Cavanaugh Macdonald
CONSULTING, LLC

The experience and dedication you deserve

STATE OF IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

Actuarial Valuation Report as of July 1, 2014

www.CavMacConsulting.com

TABLE OF CONTENTS

Cavanaugh Macdonald
CONSULTING, LLC
The experience and dedication you deserve

October 30, 2014

Board of Trustees
Iowa Peace Officers' Retirement, Accident
and Disability System
215 East 7th Street
Des Moines, IA 50319

Dear Members of the Board:

At your request, we have performed an actuarial valuation of the Iowa Peace Officers' Retirement, Accident and Disability System as of July 1, 2014. The purpose of this report is to provide: (1) a summary of the funded status of the System as of July 1, 2014, (2) determine the normal contribution rate as defined in Iowa Code Chapter 97A.8, and (3) provide the Annual Pension Cost (APC) and other accounting information under Governmental Accounting Standards Board Statement No. 27 (GASB 27).

The 2014 legislature passed a bill that provides that cancer and infectious disease, as defined in that bill, will be presumed to have been contracted while the member was on active duty, as a result of that duty. This presumption means that such a member will be eligible for an accidental disability benefit rather than an ordinary disability benefit As a result of this change, the disability assumption was modified to assume a higher portion of total disabilities will be payable as accidental disabilities. The assumed total disability rates did not change, however, because the expectation is that disabilities will simply be re-categorizing from ordinary to accidental. Part of the legislation includes an increase in the employee contribution rate, initially set at 0.05%, but adjusted in 2020 and periodically thereafter based on the actual experience of the System.

In preparing our report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, statutory provisions, member data and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete, our results may be different and our calculations may need to be revised.

3906 Raynor Pkwy, Suite 106, Bellevue, NE 68123
Phone (402) 905-4461 • Fax (402) 905-4464
www.CavMacConsulting.com
Offices in Englewood, CO • Kennesaw, GA • Bellevue, NE • Hilton Head Island, SC

We further certify that all costs, liabilities, rates of interest and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer our best estimate of anticipated experience affecting the System. Nevertheless, the emerging costs will vary from those presented in this report to the extent actual experience differs from that projected by the actuarial assumptions. The Board of Trustees has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in Appendix C.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since 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.

Actuarial computations presented in this report are for purposes of determining the recommended funding amounts for the System while computations presented in this report under GASB Statement No. 27 are for purposes of fulfilling financial accounting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, our understanding of the plan provisions described in Appendix B of this report, and of GASB Statement No. 27. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

We respectfully submit the following report and look forward to discussing it with you.

Patrice Beckham

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

Brent A. Banister

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

Purpose of the Report

This report presents the results of the July 1, 2014 actuarial valuation of the Iowa Peace Officers' Retirement, Accident and Disability System (PORS). The primary purposes of performing the valuation are as follows:

- to determine the normal contribution rate payable by the State under Chapter 97A.8(1)(b) of the Code of Iowa (referred to in this report as the "actuarial contribution rate");
- to satisfy the reporting requirements under Chapter 97A.8 of the Code of Iowa;
- to disclose asset and liability measures indicating the current funded status of the System as of the valuation date;
- to analyze and report on trends in System contributions, assets, and liabilities over the past several years; and
- to provide financial reporting information in accordance with Statement No. 27 of the Governmental Accounting Standards Board.

The 2014 legislature passed a bill that provides that cancer and infectious disease, as defined in that bill, will be presumed to have been contracted while the member was on active duty, as a result of that duty. This presumption means that the member is eligible for an accidental disability benefit rather than an ordinary disability benefit As a result of the change in the law, the disability assumption was modified to assume a higher portion of total disabilities will be payable as accidental disabilities. The assumed total disability rates did not change, however, because the expectation is that disabilities will simply be re-categorizing from ordinary to accidental. The legislative change increased the normal cost rate by 0.06% and decreased the actuarial liability by $164,012, with a corresponding decrease in the UAAL contribution rate of 0.02%. Therefore, the net impact on the actuarial required contribution rate was an increase of 0.04%. Part of the legislation included an increase in the employee contribution rate, initially set at 0.05%. Beginning in 2020 the Board of Trustees will set the additional percentage, dependent upon the findings of the actuarial investigation to be performed at that time.

The valuation results provide a "snapshot" view of the System's financial condition on July 1, 2014. The unfunded actuarial accrued liability (UAAL) decreased from $179 million on July 1, 2013 to $156 million on July 1, 2014, indicating overall favorable experience for FY 2014. A more detailed discussion of actual experience is included later in this section of the report.

The experience of both the System's assets and liabilities impacts the System's funding and the actuarial contribution rate. Experience which is more favorable than anticipated, based on actuarial assumptions, will generally lower the UAAL and the actuarial contribution rate and experience less favorable than expected will generally increase the UAAL and the actuarial contribution rate. The State's actuarial contribution rate decreased from 41.48% in last year's valuation to 38.65% this year, based on a member contribution rate of 11.40% for FY 2015 (which is 0.55% higher than last year). The State's actuarial contribution rate exceeds the fixed payroll related contribution rate for FY 2015 of 31.00% by 7.65%. However, when the State's supplemental contribution of $5 million for FY 2015 is included in the analysis, the contribution shortfall is eliminated and the expected contributions exceed the actuarial contribution rate.

Several factors impacted the actuarial contribution rate from last valuation:

- The rate of return on the market value of assets was 19.9%, higher than the assumed rate of return of 8%. Due to the asset smoothing method, not all of the return above 8% was recognized in this valuation. As a result of net favorable investment experience over the past 4 years, the market value of assets continues to be greater than the actuarial (smoothed) value of assets. The portion of the favorable asset experience recognized this year decreased the UAAL by $18 million and the actuarial contribution rate by 2.71% of pay.
- Actual contributions below the full actuarial contribution rate for FY 2014 resulted in an increase in the UAAL of $0.5 million and increased the actuarial contribution rate by 0.07% of pay.
- There was a change in the benefit provisions due to legislation in the 2014 session which increased the portion of future disabilities expected to be categorized as "accidental". This change resulted in an increase of 0.04% in the actuarial contribution rate. However, the legislation also increased the employee contribution rate by 0.05% which offset the cost of the benefit change.
- There was a liability gain, largely due to actual salary increases and post-retirement escalator increases that were lower than anticipated by the actuarial assumptions. As a result, the UAAL decreased by $7 million and the actuarial contribution rate declined by 1.10% of pay.
- The number of active members declined by 3.5%. As a result, the covered payroll decreased 2.1% from the July 1, 2013 valuation to the current valuation instead of the 3.75% expected growth based on the actuarial assumptions. Although this does not have an impact on the normal cost rate, the UAAL payment is higher due to the lower payroll.

The State's contribution rate has been lower than the actuarial contribution rate for more than ten years, which has, in most years, resulted in an increase in the UAAL and the actuarial contribution rate. With the changes passed by the 2010 legislature, the statutory contribution rate for the State increases 2% per year until it reaches a maximum of 37% of pay in fiscal year 2018. In addition, the State is scheduled to make supplemental contributions of $5 million per year beginning July 1, 2013 (changed from 2012 following the passage of HF 2465 in the 2012 legislative session). This supplemental contribution is an important component of strengthening PORS' long term funding, as it represents an additional funding source of approximately 11% to 12% of payroll. These future changes in the State's contribution, along with the scheduled increases already implemented in the member contribution rate, should significantly improve the System's long term funding. If all assumptions are met in the future, the System should attain a funded ratio of 100% within the next 20 years.

