
Oklahoma Municipal Retirement Fund

ACTUARIAL VALUATIONS UNDER GASB STATEMENT 68

For Fiscal Years Ending on or Before July 1, 2021

April 30, 2021

Prepared by

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Overview

Determines pension expense and balance sheet recognition for government entities on accrual method accounting

Effective for fiscal years beginning after June 15, 2014

Balance sheet entries determined on a measurement date no earlier than the end of the prior fiscal year

Pension expense determined over the 12-month period ending on the measurement date

Measurement date: July 1, 2020

Overview

123 plans with active participants

- Accrual method entities: 75
- Cash and modified cash method entities: 48

9 plans with no active participants

- Accrual method entities: 6
- Cash and modified cash method entities: 3

3 retiree health plans

- Accrual method entities: 2
- Cash and modified cash method entities: 1

Discount Rate

A single blended discount rate reflecting

- the expected long term rate of return to the extent assets are expected to be sufficient to meet benefit payments
- the yield on 20-year, tax exempt general obligation municipal bonds rated AA/Aa or higher on payments due after assets are depleted

Benefit payments are for all current participants, including expected future accruals

Assets include anticipated future contributions on behalf of current participants, and other contributions expected to be applied to the current unfunded liability

Discount Rate under OkMRF Funding Policy

The funding policy is designed to fund all participants' benefits over their working lifetimes

Unfunded liabilities may arise from:

- granting of past service upon joining OkMRF
- benefit improvements applied to past service
- actual experience less favorable than assumed

Unfunded liabilities funded over a fixed period not to exceed 30 years

General conclusion: member cities that faithfully contribute their actuarially determined contribution will not face a projected depletion date

Possible Exceptions

Plans with large unfunded liabilities relative to payroll

- Shawnee: 358%
- Mountain Park MCD: 279%
- Wetumka: 259%

Plans with an unusually high average employee age

- Wetumka: 62.7
- Chandler: 57.0
- Bartlesville: 54.5

Plans with a high ratio of retirees to active employees

- Shawnee: 509%
- Wetumka: 220%
- Bartlesville: 160%

Plans with no active participants reviewed for individual circumstances

Valuation Results

Summary for all OkMRF plans combined

Sample Exhibits -- Guthrie

**Oklahoma Municipal Retirement Fund
All Plans Combined**

CHANGES IN NET PENSION LIABILITY

	Increase (Decrease)		
	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability
Balance at 7/1/2019	\$ 643,356,501	\$ 597,197,821	\$ 46,158,680
Changes for the Year:			
Service cost	16,100,887		16,100,887
Interest cost	46,958,457		46,958,457
Difference between expected and actual experience	(3,065,622)		(3,065,622)
Assumption changes	0		0
Contributions -- Employer		16,337,157	(16,337,157)
Contributions -- Employee		6,958,176	(6,958,176)
Net investment income		24,410,114	(24,410,114)
Benefit payments, including ee contributions refunds	(35,122,699)	(35,122,699)	0
Benefit changes due to plan amendments	832,308		832,308
Administrative expense		(1,236,774)	1,236,774
Other changes		(281,672)	281,672
Net changes	25,703,331	11,064,302	14,639,029
Balance at 7/1/2020	\$ 669,059,832	\$ 608,262,123	\$ 60,797,709

SENSITIVITY OF NET PENSION LIABILITY TO CHANGES IN THE DISCOUNT RATE

	1% Decrease 6.50%	Current Disc Rate 7.50%	1% Increase 8.50%
	Net Pension Liability	\$ 142,230,631	\$ 60,797,709

**Oklahoma Municipal Retirement Fund
All Plans Combined**

PENSION EXPENSE

Service Cost	\$ 16,100,887
Interest Cost	46,958,457
Expected Return on Plan Investments	(44,287,602)
Administrative Expenses	1,236,774
Employee Contributions	(6,958,176)
Amortization of Deferred Outflows and Inflows	
Actuarial gains and losses	(5,803,343)
Changes in assumptions	5,725,115
Investment gains and losses	6,712,309
Benefit Changes Due to Plan Amendments	<u>832,308</u>
Pension Expense for Fiscal 2021	<u><u>\$ 20,516,729</u></u>

