Cavanaugh Macdonald
CONSULTING, LLC

The experience and dedication you deserve

OKLAHOMA PUBLIC EMPLOYEES RETIREMENT SYSTEM

State of Oklahoma
Public Employees Retirement System

Actuarial Valuation Report
as of July 1, 2013

Cavanaugh Macdonald
CONSULTING, LLC
The experience and dedication you deserve

October 4, 2013

Board of Trustees
Oklahoma Public Employees Retirement System
5801 N. Broadway Extension, Suite 400
P.O. Box 53007
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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, 2013.

The purpose of this report is to provide a summary of the funded status of the System as of July 1, 2013, 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).

Since the last valuation, the plan provisions of the System have been amended by House Bill 1325 (2013) which changes the definition of "Final Average Salary" for members who join on or after July 1, 2013 so that such members will have their salary averaged over the highest five of the last ten years instead of three of the last ten years. This provision will not affect the valuation results presented in this report.

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.

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 factors such 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 meet all the benefit obligations of the plan for current active and retired members, 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,

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

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

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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, 2013 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, the plan provisions of the System have been amended by House Bill 1325 (2013) which changes the definition of "Final Average Salary" for members who join on or after July 1, 2013 so that such members will have their salary averaged over the highest five of the last ten years instead of three of the last ten years.

The valuation results provide a snapshot view of the System's financial condition on July 1, 2013. The unfunded actuarial accrued liability for the System decreased by $75 million due to various factors. A detailed analysis of the change in the unfunded actuarial accrued liability from July 1, 2012 to July 1, 2013 is shown on page 4.

The highlights of the valuation are shown below:

	Actuarial Valuation Date	
Funded Status $(millions)	**July 1, 2013**	**July 1, 2012**
Actuarial Accrued Liability	$8,556	$8,335
Actuarial Value of Assets	$6,979	$6,682
Unfunded Actuarial Accrued Liability	$1,577	$1,652
Funded Ratio (Actuarial Value)	81.6%	80.2%
Market Value of Assets	$7,442	$6,821
Funded Ratio (Market Value)	87.0%	81.8%

There was a liability gain of $48.1 million from demographic experience which resulted in an actuarial accrued liability that was lower than expected (0.56% of expected liability). The components of this net liability gain are identified on page 5.

The estimated net return on the market value of assets was 11.95% for the year ended June 30, 2013. 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 7.29% which resulted in an actuarial loss of $14.0 million.

The actuarial contribution rate for the employers decreased from 2012 to 2013:

	Actuarial Valuation Date	
Contribution Rate	**July 1, 2013**	**July 1, 2012**
Normal Cost	10.52%	10.67%
Amortization of UAAL	8.47%	8.72%
Budgeted Expenses	0.39%	0.42%
Actuarial Contribution Rate	19.38%	19.81%
Less Estimated Member Contribution Rate	4.11%	4.11%
Employer Actuarial Contribution Rate	15.27%	15.70%
Less Employer Statutory Contribution Rate	16.50%	16.50%
Contribution Shortfall (Surplus)	(1.23%)	(0.80%)

Primarily due to the removal of the COLA assumption and reserve starting with the June 30, 2011 valuation, the employer actuarial contribution rate is less that the employer statutory contribution rate. It is recommended that the employer statutory contribution rate continue to be contributed as this will decrease the unfunded actuarial accrued liability and accelerate progress on reaching long-term funding goals.

EXPERIENCE: July 1, 2012 to July 1, 2013

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, 2013. 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, 2012 and July 1, 2013. Each component is examined in the following discussion.

ASSETS

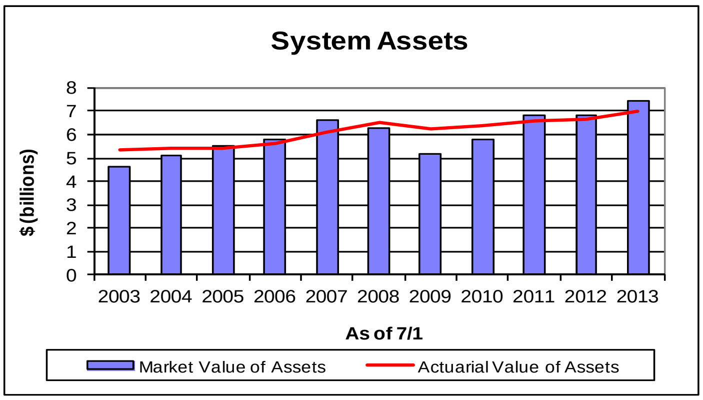
As of July 1, 2013, the System had total funds when measured on a market value basis of $7.44 billion. This was a increase of $620 million from the July 1, 2012 figure of $6.82 billion. The market value of assets is not used directly in the calculation of the actuarial contribution rate. An asset valuation 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, 2013.

The actuarial value of assets as of July 1, 2013 was $6.98 billion. The annualized dollar-weighted rate of return for FY2013, measured on the actuarial value of assets, was approximately 7.29%, which resulted in an actuarial loss of $14 million. Measured on the market value of assets, the estimated rate of return was 11.95%, net of investment expenses.

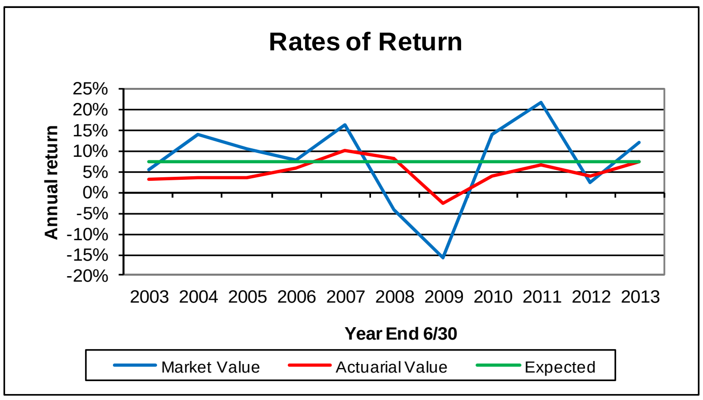
The components of the change in the market and actuarial value of assets for the System are set forth below:

	Market Value $(millions)	Actuarial Value $(millions)
Net Assets, July 1, 2012	$6,821	$6,682
• Employer and Member Contributions	338	338
• Benefit Payments and Expenses	(522)	(522)
• Investment Income/(Loss)	805	481
Preliminary Value, July 1, 2013	7,442	6,979
Application of Corridor	N/A	N/A
Final Net Assets, July 1, 2013	$7,442	$6,979
Estimated Rate of Return	11.95%	7.29%

Due to the use of an asset smoothing method, there is approximately $463 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.



