



**Cavanaugh Macdonald**  
CONSULTING, LLC

*The experience and dedication you deserve*





# Cavanaugh Macdonald

CONSULTING, LLC

*The experience and dedication you deserve*

September 14, 2018

Ms. Ginger Sigler  
Executive Director  
Oklahoma Police Pension and Retirement System  
1001 NW 63<sup>rd</sup> Street, Suite 305  
Oklahoma City, OK 73116-7335

Dear Ms. Sigler:

Presented in this report is information to assist the Oklahoma Police Pension and Retirement System in meeting the requirements of the Governmental Accounting Standards Board (GASB) Statement No. 67. The information is presented for the June 30, 2018 Measurement Date. The calculations in this report have been made on a basis that is consistent with our understanding of this accounting standard (GASB 67).

The annual actuarial valuation used as a basis for much of the information presented in this report was performed as of July 1, 2018. The valuation was based upon data, furnished by the System's staff, concerning active, inactive and retired members along with pertinent financial information. This information was reviewed for completeness and internal consistency, but was not audited by us. The valuation results depend on the integrity of the data. If any of the information is inaccurate or incomplete, our results may be different and our calculations may need to be revised. Please see the actuarial valuation for additional details on the funding requirements for the System including actuarial assumptions and methods and the funding policy.

To the best of our knowledge, the information contained in this report is complete and accurate. The calculations were performed by qualified actuaries according to generally accepted actuarial principles and practices, as well as in conformity with Actuarial Standards of Practice issued by the Actuarial Standards Board. The calculations are based on the current provisions of the System, and on actuarial assumptions that are internally consistent and individually reasonable based on the actual experience of the System. In addition, the calculations were completed in compliance with applicable law and, in our opinion, meet the requirements of GASB 67.



Ms. Ginger Sigler  
September 14, 2018  
Page 2

These results are only for financial reporting and may not be appropriate for funding purposes or other types of analysis. Calculations for purposes other than satisfying the requirements of GASB 67 may produce significantly different results. Future actuarial results may differ significantly from the current results presented in this report due to such factors as changes in plan experience or changes in economic or demographic assumptions.

We, Brent A. Banister, FSA and Bryan K. Hoge, FSA are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein. We are available to answer any questions on the material contained in this report or to provide explanations or further details as may be appropriate.

Respectfully submitted,

A handwritten signature in blue ink that reads "Brent A. Banister".

Brent A. Banister, PhD, FSA, EA, FCA, MAAA  
Chief Actuary

A handwritten signature in blue ink that reads "Bryan K. Hoge".

Bryan K. Hoge, FSA, EA, FCA, MAAA  
Senior Actuary



## **TABLE OF CONTENTS**

<b><u>Section</u></b>	<b><u>Item</u></b>	<b><u>Page No.</u></b>
	Summary of Principal Results	1
	Introduction	2
I	Notes to Financial Statements	4
II	Required Supplementary Information	9
 <b><u>Appendix</u></b>		
A	Required Supplementary Information Tables	11
	Exhibit A – Schedule of Changes in the Net Pension Liability	
	Exhibit B – Schedule of Employer Contributions	
B	Summary of Main Benefit Provisions	14
C	Statement of Actuarial Assumptions	18