**Oklahoma Municipal Retirement Fund
All Plans Combined**

AMORTIZATION OF DEFERRED (INFLOWS) AND OUTFLOWS

Fiscal Year Established	Deferred (Inflow)/Outflow	Amortization Years	Balance before Current Recognition	Current Recognition	Balance after Current Recognition
Actuarial (gains)/losses					
2016	\$ (4,776,247)	0.00-9.64	\$ (184,260)	\$ (149,966)	\$ (34,294)
2017	(6,599,803)	0.00-9.19	(1,055,363)	(711,784)	(343,579)
2018	(3,964,858)	0.00-8.40	(1,197,045)	(738,901)	(458,144)
2019	(6,021,031)	0.00-7.97	(2,672,828)	(1,260,352)	(1,412,476)
2020	(2,825,218)	0.00-7.46	(1,928,335)	(988,931)	(939,404)
2021	(3,065,622)	0.00-7.24	(3,065,622)	(1,953,409)	(1,112,213)
Total current recognition				\$ (5,803,343)	
Remaining deferred (inflows)					\$ (12,273,273)
Remaining deferred outflows					\$ 7,973,163
Changes in assumptions					
2018	\$ 11,550,366	0.00-8.40	\$ 3,836,945	\$ 2,114,715	\$ 1,722,230
2020	14,581,825	0.00-7.46	10,467,565	3,610,400	6,857,165
Total current recognition				\$ 5,725,115	
Remaining deferred (inflows)					\$ (1,784)
Remaining deferred outflows					\$ 8,581,179
Investment (gains)/losses					
2017	32,045,054	5	\$ 6,408,898	\$ 6,408,898	\$ 0
2018	(22,321,570)	5	(8,928,624)	(4,464,366)	(4,464,258)
2019	383,322	5	229,971	76,649	153,322
2020	3,577,986	5	2,862,394	715,627	2,146,767
2021	19,877,488	5	19,877,488	3,975,501	15,901,987
Total current recognition				\$ 6,712,309	
Remaining deferred (inflows)					\$ (4,486,212)
Remaining deferred outflows					\$ 18,224,030

**Oklahoma Municipal Retirement Fund
Employee Retirement System of Guthrie**

CHANGES IN NET PENSION LIABILITY

	Increase (Decrease)		
	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability
Balance at 7/1/2019	\$ 6,450,058	\$ 6,525,687	\$ (75,629)
Changes for the Year:			
Service cost	185,570		185,570
Interest cost	473,436		473,436
Difference between expected and actual experience	154,207		154,207
Assumption changes	0		0
Contributions -- Employer		156,806	(156,806)
Contributions -- Employee		77,458	(77,458)
Net investment income		269,301	(269,301)
Benefit payments, including refunds of ee contributions	(280,224)	(280,224)	0
Benefit changes due to plan amendments	0		0
Administrative expense		(13,913)	13,913
Other changes	0	0	0
Net changes	532,989	209,428	323,561
Balance at 7/1/2020	\$ 6,983,047	\$ 6,735,115	\$ 247,932

ION LIABILITY TO CHANGES IN THE DISCOUNT RATE

	1% Decrease 6.50%	Current Discount Rate 7.50%	1% Increase 8.50%
Total Pension Liability	\$ 7,963,154	\$ 6,983,047	\$ 6,180,530
Plan Fiduciary Net Position	6,735,115	6,735,115	6,735,115
Net Pension Liability	\$ 1,228,039	\$ 247,932	\$ (554,585)

The discount rate used to value benefits was the long-term expected rate of return on plan investments, 7.50% (see Exhibit 11), as prescribed by paragraph 26 of GASB 68 when the plan's fiduciary net position is projected to be sufficient to make projected benefit payments.

