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OKLAHOMA PUBLIC EMPLOYEES RETIREMENT SYSTEM

**State of Oklahoma
Public Employees Retirement System**

**Actuarial Valuation Report
as of July 1, 2012**





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

October 10, 2012

Board of Trustees
Oklahoma Public Employees Retirement System
5801 N. Broadway Extension, Suite 400
P.O. Box 53007
Oklahoma City, OK 73152-3007

Members of the Board:

In this report are submitted the results of the annual valuation of the assets and liabilities of the State of Oklahoma Public Employees Retirement System (OPERS), prepared as of July 1, 2012.

The purpose of this report is to provide a summary of the funded status of the System as of July 1, 2012, to provide the Annual Required Contribution (ARC), and to provide the accounting information under Governmental Accounting Standards Board Statements No. 25 and 27 (GASB 25 and 27). While not verifying the data at the source, the actuary performed tests for consistency and reasonability.

The promised benefits of the System are included in the actuarially calculated contribution rates which are developed using the Entry Age Normal cost method. A five-year market related value of assets is used for actuarial valuation purposes. Gains and losses are reflected in the unfunded actuarial accrued liability (UAAL) that is being amortized by regular annual contributions as a level percentage of payroll, on the assumption that payroll will increase by 4.00% annually.

As in the last valuation, liabilities have been calculated without considering future cost of living adjustments (COLAs) in keeping with House Bill 2132 (2011). Senate Bill 794 (2011) increased retirement ages for members hired on or after November 1, 2011. Because there were no such members in the last valuation, these provisions were not actually applied until this valuation.

Also since in the last valuation, the plan provisions of the System have been amended by House Bill 2321 (2012) which eliminates the six months rounding up or down of service, House Bill 2322 (2012) which cleans up some language and allows elected members to participate in the Step-Up program, and House Bill 2939 (2012) which allows education employees who were transferred to OPERS under last year's IT consolidation bill to transfer back to Oklahoma Teachers' Retirement System (OTRS) if they desire. None of these provisions affect the valuation results.

We have prepared the Schedule of Funding Progress and Employer Contribution Trend Information shown in the Comprehensive Annual Financial Report. All historical information that references a valuation date prior to July 1, 2010 was prepared by the previous actuarial firm.

3906 Raynor Pkwy, Suite 106, Bellevue, NE 68123

Phone (402) 905-4461 • Fax (402) 905-4464

www.CavMacConsulting.com

Offices in Englewood, CO • Kennesaw, GA • Bellevue, NE • Hilton Head Island, SC



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This is to certify that the independent consulting actuaries are members of the American Academy of Actuaries and have experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes 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 or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Because the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

We have also reviewed the supplemental medical benefits provided by the System under Section 401(h) of the Internal Revenue Code and have determined that these benefits are subordinate to the retirement benefits as required.

In our opinion, in order for the System to operate in an actuarially-sound manner, contributions equal to at least the ARC are necessary for future fiscal years. Assuming these contributions are made to the System, from year to year in the future at the rates recommended on the basis of the successive actuarial valuations, the continued sufficiency of the retirement fund to provide the benefits called for under the System may be safely anticipated. Because the statutory contribution exceeds the ARC in this valuation, we recommend the statutory contribution be contributed in order to protect against future investment and experience losses, or, in the absence of such losses, to pay the UAAL down faster than under the current schedule.

The Table of Contents, which immediately follows, outlines the material contained in the report.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read 'Alisa Bennett'.

Alisa Bennett, FSA, EA, FCA, MAAA
Principal and Consulting Actuary

A handwritten signature in blue ink, appearing to read 'Patrice Beckham'.

Patrice Beckham, FSA, EA, FCA, MAAA
Principal and Consulting Actuary

A handwritten signature in blue ink, appearing to read 'Brent A. Banister'.

Brent Banister, PhD, FSA, EA, FCA, MAAA
Chief Pension Actuary



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EXECUTIVE SUMMARY

OVERVIEW

The Oklahoma Public Employees Retirement System (OPERS) provides retirement benefits for most employees of the State of Oklahoma, for most County employees, and for employees of Local Employers who have elected to participate in OPERS.

This report presents the results of the July 1, 2012 actuarial valuation for the System. The primary purposes of performing an actuarial valuation are to:

- Determine the employer contribution rate required to fund the System on an actuarial basis;
- Evaluate the sufficiency of the statutory contribution rate;
- Disclose asset and liability measures as of the valuation date;
- Determine the experience of the System since the last valuation date; and
- Analyze and report on trends in System contributions, assets, and liabilities.

As in the last valuation, liabilities have been calculated without considering future COLAs due to House Bill 2132. Since the last valuation, members hired on or after November 1, 2011 who are impacted by the increased retirement age provisions of Senate Bill 794 were included in the valuation.

In addition, there were several bills passed by the 2012 Oklahoma Legislature and signed by the Governor which are described below:

HB 2321

- Eliminates “six-month rounding” up or down. Members will be credited with actual years and months of service.
- Applicable to regular members who join the System on or after November 1, 2012.
- Applicable to elected officials who are elected or appointed on or after November 1, 2011.
- Applies to sick leave and service credit in general. Without rounding for these future retirees, agency billing for unused sick leave will be based on actual months rather than whole years.

HB 2322

- Permits elected officials to participate in the "Step Up" program just as regular, non-elected members are allowed to do. This program allows members to pay an extra 2.91% of their pay for an increased benefit multiplier of 2.5%.

HB 2939

- Allows education employees who were transferred to OPERS under last year’s IT consolidation bill to transfer back to OTRS if they desire.
- The transfer option is a one-time option which must be exercised within 30 days of the effective date of the bill. OPERS will have to refund contributions collected since the transfer and the members will also have their service transferred to OTRS.



EXECUTIVE SUMMARY

The valuation results provide a snapshot view of the System's financial condition on July 1, 2012. The unfunded actuarial accrued liability for the System increased by \$71 million due to various factors, the largest being the asset loss. A detailed analysis of the change in the unfunded actuarial accrued liability from July 1, 2011 to July 1, 2012 is shown on page 5.

The highlights of the valuation are shown below:

Funded Status \$(millions)	Actuarial Valuation Date	
	July 1, 2012	July 1, 2011
Actuarial Accrued Liability	\$8,335	\$8,180
Actuarial Value of Assets	\$6,682	\$6,599
Unfunded Actuarial Accrued Liability	\$1,652	\$1,581
Funded Ratio (Actuarial Value)	80.2%	80.7%
Market Value of Assets	\$6,821	\$6,841
Funded Ratio (Market Value)	81.8%	83.6%

There was a liability gain of \$115.2 from demographic experience which resulted in an actuarial accrued liability that was lower than expected (1.36% of expected liability). The components of this net liability gain are identified on page 5 of this report.

The estimated net return on the market value of assets was 2.2% for the year ended June 30, 2012. The actuarial value of assets is determined using a method to smooth investment gains and losses in order to develop more stable contribution rates. The return on the actuarial value of assets was approximately 3.9% which resulted in an actuarial loss of \$230.5 million.

The actuarial contribution rate for the employers increased from 2011 to 2012:

Contribution Rate	Actuarial Valuation Date	
	July 1, 2012	July 1, 2011
Normal Cost	10.67%	10.66%
Amortization of UAAL	8.72%	8.27%
Budgeted Expenses	<u>0.42%</u>	<u>0.45%</u>
Actuarial Contribution Rate	19.81%	19.38%
Less Estimated Member Contribution Rate	<u>4.11%</u>	<u>4.09%</u>
Employer Actuarial Contribution Rate	15.70%	15.29%
Less Employer Statutory Contribution Rate	16.50%	16.50%
Contribution Shortfall (Surplus)	(0.80%)	(1.21)%

Primarily due to the removal of the COLA assumption and reserve starting with the June 30, 2011 valuation, the actuarial contribution rate is less than the statutory contribution rate. This will decrease the unfunded actuarial accrued liability and accelerate progress on reaching long-term funding goals.



EXECUTIVE SUMMARY

EXPERIENCE: July 1, 2011 to July 1, 2012

In many respects, an actuarial valuation can be thought of as an inventory process. The inventory is taken as of the actuarial valuation date, which for this valuation is July 1, 2012. On that date, the assets available for the payment of benefits are appraised. The assets are compared with the liabilities of the System, which are generally in excess of assets. The actuarial process leads to a method of determining the contributions needed by members and employers in the future to balance the System assets and liabilities.

Changes in the System's assets and liabilities impacted the change in the actuarial contribution rates between July 1, 2011 and July 1, 2012. Each component is examined in the following discussion.

ASSETS

As of July 1, 2012, the System had total funds when measured on a market value basis of \$6.82 billion. This was a decrease of \$20 million from the July 1, 2011 figure of \$6.84 billion. The market value of assets is not used directly in the calculation of the actuarial contribution rate. An asset valuation method, which smoothes the effect of market fluctuations, is used to determine the value of assets used in the valuation, called the "actuarial value of assets". Differences between the actual return on the market value of assets and the assumed return on the actuarial value of assets are phased in over a five-year period. The resulting value must be no less than 80% of the market value and no more than 120% of market value, referred to as "the corridor". See Table 3 for the detailed development of the actuarial value of assets as of July 1, 2012.

The actuarial value of assets as of July 1, 2012 was \$6.68 billion. The annualized dollar-weighted rate of return for FY2012, measured on the actuarial value of assets, was approximately 3.9%, which resulted in an actuarial loss of \$231 million. Measured on the market value of assets, the estimated rate of return was 2.2%, net of investment expenses.

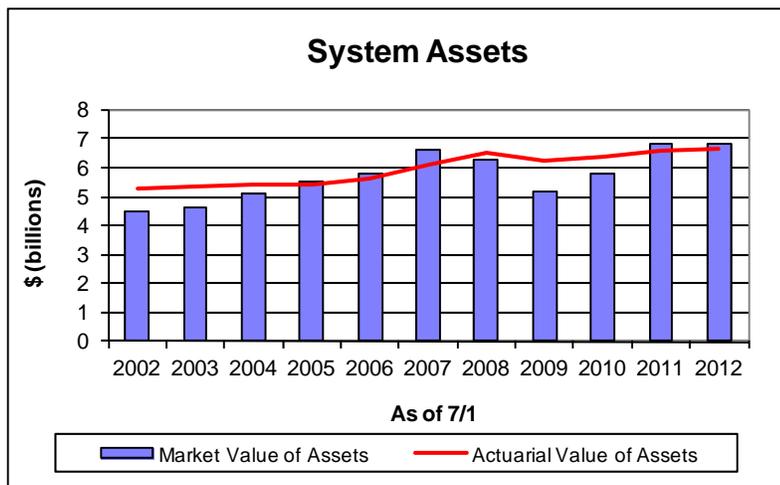
The components of the change in the market and actuarial value of assets for the System are set forth below:

	Market Value \$(millions)	Actuarial Value \$(millions)
Net Assets, July 1, 2011	\$6,841	\$6,599
• Employer and Member Contributions	329	329
• Benefit Payments and Expenses	(503)	(503)
• Investment Income/(Loss)	154	257
Preliminary Value, July 1, 2012	6,821	6,682
Application of Corridor	N/A	N/A
Final Net Assets, July 1, 2012	\$6,821	\$6,682
Estimated Rate of Return	2.2%	3.9%

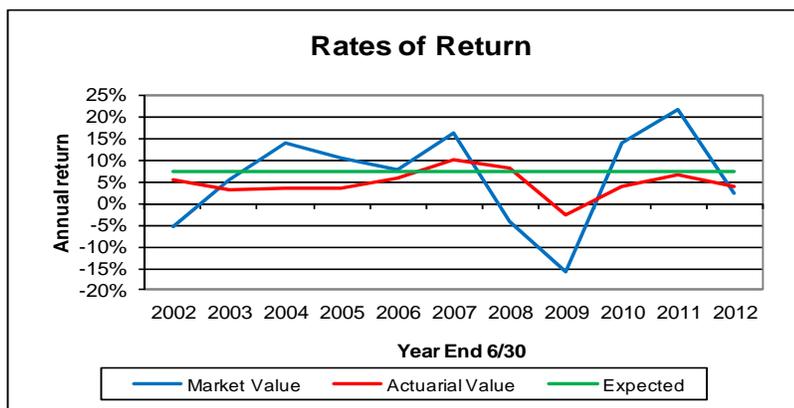
Due to the use of an asset smoothing method, there is approximately \$139 million of deferred investment gain that has not yet been recognized. This deferred investment experience will be reflected in the actuarial value of assets over the next few years.



EXECUTIVE SUMMARY



Due to actual investment experience lower than the assumed rate of return for much of the last decade, the actuarial value of assets has often been higher than the market value.



Rates of return on the market value of assets are very volatile. The more stable return on the actuarial value of assets illustrates the advantage of using an asset smoothing method.