**REPORT OF THE ANNUAL GASB STATEMENT NO. 67**

**OKLAHOMA POLICE PENSION AND RETIREMENT SYSETM**

**SUMMARY OF PRINCIPAL RESULTS**

<b>Valuation Date (VD):</b>	July 1, 2018
<b>Prior Measurement Date:</b>	June 30, 2017
<b>Measurement Date (MD):</b>	June 30, 2018
<b>Membership Data:</b>	
Retirees and Beneficiaries	3,580
Disabled Members	140
Members in DOP	11
Inactive Vested Members	147
Inactive Nonvested Members	779
Active Employees	<u>4,791</u>
Total	9,448
<b>Single Equivalent Interest Rate (SEIR):</b>	
Long-Term Expected Rate of Return	7.50%
Municipal Bond Index Rate at Prior Measurement Date	3.56%
Municipal Bond Index Rate at Measurement Date	3.89%
Year in which Fiduciary Net Position is Projected to be Depleted	N/A
Single Equivalent Interest Rate at Prior Measurement Date	7.50%
Single Equivalent Interest Rate at Measurement Date	7.50%
<b>Net Pension Liability:</b>	
Total Pension Liability (TPL)	\$2,515,811,000
Fiduciary Net Position (FNP)	<u>2,563,446,000</u>
Net Pension Liability (NPL = TPL – FNP)	(\$47,635,000)
FNP as a percentage of TPL	101.89%



## INTRODUCTION

The Governmental Accounting Standards Board issued Statement No. 67 (GASB 67), “*Financial Reporting for Pension Plans*”, in June 2012. Based on the provisions of GASB 67, the Oklahoma Police Pension and Retirement System (System) is a cost-sharing multiple employer plan.

This report, prepared as of June 30, 2018 (the Measurement Date), presents information to assist the Oklahoma Police Pension and Retirement System in meeting the requirements of GASB 67. Much of the material provided in this report is based on the data, assumptions and results of the annual actuarial valuation of the System performed as of July 1, 2018 (the Valuation Date). The results of that valuation were detailed in a report dated September 12, 2018.

GASB 67 discloses the Total Pension Liability (TPL) utilizing the Entry Age Normal actuarial cost method. The Net Pension Liability (NPL) is equal to the TPL minus the System’s Fiduciary Net Position (FNP) (basically the fair (market) value of assets). The plan provisions recognized in the calculation of the TPL are summarized in Appendix B.

Among the items needed for the liability calculation is the discount rate, or Single Equivalent Interest Rate (SEIR), as described by GASB 67. To determine the SEIR, the FNP must be projected, using GASB 67 guidelines, into the future for as long as there are anticipated benefits payable under the plan’s provisions applicable to the members and beneficiaries of the System on the Measurement Date. If the FNP is not projected to be depleted at any point in the future, the long-term expected rate of return on plan investments expected to be used to finance the benefit payments may be used as the SEIR.

If, however, the FNP is projected to be depleted at a future measurement date, the SEIR is determined as the single rate that will generate a present value of benefit payments equal to the sum of the present value determined by discounting all projected benefit payments through the date of depletion by the long-term expected rate of return, and the present value determined by discounting those benefits after the date of depletion by a 20-year tax-exempt municipal bond (rating AA/Aa or higher) rate. The rate used, if necessary, for this purpose is the monthly average of the Bond Buyers General Obligation 20-year Municipal Bond Index Rate (formerly published monthly by the Board of Governors of the Federal Reserve System).

Our calculations indicate that the FNP is not projected to be depleted, so the Municipal Bond Index Rate is not used in the determination of the SEIR for either the June 30, 2017 or the June 30, 2018 TPL. The SEIR for both the Measurement Date and the Prior Measurement Date is 7.50%, the long-term assumed rate of return on investments. Please see our information for Paragraph 31.b.(1) for more explanation of the development of the SEIR.



The FNP projections are based upon the System's financial status on the Measurement Date, the indicated set of methods and assumptions, and the requirements of GASB 67. As such, the FNP projections are not reflective of the cash flows and asset accumulations that would occur on an ongoing plan basis, reflecting the impact of future members. Therefore, the results of this test do not necessarily indicate whether or not the fund will actually run out of money, the financial condition of the System, or the System's ability to make benefit payments in future years.

The sections that follow provide the results of all the necessary calculations for the Oklahoma Police Pension and Retirement System, presented in the order laid out in GASB 67 for note disclosure and Required Supplementary Information (RSI).



