FINDLEY

# Kentucky Legislators Retirement Plan - Hybrid Tier

## Actuarial Valuation and Report

## as of July 1, 2019

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# Introduction

An actuarial valuation of the Kentucky Legislators Retirement Plan - Hybrid Tier ("KLRP-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 KLRP-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 §6.500 to §6.577. KRS §21.402 and §21.525, as well as other statutes found in KRS Chapter 21 cited hereafter, are made applicable to KLRP-HT by KRS §6.525.

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 KLRP-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 Legislators Retirement Plan - Hybrid Tier ("KLRP-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 Legislators Retirement Plan ("KLRP") 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 KLRP.**

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 | $ 91,025 | 4.98% |
| Recommended Contribution | $ 91,025 | 4.98% |

The Annual Required Contribution is determined based on assumptions and methods set forth in the statute and established by the KLRP 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) | $ 94,666 | $ 98,453 |
| Recommended Contribution (with interest) | $ 94,666 | $ 98,453 |

## Summary of Selected Plan Information [1]

| | Plan Year Beginning | | |
|---|---|---|---|
| | 7/1/2019 | 7/1/2017 | 7/1/2015 |
| Number of Participants | | | |
| Active | 45 | 23 | 11 |
| Terminated Vested | 3 | 0 | 0 |
| Retired | 0 | 0 | 0 |
| Beneficiaries | 0 | 0 | 0 |
| Total | 48 | 23 | 11 |
| Average Age (for actives) | 51.8 | 52.5 | 50.8 |
| Average Service (for actives) | 1.8 | 1.4 | 0.6 |
| Annual Covered Payroll | $ 1,828,413 | $ 897,712 | $ 419,012 |
| Average Salary | 40,631 | 39,031 | 38,092 |
| Accrued Liability | 411,195 | 147,911 | 29,753 |
| Actuarial Asset Value | 321,196 | 141,146 | 24,788 |
| Market Asset Value | 341,231 | 145,643 | 24,463 |
| Unfunded Accrued Liability (UAL) | 89,999 | 6,765 | 4,965 |
| **Annual Funding Level [2]** | | | |
| State Portion of Normal Cost | $ 86,525 | $ 43,017 | $ 20,521 |
| Expected Employee Contributions | 109,705 | 53,863 | 25,141 |
| Total Normal Cost | 196,230 | 96,880 | 45,662 |
| Annual Required Contribution | 91,025 | 43,355 | 20,918 |
| Percent of Covered Payroll | 4.98% | 4.83% | 4.99% |

[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 7 of this report for the asset and liabilities split between the Pension and OPEB plans.

[1]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 KLRP 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 KLRP-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 KLRP-HT and may eventually result in KLRP-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.

## 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 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 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 KLRP 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.<br>Senior Consultant | October 1, 2019<br>Date |

David L. Shaub

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

Findley
5301 Virginia Way, Suite 400
Brentwood, TN 37027
(615) 665-1640

# Annual Required Contribution

## Determination of Annual Required Contribution as of July 1, 2019

| 1. Accrued Liability | Pension | OPEB | Total |
|---|---|---|---|
| Actives | | | |
| Actives | 309,206 | - | 309,206 |
| Medical Premium Supplement | - | 93,026 | 93,026 |
| Total Active Liability | 309,206 | 93,026 | 402,232 |
| Inactives | | | |
| Retired | - | - | - |
| Deferred Vested | 8,963 | - | 8,963 |
| Beneficiaries | - | - | - |
| Medical Premium Supplement | - | - | - |
| Total Inactive Liability | 8,963 | - | 8,963 |
| Total Accrued Liability | 318,169 | 93,026 | 411,195 |
| 2. Valuation Assets | 259,109 | 62,087 | 321,196 |
| 3. Unfunded Past Service Liability | 59,060 | 30,939 | 89,999 |
| 4. Gross Normal Cost | | | |
| a) Retirement Related | 155,541 | - | 155,541 |
| b) Medical Premium Supplement Related | - | 40,689 | 40,689 |
| c) Total Normal Cost | 155,541 | 40,689 | 196,230 |
| 5. Annual Covered Payroll | 1,828,413 | 1,828,413 | 1,828,413 |
| 6. Estimated Employee Contributions for the Next 12 Months | | | |
| a) Retirement Related | 91,421 | - | 91,421 |
| b) Medical Premium Supplement Related | - | 18,284 | 18,284 |
| c) Total Estimated Employee Contributions | 91,421 | 18,284 | 109,705 |
| 7. Net Normal Cost | | | |
| a) Retirement Related (4a - 6a) | 64,120 | - | 64,120 |
| b) Medical Premium Supplement Related (4b - 6b) | - | 22,405 | 22,405 |
| c) Total Net Normal Cost (4c - 6c) | 64,120 | 22,405 | 86,525 |
| d) Net Normal Cost as Percent of Pay (7c / 5) | 3.51% | 1.23% | 4.73% |
| 8. Interest plus 1% of Unfunded Past Service Liability | 2,953 | 1,547 | n/a |
| 9. Total Annual Required Contribution (max (0, 7c + 8)) | 67,073 | 23,952 | 91,025 |
| 10 . Payment as a Percentage of Covered Payoll (9 / 5) | 3.67% | 1.31% | 4.98% |