Assets

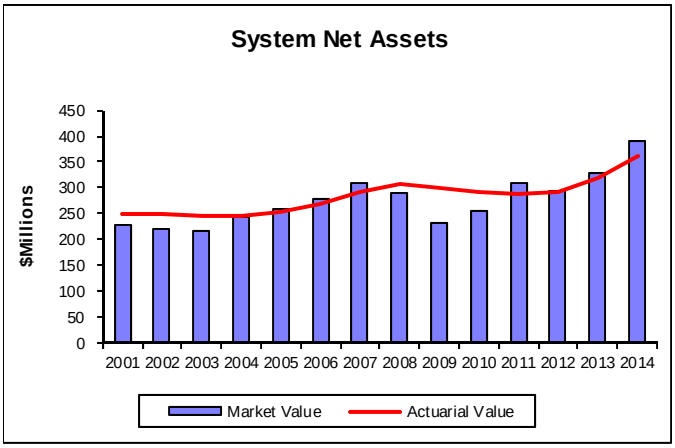
As of July 1, 2014, the System had total funds, measured on a market value basis, of $392,194,960. This was an increase of $62,274,816 from last year's market value of $329,920,144. The market value of assets is not used directly in the calculation of the actuarial contribution rate. The System uses an asset valuation method to smooth the effects of market fluctuations. The actuarial value of assets spreads the difference between the actual return and the expected return (based on the actuarial assumption of 8%) evenly over four years. See Tables 3 and

4 for a detailed development of the actuarial value of assets. The components of the change in the asset values are shown in the following table:

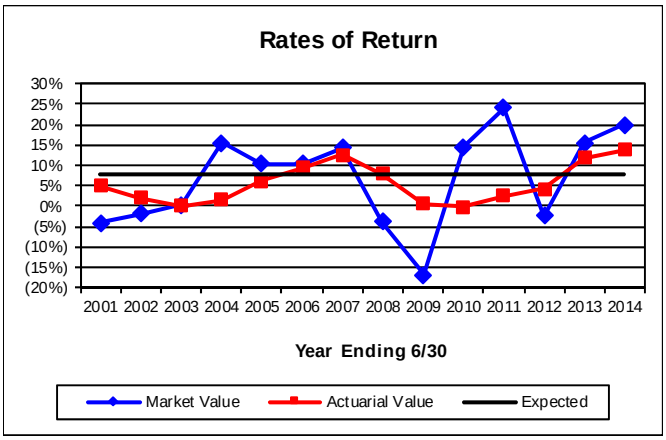
	Market Value	Actuarial Value
Net Assets, July 1, 2013	$329,920,144	$319,441,635
• Employer and Member Contributions	22,470,013	22,470,013
• Benefit Payments	(25,432,467)	(25,432,467)
• Administrative Expenses	(198,539)	(198,539)
• Investment Income	65,435,809	43,783,113
Net Assets, July 1, 2014	$392,194,960	$360,063,755

The dollar weighted rate of return measured on the market value of assets, net of expenses, was 19.9%. Measured on the actuarial value of assets, the rate of return was 13.7% which resulted in an actuarial gain of $18 million.

The market value of assets is currently about $32 million, or 9%, greater than the actuarial value of assets. Absent investment returns below 8%, this deferred asset gain will be recognized over the next three years, resulting in some decrease in the actuarial contribution rate.



During this period, the actuarial value of assets has been both above and below the market value of assets, which is expected when using an asset smoothing method.



Rates of return on the market value of assets have been extremely volatile, while the return on the actuarial value of assets has been more stable. This 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 employer normal costs or member contributions. The difference between this liability and asset values at the same date is referred to as the unfunded actuarial accrued liability (UAAL). The unfunded actuarial accrued liability will be reduced if the employer's contributions exceed the employer's normal cost for the year, after allowing for interest earned on the previous balance of the unfunded actuarial accrued liability. Benefit improvements, experience gains and losses, and changes in actuarial assumptions and methods will also impact the total actuarial accrued liability (AAL) and the unfunded portion thereof.

The unfunded actuarial accrued liability as of July 1, 2014 is as follows:

Actuarial Accrued Liability	$515,859,721
Actuarial Value of Assets	360,063,755
Unfunded Actuarial Accrued Liability	$155,795,966

See Table 7 for the detailed development of the Actuarial Accrued Liability and Table 12 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 (for both assets and the actuarial liability), changes in actuarial assumptions, procedures or methods and any changes in benefit provisions. The actual experience measured in this valuation is that which occurred during the prior plan year (FY 2014). There was an $18.4 million experience gain on the actuarial value of assets and a $7.4 million net experience gain on the actuarial accrued liability, primarily due to salary increases and post-retirement escalator increases that were less than expected. The total result of all experience was a decrease of $25.8 million in the UAAL.

Between July 1, 2013 and July 1, 2014 the change in the unfunded actuarial accrued liability for the System was as follows (in millions):

	$ millions
Unfunded Actuarial Accrued Liability, July 1, 2013	$179.0
· effect of contributions less than actuarial rate	0.5
· expected increase due to amortization method	2.3
· investment experience	(18.4)
· liability experience*	(7.4)
· new Plan provisions	(0.2)
· other experience	0.0
Unfunded Actuarial Accrued Liability, July 1, 2014	$155.8

* Liability gain is about 1.4% of total actuarial accrued liability.

An evaluation of the unfunded actuarial accrued liability on a pure dollar basis may not provide a complete analysis since 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, the ratio of the actuarial value of assets to the actuarial accrued liability. The funded status information, on both an actuarial and a market value basis, is shown on the following table (in millions).

	7/1/2010	7/1/2011	7/1/2012	7/1/2013	7/1/2014
Using Actuarial Value of Assets:					
Funded Ratio	67.0%	62.6%	61.0%	64.1%	69.8%
Unfunded Actuarial Accrued Liability (UAAL)	$143	$173	$187	$179	$156
Using Market Value of Assets:					
Funded Ratio	59.3%	66.9%	61.0%	66.2%	76.0%
Unfunded Actuarial Accrued Liability (UAAL)	$127	$153	$187	$169	$124

Contribution Rates

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 current year; and
- 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.