**SECTION I – NOTES TO FINANCIAL STATEMENTS**

The material presented herein will follow the order presented in GASB 67. Paragraph numbers are provided for ease of reference.

**Paragraphs 30.a. (1)-(3):** This information will be supplied by the System.

**Paragraph 30.a. (4):** The data required regarding the membership of the System was furnished by the System. The following table summarizes the membership of the System as of July 1, 2017 and July 1, 2018, the date of the valuation used to determine the June 30, 2018 TPL.

In addition to membership counts, the Average expected remaining service life for all members was included. This number is not needed for GASB 67 reporting, but will need to be used as the recognition period for GASB 68 reporting.

**Membership**

	Number as of July 1,	
	2018	2017
Inactive Members Or Their Beneficiaries	3,580	3,517
Currently Receiving Benefits		
Disabled Members	140	141
Members in DOP	11	14
Inactive Members Entitled To But Not Yet Receiving Benefits	147	132
Inactive Nonvested Members	779	721
Active Members	<u>4,791</u>	<u>4,695</u>
Total	9,448	9,220
Average expected remaining service life for all members	5.84	5.62

**Paragraphs 30.a. (5)-(6) and Paragraphs 30.b.-f.:** This information will be supplied by the System.





**Paragraph 31.a. (1)-(4):** As stated earlier, the NPL is equal to the TPL minus the FNP. That result, as of June 30, 2018, is presented in the following table.

Fiscal Year Ending June 30, 2018	
Total Pension Liability	\$ 2,515,811,000
Fiduciary Net Position	<u>2,563,446,000</u>
Net Pension Liability	\$ (47,635,000)
Ratio of Fiduciary Net Position to Total Pension Liability	101.89%

**Paragraph 31.b.:** This paragraph requires information to be disclosed regarding the actuarial assumptions and other inputs used to measure the TPL. The complete set of actuarial assumptions and other inputs utilized in developing the TPL are outlined in Appendix C. The TPL, as of June 30, 2018, was determined based on an actuarial valuation prepared as of July 1, 2018, using the following key actuarial assumptions and other inputs:

Price Inflation	2.75 percent
Wage Inflation	3.50 percent
Salary increases, including wage inflation	3.50 to 10.00 percent
Long-term Rate of Return, net of investment expense, including price inflation	7.50 percent
Municipal Bond Index Rate	
Prior Measurement Date	3.56 percent
Measurement Date	3.89 percent
Year FNP is projected to be depleted	N/A
Single Equivalent Interest Rate, net of investment expense, including price inflation	
Prior Measurement Date	7.50 percent
Measurement Date	7.50 percent



## Mortality

Pre-retirement mortality rates were based on the RP-2000 Blue Collar Healthy Combined Table (Fully generational using Scale AA) with age set back four years.

Post-retirement mortality rates were based on the RP-2000 Blue Collar Healthy Combined Table (Fully generational using Scale AA).

Disabled pensioners mortality rates were based on the Blue Collar Healthy Combined Table with age set forward four years.

The most recent experience study was performed for the period July 1, 2012 through June 30, 2017.

### **Paragraph 31.b.(1)**

**(a) Discount rate (SEIR):** The discount rate used to measure the TPL at June 30, 2018 was 7.50 percent. There was no change in the SEIR since the Prior Measurement Date.

**(b) Projected cash flows:** The projection of cash flows used to determine the discount rate was performed in accordance with GASB 67. We assumed that contributions from members, state agencies, insurance premium taxes and other state sources will be made at the current contribution rates as set out in state statute:

- a. Employee contribution rate: 8.0% of base salary.
- b. Municipality contribution rate: 13.0% of base salary.
- c. State contributions: 14.0% of insurance premium tax collected. The dollar amount was assumed to increase with price inflation for all future years.
- d. Administrative expenses in the prior year were projected forward with price inflation as an estimate for administrative expenses in current and future years. The portion of expenses in future years allocated to the current members was based on the proportionate share of covered payroll in each year for the remainder of the existing members to the total covered payroll for all members.