# 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 | $ 239,190 | $ 145,643 | $ 74,575 | $ 24,463 |
| Interest to End of Year | 9,568 | 5,826 | 2,983 | 979 |
| Employer Contributions | | | | |
| Amount | - | 21,000 | 21,000 | 19,682 |
| Interest to End of Year | - | 420 | 420 | 394 |
| Member Contributions | | | | |
| Amount | 76,675 | 56,776 | 42,202 | 29,524 |
| Interest to End of Year | 1,534 | 1,136 | 844 | 590 |
| Transfers from KERS | | | | |
| Amount | - | - | - | - |
| Interest to End of Year | - | - | - | - |
| Benefits Paid | | | | |
| Amount | - | 1,888 | 2,938 | - |
| Interest to End of Year | - | 38 | 59 | - |
| Expected End of Year Assets | 326,967 | 228,875 | 139,027 | 75,632 |
| Market Value at End of Year | 341,231 | 239,190 | 145,643 | 74,575 |
| Investment Gain (Loss) | 14,264 | 10,315 | 6,616 | (1,057) |
| Adjustment Percentage | 80% | 60% | 40% | 20% |
| Actuarial Asset Value Adjustment | (11,411) | (6,189) | (2,646) | 211 |
| Actuarial Asset Value (Market Value plus Adjustment) | $ 321,196 | | | |

| | Retirement | Medical Supplement |
|---|---|---|
| Market Value at Beginning of Year | 190,911 | 48,279 |
| State Contributions | - | - |
| Member Contributions | 63,897 | 12,778 |
| Transfers In Payments | - | - |
| Distributions | - | - |
| Refund of Contributions | - | - |
| Allocated Investment Return | 20,463 | 4,903 |
| Market Value at End of Year | 275,271 | 65,960 |
| Allocation of Actuarial Asset Value | 259,109 | 62,087 |

# 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 KLRP.*

## Source

Sections 6.500-6.577 of the Kentucky Revised Statutes, and those statutes in KRS Chapter 21, specifically adopted by KRS 6.525. {See 2013 Senate Bill 2}.

## Eligibility for Membership

Members of the General Assembly may elect to make monthly contributions within 30 days after taking office, and thereby become eligible for membership in the KLRP-HT plan. Individuals commencing participation before January 1, 2014 became participants in the KLRP.

## Hypothetical Member Account

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 Account

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 legislative 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 legislator 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 KLRP 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-4 from the Actuary's Pension Handbook. Specimen rates are as follows:

| Age | Rate of Termination |
|---|---|
| 20 | .054 |
| 25 | .053 |
| 30 | .051 |
| 35 | .047 |
| 40 | .042 |
| 45 | .035 |
| 50 | .025 |
| 55 | .009 |
| 60 | .001 |
| 65+ | .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 legislators 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 legislators 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 | 24% | N/A |
| Single | 60% | N/A |
| Parent Plus | 4% | N/A |
| Member and Spouse | 12% | 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 |
|---|---|
| $ 15,852 | $ 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

Legislators 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 | $0 |
| Employee | 63,897 |
| Total Contributions | 63,897 |
| Transfer In Payments | 0 |
| Investment Income | 20,463 |
| Other | 0 |
| Total Additions | 84,360 |
| | |
| **Deductions** | |
| Benefit Payments / Refunds | 0 |
| Administrative Expenses | 0 |
| Other | 0 |
| Total Deductions | 0 |
| Net Increase in Net Position | 84,360 |
| | |
| **Net Position Restricted for Pensions** | |
| Beginning of Year Market Value of Assets | 190,911 |
| End of Year Market Value of Assets | $275,271 |

# Net Pension Liability

## Determination of Net Pension Liability

| | June 30, 2019 |
| --- | --- |
| Total Pension Liability (4.00%) | 318,169 |
| Plan Fiduciary Net Position (Market Value of Assets) | (275,271) |
| Net Pension Liability | $42,898 |
| | |
| Plan Fiduciary Net Position as a Percentage of Total Pension Liability | 86.52% |