Due to 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. As of July 1, 2013, market value is higher than actuarial 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 employers' contributions exceed the employers' 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, 2013 is:

Actuarial Accrued Liability	$8,556,121,906
Actuarial Value of Assets	6,978,873,421
Unfunded Actuarial Accrued Liability	$1,577,248,485

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

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, 2013. There was an experience loss on the actuarial value of assets and an experience gain on liabilities. The net result was a decrease in the UAAL.

Between July 1, 2012 and July 1, 2013 the change in the unfunded actuarial accrued liability for the System was as follows (in millions):

	$(millions)
Unfunded Actuarial Accrued Liability, July 1, 2012	$1,652
• effect of contributions more than actuarial rate	(13)
• expected decrease due to amortization	(24)
• investment experience	14
• liability experience[1]	(48)
• other experience	(4)
• change in actuarial assumptions	0
• change due to amendments	0
Unfunded Actuarial Accrued Liability, July 1, 2013	$1,577

[1] Liability gain is about 0.56% of total actuarial accrued liability

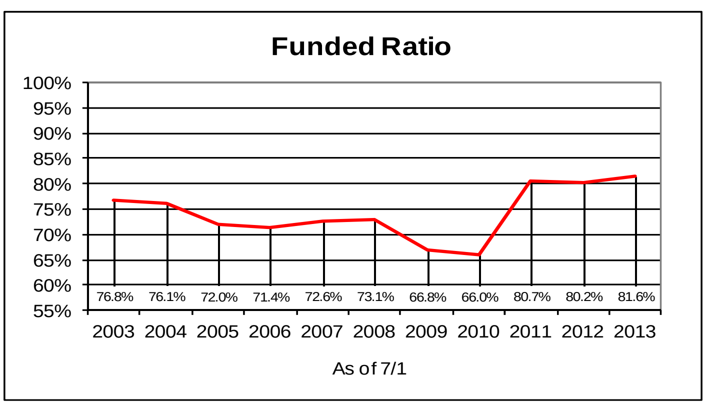
The liability gain for the System can be allocated to actual experience related to each actuarial assumption as follows:

Liability Source	Impact of AAL $(millions)	% of Expected Liability
Salary Increases	$ (67.2)	(0.78)%
Mortality	(8.5)	(0.10)
Termination of Employment	(16.3)	(0.19)
Retirements	0.8	0.01
Disability	4.2	0.05
New Entrants and Rehires	43.1	0.50
Miscellaneous/Data Changes	(4.2)	(0.05)
Total (Gain)/Loss	$ (48.1)	(0.56)%

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

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).

	7/1/08	7/1/09	7/1/10	7/1/11	7/1/12	7/1/13
Using Actuarial Value of Assets:						
Funded Ratio	73.0%	66.8%	66.0%	80.7%	80.2%	81.6%
Unfunded Actuarial Accrued Liability (UAAL)	$2,402	$3,083	$3,274	$1,581	$1,652	$1,577
Using Market Value of Assets:						
Funded Ratio	70.3%	55.7%	60.0%	83.6%	81.8%	87.0%
Unfunded Actuarial Accrued Liability (UAAL)	$2,639	$4,118	$3,848	$1,339	$1,513	$1,114



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:

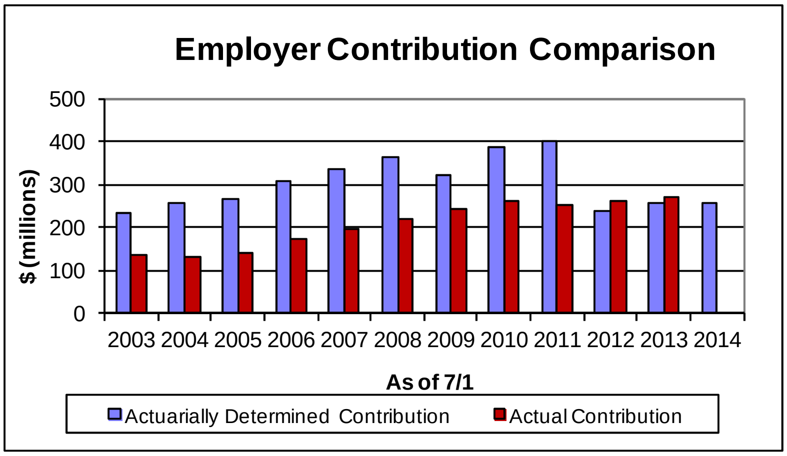
- A "normal cost" for the portion of projected liabilities allocated by the actuarial cost method to service of members during the year following the valuation date;

- 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 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 2013 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, 2013 valuation, if the System pays the statutory rate, it is projected the UAAL will be paid off in 12 years.

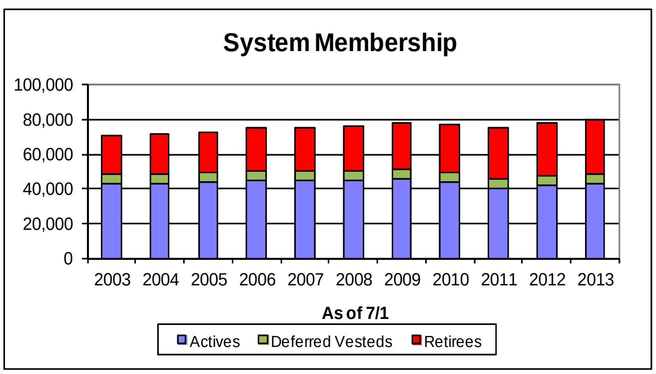
The following graph shows the total actuarially determined employer contribution compared to the amount actually received in each year. The funding policy contribution equals the System's normal cost, budgeted expenses, and an amortization of the unfunded actuarial accrued liability. For July 1, 1998 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, 2013, 14 years remain in the amortization period.



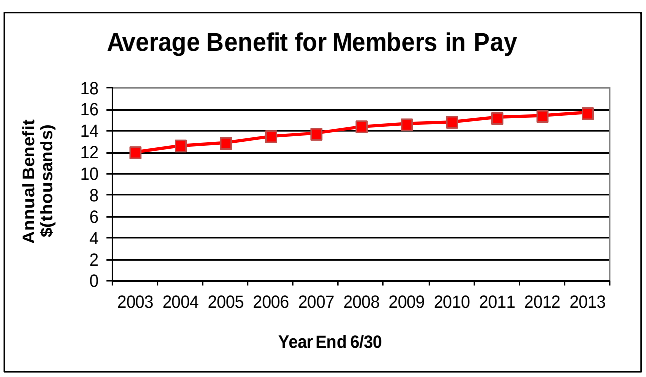
MEMBER INFORMATION

The number of active members included in the valuation increased by 5% from the 2011 to the 2012 valuation and then increased again by 1.7% from the 2012 to the 2013 valuation.