Based on those assumptions, the System's FNP was projected to be available to make all projected future benefit payments of current System members. Therefore, the long-term expected rate of return on System investments of 7.50% was applied to all periods of projected benefit payments to determine the TPL.



The FNP projections are based upon the System's financial status on the Measurement Date, the indicated set of methods and assumptions, and the requirements of GASB 67. As such, the FNP projections are not reflective of the cash flows and asset accumulations that would occur on an ongoing System basis, reflecting the impact of future members. Therefore, the results of this test do not necessarily indicate whether or not the fund will actually run out of money, the financial condition of the System, or the System's ability to make benefit payments in future years.

- (c) **Long-term rate of return:** The long-term expected rate of return on pension plan investments is reviewed as part of regular experience studies prepared for the System. The most recent experience study was performed for the period July 1, 2012 through June 30, 2017. Several factors are considered in evaluating the long-term rate of return assumption, including long-term historical data, estimates inherent in current market data, and an analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of investment expense and inflation), along with estimates of variability and correlations for each asset class, were developed by the System's investment consultant. These ranges were combined to develop the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and then adding expected inflation. The capital market assumptions developed by investment consultants may cover a shorter investment horizon and, therefore, are not always useful in setting the long-term rate of return for funding pension plans which covers a longer timeframe. The long-term rate of return assumption is intended to be a long-term assumption (30 to 50 years) and is not expected to change absent a significant change in the asset allocation, a change in the inflation assumption, or a fundamental change in the market that alters expected returns in future years.
- (d) **Municipal bond rate:** A municipal bond rate was not used in determining the discount rate. If it were required, the rate would be 3.89% on the Measurement Date.
- (e) **Periods of projected benefit payments:** Projected future benefit payments for all current members of the System were projected through 2117.
- (f) **Assumed asset allocation:** This will be provided by the System.



**(g) Sensitivity analysis:** This paragraph requires disclosure of the sensitivity of the NPL to changes in the discount rate. The following presents the NPL of the System, calculated using the discount rate of 7.50 percent, as well as the System's NPL calculated using a discount rate that is 1-percentage-point lower (6.50 percent) or 1-percentage-point higher (8.50 percent) than the current rate:

	<b>1% Decrease (6.50%)</b>	<b>Current Discount Rate (7.50%)</b>	<b>1% Increase (8.50%)</b>
Net Pension Liability	\$220,964,000	(\$47,635,000)	(\$274,705,000)

**Paragraph 31.c.:** The TPL at June 30, 2018 is based upon an actuarial valuation prepared as of July 1, 2018.



## **SECTION II – REQUIRED SUPPLEMENTARY INFORMATION**

There are several tables of Required Supplementary Information (RSI) that need to be included in the System's financial statements:

**Paragraphs 32.a.-c.:** The required schedules are provided in Appendix A.

**Paragraph 32.d.:** The money-weighted rates of return will be supplied by the System.

**Paragraph 34:** The following information should be noted regarding the RSI, particularly for the *Schedule of Employer Contributions*:

***Changes of benefit and funding terms:*** The following changes were made by the Oklahoma Legislature and reflected in the valuation performed as of July 1 listed below:

2018 - A one-time stipend to be paid in October of 2018 was granted by the 2018.

***Changes in actuarial assumptions:***

2018 – An experience study was performed for the 2012 to 2017 period. Significant changes include:

- Price inflation was reduced from 3.00% to 2.75%.
- Wage inflation was explicitly set at 3.50%.
- Interest credit on DOP balances increased from 7.75% to 11.00%.
- Updates to retirement rates to better fit experience.
- Updates to termination rates to better fit experience.
- Disability award amount increased from 50% of pay to 75% of pay.
- Updates to salary merit scale to better fit experience.