SYSTEM LIABILITIES

The actuarial accrued liability is that portion of the present value of future benefits that will not be paid by future normal costs. The difference between this liability and the asset value at the same date is referred to as the unfunded actuarial accrued liability (UAAL). The UAAL will be reduced if the employer’s contributions exceed the employer’s normal cost for the year, after allowing for interest earned on the previous years’ balance of unfunded actuarial accrued liability. Benefit improvements, experience gains/losses, and changes in the actuarial assumptions and methods will also impact the total actuarial accrued liability and the unfunded portion thereof.

The unfunded actuarial accrued liability as of July 1, 2012 is:

Actuarial Accrued Liability	\$8,334,637,900
Actuarial Value of Assets	<u>6,682,200,296</u>
Unfunded Actuarial Accrued Liability	\$1,652,437,604

See Table 5 for the detailed development of the Actuarial Accrued Liability and Table 7 for the calculation of the Unfunded Actuarial Accrued Liability.



EXECUTIVE SUMMARY

Other factors influencing the UAAL from year to year include actual experience versus that expected based on the actuarial assumptions (both asset and liability), changes in the actuarial assumptions, procedures or methods and changes in benefit provisions. The actual experience measured in this valuation is that which occurred during the plan year ended June 30, 2012. There was an experience loss on the actuarial value of assets and an experience gain on liabilities. The net result was an increase in the UAAL.

Between July 1, 2011 and July 1, 2012 the change in the unfunded actuarial accrued liability for the System was as follows (in millions):

	<u>\$(millions)</u>
Unfunded Actuarial Accrued Liability, July 1, 2011	\$1,581
• effect of contributions more than actuarial rate	(23)
• expected decrease due to amortization	(16)
• investment experience	231
• liability experience ¹	(115)
• other experience	(6)
• change in actuarial assumptions	0
• change due to amendments	0
Unfunded Actuarial Accrued Liability, July 1, 2012	\$1,652

¹ Liability gain is about 1.36% of total actuarial accrued liability

The liability gain for the System can be allocated to actual experience related to each actuarial assumption as follows:

Liability Source	Impact of AAL \$(millions)	% of Expected Liability
Salary Increases	\$ (106.9)	(1.26)%
Mortality	(12.0)	(0.14)%
Termination of Employment	(10.2)	(0.12)%
Retirements	0.9	0.01%
Disability	2.9	0.03%
New Entrants and Rehires	38.1	0.45%
Miscellaneous/Data Changes	(28.0)	(0.33)%
Total (Gain)/Loss	\$ (115.2)	(1.36)%

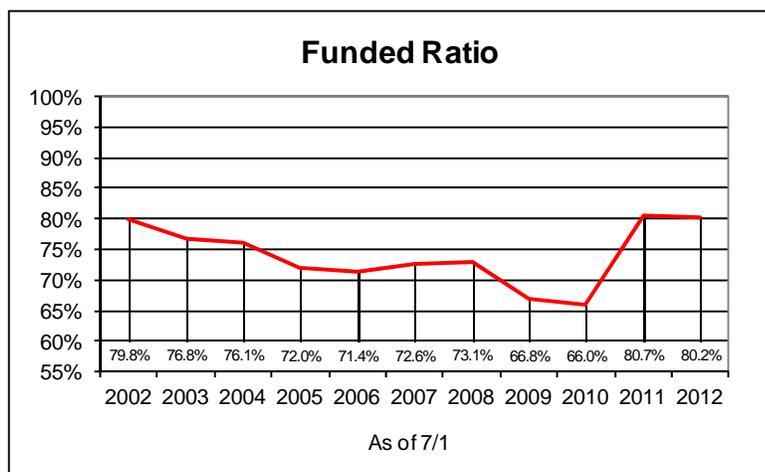
A detailed summary of the change in the UAAL is shown in Table 9.



EXECUTIVE SUMMARY

An evaluation of the unfunded actuarial accrued liability on a pure dollar basis may not provide a complete analysis because only the difference between the assets and liabilities (which are both very large numbers) is reflected. Another way to evaluate the unfunded actuarial accrued liability and the progress made in its funding is to track the funded status, which is the ratio of the actuarial value of assets to the actuarial accrued liability. The funded status information, on both an actuarial and market value basis, is shown below in \$(millions).

	7/1/07	7/1/08	7/1/09	7/1/10	7/1/11	7/1/12
Using Actuarial Value of Assets:						
Funded Ratio	72.6%	73.0%	66.8%	66.0%	80.7%	80.2%
Unfunded Actuarial Accrued Liability (UAAL)	\$2,303	\$2,402	\$3,083	\$3,274	\$1,581	\$1,652
Using Market Value of Assets:						
Funded Ratio	78.9%	70.3%	55.7%	60.0%	83.6%	81.8%
Unfunded Actuarial Accrued Liability (UAAL)	\$1,773	\$2,639	\$4,118	\$3,848	\$1,339	\$1,513



Through the first part of this period, the funded ratio steadily declined. Numerous factors contributed to the decline, including: changes in the benefit provisions, contributions less than the actuarial rate, demographic experience and investment experience less favorable than expected based on the assumptions.

The increase in 2011 was primarily due to the elimination of the COLA assumption and reserve as a result of legislation (HB 2132).

CONTRIBUTION RATES

The funding objective of the System is to pay the normal cost rate plus an amount that will pay off the unfunded actuarial accrued liability over a closed 20-year period commencing July 1, 2007.

Under the Entry Age Normal cost method, the actuarial contribution rate consists of:

- A “normal cost” for the portion of projected liabilities allocated by the actuarial cost method to service of members during the year following the valuation date;
- An “unfunded actuarial accrued liability contribution” for the excess of the portion of projected liabilities allocated to service to date over the actuarial value of assets.

Contributions to the System are made by the members and their employers. Most State employees pay 3.5% of compensation. Local government employees contribute from 3.5% to 8.5% of compensation, depending on the rate chosen by their employer. Starting in 2004, most participants were eligible to make an election to contribute an additional 2.91% of pay and to increase their benefit accrual multiplier for future years of service

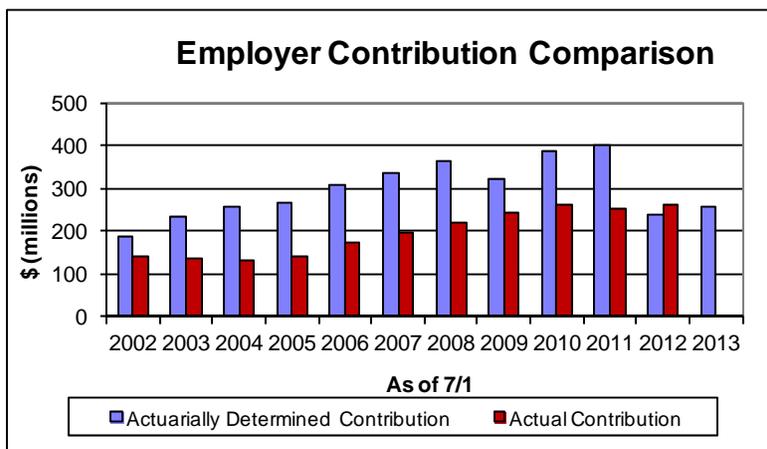


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to 2.5%. Hazardous Duty employees and most elected officials have a different required contribution rate (see Summary of Provisions section of this report).

Effective July 1, 1999, the State's contribution rate was reduced from 12.5% to 10.0% of payroll and stayed at that level until 2005. For the same period, the combined employer and employee contribution rates for the county and local employees were 13.5% of payroll. As of July 1, 2005, the State's contribution rate increased to 11.5% of payroll with additional increases of 1.0% each July until reaching 16.5%. The 1.0% increase that was supposed to be effective July 1, 2010 was delayed one year by the 2010 Legislature and was effective July 1, 2011. For county and local employees, the contribution rate increased to 15.0% on July 1, 2005 and increased an additional 1.0% of payroll each year beginning July 1, 2006 until it reached 20.0% on July 1, 2010. The ultimate contribution rate of 16.5% for the State is now greater than the employer actuarial contribution rate for fiscal year 2012 developed in this valuation. When contributions to the System are greater than the actuarial rate, the UAAL is expected to decrease and be paid down faster. As of the July 1, 2012 valuation, if the System pays the statutory rate, it is projected the UAAL will be paid off in 14 years.

The following graph shows the total actuarially determined employer contribution compared to the amount actually received in each year. The funding policy contribution equals the System's normal cost, budgeted expenses, and an amortization of the unfunded actuarial accrued liability. For July 1, 1998 and prior years, the unfunded actuarial accrued liability was amortized over 25 years from July 1, 1987. For the July 1, 1999 valuation, the amortization period was changed to 40 years from July 1, 1987. For the July 1, 2008 valuation, the amortization period was changed to 20 years from July 1, 2007 (no change in the number of years remaining). As of July 1, 2012, 15 years remain in the amortization period.



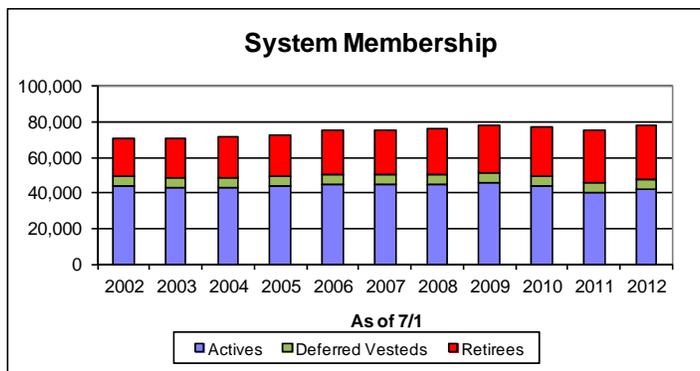


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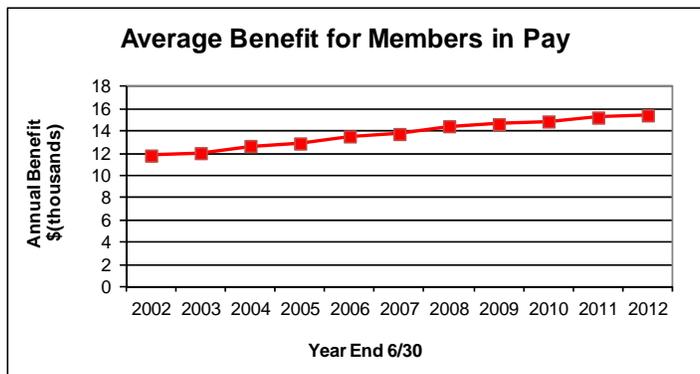
MEMBER INFORMATION

The number of active members included in the valuation decreased by 8% from the 2010 to the 2011 valuation and increased by 5% from the 2011 to the 2012 valuation.

Retired member counts and average retirement benefit amounts continue to increase steadily. There were 30,263 retirees and beneficiaries in the 2012 valuation, with an average benefit of \$1,285 per month. This represents about a 1% increase in the average monthly benefit from the previous year.



The number of active members has been fairly stable for most of the period with a slight decline over the last two years. The number of terminated vested and retirees has increased which is to be expected in an ongoing retirement system.



The average benefit for retirees has climbed steadily over the past 10 years as new retirees leave with higher salaries and, therefore, higher benefits than those already retired. In addition, most of the members who die are older with smaller benefits. Ad hoc COLAs granted by the Legislature have also increased the average benefit during this period.

General Comments

The economy and financial markets have experienced significant volatility over the last several years. The valuation results presented as of July 1, 2009 reflected the large loss on the market value of assets and noted that the asset smoothing mechanism would recognize this over the coming years. The valuation results this year do indeed reflect the continued recognition of past losses and the accompanying increase in the unfunded actuarial accrued liability and actuarial contribution rate. The losses of 2008 and 2009 were so large that their recognition in the actuarial value of assets surpass the portion of the 2010 and 2011 gains being recognized. This, together with the asset loss in 2012, resulted in a net loss recognized as of July 1, 2012.

The employer contribution rate has been increasing according to a schedule with an ultimate rate of 16.50% which was reached July 1, 2011. As noted earlier in the report, mainly due to the removal of the COLA assumption and reserve starting in July 1, 2011, the actuarial contribution rate of 15.70% is less than what is currently being funded. Absent any future investment or experience losses, this will serve to decrease the UAAL and cause it to be paid down faster. As of the July 1, 2012 valuation, if the System pays the statutory rate it is projected that the UAAL will be paid off in 14 years. Paying the statutory rate also helps to protect against future investment and experience losses that may be more frequent and/or severe in this time of economic uncertainty.



SECTION 1 - SUMMARY OF FINDINGS

For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized below.