The employer has adopted a funding method that is designed to fund all benefits payable to participants over the course of their working careers. Any differences between actual and expected experience are funded over a fixed period to ensure all funds necessary to pay benefits have been contributed to the trust before those benefits are payable. Thus, in accordance with paragraph 29, the evaluations required by paragraph 27 to determine the sufficiency pension plan assets can be made without a separate projection of cashflows.

**Oklahoma Municipal Retirement Fund
Employee Retirement System of Guthrie**

RECONCILIATION OF TOTAL PENSION LIABILITY

Total Pension Liability at 7/1/2019	\$	6,450,058
Service Cost		185,570
Interest Cost		473,436
Benefit Payments		<u>(280,224)</u>
Projected Total Pension Liability at 7/1/2020	\$	6,828,840
Benefit Changes Due to Plan Amendments		0
Actuarial (Gain)/Loss		154,207
Assumption Changes		<u>0</u>
Total Pension Liability at 7/1/2020	\$	<u><u>6,983,047</u></u>

If there was an amendment, it is briefly described here.

**Oklahoma Municipal Retirement Fund
Employee Retirement System of Guthrie**

RECONCILIATION OF PLAN FIDUCIARY NET POSITION

Market Value of Assets at 7/1/2019	\$	6,525,687
Contributions -- Employer		156,806
Contributions -- Employee		77,458
Net Investment Income		269,301
Benefit Payments		(280,224)
Administrative Expenses		(13,913)
		<hr/>
Market Value of Assets at 7/1/2020	\$	<u><u>6,735,115</u></u>

**Oklahoma Municipal Retirement Fund
Employee Retirement System of Guthrie**

PENSION EXPENSE

Service Cost	\$	185,570
Interest Cost		473,436
Expected Return on Plan Investments		(487,222)
Administrative Expenses		13,913
Contributions -- Employee		(77,458)
Amortization of Deferred (Inflows) and Outflows		
Actuarial (gains) and losses		(2,454)
Changes in assumptions		47,050
Investment (gains) and losses		68,151
Benefit Changes Due to Plan Amendments		0
Pension Expense for Fiscal 2020	\$	220,986

**Oklahoma Municipal Retirement Fund
Employee Retirement System of Guthrie**

AMORTIZATION OF DEFERRED (INFLOWS) AND OUTFLOWS

	Fiscal Year Established	Deferred (Inflow)/Outflow	Amortization Years	Balance before Current Recognition	Current Recognition	Balance after Current Recognition
Actuarial (gains)/losses						
	2015	\$ 30,985	6.90	\$ 8,532	\$ 4,491	\$ 4,041
	2016	54,794	6.92	23,122	7,918	15,204
	2017	(32,105)	6.10	(16,316)	(5,263)	(11,053)
	2018	(159,914)	5.82	(104,960)	(27,476)	(77,484)
	2019	(53,500)	5.86	(44,370)	(9,130)	(35,240)
	2020	154,207	5.71	154,207	27,006	127,201
Total current recognition					\$ (2,454)	
Remaining deferred (inflows)						\$ (123,777)
Remaining deferred outflows						\$ 146,446
Changes in assumptions						
	2017	\$ 168,471	6.10	\$ 85,617	27,618	57,999
	2019	113,872	5.86	94,440	19,432	75,008
Total current recognition					\$ 47,050	
Remaining deferred (inflows)						\$ 0
Remaining deferred outflows						\$ 133,007
Investment (gains)/losses						
	2016	\$ 357,691	5	\$ 71,538	\$ 71,538	\$ 0
	2017	(260,652)	5	(104,261)	(52,131)	(52,130)
	2018	(8,751)	5	(5,251)	(1,750)	(3,501)
	2019	34,550	5	27,640	6,910	20,730
	2020	217,921	5	217,921	43,584	174,337
Total current recognition					\$ 68,151	
Remaining deferred (inflows)						\$ (55,631)
Remaining deferred outflows						\$ 195,067

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

Fiscal 2021	\$ 40,761
Fiscal 2022	88,216
Fiscal 2023	67,509
Fiscal 2024	79,451
Fiscal 2025	19,175
Thereafter	0