## Sensitivity of Net Pension Liability to Changes in the Discount Rate

| | **1% Decrease** | **Current Rate** | **1% Increase** |
| --- | --- | --- | --- |
| | (3.00%) | (4.00%) | (5.00%) |
| Net Pension Liability | $58,898 | $42,898 | $27,794 |

## 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 | $36.2 | $36.2 | $76.9 | $76.9 | | | | | |
| Interest | 0.0 | 2.4 | 3.8 | 7.5 | 10.9 | | | | | |
| Changes of benefit terms | 21.7 | 0.0 | 0.0 | 0.0 | 0.0 | | | | | |
| Differences between expected and actual experience | 0.0 | 0.0 | 17.9 | 0.0 | 35.9 | | | | | |
| Changes of assumptions | 0.0 | 0.0 | (3.3) | 0.0 | 0.0 | | | | | |
| Benefit Payments / Refunds | 0.0 | 0.0 | (2.9) | (1.9) | 0.0 | | | | | |
| Net Change in Total Pension Liability | $21.7 | $38.6 | $51.7 | $82.5 | $123.7 | | | | | |
| Total Pension Liability - beginning | 0.0 | 21.7 | 60.3 | 112.0 | 194.5 | | | | | |
| **Total Pension Liability - ending (a)** | $21.7 | $60.3 | $112.0 | $194.5 | $318.2 | | | | | |
| **Plan Fiduciary Net Position (Market Value of Assets)** | | | | | | | | | | |
| Contributions - employer | $8.8 | $14.5 | $15.4 | $15.4 | $0.0 | | | | | |
| Contributions - employee | 11.0 | 24.6 | 35.1 | 47.4 | 63.9 | | | | | |
| Transfer In Payments | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | | |
| Net investment income | 0.1 | 0.7 | 8.6 | 14.1 | 20.5 | | | | | |
| Benefit Payments / Refunds | 0.0 | 0.0 | (2.9) | (1.9) | 0.0 | | | | | |
| 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** | $19.9 | $39.8 | $56.2 | $75.0 | $84.4 | | | | | |
| Plan Fiduciary Net Position - beginning | 0.0 | 19.9 | 59.7 | 115.9 | 190.9 | | | | | |
| **Plan Fiduciary Net Position - ending (b)** | $19.9 | $59.7 | $115.9 | $190.9 | $275.3 | | | | | |
| **Net Pension Liability - ending (a) - (b)** | $1.8 | $0.6 | ($3.9) | $3.6 | $42.9 | | | | | |
| Plan Fiduciary Net Position as a % of the Total Pension Liability | 91.7% | 99.0% | 103.5% | 98.1% | 86.5% | | | | | |
| Covered-employee payroll | $419 | $419 | $898 | $907 | $1,828 | | | | | |
| Net Pension Liability as a % of covered-employee payroll | 0.4% | 0.1% | -0.4% | 0.4% | 2.3% | | | | | |
| 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] | $8.8 | $14.5 | $15.4 | $15.4 | $33.3 | | | | | |
| Contributions in relation to the actuarially determined contribution | 8.8 | 14.5 | 15.4 | 15.4 | 0.0 | | | | | |
| Contribution deficiency (excess) | $0.0 | $0.0 | $0.0 | $0.0 | $33.3 | | | | | |
| Covered-employee payroll | $419 | $419 | $898 | $907 | $1,828 | | | | | |
| Contributions as a percentage of covered-employee payroll | 2.1% | 3.5% | 1.7% | 1.7% | 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. 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** | $ 194,498 | $ 190,911 | $ 3,587 | $ 48,612 | $ 12,529 | |
| **Changes for the Year:** | | | | | | |
| Service cost | 76,915 | | 76,915 | | | 76,915 |
| Interest expense | 10,857 | | 10,857 | | | 10,857 |
| Benefit changes | - | | - | | | - |
| Experience losses (gains) | 35,899 | | 35,899 | 32,843 | - | 4,553 |
| Changes of assumptions | - | | - | - | - | (279) |
| Contributions--State | | - | - | | | |
| Contributions--Members | | 63,897 | (63,897) | | | (63,897) |
| Transfer In Payments | | - | - | | | |
| Net investment income | | 20,463 | (20,463) | | | |
| Expected return on plan investments | | | | | | (8,956) |
| Current expense of asset gain/loss | | | | | | (4,768) |
| Non expensed asset gain/loss | | | | - | 9,206 | |
| Refunds of contributions | - | - | - | | | |
| Benefits paid | - | - | - | | | |
| Plan administrative expenses | | | | | | |
| Recognition of Prior Post-measurement Contribution | | | | (33,288) | | |
| Post-measurement Contribution | | | | 34,620 | | |
| Other changes | | | | | | |
| Amortization of or change in beginning balances | | | | (1,731) | (2,980) | |
| **Net Changes** | 123,671 | 84,360 | 39,311 | 32,444 | 6,226 | 14,425 |
| **Balances--at 06/30/19** | $ 318,169 | $ 275,271 | $ 42,898 | $ 81,056 | $ 18,755 | $ 14,425 |

