



# Actuarial Valuation Report

State of Oklahoma

State of Oklahoma's Other Postemployment Benefits

For the Fiscal Year Ending June 30, 2021

Measurement Date July 1, 2020

## Introduction

This report documents the results of the actuarial valuation for the fiscal year ending June 30, 2021 of the State of Oklahoma's Other Postemployment Benefits for the State of Oklahoma. The plan is a single-employer plan and does not issue a separate financial statement. As a result, all reporting requirements are included in the employer's financial statement. These results are based on a Measurement Date of July 1, 2020. The information provided in this report is intended strictly for documenting information relating to company and plan disclosure and reporting requirements.

Determinations for purposes other than the financial accounting requirements may be significantly different from the results in this report. Thus, the use of this report for purposes other than those expressed here may not be appropriate.

This valuation has been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board. In addition, the valuation results are based on our understanding of the financial accounting and reporting requirements under U.S. Generally Accepted Accounting Principles as set forth in Government Accounting Standards Board Statement 75 (GASB 75) including any guidance or interpretations provided by the Company and/or its audit partners prior to the issuance of this report. The information in this report is not intended to supersede or supplant the advice and interpretations of the State of Oklahoma's auditors. Additional disclosures may be required under GASB 74.

A valuation model was used to develop the liabilities for the July 1, 2020 valuation. The valuation model relies on ProVal software, which was developed by Winklevoss Technologies, LLC. Experts within Aon selected this software and determined it is appropriate for performing valuations. We coded and reviewed the software for the provisions, assumptions, methods, and data of the State of Oklahoma's Other Postemployment Benefits.

The valuation model outputs various cost scenarios. The "1% increase" and "1% decrease" interest rate scenarios vary only the discount rate assumption, in order to illustrate the impact of a change in that assumption in isolation. In practice, certain other assumptions would also be expected to vary when the discount rate changes. Therefore, the output from these scenarios should be used solely for assessing the impact of the discount rate in isolation and may not represent a realistic set of results for other purposes.

The "1% increase" and "1% decrease" healthcare cost trend scenarios vary only the healthcare cost trend assumption, in order to illustrate the impact of a change in that assumption in isolation. Therefore, the output from these scenarios should be used solely for assessing the impact of the healthcare cost trend in isolation and may not represent a realistic set of results for other purposes.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to (but not limited to) such factors as the following:

- Plan experience differing from that anticipated by the economic or demographic assumptions;
- Changes in actuarial methods or in economic or demographic assumptions;
- Increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and
- Changes in plan provisions or applicable law.

Due to the limited scope of our assignment, we did not perform an analysis of the potential range of such future measurements.

Funded status measurements shown in this report are determined based on various measures of plan assets and liabilities. For entity and plan disclosure and reporting purposes, funded status is determined using plan assets measured at market value. Plan liabilities are measured based on the interest rates and other assumptions summarized in the Actuarial Assumptions and Methods section of this report.

These funded status measurements may not be appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations, and funded status measurements for State of Oklahoma and plan disclosure and reporting purposes may not be appropriate for assessing the need for or the amount of future contributions. In conducting the valuation, we have relied on personnel, plan design, health care claim cost, and asset information supplied by State of Oklahoma as of the valuation date. While we cannot verify the accuracy of all the information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy or completeness of the information and believe that it has produced appropriate results.

The actuarial assumptions and methods used in this valuation are described in the Actuarial Assumptions and Methods section of this report. State of Oklahoma selected the economic and demographic assumptions and prescribed them for use for purposes of compliance with GASB 75. Aon provided guidance with respect to these assumptions, and it is our belief that the assumptions represent reasonable expectations of anticipated plan experience.

The undersigned are familiar with the near-term and long-term aspects of OPEB valuations and collectively meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. The information provided in this report is dependent upon various factors as documented throughout this report, which may be subject to change. Each section of this report is considered to be an integral part of the actuarial opinions.

To our knowledge, no colleague of Aon providing services to State of Oklahoma has any material direct or indirect financial interest in State of Oklahoma. Thus, we believe there is no relationship existing that might affect our capacity to prepare and certify this actuarial report for the State of Oklahoma.



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# Table of Contents

## **Accounting Requirements**

Development of Net OPEB Expense	2
Reconciliation of Net OPEB Liability	4
Gain/Loss	5
Deferred Outflows/Inflows	6
Sensitivity	7
Disclosure—Changes in Net OPEB Liability and Related Ratios	8

## **Appendix**

Participant Data	10
Actuarial Assumptions and Methods	12
Plan Provisions	25
Employer Allocations	28

# Accounting Requirements

## Development of GASB 75 Net OPEB Expense

### Calculation Details

The following table illustrates the Net OPEB Liability under GASB 75.

	<b>Fiscal Year Ending 6/30/2020</b>	<b>Fiscal Year Ending 6/30/2021</b>
(1) OPEB Liability		
(a) Retired Participants and Beneficiaries Receiving Payment	\$ 57,458,473	\$ 59,076,403
(b) Active Participants	<u>74,741,758</u>	<u>83,016,976</u>
(c) Total	\$ 132,200,231	\$ 142,093,379
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 132,200,231	\$ 142,093,379
(4) Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	N/A	N/A
(5) Deferred Outflow of Resources for Contributions Made After Measurement Date	\$ 10,744,500	TBD

### Expense

The following table illustrates the OPEB expense under GASB 75.