**Oklahoma Municipal Retirement Fund
Employee Retirement System of Guthrie, Oklahoma**

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

SINCE INITIAL APPLICATION

	Fiscal Year 2020	Fiscal Year 2019	Fiscal Year 2018	Fiscal Year 2017	Fiscal Year 2016
Total Pension Liability					
Service cost	\$ 185,570	\$ 174,309	\$ 185,966	\$ 194,734	\$ 182,677
Interest cost	473,436	444,433	442,746	432,197	401,086
Benefit changes due to plan amendments	0	0	0	0	0
Difference between expected and actual experience	154,207	(53,500)	(159,914)	(32,105)	54,794
Changes of assumptions	0	113,872	0	168,471	0
Benefit payments, including refunds of employee contributions	(280,224)	(304,166)	(583,401)	(295,131)	(181,241)
Net change in total pension liability	<u>532,989</u>	<u>374,948</u>	<u>(114,603)</u>	<u>468,166</u>	<u>457,316</u>
Total pension liability -- beginning	<u>6,450,058</u>	<u>6,075,110</u>	<u>6,189,713</u>	<u>5,721,547</u>	<u>5,264,231</u>
Total pension liability -- ending	<u>\$ 6,983,047</u>	<u>\$ 6,450,058</u>	<u>\$ 6,075,110</u>	<u>\$ 6,189,713</u>	<u>\$ 5,721,547</u>
Plan Fiduciary Net Position					
Contributions -- Employer	\$ 156,806	\$ 145,941	\$ 144,168	\$ 154,484	\$ 144,170
Contributions -- Employee	77,458	72,078	70,852	76,219	71,220
Net investment income	269,301	426,665	454,157	685,356	51,381
Benefit payments, including refunds of employee contributions	(280,224)	(304,166)	(583,401)	(295,131)	(181,241)
Administrative expense	(13,913)	(13,073)	(14,028)	(11,980)	(10,824)
Other	0	0	0	0	0
Net change in total pension liability	<u>209,428</u>	<u>327,445</u>	<u>71,748</u>	<u>608,948</u>	<u>74,706</u>
Plan fiduciary net position -- beginning	<u>6,525,687</u>	<u>6,198,242</u>	<u>6,126,494</u>	<u>5,517,546</u>	<u>5,442,840</u>
Plan fiduciary net position -- ending	<u>\$ 6,735,115</u>	<u>\$ 6,525,687</u>	<u>\$ 6,198,242</u>	<u>\$ 6,126,494</u>	<u>\$ 5,517,546</u>
Net pension liability -- ending	<u>\$ 247,932</u>	<u>\$ (75,629)</u>	<u>\$ (123,132)</u>	<u>\$ 63,219</u>	<u>\$ 204,001</u>
Plan fiduciary net position as percentage of total pension liability	96.45%	101.17%	102.03%	98.98%	96.43%
Covered employee payroll	\$ 2,066,539	\$ 1,829,609	\$ 1,768,331	\$ 1,884,480	\$ 1,890,329
Net pension liability position as percentage of covered employee payroll	12.00%	-4.13%	-6.96%	3.35%	10.79%