COMPARISON OF PRINCIPAL VALUATION RESULTS

	7/1/2012 Valuation	7/1/2011 Valuation	% Change
1. PARTICIPANT DATA			
Number of:			
Active Members*	42,569	40,551	5.0
Retired and Disabled Members and Beneficiaries	30,263	29,418	2.9
Inactive Members	5,497	5,522	(0.5)
Total Members	<u>78,329</u>	<u>75,491</u>	3.8
Projected Annual Salaries of Active Members	\$ 1,633,837,374	\$ 1,570,500,148	4.0
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 466,724,541	\$ 447,919,757	4.2
2. ASSETS AND LIABILITIES			
Total Actuarial Accrued Liability	\$ 8,334,637,900	\$ 8,179,767,661	1.9
Market Value of Assets	\$ 6,821,303,541	\$ 6,841,001,769	(0.3)
Actuarial Value of Assets	\$ 6,682,200,296	\$ 6,598,627,939	1.3
Unfunded Actuarial Accrued Liability	\$ 1,652,437,604	\$ 1,581,139,722	4.5
Funded Ratio	80.2%	80.7%	(0.6)
3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL			
Normal Cost Rate	10.67%	10.66%	
Amortization of Unfunded Actuarial Accrued Liability	8.72%	8.27%	
Budgeted Expenses	0.42%	0.45%	
Total Actuarial Required Contribution Rate	<u>19.81%</u>	<u>19.38%</u>	
Less Estimated Member Contribution Rate	4.11%	4.09%	
Employer Actuarial Required Contribution Rate	<u>15.70%</u>	<u>15.29%</u>	
Less Statutory State Employer Contribution Rate	16.50%	16.50%	
Contribution Shortfall/(Surplus)	<u>(0.80%)</u>	<u>(1.21%)</u>	

* OPERS inadvertently left off member enrollment data in FY2011 for the period between March 1, 2011 to June 30, 2011. This made the FY2011 total membership appear approximately 1,500 lower than the correct number. The FY2012 Active member count includes the members left off last year and the small actuarial loss associated with these members is included with new entrants and rehires in the chart on page 5.



Oklahoma Public Employees Retirement System

Market Value of Assets

The current market value represents the "snapshot" or "cash-out" value of System assets as of the valuation date. In addition, market values of assets provide a basis for measuring investment performance from time to time. At July 1, 2012, the market value of assets for the System was \$6.8 billion. Table 1 is a comparison, at market values, of System assets as of June 30, 2012, and June 30, 2011, in total and by investment category. Table 2 summarizes the change in the market value of assets from July 1, 2011 to June 30, 2012.

Actuarial Value of Assets

Neither the market value of assets, representing a "cash-out" value of System assets, nor the book value of assets, representing the cost of investments, may be the best measure of the System's ongoing ability to meet its obligations.

To arrive at a suitable value for the actuarial valuation, a technique for determining the actuarial value of assets is used, which dampens swings in the market value while still indirectly recognizing market values.

The actuarial value of assets is based on a five-year moving average of expected and actual market values determined as follows:

- at the beginning of each fiscal year, a preliminary expected actuarial asset value is calculated as the sum of the previous year's actuarial value increased with a year's interest at the System valuation rate plus net cash flow adjusted for interest (at the same rate) to the end of the previous fiscal year;
- the expected actuarial asset value is set equal to the preliminary expected actuarial value plus the unrecognized investment gains and losses as of the beginning of the previous fiscal year;
- the difference between the expected actuarial asset value and the market value is the investment gain or loss for the previous fiscal year;
- the (final) actuarial asset value is the preliminary value plus 20% of the investment gains and losses for each of the five previous fiscal years, but in no case more than 120% of the market value or less than 80% of the market value.

Table 3 shows the development of the actuarial value of assets (AVA) as of the valuation date.



Oklahoma Public Employees Retirement System

Table 1

Analysis of Net Assets at Market Value

	<u>June 30, 2012</u>		<u>June 30, 2011</u>	
	<u>Amount</u>	<u>% of</u>	<u>Amount</u>	<u>% of</u>
	<u>\$(millions)</u>	<u>Total</u>	<u>\$(millions)</u>	<u>Total</u>
Cash & Equivalents	\$ 132.5	1.9%	\$ 174.9	2.5%
Short-term Investments	9.5	0.1%	39.6	0.6%
Government Obligations	1,675.2	24.0%	1,435.4	20.3%
Corporate Bonds	865.7	12.4%	854.5	12.1%
Domestic Equity	2,737.3	39.1%	2,859.8	40.6%
International Equity	1,577.2	22.5%	1,686.6	23.9%
Subtotal	\$ <u>6,997.4</u>	100.0%	\$ <u>7,050.8</u>	100.0%
Property (net)	0.9		0.8	
Other Assets	0.3		0.2	
Net Receivables/(Payables)	(177.3)		(210.8)	
Net Assets	\$ <u>6,821.3</u>		\$ <u>6,841.0</u>	



Oklahoma Public Employees Retirement System

Table 2

Statement of Changes in Net Assets

	Fiscal Year Ended June 30	
	2012	2011
1. Market Value of Net Assets at Beginning of Year	\$ 6,841,001,769	\$ 5,774,379,263
2. Contributions		
a. Members	\$ 66,299,570	\$ 66,431,434
b. State and local agencies	262,710,009	252,904,579
c. Total contributions (2a) + (2b)	<u>329,009,579</u>	<u>319,336,013</u>
3. Net Investment Income		
a. Net appreciation (depreciation) in fair value of investments	\$ 46,557,082	\$ 1,122,811,032
b. Interest	69,997,122	69,039,631
c. Dividends	43,816,355	40,475,599
d. Securities lending activities	1,734,519	1,826,242
e. Other	0	0
f. Total investment income/(loss) (3a) + (3b) + (3c) + (3d) + (3e)	<u>\$ 162,105,078</u>	<u>\$ 1,234,152,504</u>
g. Investment expenses	<u>(7,412,642)</u>	<u>(7,466,011)</u>
h. Net investment income/(loss) (3f) + (3g)	154,692,436	1,226,686,493
i. Total additions/(subtractions) (2c) + (3h)	\$ 483,702,015	\$ 1,546,022,506
4. Deductions		
a. Retirement, death, and survivor benefits	\$ 484,309,893	\$ 462,062,563
b. Refunds and withdrawals	14,331,714	12,656,758
c. Administrative expenses	4,758,636	4,680,679
d. Total deductions (4a) + (4b) + (4c)	<u>\$ 503,400,243</u>	<u>\$ 479,400,000</u>
5. Net Change in Assets (3i) - (4d)	(19,698,228)	1,066,622,506
6. Market Value of Net Assets at End of Year (1) + (5)	\$ 6,821,303,541	\$ 6,841,001,769



SECTION 2 - ASSETS

Oklahoma Public Employees Retirement System

Table 3

Determination of Actuarial Value of Assets

Schedule of Asset Gains/(Losses)

Year End	Original Amount	Recognized in Prior Years	Recognized in This Year	Recognized in Future Years
2008	\$ (730,915,087)	\$ (584,732,070)	\$ (146,183,017)	\$ 0
2009	(1,449,929,882)	(869,957,929)	(289,985,976)	(289,985,977)
2010	605,615,805	242,246,322	121,123,161	242,246,322
2011	756,449,148	151,289,830	151,289,830	453,869,488
2012	(333,783,235)	0	(66,756,647)	(267,026,588)
Total	\$ (1,152,563,251)	\$ (1,061,153,847)	\$ (230,512,649)	\$ 139,103,245

Development of Actuarial Value of Assets

1. Actuarial Value as of July 1, 2011	\$ 6,598,627,939
2. Contributions	
a. Member	\$ 66,299,570
b. Employer	262,710,009
c. Total (a) + (b)	\$ 329,009,579
3. Decreases during year	
a. Benefit payments	\$ (484,309,893)
b. Refunds and withdrawals	(14,331,714)
c. Administrative expenses	(4,758,636)
d. Total (a) + (b) + (c)	\$ (503,400,243)
4. Expected return at 7.5% on:	
a. Item 1	\$ 494,897,095
b. Item 2 (one-half year)	12,114,813
c. Item 3 (one-half year)	(18,536,238)
d. Total (a) + (b) + (c)	\$ 488,475,670
5. Expected actuarial value as of June 30, 2012 (1) + (2c) + (3d) + (4d)	\$ 6,912,712,945
6. Unrecognized asset gain/(loss) as of July 1, 2011	\$ 242,373,831
7. Expected actuarial value as of June 30, 2012, plus previous year's unrecognized gain/(loss) (5) + (6)	\$ 7,155,086,776
8. Market Value as of June 30, 2012	\$ 6,821,303,541
9. Year end 2012 asset gain/(loss) (8) - (7)	\$ (333,783,235)
10. Asset gain/(loss) to be recognized as of June 30, 2012	\$ (230,512,649)
11. Initial Actuarial Value as of June 30, 2012 (5) + (10)	\$ 6,682,200,296
12. Constraining values:	
a. 80% of market value (8) x 0.8	\$ 5,457,042,833
b. 120% of market value (8) x 1.2	\$ 8,185,564,249
13. Actuarial Value as of June 30, 2012 (11), but not less than (12a), nor greater than (12b)	\$ 6,682,200,296



SECTION 3 - SYSTEM LIABILITIES

Oklahoma Public Employees Retirement System

In the previous section, an actuarial valuation was compared with an inventory process, and an analysis was given of the inventory of assets of the System as of the valuation date, July 1, 2012. In this section, the discussion will focus on the commitments of the System, which are referred to as its liabilities.

Table 4 contains an analysis of the actuarial present value of all future benefits (PVFB) for contributing members, inactive members, retirees and their beneficiaries. The analysis is provided for each group.

The liabilities summarized in Table 4 include the actuarial present value of all future benefits expected to be paid with respect to each member. For an active member, this value includes measures of both benefits already earned and future benefits expected to be earned. For all members, active and retired, the value extends over benefits earnable and payable for the rest of their lives and, if an optional benefit is chosen, for the lives of the surviving beneficiaries.

The actuarial assumptions used to determine liabilities are based on the results of an experience study based on the three-year period ended June 30, 2010. This set of assumptions is shown in Appendix C. The liabilities reflect the benefit structure in place as of July 1, 2012.

Actuarial Liabilities

A fundamental principle in financing the liabilities of a retirement program is that the cost of its benefits should be related to the period in which benefits are earned, rather than to the period of benefit distribution. An actuarial cost method is a mathematical technique that allocates the present value of future benefits into annual costs. In order to do this allocation, it is necessary for the funding method to “break down” the present value of future benefits into two components:

- (1) that which is attributable to the past; and
- (2) that which is attributable to the future.

Actuarial terminology calls the part attributable to the past the “past service liability” or the “actuarial accrued liability”. The portion allocated to the future is known as the “present value of future normal costs”, with the specific piece of it allocated to the current year being called the “normal cost”. Table 5 contains the calculation of actuarial liabilities for all groups.

In valuations prior to July 1, 2011, the System used an assumption of a 2% annual COLA each year in developing liabilities and contribution rates. The System did not have an automatic COLA provision, but ad hoc COLAs had historically been granted by the Legislature. The 2011 Oklahoma Legislature passed House Bill 2132 which removed COLAs from the definition of “non-fiscal retirement bills” in the Oklahoma Pension Legislation Actuarial Analysis Act (OPLAAA). The impact of this change was to make any COLA bill subject to all of the requirements of OPLAAA, including the requirement that such bills provide adequate funding to pay the cost. As a result, beginning with the July 1, 2011 actuarial valuation the liabilities of the System have been calculated without a COLA assumption.



Oklahoma Public Employees Retirement System

Table 4

**Present Value of Future Benefits
As of July 1, 2012**

	Regular	Elected Officials	Hazardous Duty	Total
1. Active Employees				
a. Retirement Benefit	\$ 3,567,530,720	\$ 241,195,041	\$ 189,690,946	\$ 3,998,416,707
b. Withdrawal Benefit	191,780,901	9,597,227	9,371,136	210,749,264
c. Pre-Retirement Death Benefit	102,999,194	2,870,518	4,000,041	109,869,753
d. Disability Benefit	128,161,171	6,542,043	4,723,416	139,426,630
e. Return of Member Contributions	37,582,928	492,063	3,254,353	41,329,344
f. Supplemental Medical Benefit	181,440,638	5,496,874	8,830,021	195,767,533
g. Subtotal	\$ 4,209,495,552	\$ 266,193,766	\$ 219,869,913	\$ 4,695,559,231
2. Inactive Nonvested Members				\$ 29,729,549
3. Inactive Vested Members				297,543,162
4. Return of Excess Contributions				778,773
5. Disabled Members				113,101,415
6. Retirees				3,946,189,686
7. Beneficiaries				262,499,825
8. Supplemental Medical Benefit for Retirees				182,225,968
9. Total PVFB				\$ 9,527,627,609



Oklahoma Public Employees Retirement System

Table 5

**Actuarial Accrued Liability
As of July 1, 2012**

	Regular	Elected Officials	Hazardous Duty	Total
1. Present Value of Future Benefits for Active Members				
a. Retirement Benefit	\$ 3,567,530,720	\$ 241,195,041	\$ 189,690,946	\$ 3,998,416,707
b. Withdrawal Benefit	191,780,901	9,597,227	9,371,136	210,749,264
c. Pre-Retirement Death Benefit	102,999,194	2,870,518	4,000,041	109,869,753
d. Disability Benefit	128,161,171	6,542,043	4,723,416	139,426,630
e. Return of Member Contributions	37,582,928	492,063	3,254,353	41,329,344
f. Supplemental Medical Benefit	181,440,638	5,496,874	8,830,021	195,767,533
g. Subtotal	\$ 4,209,495,552	\$ 266,193,766	\$ 219,869,913	\$ 4,695,559,231
2. Present Value of Future Normal Costs for Active Members				
a. Retirement Benefit	\$ 745,840,275	\$ 34,441,623	\$ 50,629,619	\$ 830,911,517
b. Withdrawal Benefit	109,578,347	6,315,732	5,202,812	121,096,891
c. Pre-Retirement Death Benefit	26,380,115	570,200	1,289,240	28,239,555
d. Disability Benefit	43,585,777	1,719,961	1,726,896	47,032,634
e. Return of Member Contributions	97,965,446	2,622,434	10,035,661	110,623,541
f. Supplemental Medical Benefit	51,104,994	1,308,637	2,671,940	55,085,571
g. Subtotal	\$ 1,074,454,954	\$ 46,978,587	\$ 71,556,168	\$ 1,192,989,709
3. Present Value of Future Benefits for Inactive Members				4,832,068,378
4. Total Actuarial Accrued Liability (1g) - (2g) + (3)				\$ 8,334,637,900



SECTION 4 – EMPLOYER CONTRIBUTIONS

Oklahoma Public Employees Retirement System

In the previous two sections, attention has been focused on the assets and the liabilities (present value of future benefits) of the System. A comparison of Tables 3 and 4 indicates that there is a shortfall in current actuarial assets needed to meet the present value of all future benefits for current members and beneficiaries.