	<b>Fiscal Year Ending 6/30/2020</b>	<b>Fiscal Year Ending 6/30/2021</b>
(1) Service Cost	\$ 5,180,826	\$ 4,910,509
(2) Interest Cost	5,634,290	4,625,647
(3) Expected Investment Return	0	0
(4) Employee Contributions	0	0
(5) Administrative Expense	0	0
(6) Plan Changes	0	0
(7) Amortization of Unrecognized		
(a) Liability (Gain)/Loss	(400,913)	(483,749)
(b) Asset (Gain)/Loss	0	0
(c) Assumption Change (Gain)/Loss	<u>(4,416,393)</u>	<u>(2,691,325)</u>
(8) Total Expense	\$ 5,997,810	\$ 6,361,082

Shown below are details regarding the calculation of Service Cost, Interest Cost and Expected Investment Return components of the Expense.

	<b>Fiscal Year Ending 6/30/2020</b>	<b>Fiscal Year Ending 6/30/2021</b>
(1) Development of Service Cost:		
(a) Normal Cost at Beginning of Measurement Period	\$ 5,180,826	\$ 4,910,509
(2) Development of Interest Cost:		
(a) Total OPEB Liability at Beginning of Measurement Period	\$ 146,201,778	\$ 132,200,231
(b) Normal Cost at Beginning of Measurement Period	5,180,826	4,910,509
(c) Actual Benefit Payments	(11,698,492)	(10,744,500)
(d) Discount Rate	<u>3.87%</u>	<u>3.51%</u>
(e) Interest Cost	\$ 5,634,290	\$ 4,625,647
(3) Development of Expected Investment Return:		
(a) Plan Fiduciary Net Position at Beginning of Measurement Period	\$ 0	\$ 0
(b) Actual Contributions—Employer	11,698,492	10,744,500
(c) Actual Contributions—Employee	0	0
(d) Actual Benefit Payments	(11,698,492)	(10,744,500)
(e) Administrative Expenses	0	0
(f) Other	0	0
(g) Expected Return on Assets	<u>N/A</u>	<u>N/A</u>
(h) Expected Return	\$ 0	\$ 0



## Reconciliation of Net OPEB Liability

Shown below are details regarding the Total OPEB Liability, Plan Fiduciary Net Position, and Net OPEB Liability for the Measurement Period from July 1, 2019 to July 1, 2020:

	Increase (Decrease)		
	Total OPEB Liability (a)	Plan Fiduciary Net Position (b)	Net OPEB Liability (c) = (a) – (b)
Balance Recognized at 6/30/2020 (Based on 7/1/2019 Measurement Date)	\$ 132,200,231	\$ 0	\$ 132,200,231
Changes Recognized for the Fiscal Year:			
Service Cost	\$ 4,910,509	N/A	\$ 4,910,509
Interest on the Total OPEB Liability	4,625,647	N/A	4,625,647
Changes of Benefit Terms	0	N/A	0
Differences Between Expected and Actual Experience	(559,968)	N/A	(559,968)
Changes of Assumptions	11,661,460	N/A	11,661,460
Benefit Payments	(10,744,500)	(10,744,500)	0
Contributions From the Employer	N/A	10,744,500	(10,744,500)
Contributions From the Employee	N/A	0	0
Net Investment Income	N/A	0	0
Administrative Expense	N/A	0	0
Net Changes	\$ 9,893,148	0	\$ 9,893,148
Balance Recognized at 6/30/2021 (Based on 7/1/2020 Measurement Date)	\$ 142,093,379	\$ 0	\$ 142,093,379

## Liability (Gain)/Loss

The following table illustrates the liability gain/loss under GASB 75.

	<b>Fiscal Year Ending 6/30/2020</b>	<b>Fiscal Year Ending 6/30/2021</b>
(1) OPEB Liability at Beginning of Measurement Period	\$ 146,201,778	\$ 132,200,231
(2) Service Cost	5,180,826	4,910,509
(3) Interest on the Total OPEB Liability	5,634,290	4,625,647
(4) Changes of Benefit Terms	0	0
(5) Changes of Assumptions	(12,507,142)	11,661,460
(6) Benefit Payments	<u>(11,698,492)</u>	<u>(10,744,500)</u>
(7) Expected OPEB Liability at End of Measurement Period	\$ 132,811,260	\$ 142,653,347
(8) Actual OPEB Liability at End of Measurement Period	<u>132,200,231</u>	<u>142,093,379</u>
(9) OPEB Liability (Gain)/Loss	\$ (611,029)	\$ (559,968)
(10) Average Future Working Life Expectancy	<u>4.65</u>	<u>6.76</u>
(11) OPEB Liability (Gain)/Loss Amortization	\$ (131,404)	\$ (82,836)

## Asset (Gain)/Loss

The following table illustrates the asset gain/loss under GASB 75.

	<b>Fiscal Year Ending 6/30/2020</b>	<b>Fiscal Year Ending 6/30/2021</b>
(1) OPEB Asset at Beginning of Measurement Period	\$ 0	\$ 0
(2) Contributions—Employer	11,698,492	10,744,500
(3) Contributions—Employee	0	0
(4) Expected Investment Income	0	0
(5) Benefit Payments	(11,698,492)	(10,744,500)
(6) Administrative Expense	0	0
(7) Other	<u>0</u>	<u>0</u>
(8) Expected OPEB Asset at End of Measurement Period	\$ 0	\$ 0
(9) Actual OPEB Asset at End of Measurement Period	<u>0</u>	<u>0</u>
(10) OPEB Asset (Gain)/Loss	\$ 0	\$ 0
(11) Amortization Factor	<u>5.00</u>	<u>5.00</u>
(12) OPEB Asset (Gain)/Loss Amortization	\$ 0	\$ 0

## Deferred Outflows/Inflows

The following table illustrates the Deferred Inflows and Outflows as of June 30, 2021 under GASB 75.