Retired member counts and average retirement benefit amounts continue to increase steadily. There were 31,135 retirees and beneficiaries in the 2013 valuation, with an average benefit of $1,307 per month. This represents about a 1.7% increase in the average monthly benefit from the previous year.



The number of active members has been fairly stable for most of the period. 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 reflect the final recognition of this loss and the accompanying increase in the unfunded actuarial accrued liability and actuarial contribution rate. The loss in 2009 was so large that it, together with the asset loss in 2012, results in a net loss recognized as of July 1, 2013.

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 15.27% 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, 2013 valuation, if the System pays the statutory rate it is projected that the UAAL will be paid off in 12 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.

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

	7/1/2013 Valuation	7/1/2012 Valuation	% Change
1. PARTICIPANT DATA			
Number of:			
Active Members	43,273	42,569	1.7
Retired and Disabled Members and Beneficiaries	31,135	30,263	2.9
Inactive Members	5,595	5,497	1.8
Total Members	80,003	78,329	2.1
Projected Annual Salaries of Active Members	$ 1,695,347,809	$ 1,633,837,374	3.8
Annual Retirement Payments for Retired Members and Beneficiaries	$ 488,173,423	$ 466,724,541	4.6
2. ASSETS AND LIABILITIES			
Total Actuarial Accrued Liability	$ 8,556,121,906	$ 8,334,637,900	2.7
Market Value of Assets	$ 7,441,781,618	$ 6,821,303,541	9.1
Actuarial Value of Assets	$ 6,978,873,421	$ 6,682,200,296	4.4
Unfunded Actuarial Accrued Liability	$ 1,577,248,485	$ 1,652,437,604	(4.6)
Funded Ratio	81.6%	80.2%	1.7
3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL			
Normal Cost Rate	10.52%	10.67%	
Amortization of Unfunded Actuarial Accrued Liability	8.47%	8.72%	
Budgeted Expenses	0.39%	0.42%	
Total Actuarial Required Contribution Rate	19.38%	19.81%	
Less Estimated Member Contribution Rate	4.11%	4.11%	
Employer Actuarial Required Contribution Rate	15.27%	15.70%	
Less Statutory State Employer Contribution Rate	16.50%	16.50%	
Contribution Shortfall/(Surplus)	(1.23%)	(0.80%)	

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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 the basis for measuring investment performance. At July 1, 2013, the market value of assets for the System was $7.4 billion. Table 1 is a comparison, at market values, of System assets as of June 30, 2013, and June 30, 2012, in total and by investment category. Table 2 summarizes the change in the market value of assets from July 1, 2012 to June 30, 2013.

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

	June 30, 2013			June 30, 2012		
		Amount $(millions)	% of Total		Amount $(millions)	% of Total
Cash & Equivalents	$	212.4	2.8%	$	132.5	1.9%
Short-term Investments		25.4	0.3%		9.5	0.1%
Government Obligations		1,656.5	21.7%		1,675.2	24.0%
Corporate Bonds		800.0	10.4%		865.7	12.4%
Domestic Equity		3,195.9	41.7%		2,737.3	39.1%
International Equity		1,765.9	23.1%		1,577.2	22.5%
Subtotal	$	7,656.1	100.0%	$	6,997.4	100.0%
Property (net)		1.0			0.9	
Other Assets		0.2			0.3	
Net Receivables/(Payables)		(215.5)			(177.3)	
Net Assets	$	7,441.8		$	6,821.3	

Oklahoma Public Employees Retirement System

Table 2

Statement of Changes in Net Assets

	Fiscal Year Ended June 30 2013		Fiscal Year Ended June 30 2012	
1. Market Value of Net Assets at Beginning of Year	$	6,821,303,541	$	6,841,001,769
2. Contributions				
a. Members	$	68,200,616	$	66,299,570
b. State and local agencies		269,994,831		262,710,009
c. Total contributions (2a) + (2b)	$	338,195,447	$	329,009,579
3. Net Investment Income				
a. Net appreciation (depreciation) in fair value of investments	$	704,638,124	$	46,557,082
b. Interest		62,327,958		69,997,122
c. Dividends		44,324,224		43,816,355
d. Securities lending activities		1,795,339		1,734,519
e. Other		0		0
f. Total investment income/(loss) (3a) + (3b) + (3c) + (3d) + (3e)	$	813,085,645	$	162,105,078
g. Investment expenses		(8,907,933)		(7,412,642)
h. Net investment income/(loss) (3f) + (3g)	$	804,177,712	$	154,692,436
i. Total additions/(subtractions) (2c) + (3h)	$	1,142,373,159	$	483,702,015
4. Deductions				
a. Retirement, death, and survivor benefits	$	502,636,899	$	484,309,893
b. Refunds and withdrawals		14,645,400		14,331,714
c. Administrative expenses		4,612,783		4,758,636
d. Total deductions (4a) + (4b) + (4c)	$	521,895,082	$	503,400,243
5. Net Change in Assets (3i) - (4d)	$	620,478,077	$	(19,698,228)
6. Market Value of Net Assets at End of Year (1) + (5)	$	7,441,781,618	$	6,821,303,541

Oklahoma Public Employees Retirement System

Table 3

Determination of Actuarial Value of Assets

1. Market Value as of July 1, 2012	$	6,821,303,541
2. Contributions		
a. Member	$	68,200,616
b. Employer		269,994,831
c. Total (a) + (b)	$	338,195,447
3. Decreases During Year		
a. Benefit payments	$	(502,636,899)
b. Refunds and withdrawals		(14,645,400)
c. Administrative expenses		(4,612,783)
d. Total (a) + (b) + (c)	$	(521,895,082)
4. Expected Return on Assets at 7.5%	$	504,833,565
5. Expected Market Value as of June 30, 2013 (1) + (2c) + (3d) + (4)		7,142,437,471
6. Actual Market Value as of June 30, 2013	$	7,441,781,618
7. Year End 2013 Asset Gain/(Loss) (6) - (5)		299,344,147

Schedule of Asset Gains/(Losses)

Year End		Original Amount		Recognized in Prior Years		Recognized in This Year		Recognized in Future Years
2009	$	(1,449,929,882)	$	(1,159,943,906)	$	(289,985,976)	$	0
2010		605,615,805		363,369,483		121,123,161		121,123,161
2011		756,449,148		302,579,659		151,289,830		302,579,659
2012		(333,783,235)		(66,756,647)		(66,756,647)		(200,269,941)
2013		299,344,147		0		59,868,829		239,475,318
Total	$	(122,304,017)	$	(560,751,411)	$	(24,460,803)	$	462,908,197

8. Asset Gain/(Loss) to be Recognized in the Future	$	462,908,197
9. Initial Actuarial Value as of June 30, 2013 (6) - (8)	$	6,978,873,421
10. Constraining Values:		
a. 80% of market value (6) x 0.8	$	5,953,425,294
b. 120% of market value (6) x 1.2	$	8,930,137,942
11. Actuarial Value as of June 30, 2013 (9), but not less than (10a), nor greater than (10b)	$	6,978,873,421

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, 2013. 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 covering 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, 2013.