In an active system, there will always be a difference between the assets and the present value of all future benefits. An actuarial valuation determines a schedule of future contributions that will provide for this funding in an orderly fashion.

The method used to determine the incidence of the contributions in various years is called the actuarial cost method. Under an actuarial cost method, the contributions required to meet the difference between current assets and current liabilities are allocated each year between two elements: (1) the normal cost, and (2) the payment on the unfunded actuarial accrued liability.

The term “fully funded” is often applied to a system in which contributions at the normal cost rate are sufficient to pay for the benefits of existing employees as well as for those of new employees. More often than not, systems are not fully funded, either because of past benefit improvements that have not been completely funded and/or because of actuarial deficiencies that have occurred because experience has not been as favorable as anticipated under the actuarial assumptions. Under these circumstances, an unfunded actuarial accrued liability (UAAL) exists.

Description of Rate Components

The actuarial cost method used by the System is the traditional Entry Age Normal (EAN) – level percent of pay cost method. Under the EAN cost method, the actuarial present value of each member’s projected benefit is allocated on a level basis over the member’s compensation between the entry age of the member and the assumed exit age. The portion of the actuarial present value allocated to the valuation year is called the normal cost. The actuarial present value of benefits allocated to prior years of service is called the actuarial accrued liability. The unfunded actuarial accrued liability represents the difference between the actuarial accrued liability and the actuarial value of assets as of the valuation date. The unfunded actuarial accrued liability is calculated each year and reflects experience gains/losses.

Effective with the July 1, 2008 valuation, the UAAL is amortized as a level percent of payroll over a closed 20-year period commencing July 1, 2007. Prior to 2008, the unfunded actuarial accrued liability was amortized as a level dollar amount over a 40-year period from July 1, 1987. Given a stable active workforce, the level percent of payroll amortization method is expected to produce a payment stream that is constant as a percent of covered payroll.

Contribution Rate Summary

The normal cost rate is developed in Table 6. Table 7 develops the contribution rate for amortization of the unfunded actuarial accrued liability. Table 8 develops the total actuarial contribution rate.



Oklahoma Public Employees Retirement System

Table 6

**Normal Cost Contribution Rates
As Percentages of Salary**

	Regular	Elected Officials	Hazardous Duty	Total	% of Pay
1. Normal Cost					
a. Retirement Benefit	\$ 109,854,140	\$ 6,789,352	\$ 6,998,403	\$ 123,641,895	7.56%
b. Withdrawal Benefit	13,925,207	1,102,118	697,146	15,724,471	0.96%
c. Pre-Retirement Death Benefit	3,741,763	111,298	184,889	4,037,950	0.25%
d. Disability Benefit	5,793,876	311,143	238,659	6,343,678	0.39%
e. Return of Member Contributions	12,962,295	493,196	1,362,834	14,818,325	0.91%
f. Supplemental Medical Benefit	9,110,779	308,269	407,178	9,826,226	0.60%
g. Total	\$ 155,388,060	\$ 9,115,376	\$ 9,889,109	\$ 174,392,545	10.67%
2. Estimated Payroll for the Year	\$ 1,524,883,458	\$ 39,233,202	\$ 69,720,714	\$ 1,633,837,374	
3. Normal Cost Rate (1g)/(2)	10.19%	23.23%	14.18%	10.67%	



SECTION 4 – EMPLOYER CONTRIBUTIONS

Oklahoma Public Employees Retirement System

Table 7

Unfunded Actuarial Accrued Liability Contribution Rate

1. Actuarial Present Value of Future Benefits	\$	9,527,627,609
2. Actuarial Present Value of Future Normal Costs		<u>1,192,989,709</u>
3. Actuarial Accrued Liability (1) - (2)	\$	8,334,637,900
4. Actuarial Value of Assets		<u>6,682,200,296</u>
5. Unfunded Actuarial Accrued Liability (UAAL) (3) - (4)	\$	1,652,437,604
6. Amortization of UAAL over 20 years from July 1, 2007 (assumed mid-year) *		142,538,471
7. Total Estimated Payroll for Year Ending June 30, 2013	\$	1,633,837,374
8. Amortization as a Percent of Payroll		8.72%

*The UAAL is amortized as a level percent of payroll, assuming payroll increases 4.0% per year.



SECTION 4 – EMPLOYER CONTRIBUTIONS

Oklahoma Public Employees Retirement System

Table 8
Actuarial Contribution Rate

	July 1	
	2012	2011
1. Total Normal Cost Rate	10.67%	10.66%
2. Amortization of UAAL ¹	8.72%	8.27%
3. Budgeted Expenses ²	0.42%	0.45%
4. Total Actuarial Contribution Rate (1) + (2) + (3)	19.81%	19.38%
5. Estimated Member Contribution Rate	4.11%	4.09%
6. Employer Actuarial Contribution Rate (4) - (5)	15.70%	15.29%

¹ Amortization of UAAL is a level percent of payroll.

² Provided by the System.



SECTION 4 – EMPLOYER CONTRIBUTIONS

Oklahoma Public Employees Retirement System

Table 9

Calculation of Actuarial Gain/(Loss)

1. Expected actuarial accrued liability		
a. Actuarial accrued liability at July 1, 2011	\$	8,179,767,661
b. Normal cost at mid-year		167,391,429
c. Benefit payments for fiscal year ending June 30, 2012		(498,641,607)
d. Interest on (a), (b), and (c)		601,285,258
e. Change in assumptions		0
f. Amendments		0
g. Expected actuarial accrued liability as of July 1, 2012 (a) + (b) + (c) + (d) + (e) + (f)	\$	<u>8,449,802,741</u>
2. Actuarial accrued liability at July 1, 2012	\$	8,334,637,900
3. Actuarial accrued liability gain/(loss) (1g) - (2)	\$	115,164,841
4. Expected actuarial value of assets		
a. Actuarial value of assets at July 1, 2011	\$	6,598,627,939
b. Contributions for fiscal year ending June 30, 2012		329,009,579
c. Benefit payment and administrative expenses for fiscal year ending June 30, 2012		(503,400,243)
d. Interest on (a), (b), and (c)		488,475,670
e. Expected actuarial value of assets as of July 1, 2012 (a) + (b) + (c) + (d)	\$	<u>6,912,712,945</u>
5. Actuarial value of assets at July 1, 2012	\$	6,682,200,296
6. Actuarial value of assets gain/(loss) (5) - (4e)	\$	(230,512,649)
7. Net actuarial gain/(loss) (3) + (6)	\$	(115,347,808)



SECTION 4 – EMPLOYER CONTRIBUTIONS

Oklahoma Public Employees Retirement System

Table 10

Summary of Contribution Requirements

	Actuarial Valuation as of		Percent Change
	July 1, 2012	July 1, 2011	
1. Expected annual payroll	\$ 1,633,837,374	\$ 1,570,500,148	4.0%
2. Total normal cost	\$ 174,392,545	\$ 167,391,429	4.2%
3. Unfunded actuarial accrued liability	\$ 1,652,437,604	\$ 1,581,139,722	4.5%
4. Amortization of unfunded actuarial accrued liability over 20 years from July 1, 2007*	\$ 142,538,471	\$ 129,814,798	9.8%
5. Budgeted expenses (provided by the System)	\$ 6,882,011	\$ 7,084,709	(2.9%)
6. Total required contribution (2) + (4) + (5)	\$ 323,813,027	\$ 304,290,936	6.4%
7. Estimated member contributions	\$ 67,216,039	\$ 64,159,198	4.8%
8. Required employer contribution (6) - (7)	\$ 256,596,988	\$ 240,131,738	6.9%
9. Previous year's actual contribution			
a. Member	\$ 66,299,570	\$ 66,431,434	(0.2%)
b. Employer	262,710,009	252,904,579	3.9%
c. Total	\$ 329,009,579	\$ 319,336,013	3.0%

*Amortization of UAAL is a level percent of payroll.



SECTION 5– ACCOUNTING AND OTHER INFORMATION

Oklahoma Public Employees Retirement System

Governmental Accounting Standards Board Statement No. 25, Financial Reporting for Defined Benefit Pension Plans as amended by GASB 50, (referred to as GASB 25), establishes financial reporting standards for defined benefit pension plans. In addition to the two required statements regarding plan assets, the statement requires two schedules and accompanying notes disclosing information relative to the funded status of the Plan and historical contribution patterns.

- The Schedule of Funding Progress provides information about whether the financial strength of the Plan is improving or deteriorating over time.
- The Schedule of Employer Contributions provides historical information about the annual required contribution (ARC) and the percentage of the ARC that was actually contributed.

In addition to information required by GASB, we also provide an exhibit showing the present value of accumulated benefits under FASB Statement No. 35 and an exhibit showing the expected benefit payments for the System.



SECTION 5- ACCOUNTING AND OTHER INFORMATION

Oklahoma Public Employees Retirement System

Table 11

Accounting Information for GASB 25

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b)-(a)	Funded Ratio (a)/(b)	Covered Payroll (c)	UAAL as a Percent of Covered Payroll ((b) - (a))/(c)
7/1/2007	\$6,110,230,058	\$8,413,248,130	\$2,303,018,072	72.6%	\$1,626,737,832	141.6%
7/1/2008	6,491,928,362	8,894,287,254	2,402,358,892	73.0%	1,682,663,413	142.8%
7/1/2009	6,208,245,334	9,291,457,837	3,083,212,503	66.8%	1,732,975,532	177.9%
7/1/2010	6,348,416,407	9,622,627,833	3,274,211,426	66.0%	1,683,697,139	194.5%
7/1/2011	6,598,627,939	8,179,767,661	1,581,139,722	80.7%	1,570,500,148	100.7%
7/1/2012	6,682,200,296	8,334,637,900	1,652,437,604	80.2%	1,633,837,374	101.1%

Valuation Date July 1, 2012
 Actuarial Cost Method Entry Age Normal
 Amortization Method Level Percent of Pay, Closed
 Remaining Amortization Period 15 Years
 Asset Valuation Method 5 Year Moving Average (see Appendix C)
 Actuarial Assumptions:
 Investment Rate of Return 7.5%
 Projected Salary Increases 4.9% - 8.8%
 Cost of Living Adjustment 0%



Oklahoma Public Employees Retirement System

Table 12

Accounting Information for GASB 25

Schedule of Employer Contributions

For Fiscal Year Ended June 30

Year End	Annual Required Contribution	Percentage Contributed
2007	\$ 338,550,016	58.4%
2008	363,914,352	60.5%
2009	323,104,773	75.2%
2010	389,155,339	66.8%
2011	402,011,633	62.9%
2012	240,131,738	109.4%



SECTION 5– ACCOUNTING AND OTHER INFORMATION

Oklahoma Public Employees Retirement System

Table 13

Actuarial Present Value of Accumulated Benefits

The actuarial present value of vested and nonvested accumulated System benefits is computed on an ongoing System-wide basis in order to provide information on benefit liabilities calculated in accordance with Financial Accounting Standards Board Statement No. 35. In this calculation, a determination is made of all benefits earned by current participants as of the valuation date; the actuarial present value is then computed using demographic assumptions and an assumed interest rate. Assumptions regarding future salary and accrual of future benefit service are not necessary for this purpose.