	<b>Deferred Outflows</b>	<b>Deferred Inflows</b>
(1) Difference Between Actual and Expected Experience	\$ 0	\$ 1,259,263
(2) Net Difference Between Expected and Actual Earnings on OPEB Plan Investments	0	0
(3) Assumption Changes	<u>9,936,392</u>	<u>8,281,970</u>
(4) Sub Total	\$ 9,936,392	\$ 9,541,233
(5) Contributions Made in Fiscal Year Ending 6/30/2021 After Measurement Date	<u>TBD</u>	<u>N/A</u>
(6) Total	\$ 9,936,392	\$ 9,541,233

## Amortization of Deferred Inflows/Outflows

The table below lists the amortization bases included in the deferred inflows/outflows as of June 30, 2021.

<b>Date Established</b>	<b>Type of Base</b>	<b>Period</b>		<b>Balance</b>		<b>Annual Payment</b>
		<b>Original</b>	<b>Remaining</b>	<b>Original</b>	<b>Remaining</b>	
6/30/2017	Assumptions	4.60	0.60	\$ (7,404,259)	\$ (965,771)	\$ (1,609,622)
6/30/2018	Assumptions	4.61	1.61	(539,662)	(188,473)	(117,063)
6/30/2018	Liability (Gain)/Loss	4.61	1.61	(1,242,437)	(433,910)	(269,509)
6/30/2019	Assumptions	4.65	2.65	(12,507,142)	(7,127,726)	(2,689,708)
6/30/2019	Liability (Gain)/Loss	4.65	2.65	(611,029)	(348,221)	(131,404)
6/30/2020	Assumptions	6.76	5.76	11,661,460	9,936,392	1,725,068
6/30/2020	Liability (Gain)/Loss	6.76	5.76	(559,968)	(477,132)	(82,836)
Total Charges				\$ (11,203,037)	\$ 395,159	\$ (3,175,074)

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

### Year End June 30:

2022	\$ (2,531,223)
2023	\$ (1,414,691)
2024	\$ (191,491)
2025	\$ 1,642,232
2026	\$ 1,642,232
Total Thereafter	\$ 1,248,100

## Interest Rate Sensitivity

The following table illustrates the impact of interest rate sensitivity on the Net OPEB Liability for fiscal year ending June 30, 2020:

	<b>1% Decrease (2.51%)</b>	<b>Current Rate (3.51%)</b>	<b>1% Increase (4.51%)</b>
(1) Total OPEB Liability	\$ 141,113,494	\$ 132,200,231	\$ 123,878,209
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 141,113,494	\$ 132,200,231	\$ 123,878,209

The following table illustrates the impact of interest rate sensitivity on the Net OPEB Liability for fiscal year ending June 30, 2021:

	<b>1% Decrease (1.21%)</b>	<b>Current Rate (2.21%)</b>	<b>1% Increase (3.21%)</b>
(1) Total OPEB Liability	\$ 151,656,898	\$ 142,093,379	\$ 133,092,561
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 151,656,898	\$ 142,093,379	\$ 133,092,561

## Healthcare Cost Trend Sensitivity

The following table illustrates the impact of healthcare cost trend sensitivity on the Net OPEB Liability for fiscal year ending June 30, 2020:

	<b>1% Decrease</b>	<b>Trend Rate</b>	<b>1% Increase</b>
(1) Total OPEB Liability	\$ 120,995,589	\$ 132,200,231	\$ 145,242,830
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 120,995,589	\$ 132,200,231	\$ 145,242,830

The following table illustrates the impact of healthcare cost trend sensitivity on the Net OPEB Liability for fiscal year ending June 30, 2021:

	<b>1% Decrease</b>	<b>Trend Rate</b>	<b>1% Increase</b>
(1) Total OPEB Liability	\$ 127,956,042	\$ 142,093,379	\$ 158,726,141
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 127,956,042	\$ 142,093,379	\$ 158,726,141