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, 2013

	Regular	Elected Officials	Hazardous Duty	Total
1. Active Employees				
a. Retirement Benefit	$ 3,621,887,263	$ 223,302,299	$ 186,612,011	$ 4,031,801,573
b. Withdrawal Benefit	199,943,399	9,716,845	8,920,020	218,580,264
c. Pre-Retirement Death Benefit	105,826,076	2,767,693	3,893,176	112,486,945
d. Disability Benefit	131,085,703	6,384,045	4,584,167	142,053,915
e. Return of Member Contributions	40,240,855	500,150	3,167,888	43,908,893
f. Supplemental Medical Benefit	179,841,179	5,184,799	8,708,978	193,734,956
g. Subtotal	$ 4,278,824,475	$ 247,855,831	$ 215,886,240	$ 4,742,566,546
2. Inactive Nonvested Members				$ 33,449,655
3. Inactive Vested Members				303,362,216
4. Return of Excess Contributions				706,309
5. Disabled Members				114,096,662
6. Retirees				4,119,756,623
7. Beneficiaries				279,062,134
8. Supplemental Medical Benefit for Retirees				182,335,567
9. Total Inactive Liability Sum of (2) through (8)				$ 5,032,769,166
10. Total PVFB (1f) + (9)				$ 9,775,335,712

Oklahoma Public Employees Retirement System

Table 5

Actuarial Accrued Liability
As of July 1, 2013

	Regular	Elected Officials	Hazardous Duty	Total
1. Present Value of Future Benefits for Active Members				
a. Retirement Benefit	$ 3,621,887,263	$ 223,302,299	$ 186,612,011	$ 4,031,801,573
b. Withdrawal Benefit	199,943,399	9,716,845	8,920,020	218,580,264
c. Pre-Retirement Death Benefit	105,826,076	2,767,693	3,893,176	112,486,945
d. Disability Benefit	131,085,703	6,384,045	4,584,167	142,053,915
e. Return of Member Contributions	40,240,855	500,150	3,167,888	43,908,893
f. Supplemental Medical Benefit	179,841,179	5,184,799	8,708,978	193,734,956
g. Subtotal	$ 4,278,824,475	$ 247,855,831	$ 215,886,240	$ 4,742,566,546
2. Present Value of Future Normal Costs for Active Members				
a. Retirement Benefit	$ 765,419,461	$ 33,260,456	$ 47,973,898	$ 846,653,815
b. Withdrawal Benefit	114,833,102	6,047,923	5,010,666	125,891,691
c. Pre-Retirement Death Benefit	27,533,453	565,003	1,239,489	29,337,945
d. Disability Benefit	45,386,879	1,699,505	1,665,194	48,751,578
e. Return of Member Contributions	101,245,862	2,688,187	9,867,868	113,801,917
f. Supplemental Medical Benefit	50,921,982	1,302,951	2,551,927	54,776,860
g. Subtotal	$ 1,105,340,739	$ 45,564,025	$ 68,309,042	$ 1,219,213,806
3. Present Value of Future Benefits for Inactive Members (Table 4)				$ 5,032,769,166
4. Total Actuarial Accrued Liability (1g) - (2g) + (3)				$ 8,556,121,906

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) cost method as a level percent of pay. 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. 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. 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 illustrates the development of the contribution rate for amortization of the unfunded actuarial accrued liability. Table 8 explains the development of the total actuarial contribution rate.

Oklahoma Public Employees Retirement System

Table 6

Normal Cost Contribution Rates
As a Percentage of Salary

	Regular	Elected Officials	Hazardous Duty	Total	% of Pay
1. Normal Cost					
a. Retirement Benefit	$ 112,996,065	$ 6,375,791	$ 6,698,725	$ 126,070,581	7.44%
b. Withdrawal Benefit	14,586,197	1,024,606	680,668	16,291,471	0.96%
c. Pre-Retirement Death Benefit	3,906,377	105,814	179,393	4,191,584	0.25%
d. Disability Benefit	6,034,481	296,495	232,575	6,563,551	0.39%
e. Return of Member Contributions	13,483,818	484,683	1,362,437	15,330,938	0.90%
f. Supplemental Medical Benefit	9,137,057	294,342	391,735	9,823,134	0.58%
g. Total	$ 160,143,995	$ 8,581,731	$ 9,545,533	$ 178,271,259	10.52%
2. Estimated Payroll for the Year	$ 1,587,386,199	$ 39,683,127	$ 68,278,483	$ 1,695,347,809	
3. Normal Cost Rate (1g)/(2)	10.09%	21.63%	13.98%	10.52%	

Oklahoma Public Employees Retirement System

Table 7

Unfunded Actuarial Accrued Liability Contribution Rate

1. Actuarial Present Value of Future Benefits	$	9,775,335,712
2. Actuarial Present Value of Future Normal Costs		1,219,213,806
3. Actuarial Accrued Liability (1) - (2)	$	8,556,121,906
4. Actuarial Value of Assets		6,978,873,421
5. Unfunded Actuarial Accrued Liability (UAAL) (3) - (4)	$	1,577,248,485
6. Amortization of UAAL over 20 years from July 1, 2007 (assumed mid-year) *		143,567,307
7. Total Estimated Payroll for Year Ending June 30, 2014	$	1,695,347,809
8. Amortization as a Percent of Payroll		8.47%

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

Oklahoma Public Employees Retirement System

Table 8

Actuarial Contribution Rate

	July 1	
	2013	2012
1. Total Normal Cost Rate	10.52%	10.67%
2. Amortization of UAAL[1]	8.47%	8.72%
3. Budgeted Expenses[2]	0.39%	0.42%
4. Total Actuarial Contribution Rate (1) + (2) + (3)	19.38%	19.81%
5. Estimated Member Contribution Rate	4.11%	4.11%
6. Employer Actuarial Contribution Rate (4) - (5)	15.27%	15.70%

[1] Amortization of UAAL is a level percent of payroll.

[2] Provided by the System.