# Pension Expense & Deferred Outflows/Inflows of Resources

For the year ended June 30, 2020, the recognized pension expense will be $14,425. 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 | 14,921 | - | 1,497 | 13,424 | - | 8.970 years |
| - 6/30/2019 | 35,899 | - | 3,056 | 32,843 | - | 10.747 years |
| subtotal | 50,820 | - | 4,553 | 46,267 | - | |
| Change of assumptions | | | | | | |
| - 6/30/2017 | - | 2,779 | (279) | - | 2,501 | 8.970 years |
| subtotal | - | 2,779 | (279) | - | 2,501 | |
| Net difference between projected and actual earnings on investments | | | | | | |
| - 6/30/2015 | 66 | - | 66 | - | - | 0.000 years |
| - 6/30/2016 | 337 | - | 169 | 169 | - | 1.000 year |
| - 6/30/2017 | - | 3,163 | (1,054) | - | 2,108 | 2.000 years |
| - 6/30/2018 | - | 6,587 | (1,647) | - | 4,940 | 3.000 years |
| - 6/30/2019 | - | 11,507 | (2,301) | - | 9,206 | 4.000 years |
| subtotal | 403 | 21,256 | (4,768) | 169 | 16,254 | |
| **Total** | $ 51,223 | $ 24,036 | $ (494) | $ 46,436 | $ 18,755 | |

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 | (560) |
| 2022 | (728) |
| 2023 | 326 |
| 2024 | 1,972 |
| 2025 | 4,274 |
| Thereafter | 22,398 |

# GASB Statement No. 74

## Statement of Changes in Fiduciary Net Position

| | June 30, 2019 |
|---|---|
| **Additions** | |
| Contributions | |
| Employer | 0 |
| Employee | 12,778 |
| Total Contributions | 12,778 |
| Transfer In Payments | 0 |
| Investment Income | 4,903 |
| Other | 0 |
| Total Additions | 17,681 |
| | |
| **Deductions** | |
| Benefit Payments / Refunds | 0 |
| Administrative Expenses | 0 |
| Other | 0 |
| Total Deductions | 0 |
| Net Increase in Net Position | 17,681 |
| | |
| **Net Position Restricted for OPEB** | |
| Beginning of Year Market Value of Assets | 48,279 |
| End of Year Market Value of Assets | $65,960 |

# Net OPEB Liability

## Determination of Net OPEB Liability

| | |
|---|---|
| Total OPEB Liability | 93,026 |
| Plan Fiduciary Net Position (Market Value of Assets) | (65,960) |
| Net OPEB Liability | $27,066 |
| | |
| Plan Fiduciary Net Position as a Percentage of Total OPEB Liability | 70.90% |

## 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 | $26,497 | $27,066 | $27,806 |

## 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 | $45,785 | $27,066 | $11,897 |

## Schedule of Changes in the Net OPEB Liability and Related Ratios

**(Dollar amounts in thousands)**

| | fiscal year ending June 30 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
| **Total OPEB Liability** | | | | | | | | | | |
| Service cost | $9.5 | $20.0 | $20.0 | | | | | | | |
| Interest | 1.1 | 2.2 | 3.1 | | | | | | | |
| Changes of benefit terms | 0.0 | 0.0 | 0.0 | | | | | | | |
| Differences between expected and actual experience | 7.2 | 0.0 | 9.7 | | | | | | | |
| Changes of assumptions | 0.0 | 0.0 | 2.0 | | | | | | | |
| Benefit Payments / Refunds | 0.0 | 0.0 | 0.0 | | | | | | | |
| **Net Change in Total OPEB Liability** | $17.8 | $22.2 | $34.8 | | | | | | | |
| **Total OPEB Liability - beginning** | 18.2 | 36.0 | 58.2 | | | | | | | |
| **Total OPEB Liability - ending (a)** | $36.0 | $58.2 | $93.0 | | | | | | | |
| | | | | | | | | | | |
| **Plan Fiduciary Net Position (Assets)** | | | | | | | | | | |
| Contributions - employer | $5.6 | $5.6 | $0.0 | | | | | | | |
| Contributions - employee | 7.0 | 9.5 | 12.8 | | | | | | | |
| Transfer In Payments | 0.0 | 0.0 | 0.0 | | | | | | | |
| Net investment income | 2.2 | 3.5 | 4.9 | | | | | | | |
| 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** | $14.8 | $18.6 | $17.7 | | | | | | | |
| **Plan Fiduciary Net Position - beginning** | 14.9 | 29.7 | 48.3 | | | | | | | |
| **Plan Fiduciary Net Position - ending (b)** | $29.7 | $48.3 | $66.0 | | | | | | | |
| **Net OPEB Liability - ending (a) - (b)** | $6.3 | $9.9 | $27.0 | | | | | | | |
| **Plan Fiduciary Net Position as a % of the Total OPEB Liability** | 82.5% | 83.0% | 71.0% | | | | | | | |
| **Covered-employee payroll** | $898 | $907 | $1,828 | | | | | | | |
| **Net OPEB Liability as a % of covered-employee payroll** | 0.7% | 1.1% | 1.5% | | | | | | | |
| Discount Rate | 4.00% | 4.00% | 4.00% | | | | | | | |