	July 1	
	2012	2011
Vested benefits		
Active members	\$ 1,966,927,669	\$ 1,934,805,510
Terminated vested members	297,543,162	313,447,560
Unclaimed contributions	29,729,549	27,045,737
Limited benefit	778,773	849,207
Retirees and beneficiaries	4,321,790,926	4,153,994,755
Supplemental medical insurance premiums	321,408,243	320,999,786
Total vested benefits	\$ 6,938,178,322	\$ 6,751,142,555
Nonvested benefits for active members	\$ 325,799,266	\$ 343,433,050
Total accumulated benefits	\$ 7,263,977,588	\$ 7,094,575,605
Market value of assets available for benefits	\$ 6,821,303,541	\$ 6,841,001,769
Funded ratio	93.9%	96.4%
Number of members		
Vested members		
Active members	20,763	21,057
Terminated vested members	5,497	5,522
Retirees and beneficiaries	30,263	29,418
Total vested members	56,523	55,997
Nonvested active members	21,806	19,494
Total members	78,329	75,491



Oklahoma Public Employees Retirement System

Table 13 (continued)

Actuarial Present Value of Accumulated Benefits

A statement of changes in the actuarial present value of accumulated System benefits follows. This statement shows the effect of certain events on the actuarial present value shown on the previous page.

Present value of accrued benefit as of July 1, 2011	\$ 7,094,575,605
Increase/(decrease) during the year attributable to:	
Benefits accrued and (gains)/losses	154,311,435
Increase due to interest	513,732,155
Benefits paid	(498,641,607)
Plan provision change	0
Net increase/(decrease)	\$ 169,401,983
Present value of accrued benefit as of July 1, 2012	\$ 7,263,977,588

**Oklahoma Public Employees Retirement System****Table 14****Projected Benefit Payments**

The table below shows estimated benefits expected to be paid over the next ten years, based on the assumptions used in this valuation. The “Actives” column shows the benefits expected to be paid to members currently active on July 1, 2012. The “Retirees” column shows benefits expected to be paid to members receiving benefit payments as of July 1, 2012 or to members who have terminated employment and are entitled to a deferred vested benefit.

Retirement, Survivor, and Withdrawal Benefits

Year Ending			
June 30	Actives	Retirees	Total
2013	\$33,436,000	\$468,876,000	\$502,312,000
2014	64,256,000	461,311,000	525,567,000
2015	95,614,000	453,380,000	548,994,000
2016	127,552,000	444,970,000	572,522,000
2017	160,177,000	436,378,000	596,555,000
2018	193,457,000	427,419,000	620,876,000
2019	226,490,000	418,000,000	644,490,000
2020	258,732,000	408,430,000	667,162,000
2021	290,116,000	398,481,000	688,597,000
2022	321,049,000	387,900,000	708,949,000

Supplemental Medical Premium Benefits

Year Ending			
June 30	Actives	Retirees	Total
2013	\$1,628,000	\$18,040,000	\$19,668,000
2014	3,590,000	17,709,000	21,299,000
2015	5,515,000	17,367,000	22,882,000
2016	7,393,000	17,006,000	24,399,000
2017	9,242,000	16,696,000	25,938,000
2018	11,021,000	16,370,000	27,391,000
2019	12,704,000	16,054,000	28,758,000
2020	14,258,000	15,741,000	29,999,000
2021	15,669,000	15,448,000	31,117,000
2022	16,971,000	15,107,000	32,078,000



APPENDIX A – SUMMARY OF SYSTEM PROVISIONS

Oklahoma Public Employees Retirement System

Following is a summary of the major System provisions used in the actuarial valuation of the System.

Effective date and fiscal year The System became effective January 1, 1964. The fiscal year is July 1 to June 30.

Administration The System is administered by a 13-member Oklahoma Public Employees Retirement System Board of Trustees. The Board acts as the fiduciary for the investment and administration of the System.

Employees included All permanent employees of the State of Oklahoma, and any other employer such as a county, county hospital, city or town, conservation districts, circuit engineering districts, and any trust in which a county, city or town participates and is the primary beneficiary, are eligible to join if:

- a) the employee is not eligible for or participating in another retirement system authorized under Oklahoma law, is covered by Social Security and is not participating in the U.S. Civil Service Retirement System.
- b) the employee is scheduled for 1,000 hours per year and salary is not less than the hourly rate of the monthly minimum wage for State employees (for employees of local government employers, not less than the hourly rate of the monthly minimum wage for such employees).

Membership is mandatory for new eligible employees on the first of the month following employment.

Employer and employee contributions Most State employees except Hazardous Duty employees and most elected officials:

Employee:	3.5%
Employer:	16.5%
Total:	20.0%



APPENDIX A – SUMMARY OF SYSTEM PROVISIONS

Oklahoma Public Employees Retirement System

Employer and employee contributions (continued)

Prior to July 1, 2006 the employee contribution rate varied on pay above/below \$25,000 as shown in the chart at the end of this section. This plan provision was changed by the 2006 Legislature.

Before November 1, 2010, elected officials selected a contribution rate of 4.5%, 6%, 7.5%, 8.5%, 9% or 10% which determines the computation factor used in calculating their benefit. Elected officials elected or appointed on or after November 1, 2010 (but before November 1, 2011) were limited to selecting either the 4.5% contribution rate or the 10% contribution rate.

Contributions for Hazardous Duty employees are summarized at the end of this appendix.

Local government employees contribute from 3.5% to 8.5% of pay, depending on the rate chosen by their employers.

Starting in 2004, regular members may make an election to contribute an additional 2.91% of pay and increase their accrual rate for future years of service to 2.5% (referred to as Step-Up Option). Elected officials elected on or after November 1, 2011 may also elect Step-Up.

Contributions are based on compensation defined by the Board.

Contribution Summary: Regular State Contributions (By Statute) For Pay Under \$25,000

Fiscal Year	Employer Contribution	Employee Contribution	Total Contribution	Applicable Salary Cap
1994-1995	11.5%	2.0%	13.5%	\$50,000
1995-1996	11.5%	2.0%	13.5%	\$60,000
1996-1997	12.0%	2.5%	14.5%	\$70,000
1997-1998	12.5%	3.0%	15.5%	\$80,000
1998-1999	12.5%	3.0%	15.5%	No Cap
1999-2005	10.0%	3.0%	13.0%	No Cap
2005-2006	11.5%	3.0%	14.5%	No Cap



APPENDIX A – SUMMARY OF SYSTEM PROVISIONS

Oklahoma Public Employees Retirement System

Employer and employee contributions
(continued)

For Pay Between \$25,000 and Cap

Fiscal Year	Employer Contribution	Employee Contribution	Total Contribution	Applicable Salary Cap
1994-1995	11.5%	3.5%	15.0%	\$50,000
1995-1996	11.5%	3.5%	15.0%	\$60,000
1996-1997	12.0%	3.5%	15.5%	\$70,000
1997-1998	12.5%	3.5%	16.0%	\$80,000
1998-1999	12.5%	3.5%	16.0%	No Cap
1999-2005	10.0%	3.5%	13.5%	No Cap
2005-2006	11.5%	3.5%	15.0%	No Cap

For All Pay

Fiscal Year	Employer Contribution	Employee Contribution	Total Contribution
2006-2007	12.5%	3.5%	16.0%
2007-2008	13.5%	3.5%	17.0%
2008-2009	14.5%	3.5%	18.0%
2009-2010	15.5%	3.5%	19.0%
2010-2011	15.5%	3.5%	19.0%
2011-2012	16.5%	3.5%	20.0%
2012-2013	16.5%	3.5%	20.0%

Years of Service

Prior Service

All service of the employee prior to the employer’s entry date is credited prior service providing the participating employer joined on or before January 1, 1975. Prior service for employees of employers who join after January 1, 1975, may be purchased by the employee. Prior service is allowed for certain active wartime military service (maximum 5 years credit) for members employed prior to July 1, 2000 and for employment with public schools or Board of Regents for Higher Education prior to July 1943. Service need not be continuous employment to be credited.



Oklahoma Public Employees Retirement System

Years of Service

Participating Service

After the employer’s entry date, a member’s participating service is credited for all periods of employment for which required contributions are made. Service is prorated according to hours worked per month on and after July 1, 1979. Certain active wartime military service is credited, provided the contribution accumulation is not withdrawn. Active and retired members are credited with additional participating service based on their accumulated contributions prior to June 30, 1977 (if not withdrawn prior to retirement), according to the following:

<u>Member Accumulation</u>		<u>Additional Years</u>
\$ 1	to \$ 500	1
501	to 1,000	2
1,001	to 1,500	3
1,501	to 2,000	4
2,001	to More	5

A member who has withdrawn his or her contributions and later returns to membership may repay the amount withdrawn plus interest as determined by the Board to reinstate participating service which was canceled by his or her withdrawal.

A member may receive credit for those years of service as an elected official if the member is not receiving credit for that service in any other public retirement system. The member must pay an amount equal to the actuarial cost to fund the difference between the member’s projected benefits with and without the additional service credit.

The total participating service of a member who retires or terminates employment and elects a vested benefit shall include up to one hundred thirty (130) days of unused sick leave accumulated subsequent to August 1, 1959, during the member’s employment with any participating employer. Such credit shall be added in terms of whole months. If unused sick leave entitles the member to an additional year of service, the additional cost is borne by the employer. For members joining on or after November 1, 2012, any additional months of unused sick leave credit will be added to the service credit without rounding the total service up to the next higher year. Any cost to the employer will be based on the actual number of months of unused sick leave.



Oklahoma Public Employees Retirement System

Years of Service

Participating Service (continued)

A member may receive credit for those years of credited service accumulated while a member of the Oklahoma Firefighters Pension and Retirement System, the Oklahoma Police Pension and Retirement System, the Uniform Retirement System for Justices and Judges, the Oklahoma Law Enforcement Retirement System, or the Teachers' Retirement System of Oklahoma, if the member is not receiving or eligible to receive retirement credit or benefits from this service in any other public retirement system. The member may receive credit for this service by paying the amount actuarially determined to cover the cost of the previous service.

Credited Service

Credited service equals prior service plus participating service. The result is rounded up to the next year if the number of remaining months is equal to or greater than six. Credited service of members joining on or after November 1, 2012 will not be rounded up. Members will be credited with, and their benefit calculation will be computed on, the actual number of years and months of credited service.

Compensation

The member's basic salary and wages as defined by the Board of Trustees, including amounts contributed to deferred compensation plans. Overtime and moving expenses are excluded.

Final average compensation

The average of the thirty-six (36) highest months of compensation earned within the last ten (10) years of participating service, subject to any applicable salary caps and on which contributions have been made.

For all members hired prior to July 1, 1995, the minimum final average compensation is \$13,800. For members hired on or after July 1, 1995, no minimum is applied until the member has fifteen (15) years of service. For members with between fifteen (15) and twenty (20) years of service, the minimum final average compensation is \$6,900. For a member with more than twenty (20) years of service, the minimum is \$13,800.



Oklahoma Public Employees Retirement System

Normal retirement date

Normal retirement is the earliest of: (1) first day of the month coinciding with or next following the 62nd birthday; or, (2) the first day of the month coinciding with or following the date at which the sum of a member's age and number of years of credited service total eighty (80) if the member was hired prior to July 1, 1992; or (3) following the date at which the sum of member's age and number of years of credited service total ninety (90) if the member was hired after July 1, 1992. Members employed after January 1, 1983 must complete at least six (6) years of full-time equivalent employment with a participating employer before receiving any retirement benefits.

For regular employees hired on or after November 1, 2011, the retirement age is age 65. Alternatively, they may retire under the "Rule of 90" if they are at least age 60.

The normal retirement date for elected officials is the first of the month coinciding with or following the official's 60th birthday or the first day of the month coinciding with or following the date at which the sum of the member's age and years of credited service total eighty (80). For regular employees hired on or after November 1, 2011, the retirement age is age 65. Alternatively, they may retire under the "Rule of 90" if they are at least age 60.

For elected officials appointed or elected on or after November 1, 2011, the retirement age is 65 with a minimum of eight (8) years of elected service, or age 62 if they have ten (10) years of elected service.

Normal retirement benefit

The benefit on or after normal retirement, payable monthly for life to non-elected members, is as follows:

2% of final average compensation multiplied by years of credited service.

For members who have elected the Step-Up Option, a 2.5% multiplier is applied to the "stepped-up" full years. Elected officials appointed or elected on or after November 1, 2011, are also eligible for the Step-Up Option.



Oklahoma Public Employees Retirement System

Normal retirement benefit (continued)

The benefit payable monthly for life to elected officials is the greater of 1) the preceding benefit, or 2) the benefit calculated using highest annual compensation as an elected official times credited service multiplied by the following applicable computation factor:

<u>% of Compensation Contributed</u>	<u>% of Highest Annual Compensation</u>
4.5%	1.9%
6.0%	2.5%
7.5%	3.0%
8.5%	3.4%
9.0%	3.6%
10.0%	4.0%

Elected officials who became members after July 1, 1990 (but before August 21, 2008) must participate in the System as elected officials for at least six (6) years to qualify for the elected official benefit formula on all years of previous non-elected participating service. For elected officials elected or appointed on or after November 1, 2011, the vesting period is eight (8) years.

OPERS members who are elected after August 21, 2008 have a benefit cap of 100% of their highest annual salary. Elected officials who become members after August 21, 2008 (but before November 1, 2011) receive a benefit that consists of two separate calculations. Their non-elected years are multiplied by 2% and their elected years are multiplied by the applicable percentage selected and paid for by the members.