Oklahoma Public Employees Retirement System

Table 9

Calculation of Actuarial Gain/(Loss)

1. Expected Actuarial Accrued Liability		
a. Actuarial accrued liability at July 1, 2012	$	8,334,637,900
b. Normal cost at mid-year		174,392,545
c. Benefit payments for fiscal year ending June 30, 2013		(517,282,299)
d. Interest on (a), (b), and (c)		612,471,933
e. Change in assumptions		0
f. Amendments		0
g. Expected actuarial accrued liability as of July 1, 2013 (a) + (b) + (c) + (d) + (e) + (f)	$	8,604,220,079
2. Actuarial Accrued Liability at July 1, 2013	$	8,556,121,906
3. Actuarial Accrued Liability Gain/(Loss) (1g) - (2)	$	48,098,173
4. Expected Actuarial Value of Assets		
a. Actuarial value of assets at July 1, 2012	$	6,682,200,296
b. Contributions for fiscal year ending June 30, 2013		338,195,447
c. Benefit payment and administrative expenses for fiscal year ending June 30, 2013		(521,895,082)
d. Interest on (a), (b), and (c)		494,400,822
e. Expected actuarial value of assets as of July 1, 2013 (a) + (b) + (c) + (d)	$	6,992,901,483
5. Actuarial Value of Assets at July 1, 2013	$	6,978,873,421
6. Actuarial Value of Assets Gain/(Loss) (5) - (4e)	$	(14,028,062)
7. Net Actuarial Gain/(Loss) (3) + (6)	$	34,070,111

Oklahoma Public Employees Retirement System

Table 10

Summary of Contribution Requirements

	Actuarial Valuation as of		Percent
	July 1, 2013	July 1, 2012	Change
1. Expected Annual Payroll	$ 1,695,347,809	$ 1,633,837,374	3.8%
2. Total Normal Cost	$ 178,271,259	$ 174,392,545	2.2%
3. Unfunded Actuarial Accrued Liability	$ 1,577,248,485	$ 1,652,437,604	(4.6%)
4. Amortization of Unfunded Actuarial Accrued Liability over 20 Years from July 1, 2007*	$ 143,567,307	$ 142,538,471	0.7%
5. Budgeted Expenses (Provided by the System)	$ 6,665,637	$ 6,882,011	(3.1%)
6. Total Required Contribution (2) + (4) + (5)	$ 328,504,203	$ 323,813,027	1.4%
7. Estimated Member Contributions	$ 69,624,910	$ 67,216,039	3.6%
8. Required Employer Contribution (6) - (7)	$ 258,879,293	$ 256,596,988	0.9%
9. Previous Year's Actual Contribution			
a. Member	$ 68,200,616	$ 66,299,570	2.9%
b. Employer	269,994,831	262,710,009	2.8%
c. Total	$ 338,195,447	$ 329,009,579	2.8%

*Amortization of UAAL is a level percent of payroll.

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.

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)
7/1/2008	$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%
7/1/2013	6,978,873,421	8,556,121,906	1,577,248,485	81.6%	1,695,347,809	93.0%

Valuation Date	July 1, 2013
Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percent of Pay, Closed
Remaining Amortization Period	14 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
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%
2013	256,596,988	105.2%

Oklahoma Public Employees Retirement System

Table 13

Actuarial Present Value of Accumulated Benefits

The actuarial present value of vested and nonvested accumulated 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			
		2013		2012
Vested benefits				
Active members	$	1,986,009,824	$	1,966,927,669
Terminated vested members		303,362,216		297,543,162
Unclaimed contributions		33,449,655		29,729,549
Limited benefit		706,309		778,773
Retirees and beneficiaries		4,512,915,419		4,321,790,926
Supplemental medical insurance premiums		321,741,921		321,408,243
Total vested benefits	$	7,158,185,344	$	6,938,178,322
Nonvested benefits for active members	$	304,441,991	$	325,799,266
Total accumulated benefits	$	7,462,627,335	$	7,263,977,588
Market value of assets available for benefits	$	7,441,781,618	$	6,821,303,541
Funded ratio		99.7%		93.9%
Number of members				
Vested members				
Active members		20,695		20,763
Terminated vested members		5,595		5,497
Retirees and beneficiaries		31,135		30,263
Total vested members		57,425		56,523
Nonvested active members		22,578		21,806
Total members		80,003		78,329

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, 2012	$	7,263,977,588
Increase/(decrease) during the year attributable to:		
Benefits accrued and (gains)/losses		190,181,131
Increase due to interest		525,750,915
Benefits paid		(517,282,299)
Plan provision change		0
Net increase/(decrease)	$	198,649,747
Present value of accrued benefit as of July 1, 2013	$	7,462,627,335

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, 2013. The "Retirees" column shows benefits expected to be paid to members receiving benefit payments as of July 1, 2013 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
2014	$34,760,000	$490,524,000	$525,284,000
2015	66,820,000	482,567,000	549,387,000
2016	98,736,000	474,057,000	572,793,000
2017	131,374,000	465,265,000	596,639,000
2018	164,883,000	456,063,000	620,946,000
2019	198,031,000	446,645,000	644,676,000
2020	230,425,000	436,787,000	667,212,000
2021	261,587,000	426,586,000	688,173,000
2022	292,447,000	416,024,000	708,471,000
2023	322,485,000	404,968,000	727,453,000

Supplemental Medical Premium Benefits

Year Ending June 30	Actives	Retirees	Total
2014	$1,704,000	$18,048,000	$19,752,000
2015	3,680,000	17,722,000	21,402,000
2016	5,590,000	17,355,000	22,945,000
2017	7,469,000	17,041,000	24,510,000
2018	9,289,000	16,710,000	25,999,000
2019	11,016,000	16,408,000	27,424,000
2020	12,630,000	16,090,000	28,720,000
2021	14,107,000	15,798,000	29,905,000
2022	15,477,000	15,479,000	30,956,000
2023	16,721,000	15,136,000	31,857,000

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 12-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%

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. Those elected after November 1, 2011 contribute at 3.5% like most non-elected members.

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

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%
2013-2014	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:

Member Accumulation			Additional Years
$ 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. For members hired on or after July 1, 2013, final average compensation will be the average of the sixty (60) highest months of compensation earned within the last ten (10) years of participating service. Final average compensation will be subject to any applicable salary caps and based on salary 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 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 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:

% of Compensation Contributed	% of Highest Annual Compensation
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 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.

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:

Elected Officials		Other Members	
Age	Percentage	Age	Percentage
60	100%	62	100.00%
59	94	61	93.33
58	88	60	86.67
57	82	59	80.00
56	76	58	73.33
55	70	57	66.67
		56	63.33
		55	60.00

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

Elected Officials		Other Members	
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	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 employee 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: Option A – Joint and 50% Survivor Annuity with a return to the unreduced amount if the joint annuitant dies. Option B – Joint and 100% Survivor Annuity with a return to the unreduced amount if the joint annuitant dies. Option C – Life Annuity with a minimum of 120 monthly payments. For married members, spousal consent is required for any option other than Option A, or a joint annuitant other than the spouse. 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.
Post-retirement medical benefit	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.
Expenses	The expenses of administering the System are paid from the retirement trust fund.