***Method and assumptions used in calculations of Actuarially Determined Contributions.***

The System is funded with fixed contribution rates for both members and the municipality. In addition, the State contributed a fixed rate of insurance premium taxes. The Actuarially Determined Contributions in the *Schedule of Employer Contributions* are calculated as of the beginning of the plan year in which contributions are reported.

The following actuarial methods and assumptions were used to determine the Actuarially Determined Contribution reported in the most recent plan year, July 1, 2017 to June 30, 2018 (based on the July 1, 2017 actuarial valuation):

Actuarial cost method	Entry age
Amortization method	Level dollar amount, open
Remaining amortization period	5 years
Asset valuation method	5-year smoothing
Price Inflation	3.00 percent
Salary increases, including inflation	4.50 to 17.00 percent
Long-term Rate of Return, net of investment expense, including price inflation	7.50 percent

Please see the information presented earlier in regard to Paragraph 34 for detailed information on the benefit changes and assumption changes that may have impacted the Actuarially Determined Contributions shown in the *Schedule of Employer Contributions*.



**APPENDIX A**

**REQUIRED  
SUPPLEMENTARY INFORMATION**



## Exhibit A

### GASB 67 Paragraph 32(a) and (b) SCHEDULE OF CHANGES IN THE EMPLOYERS' NET PENSION LIABILITY

	2018	2017	2016	2015
<b>Total Pension Liability</b>				
Service Cost	\$62,896,000	\$63,029,000	\$58,694,272	\$54,592,585
Interest	175,092,000	171,306,000	165,076,048	164,140,743
Benefit term changes	2,161,000	0	0	0
Differences between expected and actual experience	(13,155,000)	(41,985,000)	596,254	(12,764,056)
Assumption changes	25,307,000	0	0	0
Benefit payments, including member refunds	<u>(139,563,000)</u>	<u>(144,092,000)</u>	<u>(138,625,000)</u>	<u>(141,693,000)</u>
<b>Net change in Total Pension Liability</b>	<b>\$112,738,000</b>	<b>\$48,258,000</b>	<b>\$85,741,574</b>	<b>\$64,276,272</b>
<b>Total Pension Liability - beginning</b>	<b>\$2,403,073,000</b>	<b>\$2,354,815,000</b>	<b>\$2,269,073,426</b>	<b>\$2,204,797,154</b>
<b>Total Pension Liability - ending (a)</b>	<b>\$2,515,811,000</b>	<b>\$2,403,073,000</b>	<b>\$2,354,815,000</b>	<b>\$2,269,073,426</b>
<b>Plan Fiduciary Net Position</b>				
Employer contributions	\$40,135,000	\$38,887,000	\$38,533,000	\$37,261,000
Non-Employer contributions	39,028,000	34,283,000	35,915,000	35,490,000
Employee contributions	24,747,000	23,916,000	23,787,000	22,867,000
Net investment income	205,439,000	242,415,000	(21,104,000)	74,554,000
Benefit payments, including member refunds	(139,563,000)	(144,092,000)	(138,625,000)	(141,693,000)
Administrative expenses	(1,721,000)	(1,699,000)	(1,831,000)	(1,949,000)
Other changes	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
<b>Net change in Plan Fiduciary Net Position</b>	<b>\$168,065,000</b>	<b>\$193,710,000</b>	<b>(\$63,325,000)</b>	<b>\$26,530,000</b>
<b>Plan Fiduciary Net Position - beginning</b>	<b>\$2,395,381,000</b>	<b>\$2,201,671,000</b>	<b>\$2,264,996,000</b>	<b>\$2,238,466,000</b>
<b>Plan Fiduciary Net Position - ending (b)</b>	<b>\$2,563,446,000</b>	<b>\$2,395,381,000</b>	<b>\$2,201,671,000</b>	<b>\$2,264,996,000</b>
<b>Net Pension Liability - ending (a) - (b)</b>	<b>(\$47,635,000)</b>	<b>\$7,692,000</b>	<b>\$153,144,000</b>	<b>\$4,077,426</b>
<b>Plan Fiduciary Net Position as a percentage of the Total Pension Liability</b>	<b>101.89%</b>	<b>99.68%</b>	<b>93.50%</b>	<b>99.82%</b>
<b>Covered payroll</b>	<b>\$308,731,000</b>	<b>\$299,131,000</b>	<b>\$296,407,692</b>	<b>\$295,307,065</b>
<b>Employers' Net Pension Liability as a percentage of covered payroll</b>	<b>(15.43%)</b>	<b>2.57%</b>	<b>51.67%</b>	<b>1.38%</b>