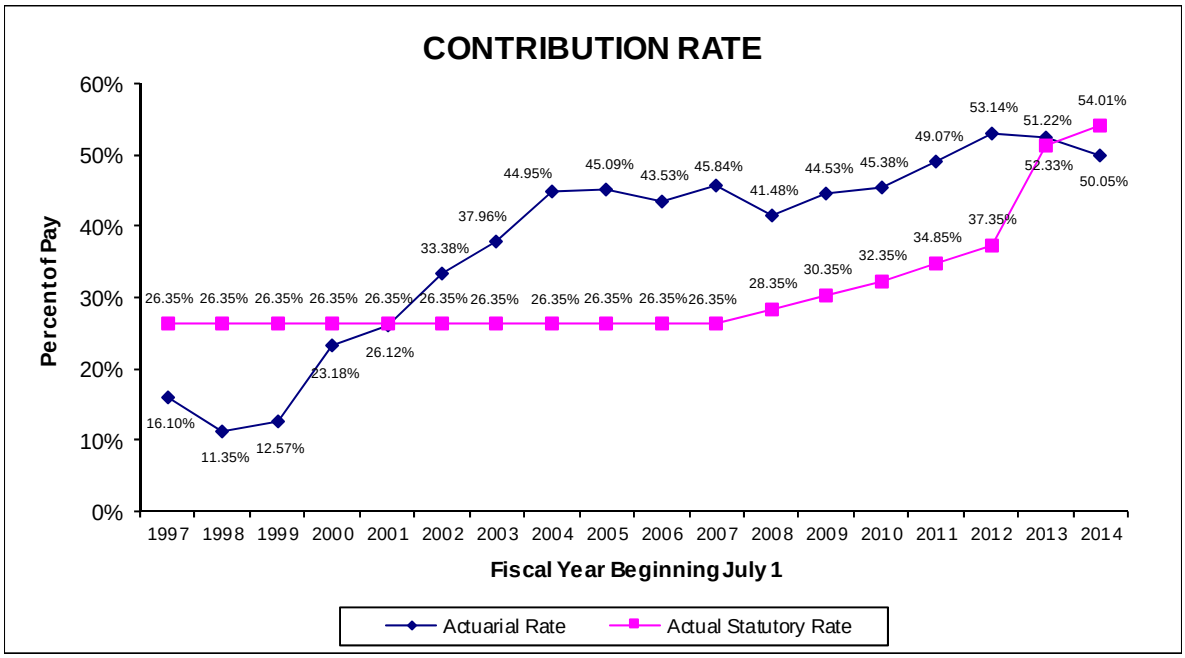
The Board has elected to amortize the unfunded actuarial accrued liability, as a level percent of payroll, over a closed 30-year period beginning July 1, 2008. Twenty-four (24) years remain as of July 1, 2014.

The total contribution rate for the Plan Year beginning July 1, 2014 is 50.05% of covered payroll. Based on the member contribution rate of 11.40% for FY 2015, the State's portion of the actuarial contribution rate is 38.65%. The sources of change are shown in the following table:

	Plan Year Beginning	
	July 1, 2014	**July 1, 2013**
Prior year total contribution rate	52.33%	53.14%
• change due to asset (gains)/losses	(2.71%)	(1.61%)
• change due to liability experience	(1.10%)	(0.95%)
• change due to other actuarial experience	1.40%	0.90%
• change due to new Plan provisions	0.04%	0.00%
• change due to actual contribution rate less than actuarial rate	0.07%	1.02%
• change in normal cost rate	0.02%	(0.17%)
Current year total actuarial contribution rate	50.05%	52.33%
Members' contribution rate	(11.40%)	(10.85%)
State's actuarial contribution rate	38.65%	41.48%

Contributions to the System are made by both the members and the State. Historically, members contributed 9.35% of pay, but the member contribution rate increased to 9.85% for FY 2012, 10.35% for FY 2013, 10.85% for FY 2014 and to an ultimate rate of 11.35% in FY 2015 (changed to 11.40% by the 2014 legislature). The State's contribution rate was 17% of pay for many years, but began increasing 2% per year commencing July 1, 2008. In 2010, the Legislature passed a bill that continues the 2% annual increase with an ultimate contribution rate of 37% in FY 2018. It also provides for a supplemental State appropriation of $5 million per year beginning July 1, 2013 (originally July 1, 2012 but extended by the 2012 legislature) and ending June 30 of the fiscal year during which the System's funded ratio is at least 85%. Current projections estimate that the supplemental contributions will be needed for five more years if all actuarial assumptions are met in the future. The State's statutory fixed contribution rate for FY 2015 is 31%. The change in the State's contribution, including the supplemental contributions, along with the increases that have occurred in the member contribution rate are expected to address the long term funding concerns of the System if all actuarial assumptions are met in the future.

The following graph shows the total actuarial contribution rate compared to the actual contribution rate in each year.



This is the first time in the recent past that the actual contributions scheduled to be paid to the System will exceed the actuarial contribution rate. Actual contributions to the System since 2001 have been significantly less than the actuarial contribution rate. Coupled with investment returns below the actuarial assumed rate (8%) during the same period, the result was a significant decline in the System's funded status. The additional increases in the member and State contribution rates, including the $5 million supplemental contribution, are expected to significantly improve the System's funding in the future.

Summary

Although the System's funded ratio remains low (70%), the outlook for the long term health and sustainability of the System is positive. Legislation passed in 2010, along with recent investment experience, was a key factor in improving the long term funding outlook for the System:

- Legislation passed in the 2010 Session clarified the administration of the flat dollar escalator. The new procedure resulted in smaller escalation amounts being paid in the future. As a result, there was a decrease in the actuarial accrued liability and normal cost rate of the System in the 2010 valuation.

- The 2010 legislation strengthened the funding of the System by increasing member contribution rates from 9.35% to 11.35% (changed to 11.40% by the 2014 legislature) over a four year period beginning July 1, 2011 and continuing to increase contributions from the State at 2% per year, to an ultimate rate of 37% (27% prior to the legislation). In addition, the State is scheduled to make a supplemental contribution of $5 million to

the System beginning July 1, 2013 (originally July 1, 2012 but delayed by the 2012 legislature) and ending with the fiscal year in which the System reaches a funded ratio of 85%.

It takes many years for the impact of additional contributions to materially improve the System's funded ratios. However, these changes result in a much healthier outlook for the System and are expected to move the System toward fully funded status over the next 20 years, if all actuarial assumptions are met.

The State's actuarial contribution rate for FY 2014 was 41.48%, but the statutory contribution rate was only 29% of covered payroll. The $5 million supplemental contribution by the State for FY 2014 represents over 11% of payroll so the total expected contribution for FY 2014 was 40.37%. This resulted in a shortfall contribution of 1.11% of payroll or $0.5 million. Based on the current valuation results, the $5 million supplemental contribution will more than offset the shortfall between the actuarial contribution rate and the fixed State contribution of 31% of payroll for FY 2015.

The long-term financial health of this, and all retirement systems, is heavily dependent on two key items: (1) investment returns and (2) contributions to the System. The net investment experience for the past four years has been above the expected return of 8%. In addition, changes made by the 2010 Iowa Legislature to significantly increase the total contributions to the System in the future have improved the long term funding outlook of the System. While the impact of the increased contribution rates on the System's long term funding will be significant, the improvement in the funded ratio and UAAL resulting from these changes will not be apparent in the funding results for many years.

A summary of key data elements and valuation results as of July 1, 2014 and July 1, 2013 are presented on the following page. More detail on each of these elements can be found in the following Sections of this report.

SUMMARY OF PRINCIPAL RESULTS
IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

	July 1, 2014 Valuation	July 1, 2013 Valuation	% Change
PARTICIPANT DATA			
Number of			
Active Members	578	599	(3.5)
Retirees/Beneficiaries/Disabled Members	568	555	2.3
Inactive Vested Members	48	46	4.3
Total Members	1,194	1,200	(0.5)
Projected Annual Salaries of Active Members	$ 43,070,315	$ 43,984,577	(2.1)
Average Annual Salary	$ 74,516	$ 73,430	1.5
Average Annual Benefit for Retired Members, Disabled Members and Beneficiaries	$ 46,518	$ 44,865	3.7
ASSETS AND LIABILITIES			
Total Actuarial Accrued Liability	$515,859,721	$498,468,989	3.5
Actuarial Value of Assets	360,063,755	319,441,635	12.7
Unfunded Actuarial Accrued Liability	155,795,966	179,027,354	(13.0)
Funded Ratio (Actuarial Value of Assets)	69.8%	64.1%	8.9
Market Value of Assets	392,194,960	329,920,144	18.9
Funded Ratio (Market Value of Assets)	76.0%	66.2%	14.9
CONTRIBUTION RATES			
Normal Cost Rate	26.13%	26.05%	0.3
Amortization of Unfunded Actuarial Accrued Liability (Level Percent of Payroll)	23.92%	26.28%	(9.0)
Actuarial Required Contribution Rate	50.05%	52.33%	(4.4)
Member Contribution Rate	(11.40%)	(10.85%)	5.1
Employer Actuarial Required Contribution Rate	38.65%	41.48%	(6.8)
Statutory State Fixed Contribution Rate	(31.00%)	(29.00%)	6.9
State Supplemental Contribution*	(11.61%)	(11.37%)	2.1
Contribution Shortfall	(3.96%)	1.11%	(456.7)

* The supplemental contribution is $5 million annually until the System is at least 85% funded.