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).

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:

Year	Up to $25,000	Above $25,000
1994/1995	6.5%	8.0%
1995/1996	6.5%	8.0%
1996/1997	7.0%	8.0%
1997/1998	7.5%	8.0%

	First 20 Years of Service	Service Beyond 20 Years	
		Up to $25,000	Above $25,000
July 1998 – June 1999	8.0%	N/A	N/A
July 1999 – June 2000	8.0%	N/A	N/A
July 2000 – June 2010	8.0%	N/A	N/A
July 2010 and after	8.0%	3.5%	3.5%

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 <u>plus</u> 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.

Oklahoma Public Employees Retirement System

SUMMARY OF ACTUARIAL ASSUMPTIONS

<u>Economic Assumptions</u>

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

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

Nearest Age	% Increase
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%

Oklahoma Public Employees Retirement System

Demographic Assumptions

Retirement age

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

	Hired Prior to 11/1/2011		Hired on or After 11/1/2011	
Age	Those Eligible For Unreduced Retirement	Those Eligible For Reduced Retirement	Those Eligible For Unreduced Retirement	Those Eligible For Reduced Retirement
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

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Oklahoma Public Employees Retirement System

Demographic Assumptions (continued)

Retirement age (continued):

Annual Rates of Retirement Per 100 Eligible Elected Members

	Elected Prior to 11/1/2011		Elected on or After 11/1/2011	
Age	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

Oklahoma Public Employees Retirement System

Demographic Assumptions (continued)

Retirement age (continued):

Annual Rates of Retirement Per 100 Eligible Hazardous Duty Members

Hired Prior to 11/1/2011				Hired on or After 11/1/2011			
Less Than 20 Years of Service		At Least 20 Years of Service		Less Than 20 Years of Service		At Least 20 Years of Service	
Age		**Service**		**Age**		**Service**	
50	N/A	20	20	50	N/A	20	20
51	N/A	21-24	15	51	N/A	21-24	15
52	N/A	25-29	20	52	N/A	25-29	20
53	N/A	30-34	25	53	N/A	30-34	25
54	N/A	35+	100	54	N/A	35+	100
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 Age	Male	Female
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

Oklahoma Public Employees Retirement System

Withdrawal Rates:

Age	0 - 2 Years	2 – 3 Years	3 - 4 Years	4 - 5 Years	5 – 6 Years	6 – 7 Years	7 – 8 Years	8 – 9 Years	9 – 10 Years	Over 10 Years
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:

Regular Members Only	
Age	Rate
Under 34	70%
34 – 38	75%
39 – 46	80%
47	85%
48	90%
49	95%
50+	100%

Marital Status:

Percentage Married	85%
Age difference	Males are assumed to be four years older than spouses.

Children: Special death benefits are provided to Department of Corrections employees who die in the line of duty and 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 single life annuity.

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.

Oklahoma Public Employees Retirement System

Valuation Data Distribution – Actives – Regular Membership

	Years of Service									
Age	**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	1,449	18								1,467
Avg. Pay	$23,115	$26,582								$23,158
25 to 29	2,496	556	9							3,061
Avg. Pay	$28,667	$32,313	$32,784							$29,341
30 to 34	2,099	1,534	279	6						3,918
Avg. Pay	$30,417	$37,181	$36,834	$40,973						$33,539
35 to 39	1,605	1,297	777	193	4					3,876
Avg. Pay	$30,876	$37,639	$41,609	$42,821	$51,532					$35,907
40 to 44	1,517	1,250	846	674	177	6				4,470
Avg. Pay	$31,097	$38,064	$41,032	$44,770	$43,159	$57,232				$37,500
45 to 49	1,612	1,176	755	705	662	296	27			5,233
Avg. Pay	$29,831	$36,048	$39,708	$42,722	$46,916	$48,300	$50,513			$37,702
50 to 54	1,213	1,252	906	775	795	817	447	21		6,226
Avg. Pay	$32,133	$35,860	$39,946	$40,923	$45,735	$51,257	$49,271	$48,157		$40,645
55 to 59	1,086	1,193	922	753	753	580	465	169	2	5,923
Avg. Pay	$33,232	$36,946	$39,456	$41,574	$44,336	$49,278	$52,001	$50,263	$56,182	$40,959
60 to 64	633	855	667	617	504	415	308	220	2	4,221
Avg. Pay	$34,782	$37,598	$39,419	$42,172	$44,258	$46,522	$50,392	$53,050	$35,854	$41,543
65 to 69	201	366	263	220	176	129	83	59	4	1,501
Avg. Pay	$34,769	$36,768	$40,609	$42,230	$43,448	$52,811	$53,288	$59,933	$52,351	$42,001
70 & up	102	140	96	81	74	42	25	18	6	584
Avg. Pay	$29,074	$32,220	$36,107	$40,364	$42,316	$39,505	$65,977	$41,872	$62,733	$37,298
Total	14,013	9,637	5,520	4,024	3,145	2,285	1,355	487	14	40,480
Avg. Pay	$30,026	$36,667	$39,964	$42,347	$45,066	$49,399	$51,042	$52,293	$54,991	$37,429

Oklahoma Public Employees Retirement System

Valuation Data Distribution – Actives – Elected Membership

	Years of Service									
Age	**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	3									3
Avg. Pay	$28,471									$28,471
25 to 29	6	1								7
Avg. Pay	$21,323	$23,655								$21,656
30 to 34	12	5	3							20
Avg. Pay	$40,029	$40,887	$46,689							$41,243
35 to 39	12	20	8	8						48
Avg. Pay	$41,520	$45,878	$41,923	$49,141						$44,673
40 to 44	16	20	19	19	5					79
Avg. Pay	$45,147	$53,882	$45,452	$58,554	$49,087					$50,906
45 to 49	14	23	21	19	14	12	2			105
Avg. Pay	$47,780	$49,549	$44,721	$61,800	$49,998	$48,116	$45,667			$50,386
50 to 54	30	23	23	15	18	21	16			146
Avg. Pay	$49,240	$50,016	$50,229	$55,094	$47,832	$47,495	$55,953			$50,430
55 to 59	29	19	18	17	17	25	13	2		140
Avg. Pay	$49,007	$50,788	$43,294	$48,386	$57,438	$52,988	$60,281	$46,901		$51,190
60 to 64	23	26	19	15	18	18	8	2		129
Avg. Pay	$48,978	$44,822	$47,161	$48,202	$53,917	$53,768	$59,395	$45,006		$49,724
65 to 69	9	16	8	5	5	7	4	2		56
Avg. Pay	$49,185	$37,663	$49,326	$42,754	$44,047	$53,971	$44,051	$79,839		$46,207
70 & up	6	9	9	5	3	2	3	2	1	40
Avg. Pay	$46,921	$40,842	$46,681	$46,702	$49,087	$60,284	$48,062	$54,344	$43,200	$46,666
Total	160	162	128	103	80	85	46	8	1	773
Avg. Pay	$45,827	$46,999	$46,278	$53,390	$51,510	$51,361	$55,778	$56,523	$43,200	$49,051