## Disclosure—Changes in the Net OPEB Liability and Related Ratios

Changes in the Net OPEB Liability and Related Ratios<sup>1</sup>

	Fiscal Year Ending				
	2017	2018	2019	2020	2021
<b>Total OPEB Liability</b>					
Service Cost	N/A	\$ 5,919,685	\$ 5,189,771	\$ 5,180,826	\$ 4,910,509
Interest Cost	N/A	4,497,315	5,306,629	5,634,290	4,625,647
Changes of Benefit Terms	N/A	0	0	0	0
Differences Between Expected and Actual Experiences	N/A	0	(1,242,437)	(611,029)	(559,968)
Changes of Assumptions	N/A	(7,404,259)	(539,662)	(12,507,142)	11,661,460
Benefit Payments	N/A	(12,706,088)	(11,008,441)	(11,698,492)	(10,744,500)
<b>Net Change in Total OPEB Liability</b>	N/A	\$ (9,693,347)	\$ (2,294,140)	\$ (14,001,547)	\$ 9,893,148
<b>Total OPEB Liability (Beginning)</b>	N/A	158,189,265	148,495,918	146,201,778	132,200,231
<b>Total OPEB Liability (Ending)</b>	\$ 158,189,265	\$ 148,495,918	\$ 146,201,778	\$ 132,200,231	\$ 142,093,379
<b>Plan Fiduciary Net Position</b>					
Contributions—Employer	N/A	\$ 12,706,088	\$ 11,008,441	\$ 11,698,492	\$ 10,744,500
Contributions—Member	N/A	0	0	0	0
Net Investment Income	N/A	0	0	0	0
Benefit Payments	N/A	(12,706,088)	(11,008,441)	(11,698,492)	(10,744,500)
Administrative Expense	N/A	0	0	0	0
Other	N/A	0	0	0	0
<b>Net Change in Plan Fiduciary Net Position</b>	N/A	\$ 0	\$ 0	\$ 0	\$ 0
<b>Plan Fiduciary Net Position (Beginning)</b>	N/A	0	0	0	0
<b>Plan Fiduciary Net Position (Ending)</b>	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
<b>Net OPEB Liability (Ending)</b>	\$ 158,189,265	\$ 148,495,918	\$ 146,201,778	\$ 132,200,231	\$ 142,093,379
<b>Net Position as a Percentage of OPEB Liability</b>	N/A	N/A	N/A	N/A	N/A
<b>Covered-Employee Payroll</b>	\$ 1,521,793,857	\$ 1,537,568,995	\$ 1,585,454,834	\$ 1,696,478,068	TBD
<b>Net OPEB Liability as a Percentage of Payroll</b>	9.70%	9.66%	9.22%	8.38%	TBD

<sup>1</sup> GASB 75 was effective first for employer fiscal years beginning after June 15, 2017.

# Appendix

## Participant Data

The actuarial valuation was based on personnel information from State of Oklahoma records as of July 1, 2019. Following are some of the pertinent characteristics from the personnel data as of that date. Prior year characteristics are also provided for comparison purposes. Both age and service have been determined using years and months as of the valuation date.

	July 1, 2017	July 1, 2019
<b>Health Care Participants</b>		
Active Participants		
Number	31,971	31,280
Average Age	45.9	46.1
Average Service	10.9	11.0
Inactive Participants		
Retirees and Surviving Spouses	2,702	2,378
Average Age	59.7	60.0
Covered Spouses	336	304
Average Age	58.6	58.7
Total Participants		
Number	35,009	33,962

## Age—Service Distribution

July 1, 2019

Age	Completed Years of Employment									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
< 20	40	0	0	0	0	0	0	0	0	40
20-24	1,011	33	0	0	0	0	0	0	0	1,044
25-29	2,159	502	17	0	0	0	0	0	0	2,678
30-34	1,703	1,243	388	7	0	0	0	0	0	3,341
35-39	1,340	1,061	1,096	223	9	0	0	0	0	3,729
40-44	1,145	846	899	633	240	4	0	0	0	3,767
45-49	1,019	761	774	567	678	143	17	0	0	3,959
50-54	877	639	694	456	553	469	215	10	0	3,913
55-59	797	685	685	468	458	370	461	236	18	4,178
60+	632	783	884	566	474	362	376	310	244	4,631
<b>Total</b>	10,723	6,553	5,437	2,920	2,412	1,348	1,069	556	262	31,280

Average Age as of Valuation Date 46.1

Average Service as of Valuation Date 11.0



## Actuarial Assumptions and Methods

<b>Measurement Date</b>	July 1, 2020
<b>Census Date</b>	July 1, 2019
<b>Discount rate as of July 1, 2019</b>	3.51%
<b>Discount rate as of July 1, 2020</b>	2.21%
<b>Expected Rate of Return on Assets</b>	N/A, the plan is unfunded and benefits are not paid from a qualifying Trust

### Salary Scale

- Applicable for participants of Oklahoma Public Employees Retirement System (including elected officials and Hazardous Duty employees) and Pathfinder (Sample rates shown)

<b>Age Group</b>	<b>Percent Increase</b>
20	9.5%
25	7.8%
30	6.3%
35	5.5%
40	5.2%
45	4.8%
50	4.5%
55	4.3%
60	3.8%
65	3.5%

- Applicable for participants of Oklahoma Law Enforcement Retirement System (Sample rates shown)

<b>Service Group</b>	<b>Percent Increase</b>
0	9.75%
5	6.75%
10	4.25%
15	3.75%
20	3.70%
25	3.50%

- Applicable for participants of Teachers' Retirement System of Oklahoma

<b>Service Group</b>	<b>Percent Increase</b>
0	11.25%
1-2	4.75%
3-4	4.50%
5-11	4.25%
12-17	4.00%
18-21	3.75%
22-24	3.50%
25+	3.25%

- Applicable for participants of Uniform Retirement System of Justices & Judges

Salary Increases: 3.75% per year

- Applicable for participants of Oklahoma Department of Wildlife Conservation Defined Benefit Pension Plan

