009, which shall use 36 months).

For an individual who first participated, or renewed former participation, between July 1, 1978 and June 30, 1980 the benefit shall be 4.15% of average compensation multiplied by years of service not to exceed 100% of average compensation.

For all other individuals, the benefit shall be 2.75% of average compensation multiplied by years of service not to exceed 100% of average compensation.

Early Retirement

Members who retire prior to normal retirement date with at least 8 years of service have two alternatives with regard to receiving retirement income as follows:

1. Upon reaching normal retirement age, the member may be vested with the right to receive a monthly service retirement allowance computed and payable on the basis of years of service and average salary for the 60 months prior to retirement, or
2. A member may elect to be paid, commencing as of the date of the election, a monthly service retirement allowance equivalent to the amount of monthly allowance that would have been paid had the member waited until reaching normal retirement age, but reduced in accordance with age at the time of election for each year under normal retirement age at the rate of 5% per year.

If the member has 27 or more years of service credit, there shall be no reduction for benefit commencement prior to normal retirement age. If the difference between the number of years of total governmental service and 27 is less than the difference between actual age and normal retirement age, the reduction shall be 5% for each year of service under 27.

Late Retirement

A judge may continue service beyond normal retirement age and continue to accrue service credits, but cannot receive a benefit in excess of 100% of final average compensation.

Disability Benefit

Condition

No service requirement.

Benefit

Upon determination of disability, a member will be eligible to receive ½ of the monthly retirement income that would have been payable commencing at normal retirement date if this member had continued service until that date and then retired. In calculating the retirement income, average salary for the 5 years preceding disability will be used. When a disabled member reaches normal retirement date, the member may apply and start receiving the full amount of retirement income that would have been payable based upon the actual number of years of service and compensation, in lieu of the disability benefit.

Death Benefit

Upon the death of a member who at the time of death was receiving a retirement income (other than an actuarially reduced income), or was receiving a disability income, the surviving spouse (if married to the member at the time of retirement) is entitled to receive a monthly allowance equal to ½ of what the member was receiving for his/her lifetime.

If a member dies after retirement, and was at the time receiving an actuarially reduced allowance, or was not receiving an allowance, but had acquired a vested right to have received an allowance upon reaching normal retirement date, the surviving spouse (if married to the member at the time of retirement) is entitled to receive ½ of the monthly allowance the member would have received at normal retirement date for his/her lifetime.

If an active member dies before retirement and before reaching normal retirement age, without regard to length of service, the surviving spouse is entitled to receive a monthly allowance payable for his/her lifetime equal to ½ of the monthly retirement income the member would have received commencing at the member's normal retirement date as if the member had continued in service until that date and then retired, computed on the basis of final compensation at the time of death.

If a member dies before retirement and after reaching normal retirement date, the surviving spouse is entitled to receive a monthly allowance payable for his/her lifetime equal to ½ of the monthly allowance the member would have been entitled to on the basis of years of service, had the member retired on his date of death, computed on the basis of final compensation at the time of death.

If a member is not married at the time of death, any death benefits described above to which a surviving spouse would have been entitled will be payable to the children of the deceased member until such time as the youngest child attains age 21, or for the life of a disabled child. Also, a member may designate that survivor benefits shall go in part or in total to minor children instead of the spouse.

If cumulative payments to the member and/or beneficiary do not exceed the member's total contributions to this plan, then the excess of such contributions over cumulative plan benefits paid shall be paid as an additional death benefit.

Termination Benefit

If a Judge ceases to be a member of the plan other than by death or disability without having completed at least 8 years of service, then the amount of the member's accumulated contributions shall be returned to the member. If, thereafter, this individual again becomes a holder of an office qualifying for membership in this plan then this individual shall not be entitled to credit for the prior period of service unless, at the time he again participates in the plan, the amount previously refunded is repaid with interest.

Cost-of-Living Adjustment

Ad hoc cost-of-living adjustments (COLA's) have been granted as noted below:

Effective Date of Increase	Percentage Increase	Increase Applies To Benefits Based on Service Prior To
7/1/1986	5%	6/30/1980
7/1/1988	5%	6/30/1982
7/1/1989	5%	6/30/1982
7/1/1990	5%	6/30/1990
7/1/1991	5%	6/30/1991
7/1/1993	3%	6/30/1993
7/1/1994	5%	6/30/1994
7/1/1995	5%	6/30/1995
7/1/1996	None	N/A
7/1/1997	None	N/A
8/1/1998	2.3%	N/A
7/1/1999	1.6%	N/A
7/1/2000	2.2%	N/A
7/1/2001	3.4%	N/A
7/1/2002	2.85%	N/A
7/1/2003	1.6%	N/A
7/1/2004	2.3%	N/A
7/1/2005	2.7%	N/A
7/1/2006	3.4%	N/A
7/1/2007	3.2%	N/A
7/1/2008	2.8%	N/A
7/1/2009 and later*	1.5%	N/A

*COLA's were suspended for fiscal years beginning in 2012 and later; COLA's after 7/1/2013 are not reflected in this valuation. No further COLA's will be granted until the plan is 100% funded, unless a one-time COLA is 100% prefunded.

In addition, a provision for an on-going cost-of-living adjustment is made by statute. Effective August 1, 1998 and each July 1 thereafter, a recipient of a monthly pension shall receive a cost-of-living adjustment keyed to the Consumer Price Index. This COLA is excluded from the inviolable contract and can be repealed by the General Assembly at any time. Beginning July 1, 2009, if granted, this cost-of-living adjustment will be 1.50% for all retirees who have been retired in excess of one year and prorated for those retired less than one year.

Pursuant to statutory requirements, COLA increases are not reflected in plan liabilities until actually granted, except for any anticipated COLA adjustments under the provision as in effect prior to August 1, 1998.

Medical Insurance Premium Supplement

Retired members, in addition to actual retirement benefits, will have a percentage of their (and their dependent's) medical insurance premium paid by the plan. The percentage will vary based on the numbers of years of service credit as follows:

Years of Service Credit at Retirement	Percentage of Medical Insurance Premium Paid by the Plan
20 or more	100%
15, but less than 20	75%
10, but less than 15	50%
4, but less than 10	25%
Less than 4	0%

The current premium rates in effect are:

	Monthly Premium
Under age 65	
Family coverage	$ 1,767.60
Single coverage	729.34
Parent Plus coverage	1,037.08
Member and Spouse	1,589.10
Age 65 or older	
Medicare Advantage PPO	297.90

Premium rates are approved by the Board of Trustees.

Actuarial Assumptions

Interest

6.5% per annum – this rate was selected by the KJRP Investment Committee and Findley and the Fund Investment Manager believe this to be a reasonable long-term rate of return assumption.

The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at the current statutory contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members through June 30, 2069. The long-term expected rate of return on pension plan investments was applied to periods of projected benefit payments through this date, and the municipal bond rate was used for the period thereafter to determine the total pension liability. The discount used to measure the total pension liability on the second bases was 6.50% for 50 years and 2.89% thereafter. This is equivalent to an average assumed rate of return of approximately 6.47%.

Mortality

RP-2000 Mortality Tables with white collar adjustment with Pre and Post Commencement Rates with projected mortality improvements after year 2000 under Projection Scale AA (male and female scales); i.e., full generational mortality.

Terminations

None assumed for Members other than District Judges; for District Judges, turnover assumed to be in accordance with Table T-3 from the Actuary's Pension Handbook. Specimen rates are as follows:

Age	Rate of Termination
20	.066
25	.053
30	.048
35	.045
40	.038
45	.032
50	.015
55	.003
60+	.000

Salary Increases

1% for the next five years and 3.5% thereafter.

Disability

None

Retirement Age

Retirements were assumed to occur as follow:

Retirement Age	Percentage of Active Members Retiring
NRA-5	16.67%
NRA-4	20.00%
NRA-3	25.00%
NRA-2	33.33%
NRA-1	50.00%
NRA	100.00%

NRA = Normal Retirement Age

In addition to these rates, an extra 20% rate is assumed at the age a member reaches 27 years of service credit.

Post-Retirement Death Benefit

Assumption is that 80% of the judges would be married at retirement and the husband would be 3 years older than the wife on average.

Pre-Retirement Death Benefit

Assumption is that 80% of the judges would be survived by a spouse upon death prior to retirement and that the husband would be 3 years older than the wife on average.

Cost-of-Living Adjustment

Pursuant to statutory requirements, COLA increases are not reflected in plan liabilities until actually granted. For the purposes of the calculation of the Recommended Contribution, a full 1.5% annual COLA has been reflected.

Medical Insurance Premium Supplement

Medical premiums will increase for each year beyond the valuation date at the rate of 7.00% for the next 3 years, then 6.75% for the next year and following the Getzen model thereafter until reaching an ultimate rate of 3.94% in the year 2075.

It was further assumed that coverage would be split among retirees as follows:

	% of Retirees	% With Spouse Coverage
Pre-Medicare Coverage		
Family	18%	N/A
Single	53%	N/A
Parent Plus	9%	N/A
Member and Spouse	20%	N/A
Medicare Coverage		
Medicare Advantage PPO	100%	75%

The assumed annual claims costs per subscriber as of July 1, 2019 are:

Pre-65 Cost	Post-65 Cost
$ 16,224	$ 6,256

Claims were adjusted downward using the aging factors in the Dale Yamamoto study released by the Society of Actuaries in June 2013 for attained ages 55 to 65.

Retirees are assumed to contribute the difference between the premium rate and the portion of the premium paid by the Plan. Premium rates and Plan contributions are described in the Summary of Benefits.

Non-members

Judges electing not to participate are assumed to continue as non-members in the future.

Actuarial Methods

Funding Method

Accrued liability and normal cost calculated based on Entry Age Normal funding method. The required contribution is calculated based on KRS 21.525, which requires contributions of normal cost plus interest on the unfunded liability plus 1% of the unfunded liability.

Asset Valuation Method

The determination of the actuarial value of assets is as follows:

1. Investment gains/losses are determined for each year by comparing the expected value of assets based on the assumed interest assumption to actual market value. Expected value of assets in each year shall be determined by projecting the market value of assets from the prior year using the assumed interest rate, plus contributions less benefit payments and plan expenses (adjusted with interest at the assumed rate). If the expected value of plan assets is different than the actual market value of plan assets then the difference is treated as a gain or loss for that year.
2. The amount of any gain or loss as determined above shall be recognized evenly over the subsequent five years.
3. The actuarial value of assets on any valuation date shall be equal to the market value of assets on that date adjusted as follows:
    - Reduced by 80% of a gain or increased by 80% of a loss from the preceding year
    - Reduced by 60% of a gain or increased by 60% of a loss from the 2nd preceding year
    - Reduced by 40% of a gain or increased by 40% of a loss from the 3rd preceding year
    - Reduced by 20% of a gain or increased by 20% of a loss from the 4th preceding year
4. In no event will the actuarial value of assets be less than 80% or greater than 120% of the current market value of assets

This asset valuation method is used in the determination of funding levels. The fair market value of assets is used for disclosure purposes under GASB Statement Nos. 67, 68, 74, and 75.

For purposes of GASB Statement Nos. 67, 68, 74, and 75, the market value of assets has been allocated between retirement related and medical premium supplement liabilities. This market value allocation is carried forward each year based on the following:

1. State and member contributions, as well as transfers for purchase of additional service, are allocated pro-rata reflecting the Annual Required Contribution for that year.
2. Benefits paid reflect actual benefits paid relative to retirement related benefits separately from medical premium supplements.
3. Preliminary assets are determined by adjusting beginning value for allocated State and member contributions and actual benefits paid.
4. Net investment return is allocated pro-rata based on the preliminary assets developed in the previous step.
5. Allocated assets as of the valuation date equal the preliminary balance plus the allocated share of investment income.

Actuarial value of assets is developed initially in total and then allocated between retirement related benefits and medical premium supplement benefits on a pro-rata basis reflecting allocated share of market value as of the valuation date.