Oklahoma Public Employees Retirement System

Valuation Data Distribution – Actives – Hazardous Duty Membership

	Years of Service									
Age	**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	118 $24,860									118 $24,860
25 to 29 Avg. Pay	203 $26,353	61 $29,414								264 $27,061
30 to 34 Avg. Pay	113 $26,361	146 $31,500	27 $35,391							286 $29,837
35 to 39 Avg. Pay	74 $26,588	108 $30,650	101 $35,999	36 $40,214						319 $32,481
40 to 44 Avg. Pay	76 $25,470	92 $30,781	79 $37,048	102 $41,455	13 $44,361					362 $34,529
45 to 49 Avg. Pay	36 $25,217	38 $30,007	49 $34,986	85 $39,382	27 $45,734	8 $48,270				243 $35,929
50 to 54 Avg. Pay	35 $24,376	37 $29,913	36 $34,523	49 $38,612	14 $35,894	10 $45,496	1 $92,955			182 $33,765
55 to 59 Avg. Pay	13 $25,382	37 $29,543	31 $34,074	52 $37,471	17 $43,022	3 $47,403	1 $45,808			154 $34,722
60 to 64 Avg. Pay	6 $27,153	18 $31,405	16 $35,049	25 $37,507	6 $38,850	3 $46,912	1 $45,714			75 $35,283
65 to 69 Avg. Pay		4 $29,282	5 $34,412	3 $38,555	1 $42,465					13 $34,409
70 & up Avg. Pay		1 $32,654	3 $32,726							4 $32,708
Total Avg. Pay	674 $25,845	542 $30,610	347 $35,628	352 $39,538	78 $42,576	24 $46,836	3 $61,492			2,020 $32,138

Oklahoma Public Employees Retirement System

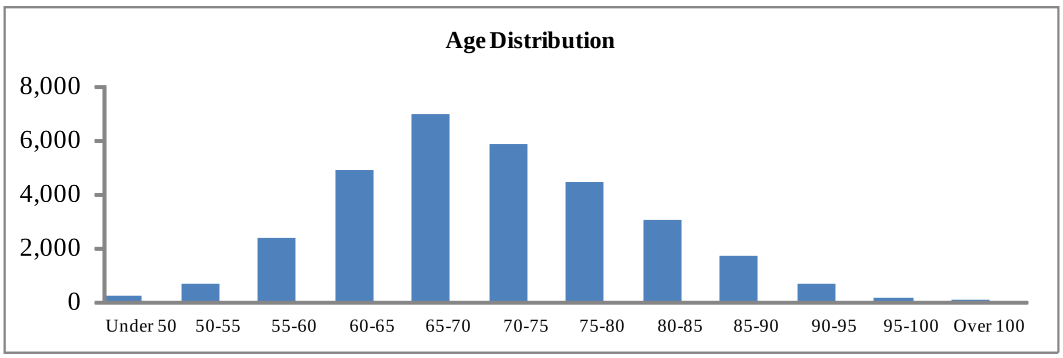
Valuation Data Distribution – Actives – All Membership Groups

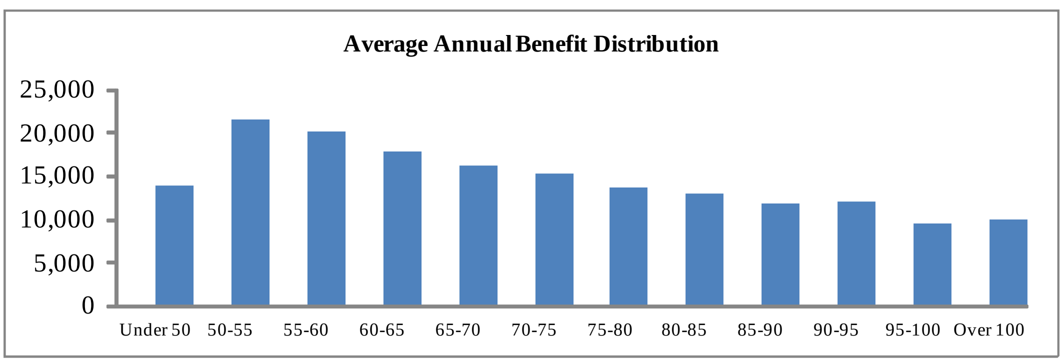
	Years of Service									
Age	**0 to 4**	**5 to 9**	**10 to 14**	**15 to 19**	**20 to 24**	**25 to 29**	**30 to 34**	**35 to 39**	**40 & Up**	**Total**
Under 25	1,570	18								1,588
Avg. Pay	$23,257	$26,582								$23,295
25 to 29	2,705	618	9							3,332
Avg. Pay	$28,477	$32,013	$32,784							$29,144
30 to 34	2,224	1,685	309	6						4,224
Avg. Pay	$30,263	$36,700	$36,803	$40,973						$33,324
35 to 39	1,691	1,425	886	237	4					4,243
Avg. Pay	$30,764	$37,225	$40,972	$42,639	$51,532					$35,748
40 to 44	1,609	1,362	944	795	195	6				4,911
Avg. Pay	$30,971	$37,804	$40,788	$44,674	$43,391	$57,232				$37,497
45 to 49	1,662	1,237	825	809	703	316	29			5,581
Avg. Pay	$29,882	$36,114	$39,555	$42,819	$46,932	$48,292	$50,179			$37,864
50 to 54	1,278	1,312	965	839	827	848	464	21		6,554
Avg. Pay	$32,322	$35,941	$39,989	$41,041	$45,615	$51,096	$49,595	$48,157		$40,672
55 to 59	1,128	1,249	971	822	787	608	479	171	2	6,217
Avg. Pay	$33,547	$36,937	$39,356	$41,455	$44,590	$49,422	$52,212	$50,224	$56,182	$41,035
60 to 64	662	899	702	657	528	436	317	222	2	4,425
Avg. Pay	$35,206	$37,682	$39,529	$42,132	$44,526	$46,824	$50,605	$52,978	$35,854	$41,675
65 to 69	210	386	276	228	182	136	87	61	4	1,570
Avg. Pay	$35,387	$36,728	$40,749	$42,193	$43,459	$52,871	$52,864	$60,586	$52,351	$42,089
70 & up	108	150	108	86	77	44	28	20	7	628
Avg. Pay	$30,066	$32,740	$36,894	$40,732	$42,580	$40,449	$64,057	$43,119	$59,942	$37,866
Total	14,847	10,341	5,995	4,479	3,303	2,394	1,404	495	15	43,273
Avg. Pay	$30,006	$36,511	$39,848	$42,380	$45,163	$49,443	$51,219	$52,361	$54,205	$37,390