Salary Increases: 3.0% to 8.0%

<b>Employees Included in the Calculation</b>	All current employees.
<b>Retirement Rates</b>	
▪ Applicable for participants of Oklahoma Public Employees Retirement System (other than elected officials or Hazardous Duty employees), Pathfinder, or Oklahoma Department of Wildlife Conservation Defined Benefit Plan	See Table A
▪ Applicable for elected officials of Oklahoma Public Employees Retirement System	See Table B
▪ Applicable for Hazardous Duty employees of Oklahoma Public Employees Retirement System	See Table C
▪ Applicable for participants of Oklahoma Law Enforcement Retirement System	See Table D
▪ Applicable for participants of Teachers' Retirement System of Oklahoma	See Table E
▪ Applicable for participants of Uniform Retirement System of Justices & Judges	See Table F
<b>Mortality Rates</b>	Pub-2010 Public Retirement Plans General Mortality Table weighted by Headcount projected by MP-2020 as of July 1, 2020
<b>Withdrawal Rates</b>	
▪ Applicable for participants of Oklahoma Public Employees Retirement System (including elected officials and Hazardous Duty employees), Pathfinder, and Oklahoma Department of Wildlife Conservation Defined Benefit Pension Plan	See Table G
▪ Applicable for participants of Oklahoma Law Enforcement Retirement System	See Table H
▪ Applicable for participants of Teachers' Retirement System of Oklahoma	See Table I
▪ Applicable for participants of Uniform Retirement System of Justices & Judges	2% for all years of service prior to retirement eligibility in the pension plan
<b>Disability Rates</b>	
▪ Applicable for participants of Oklahoma Public Employees Retirement System (other than Hazardous Duty employees), Pathfinder, or Oklahoma Department of Wildlife Conservation Defined Benefit Plan (Sample rates shown)	See Table J

- Applicable for Hazardous Duty employees of Oklahoma Public Employees Retirement System (Sample rates shown) See Table K
- Applicable for participants of Oklahoma Law Enforcement Retirement System (Sample rates shown) See Table L
- Applicable for participants of Teachers' Retirement System of Oklahoma (Sample rates shown) See Table M
- Applicable for participants of Uniform Retirement System of Justices & Judges 0%

**Plan Participation**

40% of retired employees are assumed to participate.

**Marital Assumption**

Male Participants: 25% of those who elect coverage are assumed to have a spouse that will receive coverage. Males are assumed to be three years older than their spouses.

Female Participants: 15% of those who elect coverage are assumed to have a spouse that will receive coverage. Males are assumed to be three years older than their spouses.

**Market-related value of assets**

Not applicable

**Cost Method**

Entry Age Normal based upon salary

**Attribution**

Entry Date is Date of hire

**Health Care Reform**

We reviewed the anticipated impact of Health Care Reform and estimate that it will have little impact on the liabilities of this plan, based upon our understanding of the legislation.

# Actuarial Assumptions

Table A

## Retirement Rates

Age	Hired Prior to 11/1/11		Hired on or After 11/1/11	
	Eligible for Unreduced Ret	Eligible for Reduced Ret	Eligible for Unreduced Ret	Eligible for Reduced Ret
50	15%	N/A	N/A	N/A
51	15%	N/A	N/A	N/A
52	15%	N/A	N/A	N/A
53	15%	N/A	N/A	N/A
54	15%	N/A	N/A	N/A
55	10%	3%	N/A	N/A
56	10%	4%	N/A	N/A
57	11%	4%	N/A	N/A
58	12%	5%	N/A	N/A
59	13%	6%	N/A	N/A
60	14%	6%	30/15%*	7%
61	20%	15%	30/15%*	7%
62	25%	N/A	30/15%*	20%
63	15%	N/A	30/15%*	15%
64	15%	N/A	30/15%*	15%
65	30%	N/A	30/15%*	N/A
66	25%	N/A	20%	N/A
67	25%	N/A	20%	N/A
68	25%	N/A	20%	N/A
69	25%	N/A	25%	N/A
70	100%	N/A	100%	N/A

\*30% when first eligible and 15% thereafter

# Actuarial Assumptions

Table B

## Retirement Rates

Age	Hired Prior to 11/1/11		Hired on or After 11/1/11	
	Eligible for Unreduced Ret	Eligible for Reduced Ret	Eligible for Unreduced Ret	Eligible for Reduced Ret
50	25%	N/A	N/A	N/A
51	25%	N/A	N/A	N/A
52	25%	N/A	N/A	N/A
53	25%	N/A	N/A	N/A
54	25%	N/A	N/A	N/A
55	20%	7%	N/A	N/A
56	20%	7%	N/A	N/A
57	20%	7%	N/A	N/A
58	20%	7%	N/A	N/A
59	20%	7%	N/A	N/A
60	20%	N/A	20%	10%
61	20%	N/A	20%	10%
62	20%	N/A	20%	N/A
63	20%	N/A	20%	N/A
64	20%	N/A	20%	N/A
65	20%	N/A	20%	N/A
66	20%	N/A	20%	N/A
67	35%	N/A	35%	N/A
68	35%	N/A	35%	N/A
69	35%	N/A	35%	N/A
70	100%	N/A	100%	N/A

# Actuarial Assumptions

Table C

## Retirement Rates

Hired Prior to 11/1/2011				Hired on or After 11/1/2011			
Less Than 20 Yrs of Service		at Least 20 Yrs of Service		Less Than 20 Yrs of Service		at Least 20 Yrs of Service	
Age	Rate	Service	Rate	Age	Rate	Service	Rate
50	N/A	20	25%	50	N/A	20	25%
51	N/A	21	25%	51	N/A	21	25%
52	N/A	22	20%	52	N/A	22	20%
53	N/A	23-24	15%	53	N/A	23-24	15%
54	N/A	25-29	23%	54	N/A	25-29	23%
55	4%	30-34	25%	55	N/A	30-34	25%
56	5%	35+	100%	56	N/A	35+	100%
57	5%			57	N/A		
58	5%			58	N/A		
59	5%			59	N/A		
60	5%			60	7%		
61	20%			61	20%		
62	40%			62	20%		
63	22%			63	20%		
64	25%			64	20%		
65	40%			65	40%		
66	25%			66	25%		
67	25%			67	23%		
68	25%			68	22%		
69	25%			69	21%		
70	100%			70	100%		