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, 2014. 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 the employer in the future to balance the System assets and liabilities.

Market Value of Assets

The current market value represents the "snapshot" or "cash-out" value of System assets as of the valuation date. In addition, market values of assets provide a basis for measuring investment performance from time to time. At July 1, 2014 the market value of assets for the Retirement System was $392,194,960. Table 1 is a comparison, at market values, of System assets as of July 1, 2013 and July 1, 2014, in total and by investment category. Table 2 summarizes the change in the market value of assets from July 1, 2013 to July 1, 2014.

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 equal to the market value of assets less a four year phase-in of the excess (shortfall) between expected investment return (based on the actuarial assumption) and actual investment return.

Tables 3 and 4 show the development of the actuarial value of assets (AVA) as of the valuation date.

TABLE 1

IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

ANALYSIS OF NET ASSETS AT MARKET VALUE

	July 1, 2014		July 1, 2013	
	Amount	**% of Total**	**Amount**	**% of Total**
Pooled Cash	$ 22,029,247	5.3 %	$ 6,026,845	1.8 %
Receivables	2,771,313	0.7	7,758,718	2.3
Common Stocks	255,047,472	61.7	218,081,045	64.1
Securities on Loan	11,341,289	2.7	8,869,184	2.6
Bonds	83,968,539	20.3	83,709,024	24.6
Real Estate	38,352,403	9.3	15,824,888	4.6
Subtotal	$413,510,263	100.0 %	$340,269,704	100.0 %
Payables	(21,315,303)		(10,349,560)	
NET ASSETS	$392,194,960		$329,920,144	

TABLE 2

IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

SUMMARY OF FUND ACTIVITY
(Market Value)

1.	**NET ASSETS ON JULY 1, 2013**	**$ 329,920,144**
2.	**CONTRIBUTIONS**	
	a. Member Contributions	4,754,916
	b. Employer Contributions	17,715,097
	c. Lump Sum Contributions	0
	d. Total Contributions	**$ 22,470,013**
3.	**BENEFIT PAYMENTS**	25,432,467
4.	**ADMINISTRATIVE EXPENSE**	198,539
5.	**INVESTMENT INCOME**	65,435,809
6.	**NET ASSETS ON JULY 1, 2014** **(1) + (2d) - (3) - (4) + (5)**	**$ 392,194,960**

TABLE 3

IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

CALCULATION OF EXCESS (SHORTFALL) INVESTMENT INCOME FOR ACTUARIAL VALUE OF ASSETS

	Plan Year Ending			
	2014	**2013**	**2012**	**2011**
1. Market value of assets, beginning of year	$329,920,144	$292,823,296	$308,607,733	$256,873,773
2. Contributions during year				
a. Member	4,754,916	4,512,096	4,329,921	3,844,044
b. Employer	17,715,097	11,777,661	10,741,204	9,554,014
c. Lump sum payments	0	0	0	0
d. Total	22,470,013	16,289,757	15,071,125	13,398,058
3. Benefits paid during year	25,432,467	24,076,895	23,337,833	22,253,857
4. Expected net investment income at 8%				
a. Market value of assets, beginning of year	26,393,612	23,425,864	24,688,619	20,549,902
b. Contributions	881,509	639,055	591,248	525,612
c. Benefits	(997,728)	(944,548)	(915,554)	(873,030)
d. Total	26,277,393	23,120,371	24,364,313	20,202,485
5. Expected Value of Assets (1) + (2d) - (3) + (4d)	353,235,083	308,156,529	324,705,338	268,220,459
6. Market value of assets, end of year	392,194,960	329,920,144	292,823,296	308,607,733
7. Excess (shortfall) of investment income for Year (6) - (5)	38,959,877	21,763,615	(31,882,042)	40,387,274

TABLE 4

IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

	Plan Year Ending June 30	
	2014	**2013**
Item		
1. Excess (Shortfall) of investment income for current and previous 2 years		
a. Current year	$ 38,959,877	$ 21,763,615
b. One year ago	21,763,615	(31,882,042)
c. Two years ago	(31,882,042)	40,387,274
2. Deferral of excess (shortfall) of investment income		
a. Current year (75%)	29,219,908	16,322,711
b. One year ago (50%)	10,881,808	(15,941,021)
c. Two years ago (25%)	(7,970,511)	10,096,819
d. Total	32,131,205	10,478,509
3. Market value of plan net assets, end of year	392,194,960	329,920,144
4. Actuarial value of plan assets, end of year (3) - (2d)	$360,063,755	$319,441,635
5. Actuarial value divided by market value	91.8%	96.8%

TABLE 5

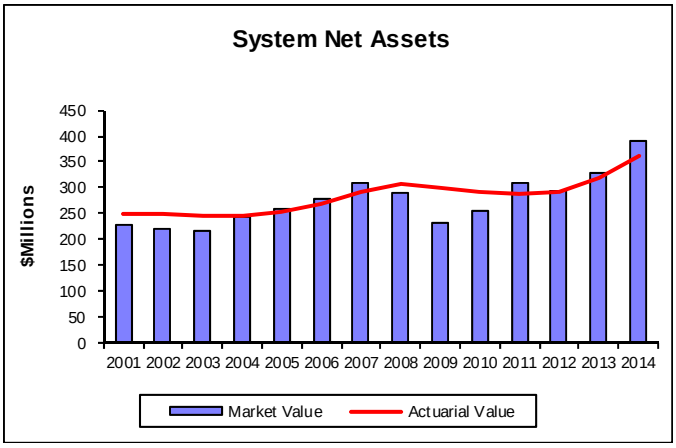
IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

HISTORICAL COMPARISON

Value As of	Market Value of Net Assets	Estimated Rate of Return (MVA)*	Actuarial Value of Assets**	Estimated Rate of Return (AVA)
1-Jul-99	$ 219,462,509	6.2%		
1-Jul-00	239,568,583	10.2%		
1-Jul-01	227,402,298	(4.2%)	$249,226,895	4.9%
1-Jul-02	219,373,555	(2.0%)	250,914,077	2.1%
1-Jul-03	215,454,491	0.4%	246,443,660	0.1%
1-Jul-04	242,279,998	15.6%	244,161,533	1.6%
1-Jul-05	260,104,910	10.4%	251,828,813	6.1%
1-Jul-06	278,940,737	10.3%	267,813,445	9.4%
1-Jul-07	310,489,530	14.2%	293,374,805	12.6%
1-Jul-08	290,306,257	(3.8%)	307,291,608	7.8%
1-Jul-09	233,187,738	(16.9%)	300,262,337	0.6%
1-Jul-10	256,873,773	14.4%	290,558,596	(0.2%)
1-Jul-11	308,607,733	24.1%	309,330,330	2.5%
1-Jul-12	292,823,296	(2.5%)	292,909,884	4.3%
1-Jul-13	329,920,144	15.5%	319,441,635	11.9%
1-Jul-14	392,194,960	19.9%	360,063,755	13.7%

* Net of Expenses.