## Schedule of Contributions

| | fiscal year ending June 30 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
| Actuarially determined contribution [1] | $5.5 | $5.5 | $11.8 | | | | | | | |
| Contributions in relation to the actuarially determined contribution | 5.6 | 5.6 | 0.0 | | | | | | | |
| Contribution deficiency (excess) | ($0.1) | ($0.1) | $11.8 | | | | | | | |
| Covered-employee payroll | $898 | $907 | $1,828 | | | | | | | |
| Contributions as a percentage of covered-employee payroll | 0.6% | 0.6% | 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** | $ 58,159 | $ 48,279 | $ 9,880 | $ 17,811 | $ 2,473 | |
| **Changes for the Year:** | | | | | | |
| Service cost | 19,965 | | 19,965 | | | 19,965 |
| Interest expense | 3,125 | | 3,125 | | | 3,125 |
| Benefit changes | - | | - | | | - |
| Experience losses (gains) | 9,745 | | 9,745 | 8,915 | - | 1,433 |
| Changes of assumptions | 2,032 | | 2,032 | 1,859 | - | 173 |
| Contributions--State | | - | - | | | |
| Contributions--Members | | 12,778 | (12,778) | | | (12,778) |
| Transfer In Payments | | - | - | | | |
| Net investment income | | 4,903 | (4,903) | | | |
| Expected return on plan investments | | | | | | (2,146) |
| Current expense of asset gain/loss | | | | | | (1,236) |
| Non expensed asset gain/loss | | | | - | 2,206 | |
| Refunds of contributions | - | - | - | | | |
| Benefits paid | - | - | - | | | |
| Plan administrative expenses | | | | | | |
| Recognition of Prior Post-measurement Contribution | | | | (11,801) | | |
| Post-measurement Contribution | | | | 12,273 | | |
| Other changes | | | | | | |
| Amortization of or change in beginning balances | | | | (603) | (685) | |
| **Net Changes** | 34,867 | 17,681 | 17,186 | 10,643 | 1,521 | 8,536 |
| **Balances--at 06/30/19** | $ 93,026 | $ 65,960 | $ 27,066 | $ 28,454 | $ 3,994 | $ 8,536 |

# Schedule of Changes in Deferred Outflows/Inflows

For the year ended June 30, 2020, the recognized OPEB expense will be $8,536. 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 | 6,010 | - | 603 | 5,407 | - | 8.970 years |
| - 6/30/2019 | 9,745 | - | 830 | 8,915 | - | 10.747 years |
| subtotal | 15,755 | - | 1,433 | 14,322 | - | |
| Change of assumptions | | | | | | |
| - 6/30/2019 | 2,032 | - | 173 | 1,859 | - | 10.747 years |
| subtotal | 2,032 | - | 173 | 1,859 | - | |
| Net difference between projected and actual earnings on investments | | | | | | |
| - 6/30/2017 | - | 807 | (269) | - | 538 | 2.000 years |
| - 6/30/2018 | - | 1,666 | (416) | - | 1,250 | 3.000 years |
| - 6/30/2019 | - | 2,757 | (551) | - | 2,206 | 4.000 years |
| subtotal | - | 5,230 | (1,236) | - | 3,994 | |
| **Total** | $ 17,787 | $ 5,230 | $ 370 | $ 16,181 | $ 3,994 | |

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 | 370 |
| 2022 | 370 |
| 2023 | 637 |
| 2024 | 1,053 |
| 2025 | 1,606 |
| Thereafter | 8,151 |