# Actuarial Assumptions

Table D

## Retirement Rates

<b>Service</b>	<b>Rate</b>
20	10%
21	10%
22	10%
23	10%
24	10%
25	10%
26	10%
27	10%
28	20%
29	20%
30	30%
31	40%
32	50%
33	60%
34	80%
35+	100%

\*100% at age 75

# Actuarial Assumptions

Table E

## Retirement Rates

Age	Eligible for Unreduced Retirement		Eligible for Reduced Retirement	
	Male	Female	Male	Female
50	12%	13%	0%	0%
51	12%	13%	0%	0%
52	12%	13%	0%	0%
53	12%	13%	0%	0%
54	12%	13%	0%	0%
55	12%	13%	1%	2%
56	12%	14%	2%	2%
57	12%	14%	2%	2%
58	12%	14%	2%	3%
59	12%	16%	3%	3%
60	12%	16%	3%	3%
61	15%	20%	3%	4%
62	21%	25%	10%	10%
63	19%	20%	8%	8%
64	15%	20%	8%	8%
65	25%	25%		
66	23%	25%		
67	23%	25%		
68	20%	23%		
69	20%	23%		
70	20%	23%		
71	20%	23%		
72	20%	23%		
73	20%	23%		
74	20%	23%		
75	100%	100%		



## Actuarial Assumptions

**Table F**  
**Retirement Rates**

<b>Age</b>	<b>Rate</b>
59	7%
60	10%
61	10%
62	15%
63	15%
64	15%
65	15%
66	15%
67	20%
68	20%
69	25%
70	25%
71	25%
72	25%
73	25%
74	25%
75	100%

**Table G**  
**Withdrawal Rates**

<b>Service</b>	<b>Rate</b>
0	24%
1	22%
2	18%
3	14%
4	12%
5	11%
6	9%
7	8%
8	7%
9	7%
10	6%
11	6%
12	5%
13	5%
14	5%
15	4%
16	4%
17	4%
18	4%
19	3%
20	3%
21	3%
22	2%
23	2%
24	2%
25	2%
26	2%
27	1%
28	1%

## Actuarial Assumptions

**Table H**  
**Withdrawal Rates**

<b>Service</b>	<b>Rate</b>
0	15%
2	6%
4	4%
6	2%
8	2%
10	2%
15	2%
20	0%

**Table I**  
**Withdrawal Rates**

<b>Service</b>	<b>Rate</b>
0	23%
1	18%
2	13%
3	11%
4	9%
5	8%
6	8%
7	7%
8	6%
9	5%
10	5%
11	4%
12	4%
13	4%
14	4%
15	3%
16	3%
17	3%
18	3%
19	2%
20	2%
21	2%
22	2%
23	2%
24	2%
25	0%

## Actuarial Assumptions

**Table J**  
**Disability Rates**

<b>Age</b>	<b>Rate</b>
20	0.009%
30	0.009%
40	0.022%
50	0.139%
60	0.300%

**Table K**  
**Disability Rates**

<b>Age</b>	<b>Rate</b>
20	0.009%
30	0.027%
40	0.072%
50	0.225%
60	0.500%

**Table L**  
**Disability Rates**

<b>Age</b>	<b>Rate</b>
20	0.020%
30	0.050%
40	0.160%
50	0.600%
60	2.200%

**Table M**  
**Disability Rates**

<b>Age</b>	<b>Males</b>	<b>Females</b>
25	0.023%	0.020%
30	0.023%	0.020%
35	0.032%	0.040%
40	0.059%	0.100%
45	0.090%	0.160%
50	0.270%	0.240%
55	0.410%	0.370%
60	0.160%	0.260%
65	0.000%	0.000%

## Actuarial Assumptions and Methods

### Initial per capita costs

The initial year claim and expense cost for an individual (retired employee or spouse of a retired employee) represents an estimate of the average annual benefit which will be paid for coverage during the 12 months following the valuation date. The first step in the process is to establish average per capita expected plan costs at each age in retirement as of the valuation date. Future year benefit costs are the product of the initial per capita costs and the health care cost trend rates.

Aon's approach to developing the claims curve relies on three key inputs:

- Medical plan premiums and administrative charges for the recent plan years;
- Census exposure data (i.e., Oklahoma distribution of covered persons by age and sex); and
- Age/sex morbidity factors (estimates of the relative level of expected per capita claims costs for coverage provided by age and sex).

Initial per capita costs for twelve-month period beginning July 1, 2019:

<b>Age</b>	<b>Medical and Drug</b>
50	\$ 7,290
55	\$ 8,935
60	\$ 11,038
61	\$ 11,457
62	\$ 11,892
63	\$ 12,344
64	\$ 12,814

Retiree Paid Contributions per year: \$6,917

Spouse Paid Contributions per year: \$8,172

Medical Trend Rates:

<b>Year</b>	<b>Rate</b>
2019 to 2020	5.30%
2020 to 2021	6.40%
2021 to 2022	6.30%
2022 to 2023	6.10%
2023 to 2024	6.00%
2024 to 2025	5.50%
2025+	5.00%

## Changes in Assumptions

The discount rate to calculate liabilities was changed from 3.51% as of July 1, 2019 to 2.21% as of July 1, 2020. These discount rates use the Bond Buyer GO 20-Bond Municipal Bond Index as of those applicable dates.