Note: Schedule is intended to show 10-year trend. Additional years will be reported as they become available.

Results prior to 2016 were provided by the prior actuary.





**Exhibit B**

**GASB 67 Paragraph 32(c)  
SCHEDULE OF EMPLOYER CONTRIBUTIONS**

	2018	2017	2016	2015
Actuarially determined employer contribution	\$32,798,000	\$51,417,000	\$45,053,969	\$63,908,114
Actual employer contributions	\$40,135,000	\$38,887,000	\$38,533,000	\$37,261,000
Actual non-employer contributions	<u>39,028,000</u>	<u>34,283,000</u>	<u>35,915,000</u>	<u>35,490,000</u>
Total contributions	79,163,000	73,170,000	74,448,000	72,751,000
Annual contribution deficiency (excess)	<u>(\$46,365,000)</u>	<u>(\$21,753,000)</u>	<u>(\$29,394,031)</u>	<u>(\$8,842,886)</u>
Covered payroll	\$308,731,000	\$299,131,000	\$296,407,692	\$295,307,065
Actual contributions as a percentage of covered payroll	25.64%	24.46%	25.12%	24.64%

Note: Schedule is intended to show 10-year trend. Additional years will be reported as they become available.  
Results prior to 2016 were provided by the prior actuary.



## APPENDIX B

### SUMMARY OF MAIN BENEFIT PROVISIONS

- Effective Date and Plan Year:** The System became effective July 1, 1981 and has been amended each year since then. The plan year is July 1 to June 30.
- Administration:** The System is administered by the Oklahoma Police Pension Retirement Board consisting of thirteen Members. The Board shall be responsible for the policies and rules for the general administration of the System.
- Plan Type:** Defined benefit plan.
- Employers Included:** An eligible employer may join the System on the first day of any month. An application of affiliation must be filed in the form of a resolution before the eligible municipality can become a participating municipality.
- Eligibility:** All persons employed full-time as officers working more than 25 hours per week or any person undergoing police training to become a permanent police officer with a police department of a participating municipality, with ages not less than twenty-one (21) nor more than forty-five (45) when accepting membership.
- Salary Considered:** Base salary used in the determination of benefits does not include payment for accumulated sick and annual leave upon termination of employment or any uniform allowances.
- Final average salary means the average paid base salary for normally scheduled hours of an officer over the highest 30 consecutive months of the last 60 months of credited service.
- Service Considered:** Credited service consists of the period during which the Member participated in the System or predecessor municipal pay as an active employee, plus any service prior to the establishment of the municipal plan which was credited under the predecessor municipal systems of credited service granted by the State Board, plus any applicable military service.
- State Contributions:** Insurance premium tax allocation. Historically, the System has received 14% of these collected taxes. For the fiscal years beginning July 1, 2004 and ending June 30, 2009, the System received 17% of these collected taxes. For the fiscal year thereafter, the System received 14% of these collected taxes. Beginning in fiscal year July 1, 2006, the System began receiving 26% of a special allocation established to refund the System for reduced allocations of insurance premium taxes resulting from increases in insurance premium tax credits.



Beginning in fiscal year July, 1 2010, the amount of insurance premium tax apportioned to the System will be applied prior to the calculation of the Home Office Credit.