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 12 to 16, a 1% decrease in the assumed rate of investment return would increase the measurement of the liability by 12% to 16%. |
| 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 defined benefit/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

| | 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 | 4 | 1 | | | | | | | | | 5 |
| | $41,306 | $36,409 | | | | | | | | | $40,326 |
| 35 – 39 | 1 | 1 | | | | | | | | | 2 |
| | $40,830 | $44,817 | | | | | | | | | $42,823 |
| 40 – 44 | 4 | 1 | | | | | | | | | 5 |
| | $37,003 | $43,258 | | | | | | | | | $38,254 |
| 45 – 49 | 1 | 5 | 1 | | | | | | | | 7 |
| | $41,591 | $40,177 | $38,605 | | | | | | | | $40,155 |
| 50 – 54 | 4 | 3 | | | | | | | | | 7 |
| | $40,070 | $43,248 | | | | | | | | | $41,432 |
| 55 – 59 | 5 | 4 | | | | | | | | | 9 |
| | $40,906 | $42,244 | | | | | | | | | $41,501 |
| 60 – 64 | 4 | 1 | | | | | | | | | 5 |
| | $40,545 | $37,855 | | | | | | | | | $40,007 |
| 65 – 69 | 1 | 2 | | | | | | | | | 3 |
| | $38,929 | $41,648 | | | | | | | | | $40,742 |
| Over 69 | 1 | 1 | | | | | | | | | 2 |
| | $38,549 | $44,440 | | | | | | | | | $41,495 |
| Total | 25 | 19 | 1 | | | | | | | | 45 |
| | $40,005 | $41,562 | $38,605 | | | | | | | | $40,631 |

# Distribution of Inactive Participants with Average Lump Sum Benefit

| Attained Age | Retired and Beneficiaries | Terminated | Total |
|---|---|---|---|
| Under 50 | | | |
| 50 – 54 | | | |
| 55 – 59 | | | |
| 60 – 64 | | 1<br>$3,780 | 1<br>$3,780 |
| 65 – 69 | | 2<br>$2,591 | 2<br>$2,591 |
| 70 – 74 | | | |
| 75 – 79 | | | |
| 80 – 84 | | | |
| 85 – 89 | | | |
| 90 – 94 | | | |
| Over 94 | | | |
| Total | | 3<br>$2,988 | 3<br>$2,988 |

# 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 | $334,169 | $318,169 | $303,066 |
| Actuarial Value of Assets | 259,109 | 259,109 | 259,109 |
| Unfunded Past Service Liability | 75,060 | 59,060 | 43,957 |
| Funded Ratio | 77.54% | 81.44% | 85.50% |
| Contribution as Percent of Salary | 4.24% | 3.67% | 3.13% |
| **OPEB Plan** | | | |
| Accrued Liability | $111,745 | $93,026 | $77,857 |
| Actuarial Value of Assets | 62,087 | 62,087 | 62,087 |
| Unfunded Past Service Liability | 49,658 | 30,939 | 15,770 |
| Funded Ratio | 55.56% | 66.74% | 79.74% |
| Contribution as Percent of Salary | 1.86% | 1.31% | 0.87% |
| **Total [1]** | | | |
| Accrued Liability | $445,914 | $411,195 | $380,923 |
| Actuarial Value of Assets | 321,196 | 321,196 | 321,196 |
| Unfunded Past Service Liability | 124,718 | 89,999 | 59,727 |
| Funded Ratio | 72.03% | 78.11% | 84.32% |
| Contribution as Percent of Salary | 6.10% | 4.98% | 4.00% |

[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 7 of this report for the asset and liabilities split between the Pension and OPEB plans.

## Salary Scale

| | 1% Decrease<br>0% for five years,<br>2.5% thereafter | Current Rate<br>1% for five years,<br>3.5% thereafter | 1% Increase<br>2% for five years,<br>4.5% thereafter |
|---|---|---|---|
| **Pension Plan** | | | |
| Accrued Liability | $322,970 | $318,169 | $313,317 |
| Actuarial Value of Assets | 259,109 | 259,109 | 259,109 |
| Unfunded Past Service Liability | 63,861 | 59,060 | 54,208 |
| Funded Ratio | 80.23% | 81.44% | 82.70% |
| Contribution as Percent of Salary | 3.65% | 3.67% | 3.68% |
| **OPEB Plan** | | | |
| Accrued Liability | $99,292 | $93,026 | $86,968 |
| Actuarial Value of Assets | 62,087 | 62,087 | 62,087 |
| Unfunded Past Service Liability | 37,205 | 30,939 | 24,881 |
| Funded Ratio | 62.53% | 66.74% | 71.39% |
| Contribution as Percent of Salary | 1.46% | 1.31% | 1.16% |
| **Total** [1] | | | |
| Accrued Liability | $422,262 | $411,195 | $400,285 |
| Actuarial Value of Assets | 321,196 | 321,196 | 321,196 |
| Unfunded Past Service Liability | 101,066 | 89,999 | 79,089 |
| Funded Ratio | 76.07% | 78.11% | 80.24% |
| Contribution as Percent of Salary | 5.11% | 4.98% | 4.84% |