The mortality assumption used to calculate liabilities was changed from the Pub-2010 Public Retirement Plans General Mortality Table weighted by Headcount projected by MP-2019 as of July 1, 2019 to the Pub-2010 Public Retirement Plans General Mortality Table weighted by Headcount projected by MP-2020 as of July 1, 2020.

## Changes in Methods

The method of calculating expected future working lifetime was adjusted for the FYE 2021 measurement period to better align with GASB 75 methodology.

## Source of Demographic Actuarial Assumptions

The demographic assumptions were generally taken from the Pension Plans that the various employees are covered under.

## Plan Provisions

### Coverage

Provides for employee and dependent healthcare coverage from the date of retirement to age 65, provided the participant was covered by the plan before retiring.

### Benefits

Oklahoma provides postretirement medical benefits until age 65 if the retiree and spouse pay the full active premium

### Spouse Coverage

Participant can elect to enroll in spousal coverage. Surviving spouses may continue in the plan until age 65.

### Retirement Eligibility

For a retiree to retain coverage with EGID, the participant must make an election within 30 days of termination of service and have 8+ years of creditable service in OPERS or 10+ years of creditable service in TRS.

Additionally, a participant can satisfy eligibility requirements if pension plan eligibility requirements described below are satisfied.

- Applicable for participants of Oklahoma Public Employees Retirement System and Pathfinder

For employees hired prior to July 7, 1992:

- Age 62 with 6 years of service
- 80 Points
- Reduced retirement at age 55 with 10 years of service

For employees hired on or after July 7, 1992, but before November 11, 2011:

- Age 62 with 6 years of service
- 90 points
- Reduced retirement at age 55 with 10 years of service

For employees hired on or after November 11, 2011:

- Age 65 with 6 years of service
- 90 points at age 60
- Reduced retirement at age 60 and 10 years of service

- Applicable for elected officials of Oklahoma Public Employees Retirement System

For employees elected or appointed before November 11, 2011:

- Age 60 with 6 years of service
- 80 points

- Reduced retirement at age 55 with 10 years of service

For employees elected or appointed on or after November 11, 2011:

- Age 65 with 8 years of service
- Age 62 with 10 years of service
- Reduced retirement at age 60 and 10 years of service

- Applicable for Hazardous Duty employees of Oklahoma Public Employees Retirement System

For employees hired prior to July 7, 1992:

- Age 62 with 6 years of service
- 80 Points
- Reduced retirement at 20 years of service

For employees hired on or after July 7, 1992, but before November 11, 2011:

- Age 62
- 90 points
- Reduced retirement at 20 years of service

For employees hired on or after November 11, 2011:

- Age 65
- 90 points at age 60
- Reduced retirement at 20 years of service
- 20 years of service
- Age 62 with 10 years of service

- Applicable for participants of Oklahoma Law Enforcement Retirement System

- Applicable for participants of Teachers' Retirement System of Oklahoma

For employees hired before June 30, 1992:

- Age 62 with 5 years of service
- 80 points
- Reduced retirement at age 55 with 5 years of service
- Reduced retirement at 30 years of service

For employees hired on or after June 30, 1992, but before October 31, 2011:

- Age 62 with 5 years of service
- 90 points
- Reduced retirement at age 55 with 5 years of service
- Reduced retirement at 30 years of service

For employees hired on or after October 31, 2011, but before October 31, 2017:

- Age 62 with 5 years of service
- 90 points
- Reduced retirement at age 60 with 5 years of service
- Reduced retirement at 30 years of service

For employees hired on or after October 31, 2017:

- Age 62 with 7 years of service
- 90 points

- Reduced retirement at age 60 with 7 years of service
  - Reduced retirement at 30 years of service
  
- Applicable for participants of Uniform Retirement System of Justices & Judges
  - For those in office prior to January 1, 2012:
    - Age 65 with 8 years of service
    - Age 60 with 10 years of service
    - 80 points
  
  - For those in office after January 1, 2012:
    - Age 67 with 8 years of service
    - Age 62 with 10 years of service
  
- Applicable for participants of Oklahoma Department of Wildlife Conservation Defined Benefit Pension Plan
  - Age 65
  - Reduced retirement at age 55 with 15 years of service



## Employer Allocations

Company Number	Number of Employees	Active OPEB Liability	Proportion of Liability	Total Portion of Liability
20	11	24,555	0.000295783	42,029
22	2	1,089	0.000013118	1,864
25	346	646,118	0.007782962	1,105,907
30	31	225,080	0.002711253	385,251
39	4	10,867	0.000130901	18,600
40	329	903,978	0.010889074	1,547,265
45	4	12,616	0.000151969	21,594
47	102	259,603	0.003127107	444,341
49	193	380,847	0.004587580	651,865
55	12	21,312	0.000256719	36,478
60	9	16,543	0.000199272	28,315
65	45	171,385	0.002064457	293,346
90	1,086	2,611,101	0.031452615	4,469,208
92	21	32,745	0.000394437	56,047
125	28	62,292	0.000750353	106,620
127	16	64,372	0.000775408	110,180
131	4,143	14,636,284	0.176304711	25,051,728
145	3	11,463	0.000138080	19,620
148	3	10,421	0.000125529	17,837
160	95	241,192	0.002905333	412,829
170	31	43,045	0.000518508	73,677
185	532	968,989	0.011672179	1,658,539
190	14	18,198	0.000219208	31,148
199	27	94,507	0.001138406	161,760
204	3	3,829	0.000046123	6,554
215	6	12,365	0.000148945	21,164
219	584	1,056,905	0.012731191	1,809,018
220	980	1,975,827	0.023800277	3,381,862
265	316	472,485	0.005691426	808,714
266	39	96,362	0.001160751	164,935
270	25	23,259	0.000280172	39,811
275	8	13,576	0.000163533	23,237
285	3	8,527	0.000102714	14,595
290	432	1,101,847	0.013272550	1,885,942
292	506	1,282,286	0.015446070	2,194,784