**Member Contributions:** 8% percent of paid salary. These contributions shall “be picked up” after December 31, 1988 pursuant to Section 414(h)(2) of the Internal Revenue Code.

**Municipality Contributions:** Contribution is 13% percent as of July 1, 1996.

**Normal Retirement Benefit:**

Normal Retirement Eligibility: 20 years of credited service.

Benefit Amount: 2 1/2% of the final average salary multiplied by the years of credited service, with a maximum of 30 years of credited service considered.

Normal Form of Benefit: The benefit is paid as a Joint and 100% Survivor Annuity if the Member was married 30 months prior to death.

**Termination Benefit:**

Less than 10 Years of Service: Refund of contributions without interest.

More than 10 Years of Service: If greater than 10 years of service, but not eligible for the normal retirement benefit, the benefit is payable at the date the Member would have had 20 years of service in an amount equal to 2 1/2% of the greater of final average salary or the salary paid to active employees as described under “salary considered” multiplied by the years and completed months of credited service.

**Disability Benefit (Duty):**

Total Disability

Upon determination of disability incurred as a result of the performance of duty, the normal disability benefit is 50% of final average salary.

Partial Disability

Upon determination of partial disability incurred as a result of the performance of duty, the normal disability is reduced according to the percentage of impairment, as outlined in the “American Medical Association’s Guide to the Evaluation of Permanent Impairment.” The following shows the percent of normal disability benefit payable as related to the percent of impairment.



% Impairment	% of Benefit
1% to 49%	50%
50% to 74%	75%
75% to 100%	100%

**Disability Benefit (Non-Duty):**

Upon determination of disability after 10 years of service due to causes other than duty, the benefit equals the accrued benefit of 2 ½% of final average salary times years of credited service (maximum of 30 years) times:

- 100%, if permanent and total, or
- The following percentages, if partial disability.

1% to 24%	25%
25% to 49%	50%
50% to 74%	75%
75% to 99%	90%

**Death Benefits Payable to Beneficiaries:**

Prior to Retirement (Duty):

The greater of:

- 1) 2 ½% of final average salary times years of credited service (maximum of 30 years), or
- 2) 50% of final average salary.

Prior to Retirement (Non-Duty):

After 10 years of service, a benefit equal to 2 ½% of final average salary times years of credited service (maximum if 30 years).

Prior to 10 years of service, a refund of the accumulated contributions made by the Member will be paid to the estate.

After Retirement:

100% of the Member's retirement or deferred vested benefit, payable when the Member would have been eligible to receive it, payable to the beneficiary.

Lump Sum:

The beneficiary shall receive a lump-sum amount of \$5,000.

Beneficiary:

Surviving spouses must be married to the member 30 months prior to the date of death (waived in the case of duty related death).



If the beneficiary is a child, the benefits are payable to age 18, or to age 22 if a full-time student. If the beneficiary is a spouse to whom the Member was married for at least 30 months prior to death, if the death was not duty related, the benefits are payable for life.

**Postretirement Adjustments:**

Police officers eligible to receive increased benefits according to repealed Section 50-120 of Title 11 of the Oklahoma Statutes pursuant to a court order receive an adjustment of 1/3 to 1/2 of the increase or decrease of any adjustment to the base salary of a regular police officer.

**Deferred Option Plan:**

A Member with 20 or more years of service may elect to participate in the Deferred Option Plan (DOP). Participation in the DOP shall not exceed five years. The members' contributions cease upon entering the Plan, but the agency contributions are divided equally between the Retirement System and Deferred Option Plan. The monthly retirement benefits that the member is eligible to receive are paid into the Deferred Option Plan account.

Members can elect to retroactively join the DOP as of a back-drop-date which is no earlier than the member's normal retirement date or five years before his termination date. The monthly retirement benefits and employee contributions that would have been payable had the member elected to join the DOP are credited to the member's DOP account with interest.