[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 7 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 | $318,169 | $318,169 | $318,169 |
| Actuarial Value of Assets | 259,109 | 259,109 | 259,109 |
| Unfunded Past Service Liability | 59,060 | 59,060 | 59,060 |
| Funded Ratio | 81.44% | 81.44% | 81.44% |
| Contribution as Percent of Salary | 3.67% | 3.67% | 3.67% |
| **OPEB Plan** | | | |
| Accrued Liability | $92,457 | $93,026 | $93,766 |
| Actuarial Value of Assets | 62,087 | 62,087 | 62,087 |
| Unfunded Past Service Liability | 30,370 | 30,939 | 31,679 |
| Funded Ratio | 67.15% | 66.74% | 66.21% |
| Contribution as Percent of Salary | 1.29% | 1.31% | 1.34% |
| **Total [1]** | | | |
| Accrued Liability | $410,626 | $411,195 | $411,935 |
| Actuarial Value of Assets | 321,196 | 321,196 | 321,196 |
| Unfunded Past Service Liability | 89,430 | 89,999 | 90,739 |
| Funded Ratio | 78.22% | 78.11% | 77.97% |
| Contribution as Percent of Salary | 4.96% | 4.98% | 5.01% |

[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 7 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 5.

| | 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 | $ 0.03 | n/a | 1.6% | n/a | $ 0.32 | n/a | $ 0.06 | n/a | 81% |
| 2020 | n/a | $ 0.07 | n/a | 4.0% | n/a | $ 0.44 | n/a | $ 0.10 | n/a | 77% |
| 2021 | n/a | $ 0.07 | n/a | 4.1% | n/a | $ 0.59 | n/a | $ 0.11 | n/a | 81% |
| 2022 | n/a | $ 0.07 | n/a | 4.4% | n/a | $ 0.70 | n/a | $ 0.11 | n/a | 84% |
| 2023 | n/a | $ 0.07 | n/a | 4.5% | n/a | $ 0.84 | n/a | $ 0.12 | n/a | 86% |
| 2024 | n/a | $ 0.06 | n/a | 4.6% | n/a | $ 0.84 | n/a | $ 0.12 | n/a | 86% |
| 2025 | n/a | $ 0.06 | n/a | 5.0% | n/a | $ 0.88 | n/a | $ 0.13 | n/a | 85% |
| 2026 | n/a | $ 0.05 | n/a | 4.5% | n/a | $ 0.93 | n/a | $ 0.13 | n/a | 86% |
| 2027 | n/a | $ 0.05 | n/a | 4.7% | n/a | $ 0.98 | n/a | $ 0.14 | n/a | 86% |
| 2028 | n/a | $ 0.04 | n/a | 3.9% | n/a | $ 1.04 | n/a | $ 0.14 | n/a | 87% |
| 2029 | n/a | $ 0.05 | n/a | 5.2% | n/a | $ 1.07 | n/a | $ 0.15 | n/a | 86% |
| 2030 | n/a | $ 0.04 | n/a | 4.3% | n/a | $ 1.11 | n/a | $ 0.15 | n/a | 86% |
| 2031 | n/a | $ 0.04 | n/a | 4.7% | n/a | $ 1.10 | n/a | $ 0.16 | n/a | 85% |
| 2032 | n/a | $ 0.04 | n/a | 5.3% | n/a | $ 1.04 | n/a | $ 0.16 | n/a | 85% |
| 2033 | n/a | $ 0.04 | n/a | 6.1% | n/a | $ 0.96 | n/a | $ 0.16 | n/a | 83% |
| 2034 | n/a | $ 0.03 | n/a | 5.4% | n/a | $ 0.86 | n/a | $ 0.15 | n/a | 83% |
| 2035 | n/a | $ 0.03 | n/a | 6.2% | n/a | $ 0.78 | n/a | $ 0.15 | n/a | 81% |
| 2036 | n/a | $ 0.02 | n/a | 4.5% | n/a | $ 0.75 | n/a | $ 0.15 | n/a | 80% |
| 2037 | n/a | $ 0.03 | n/a | 6.7% | n/a | $ 0.79 | n/a | $ 0.15 | n/a | 81% |
| 2038 | n/a | $ 0.02 | n/a | 4.5% | n/a | $ 0.81 | n/a | $ 0.16 | n/a | 80% |
| 2039 | n/a | $ 0.03 | n/a | 7.1% | n/a | $ 0.81 | n/a | $ 0.16 | n/a | 80% |
| Sum of Contributions | n/a | $ 0.94 | | | | | | | | |