** A smoothing method for actuarial value of assets was implemented July 1, 2001



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, 2014. In this section, the discussion will focus on the commitments of the System, which are referred to as its liabilities.

Table 6 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 6 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 for the lives of the surviving beneficiaries.

The actuarial assumptions used to determine liabilities are based on the results of an Experience Study prepared in 2012. This set of assumptions, as adopted by the Board, is shown in Appendix C and was first used in the 2012 valuation. The Board's election to change the actuarial cost method from Aggregate to Entry Age Normal was first reflected in the July 1, 2008 valuation.

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 "breakdown" 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 7 contains the calculation of actuarial accrued liability.

TABLE 6

IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

PRESENT VALUE OF FUTURE BENEFITS
AS OF JULY 1, 2014

1.	Active employees	
	a. Retirement Benefit	$298,859,319
	b. Withdrawal Benefit	1,608,321
	c. Pre-Retirement Death Benefit	6,595,924
	d. Disability Benefit	24,633,596
	e. Total	$331,697,160
2.	Inactive Vested Members	5,041,781
3.	Disability Retirees	46,997,043
4.	Retirees and Beneficiaries	250,970,694
5.	Total Present Value of Future Benefits (1e) + (2) + (3) + (4)	$634,706,678

TABLE 7

IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

ACTUARIAL ACCRUED LIABILITY
AS OF JULY 1, 2014

1.	Present Value of Future Benefits		
	a. Retirement Benefit	$298,859,319	
	b. Withdrawal Benefit	1,608,321	
	c. Pre-Retirement Death Benefit	6,595,924	
	d. Disability Benefit	24,633,596	
	e. Total		$331,697,160
2.	Present Value of Future Normal Costs		
	a. Retirement Benefit	$ 91,587,832	
	b. Withdrawal Benefit	2,098,298	
	c. Pre-Retirement Death Benefit	6,414,617	
	d. Disability Benefit	18,746,210	
	e. Total		118,846,957
3.	Present Value of Future Benefits for Inactive Members		303,009,518
4.	Total Actuarial Accrued Liability (1e) - (2e) + (3)		$515,859,721

TABLE 8

IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM
CALCULATION OF ACTUARIAL GAIN/(LOSS)

The actuarial gain/(loss) is comprised of both the liability gain/(loss) and the actuarial asset gain/(loss). Each of these represents the difference between the expected and actual values as of July 1, 2014.

1.	Expected actuarial accrued liability		
	a. Actuarial accrued liability at July 1, 2013	$	498,468,989
	b. Normal cost for year ending June 30, 2014		11,115,048
	c. Benefit payments for fiscal year ending June 30, 2014		(25,432,467)
	d. Interest on (a), (b), and (c)		39,315,840
	e. Changes due to Plan provisions		(164,012)
	f. Expected actuarial accrued liability at July 1, 2014 (a) + (b) + (c) + (d) + (e)	$	523,303,398
2.	Actuarial accrued liability at July 1, 2014	$	515,859,721
3.	Actuarial accrued liability gain/(loss) (1f) - (2)	$	7,443,677
4.	Expected actuarial value of assets		
	a. Actuarial value of assets at July 1, 2013	$	319,441,635
	b. Contributions for fiscal year ending June 30, 2014		22,470,013
	c. Benefit payments and administrative expenses for fiscal year ending June 30, 2014		(25,631,006)
	d. Interest on (a), (b), and (c)		25,431,324
	e. Expected actuarial value of assets at July 1, 2014 (a) + (b) + (c) + (d)	$	341,711,966
5.	Actuarial value of assets at July 1, 2014	$	360,063,755
6.	Actuarial value of assets gain/(loss) (5) - (4e)	$	18,351,789
7.	Net actuarial gain/(loss) (3) + (6)	$	25,795,466

TABLE 9

IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

ACTUARIAL BALANCE SHEET
as of
July 1, 2014

ASSETS

Actuarial value of assets		$360,063,755
Present value of future normal costs		118,846,957
Unfunded actuarial accrued liability		155,795,966
Total Net Assets		$634,706,678

LIABILITIES

Present Value of Future Benefits		
Retired Members, Disabled Members and Beneficiaries		$297,967,737
Active Members		
Retirement	$298,859,319	
Death	1,608,321	
Disability	6,595,924	
Termination	24,633,596	
Total		331,697,160
Inactive Vested Members		5,041,781
Total Liabilities		$634,706,678

The previous two sections were devoted to a discussion of the assets and liabilities of the System. A comparison of Tables 4 and 6 indicates that current assets fall short of meeting the present value of future benefits (total liability). This is expected in all but a fully closed down fund, where no further contributions are anticipated.

In an active system, there will almost always be a difference between the actuarial value of assets and total liabilities. This deficiency has to be made up by future contributions and investment returns. An actuarial valuation sets out a schedule of future contributions that will deal with this deficiency 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 these circumstances, an unfunded actuarial accrued liability (UAAL) exists.

Description of Rate Components

Effective with the July 1, 2008 valuation, the actuarial cost method used by the System changed from Aggregate to the traditional Entry Age Normal (EAN) – level percent of pay cost method. Under the EAN cost method, the actuarial present value of each member's projected benefit is allocated on a level basis over the member's compensation between the entry age of the member and the assumed exit ages. 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.

The UAAL is amortized as a level percent of payroll over a closed 30-year period commencing July 1, 2008. 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 11. Table 12 develops the contribution rate for amortization of the unfunded actuarial accrued liability. Table 13 develops the total actuarial contribution rate.

TABLE 10

IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

NORMAL COST RATE
AS OF JULY 1, 2014

1.	Normal Cost		% of Pay
	a. Retirement Benefit	$ 8,448,231	20.12%
	b. Withdrawal Benefit	195,824	0.47%
	c. Pre-Retirement Death Benefit	608,882	1.45%
	d. Disability Benefit	1,716,515	4.09%
	e. Total	$10,969,452	26.13%
2.	Expected Payroll in FY15 for Current Actives	$41,986,076	
3.	Normal Cost Rate [(1e)/(2)]	26.13%	

TABLE 11

IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

UNFUNDED ACTUARIAL ACCRUED LIABILITY CONTRIBUTION RATE AS OF JULY 1, 2014

1.	Actuarial Present Value of Future Benefits	$634,706,678
2.	Actuarial Present Value of Future Normal Costs	118,846,957
3.	Actuarial Accrued Liability (1) -(2)	$515,859,721
4.	Actuarial Value of Assets	360,063,755
5.	Unfunded Actuarial Accrued Liability (UAAL) (3) - (4)	$155,795,966
6.	Amortization of UAAL over a closed 30-year period starting July 1, 2008 (assumed mid-year)*	$ 10,302,066
7.	Total Estimated Payroll for Year Ending June 30, 2015	$ 43,070,315
8.	Amortization as a Percent of Payroll	23.92%

*The UAAL is amortized as a level percent of payroll, assuming payroll increases of 3.75% per year.