GASB Statement No. 67

Statement of Changes in Fiduciary Net Position

	June 30, 2019
Additions	
Contributions:	
Employer	$8,637,500
Employee	1,336,849
Total Contributions	9,974,349
Transfer In Payments	0
Investment Income	38,500,647
Other	0
Total Additions	48,474,996
Deductions	
Benefit Payments / Refunds	24,258,175
Administrative Expenses	0
Other	0
Total Deductions	24,258,175
Net Increase in Net Position	24,216,821
Net Position Restricted for Pensions	
Beginning of Year Market Value of Assets	310,330,341
End of Year Market Value of Assets	$334,547,162

Net Pension Liability

Determination of Net Pension Liability

	June 30, 2019
Total Pension Liability (6.47%)	368,974,471
Plan Fiduciary Net Position (Market Value of Assets)	(334,547,162)
Net Pension Liability	$34,427,309
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	90.67%

Sensitivity of Net Pension Liability to Changes in the Discount Rate

	1% Decrease (5.47%)	Current Rate (6.47%)	1% Increase (7.47%)
Net Pension Liability	$69,837,964	$34,427,309	$4,130,782

Schedule of Changes in the Net Pension Liability and Related Ratios (Dollar amounts in millions)

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$5.0	$5.0	$4.8	$4.7	$3.9	$3.9				
Interest	21.9	22.2	23.4	23.8	22.7	22.9				
Changes of benefit terms	0.0	0.0	0.0	0.0	0.0	0.0				
Differences between expected and actual experience	0.0	4.4	0.0	(8.9)	0.0	(0.3)				
Changes of assumptions	29.1	(4.4)	0.0	(2.1)	0.0	(7.7)				
Benefit Payments / Refunds	(21.8)	(22.3)	(22.9)	(23.0)	(23.2)	(24.2)				
Net Change in Total Pension Liability	$34.2	$4.9	5.3	(5.5)	3.4	($5.4)				
Total Pension Liability - beginning	332.1	366.3	371.2	376.5	371.0	374.4				
Total Pension Liability - ending (a)	$366.3	$371.2	$376.5	$371.0	$374.4	$369.0				
Plan Fiduciary Net Position (Market Value of Assets)										
Contributions - employer	$10.8	$15.1	$15.1	$11.9	$11.9	$8.6				
Contributions - employee	2.8	1.9	1.7	1.5	1.8	1.3				
Transfer In Payments	1.6	0.2	0.1	0.0	0.6	0.0				
Net investment income	33.2	25.6	8.7	34.6	27.0	38.5				
Benefit Payments / Refunds	(21.8)	(22.2)	(22.9)	(23.0)	(23.2)	(24.2)				
Administrative expenses	0.0	0.0	0.0	0.0	0.0	0.0				
Other	0.0	0.0	0.0	0.0	0.0	0.0				
Net Change in Plan Fiduciary Net Position	$26.6	$20.6	$2.7	$25.0	$18.1	$24.2				
Plan Fiduciary Net Position - beginning	217.3	243.9	264.5	267.2	292.2	310.3				
Plan Fiduciary Net Position - ending (b)	$243.9	$264.5	$267.2	$292.2	$310.3	$334.5				
Net Pension Liability - ending (a) - (b)	$122.4	$106.7	$109.3	$78.8	$64.1	$34.5				
Plan Fiduciary Net Position as a % of the Total Pension Liability	66.6%	71.3%	71.0%	78.8%	82.9%	90.7%				
Covered-employee payroll	$32.9	$30.0	$30.0	$27.6	$27.9	$25.4				
Net Pension Liability as a % of covered-employee payroll	371.7%	355.7%	364.3%	285.5%	229.7%	135.8%				
Discount Rate	6.15%	6.41%	6.41%	6.24%	6.24%	6.47%				

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution [1]	$15.2	$15.1	$15.1	$11.9	$11.9	$9.2				
Contributions in relation to the actuarially determined contribution	10.8	15.1	15.1	11.9	11.9	8.6				
Contribution deficiency (excess)	$4.4	$0.0	$0.0	$0.0	$0.0	$0.6				
Covered-employee payroll	$32.9	$30.0	$30.0	$27.6	$27.9	$25.4				
Contributions as a percentage of covered-employee payroll	32.8%	50.3%	50.3%	43.1%	42.7%	33.9%				

[1] Starting with the Fiscal Year Ending June 30, 2019, due to the lag period between the calculated date and the actual contributions, the Actuarially Determined Contribution has been adjusted with interest at the funding interest rate assumption of 6.50%.

Additional Requirements Under GASB Statement No. 67

GASB Statement No. 67 also requires a Statement of Fiduciary Net Position (which includes a breakdown of current assets by type) and additional investment information, including the annual money-weighted rate of return. In order to satisfy GASB Statement No. 67, these required pieces will need to be provided by the Kentucky Judicial Form Retirement System. Findley is prepared to assist the system as needed.

GASB Statement No. 68

Schedule of Changes in NPL, Deferrals, & Pension Expense

	Increase (Decrease)					
	Total Pension Liability (a)	Plan Net Position (Assets) (b)	Net Pension Liability (a) - (b)	Deferred Pension Outflows of Resources	Deferred Pension Inflows of Resources	Pension Expense
Balances--at 06/30/18	$ 374,373,265	$ 310,330,341	$ 64,042,924	$ 12,992,859	$ 18,249,538	
Changes for the Year:						
Service cost	3,898,939		3,898,939			3,898,939
Interest expense	22,910,402		22,910,402			22,910,402
Benefit changes						
Experience losses (gains)	(296,977)		(296,977)	-	88,132	(208,845)
Changes of assumptions	(7,652,983)		(7,652,983)	-	2,271,138	(5,381,845)
Contributions--State		8,637,500	(8,637,500)			
Contributions--Members		1,336,849	(1,336,849)			(1,336,849)
Transfer In Payments		-	-			
Net investment income		38,500,647	(38,500,647)			
Expected return on plan investments						(19,654,196)
Current expense of asset gain/loss						(8,571,020)
Non expensed asset gain/loss				-	15,077,161	
Refunds of contributions	-	-	-			
Benefits paid	(24,258,175)	(24,258,175)	-			
Plan administrative expenses						
Recognition of Prior Post-measurement Contribution				(9,198,964)		
Post-measurement Contribution				9,796,897		
Other changes						
Amortization of or change in beginning balances				(1,896,948)	(6,698,678)	
Net Changes	(5,398,794)	24,216,821	(29,615,615)	(1,299,015)	10,737,754	(8,343,413)
Balances--at 06/30/19	$ 368,974,471	$ 334,547,162	$ 34,427,309	$ 11,693,844	$ 28,987,292	$ (8,343,413)

Pension Expense & Deferred Outflows/Inflows of Resources

For the year ended June 30, 2020, the recognized pension expense will be ($8,343,413). At June 30, 2020, the Kentucky Judicial Form Retirement System reported deferred outflows of resources and deferred inflows of resources in relation to pensions from the following sources:

	As of June 30, 2019			As of June 30, 2020		
	Deferred Outflows of Resources	Deferred Inflows of Resources	Recognized in Pension Expense	Deferred Outflows of Resources	Deferred Inflows of Resources	Remaining Amort. Period
Experience losses (gains)						
- 6/30/2019	-	296,977	(208,845)	-	88,132	0.422 years
subtotal	-	296,977	(208,845)	-	88,132	
Change of assumptions						
- 6/30/2019	-	7,652,983	(5,381,845)	-	2,271,138	0.422 years
subtotal	-	7,652,983	(5,381,845)	-	2,271,138	
Net difference between projected and actual earnings on investments						
- 6/30/2015	-	1,759,742	(1,759,742)	-	-	0.000 years
- 6/30/2016	3,793,895	-	1,896,948	1,896,947	-	1.000 year
- 6/30/2017	-	9,797,843	(3,265,948)	-	6,531,895	2.000 years
- 6/30/2018	-	6,691,953	(1,672,988)	-	5,018,965	3.000 years
- 6/30/2019	-	18,846,451	(3,769,290)	-	15,077,161	4.000 years
subtotal	3,793,895	37,095,989	(8,571,020)	1,896,947	26,628,021	
Total	$ 3,793,895	$ 45,045,949	$(14,161,710)	$ 1,896,947	$ 28,987,291	

Actual investment earnings above (or below) projected earnings are amortized over 5 years. Plan experience and changes of assumptions are amortized over the average remaining service period of actives and inactives (0 years of future service is assumed for inactives for this calculation).

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

Year ended June 30:	
2021	(9,170,550)
2022	(8,708,226)
2023	(5,442,278)
2024	(3,769,290)
2025	-
Thereafter	-

In addition, Governmental Accounting Standards Board Statement 71 ("GASB 71") requires contributions between the measurement date (July 1, 2019) and the disclosure date (June 30, 2020) for GASB 68 be reported as a deferred outflow of resources.

GASB Statement No. 74

Statement of Changes in Fiduciary Net Position

	June 30, 2019
Additions	
Contributions	
Employer	0
Employee	0
Total Contributions	0
Transfer In Payments	0
Investment Income	10,952,684
Other	0
Total Additions	10,952,684
Deductions	
Benefit Payments / Refunds	1,966,712
Administrative Expenses	0
Other	0
Total Deductions	1,966,712
Net Increase in Net Position	8,985,972
Net Position Restricted for OPEB	
Beginning of Year Market Value of Assets	86,186,181
End of Year Market Value of Assets	$95,172,153

Net OPEB Liability

Determination of Net OPEB Liability

Total OPEB Liability	47,168,378
Plan Fiduciary Net Position (Market Value of Assets)	(95,172,153)
Net OPEB Liability	($48,003,775)
Plan Fiduciary Net Position as a Percentage of Total OPEB Liability	201.77%

Sensitivity of Net OPEB Liability to Changes in the Healthcare Cost Trend Rate

	1% Decrease on Trend Assumption	**Current** Trend Assumption	**1% Increase** on Trend Assumption
Net OPEB Liability	($52,950,931)	($48,003,775)	($42,099,699)

Sensitivity of Net OPEB Liability to Changes in the Discount Rate

	1% Decrease 5.50%	**Current Rate** 6.50%	**1% Increase** 7.50%
Net OPEB Liability	($42,176,720)	($48,003,775)	($52,856,779)

Schedule of Changes in the Net OPEB Liability and Related Ratios

(Dollar amounts in millions)

	fiscal year ending June 30									
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Total OPEB Liability										
Service cost	$1.2	$0.9	$0.9							
Interest	4.6	3.3	3.6							
Changes of benefit terms	0.0	0.0	0.0							
Differences between expected and actual experience	(22.1)	0.0	(9.7)							
Changes of assumptions	5.6	0.0	0.1							
Benefit Payments / Refunds	(1.9)	(2.0)	(2.0)							
Net Change in Total OPEB Liability	($12.6)	$2.2	($7.1)							
Total OPEB Liability - beginning	64.7	52.1	54.3							
Total OPEB Liability - ending (a)	$52.1	$54.3	$47.2							
Plan Fiduciary Net Position (Assets)										
Contributions - employer	$1.2	$1.2	$0.0							
Contributions - employee	0.1	0.2	0.0							
Transfer In Payments	0.0	0.1	0.0							
Net investment income	9.4	7.6	11.0							
Benefit Payments / Refunds	(1.9)	(2.0)	(2.0)							
Administrative expenses	0.0	0.0	0.0							
Other	0.0	0.0	0.0							
Net Change in Plan Fiduciary Net Position	$8.8	$7.1	$9.0							
Plan Fiduciary Net Position - beginning	70.3	79.1	86.2							
Plan Fiduciary Net Position - ending (b)	$79.1	$86.2	$95.2							
Net OPEB Liability - ending (a) - (b)	($27.0)	($31.9)	($48.0)							
Plan Fiduciary Net Position as a % of the Total OPEB Liability	151.8%	158.7%	201.7%							
Covered-employee payroll	$27.6	$27.9	$25.4							
Net OPEB Liability as a % of covered-employee payroll	(97.8%)	(114.3%)	(189.0%)							
Discount Rate	6.50%	6.50%	6.50%							

Schedule of Contributions

	fiscal year ending June 30									
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Actuarially determined contribution [1]	$1.2	$1.2	$0.0							
Contributions in relation to the actuarially determined contribution	1.2	1.2	0.0							
Contribution deficiency (excess)	$0.0	$0.0	$0.0							
Covered-employee payroll	$27.6	$27.9	$25.4							
Contributions as a percentage of covered-employee payroll	4.3%	4.3%	0.0%							

[1] Starting with the Fiscal Year Ending June 30, 2019, due to the lag period between the calculated date and the actual contributions, the Actuarially Determined Contribution has been adjusted with interest at the funding interest rate assumption of 6.50%.

Additional Requirements Under GASB Statement No. 74

GASB Statement No. 74 also requires a Statement of Fiduciary Net Position (which includes a breakdown of current assets by type) and additional investment information, including the annual money-weighted rate of return. In order to satisfy GASB Statement No. 74, these required pieces will need to be provided by the Kentucky Judicial Form Retirement System. Findley is prepared to assist the system as needed.