**Oklahoma Municipal Retirement Fund
Employee Retirement System of Guthrie, Oklahoma**

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

SINCE INITIAL APPLICATION

	Fiscal Year 2015	Fiscal Year 2014
Total Pension Liability		
Service cost	\$ 165,947	\$ 151,230
Interest cost	370,915	382,375
Benefit changes due to plan amendments	0	0
Difference between expected and actual experience	30,985	0
Changes of assumptions	0	0
Benefit payments, including refunds of employee contributions	(175,951)	(871,550)
Net change in total pension liability	<u>391,896</u>	<u>(337,945)</u>
Total pension liability -- beginning	<u>4,872,335</u>	<u>5,210,280</u>
Total pension liability -- ending	<u><u>\$ 5,264,231</u></u>	<u><u>\$ 4,872,335</u></u>
Plan Fiduciary Net Position		
Contributions -- Employer	\$ 140,558	\$ 154,376
Contributions -- Employee	67,223	66,470
Net investment income	148,170	813,430
Benefit payments, including refunds of employee contributions	(175,951)	(871,550)
Administrative expense	(11,002)	(12,559)
Other	0	0
Net change in total pension liability	<u>168,998</u>	<u>150,168</u>
Plan fiduciary net position -- beginning	<u>5,273,842</u>	<u>5,123,675</u>
Plan fiduciary net position -- ending	<u><u>\$ 5,442,840</u></u>	<u><u>\$ 5,273,842</u></u>
Net pension liability -- ending	<u><u>\$ (178,609)</u></u>	<u><u>\$ (401,507)</u></u>
Plan fiduciary net position as percentage of total pension liability	103.39%	108.24%
Covered employee payroll	\$ 1,804,317	\$ 1,713,891
Net pension liability position as percentage of covered employee payroll	-9.90%	-23.43%

DEAN ACTUARIES, LLC

6440 N CENTRAL EXPRESSWAY, SUITE 720 DALLAS, TX 75206 (214) 891-0990 FAX (214) 722-0101

April 27, 2021

Ms. Jodi Cox
CEO/ Executive Director
Oklahoma Municipal Retirement Fund
1001 NW 63rd Street
Suite 260
Oklahoma City, OK 73116

Re: Discount Rate for Member Cities under GASB 68 at the July 1, 2020 Measurement Date

Dear Jodi:

As you know, GASB 68 prescribes a discount rate that reflects the long-term expected rate of return on pension plan investments to the extent that plan assets are projected to be sufficient to make projected benefit payments, and the yield on high quality 20-year tax-exempt general obligation municipal bonds on any payments due after plan assets are projected to be depleted. This determination is generally made by a projection of future trust cashflows: benefit payments to current participants and beneficiaries, contributions from current participants, employer contributions on behalf of current participants, employer contributions on behalf of future participants in excess of their projected service costs, trust investment earnings, and administrative expenses. GASB 68 paragraph 29 also provides, however, that if plan assets can be shown to be sufficient without a separate projection of cashflows, the expected return on plan assets is used for the discount rate.

OkMRF has adopted a funding policy for its members that is designed to fund all benefits payable to participants over the course of their working careers. Any differences between actual and expected experience are funded over a fixed period to ensure all funds necessary to pay benefits have been contributed to the trust before those benefits are payable. Because the assumptions prescribed for the cashflow projection are the same as those used to determine funding requirements (while the funding assumes a net 7.25% return, the cashflow projection uses a 7.50% return with 0.25% assumed administrative expenses), and because the cashflow projection assumes no demographic or investment gains or losses in the future, to the extent that members make their actuarially determined contributions, they will not have a depletion date which would trigger the municipal bond rate for subsequent cashflows.

This conclusion is a mathematical certainty for any plan that does not have an unfunded liability (new plans that did not grant past service credit, and plans in a surplus position). Thus, the only risk for other plans is that the amortization period would defer contributions beyond the time they were needed to pay benefits. While this presents no risk to most plans as benefits to current participants are still being paid 50-75 years into the future (versus a fixed amortization period of 29-30 years), we ran a number of sample cashflow projections for cities most at risk. These included:

Ms. Jodi Cox
April 27, 2021
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- plans with large unfunded liabilities relative to payroll
- plans with an unusually high average employee age
- plans with a high ratio of retirees to active employees
- plans with no active participants.

In all these cashflow projections, only one plan had a depletion date. This exception arose under specific, unique circumstances. The sponsor of this plan has committed to a more rapid amortization that will ensure that this plan has no projected depletion.

In conclusion, along with this one plan, all other OkMRF members reporting on an accrual basis who consistently make their actuarially determined contributions should use the long-term expected rate of return (7.50%) as their discount rate as of the July 1, 2020 measurement date, as none of these members have a depletion date which would trigger the municipal bond rate for subsequent cashflows.

Sincerely,

A handwritten signature in black ink, appearing to read "Sean M. Sullivan", with a horizontal line extending to the right.

Sean M. Sullivan, FSA
Consulting Actuary