TABLE 12

IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

ACTUARIAL CONTRIBUTION RATE

FOR FISCAL YEAR ENDING JUNE 30, 2015

1.	Total Normal Cost Rate	26.13%
2.	Amortization of UAAL*	23.92%
3.	Total Actuarial Contribution Rate (1) + (2)	50.05%
4.	Member Contribution Rate	(11.40%)
5.	State Actuarial Contribution Rate (3) - (4)	38.65%

*Amortization of UAAL is as a level percent of payroll assuming a 3.75% annual increase in payroll.

In the past, Governmental Accounting Standards Board (GASB) Statements No. 25, *Financial Reporting for Defined Benefit Pension Plans*, and Statement No. 27, *Accounting for Pensions by State and Local Governmental Employers*, applied to the preparation of financial reports of pension plans for state and local governments.

GASB 67, which is effective for fiscal year end 2014, replaces GASB 25 and represents a significant departure from the requirements of that older statement. GASB 25 was issued as a "funding friendly" statement that required pension plans to report items consistent with the results of the plan's actuarial valuations, as long as those valuations met certain parameters. GASB 67 basically separates accounting from funding by creating disclosure and reporting requirements that may or may not be consistent with the basis used for funding the System. A separate report that contains all of the information and exhibits of an actuarial nature that are necessary for the System's financial reporting under GASB 67 will be prepared shortly after the valuation report is issued.

GASB Statement No. 27 establishes standards for the measurement, recognition, and display of pension expense and related liabilities. Annual pension cost is measured and disclosed on the accrual basis of accounting. In general, the annual pension cost is equal to the ARC with adjustments for past under-contributions or over-contributions. These adjustments are based on the net pension obligation (NPO) that represents the cumulative difference between the annual pension cost and the actual contributions to the plan. The first adjustment is equal to interest on the NPO which is added to the ARC. The second adjustment is an amortization of the NPO which is deducted from the ARC. GASB 68 replaces GASB 27, but will not be effective until fiscal year end 2015 for the state of Iowa.

TABLE 13

IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

DEVELOPMENT OF THE NET PENSION OBLIGATION

In Accordance with Statement No. 27 of the Governmental Accounting Standards Board

Fiscal Year:	2006	2007	2008	2009	2010
Assumptions and Method:					
Interest Rate	8.00%	8.00%	8.00%	8.00%	8.00%
Wage Inflation	4.00%	4.00%	4.00%	4.00%	4.00%
Amortization Period (years)	17	17	16	30	29
Cost Method	Aggregate	Aggregate	Aggregate	EAN	EAN
Annual Pension Cost:					
Annual Required Contribution (ARC)	$11,914,592	$12,383,974	$13,599,115	$13,118,615	$14,727,191
Interest on NPO	(407,525)	80,714	570,297	1,119,738	1,563,340
Adjustment to ARC	413,744	(81,946)	(604,863)	(794,969)	(1,130,590)
Annual Pension Cost	11,920,811	12,382,742	13,564,549	13,443,384	15,159,941
Contributions for the Year:	5,817,819	6,262,951	6,696,538	7,898,356	8,498,523
Net Pension Obligation (NPO):					
NPO at beginning of year	(5,094,068)	1,008,924	7,128,715	13,996,726	19,541,754
Annual Pension Cost for year	11,920,811	12,382,742	13,564,549	13,443,384	15,159,941
Contribution for year	(5,817,819)	(6,262,951)	(6,696,538)	(7,898,356)	(8,498,523)
NPO at end of year	1,008,924	7,128,715	13,996,726	19,541,754	26,203,172

Fiscal Year:	2011	2012	2013	2014	2015
Assumptions and Method:					
Interest Rate	8.00%	8.00%	8.00%	8.00%	8.00%
Wage Inflation	4.00%	4.00%	3.75%	3.75%	3.75%
Amortization Period (years)	28	27	26	25	24
Cost Method	EAN	EAN	EAN	EAN	EAN
Annual Pension Cost:					
Annual Required Contribution (ARC)	$15,116,242	$16,826,611	$18,785,849	$18,244,803	$16,646,677
Interest on NPO	2,096,254	2,585,260	3,123,201	3,736,573	3,836,649
Adjustment to ARC	(1,545,902)	(1,946,409)	(2,464,239)	(3,015,324)	(3,171,248)
Annual Pension Cost	15,666,594	17,465,462	19,444,811	18,966,052	17,312,078
Contributions for the Year:	9,554,014	10,741,204	11,777,661	17,715,097	*
Net Pension Obligation (NPO):					
NPO at beginning of year	26,203,172	32,315,752	39,040,010	46,707,160	47,958,115
Annual Pension Cost for year	15,666,594	17,465,462	19,444,811	18,966,052	17,312,078
Contribution for year	(9,554,014)	(10,741,204)	(11,777,661)	(17,715,097)	*
NPO at end of year	32,315,752	39,040,010	46,707,160	47,958,115	*

* Will not be determined until the end of Fiscal Year 2015

Note: Results for valuations prior to 2010 were prepared by the prior actuary

APPENDIX A

SYSTEM MEMBERSHIP INFORMATION

IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

Reconciliation of Member Status
From July 1, 2013 to July 1, 2014

	Active Members	Members & Beneficiaries Receiving Benefits	Former Members with Deferred Benefits	Children Receiving Benefits	Total
Members as of July 1, 2013	599	551	46	4	1,200
Began Receiving Benefits	(21)	31	(1)	0	9
Terminated Without Further Benefit Eligibility	(3)	0	(2)	0	(5)
Terminated With Benefit Eligibility	(6)	0	6	0	0
Returned to Active Status	2	0	(1)	0	1
Deceased	0	(16)	0	0	(16)
Benefits Ended	0	0	0	(2)	(2)
Newly Hired	7	0	0	0	7
Adjustments	0	0	0	0	0
Members as of July 1, 2014	578	566	48	2	1,194

IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

AGE AND SERVICE DISTRIBUTION AS OF JULY 1, 2014 FOR ACTIVE PARTICIPANTS

Males and Females

	Years of Service																	
	0 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 & over		Total	
Age	No.	Avg. Salary	No.	Avg. Salary	No.	Avg. Salary	No.	Avg. Salary	No.	Avg. Salary	No.	Avg. Salary	No.	Avg. Salary	No.	Avg. Salary	No.	Avg. Salary
Under 25	4	46,264	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	46,264
25-29	21	47,028	23	55,852	0	0	0	0	0	0	0	0	0	0	0	0	44	51,641
30-34	3	52,934	77	60,184	1	77,357	2	72,615	0	0	0	0	0	0	0	0	83	60,428
35-39	2	52,026	32	62,124	21	71,376	34	77,921	2	85,707	0	0	0	0	0	0	91	70,458
40-44	0	0	13	64,377	9	74,958	81	80,082	41	82,647	0	0	0	0	0	0	144	79,074
45-49	0	0	4	60,578	1	83,660	19	79,124	69	84,190	14	85,212	0	0	0	0	107	82,537
50-54	0	0	1	57,380	0	0	4	76,987	21	82,072	48	89,140	9	84,340	0	0	83	85,863
55-59	0	0	0	0	0	0	0	0	5	79,794	7	84,141	7	86,307	0	0	19	83,795
60-64	0	0	0	0	0	0	0	0	0	0	3	83,032	0	0	0	0	3	83,032
65-69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70 & over	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	30	47,850	150	60,289	32	72,954	140	79,232	138	83,272	72	87,636	16	85,201	0	0	578	74,516