GASB Statement No. 75

Schedule of Changes in NOL, Deferrals, & OPEB Expense

	Increase (Decrease)					
	Total OPEB Liability (a)	Plan Net Position (Assets) (b)	Net OPEB Liability (a) - (b)	Deferred OPEB Outflows of Resources	Deferred OPEB Inflows of Resources	OPEB Expense
Balances--at 06/30/18	$ 54,323,647	$ 86,186,181	$(31,862,534)	$ -	$ 4,594,252	
Changes for the Year:						
Service cost	906,115		906,115			906,115
Interest expense	3,531,343		3,531,343			3,531,343
Benefit changes						
Experience losses (gains)	(9,727,440)		(9,727,440)	-	2,886,765	(6,840,675)
Changes of assumptions	101,425		101,425	30,099	-	71,326
Contributions--State		-	-			
Contributions--Members		-	-			-
Transfer In Payments		-	-			
Net investment income		10,952,684	(10,952,684)			
Expected return on plan investments						(5,591,236)
Current expense of asset gain/loss						(2,442,118)
Non expensed asset gain/loss				-	4,289,158	
Refunds of contributions	-	-	-			
Benefits paid	(1,966,712)	(1,966,712)	-			
Plan administrative expenses						
Recognition of Prior Post-measurement Contribution				-		
Post-measurement Contribution				-		
Other changes						
Amortization of or change in beginning balances				-	(1,369,828)	
Net Changes	(7,155,269)	8,985,972	(16,141,241)	30,099	5,806,095	(10,365,245)
Balances--at 06/30/19	$ 47,168,378	$ 95,172,153	$(48,003,775)	$ 30,099	$ 10,400,347	$(10,365,245)

OPEB Expense & Deferred Outflows/Inflows of Resources

For the year ended June 30, 2020, the recognized OPEB expense will be ($10,365,245). At June 30, 2020, the Kentucky Judicial Form Retirement System reported deferred outflows of resources and deferred inflows of resources in relation to OPEBs from the following sources:

	As of June 30, 2019			As of June 30, 2020		
	Deferred Outflows of Resources	Deferred Inflows of Resources	Recognized in Pension Expense	Deferred Outflows of Resources	Deferred Inflows of Resources	Remaining Amort. Period
Experience losses (gains)						
- 6/30/2019	-	9,727,440	(6,840,675)	-	2,886,765	0.422 years
subtotal	-	9,727,440	(6,840,675)	-	2,886,765	
Change of assumptions						
- 6/30/2019	101,425	-	71,326	30,099	-	0.422 years
subtotal	101,425	-	71,326	30,099	-	
Net difference between projected and actual earnings on investments						
- 6/30/2017	-	2,655,180	(885,060)	-	1,770,120	2.000 years
- 6/30/2018	-	1,939,073	(484,768)	-	1,454,305	3.000 years
- 6/30/2019	-	5,361,448	(1,072,290)	-	4,289,158	4.000 years
subtotal	-	9,955,700	(2,442,118)	-	7,513,582	
Total	$ 101,425	$ 19,683,140	$ (9,211,467)	$ 30,099	$ 10,400,347	

Actual investment earnings above (or below) projected earnings are amortized over 5 years. Plan experience and changes of assumptions are amortized over the average remaining service period of actives and inactives (0 years of future service is assumed for inactives for this calculation).

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

Year ended June 30:	
2021	(5,298,784)
2022	(2,442,118)
2023	(1,557,059)
2024	(1,072,288)
2025	-
Thereafter	-

In addition, Governmental Accounting Standards Board Statement 71 ("GASB 71") requires contributions between the measurement date (July 1, 2019) and the disclosure date (June 30, 2020) for GASB 75 be reported as a deferred outflow of resources.

Risk Assessment

Risk Factor	Initial Risk Assessment Language
Investment	Due to the plan's substantial equity exposure, investment returns will likely be much more volatile than the measurements of plan liabilities. Therefore, there is a risk that the funded status of the plan, as well as required plan contributions, could be volatile.
Assumed Rate of Return	Due to the plan's estimated duration of 8 to 11, a 1% decrease in the assumed rate of investment return would increase the measurement of the liability by 8% to 11%.
Longevity	Since nearly all benefits are paid as annuities, the plan is sensitive to changes in overall population longevity. As a result, the liabilities will fluctuate with changes in longevity. The ratio of retired life liability to total liability is 67%, suggesting there is less sensitivity to long-term changes in overall mortality improvement than a less mature plan.
Other demographic factors	Due to the eligibility for unreduced and subsidized retirement benefits, employees continuing in service for longer than expected will accrue additional benefits which may or may not result in larger liabilities. Conversely, employees retiring sooner than anticipated will accrue smaller benefits which may or may not result in smaller liabilities.
Lump sums	No significant known risks.
Inflation	Inflation is a component of future interest rates and investment returns over a long period. As a result, changes to inflation can affect funded percentages.
Other Factors	Due to recent and ongoing attempts to pass pension reform legislation at a state level, the plan could be modified in the future. Future legislation may affect benefit levels or future contribution levels and could result in increases or decreases in the plan liabilities or funding status.

Findley can perform more detailed assessments of these risks as desired by the plan sponsor to provide a better understanding of the risks.

GASB Notes

Notes to GASB 67, 68, 74, and 75 Disclosures

1. Actuarial accrued liability is based on the entry age normal funding method.
2. Market value of assets as of July 1, 2007 was allocated between pension and OPEB obligations based on proportionate share of accrued liability on that date. Allocations in subsequent years are based on prior year allocated value adjusted for contributions and benefits paid during the year, with investment return (net of expenses) allocated proportionately between retirement and OPEB obligations. Actuarial value of assets is then allocated based on the market value of retirement and OPEB assets.
3. Actuarial value of assets uses a 5-year asset smoothing method.
4. Information used in preparing these exhibits has been extracted from past valuation reports.
5. Interest on OPEB Obligation is based on assumed valuation interest assumption for the prior year. The interest rates for prior years are as follows: 7% beginning with 2009 valuation; 6.5% beginning with 2017 valuation.

Note: Above statements are partially based on information furnished by the prior actuary.

6. The tables in this report account for liabilities and assets only for the traditional defined benefit/OPEB tier under the plan; liabilities and assets pertaining to the hybrid cash balance/OPEB tier are presented in a separate report.
7. Covered payroll reflects payroll for all current plan members.
8. ADC based on full actuarial report (odd numbered years) immediately prior to each biennium. ADC amount shown is for basic valuation, without any future COLA reflected but with interest adjustment as appropriate.
9. The valuation date, disclosure date, and measurement date all fall on the same date for purposes of GASB 67.
10. It is assumed the measurement date for GASB 68 will be 12 months before the disclosure date. For the year ending June 30, 2020, the measurement date is July 1, 2019 (the valuation date).
11. The valuation date, disclosure date, and measurement date all fall on the same date for purposes of GASB 74.
12. It is assumed the measurement date for GASB 75 will be 12 months before the disclosure date. For the year ending June 30, 2020, the measurement date is July 1, 2019 (the valuation date).

Summary of Participant Data

Distribution of Active Participants with Average Compensation

	Years of Credited Service										
Attained Age	Under 1	1 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	Over 39	Total
Under 25											
25 – 29											
30 – 34											
35 – 39			2								2
			$119,556								$119,556
40 – 44			5	5	1						11
			$125,780	$122,092	$119,556						$123,538
45 – 49			5	14	6						25
			$124,830	$123,178	$125,895						$124,161
50 – 54		2	4	6	16	6					34
		$119,556	$122,726	$125,895	$126,319	$125,895					$125,349
55 – 59			3	14	14	11	3				45
			$128,009	$131,240	$128,191	$128,424	$124,456				$128,935
60 – 64		2	5	9	13	11	4	1			45
		$132,235	$127,163	$131,467	$129,908	$129,382	$135,375	$143,786			$130,684
65 – 69			3	6	5	9	3	1			27
			$128,009	$133,196	$128,316	$130,507	$123,782	$148,836			$130,353
Over 69			2	3			2		1		8
			$119,556	$136,077			$135,621		$132,235		$131,352
Total		4	29	57	55	37	12	2	1		197
		$125,895	$125,036	$128,391	$127,656	$128,805	$129,788	$146,311	$132,235		$128,006

Distribution of Inactive Participants with Average Annual Benefit

Attained Age	Retired and Beneficiaries	Terminated	Total
Under 50		1	1
		$48,159	$48,159
50 – 54	6	2	8
	$60,972	$28,717	$52,908
55 – 59	14	6	20
	$60,008	$18,979	$47,699
60 – 64	45	2	47
	$79,264	$26,746	$77,029
65 – 69	90	1	91
	$76,210	$46,338	$75,882
70 – 74	81	1	82
	$68,832	$133,134	$69,616
75 – 79	59		59
	$68,500		$68,500
80 – 84	21		21
	$63,416		$63,416
85 – 89	21		21
	$62,364		$62,364
90 – 94	13		13
	$33,225		$33,225
Over 94	4		4
	$36,572		$36,572
Total	354	13	367
	$69,119	$34,802	$67,903

Glossary of Terms

Amortization – The process of systematically recognizing prior gains and losses as a component of the Pension Expense.

Fiduciary Net Position – The market value of assets as of a specified measurement date.

Funded Status – The difference between the Fiduciary Net Position and the Total Pension Liability as of the measurement date.

Gain/Loss – A change in the value of either the Total Pension Liability or the plan assets resulting from experience different from that assumed or from a change in an actuarial assumption.

Interest Cost – The amount recognized in a period determined as the increase in the Total Pension Liability due to the passage of time.

Pension Expense – The sum of Service Cost, Interest Cost, Expected Return on Assets and amortizations of Actuarial Gain/Loss over the average remaining service period (or the life expectancy) of plan participants expected to receive plan benefits plus a 5-year amortization of Asset Gain/Loss.

Service Cost – is the actuarial present value of benefits attributed to services rendered by employees during the measurement.

Total Pension Liability – The Entry Age Normal Accrued Liability.

Sensitivity Analysis

In accordance with HB 238, we are providing the following sensitivity analysis of the valuation results to changes in certain plan assumptions. Specifically we have looked at the effect of a one percent increase and decrease to the discount rate, salary scale, and healthcare cost trend rate assumptions.

Discount Rate

	1% Decrease (5.5%)	Current Rate (6.5%)	1% Increase (7.5%)
Pension Plan			
Accrued Liability	$403,237,746	$367,996,393	$337,837,757
Actuarial Value of Assets	309,829,279	309,829,279	309,829,279
Unfunded Past Service Liability	93,408,467	58,167,114	28,008,478
Funded Ratio	76.84%	84.19%	91.71%
Contribution as Percent of Salary	33.48%	24.32%	14.62%
OPEB Plan			
Accrued Liability	$52,995,433	$47,168,378	$42,315,374
Actuarial Value of Assets	88,140,397	88,140,397	88,140,397
Unfunded Past Service Liability	(35,144,964)	(40,972,019)	(45,825,023)
Funded Ratio	166.32%	186.86%	208.29%
Contribution as Percent of Salary	0.00%	0.00%	0.00%
Total [1]			
Accrued Liability	$456,233,179	$415,164,771	$380,153,131
Actuarial Value of Assets	397,969,676	397,969,676	397,969,676
Unfunded Past Service Liability	58,263,503	17,195,095	(17,816,545)
Funded Ratio	87.23%	95.86%	104.69%
Contribution as Percent of Salary	33.48%	24.32%	14.62%

[1]Our current understanding of IRS regulations is that they prohibit the use of surplus OPEB assets for retirement benefits. We recommend continuing discussions with plan council on possible options. Please refer to page 8 of this report for the asset and liabilities split between the Pension and OPEB plans.

Salary Scale

	1% Decrease 0% for five years, 2.5% thereafter	Current Rate 1% for five years, 3.5% thereafter	1% Increase 2% for five years, 4.5% thereafter
Pension Plan			
Accrued Liability	$366,964,161	$367,996,393	$368,994,602
Actuarial Value of Assets	309,829,279	309,829,279	309,829,279
Unfunded Past Service Liability	57,134,882	58,167,114	59,165,323
Funded Ratio	84.43%	84.19%	83.97%
Contribution as Percent of Salary	23.14%	24.32%	25.58%
OPEB Plan			
Accrued Liability	$47,454,645	$47,168,378	$46,867,507
Actuarial Value of Assets	88,140,397	88,140,397	88,140,397
Unfunded Past Service Liability	(40,685,752)	(40,972,019)	(41,272,890)
Funded Ratio	185.74%	186.86%	188.06%
Contribution as Percent of Salary	0.00%	0.00%	0.00%
Total [1]			
Accrued Liability	$414,418,806	$415,164,771	$415,862,109
Actuarial Value of Assets	397,969,676	397,969,676	397,969,676
Unfunded Past Service Liability	16,449,130	17,195,095	17,892,433
Funded Ratio	96.03%	95.86%	95.70%
Contribution as Percent of Salary	23.14%	24.32%	25.58%

[1]Our current understanding of IRS regulations is that they prohibit the use of surplus OPEB assets for retirement benefits. We recommend continuing discussions with plan council on possible options. Please refer to page 8 of this report for the asset and liabilities split between the Pension and OPEB plans.

Healthcare Cost Trend Rate

	1% Decrease in Trend Assumption	Current Rate in Trend Assumption	1% Increase in Trend Assumption
Pension Plan			
Accrued Liability	$367,996,393	$367,996,393	$367,996,393
Actuarial Value of Assets	309,829,279	309,829,279	309,829,279
Unfunded Past Service Liability	58,167,114	58,167,114	58,167,114
Funded Ratio	84.19%	84.19%	84.19%
Contribution as Percent of Salary	24.32%	24.32%	24.32%
OPEB Plan			
Accrued Liability	$42,221,222	$47,168,378	$53,072,454
Actuarial Value of Assets	88,140,397	88,140,397	88,140,397
Unfunded Past Service Liability	(45,919,175)	(40,972,019)	(35,067,943)
Funded Ratio	208.76%	186.86%	166.08%
Contribution as Percent of Salary	0.00%	0.00%	0.00%
Total [1]			
Accrued Liability	$410,217,615	$415,164,771	$421,068,847
Actuarial Value of Assets	397,969,676	397,969,676	397,969,676
Unfunded Past Service Liability	12,247,939	17,195,095	23,099,171
Funded Ratio	97.01%	95.86%	94.51%
Contribution as Percent of Salary	24.32%	24.32%	24.32%

[1]Our current understanding of IRS regulations is that they prohibit the use of surplus OPEB assets for retirement benefits. We recommend continuing discussions with plan council on possible options. Please refer to page 8 of this report for the asset and liabilities split between the Pension and OPEB plans.