Elected officials who are appointed or elected on or after November 1, 2010 (but before November 1, 2011) have two benefit multiplier options: 1.9% and 4.0%. Those elected after November 1, 2011 contribute at 3.5% like most non-elected members, and have a multiplier of 2%. In addition, they must be age 62 with at least ten (10) years as an elected official, or age 65 with at least eight (8) years as an elected official, to qualify for retirement.



APPENDIX A – SUMMARY OF SYSTEM PROVISIONS

Oklahoma Public Employees Retirement System

Early retirement benefit

A member with at least ten (10) years of participating service may retire as early as age 55. The benefit is determined by the normal retirement formula based on years of credited service and Final Average Compensation (highest annual compensation for elected officials) at termination. The percentage payable at early retirement age is:

<u>Elected Officials</u>		<u>Other Members</u>	
Age	Percentage	Age	Percentage
60	100%	62	100.0%
59	94	61	93.3
58	88	60	86.7
57	82	59	80.0
56	76	58	73.3
55	70	57	66.7
		56	63.3
		55	60.0

The following tables apply to regular and hazardous employees employed, or elected officials appointed or elected, on or after November 1, 2011:

<u>Elected Officials</u>		<u>Other Members</u>	
Age	Percentage	Age	Percentage
62	100.00%	65	100.00%
61	93.33	64	93.33
60	86.67	63	86.67
		62	80.00
		61	73.33
		60	66.67



Oklahoma Public Employees Retirement System

Disability benefit

A member with at least eight (8) years of credited service is eligible for a disability benefit provided the member qualifies for disability benefits as certified by the Social Security Administration or the Railroad Retirement Board and having a date of disability within one year after the date last physically on the job. The benefit is determined by the normal retirement formula based on service and salary history at date of disability. The benefit is payable immediately without actuarial reduction. Option A is the only available form of survivor payment for non-elected members.

Vested benefit

A member who terminates after eight (8) years of credited service (six years for most elected officials) is eligible for a vested benefit determined by the normal retirement formula, based on service and compensation to date of termination.

The benefit is payable at age 62 (or age 60 for most elected officials), provided the member's contribution accumulation is not withdrawn and the member has at least six (6) years of full-time equivalent employment. A member with ten (10) or more years of service also has the option of reduced benefits at early retirement age.

Members terminating with less than eight (8) years (or six years for most elected officials) of credited service may elect to receive a refund of their member contribution accumulation.

A limited additional retirement service benefit of \$200 per month is payable up to the total of excess contributions paid by the member for those vested members as of July 1, 1998. This is not applicable for active members who received a transfer of excess contributions or retired members as of July 1, 1998.

For regular employees employed on or after November 1, 2011, a vested benefit is not payable for Normal Retirement until age 65. For elected officials appointed or elected on or after November 1, 2011, a vested benefit requires at least eight (8) years of elected service and is not payable for normal retirement until age 65.



Oklahoma Public Employees Retirement System

Pre-retirement death benefit

The spouse of a deceased active member who had met normal, early or vested retirement provisions may elect a spouse's benefit. The spouse's benefit is the benefit that would have been paid if the member had retired and elected the joint and 100% survivor option (Option B). If named as the designated beneficiary, the spouse may elect a refund of the member's contribution accumulation in lieu of the Option B monthly benefit.

In addition to the provision above, the eligible spouse of a deceased elected official with at least six (6) years of elected service or eight (8) years if elected on or after November 1, 2011, and married at least three (3) years immediately preceding death, may elect to receive 50% of the maximum benefit the member would be eligible to receive. The starting date of benefits is the date the deceased member would have been eligible for early or normal retirement. Benefits cease upon death or remarriage of the surviving spouse.

Any other designated beneficiary of a member other than an eligible spouse will receive a refund of the member's contribution accumulation.

Post-retirement death benefit

Upon the death of a retired member, a \$5,000 lump-sum death benefit will be paid to the member's beneficiary, or estate if there is no beneficiary.



Oklahoma Public Employees Retirement System

Optional form of retirement benefits	<p>The normal form of benefit for a single member other than an elected official is a single life monthly annuity with a guaranteed refund of the unpaid contribution accumulation. The normal form for a married member is a 50% joint and survivor annuity benefit. Optional forms of payment with actuarial reduction are available to all members retiring under the normal retirement, early retirement or vested retirement provision. These options are:</p> <p>Option A – Joint and 50% Survivor Annuity with a return to the unreduced amount if the joint annuitant dies.</p> <p>Option B – Joint and 100% Survivor Annuity with a return to the unreduced amount if the joint annuitant dies.</p> <p>Option C – Life Annuity with a minimum of 120 monthly payments.</p> <p>For married members, spousal consent is required for any option other than Option A, or a joint annuitant other than the spouse.</p> <p>Medicare Gap Benefit Option allows members under age 65 to receive a higher benefit before age 65 (to help pay health insurance premiums) and a permanently lower benefit after age 65.</p>
Post-retirement medical benefit	<p>The System will contribute the lesser of \$105 per month or the Medicare Supplement Premium to the Oklahoma State and Education Employee’s Group Health Insurance Program (or other eligible employer health plans) for members receiving retirement benefits.</p>
Expenses	<p>The expenses of administering the System are paid from the retirement trust fund.</p>



APPENDIX A – SUMMARY OF SYSTEM PROVISIONS

Oklahoma Public Employees Retirement System

Hazardous Duty Members (Department of Corrections Officers, Oklahoma Military Department Firefighters) Benefits

Members covered by the Hazardous Duty Provisions have the retirement eligibility requirements, contribution rates and benefit formula described below.

Department of Corrections:

The normal retirement age is the earliest of: twenty (20) years of service as a member covered by the Department of Corrections Hazardous Duty Provisions; or, the first day of the month coinciding with or next following the 62nd birthday; or, the first day of the month coinciding with or following the date at which the sum of a member's age and number of years of credited service total eighty (80), if the member was hired prior to July 1, 1992, or following the date at which the sum of a member's age and number of years of credited service total ninety (90) if the member was hired after July 1, 1992. Members employed after January 1, 1983 must complete at least six (6) years of full-time equivalent employment with a participating employer before receiving any retirement benefits. The benefit formula is 2.5% of final average compensation, multiplied by the number of years of service as an eligible officer for service, not exceeding twenty (20) years. For service in excess of twenty (20) years, the benefit formula is 2% of final average compensation.

For hazardous duty employees hired on or after November 1, 2011, the normal retirement age is age 65. Alternatively, they may retire under the earliest of (i) the "Rule of 90" if they are at least age 60 or (ii) twenty (20) years of service as a member covered by hazardous duty provisions.

Members eligible for these benefits with at least five (5) years of experience in their positions on or after June 30, 2004 remain eligible to retire after twenty (20) years even if they transfer to positions within DOC that are not eligible to retire after twenty (20) years.

Special Surviving Spouse and Child benefits for any member employed by the Department of Corrections (DOC) killed or mortally wounded during the performance of duty are equal to 2.5% of final average monthly compensation multiplied by the greater of the member's actual service or twenty (20) years.

In addition, an amount of \$400 per month will be paid as long as a child of the deceased member is under the age of 18 (or 22 if enrolled full time at an institution of higher education).



APPENDIX A – SUMMARY OF SYSTEM PROVISIONS

Oklahoma Public Employees Retirement System

Hazardous Duty Members
(Department of Corrections Officers,
Oklahoma Military Department
Firefighters) Benefits
(continued)

Contributions for members covered by the Department of
Corrections Hazardous Duty Provisions are:

Table with columns: Year, Up to \$25,000, Above \$25,000. Rows include years 1994/1995 to 1997/1998 and service periods from July 1998 to July 2010 and after.

Oklahoma Military Department Firefighters:

The benefit for Oklahoma Military Department firefighters
who began employment July 1, 2002 and after is based on a
2.5% benefit multiplier. They are also eligible for full
benefits after twenty (20) years as a firefighter and their
employee contribution rate is 8%. Oklahoma Military
Department firefighters employed prior to July 1, 2002 were
given a one-time option to: (a) have their benefit formula,
retirement eligibility, and employee contribution rate remain
unchanged; (b) apply the new provisions (including the new
contribution rate) to service after January 1, 2003; or (c)
apply the new benefit formula and retirement eligibility to all
of the member’s service, apply the 8% contribution rate for
service after July 1, 2002, and make a contribution equal to
the increase in the actuarial value of the member’s retirement
benefit.

In contrast to DOC members, the 2.5% formula and 8%
contribution rate applies to service after twenty (20) years.



Oklahoma Public Employees Retirement System

Actuarial Cost Method

Liabilities and contributions shown in this report are computed using the Individual Entry Age method of funding. Sometimes called the “funding method”, this is a particular technique used by actuaries for establishing the amount of the annual actuarial cost of pension benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily the annual contribution to the System is comprised of (1) the normal cost; and (2) an amortization payment on the unfunded actuarial accrued liability.

Under the Entry Age Actuarial Cost Method, the **Normal Cost** is computed as the level percentage of pay which, if paid from the earliest time each member would have been eligible to join the System had it existed (thus entry age) until his retirement or termination, would accumulate with interest at the rate assumed in the valuation to a fund sufficient to pay all benefits under the System.

The **Actuarial Accrued Liability** under this method, at any point in time, is the theoretical amount of the fund that would have accumulated had annual contributions equal to the normal cost been made in prior years (it does not represent the liability for benefits accrued to the valuation date). The **Unfunded Actuarial Accrued Liability** is the excess of the actuarial accrued liability over the actuarial value of System assets on the valuation date.

Under this method, experience gains or losses, i.e. decreases or increases in actuarial accrued liabilities attributable to deviations in experience from the actuarial assumptions, adjust the unfunded actuarial accrued liability.

Asset Valuation Method

The actuarial value of assets is based on a five-year moving average of expected and actual market values determined as follows:

- at the beginning of each fiscal year, a preliminary expected actuarial asset value is calculated as the sum of the previous year’s actuarial value increased with a year’s interest at the System valuation rate plus net cash flow adjusted for interest (at the same rate) to the end of the previous fiscal year;
- the expected actuarial asset value is set equal to the preliminary expected actuarial value plus the unrecognized investment gains and losses as of the beginning of the previous fiscal year;
- the difference between the expected actuarial asset value and the market value is the investment gain or loss for the previous year;
- the (final) actuarial asset value is the preliminary value plus 20% of the investment gains and losses for each of the five previous fiscal years, but in no case more than 120% of the market value or less than 80% of the market value.



Oklahoma Public Employees Retirement System

Amortization Method

Effective July 1, 2008, the unfunded actuarial accrued liability is amortized as a level percent of payroll over a 20-year closed period commencing July 1, 2007. Given a stable active workforce, this amortization method is expected to produce a payment stream that is constant as a percent of covered payroll.

Valuation Procedures

The actuarial accrued liability held for nonvested, inactive members who have a break in service, or for nonvested members who have quit or been terminated, even if a break in service has not occurred as of the valuation date, is equal to the amount of the individual's unclaimed contributions.

The wages used in the projection of benefits and liabilities are considered earnings for the year ending June 30, 2012, increased by the salary scale to develop expected earnings for the current valuation year. Earnings are annualized for members with less than twelve months of reported earnings.

The calculations for the required employer contribution are determined as of midyear. This is a reasonable estimate since contributions are made on a monthly basis throughout the year.

We did not value the 415 limit for active participants. The impact was assumed to be *de minimus*.

The compensation limitation under IRC Section 401(a)(17) is considered in this valuation.

Liability is included for members who appear to be deferred vested, but who have not yet submitted certain paperwork and therefore are not in the vested data provided. An estimated benefit was provided by the System. A corrected benefit and status will be provided by the System when the actual benefit and status have been finalized.

Members who are contributing to the System, but have not yet filled out an enrollment application, are included as active members. Where data elements are missing, reasonable estimates are used. Age is based on average entry age for other members. Gender is assigned in proportion to the overall group.

A liability is included for contribution amounts due to be refunded to terminated vested members who made voluntary contributions to increase the maximum compensation limit prior to July 1, 1998. The System supplied the included amounts.



APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Oklahoma Public Employees Retirement System

SUMMARY OF ACTUARIAL ASSUMPTIONS

Economic Assumptions

Investment Return: 7.5% net of investment expenses per annum, compounded annually

Salary Increases: Sample rates below (midpoint of range shown):

<u>Nearest Age</u>	<u>% Increase</u>
20 - 24	8.75
25 - 29	7.75
30 – 34	6.45
35 – 39	5.85
40 – 44	5.55
45 – 49	5.15
50 – 54	4.85
55 – 59	4.85
60 – 64	4.85
65+	4.85

Payroll Growth: 4.00% per year

Ad hoc benefit increase assumptions

Monthly Benefits Because of the passage of House Bill 2132, 0%

Medical Supplement No increases assumed

Projection of 401(a)(17) compensation limit: Projected with inflation at 3.0%



APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Oklahoma Public Employees Retirement System

Demographic Assumptions

Retirement age

Annual Rates of Retirement Per 100 Eligible Regular Non-Elected Members

<u>Age</u>	<u>Hired Prior to 11/1/2011</u>		<u>Hired on or After 11/1/2011</u>	
	<u>Those Eligible For Unreduced Retirement</u>	<u>Those Eligible For Reduced Retirement</u>	<u>Those Eligible For Unreduced Retirement</u>	<u>Those Eligible For Reduced Retirement</u>
50	20	N/A	N/A	N/A
51	20	N/A	N/A	N/A
52	20	N/A	N/A	N/A
53	20	N/A	N/A	N/A
54	20	N/A	N/A	N/A
55	10	4	N/A	N/A
56	10	5	N/A	N/A
57	11	5	N/A	N/A
58	12	6	N/A	N/A
59	13	7	N/A	N/A
60	14	7	*	7
61	20	20	*	7
62	30	N/A	*	20
63	15	N/A	*	15
64	15	N/A	*	15
65	30	N/A	*	N/A
66	20	N/A	20	N/A
67	20	N/A	20	N/A
68	20	N/A	20	N/A
69	25	N/A	25	N/A
70	100	N/A	100	N/A

*30 when first eligible to retire and 15 thereafter



APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Oklahoma Public Employees Retirement System

Demographic Assumptions (continued)

Retirement age (continued):

Annual Rates of Retirement Per 100 Eligible Elected Members

Age	<u>Elected Prior to 11/1/2011</u>		<u>Elected on or After 11/1/2011</u>	
	Those Eligible For Unreduced Retirement	Those Eligible For Reduced Retirement	Those Eligible For Unreduced Retirement	Those Eligible For Reduced Retirement
50	30	N/A	N/A	N/A
51	30	N/A	N/A	N/A
52	30	N/A	N/A	N/A
53	30	N/A	N/A	N/A
54	30	N/A	N/A	N/A
55	10	10	N/A	N/A
56	10	10	N/A	N/A
57	20	10	N/A	N/A
58	20	10	N/A	N/A
59	20	10	N/A	N/A
60	20	N/A	N/A	10
61	20	N/A	N/A	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	40	N/A	40	N/A
67	40	N/A	40	N/A
68	40	N/A	40	N/A
69	40	N/A	40	N/A
70	100	N/A	100	N/A



APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Oklahoma Public Employees Retirement System

Demographic Assumptions (continued)

Retirement age (continued):

Annual Rates of Retirement Per 100 Eligible Hazardous Duty Members

Age	<u>Hired Prior to 11/1/2011</u>		<u>Hired on or After 11/1/2011</u>	
	<u>Less Than 20 Years of Service</u>	<u>At Least 20 Years of Service</u>	<u>Less Than 20 Years of Service</u>	<u>At Least 20 Years of Service</u>
		Service		Service
50	N/A	20	50	N/A
51	N/A	21-24	51	N/A
52	N/A	25-29	52	N/A
53	N/A	30-34	53	N/A
54	N/A	35+	54	N/A
55	4		55	N/A
56	5		56	N/A
57	5		57	N/A
58	6		58	N/A
59	7		59	N/A
60	7		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	23		67	23
68	22		68	22
69	21		69	21
70	100		70	100



Oklahoma Public Employees Retirement System

Demographic Assumptions (continued)

Mortality Rates:

Active participants and nondisabled pensioners	RP-2000 Combined Active/Retiree Healthy Mortality Table projected to 2010 using Scale AA.
Disabled pensioners	RP-2000 Combined Active/Retiree Healthy Mortality Table projected to 2010 using Scale AA set forward 15 years for disabled experience.
Hazardous Duty members	For Department of Corrections officers, we assumed the mortality rate is 10% higher than the above table while the participant is active. This 10% is assumed to be in-line-of-duty.

Disability Rates:

Graduated rates
Disabled rates per 100 members

Nearest		
<u>Age</u>	<u>Male</u>	<u>Female</u>
20	0.01	0.01
30	0.02	0.03
40	0.08	0.10
50	0.25	0.29
60	0.75	0.45



APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Oklahoma Public Employees Retirement System

Withdrawal Rates:

	0 - 2	2 - 3	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10	Over 10
<u>Age</u>	<u>Years</u>									
25	0.2600	0.2000	0.1709	0.1369	0.1426	0.1426	0.1426	0.1426	0.1426	0.0700
30	0.2400	0.1750	0.1554	0.1268	0.1050	0.1050	0.1050	0.1050	0.1004	0.0700
35	0.2150	0.1590	0.1365	0.1215	0.0870	0.0860	0.0850	0.0850	0.0769	0.0580
40	0.1930	0.1400	0.1208	0.1094	0.0770	0.0748	0.0725	0.0725	0.0589	0.0440
45	0.1880	0.1200	0.1132	0.0945	0.0670	0.0635	0.0600	0.0600	0.0468	0.0320
50	0.1830	0.0970	0.1030	0.0835	0.0650	0.0575	0.0500	0.0500	0.0436	0.0300
55	0.1800	0.0900	0.0869	0.0705	0.0650	0.0575	0.0500	0.0500	0.0436	0.0300

Probability of Electing Vested Benefit:

<u>Regular Members Only</u>	
<u>Age</u>	<u>Rate</u>
Under 34	70%
34- 38	75%
39 - 46	80%
47	85%
48	90%
49	95%
50+	100%

Marital Status:

Percentage Married
Age difference

85%
Males are assumed to be four years older than spouses.

Children:

Special death benefits are provided upon the in-line-of-duty death of Department of Corrections employees who have young children. We have assumed the average age of the youngest child of such employees is nine and that 50% of such children will attend an institution of higher education to age 22.

Form of Payment:

Participants are assumed to elect a life-only form of payment.



APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Assumed age for commencement of deferred benefits:

Current active members hired prior to 11/1/2011 are assumed to terminate in the future prior to retirement eligibility and are assumed to commence benefits at age 62 (non-elected members) or age 60 (elected members).

Current active members hired on or after 11/1/2011 are assumed to terminate in the future prior to retirement eligibility and are assumed to commence benefits at age 65.

Current inactive members with deferred benefits are assumed to commence benefits on the date provided by OPERS.

Provision for expenses:

Administrative expenses, as budgeted by OPERS.



APPENDIX C – DATA

**Oklahoma Public Employees Retirement System
Valuation Data Distribution – Actives – Regular Membership**

Age	Years of Service									Total
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	1,224	20								1,244
Avg. Pay	\$22,851	\$28,896								\$22,948
25 to 29	2,488	573	4							3,065
Avg. Pay	\$27,980	\$31,377	\$35,474							\$28,625
30 to 34	1,965	1,430	299	4						3,698
Avg. Pay	\$29,124	\$35,547	\$36,451	\$34,032						\$32,205
35 to 39	1,604	1,246	855	164	3					3,872
Avg. Pay	\$30,243	\$36,112	\$40,417	\$41,854	\$33,315					\$34,872
40 to 44	1,452	1,195	936	606	247	9				4,445
Avg. Pay	\$30,016	\$36,509	\$39,201	\$43,569	\$44,909	\$47,976				\$36,407
45 to 49	1,251	1,093	853	687	797	332	59			5,072
Avg. Pay	\$29,851	\$35,730	\$38,215	\$40,935	\$45,743	\$47,200	\$48,521			\$37,876
50 to 54	1,266	1,216	956	715	899	791	499	7		6,349
Avg. Pay	\$31,063	\$35,089	\$38,095	\$40,514	\$45,236	\$48,949	\$47,846	\$52,694		\$39,535
55 to 59	1,030	1,133	989	731	876	552	506	126	2	5,945
Avg. Pay	\$32,497	\$36,510	\$38,532	\$40,266	\$43,652	\$49,019	\$49,459	\$48,494	\$55,348	\$40,189
60 to 64	615	835	747	523	533	334	303	173	1	4,064
Avg. Pay	\$33,564	\$36,578	\$38,310	\$40,180	\$43,815	\$48,270	\$48,370	\$51,827	\$43,982	\$40,344
65 to 69	210	354	279	185	168	121	71	62	2	1,452
Avg. Pay	\$34,350	\$36,413	\$38,694	\$41,727	\$43,732	\$47,881	\$54,794	\$57,134	\$51,024	\$40,836
70 & up	88	120	90	77	83	39	23	11	5	536
Avg. Pay	\$30,406	\$29,503	\$35,599	\$41,641	\$39,070	\$43,286	\$39,365	\$39,220	\$52,220	\$35,737
Total	13,193	9,215	6,008	3,692	3,606	2,178	1,461	379	10	39,742
Avg. Pay	\$29,377	\$35,602	\$38,620	\$41,134	\$44,509	\$48,431	\$48,745	\$51,237	\$51,783	\$36,653



APPENDIX C – DATA

**Oklahoma Public Employees Retirement System
Valuation Data Distribution – Actives – Elected Membership**

Age	Years of Service									Total
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25 Avg. Pay	2 \$26,042									2 \$26,042
25 to 29 Avg. Pay	3 \$32,050	1 \$27,294								4 \$30,861
30 to 34 Avg. Pay	10 \$36,417	7 \$44,232	2 \$37,090							19 \$39,367
35 to 39 Avg. Pay	13 \$40,305	13 \$49,583	10 \$43,440	8 \$50,294						44 \$45,575
40 to 44 Avg. Pay	14 \$52,868	22 \$54,555	22 \$48,935	16 \$55,916	6 \$53,323					80 \$52,894
45 to 49 Avg. Pay	13 \$50,172	19 \$45,788	17 \$43,629	9 \$62,165	21 \$47,455	12 \$47,457	5 \$54,034			96 \$48,537
50 to 54 Avg. Pay	27 \$46,152	21 \$47,525	16 \$54,194	16 \$49,417	15 \$49,157	29 \$49,103	10 \$57,177			134 \$49,515
55 to 59 Avg. Pay	27 \$52,001	20 \$48,621	24 \$45,639	18 \$53,013	23 \$51,655	36 \$55,055	12 \$54,338			160 \$51,550
60 to 64 Avg. Pay	17 \$46,976	24 \$45,451	14 \$47,152	22 \$45,878	15 \$55,353	18 \$51,781	9 \$44,634	1 \$42,000		120 \$48,041
65 to 69 Avg. Pay	7 \$47,635	12 \$40,279	17 \$47,794	9 \$45,348	8 \$40,839	4 \$51,049	6 \$45,272	4 \$65,761		67 \$46,313
70 & up Avg. Pay	4 \$45,070	10 \$42,910	7 \$40,089	6 \$50,395	5 \$51,870	3 \$46,975	3 \$65,926	1 \$47,400	1 \$43,200	40 \$47,026
Total Avg. Pay	137 \$46,651	149 \$47,150	129 \$46,841	104 \$51,166	93 \$50,089	102 \$51,496	45 \$52,558	6 \$58,741	1 \$43,200	766 \$48,893



APPENDIX C – DATA

**Oklahoma Public Employees Retirement System
Valuation Data Distribution – Actives – Hazardous Duty Membership**

Age	Years of Service									
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	Total
Under 25 Avg. Pay	113 \$24,304	1 \$29,173								114 \$24,347
25 to 29 Avg. Pay	190 \$25,724	70 \$29,849								260 \$26,835
30 to 34 Avg. Pay	139 \$25,802	128 \$31,584	32 \$36,062							299 \$29,375
35 to 39 Avg. Pay	106 \$26,138	114 \$31,220	102 \$36,865	35 \$42,236						357 \$32,404
40 to 44 Avg. Pay	63 \$25,286	88 \$31,179	91 \$37,939	96 \$41,150	17 \$46,050					355 \$35,275
45 to 49 Avg. Pay	35 \$27,040	49 \$30,631	56 \$35,401	67 \$40,556	31 \$45,086	5 \$51,496				243 \$36,223
50 to 54 Avg. Pay	29 \$26,135	34 \$28,955	41 \$36,481	48 \$38,181	12 \$43,695	10 \$41,980	1 \$43,374			175 \$34,619
55 to 59 Avg. Pay	23 \$26,998	41 \$29,951	37 \$34,926	49 \$38,448	13 \$40,159	3 \$45,922				166 \$34,247
60 to 64 Avg. Pay	8 \$25,426	20 \$31,167	21 \$35,724	18 \$39,230	7 \$40,393	2 \$46,123	1 \$46,631			77 \$35,126
65 to 69 Avg. Pay	1 \$24,605	3 \$32,527	3 \$37,648	1 \$40,154	2 \$41,569	1 \$42,267				11 \$36,426
70 & up Avg. Pay	1 \$31,786		3 \$36,206							4 \$35,101
Total Avg. Pay	708 \$25,663	548 \$30,837	386 \$36,552	314 \$40,156	82 \$43,815	21 \$45,217	2 \$45,002			2,061 \$32,226