Average Age: 41.6
Average Years of Service: 16.3

IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

ANALYSIS OF INACTIVE MEMBERS
As of July 1, 2014
Males and Females

Number of Participants

Age	Service Retirement	Accidental Disability	Ordinary Disability	Vested Retirement	Child Beneficiary	Contingent Beneficiary	Inactive Vested	Total
Under 40	0	0	0	0	2	0	14	16
40 to 44	0	4	0	0	0	0	17	21
45 to 49	0	5	0	0	0	1	8	14
50 to 54	1	6	1	0	0	1	9	18
55 to 59	46	5	0	4	0	8	0	63
60 to 64	62	11	3	2	0	6	0	84
65 to 69	64	8	5	4	0	14	0	95
70 to 74	62	20	1	6	0	18	0	107
75 to 79	49	11	1	5	0	25	0	91
80 to 84	26	7	2	0	0	23	0	58
85 to 89	19	1	0	0	0	15	0	35
90 to 94	8	0	0	0	0	4	0	12
95 to 99	0	0	0	0	0	2	0	2
100 & over	0	0	0	0	0	0	0	0
Totals	337	78	13	21	2	117	48	616

IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

ANALYSIS OF INACTIVE MEMBERS
As of July 1, 2014
Males and Females

Average Annual Benefits of Participants

Age	Service Retirement	Accidental Disability	Ordinary Disability	Vested Retirement	Child Beneficiary	Contingent Beneficiary	Inactive Vested
Under 40	0	0	0	0	4,575	0	9,292
40 to 44	0	38,466	0	0	0	0	12,517
45 to 49	0	42,129	0	0	0	39,911	26,768
50 to 54	52,753	48,239	36,782	0	0	25,240	29,736
55 to 59	73,537	50,049	0	30,732	0	37,012	0
60 to 64	68,197	49,198	46,635	22,458	0	31,128	0
65 to 69	61,037	45,662	44,392	12,377	0	24,079	0
70 to 74	53,948	45,616	48,751	12,989	0	22,193	0
75 to 79	46,380	43,230	34,596	8,730	0	21,918	0
80 to 84	40,015	39,705	31,803	0	0	20,814	0
85 to 89	39,396	42,376	0	0	0	21,980	0
90 to 94	35,312	0	0	0	0	21,012	0
95 to 99	0	0	0	0	0	25,803	0
100 & over	0	0	0	0	0	0	0
Totals	57,148	45,113	41,969	16,140	4,575	23,732	17,180

APPENDIX B

SUMMARY OF PLAN PROVISIONS

Chapter 97A of the Iowa code sets out the benefit provisions of the Iowa Peace Officers' Retirement, Accident and Disability System, which are briefly summarized as follows:

Retirement Benefit

Eligibility Age 55 with 22 years of service.

Monthly Annuity The sum of (1) and (2):

(1) a. For retirement prior to July 1, 1990, 50% of average final compensation at retirement. Average final compensation equals average of highest three years of compensation.

b. For retirement after June 30, 1990 and before July 1, 1992, 54% of average final compensation at retirement.

c. For retirement after June 30, 1992 and before July 1, 1993, 56% of average final compensation at retirement.

d. For retirement after June 30, 1993 and before July 1, 1994, 58% of average final compensation at retirement.

e. For retirement after June 30, 1994, and before July 1, 2000, 60% of average final compensation at retirement.

f. For retirement after July 1, 2000, 60.5% of average final compensation at retirement.

(2) For members who do not withdraw member contributions:

a. For retirement after June 30, 1990 and before July 1, 1991, 0.3% of average final compensation for each year of service over 22 years (up to 8 years). Service after age 55 is excluded.

b. For retirement after June 30, 1991 and before October 16, 1992, 0.6% of average final compensation for each year of service over 22 years (up to 8 years). Service after age 55 is excluded.

c. For retirement after October 15, 1992 and before July 1, 1996, 0.6% of average final compensation for each year of service over 22 years (up to 8 years).

d. For retirement after June 30, 1996, 1.5% of average final compensation for each year of service over 22 years (up to 8 years).

e. For retirement after June 30, 1998, 1.5% of average final compensation for each year of service over 22 years (up to 10 years).

f. For retirement after June 30, 2000, 2.75% of average final compensation for each year of service over 22 years (up to 10 years).

Early Retirement Benefit

Eligibility Effective July 1, 1996, age 50 (but not age 55) with 22 years of service.

Monthly Annuity The benefit provided as a retirement benefit actuarially reduced for commencement prior to age 55.

Deferred Vested Benefit

Eligibility Four years of service.

Monthly Annuity At age 55. The benefit provided as a retirement benefit at termination times a service ratio. The service ratio equals service at termination divided by 22 (not greater than 1.0).

Ordinary Disability Benefit

Eligibility None.

Benefit (1) If service at disability is greater than or equal to 5 years, 50% of average final compensation at disability.

(2) If service at disability is greater than or equal to 22 years, the greater of (1) or the benefit amount calculated under a service retirement. Effective July 1, 1998, the service requirement does not apply.

(3) If service at disability is less than 5 years, 25% of average final compensation at disability.

Accidental Disability Benefit

Eligibility None.

Benefit

(1) For retirement prior to July 1, 1990, 66-2/3% of average final compensation at disability.

(2) For retirement after June 30, 1990, 60% of average final compensation at disability. If the service amount at disability is greater than or equal to 22 years, the greater of 60% of average final compensation at disability or the benefit amount calculated under a service retirement.

Ordinary Death Benefit

Eligibility

For member in service: None.
For member not in service: Four years of service.

Benefit

(1) A lump sum equal to 50% of compensation during the last year of employment, or

(2) A pension based on 40% of average final compensation but not less than 25% of compensation paid to an active member having the rank of senior patrol officer of the state patrol. For members not in service, benefit is multiplied by the ratio of service at termination to 22 years (not greater than 1.0).

(3) Additional benefit for members in service of 6% of compensation payable to an active member having the rank of senior patrol officer of the state patrol for each child.

Payment Date

(1) For members in service: Immediately upon death of member.

(2) For member not in service: Payable when member would have been age 55. If there are children of the member, payable commencing at the member's death until children reach age 18 or 22. Pension resumes when member would have been age 55.

Accidental Death Benefit

Eligibility

In actual performance of duty.

Benefit

(1) 50% of average final compensation payable to surviving spouse, children or dependent parents.

(2) If there is not surviving spouse, children or dependent parents, or if accidental death occurs while not in the actual performance of duty, an Ordinary Death Benefit is payable.

(3) Additional benefit for members in service of 6% of compensation payable to an active member having the rank of senior patrol officer of the state patrol, for each child.

(4) If the death meets specified criteria, a lump sum of $100,000 payable to surviving spouse, children, dependent parents, or estate.

Death After Retirement

Benefit

(1) 50% of retirement allowance of retired member but not less than 25% of compensation paid to an active member having the rank of senior patrol officer of the state patrol.

(2) Additional benefit of 6% of compensation payable to an active member having the rank of senior patrol officer of the state patrol, for each child.

Adjustments to Pensions

Each July 1 and January 1, if applicable, the following adjustments are made: Monthly earnable compensation payable to an active member, of the same rank and position in the salary scale as was held by the retired or deceased member at the time of the member's retirement or death, for July of the current year less that of the preceding July, times the following percentages:

(1) 40% for members receiving a service retirement allowance and for beneficiaries receiving an accidental death benefit.