Projections

Pension Plan

In accordance with HB 238, we are also providing the following 20 year projection under the current plan assumptions and, if applicable, before any assumptions changes effective at the valuation date. For a list of assumptions changes effective as of July 1, 2019, please see page 6.

	Contribution Requirement ($M)*		Contribution (%)		Accrued Liability ($M)		Unfunded Liability ($M)		Funded Ratio (Assets/Liabilities)	
Year Beginning July 1	Prior Assumptions	Current	Prior Assumptions	Current	Prior Assumptions	Current	Prior Assumptions	Current	Prior Assumptions	Current
2019	n/a	$ 9.9	n/a	39.3%	n/a	$ 368.0	n/a	$ 58.2	n/a	84%
2020	n/a	$ 6.6	n/a	44.2%	n/a	$ 364.2	n/a	$ 45.3	n/a	88%
2021	n/a	$ 7.0	n/a	54.3%	n/a	$ 359.3	n/a	$ 33.3	n/a	91%
2022	n/a	$ 4.0	n/a	36.3%	n/a	$ 353.3	n/a	$ 23.6	n/a	93%
2023	n/a	$ 4.3	n/a	45.0%	n/a	$ 346.5	n/a	$ 18.2	n/a	95%
2024	n/a	$ 2.4	n/a	28.7%	n/a	$ 338.8	n/a	$ 16.0	n/a	95%
2025	n/a	$ 2.6	n/a	34.6%	n/a	$ 330.6	n/a	$ 15.5	n/a	95%
2026	n/a	$ 2.0	n/a	30.7%	n/a	$ 321.6	n/a	$ 14.6	n/a	95%
2027	n/a	$ 2.1	n/a	36.8%	n/a	$ 312.2	n/a	$ 14.2	n/a	95%
2028	n/a	$ 1.7	n/a	35.1%	n/a	$ 302.2	n/a	$ 13.5	n/a	96%
2029	n/a	$ 1.8	n/a	46.3%	n/a	$ 291.6	n/a	$ 13.1	n/a	96%
2030	n/a	$ 1.4	n/a	44.9%	n/a	$ 280.4	n/a	$ 12.5	n/a	96%
2031	n/a	$ 1.5	n/a	62.6%	n/a	$ 268.8	n/a	$ 12.1	n/a	95%
2032	n/a	$ 1.2	n/a	64.8%	n/a	$ 256.8	n/a	$ 11.5	n/a	96%
2033	n/a	$ 1.2	n/a	81.5%	n/a	$ 244.6	n/a	$ 11.2	n/a	95%
2034	n/a	$ 1.0	n/a	86.4%	n/a	$ 232.2	n/a	$ 10.7	n/a	95%
2035	n/a	$ 1.1	n/a	120.4%	n/a	$ 219.8	n/a	$ 10.5	n/a	95%
2036	n/a	$ 0.9	n/a	137.4%	n/a	$ 207.4	n/a	$ 10.1	n/a	95%
2037	n/a	$ 1.0	n/a	255.4%	n/a	$ 194.9	n/a	$ 9.9	n/a	95%
2038	n/a	$ 0.8	n/a	391.8%	n/a	$ 182.6	n/a	$ 9.5	n/a	95%
2039	n/a	$ 0.9	n/a	752.5%	n/a	$ 170.5	n/a	$ 9.3	n/a	95%
Sum of Contributions	n/a	$ 55.4								

* The Contribution Requirement above is the full projected contribution requirement, adjusted with interest. The projection results are based on the assumption that 98.8% of the requirement is contributed, the average percentage of the contribution requirement that was made over the past 5 years.

OPEB Plan

Year Beginning July 1	Contribution Requirement ($M)* Prior Assumptions	Current	Contribution (%) Prior Assumptions	Current	Accrued Liability ($M) Prior Assumptions	Current	Unfunded Liability ($M) Prior Assumptions	Current	Funded Ratio (Assets/Liabilities) Prior Assumptions	Current
2019	$ 0.0	$ 0.0	0.0%	0.0%	$ 47.1	$ 47.2	$ (41.1)	$ (41.0)	187%	187%
2020	$ 0.0	$ 0.0	0.0%	0.0%	$ 48.3	$ 48.4	$ (45.4)	$ (45.3)	194%	194%
2021	$ 0.0	$ 0.0	0.0%	0.0%	$ 49.3	$ 49.5	$ (50.6)	$ (50.4)	203%	202%
2022	$ 0.0	$ 0.0	0.0%	0.0%	$ 50.2	$ 50.4	$ (55.0)	$ (54.9)	210%	209%
2023	$ 0.0	$ 0.0	0.0%	0.0%	$ 50.9	$ 51.1	$ (59.2)	$ (59.1)	216%	216%
2024	$ 0.0	$ 0.0	0.0%	0.0%	$ 51.4	$ 51.6	$ (62.6)	$ (62.5)	222%	221%
2025	$ 0.0	$ 0.0	0.0%	0.0%	$ 51.7	$ 52.0	$ (66.3)	$ (66.2)	228%	227%
2026	$ 0.0	$ 0.0	0.0%	0.0%	$ 51.9	$ 52.1	$ (70.2)	$ (70.1)	235%	235%
2027	$ 0.0	$ 0.0	0.0%	0.0%	$ 51.8	$ 52.0	$ (74.5)	$ (74.3)	244%	243%
2028	$ 0.0	$ 0.0	0.0%	0.0%	$ 51.5	$ 51.8	$ (79.0)	$ (78.9)	253%	252%
2029	$ 0.0	$ 0.0	0.0%	0.0%	$ 51.1	$ 51.4	$ (83.9)	$ (83.7)	264%	263%
2030	$ 0.0	$ 0.0	0.0%	0.0%	$ 50.5	$ 50.9	$ (89.1)	$ (89.0)	276%	275%
2031	$ 0.0	$ 0.0	0.0%	0.0%	$ 49.8	$ 50.2	$ (94.7)	$ (94.6)	290%	288%
2032	$ 0.0	$ 0.0	0.0%	0.0%	$ 48.8	$ 49.2	$ (100.8)	$ (100.6)	307%	304%
2033	$ 0.0	$ 0.0	0.0%	0.0%	$ 47.7	$ 48.2	$ (107.2)	$ (107.1)	325%	322%
2034	$ 0.0	$ 0.0	0.0%	0.0%	$ 46.5	$ 47.0	$ (114.1)	$ (113.9)	345%	342%
2035	$ 0.0	$ 0.0	0.0%	0.0%	$ 45.2	$ 45.7	$ (121.5)	$ (121.3)	369%	365%
2036	$ 0.0	$ 0.0	0.0%	0.0%	$ 43.9	$ 44.4	$ (129.3)	$ (129.1)	395%	391%
2037	$ 0.0	$ 0.0	0.0%	0.0%	$ 42.4	$ 43.0	$ (137.6)	$ (137.4)	425%	420%
2038	$ 0.0	$ 0.0	0.0%	0.0%	$ 40.9	$ 41.5	$ (146.6)	$ (146.3)	458%	453%
2039	$ 0.0	$ 0.0	0.0%	0.0%	$ 39.4	$ 40.0	$ (156.1)	$ (155.8)	496%	490%
Sum of Contributions	$ 0.0	$ 0.0								

* The Contribution Requirement above is the full projected contribution requirement, adjusted with interest. The projection results are based on the assumption that 98.8% of the requirement is contributed, the average percentage of the contribution requirement that was made over the past 5 years.

TO: Ms. Donna S. Early

FROM: Findley

DATE: October 30, 2019

RE: Kentucky Judicial Retirement Plan - Hybrid Tier – Addendum to July 1, 2019 Actuarial Valuation Report – Update of Annual Required Contribution for Administrative Expenses

It is our understanding that starting with the 2020-21 fiscal year, administrative and personnel expenses will begin to be paid from plan assets. Due to this change, the Annual Required Contribution amounts shown in the July 1, 2019 Actuarial Valuation Report ("Valuation Report"), dated October 1, 2019, require an adjustment to include the expenses expected to be paid out of the plan assets during the 2020-21 and 2021-22 fiscal years. This memorandum shall serve as an Addendum to the Valuation Report and documents such adjustments to the Annual Required Contributions.

This change is expected to have minimal impact on the other results shown in the Valuation Report. For the projections shown on pages 35-36 of the Valuation Report, the Annual Contribution Requirements would increase by the expected expenses in each year. However, since anticipated expenses for a particular year will be paid out during that year, this increased contribution is assumed to have no impact on the projected Unfunded Liability or Funded Ratio.

The Preliminary Annual Required Contribution as of July 1, 2019 below is the amount shown on pages 2 and 7 of the Valuation Report. Because the actual contributions, based on this July 1, 2019 measurement date calculation, will be made during the 2020-21 and 2021-22 fiscal years, one and two years after the date the requirement was calculated, the Annual Required Contribution has been increased at the interest rate assumption of 4.00%. This adjustment is being made for the time value of money (i.e., there is a time lag between the date of the calculation, July 1, 2019, and the time in which monies are actually contributed to the plan trust).

	Pension	+	OPEB	=	Total
1. Preliminary Annual Required Contribution as of July 1, 2019	167,671		-		167,671
Annual Required Contribution for 2020-21 Fiscal Year					
2a. Preliminary Annual Required Contribution for 2020-21 Fiscal Year [(1) * 1.04]	174,378		-		174,378
2b. Requested Expenses for 2020-21 Fiscal Year (split based on July 1, 2019 liability)	28,613		2,587		31,200
2c. Final Annual Required Contribution for 2020-21 Fiscal Year	**202,991**		**2,587**		**205,578**
Annual Required Contribution for 2021-22 Fiscal Year					
3a. Preliminary Annual Required Contribution for 2021-22 Fiscal Year [(1) * 1.04 * 1.04]	181,353		-		181,353
3b. Requested Expenses for 2021-22 Fiscal Year (split based on July 1, 2019 liability)	30,355		2,745		33,100
3c. Final Annual Required Contribution for 2021-22 Fiscal Year	**211,708**		**2,745**		**214,453**

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FINDLEY

Kentucky Judicial Retirement Plan - Hybrid Tier

Actuarial Valuation and Report
as of July 1, 2019

Table of Contents

Introduction

An actuarial valuation of the Kentucky Judicial Retirement Plan - Hybrid Tier ("KJRP-HT") has been performed as of July 1, 2019. Actuarial valuations are based on the integrity of employee data, plan asset data, plan provisions and an extensive set of assumptions regarding future events. There is necessary uncertainty with any actuarial calculation based on the accuracy of the data provided, the correct interpretation of plan provisions and the realization of the assumptions made. These results were based on participant data and asset information provided by the Kentucky Judicial Form Retirement System. This information was not audited but was reviewed for reasonableness.

Detailed explanations of the actuarial assumptions and methods used in the report are contained in later sections of this report. Also included in this report is a summary of provisions of the plan as we understand them.

This report provides details on the actuarial valuation underlying the recommended contribution to the KJRP-HT for plan years commencing in 2020 and 2021. This determination was performed pursuant to Kentucky Revised Statute ("KRS") §21.525 for the retirement system defined in KRS §21.350 to §21.580, specifically §21.402.

Governmental Accounting Standards Board Statement 67 ("GASB 67") and Statement 74 ("GASB 74") establish financial reporting standards for defined benefit pension plans and other postemployment benefit (OPEB) plans sponsored by employers that are subject to governmental accounting standards. Governmental Accounting Standards Board Statement 68 ("GASB 68") and Statement 75 ("GASB 75") provide standards for reporting pension and OPEB expenditures and expense, and related liabilities and assets for such plans. The purpose of this report is to provide pertinent financial statement disclosure information for the fiscal year ending in 2019. Actuarial computations under Statements 67, 68, 74, and 75 are for purposes of fulfilling plan and employer governmental accounting requirements and may not be appropriate for other purposes. This report has been prepared on a basis consistent with our understanding of the statements and does not constitute legal, accounting, tax or investment advice.

Statements 68 and 75 set forth a methodology for the calculation of the annual Pension Expense for the upcoming fiscal year. GASB 68 and GASB 75 provide a method for reflecting prior gains and losses from asset and plan experience, as well as other areas including plan amendments. Amounts not reflected previously or in the upcoming year are reflected in the Deferred Outflows and Inflows of Resources shown.

Findley does not have access to and is not providing information concerning liabilities other than benefits, such as for legal or accounting fees.

Findley is not aware of any significant events subsequent to the current year's measurement date that could materially affect the information contained in this report. However, we are aware that legislation has been passed that makes substantial changes to the state-wide retirement systems, including KJRP-HT, but that legislation has since been voided by a Kentucky Supreme Court ruling. This report does not consider this piece of legislation.

We are not aware of any relationship between the plan or plan sponsor and Findley which would impair or appear to impair our objectivity.

To the best of our knowledge, all information provided in this report is complete and accurate and disclosures for GASB purposes have been determined in accordance with generally accepted accounting principles.

Summary of Report

An actuarial valuation of the Kentucky Judicial Retirement Plan - Hybrid Tier ("KJRP-HT") was conducted as of July 1, 2019. The purpose of the valuation is to determine the cost implications of the plan including a determination of annual funding levels for the fiscal years beginning July 1, 2020 and July 1, 2021.