* The Contribution Requirement above is the full projected contribution requirement, adjusted with interest. The projection results are based on the assumption that 73.7% 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 | $ 0.01 | $ 0.01 | 0.5% | 0.5% | $ 0.09 | $ 0.09 | $ 0.03 | $ 0.03 | 67% | 67% |
| 2020 | $ 0.02 | $ 0.02 | 1.1% | 1.1% | $ 0.14 | $ 0.14 | $ 0.04 | $ 0.05 | 71% | 64% |
| 2021 | $ 0.02 | $ 0.03 | 1.1% | 1.7% | $ 0.18 | $ 0.19 | $ 0.05 | $ 0.05 | 72% | 74% |
| 2022 | $ 0.02 | $ 0.03 | 1.1% | 1.7% | $ 0.23 | $ 0.24 | $ 0.05 | $ 0.05 | 78% | 79% |
| 2023 | $ 0.02 | $ 0.03 | 1.1% | 1.7% | $ 0.28 | $ 0.29 | $ 0.06 | $ 0.06 | 79% | 79% |
| 2024 | $ 0.02 | $ 0.03 | 1.1% | 1.7% | $ 0.33 | $ 0.34 | $ 0.06 | $ 0.07 | 82% | 79% |
| 2025 | $ 0.03 | $ 0.03 | 1.6% | 1.6% | $ 0.38 | $ 0.39 | $ 0.07 | $ 0.07 | 82% | 82% |
| 2026 | $ 0.03 | $ 0.03 | 1.6% | 1.6% | $ 0.44 | $ 0.45 | $ 0.07 | $ 0.08 | 84% | 82% |
| 2027 | $ 0.03 | $ 0.03 | 1.6% | 1.6% | $ 0.50 | $ 0.51 | $ 0.08 | $ 0.09 | 84% | 82% |
| 2028 | $ 0.03 | $ 0.03 | 1.5% | 1.5% | $ 0.56 | $ 0.58 | $ 0.09 | $ 0.09 | 84% | 84% |
| 2029 | $ 0.03 | $ 0.03 | 1.5% | 1.5% | $ 0.63 | $ 0.64 | $ 0.09 | $ 0.10 | 86% | 84% |
| 2030 | $ 0.03 | $ 0.03 | 1.5% | 1.5% | $ 0.70 | $ 0.71 | $ 0.10 | $ 0.11 | 86% | 85% |
| 2031 | $ 0.03 | $ 0.03 | 1.6% | 1.6% | $ 0.76 | $ 0.78 | $ 0.10 | $ 0.11 | 87% | 86% |
| 2032 | $ 0.03 | $ 0.03 | 1.6% | 1.6% | $ 0.83 | $ 0.85 | $ 0.11 | $ 0.12 | 87% | 86% |
| 2033 | $ 0.03 | $ 0.03 | 1.8% | 1.8% | $ 0.88 | $ 0.90 | $ 0.11 | $ 0.12 | 88% | 87% |
| 2034 | $ 0.02 | $ 0.03 | 1.3% | 1.9% | $ 0.93 | $ 0.96 | $ 0.11 | $ 0.12 | 88% | 88% |
| 2035 | $ 0.02 | $ 0.03 | 3.1% | 4.6% | $ 0.94 | $ 0.96 | $ 0.10 | $ 0.10 | 89% | 90% |
| 2036 | $ 0.01 | $ 0.01 | 2.2% | 2.2% | $ 0.93 | $ 0.96 | $ 0.08 | $ 0.09 | 91% | 91% |
| 2037 | $ 0.01 | $ 0.01 | 2.2% | 2.2% | $ 0.92 | $ 0.95 | $ 0.09 | $ 0.09 | 90% | 91% |
| 2038 | $ 0.01 | $ 0.01 | 2.1% | 2.1% | $ 0.92 | $ 0.94 | $ 0.09 | $ 0.10 | 90% | 89% |
| 2039 | $ 0.01 | $ 0.01 | 2.1% | 2.1% | $ 0.91 | $ 0.94 | $ 0.09 | $ 0.10 | 90% | 89% |
| Sum of Contributions | $ 0.46 | $ 0.52 | | | | | | | | |

* The Contribution Requirement above is the full projected contribution requirement, adjusted with interest. The projection results are based on the assumption that 73.7% of the requirement is contributed, the average percentage of the contribution requirement that was made over the past 5 years.