(2) 40% for members with five or more years of membership who are receiving an ordinary disability benefit.

(3) 40% for member receiving an accidental disability benefit.

(4) 24% for members with less than five years of membership who are receiving an ordinary disability benefit and for beneficiaries receiving an ordinary death benefit.

(5) 50% of the amount which would have been added to the benefit of the retired member, for surviving spouses, but not less than 25% of the monthly earnable compensation paid to an active member having the rank of senior patrol officer.

Additionally, the following amounts will be added to a member or beneficiary monthly pension as follows:

Years Since Retired*	Amount
0-4	$15
5-9	20
10-14	25
15-19	30
20 or more	35

*Measured in whole years.

There was a change in the way the flat escalator was applied effective July 1, 2010. Prior to 2010, the amount increased for each year after retirement.
Surviving children's pensions are adjusted each July to equal 6% of monthly earnable compensation payable to an active

member having the rank of senior patrol officer of the state patrol.

Member Contributions

The following percentage of earnable compensation will be paid as member contributions:

Period	Member Contribution Rate
January 1, 1995 - June 30, 1995	8.35%
July 1, 1995 – June 20, 2011	9.35%
July 1, 2011 – June 30, 2012	9.85%
July 1, 2012 – June 30, 2013	10.35%
July 1, 2013 – June 30, 2014	10.85%
July 1, 2014 forward	11.40%

Withdrawal of Member Contributions

Effective July 1, 1990, members who terminate service, other than by death or disability, can elect to withdraw their accumulated contributions with interest in lieu of any benefits to which the member may be entitled from the System.

Transfers With Statewide Fire and Police Retirement System

Beginning July 1, 1996, vested members of an eligible retirement system who terminate employment and, within one year, commences covered employment under another eligible retirement system, may elect to transfer the average accrued benefit or the refund liability earned from the former system to the current system. Once such transfer is completed, service under the former system shall be treated as membership service under the current system.

APPENDIX C

ACTUARIAL METHODS AND ASSUMPTIONS

Actuarial Cost Method

Liabilities and contributions shown in this report are computed using the Individual Entry Age method of funding.

Sometimes called "funding method," this is a particular technique used by actuaries for establishing the amount of the annual actuarial cost of pension System 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 if it then 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 accrued liabilities attributable to deviations in experience from the actuarial assumptions, adjust the unfunded actuarial accrued liability.

Actuarial Assumptions

Interest Rate:	8% per year.
Price Inflation:	3.0% per year.
Payroll Growth:	3.75% per year, including price inflation.
Active Members:	
1. Ordinary death rate	RP-2000 Mortality Table for Employees with Generational Projection.
2. Accidental death rate	8.5 deaths per 10,000 exposed for one year.

3. Disability rates

Age	Accidental Disability	Ordinary Disability
22	0.16%	0.07%
27	0.18%	0.08%
32	0.23%	0.10%
37	0.28%	0.12%
42	0.34%	0.14%
47	0.42%	0.18%
52	0.54%	0.23%

4. Withdrawal rate

The following table is used:

Service	Rate
0	5.0%
1-2	3.5%
3	3.0%
4	2.5%
5	2.0%
6	1.5%
7-14	1.0%
15-19	0.5%
20	0.0%

6. Retirement age

30 or More Years of Service

Age	**Probability of Retirement**
55-61	60%
62	100%

Less than 30 Years of Service

Age	**Probability of Retirement**
55-59	30%
60-61	50%
62	100%

7. Salary scale

Year	**Increase**
1	7.25%
5	7.25%
15	6.50%
20	5.25%
25+	4.25%

8. Post-retirement adjustments

Same as for retired members.

Retired Members and Other

Beneficiaries:

1.	Mortality rate - Service retirees	Service retirements and beneficiaries: RP-2000 Mortality Table for Healthy Annuitants with Generational Projection Mortality Tables - Male and Female.
2.	Mortality rate - Disabled retirees	Disability retirements: RP-2000 Mortality Table for Healthy Annuitants with Generational Projection with a 5 year age set forward.
3.	Annual readjustment of pensions	Wages for the same rank are assumed to increase 3.75%.

Dependency Ratios:

1.	Ordinary death benefit	Alternate benefits payable to widow and minor children in 90% of cases.
2.	Pension to spouse and children of deceased pensioned member	In 90% of cases.

IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM CERTIFICATION

We have prepared an actuarial valuation of the Iowa Peace Officers' Retirement, Accident and Disability System as of July 1, 2014, for the fiscal year ending June 30, 2015. The results of the valuation are set forth in this addendum, which reflects the benefit provisions in effect on July 1, 2014.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, statutory provisions, employee data, and financial information. In our examination of these data, we have found them to be reasonably consistent and comparable with data used for other purposes. Since the valuation results are dependent on the integrity of the data supplied, the results can be expected to differ if the underlying data is incomplete, or missing. It should be noted that if any data or other information is inaccurate or incomplete, our calculations may need to be revised.

The results in this Addendum have been prepared for the sole purpose of providing the information required under Chapter 97 D.5 of the Iowa code. Calculations are based on the following prescribed methods:

Actuarial cost method: Entry Age Normal
Amortization method: Level percent of payroll
Amortization period: 30 years, open period

All other assumptions, methodologies, and System provisions used are consistent with those used in the regular July 1, 2014 valuation for the Iowa Peace Officers' Retirement, Accident and Disability System.

The results shown in this Addendum may not be consistent with those in the regular July 1, 2014 valuation. The July 1, 2014 valuation results were determined in accordance with generally accepted actuarial principles and practices that are consistent with the Actuarial Standards of Practice promulgated by the Actuarial Standards Board and the applicable Guides to Professional Conduct, amplifying opinion and supporting recommendations of the American Academy of Actuaries. The results shown in this Addendum are not necessarily based on the methodologies adopted by the System.

We are available to answer any questions on the material contained in this report, or to provide explanations or further details as may be appropriate.

The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report.

Patrice Beckham

Patrice A. Beckham, FSA, EA, FCA, MAAA

October 30, 2014

Date

Brent A. Banister

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

October 30, 2014

Date

IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM
SUMMARY OF VALUATION RESULTS UNDER PRESCRIBED METHODOLOGY

This addendum report has been prepared to present the results of a valuation of the Iowa Peace Officers' Retirement, Accident and Disability System as of July 1, 2014, based on the prescribed methodology under current statutes and regulations issued thereunder.

The unfunded actuarial accrued liability has been amortized as a level percent of payroll over 30 years. The payroll growth assumption used was 3.75%.

A summary of principal valuation results from the current and the prior valuation follows.

	Actuarial Valuation as of	
	July 1, 2014	**July 1, 2013**
Summary of Costs		
Normal cost	26.13%	26.05%
UAAL amortization	21.13%	23.77%
Total	47.26%	49.82%
Less Employee Contribution Rate	(11.40%)	(10.85%)
State Required Contribution	35.86%	38.97%
Funded Status		
Actuarial accrued liability	$515,859,721	$498,468,989
Actuarial value of assets	360,063,755	319,441,635
Unfunded actuarial accrued liability	$155,795,966	$179,027,354
Funded Ratio	69.80%	64.08%
Asset Values		
Market value of assets (MVA)	$392,194,960	$329,920,144
Actuarial value of assets (AVA)	360,063,755	319,441,635
MVA/AVA	108.92%	103.28%