In 2013 the applicable state statutes were amended to close participation in the traditional defined benefit tier, with all individuals first electing to participate in Kentucky Judicial Retirement Plan ("KJRP") on or after January 1, 2014 being covered under a new hybrid cash balance tier. **This report covers only the hybrid cash balance/OPEB tier of KJRP.**

It is our understanding that this plan is a "governmental plan" as defined in Internal Revenue Code Section 414(d) and this report has been prepared on that basis.

On the basis of the valuation, it has been determined that the annual funding requirements for the State for the fiscal year beginning in 2020 for the plan, prior to adjusting with interest, as described in the Summary of Benefits section of this report, are as follows:

	Total Amount	Percent of Payroll
Annual Required Contribution	$ 167,671	3.22%
Recommended Contribution	$ 208,191	4.00%

The Annual Required Contribution is determined based on assumptions and methods set forth in the statute and established by the KJRP Investment Committee. The Recommended Contribution is determined as the greater of the Annual Required Contribution and 4.00% of payroll.

The Annual Required Contribution and Recommended Contribution shown above are calculated using asset and liability values as of July 1, 2019. These amounts are used to determine contributions for the fiscal years beginning July 1, 2020 and July 1, 2021.

Due to the lag period between the calculated date and the actual contributions, we have adjusted the Annual Required Contributions and Recommended Contributions for the plan years 2020-2021 and 2021-2022 with one and two years of interest, respectively, at the interest rate assumption of 4.00%.

	2020-2021 (1 year of interest)	2021-2022 (2 years of interest)
Annual Required Contribution (with interest)	$ 174,378	$ 181,353
Recommended Contribution (with interest)	$ 216,518	$ 225,179

Summary of Selected Plan Information [1]

	Plan Year Beginning		
	7/1/2019	7/1/2017	7/1/2015
Number of Participants			
Active	41	22	16
Terminated Vested	2	0	0
Retired	0	0	0
Beneficiaries	0	0	0
Total	43	22	16
Average Age (for actives)	48.8	49.3	50.5
Average Service (for actives)	2.4	2.0	0.5
Annual Covered Payroll	$ 5,204,764	$ 2,696,626	$ 1,935,756
Average Salary	126,945	122,574	120,985
Accrued Liability	1,365,555	554,050	93,974
Actuarial Asset Value	1,236,161	526,406	102,489
Market Asset Value	1,315,095	542,775	101,127
Unfunded Accrued Liability (UAL)	129,394	27,644	(8,515)
Annual Funding Level [2]			
State Portion of Normal Cost	$ 149,105	$ 87,192	$ 65,813
Expected Employee Contributions	312,286	161,797	116,146
Total Normal Cost	461,391	248,989	181,959
Annual Required Contribution	167,671	94,749	69,281
Percent of Covered Payroll	3.22%	3.51%	3.58%

[1]Our current understanding of IRS regulations is that they prohibit the use of surplus OPEB assets for retirement benefits. We recommend continuing discussions with plan council on possible options. Please refer to page 8 of this report for the asset and liabilities split between the Pension and OPEB plans.

[2]In accordance with KRS 21.525 (legally prescribed funding method).

Legislative and Regulatory Background

As stated previously, state statutes were amended in 2013 such that all participants entering KJRP on or after January 1, 2014 will be covered under a hybrid cash balance/OPEB tier; those entering before that date will continue to be covered under the traditional defined benefit/OPEB tier. The legislation making this change also restricted the availability of future cost-of-living adjustments (COLA's) to plan benefits.

Actuarial Standard of Practice No. 51 (ASOP 51) is effective for actuarial valuations on or after November 1, 2018. This standard calls for explicit disclosure of risks associated with the pension plan and any recommended actions for better understanding the nature and impact of those risks. Please let us know if any additional analysis or information is desired.

Sensitivity analysis along with 20-year projections of results (before and after any assumption changes) have been included in this report pursuant to HB 238, passed in 2016.

Actuarial Soundness

A plan that has adopted a reasonable funding method, that adopts reasonable assumptions and which contributes at a rate at or above the recommended contribution rate (based on these reasonable methods and assumptions), could be considered to be actuarially sound.

In order to ensure KJRP-HT is funded in an "actuarially sound manner", we would recommend the following:

1. Revise the actuarial funding method to amortize all past unfunded as well as new liabilities over a period not more than 15 years and amortize future gains and losses over a period not more than 15 years. (Note that GASB 68 may require the expensing of liabilities at a faster pace than these amortization periods.)
2. Contribute at least the recommended contribution each year.

Deviations from these recommendations may result in an "actuarially unsound" approach to funding KJRP-HT and may eventually result in KJRP-HT becoming insolvent – that is, exhausting assets at which time all future benefits would be provided on a pay as you go basis.

Although the Actuarial Standards of Practice 4 "Measuring Pension Obligations" allows for plan liabilities to be calculated under a legally prescribed method, the statement goes on to say,

> "If, in the actuary's professional judgment, such an actuarial cost method or amortization method is significantly inconsistent with the plan accumulating adequate assets to make benefit payments when due, assuming that all actuarial assumptions will be realized and that the plan sponsor or other contributing entity will make contributions when due, the actuary should disclose this."

It is our professional actuarial opinion that the current legally prescribed method, which requires contributions of normal cost plus interest on the unfunded liability plus 1% of the unfunded liability (per KRS 21.525), is inconsistent with the plan accumulating adequate assets to make benefit payments when due, assuming all actuarial assumptions are realized.

In addition, the total cost of the Medical Premium Supplement is approximately 0.75% of pay, compared to the required employee contribution of 1% of pay. As a result, members are paying approximately 0.25% of pay more than the benefits are expected to be worth. The Medical plan is currently 19% overfunded and, without any changes, is expected to be increasingly overfunded going forward.

Changes in Actuarial Assumptions

The following changes were made to the actuarial assumptions effective June 30, 2019:

	Previous	Current
Medical Trend Rates	8.00% decreasing to 5.00% over 12 years beginning July 1, 2017	7.00% level for 3 years, then 6.75% and following the Getzen model thereafter until reaching an ultimate rate of 3.94% in the year 2075

The medical trend rates change described above resulted in an increase in liabilities and had no effect on the annual recommended contribution.

	Previous	Current
Medical Claims Aging Table	Claims were adjusted downward 3% for each year of age reduction from age 65 to age 55.	Claims were adjusted downward using the aging factors in the Dale Yamamoto study released by the Society of Actuaries in June 2013 for attained ages 55 to 65.

The medical trend rates change described above resulted in an increase in liabilities and had no effect on the annual recommended contribution.

Summaries of the plan provisions, actuarial assumptions and methods can be found in the Basis of Valuation section of this report.

Actuarial Certification

The information contained in this document (including any attachments) is not intended by Findley to be used, and it cannot be used, for the purpose of avoiding penalties under the Internal Revenue Code that may be imposed on the taxpayer. The information and valuation results shown in this report are, to the best of our knowledge, complete and accurate and are based upon the following:

1. Employee census data as of July 1, 2019, submitted by the Kentucky Judicial Form Retirement System. This data was not audited by us but appears to be sufficient and reliable for purposes of the report.
2. Financial data as of June 30, 2019, submitted by the Kentucky Judicial Form Retirement System. This data was not audited by us but appears to be sufficient and reliable for purposes of the report.
3. Actuarial assumptions and methods as established either by statute or the KJRP Investment Committee. The actuarial assumptions currently adopted by the Committee appear to be reasonable, both individually and in aggregate.
4. For purposes of GASB 67, 68, 74, and 75 disclosures, assets were split between pension and retiree medical liabilities on the basis of the employee and employer contributions allocated to each part and a prorata allocation of investment return. This methodology was based on the process used to split assets in the traditional defined benefit plan between the pension and retiree medical components.

We believe the information is sufficiently complete and reliable. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice.

The actuarial valuation summarized in this report has been performed utilizing generally accepted actuarial principles. It is my opinion that the results fully and fairly disclose the actuarial position of the plan on the valuation date. I am a senior consultant for Findley, member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

Certified by:

Matthew Widick

Matthew Widick, F.S.A., E.A., C.E.R.A., M.A.A.A. Senior Consultant	October 1, 2019 Date
David L. Shaub, F.S.A., M.A.A.A. Managing Consultant (OPEB Plan Only)	October 1, 2019 Date

Findley
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Brentwood, TN 37027
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Annual Required Contribution

Determination of Annual Required Contribution as of July 1, 2019

1. Accrued Liability	Pension	OPEB	Total
Actives			
Actives	1,221,427	-	1,221,427
Medical Premium Supplement	-	113,230	113,230
Total Active Liability	1,221,427	113,230	1,334,657
Inactives			
Retired	-	-	-
Deferred Vested	30,898	-	30,898
Beneficiaries	-	-	-
Medical Premium Supplement	-	-	-
Total Inactive Liability	30,898	-	30,898
Total Accrued Liability	1,252,325	113,230	1,365,555
2. Valuation Assets	1,092,738	143,423	1,236,161
3. Unfunded Past Service Liability	159,587	(30,193)	129,394
4. Gross Normal Cost			
a) Retirement Related	419,930	-	419,930
b) Medical Premium Supplement Related	-	41,461	41,461
c) Total Normal Cost	419,930	41,461	461,391
5. Annual Covered Payroll	5,204,764	5,204,764	5,204,764
6. Estimated Employee Contributions for the Next 12 Months			
a) Retirement Related	260,238	-	260,238
b) Medical Premium Supplement Related	-	52,048	52,048
c) Total Estimated Employee Contributions	260,238	52,048	312,286
7. Net Normal Cost			
a) Retirement Related (4a - 6a)	159,692	-	159,692
b) Medical Premium Supplement Related (4b - 6b)	-	(10,587)	(10,587)
c) Total Net Normal Cost (4c - 6c)	159,692	(10,587)	149,105
d) Net Normal Cost as Percent of Pay (7c / 5)	3.07%	(0.20%)	2.86%
8. Interest plus 1% of Unfunded Past Service Liability	7,979	(1,510)	n/a
9. Total Annual Required Contribution (max (0, 7c + 8))	167,671	-	167,671
10. Payment as a Percentage of Covered Payroll (9 / 5)	3.22%	0.00%	3.22%

Actuarial Asset Value

Determination of Actuarial Asset Value as of July 1, 2019

	2018-19 Plan Year	2017-18 Plan Year	2016-17 Plan Year	2015-16 Plan Year
Interest Return Assumption	4.00%	4.00%	4.00%	4.00%
Market Value at Beginning of Year				
Amount	$ 864,484	$ 542,775	$ 295,943	$ 101,127
Interest to End of Year	34,579	21,711	11,838	4,045
Employer Contributions				
Amount	94,800	69,300	69,311	71,356
Interest to End of Year	1,896	1,386	1,386	1,427
Member Contributions				
Amount	255,630	193,332	142,183	118,876
Interest to End of Year	5,113	3,867	2,844	2,378
Transfers from KERS				
Amount	-	-	-	-
Interest to End of Year	-	-	-	-
Benefits Paid				
Amount	4,828	-	4,404	-
Interest to End of Year	97	-	88	-
Expected End of Year Assets	1,251,577	832,371	519,013	299,209
Market Value at End of Year	1,315,095	864,484	542,775	295,943
Investment Gain (Loss)	63,518	32,113	23,762	(3,266)
Adjustment Percentage	80%	60%	40%	20%
Actuarial Asset Value Adjustment	(50,814)	(19,268)	(9,505)	653
Actuarial Asset Value (Market Value plus Adjustment)	**$ 1,236,161**			

	Retirement	Medical Supplement
Market Value at Beginning of Year	766,684	97,800
State Contributions	94,800	-
Member Contributions	213,032	42,598
Transfers In Payments	-	-
Distributions	-	-
Refund of Contributions	4,828	-
Allocated Investment Return	92,826	12,183
Market Value at End of Year	1,162,514	152,581
Allocation of Actuarial Asset Value	1,092,738	143,423

Summary of Benefits

This summary is not a Summary Plan Description or a plan document. You should not rely solely on this summary in making a determination of eligibility of benefits. Liabilities and plan provisions are based on the plan data and provisions as of July 1, 2019. This report covers only the hybrid cash balance/OPEB tier of KJRP.

Source

Sections 21.345-21.580 of the Kentucky Revised Statutes. {See 2013 Senate Bill 2}.

Eligibility for Membership

District, Circuit, Court of Appeals and Supreme Court Judges may, within 30 days after taking office, elect to make monthly contributions, and thereby become eligible for membership in the KJRP-HT plan. Individuals commencing participation before January 1, 2014 became participants in the KJRP.

Hypothetical Member Accounts

The Hypothetical Member Account for each member is credited monthly with 9% of "creditable compensation" (including a 5% employee credit and a 4% state credit), as well as interest as described below. The Hypothetical Member Account balance on June 30 each year is equal to the sum of all prior contribution credits and all prior interest credits.

Employee Contributions

All members contribute 5% of their "creditable compensation" to help fund their pension benefit. Additionally, all members contribute 1% of their "creditable compensation" towards the retiree medical benefit.

State Contributions

The state contributes actuarially determined amounts to finance benefits.

Creditable Compensation

Creditable compensation is based on actual compensation received during each year.