The retirement benefits are not recalculated for service and salary past the election date to join the Deferred Option Plan. However, the benefits are increased by cost-of-living increases applicable to retired members during the DOP period.

When the Member actually terminates employment, the Deferred Option Plan account balance may be paid in a lump sum or to an annuity provider. Monthly retirement benefits are then paid directly to the retired Member.

This Plan became effective during the July 1, 1991 to June 30, 1992 Plan Year. The Deferred Option Plan account is guaranteed a minimum of the valuation interest rate for investment return, or 2% less than the fund rate of return, if greater.



**APPENDIX C**

**STATEMENT OF ACTUARIAL ASSUMPTIONS**

**Economic Assumptions**

- 1. Inflation 2.75%, per annum, compound annually.
- 2. Investment Return 7.50%, net of investment expenses, per annum, compound annually.
- 3. Salary Scale Sample rates are shown below:

Attained Service	Inflation %	Merit %	Increase %
0	3.50	6.50	10.00
1	3.50	5.50	9.00
2	3.50	4.50	8.00
3	3.50	3.50	7.00
4-12	3.50	2.50	6.00
13	3.50	1.50	5.00
14	3.50	1.00	4.50
15	3.50	0.50	4.00
16+	3.50	0.00	3.50

**Demographic Assumptions**

- 1. Retirement Rates Sample rates are shown below:

Attained Service	Annual Rates of Retirement
20	15%
21	8
22	8
23	8
24	8
25	20
26	10
27	10
28	10
29	15
30	20
31	30
32	40
33	50
34	75
35	100



## 2. Mortality Rates

- (a) Active participants RP-2000 Combined Blue Collar Healthy Employees (Fully generational using Scale AA) with age set back four years
- (b) Active participants (post-retirement) and nondisabled pensioners RP-2000 Combined Blue Collar Healthy Employees with Generational Projection
- (c) Disabled pensioners RP-2000 Combined Blue Collar Healthy Combined with age set forward four years

## 3. Disability Rates

Sample rates are shown below:

Age	Rate
20-24	.0002
25-29	.0002
30-34	.0004
35-39	.0006
40-44	.0008
45-49	.0010
50-54	.0012
55-59	.0014

## 4. Withdrawal Rates

Sample rates are shown below:

Service Range	Rate
0	.150
1	.120
2	.100
3	.080
4	.070
5	.060
6	.050
7	.045
8	.040
9	.035
10	.030
11	.025
12	.020
13	.015
14-20	.010
Over 20	.000



## 5. Marital Status

- (a) Percentage married: Males: 85%; Females: 85%
- (b) Age difference: Males are assumed to be three (3) years older than females.

### **Other Assumptions:**

1. Deferred Benefits Begin at: Age 50, or the date at which the participant would have achieved 20 years of service, if later.
2. Provision for Expenses: Administrative Expenses, as budgeted by the Oklahoma Police Pension and Retirement System.
3. Percentage of Disability: Members becoming disabled have a 50%-74% impairment.
4. Duty-Related Death: All pre-retirement deaths are duty-related.
5. Cost-of-Living Allowance: Police officers eligible to receive increased benefits according to repealed Section 50-120 of Title 11 of the Oklahoma Statutes pursuant to a court order receive an adjustment of 1/3 to 1/2 of the increase or decrease of any adjustment to the base salary of a regular police officer, based on an increase in base salary of 3.5% (wage inflation).
6. Deferred Option Plan: Members currently participating in the Deferred Option Plan (DOP) are assumed to remain in the DOP for the maximum of five years. Active members leaving active service are assumed to retroactively elect to join the DOP for the maximum allowable period. DOP account balances are assumed to accumulate at 11% (to reflect the interest rate guarantee prior to retirement) for future BackDOP elections and members are assumed to elect a lump sum at retirement. All balances held in Deferred Option payout accounts are assumed to be paid immediately upon the end of employment.