Oklahoma Public Employees Retirement System

Valuation Data Distribution – Retired Members

	Number			Annual Benefits		
Age	Male	Female	Total	Male	Female	Total
Under 50	119	97	216	$ 1,917,589	$ 1,089,974	$ 3,007,563
50-55	312	372	684	6,866,276	7,942,269	14,808,545
55-60	888	1,460	2,348	18,154,056	29,122,590	47,276,646
60-65	2,057	2,879	4,936	38,531,358	49,360,458	87,891,816
65-70	3,103	3,885	6,988	55,127,199	58,338,320	113,465,519
70-75	2,592	3,299	5,891	43,207,494	46,739,778	89,947,272
75-80	1,920	2,521	4,441	29,155,993	32,263,003	61,418,996
80-85	1,165	1,879	3,044	16,883,812	22,926,450	39,810,262
85-90	588	1,148	1,736	7,987,254	12,683,755	20,671,009
90-95	234	454	688	3,206,289	5,101,550	8,307,839
95-100	30	105	135	332,918	952,279	1,285,197
Over 100	4	24	28	35,076	247,683	282,759
Total	13,012	18,123	31,135	$221,405,314	$266,768,109	$488,173,423





Oklahoma Public Employees Retirement System

	Actuarial Valuation as of 7/1/2013	Actuarial Valuation as of 7/1/2012	% Change
1. Active members			
a. Number	43,273	42,569	1.7%
b. Annual compensation	$ 1,695,347,809	$ 1,633,837,374	3.8%
c. Average annual compensation	39,178	38,381	2.1%
d. Average age	46.4	46.5	(0.2%)
e. Average service	10.2	10.5	(2.9%)
2. Accumulated member contributions			
a. Active members	$ 517,653,196	$ 505,372,599	2.4%
b. Unclaimed contribution amounts	33,449,655	29,729,549	12.5%
c. Total	$ 551,102,851	$ 535,102,148	3.0%
3. Vested terminated members			
a. Number	3,303	3,434	(3.8%)
b. Annual deferred benefits	$ 31,129,188	$ 32,279,512	(3.6%)
c. Average annual deferred benefit	9,425	9,400	0.3%
d. Annual supplemental medical insurance premiums	$ 4,161,780	$ 4,326,840	(3.8%)
4. Assumed deferred vested - count	2,292	2,063	11.1%
5. Retired members			
a. Number	26,240	25,528	2.8%
b. Annual retirement benefits	$ 438,292,158	$ 419,564,529	4.5%
c. Average annual retirement benefit	16,703	16,435	1.6%
d. Annual supplemental medical insurance premiums	$ 17,008,740	$ 17,030,160	(0.1%)
6. Beneficiaries			
a. Number	3,357	3,212	4.5%
b. Annual retirement benefits	$ 35,101,186	$ 32,688,039	7.4%
c. Average annual retirement benefit	10,456	10,177	2.7%
7. Disabled members			
a. Number	1,538	1,523	1.0%
b. Annual retirement benefits	$ 14,780,079	$ 14,471,973	2.1%
c. Average annual retirement benefit	9,610	9,502	1.1%
d. Annual supplemental medical insurance premiums	$ 945,000	$ 957,600	(1.3%)
8. Total members included in valuation	80,003	78,329	2.1%

Oklahoma Public Employees Retirement System

	Actuarial Valuation as of	
	7/1/2013	7/1/2012
Regular Members		
Number	40,480	39,742
Average annual compensation	$ 37,429	$ 36,653
Average age	46.5	46.7
Average service	10.3	10.6
Elected officials		
Number	773	766
Average annual compensation	$ 49,051	$ 48,893
Average age	53.2	53.8
Average service	13.6	14.5
Hazardous Duty		
Number	2,020	2,061
Average annual compensation	$ 32,138	$ 32,226
Average age	40.3	40.3
Average service	8.5	8.4
Total		
Number	43,273	42,569
Average annual compensation	$ 37,390	$ 36,659
Average age	46.4	46.5
Average service	10.2	10.5

Oklahoma Public Employees Retirement System

	Actuarial Valuation as of	
	7/1/2013	7/1/2012
Retirees		
Number	26,240	25,528
Average annual benefit	$ 16,703	$ 16,435
Average age	70.8	70.7
Disability Retirees		
Number	1,538	1,523
Average annual benefit	$ 9,610	$ 9,502
Average age	63.1	62.7
Beneficiaries		
Number	3,357	3,212
Average annual benefit	$ 10,456	$ 10,177
Average age	73.2	73.0
Total		
Number	31,135	30,263
Average annual benefit	$ 15,679	$ 15,422
Average age	70.7	70.5
Vested Members		
Number	5,595	5,497
Average annual benefit	$ 9,573	$ 9,573
Average age	51.8	51.7

	Active Members	Vested Terminated	Receiving Benefits: Retirees	Receiving Benefits: Disability Retirees	Receiving Benefits: Benefici-aries	Total Members
As of July 1, 2012	**42,569**	**5,497**	**25,528**	**1,523**	**3,212**	**78,329**
Age retirements	(1,330)	(301)	1,631	0	0	0
Disability retirements	(53)	(23)	0	76	0	0
Deaths without payments continuing	(64)	(16)	(698)	(53)	(132)	(963)
Deaths with payments continuing	(29)	(10)	(221)	(10)	270	0
Nonvested terminations/refund of contributions	(4,158)	(82)	0	0	0	(4,240)
Vested terminations	(656)	656	0	0	0	0
Transfers	0	(9)	0	0	0	(9)
Data adjustments	0	5	5	2	7	19
Rehires	782	(122)	(5)	0	0	655
New entrants during the year	6,212	0	0	0	0	6,212
Net change	704	98	712	15	145	1,674
As of July 1, 2013	**43,273**	**5,595**	**26,240**	**1,538**	**3,357**	**80,003**

	Active	Retired	Terminated Vested	Total
Records submitted on data file	42,645	52,770	3,321	98,736
Remove deceased retirees	0	(21,625)	0	(21,625)
Remove unusable data	(13)	0	(18)	(31)
Remove those with another status	(1)	(10)	0	(11)
Add those with no application	642	0	0	642
Add assumed vesteds	0	0	2,292	2,292
Total valued	**43,273**	**31,135**	**5,595**	**80,003**

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.