Interest on Hypothetical Member Accounts

The Hypothetical Member Account will be credited with 4% annually. The credit will be applied on each June 30 based upon the Hypothetical Member Account balance from the preceding June 30. No interest credit is provided for contribution credits made in the current year.

Additionally, if the geometric average net investment return for the prior five years (or years since the effective date of the hybrid plan, if less) exceed 4%, members who were active and participating in the prior year will have their hypothetical accounts credited with 75% of the amount of the return over 4%. This additional interest credit is applied in the same method as the interest credit in the prior paragraph.

Normal Retirement

Condition

Members who have attained age 65 and completed at least 5 years of service. However, for members who are at least age 57, members may retire if age plus service equals 87 years.

Benefit

A member will receive their accumulated Hypothetical Account as either a lump sum or as one of a variety of annuity options, calculated by dividing their accumulated Hypothetical Account by an actuarial factor.

Early Retirement

A member who retires prior to normal retirement date with at least 5 years of service is eligible for a full refund of their accumulated Hypothetical Account as a lump sum.

Termination Benefit

If a judge ceases to be a member of the plan prior to having 5 years of service, the amount of the member's accumulated contributions shall be returned to the member, including the member contributions and the interest applicable to this portion of the account. A member terminating with less than 5 years of service does not receive a refund of state contributions nor the interest applicable to this portion of the account.

Death Benefit

Upon the death of a member who at the time of death was receiving a retirement income, the named beneficiary shall receive survivor benefits based upon the form of retirement benefits being received.

If a member with at least 5 years of service dies before retirement, the named beneficiary is entitled to receive a full refund of the accumulated Hypothetical Member Account. If a member with less than 5 years of service dies before retirement, the named beneficiary is entitled to receive a refund of the member's accumulated contributions, including the member contributions and the interest applicable to this portion of the account.

Medical Insurance Premium Supplement

Retired members with at least 15 years of service, in addition to actual retirement benefits, will receive a monthly medical insurance benefit of ten dollars per year of service.

The current premium rates in effect are:

	Monthly Premium
Under age 65	
Family coverage	$ 1,767.60
Single coverage	729.34
Parent Plus coverage	1,037.08
Member and Spouse	1,589.10
Age 65 or older	
Medicare Advantage PPO	297.90

Premium rates are approved by the Board of Trustees.

Actuarial Assumptions

Interest

4% per annum – this rate was selected by the KJRP Investment Committee and Findley and the Fund Investment Manager believe this to be a reasonable long-term rate of return assumption.

Mortality

RP-2000 Mortality Tables with white collar adjustment with Pre and Post Commencement Rates with projected mortality improvements after year 2000 under Projection Scale AA (male and female scales); i.e., full generational mortality.

Terminations

Table T-3 from the Actuary's Pension Handbook. Specimen rates are as follows:

Age	Rate of Termination
20	.066
25	.053
30	.048
35	.045
40	.038
45	.032
50	.015
55	.003
60+	.000

Salary Increases

1% for the next five years, and 3.5% thereafter.

Disability

None

Retirement Age

Retirements were assumed to occur as follow:

Retirement Age *	Percentage of Active Members Retiring
60	16.67%
61	20.00%
62	25.00%
63	33.33%
64	50.00%
65	100.00%

* The plan also requires 5 years of service to be eligible to retire.

Prior to July 1, 2017, an extra 20% rate was assumed at the age a member reaches 27 years of service credit. No additional retirement rate is currently assumed.

Post-Retirement Death Benefit

Assumption is that 80% of the judges would be married at retirement and the husband would be 3 years older than the wife on average.

Pre-Retirement Death Benefit

Assumption is that 80% of the judges would be survived by a spouse upon death prior to retirement and that the husband would be 3 years older than the wife on average.

Form of Benefit

All participants are assumed to receive a lump sum.

Medical Insurance Premium Supplement

Medical premiums will increase for each year beyond the valuation date at the rate of 7.00% for the next 3 years, then 6.75% for the next year and following the Getzen model thereafter until reaching an ultimate rate of 3.94% in the year 2075.

An annual COLA of 1.5% is applied to the monthly insurance benefit, beginning at retirement.

100% of eligible retirees are assumed to elect the benefit. It was further assumed that coverage would be split among retirees as follows:

	% of Retirees	% With Spouse Coverage
Pre-Medicare Coverage		
Family	18%	N/A
Single	53%	N/A
Parent Plus	9%	N/A
Member and Spouse	20%	N/A
Medicare Coverage		
Medicare Advantage PPO	100%	75%

The assumed annual claims costs per subscriber as of July 1, 2019 are:

Pre-65 Cost	Post-65 Cost
$ 16,224	$ 6,256

Claims were adjusted downward using the aging factors in the Dale Yamamoto study released by the Society of Actuaries in June 2013 for attained ages 55 to 65.

Retirees are assumed to contribute the difference between the premium rate and the portion of the premium paid by the Plan. Premium rates and Plan contributions are described in the Summary of Benefits.

Non-members

Judges electing not to participate are assumed to continue as non-members in the future.

Actuarial Methods

Funding Method

Accrued liability and normal cost calculated based on Entry Age Normal funding method. The required contribution is calculated based on KRS 21.525, which requires contributions of normal cost plus interest on the unfunded liability plus 1% of the unfunded liability.

Asset Valuation Method

The determination of the actuarial value of assets is as follows:

1. Investment gains/losses are determined for each year by comparing the expected value of assets based on the assumed interest assumption to actual market value. Expected value of assets in each year shall be determined by projecting the market value of assets from the prior year using the assumed interest rate, plus contributions less benefit payments and plan expenses (adjusted with interest at the assumed rate). If the expected value of plan assets is different than the actual market value of plan assets then the difference is treated as a gain or loss for that year.
2. The amount of any gain or loss as determined above shall be recognized evenly over the subsequent five years.
3. The actuarial value of assets on any valuation date shall be equal to the market value of assets on that date adjusted as follows:
    - Reduced by 80% of a gain or increased by 80% of a loss from the preceding year
    - Reduced by 60% of a gain or increased by 60% of a loss from the 2nd preceding year
    - Reduced by 40% of a gain or increased by 40% of a loss from the 3rd preceding year
    - Reduced by 20% of a gain or increased by 20% of a loss from the 4th preceding year
4. In no event will the actuarial value of assets be less than 80% or greater than 120% of the current market value of assets

This asset valuation method is used in the determination of funding levels. The fair market value of assets is used for disclosure purposes under GASB Statement Nos. 67, 68, 74, and 75.

For purposes of GASB Statement Nos. 67, 68, 74, and 75, the market value of assets has been allocated between retirement related and medical premium supplement liabilities. This market value allocation is carried forward each year based on the following:

1. State and member contributions, are allocated pro-rata reflecting the ARC for that year.
2. Benefits paid reflect actual benefits paid relative to retirement related benefits separately from medical premium supplements.
3. Preliminary assets are determined by adjusting beginning value for allocated State and member contributions and actual benefits paid.
4. Net investment return is allocated pro-rata based on the preliminary assets developed in the previous step.
5. Allocated assets as of the valuation date equal the preliminary balance plus the allocated share of investment income.

Actuarial value of assets is developed initially in total and then allocated between retirement related benefits and medical premium supplement benefits on a pro-rata basis reflecting allocated share of market value as of the valuation date.

GASB Statement No. 67

Statement of Changes in Fiduciary Net Position

	June 30, 2019
Additions	
Contributions:	
Employer	$94,800
Employee	213,032
Total Contributions	307,832
Transfer In Payments	0
Investment Income	92,826
Other	0
Total Additions	400,658
Deductions	
Benefit Payments / Refunds	4,828
Administrative Expenses	0
Other	0
Total Deductions	4,828
Net Increase in Net Position	395,830
Net Position Restricted for Pensions	
Beginning of Year Market Value of Assets	766,684
End of Year Market Value of Assets	$1,162,514

Net Pension Liability

Determination of Net Pension Liability

	June 30, 2019
Total Pension Liability (4.00%)	1,252,325
Plan Fiduciary Net Position (Market Value of Assets)	(1,162,514)
Net Pension Liability	$89,811
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	92.83%

Sensitivity of Net Pension Liability to Changes in the Discount Rate

	1% Decrease (3.00%)	**Current Rate** (4.00%)	**1% Increase** (5.00%)
Net Pension Liability	$163,074	$89,811	$21,503

Schedule of Changes in the Net Pension Liability and Related Ratios (Dollar amounts in thousands)

	fiscal year ending June 30									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Total Pension Liability										
Service cost	$0.0	$166.6	$166.6	$227.7	$227.7					
Interest	0.0	10.1	17.1	29.4	39.7					
Changes of benefit terms	85.0	0.0	0.0	0.0	0.0					
Differences between expected and actual experience	0.0	0.0	76.8	0.0	225.7					
Changes of assumptions	0.0	0.0	(10.9)	0.0	0.0					
Benefit Payments / Refunds	0.0	0.0	(4.4)	0.0	(4.8)					
Net Change in Total Pension Liability	$85.0	$176.7	$245.2	$257.1	$488.3					
Total Pension Liability - beginning	0.0	85.0	261.7	506.9	764.0					
Total Pension Liability - ending (a)	$85.0	$261.7	$506.9	$764.0	$1,252.3					
Plan Fiduciary Net Position (Market Value of Assets)										
Contributions - employer	$42.3	$71.3	$69.3	$69.3	$94.8					
Contributions - employee	47.9	99.1	118.5	161.1	213.0					
Transfer In Payments	0.0	0.0	0.0	0.0	0.0					
Net investment income	0.3	4.1	35.5	52.4	92.8					
Benefit Payments / Refunds	0.0	0.0	(4.4)	0.0	(4.8)					
Administrative expenses	0.0	0.0	0.0	0.0	0.0					
Other	0.0	0.0	0.0	0.0	0.0					
Net Change in Plan Fiduciary Net Position	$90.5	$174.5	$218.9	$282.8	$395.8					
Plan Fiduciary Net Position - beginning	0.0	90.5	265.0	483.9	766.7					
Plan Fiduciary Net Position - ending (b)	$90.5	$265.0	$483.9	$766.7	$1,162.5					
Net Pension Liability - ending (a) - (b)	($5.5)	($3.3)	$23.0	($2.7)	$89.8					
Plan Fiduciary Net Position as a % of the Total Pension Liability	106.5%	101.3%	95.5%	100.4%	92.8%					
Covered-employee payroll	$1,936	$1,936	$2,697	$2,724	$5,205					
Net Pension Liability as a % of covered-employee payroll	-0.3%	-0.2%	0.9%	-0.1%	1.7%					
Discount Rate	4.00%	4.00%	4.00%	4.00%	4.00%					

Schedule of Contributions

(Dollar amounts in thousands)

	fiscal year ending June 30									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Actuarially determined contribution [1]	$42.3	$71.3	$69.3	$69.3	$98.5					
Contributions in relation to the actuarially determined contribution	42.3	71.3	69.3	69.3	94.8					
Contribution deficiency (excess)	$0.0	$0.0	$0.0	$0.0	$3.7					
Covered-employee payroll	$1,936	$1,936	$2,697	$2,724	$5,205					
Contributions as a percentage of covered-employee payroll	2.2%	3.7%	2.6%	2.5%	1.8%					

[1] Starting with the Fiscal Year Ending June 30, 2019, due to the lag period between the calculated date and the actual contributions, the Actuarially Determined Contribution has been adjusted with interest at the funding interest rate assumption of 4.00%.

Additional Requirements Under GASB Statement No. 67

GASB Statement No. 67 also requires a Statement of Fiduciary Net Position (which includes a breakdown of current assets by type) and additional investment information, including the annual money-weighted rate of return. In order to satisfy GASB Statement No. 67, these required pieces will need to be provided by the Kentucky Judicial Form Retirement System. Findley is prepared to assist the system as needed.