## Employer Allocations (cont.)

<b>Company Number</b>	<b>Number of Employees</b>	<b>Active OPEB Liability</b>	<b>Proportion of Liability</b>	<b>Total Portion of Liability</b>
296	6	4,602	0.000055434	7,877
298	2	8,372	0.000100847	14,330
300	111	286,176	0.003447199	489,824
305	22	26,714	0.000321790	45,724
306	19	39,881	0.000480396	68,261
307	5	7,138	0.000085982	12,218
308	279	1,670,189	0.020118644	2,858,726
309	40	56,437	0.000679825	96,599
310	15	30,048	0.000361950	51,431
315	10	22,496	0.000270981	38,505
320	327	1,289,323	0.015530836	2,206,829
326	5	3,209	0.000038655	5,493
340	1,665	3,659,670	0.044083393	6,263,958
342	93	163,933	0.001974693	280,591
345	2,353	6,766,407	0.081506305	11,581,506
346	6	4,537	0.000054651	7,766
350	115	251,186	0.003025718	429,935
353	32	37,847	0.000455895	64,780
369	20	38,123	0.000459219	65,252
370	5	22,031	0.000265379	37,709
385	121	211,568	0.002548491	362,124
391	8	15,153	0.000182529	25,936
400	589	1,281,710	0.015439131	2,193,798
405	72	183,122	0.002205838	313,435
410	61	129,378	0.001558452	221,446
415	38	43,313	0.000521737	74,135
416	5	5,458	0.000065746	9,342
421	153	224,726	0.002706989	384,645
422	202	240,633	0.002898600	411,872
423	6	16,683	0.000200959	28,555
430	34	63,632	0.000766494	108,914
435	30	38,920	0.000468820	66,616
440	4	0	0.000000000	-
445	7	11,094	0.000133635	18,989
448	1	0	0.000000000	-

## Employer Allocations (cont.)

<b>Company Number</b>	<b>Number of Employees</b>	<b>Active OPEB Liability</b>	<b>Proportion of Liability</b>	<b>Total Portion of Liability</b>
450	24	48,731	0.000587000	83,409
452	1,661	2,471,717	0.029773633	4,230,636
475	4	18,351	0.000221051	31,410
477	135	771,983	0.009299098	1,321,340
509	3	4,263	0.000051351	7,297
510	28	41,474	0.000499585	70,988
515	55	109,709	0.001321525	187,780
520	3	4,510	0.000054326	7,719
525	8	1,777	0.000021405	3,042
557	11	47,099	0.000567342	80,616
560	12	19,218	0.000231495	32,894
563	2	2,151	0.000025910	3,682
566	428	997,461	0.012015145	1,707,273
570	8	16,287	0.000196189	27,877
575	1	2,596	0.000031271	4,443
582	0	0	0.000000000	-
585	1,381	11,144,603	0.134244868	19,075,307
588	15	28,720	0.000345953	49,158
619	6	17,495	0.000210740	29,945
622	1	14,417	0.000173663	24,676
625	31	50,613	0.000609670	86,630
628	14	25,790	0.000310659	44,143
629	52	69,614	0.000838551	119,153
630	24	57,570	0.000693473	98,538
632	2	2,847	0.000034294	4,873
635	40	52,384	0.000631003	89,661
645	44	117,195	0.001411699	200,593
650	1,544	2,327,273	0.028033700	3,983,403
670	217	316,393	0.003811184	541,544
677	162	316,659	0.003814389	541,999
678	2	3,002	0.000036161	5,138
695	698	1,426,779	0.017186593	2,442,101
715	38	81,053	0.000976342	138,732
740	40	66,567	0.000801848	113,937
753	3	4,779	0.000057567	8,180

## Employer Allocations (cont.)

<b>Company Number</b>	<b>Number of Employees</b>	<b>Active OPEB Liability</b>	<b>Proportion of Liability</b>	<b>Total Portion of Liability</b>
755	8	15,071	0.000181541	25,796
772	6	12,148	0.000146332	20,793
790	3	3,629	0.000043714	6,211
800	209	493,300	0.005942158	844,341
803	2	1,474	0.000017755	2,523
805	867	1,914,029	0.023055875	3,276,087
807	539	1,293,373	0.015579621	2,213,761
830	5,831	12,760,869	0.153713971	21,841,737
835	99	209,440	0.002522857	358,481
865	40	73,018	0.000879555	124,979
<u>978</u>	<u>529</u>	<u>1,189,966</u>	<u>0.014334008</u>	<u>2,036,768</u>
<b>Total</b>	<b>31,280</b>	<b>\$ 83,016,976</b>	<b>1.000000000</b>	<b>\$ 142,093,379</b>

The total liability of \$142,093,379 is as of the July 1, 2020 measurement date and is shown in this report.