APPENDIX C – DATA

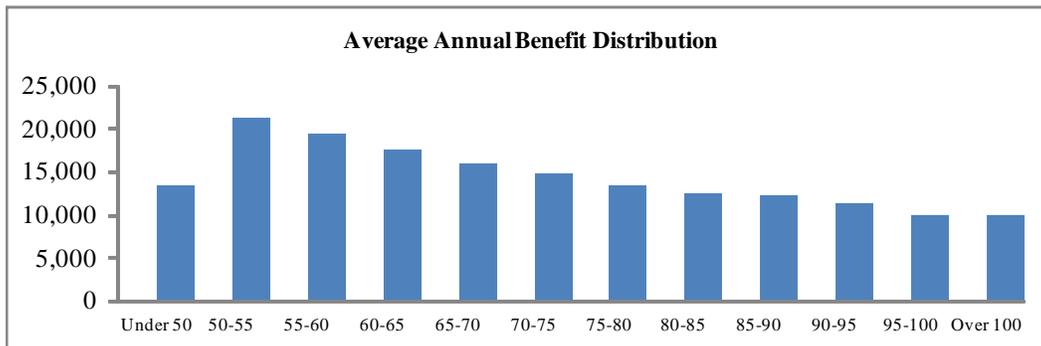
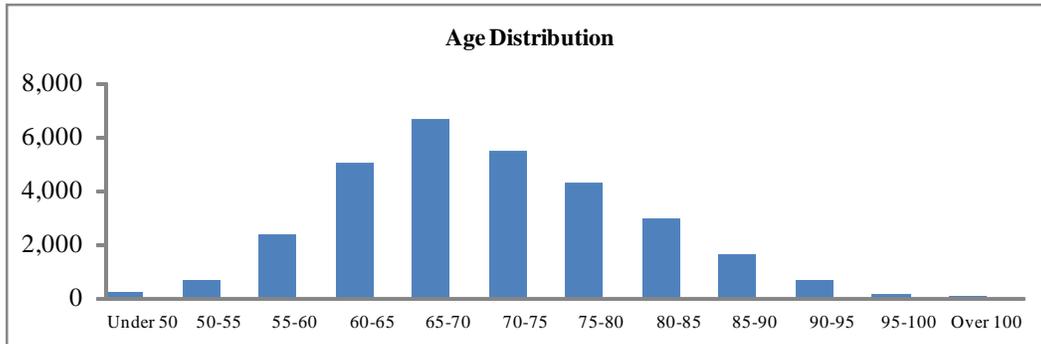
**Oklahoma Public Employees Retirement System
Valuation Data Distribution – Actives – All Membership Groups**

Age	Years of Service									
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	Total
Under 25 Avg. Pay	1,339 \$22,978	21 \$28,909								1,360 \$23,070
25 to 29 Avg. Pay	2,681 \$27,824	644 \$31,205	4 \$35,474							3,329 \$28,488
30 to 34 Avg. Pay	2,114 \$28,940	1,565 \$35,262	333 \$36,418	4 \$34,032						4,016 \$32,029
35 to 39 Avg. Pay	1,723 \$30,066	1,373 \$35,833	967 \$40,073	207 \$42,245	3 \$33,315					4,273 \$34,776
40 to 44 Avg. Pay	1,529 \$30,030	1,305 \$36,454	1,049 \$39,296	718 \$43,521	270 \$45,167	9 \$47,976				4,880 \$36,595
45 to 49 Avg. Pay	1,299 \$29,978	1,161 \$35,680	926 \$38,145	763 \$41,152	849 \$45,762	349 \$47,270	64 \$48,951			5,411 \$37,991
50 to 54 Avg. Pay	1,322 \$31,264	1,271 \$35,130	1,013 \$38,284	779 \$40,553	926 \$45,280	830 \$48,871	510 \$48,020	7 \$52,694		6,658 \$39,607
55 to 59 Avg. Pay	1,080 \$32,867	1,194 \$36,487	1,050 \$38,567	798 \$40,442	912 \$43,804	591 \$49,371	518 \$49,572	126 \$48,494	2 \$55,348	6,271 \$40,322
60 to 64 Avg. Pay	640 \$33,818	879 \$36,697	782 \$38,399	563 \$40,373	555 \$44,083	354 \$48,436	313 \$48,257	174 \$51,770	1 \$43,982	4,261 \$40,466
65 to 69 Avg. Pay	218 \$34,732	369 \$36,507	299 \$39,201	195 \$41,886	178 \$43,578	126 \$47,937	77 \$54,052	66 \$57,657	2 \$51,024	1,530 \$41,044
70 & up Avg. Pay	93 \$31,052	130 \$30,534	100 \$35,931	83 \$42,274	88 \$39,797	42 \$43,549	26 \$42,430	12 \$39,902	6 \$50,717	580 \$36,511
Total Avg. Pay	14,038 \$29,359	9,912 \$35,512	6,523 \$38,660	4,110 \$41,313	3,781 \$44,631	2,301 \$48,538	1,508 \$48,854	385 \$51,354	11 \$51,003	42,569 \$36,659



**Oklahoma Public Employees Retirement System
Valuation Data Distribution – Retired Members**

Age	Number			Annual Benefits		
	Male	Female	Total	Male	Female	Total
Under 50	126	110	236	\$ 1,983,661	\$ 1,196,537	\$ 3,180,198
50-55	276	380	656	5,916,006	8,108,129	14,024,135
55-60	914	1,476	2,390	18,334,823	28,108,061	46,442,884
60-65	2,102	2,945	5,047	39,566,716	49,530,782	89,097,498
65-70	2,993	3,701	6,694	51,751,364	55,312,986	107,064,350
70-75	2,422	3,079	5,501	39,796,579	42,110,837	81,907,416
75-80	1,856	2,428	4,284	27,722,841	30,304,720	58,027,561
80-85	1,160	1,815	2,975	16,072,628	21,472,863	37,545,491
85-90	569	1,099	1,668	8,064,189	12,312,397	20,376,586
90-95	219	444	663	2,852,448	4,725,592	7,578,040
95-100	29	99	128	352,446	917,735	1,270,181
Over 100	2	19	21	22,255	187,946	210,201
Total	12,668	17,595	30,263	\$212,435,956	\$254,288,585	\$466,724,541



**APPENDIX C – DATA****Oklahoma Public Employees Retirement System**

	Actuarial Valuation as of		% Change
	7/1/2012	7/1/2011	
1. Active members			
a. Number	42,569	40,551	5.0%
b. Annual compensation	\$ 1,633,837,374	\$ 1,570,500,148	4.0%
c. Average annual compensation	38,381	38,729	(0.9%)
d. Average age	46.5	47.0	(1.1%)
e. Average service	10.5	11.1	(5.4%)
2. Accumulated member contributions			
a. Active members	\$ 505,372,599	\$ 488,417,672	3.5%
b. Unclaimed contribution amounts	29,729,549	27,045,737	9.9%
c. Total	\$ 535,102,148	\$ 515,463,409	3.8%
3. Vested terminated members			
a. Number	3,434	3,501	(1.9%)
b. Annual deferred benefits	\$ 32,279,512	\$ 32,372,954	(0.3%)
c. Average annual deferred benefit	9,400	9,247	1.7%
d. Annual supplemental medical insurance premiums	\$ 4,326,840	\$ 4,411,260	(1.9%)
4. Assumed deferred vested - count	2,063	2,021	2.1%
5. Retired members			
a. Number	25,528	24,804	2.9%
b. Annual retirement benefits	\$ 419,564,529	\$ 402,371,482	4.3%
c. Average annual retirement benefit	16,435	16,222	1.3%
d. Annual supplemental medical insurance premiums	\$ 17,030,160	\$ 17,033,940	(0.0%)
6. Beneficiaries			
a. Number	3,212	3,107	3.4%
b. Annual retirement benefits	\$ 32,688,039	\$ 31,259,175	4.6%
c. Average annual retirement benefit	10,177	10,061	1.2%
7. Disabled members			
a. Number	1,523	1,507	1.1%
b. Annual retirement benefits	\$ 14,471,973	\$ 14,289,100	1.3%
c. Average annual retirement benefit	9,502	9,482	0.2%
d. Annual supplemental medical insurance premiums	\$ 957,600	\$ 981,540	(2.4%)
8. Total members included in valuation	78,329	75,491	3.8%



Oklahoma Public Employees Retirement System

	Actuarial Valuation as of	
	7/1/2012	7/1/2011
Regular Members		
Number	39,742	37,814
Average annual compensation	\$ 36,653	\$ 36,842
Average age	46.7	47.2
Average service	10.6	11.2
Elected officials		
Number	766	735
Average annual compensation	\$ 48,893	\$ 46,138
Average age	53.8	53.4
Average service	14.5	14.5
Hazardous Duty		
Number	2,061	2,002
Average annual compensation	\$ 32,226	\$ 33,105
Average age	40.3	40.8
Average service	8.4	9.0
Total		
Number	42,569	40,551
Average annual compensation	\$ 36,659	\$ 36,826
Average age	46.5	47.0
Average service	10.5	11.1

**Oklahoma Public Employees Retirement System**

	Actuarial Valuation as of	
	7/1/2012	7/1/2011
Retirees		
Number	25,528	24,804
Average annual benefit	\$ 16,435	\$ 16,222
Average age	70.7	70.6
Disability Retirees		
Number	1,523	1,507
Average annual benefit	\$ 9,502	\$ 9,482
Average age	62.7	62.3
Beneficiaries		
Number	3,212	3,107
Average annual benefit	\$ 10,177	\$ 10,061
Average age	73.0	72.6
Total		
Number	30,263	29,418
Average annual benefit	\$ 15,422	\$ 15,226
Average age	70.5	70.4
Vested Members		
Number	5,497	5,522
Average annual benefit	\$ 9,573	\$ 10,037
Average age	51.7	51.4



APPENDIX C – DATA

	Receiving Benefits					Total Members
	Active Members	Vested Terminated	Retirees	Disability Retirees	Benefici- aries	
As of July 1, 2011	40,551	5,522	24,804	1,507	3,107	75,491
Age retirements	(1,273)	(301)	1,574	0	0	0
Disability retirements	(39)	(30)	0	69	0	0
Deaths without payments continuing	(59)	(17)	(646)	(42)	(154)	(918)
Deaths with payments continuing	(37)	(13)	(203)	(12)	265	0
Nonvested terminations/refund of contributions	(3,274)	(64)	0	0	0	(3,338)
Vested terminations	(573)	573	0	0	0	0
Transfers	0	(6)	0	0	0	(6)
Data adjustments	0	(9)	7	2	(6)	(6)
Rehires	688	(158)	(8)	(1)	0	521
 New entrants during the year	 6,585	 0	 0	 0	 0	 6,585
 Net change	 2,018	 (25)	 724	 16	 105	 2,838
As of July 1, 2012	42,569	5,497	25,528	1,523	3,212	78,329



APPENDIX C – DATA

	Active	Retired	Terminated Vested	Total
Records submitted on data file	42,414	51,008	3,448	96,870
Remove deceased retirees	0	(20,737)	0	(20,737)
Remove unusable data	(108)	0	(14)	(122)
Remove those with another status	(2)	(8)	0	(10)
Add those with no application	265	0	0	265
Add assumed vesteds	0	0	2,063	2,063
Total valued	42,569	30,263	5,497	78,329



Oklahoma Public Employees Retirement System

Accrued Benefit

The amount of an individual's benefit (whether or not vested) as of a specific date, determined in accordance with the terms of a pension plan and based on compensation and service to that date.

Actuarial Accrued Liability

That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of pension plan benefits and expenses which is not provided for by future Normal Costs.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement, and retirement; changes in compensation, rates of investment earnings, and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; and other relevant items.

Actuarial Cost Method

A procedure for determining the Actuarial Present Value of pension plan benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Normal Cost and an Actuarial Accrued Liability.

Actuarial Gain (Loss)

A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions during the period between two Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.

Actuarial Present Value

The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions.

Actuarial Valuation

The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a pension plan.

Actuarial Value of Assets

The value of cash, investments and other property belonging to a pension plan, as used by the actuary for the purpose of an Actuarial Valuation.

Actuarially Equivalent

Of equal Actuarial Present Value, determined as of a given date with each value based on the same set of Actuarial Assumptions.

Amortization Payment

That portion of the pension plan contribution which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

**Deferred Vested Participant**

A vested member who has terminated employment prior to early or normal retirement age who does not withdraw his or her contributions and is, therefore, due a retirement benefit at a later date.

Entry Age Actuarial Cost Method

A method under which the Actuarial Present Value of the Projected Benefits of each individual included in an Actuarial Valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages. The portion of this Actuarial Present Value allocated to a valuation year is called the Normal Cost. The portion of this Actuarial Present Value not provided for at a valuation date by the Actuarial Present Value of future Normal Costs is called the Actuarial Accrued Liability.

Market Value of Assets

The fair value of cash, investments and other property belonging to a pension plan that could be acquired by exchanging them on the open market.

Normal Cost

That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method Projected Benefits

Projected Benefits

Those pension plan benefit amounts which are expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and past and anticipated future compensation and service credits.

Unaccrued Benefit

The excess of an individual's Projected Benefits over the Accrued Benefits as of a specified date.

Unfunded Actuarial Accrued Liability

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets.

Withdrawal Liability

The liability due to an active member terminating employment with a deferred vested benefit.