GASB Statement No. 68

Schedule of Changes in NPL, Deferrals, & Pension Expense

	Increase (Decrease) Total Pension Liability (a)	Increase (Decrease) Plan Net Position (Assets) (b)	Increase (Decrease) Net Pension Liability (a) - (b)	Deferred Pension Outflows of Resources	Deferred Pension Inflows of Resources	Pension Expense
Balances--at 06/30/18	$ 764,022	$ 766,684	$ (2,662)	$ 166,184	$ 44,906	
Changes for the Year:						
Service cost	227,697		227,697			227,697
Interest expense	39,669		39,669			39,669
Benefit changes	-		-			-
Experience losses (gains)	225,765		225,765	209,841	-	21,277
Changes of assumptions	-		-	-	-	(761)
Contributions--State		94,800	(94,800)			
Contributions--Members		213,032	(213,032)			(213,032)
Transfer In Payments		-	-			
Net investment income		92,826	(92,826)			
Expected return on plan investments						(36,677)
Current expense of asset gain/loss						(20,276)
Non expensed asset gain/loss				-	44,919	
Refunds of contributions	(4,828)	(4,828)	-			
Benefits paid	-	-	-			
Plan administrative expenses						
Recognition of Prior Post-measurement Contribution				(98,539)		
Post-measurement Contribution				102,481		
Other changes						
Amortization of or change in beginning balances				(6,244)	(10,697)	
Net Changes	488,303	395,830	92,473	207,540	34,223	17,898
Balances--at 06/30/19	$ 1,252,325	$ 1,162,514	$ 89,811	$ 373,724	$ 79,129	$ 17,898

Pension Expense & Deferred Outflows/Inflows of Resources

For the year ended June 30, 2020, the recognized pension expense will be $17,898. At June 30, 2020, the Kentucky Judicial Form Retirement System reported deferred outflows of resources and deferred inflows of resources in relation to pensions from the following sources:

	As of June 30, 2019			As of June 30, 2020		
	Deferred Outflows of Resources	Deferred Inflows of Resources	Recognized in Pension Expense	Deferred Outflows of Resources	Deferred Inflows of Resources	Remaining Amort. Period
Experience losses (gains)						
- 6/30/2017	66,170	-	5,354	60,816	-	11.360 years
- 6/30/2019	225,765	-	15,924	209,841	-	13.178 years
subtotal	291,935	-	21,277	270,658	-	
Change of assumptions						
- 6/30/2017	-	9,403	(761)	-	8,642	11.360 years
subtotal	-	9,403	(761)	-	8,642	
Net difference between projected and actual earnings on investments						
- 6/30/2015	305	-	305	-	-	0.000 years
- 6/30/2016	1,171	-	585	585	-	1.000 year
- 6/30/2017	-	12,719	(4,240)	-	8,480	2.000 years
- 6/30/2018	-	(22,784)	(5,696)	-	17,088	3.000 years
- 6/30/2019	-	56,149	(11,230)	-	44,919	4.000 years
subtotal	1,475	46,084	(20,276)	585	70,487	
Total	$ 293,410	$ 55,486	$ 241	$ 271,243	$ 79,129	

Actual investment earnings above (or below) projected earnings are amortized over 5 years. Plan experience and changes of assumptions are amortized over the average remaining service period of actives and inactives (0 years of future service is assumed for inactives for this calculation).

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

Year ended June 30:	
2021	697
2022	111
2023	4,351
2024	10,047
2025	21,277
Thereafter	159,434

GASB Statement No. 74

Statement of Changes in Fiduciary Net Position

	June 30, 2019
Additions	
Contributions	
Employer	0
Employee	42,598
Total Contributions	42,598
Transfer In Payments	0
Investment Income	12,183
Other	0
Total Additions	54,781
Deductions	
Benefit Payments / Refunds	0
Administrative Expenses	0
Other	0
Total Deductions	0
Net Increase in Net Position	54,781
Net Position Restricted for OPEB	
Beginning of Year Market Value of Assets	97,800
End of Year Market Value of Assets	$152,581

Net OPEB Liability

Determination of Net OPEB Liability

Total OPEB Liability	113,230
Plan Fiduciary Net Position (Market Value of Assets)	(152,581)
Net OPEB Liability	($39,351)
Plan Fiduciary Net Position as a Percentage of Total OPEB Liability	134.75%

Sensitivity of Net OPEB Liability to Changes in the Healthcare Cost Trend Rate

	1% Decrease on Trend Assumption	**Current** on Trend Assumption	**1% Increase** on Trend Assumption
Net OPEB Liability	($40,358)	($39,351)	($38,079)

Sensitivity of Net OPEB Liability to Changes in the Discount Rate

	1% Decrease 3.00%	**Current Rate** 4.00%	**1% Increase** 5.00%
Net OPEB Liability	($16,294)	($39,351)	($57,958)

Schedule of Changes in the Net OPEB Liability and Related Ratios

(Dollar amounts in thousands)

	fiscal year ending June 30									
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Total OPEB Liability										
Service cost	$15.4	$21.3	$21.3							
Interest	1.6	2.7	3.7							
Changes of benefit terms	0.0	0.0	0.0							
Differences between expected and actual experience	4.8	0.0	15.4							
Changes of assumptions	0.0	0.0	1.7							
Benefit Payments / Refunds	0.0	0.0	0.0							
Net Change in Total OPEB Liability	$21.8	$24.0	$42.1							
Total OPEB Liability - beginning	25.3	47.1	71.1							
Total OPEB Liability - ending (a)	$47.1	$71.1	$113.2							
Plan Fiduciary Net Position (Assets)										
Contributions - employer	$0.0	$0.0	$0.0							
Contributions - employee	23.7	32.2	42.6							
Transfer In Payments	0.0	0.0	0.0							
Net investment income	4.3	6.7	12.2							
Benefit Payments / Refunds	0.0	0.0	0.0							
Administrative expenses	0.0	0.0	0.0							
Other	0.0	0.0	0.0							
Net Change in Plan Fiduciary Net Position	$28.0	$38.9	$54.8							
Plan Fiduciary Net Position - beginning	30.9	58.9	97.8							
Plan Fiduciary Net Position - ending (b)	$58.9	$97.8	$152.6							
Net OPEB Liability - ending (a) - (b)	($11.8)	($26.7)	($39.4)							
Plan Fiduciary Net Position as a % of the Total OPEB Liability	125.1%	137.6%	134.8%							
Covered-employee payroll	$2,697	$2,724	$5,205							
Net OPEB Liability as a % of covered-employee payroll	(0.4%)	(1.0%)	(0.8%)							
Discount Rate	4.00%	4.00%	4.00%							

Schedule of Contributions

	fiscal year ending June 30									
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Actuarially determined contribution [1]	$0.0	$0.0	$0.0							
Contributions in relation to the actuarially determined contribution	0.0	0.0	0.0							
Contribution deficiency (excess)	$0.0	$0.0	$0.0							
Covered-employee payroll	$2,697	$2,724	$5,205							
Contributions as a percentage of covered-employee payroll	0.0%	0.0%	0.0%							

[1] Starting with the Fiscal Year Ending June 30, 2019, due to the lag period between the calculated date and the actual contributions, the Actuarially Determined Contribution has been adjusted with interest at the funding interest rate assumption of 4.00%.

Additional Requirements Under GASB Statement No. 74

GASB Statement No. 74 also requires a Statement of Fiduciary Net Position (which includes a breakdown of current assets by type) and additional investment information, including the annual money-weighted rate of return. In order to satisfy GASB Statement No. 74, these required pieces will need to be provided by the Kentucky Judicial Form Retirement System. Findley is prepared to assist the system as needed.

GASB Statement No. 75

Schedule of Changes in NOL, Deferrals, & OPEB Expense

	Increase (Decrease)					
	Total OPEB Liability (a)	Plan Net Position (Assets) (b)	Net OPEB Liability (a) - (b)	Deferred OPEB Outflows of Resources	Deferred OPEB Inflows of Resources	OPEB Expense
Balances--at 06/30/18	$ 71,139	$ 97,800	$ (26,661)	$ 4,145	$ 4,443	
Changes for the Year:						
Service cost	21,292		21,292			21,292
Interest expense	3,697		3,697			3,697
Benefit changes	-		-			-
Experience losses (gains)	15,449		15,449	14,359	-	1,425
Changes of assumptions	1,653		1,653	1,536	-	117
Contributions--State		-	-			
Contributions--Members		42,598	(42,598)			(42,598)
Transfer In Payments		-	-			
Net investment income		12,183	(12,183)			
Expected return on plan investments						(4,814)
Current expense of asset gain/loss						(2,714)
Non expensed asset gain/loss				-	5,895	
Refunds of contributions	-	-	-			
Benefits paid	-	-	-			
Plan administrative expenses						
Recognition of Prior Post-measurement Contribution				-		
Post-measurement Contribution				-		
Other changes						
Amortization of or change in beginning balances				(335)	(1,240)	
Net Changes	42,091	54,781	(12,690)	15,560	4,655	(23,595)
Balances--at 06/30/19	$ 113,230	$ 152,581	$ (39,351)	$ 19,705	$ 9,098	$ (23,595)

Schedule of Changes in Deferred Outflows/Inflows

For the year ended June 30, 2020, the recognized OPEB expense will be ($23,595). At June 30, 2020, the Kentucky Judicial Form Retirement System reported deferred outflows of resources and deferred inflows of resources in relation to OPEBs from the following sources:

	As of June 30, 2019			As of June 30, 2020		
	Deferred Outflows of Resources	Deferred Inflows of Resources	Recognized in OPEB Expense	Deferred Outflows of Resources	Deferred Inflows of Resources	Remaining Amort. Period
Experience losses (gains)						
- 6/30/2017	4,145	-	335	3,810	-	11.360 years
- 6/30/2019	15,449	-	1,090	14,359	-	13.178 years
subtotal	19,594	-	1,425	18,169	-	
Change of assumptions						
- 6/30/2019	1,653	-	117	1,536	-	13.178 years
subtotal	1,653	-	117	1,536	-	
Net difference between projected and actual earnings on investments						
- 6/30/2017	-	1,537	(513)	-	1,024	2.000 years
- 6/30/2018	-	(2,906)	(727)	-	2,179	3.000 years
- 6/30/2019	-	7,369	(1,474)	-	5,895	4.000 years
subtotal	-	6,001	(2,714)	-	9,098	
Total	$ 21,247	$ 6,001	$ (1,172)	$ 19,705	$ 9,098	

Actual investment earnings above (or below) projected earnings are amortized over 5 years. Plan experience and changes of assumptions are amortized over the average remaining service period of actives and inactives (0 years of future service is assumed for inactives for this calculation).

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

Year ended June 30:	
2021	(1,172)
2022	(1,170)
2023	(657)
2024	69
2025	1,542
Thereafter	11,995

In addition, Governmental Accounting Standards Board Statement 71 (“GASB 71”) requires contributions between the measurement date (July 1, 2019) and the disclosure date (June 30, 2020) for GASB 75 be reported as a deferred outflow of resources.

Risk Assessment

Risk Factor	Initial Risk Assessment Language
Investment	Due to the plan's substantial equity exposure, investment returns will likely be much more volatile than the measurements of plan liabilities. Therefore, there is a risk that the funded status of the plan, as well as required plan contributions, could be volatile.
Assumed Rate of Return	Due to the plan's estimated duration of 14 to 18, a 1% decrease in the assumed rate of investment return would increase the measurement of the liability by 14% to 18%.
Longevity	Since nearly all benefits are expected to be paid as lump sums, there is little exposure to longevity risk. If a higher percentage of participants elect to receive an annuity than expected, the exposure to this risk would be higher.
Lump sums	Since lump sum benefits are equal to the cash balance account value, lump sum payments have a compararable effect on both assets and liabilities.
Inflation	Inflation is a component of future interest rates and investment returns over a long period. As a result, changes to inflation can affect funded percentages.
Other Factors	Due to recent and ongoing attempts to pass pension reform legislation at a state level, the plan could be modified in the future. Future legislation may affect benefit levels or future contribution levels and could result in increases or decreases in the plan liabilities or funding status.

Findley can perform more detailed assessments of these risks as desired by the plan sponsor to provide a better understanding of the risks.

GASB Notes

Notes to GASB 67, 68, 74, and 75 Disclosures

1. The tables in this report account for liabilities and assets only for the hybrid cash balance/OPEB tier under the plan; liabilities and assets pertaining to the traditional defined benefit/OPEB tier are presented in a separate report.
2. Actuarial accrued liability is based on the entry age normal funding method.
3. OPEB liabilities and allocated assets have been excluded from GASB 67 and 68 disclosures and established in GASB 74 and 75 disclosures.
4. Market value of assets were split between pension and OPEB obligations based on the basis of the employee and employer contributions and distributions allocated to each part and a prorata allocation of investment return. Actuarial value of assets is then allocated based on the market value of retirement and OPEB assets.
5. Actuarial value of assets uses a 5-year asset smoothing method.
6. Information used in preparing these exhibits has been extracted from past valuation reports.
7. Covered payroll reflects payroll for all current plan members.
8. ADC based on full actuarial report (odd numbered years) immediately prior to each biennium, with interest adjustment as appropriate.
9. Interest on OPEB Obligation is based on assumed valuation interest assumption for the prior year, 4% beginning with 2015 valuation.
10. The valuation date, disclosure date, and measurement date all fall on the same date for purposes of GASB 67.
11. It is assumed the measurement date for GASB 68 will be 12 months before the disclosure date. For the year ending June 30, 2020, the measurement date is July 1, 2019 (the valuation date).
12. The valuation date, disclosure date, and measurement date all fall on the same date for purposes of GASB 74.
13. It is assumed the measurement date for GASB 75 will be 12 months before the disclosure date. For the year ending June 30, 2020, the measurement date is July 1, 2019 (the valuation date).

Summary of Participant Data

Distribution of Active Participants with Average Compensation

Attained Age	Years of Credited Service: Under 1	1 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	Over 39	Total
Under 25											
25 – 29											
30 – 34		1									1
		$118,372									$118,372
35 – 39	6	3									9
	$120,464	$130,926									$123,952
40 – 44	4	4									8
	$130,926	$127,788									$129,357
45 – 49	3	5									8
	$122,557	$125,904									$124,649
50 – 54		4									4
		$130,926									$130,926
55 – 59	1	4									5
	$130,926	$130,926									$130,926
60 – 64	1	1									2
	$118,372	$130,926									$124,649
65 – 69		2									2
		$124,649									$124,649
Over 69		2									2
		$130,926									$130,926
Total	15	26									41
	$124,231	$128,512									$126,945

Distribution of Inactive Participants with Average Lump Sum Benefit

Attained Age	Retired and Beneficiaries	Terminated	Total
Under 50		2 $15,449	2 $15,449
50 – 54			
55 – 59			
60 – 64			
65 – 69			
70 – 74			
75 – 79			
80 – 84			
85 – 89			
90 – 94			
Over 94			
Total		2 $15,449	2 $15,449

Glossary of Terms

Amortization – The process of systematically recognizing prior gains and losses as a component of the Pension Expense.

Fiduciary Net Position – The market value of assets as of a specified measurement date.

Funded Status – The difference between the Fiduciary Net Position and the Total Pension Liability as of the measurement date.

Gain/Loss – A change in the value of either the Total Pension Liability or the plan assets resulting from experience different from that assumed or from a change in an actuarial assumption.

Interest Cost – The amount recognized in a period determined as the increase in the Total Pension Liability due to the passage of time.

Pension Expense – The sum of Service Cost, Interest Cost, Expected Return on Assets and amortizations of Actuarial Gain/Loss over the average remaining service period (or the life expectancy) of plan participants expected to receive plan benefits plus a 5-year amortization of Asset Gain/Loss.

Service Cost – is the actuarial present value of benefits attributed to services rendered by employees during the measurement.

Total Pension Liability – The Entry Age Normal Accrued Liability.

Sensitivity Analysis

In accordance with HB 238, we are providing the following sensitivity analysis of the valuation results to changes in certain plan assumptions. Specifically we have looked at the effect of a one percent increase and decrease to the discount rate, salary scale, and healthcare cost trend rate assumptions.

Discount Rate

	1% Decrease (3%)	Current Rate (4%)	1% Increase (5%)
Pension Plan			
Accrued Liability	$1,325,588	$1,252,325	$1,184,016
Actuarial Value of Assets	1,092,738	1,092,738	1,092,738
Unfunded Past Service Liability	232,850	159,587	91,278
Funded Ratio	82.43%	87.26%	92.29%
Contribution as Percent of Salary	3.93%	3.22%	2.55%
OPEB Plan			
Accrued Liability	$136,287	$113,230	$94,623
Actuarial Value of Assets	143,423	143,423	143,423
Unfunded Past Service Liability	(7,136)	(30,193)	(48,800)
Funded Ratio	105.24%	126.67%	151.57%
Contribution as Percent of Salary	0.18%	0.00%	0.00%
Total [1]			
Accrued Liability	$1,461,875	$1,365,555	$1,278,639
Actuarial Value of Assets	1,236,161	1,236,161	1,236,161
Unfunded Past Service Liability	225,714	129,394	42,478
Funded Ratio	84.56%	90.52%	96.68%
Contribution as Percent of Salary	4.12%	3.22%	2.55%

[1]Our current understanding of IRS regulations is that they prohibit the use of surplus OPEB assets for retirement benefits. We recommend continuing discussions with plan council on possible options. Please refer to page 8 of this report for the asset and liabilities split between the Pension and OPEB plans.

Salary Scale

	1% Decrease 0% for five years, 2.5% thereafter	Current Rate 1% for five years, 3.5% thereafter	1% Increase 2% for five years, 4.5% thereafter
Pension Plan			
Accrued Liability	$1,269,643	$1,252,325	$1,234,664
Actuarial Value of Assets	1,092,738	1,092,738	1,092,738
Unfunded Past Service Liability	176,905	159,587	141,926
Funded Ratio	86.07%	87.26%	88.50%
Contribution as Percent of Salary	3.19%	3.22%	3.25%
OPEB Plan			
Accrued Liability	$121,567	$113,230	$105,251
Actuarial Value of Assets	143,423	143,423	143,423
Unfunded Past Service Liability	(21,856)	(30,193)	(38,172)
Funded Ratio	117.98%	126.67%	136.27%
Contribution as Percent of Salary	0.00%	0.00%	0.00%
Total [1]			
Accrued Liability	$1,391,210	$1,365,555	$1,339,915
Actuarial Value of Assets	1,236,161	1,236,161	1,236,161
Unfunded Past Service Liability	155,049	129,394	103,754
Funded Ratio	88.86%	90.52%	92.26%
Contribution as Percent of Salary	3.19%	3.22%	3.25%

[1]Our current understanding of IRS regulations is that they prohibit the use of surplus OPEB assets for retirement benefits. We recommend continuing discussions with plan council on possible options. Please refer to page 8 of this report for the asset and liabilities split between the Pension and OPEB plans.

Healthcare Cost Trend Rate

	1% Decrease in Trend Assumption	Current Rate in Trend Assumption	1% Increase in Trend Assumption
Pension Plan			
Accrued Liability	$1,252,325	$1,252,325	$1,252,325
Actuarial Value of Assets	1,092,738	1,092,738	1,092,738
Unfunded Past Service Liability	159,587	159,587	159,587
Funded Ratio	87.26%	87.26%	87.26%
Contribution as Percent of Salary	3.22%	3.22%	3.22%
OPEB Plan			
Accrued Liability	$112,223	$113,230	$114,502
Actuarial Value of Assets	143,423	143,423	143,423
Unfunded Past Service Liability	(31,200)	(30,193)	(28,921)
Funded Ratio	127.80%	126.67%	125.26%
Contribution as Percent of Salary	0.00%	0.00%	0.00%
Total [1]			
Accrued Liability	$1,364,548	$1,365,555	$1,366,827
Actuarial Value of Assets	1,236,161	1,236,161	1,236,161
Unfunded Past Service Liability	128,387	129,394	130,666
Funded Ratio	90.59%	90.52%	90.44%
Contribution as Percent of Salary	3.22%	3.22%	3.22%

[1]Our current understanding of IRS regulations is that they prohibit the use of surplus OPEB assets for retirement benefits. We recommend continuing discussions with plan council on possible options. Please refer to page 8 of this report for the asset and liabilities split between the Pension and OPEB plans.

Projections

Pension Plan

In accordance with HB 238, we are also providing the following 20 year projection under the current plan assumptions and, if applicable, before any assumptions changes effective at the valuation date. For a list of assumptions changes effective as of July 1, 2019, please see page 6.

	Contribution Requirement ($M)*		Contribution (%)		Accrued Liability ($M)		Unfunded Liability ($M)		Funded Ratio (Assets/Liabilities)	
Year Beginning July 1	Prior Assumptions	Current	Prior Assumptions	Current	Prior Assumptions	Current	Prior Assumptions	Current	Prior Assumptions	Current
2019	n/a	$ 0.10	n/a	1.9%	n/a	$ 1.25	n/a	$ 0.16	n/a	87%
2020	n/a	$ 0.17	n/a	3.6%	n/a	$ 1.46	n/a	$ 0.20	n/a	86%
2021	n/a	$ 0.18	n/a	4.0%	n/a	$ 1.82	n/a	$ 0.16	n/a	91%
2022	n/a	$ 0.16	n/a	3.7%	n/a	$ 2.15	n/a	$ 0.12	n/a	94%
2023	n/a	$ 0.17	n/a	4.1%	n/a	$ 2.49	n/a	$ 0.09	n/a	96%
2024	n/a	$ 0.14	n/a	3.6%	n/a	$ 2.73	n/a	$ 0.06	n/a	98%
2025	n/a	$ 0.15	n/a	3.9%	n/a	$ 3.00	n/a	$ 0.05	n/a	98%
2026	n/a	$ 0.14	n/a	3.7%	n/a	$ 3.23	n/a	$ 0.03	n/a	99%
2027	n/a	$ 0.14	n/a	3.8%	n/a	$ 3.46	n/a	$ 0.02	n/a	99%
2028	n/a	$ 0.13	n/a	3.6%	n/a	$ 3.75	n/a	$ 0.00	n/a	100%
2029	n/a	$ 0.13	n/a	3.6%	n/a	$ 4.04	n/a	$ (0.01)	n/a	100%
2030	n/a	$ 0.12	n/a	3.3%	n/a	$ 4.30	n/a	$ (0.02)	n/a	100%
2031	n/a	$ 0.13	n/a	3.7%	n/a	$ 4.50	n/a	$ (0.03)	n/a	101%
2032	n/a	$ 0.12	n/a	3.5%	n/a	$ 4.64	n/a	$ (0.05)	n/a	101%
2033	n/a	$ 0.12	n/a	3.6%	n/a	$ 4.82	n/a	$ (0.06)	n/a	101%
2034	n/a	$ 0.11	n/a	3.4%	n/a	$ 4.98	n/a	$ (0.08)	n/a	102%
2035	n/a	$ 0.12	n/a	3.9%	n/a	$ 4.97	n/a	$ (0.09)	n/a	102%
2036	n/a	$ 0.10	n/a	3.4%	n/a	$ 4.98	n/a	$ (0.12)	n/a	102%
2037	n/a	$ 0.10	n/a	3.7%	n/a	$ 4.88	n/a	$ (0.14)	n/a	103%
2038	n/a	$ 0.09	n/a	3.5%	n/a	$ 4.83	n/a	$ (0.16)	n/a	103%
2039	n/a	$ 0.09	n/a	3.8%	n/a	$ 4.65	n/a	$ (0.18)	n/a	104%
Sum of Contributions	n/a	$ 2.71								

* The Contribution Requirement above is the full projected contribution requirement, adjusted with interest. The projection results are based on the assumption that 100.0% of the requirement is contributed, the average percentage of the contribution requirement that was made over the past 5 years.

OPEB Plan

	Contribution Requirement ($M)*		Contribution (%)		Accrued Liability ($M)		Unfunded Liability ($M)		Funded Ratio (Assets/Liabilities)	
Year Beginning July 1	Prior Assumptions	Current	Prior Assumptions	Current	Prior Assumptions	Current	Prior Assumptions	Current	Prior Assumptions	Current
2019	$ 0.00	$ 0.00	0.0%	0.0%	$ 0.11	$ 0.11	$ (0.03)	$ (0.03)	127%	127%
2020	$ 0.00	$ 0.00	0.0%	0.0%	$ 0.16	$ 0.16	$ (0.05)	$ (0.04)	131%	125%
2021	$ 0.00	$ 0.00	0.0%	0.0%	$ 0.21	$ 0.21	$ (0.06)	$ (0.06)	129%	129%
2022	$ 0.00	$ 0.00	0.0%	0.0%	$ 0.26	$ 0.26	$ (0.08)	$ (0.07)	131%	127%
2023	$ 0.00	$ 0.00	0.0%	0.0%	$ 0.31	$ 0.32	$ (0.09)	$ (0.09)	129%	128%
2024	$ 0.00	$ 0.00	0.0%	0.0%	$ 0.37	$ 0.37	$ (0.11)	$ (0.10)	130%	127%
2025	$ 0.00	$ 0.00	0.0%	0.0%	$ 0.42	$ 0.43	$ (0.12)	$ (0.12)	129%	128%
2026	$ 0.00	$ 0.00	0.0%	0.0%	$ 0.49	$ 0.49	$ (0.14)	$ (0.13)	129%	127%
2027	$ 0.00	$ 0.00	0.0%	0.0%	$ 0.55	$ 0.56	$ (0.16)	$ (0.15)	129%	127%
2028	$ 0.00	$ 0.00	0.0%	0.0%	$ 0.62	$ 0.63	$ (0.17)	$ (0.16)	127%	125%
2029	$ 0.00	$ 0.00	0.0%	0.0%	$ 0.69	$ 0.70	$ (0.19)	$ (0.18)	128%	126%
2030	$ 0.00	$ 0.00	0.0%	0.0%	$ 0.77	$ 0.78	$ (0.21)	$ (0.20)	127%	126%
2031	$ 0.00	$ 0.00	0.0%	0.0%	$ 0.83	$ 0.84	$ (0.24)	$ (0.23)	129%	127%
2032	$ 0.00	$ 0.00	0.0%	0.0%	$ 0.89	$ 0.90	$ (0.27)	$ (0.25)	130%	128%
2033	$ 0.00	$ 0.00	0.0%	0.0%	$ 0.94	$ 0.96	$ (0.29)	$ (0.27)	131%	128%
2034	$ 0.00	$ 0.00	0.0%	0.0%	$ 1.00	$ 1.02	$ (0.31)	$ (0.29)	131%	128%
2035	$ 0.00	$ 0.00	0.0%	0.0%	$ 1.05	$ 1.07	$ (0.33)	$ (0.32)	131%	130%
2036	$ 0.00	$ 0.00	0.0%	0.0%	$ 1.09	$ 1.11	$ (0.36)	$ (0.34)	133%	131%
2037	$ 0.00	$ 0.00	0.0%	0.0%	$ 1.13	$ 1.15	$ (0.38)	$ (0.36)	134%	131%
2038	$ 0.00	$ 0.00	0.0%	0.0%	$ 1.17	$ 1.19	$ (0.41)	$ (0.38)	135%	132%
2039	$ 0.00	$ 0.00	0.0%	0.0%	$ 1.20	$ 1.22	$ (0.43)	$ (0.41)	136%	134%
Sum of Contributions	$ 0.00	$ 0.00								

* The Contribution Requirement above is the full projected contribution requirement, adjusted with interest. The projection results are based on the assumption that 100.0% of the requirement is contributed, the average percentage of the contribution requirement that was made over the past 5 years.