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

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





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October 18, 2012

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, 2012. The purpose of this report is to provide a summary of the funded status of the System as of July 1, 2012, to provide the Annual Required Contribution (ARC) and the accounting information under Governmental Accounting Standards Board Statements No. 25 and 27 (GASB 25 and 27). While not verifying the data at 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. An asset smoothing method is used for actuarial valuation purposes. Gains and losses are reflected in the unfunded accrued liability that is being amortized as a level percentage of pay over a closed 30 year period beginning July 1, 2008. The assumptions recommended by the actuary and adopted by the Board are, in the aggregate, reasonably related to the experience under the System and to reasonable expectations of anticipated experience under the System. They meet the parameters for the disclosures under GASB 25 and 27. As a result of the last experience study, there are some changes to the actuarial assumptions that are first reflected in this valuation.

We have prepared the Schedule of Funding Progress and Trend Information for the System, which are found in Section 5 of the report. All historical information that references a valuation date prior to July 1, 2010 was prepared by the prior 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.

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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. Actuarial computations presented in this report under GASB Statements No. 25 and 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. The calculations in this report have been made on a basis consistent with our understanding of the plan provisions described in Appendix B of this report, and of GASB Statements No. 25 and 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.

A handwritten signature in blue ink that reads 'Patrice Beckham'.

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

A handwritten signature in blue ink that reads '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, 2012 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(1b) of the Code of Iowa;
- 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 Statements No. 25 and 27 of the Governmental Accounting Standards Board.

The valuation results provide a “snapshot” view of the System's financial condition on July 1, 2012. The 2012 valuation is based on the same actuarial methods as last year's valuation, but reflects the revised assumptions adopted by the Board as a result of the experience study. The unfunded actuarial accrued liability increased from \$173 million on July 1, 2011 to \$187 million on July 1, 2012, indicating overall unfavorable experience for FY 2012. 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 increased from 38.69% in last year's valuation to 42.79% this year, based on a member contribution rate of 10.35% for FY2013. The actuarial contribution rate exceeds the State's appropriated contribution rate for FY2013 of 27% by 15.79%. Several factors impacted the actuarial contribution rate (note that the lower-than-expected investment return had the greatest impact):

- Due to the magnitude of the unrecognized loss from FY 2009 and additional losses in FY 2012, the return on the actuarial value of assets was below the expected rate (2.5% versus assumed rate of 8.0%). This increased the unfunded actuarial accrued liability (UAAL) by \$10 million and the actuarial contribution rate by 1.42% of pay.
- Actual contributions below the full actuarial contribution rate increased the UAAL by \$6 million and the actuarial contribution rate by 0.87% of pay.
- The number of active members declined by 4%. As a result, the covered payroll increased only 1% from the July 1, 2011 valuation to the current valuation instead of the 4% expected growth based on the actuarial assumptions.
- Other actuarial experience was unfavorable, which increased the unfunded actuarial accrued liability and increased the contribution rate.



The state's appropriated contribution rate has been lower than the actuarial contribution rate for the last decade, which has resulted in a continually increasing UAAL and 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 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). This supplemental contribution is an important component of strengthening PORS long term funding, as it represents about 10% of payroll. We estimate the System will be fully funded in thirty years with the supplemental contributions and only around 85% funded without them. These changes in the state's contribution, along with the scheduled increase 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 move toward fully funded status over the next 30 years.

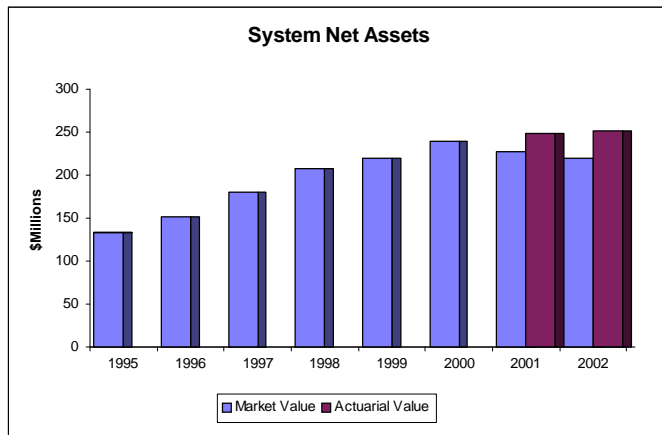
Assets

As of July 1, 2012, the System had total funds, measured on a market value basis, of \$292,823,296. This was a decrease of \$15,784,437 from last year's market value of \$308,607,733. 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:

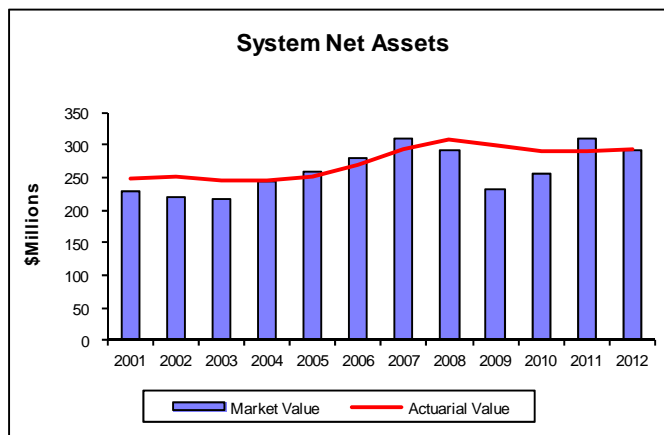
	Market Value	Actuarial Value
Net Assets, July 1, 2011	\$308,607,733	\$288,851,354
• Employer and Member Contributions	15,071,125	15,071,125
• Benefit Payments	(23,337,833)	(23,337,833)
• Administrative Expenses	(204,159)	(204,159)
• Investment Income	(7,313,570)	12,529,397
Net Assets, July 1, 2012	\$292,823,296	\$292,909,884

The dollar weighted rate of return measured on the market value of assets, net of expenses, was approximately -2.5%. Measured on the actuarial value of assets the rate of return was 4.3%, resulting in an actuarial loss of \$10 million.

The market value of assets and the actuarial value of assets are now equal, however, absent future gains or losses, the asset smoothing method will recognize a gain next year and a loss the following year.



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 is 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, 2012 is as follows:

Actuarial Accrued Liability	\$480,157,072
Actuarial Value of Assets	292,909,884
Unfunded Actuarial Accrued Liability	<u>\$187,247,188</u>

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 (both asset and liability), changes in actuarial assumptions, procedures or methods and changes in benefit provisions. The actual experience measured in this valuation is that which occurred during the prior plan year (FY2012). There was a \$10 million experience loss on the actuarial value of assets and a \$1 million net experience gain on the actuarial accrued liability, largely due to lower salary increases than expected. The net result of all experience was an increase of \$14 million in the UAAL.

The Board adopted a new set of actuarial assumptions based on the results of an experience study. The new set of assumptions decreased the UAAL by \$4 million.

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

	<u>\$ millions</u>
Unfunded Actuarial accrued Liability, July 1, 2011	\$172.7
• effect of contributions less than actuarial rate	6.3
• expected increase due to amortization method	2.2
• investment experience	10.2
• liability experience ¹	(1.0)
• other experience	0.9
• change in actuarial assumptions	(4.0)
Unfunded Actuarial Accrued Liability, July 1, 2012	\$187.3

¹ Liability gain is about 0.2% 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 below (in millions). The entry age normal method has only been used since the 2008 valuation. Prior to that time, the aggregate method was used, which does not develop an actuarial accrued liability.

	7/1/2008	7/1/2009	7/1/2010	7/1/2011	7/1/2012
<i>Using Actuarial Value of Assets:</i>					
Funded Ratio	73.7%	69.4%	67.0%	62.6%	61.0%
Unfunded Actuarial Accrued Liability (UAAL)	\$110	\$133	\$143	\$173	\$187
<i>Using Market Value of Assets:</i>					
Funded Ratio	69.7%	53.9%	59.3%	66.9%	61.0%
Unfunded Actuarial Accrued Liability (UAAL)	\$127	\$200	\$127	\$153	\$187



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-six (26) years remain as of July 1, 2012.

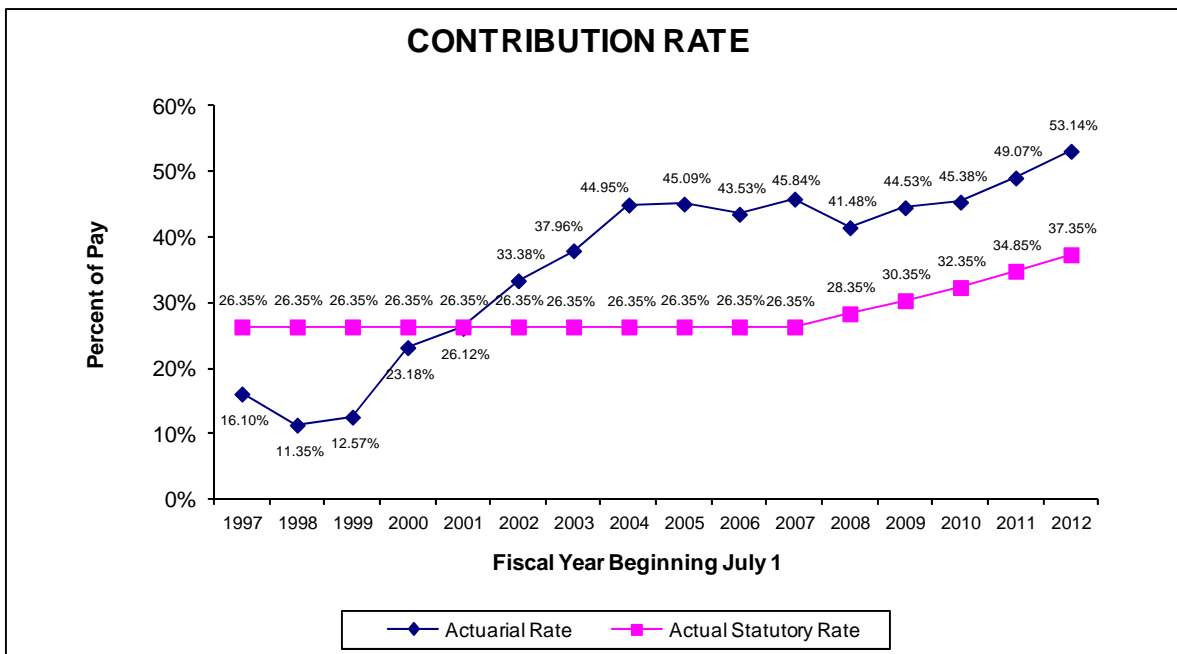
The total contribution rate for the Plan Year beginning July 1, 2012 is 53.14% of covered payroll. Based on the member contribution rate of 10.35% for FY2013, the State’s portion of the actuarial contribution rate is 42.79%. The sources of change are shown in the following table:

	Plan Year Beginning	
	<u>July 1, 2012</u>	<u>July 1, 2011</u>
Prior year total contribution rate	48.54%	45.38%
• change due to asset (gains)/losses	1.42%	2.16%
• change due to other actuarial experience	0.60%	0.84%
• change due to new assumptions	1.77%	0.00%
• change due to change in software	0.00%	(0.42%)
• change due to actual contribution rate lower than actuarial rate	0.87%	0.78%
• change in normal cost rate	(0.06%)	(0.20%)
Current year total actuarial contribution rate	53.14%	48.54%
Members' contribution rate	<u>(10.35%)</u>	<u>(9.85%)</u>
State's actuarial contribution rate	42.79%	38.69%

Contributions to the System are made by both the members and the state. Historically, members have contributed 9.35% of pay, but the rate increased to 9.85% for FY2012, 10.35% for FY2013 and will continue to increase 0.5% per year, reaching an ultimate member contribution rate of 11.35% in FY2015. The state’s contribution 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 FY2018. It also provides for a supplemental state appropriation of \$5 million per year beginning July 1, 2013 (originally July 1, 2012) and ending June 30 of the fiscal year during which the System’s funded ratio is at least 85%. The state’s contribution rate for FY2013 is 27%. The changes in the state’s contribution, along with the increase in the member contribution rate, should address the long term funding concerns 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.



Over the last decade, actual contributions to the System have been significantly less than the actuarial contribution rate. This, coupled with investment returns below the actuarial assumed rate (8%) during the same period, has resulted in a decline in the System’s funded status. In the short term, the state’s contribution is expected to continue to be less than the actuarial contribution rate, which will result in an increase in the unfunded actuarial accrued liability and the actuarial contribution rate. However, over time the increase in the member and state contribution rates, along with the \$5 million supplemental contribution annually, is expected to significantly improve the System’s funding.



Summary

Although the System’s funded ratio remains low (61%), the outlook for the long term health and sustainability of the System is positive. Over the last few years, several factors have contributed to the improvement in the long term funding of 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% 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 thirty years, if all actuarial assumptions are met.

The employer actuarial contribution rate for FY2012 was 38.69%, but the statutory contribution rate was 25% of covered payroll. This difference between the actual and actuarial contribution rate increased the unfunded actuarial accrued liability by about \$7 million. A similar increase in the UAAL is expected next year due to the contribution shortfall for FY2013 of 15.79% of pay. Until the State is contributing at the full actuarial contribution rate, the UAAL can be expected to increase. To the extent the System does not have investment returns above the assumed rate of 8% or other favorable experience sufficient to offset the contribution shortfall, the unfunded actuarial accrued liability will increase.

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. Investment experience for the past three years has been slightly above expected. 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 will not be apparent in the valuation results for many years.

A summary of key data elements and valuation results as of July 1, 2012 and July 1, 2011 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, 2012 Valuation	July 1, 2011 Valuation	% Change
PARTICIPANT DATA			
Number of			
Active Members	618	644	(4.0)
Retirees/Beneficiaries/Disabled Members	549	547	0.4
Inactive Vested Members	41	35	17.1
Total Members	<u>1,208</u>	<u>1,226</u>	(1.5)
Projected Annual Salaries of Active Members	\$ 43,902,429	\$ 43,493,715	0.9
Average Annual Salary	\$ 71,040	\$ 67,537	5.2
Average Annual Benefit for Retired Members and Beneficiaries	\$ 43,402	\$ 43,164	0.6
ASSETS AND LIABILITIES			
Total Actuarial Accrued Liability	\$480,157,072	\$461,594,916	4.0
Actuarial Value of Assets	292,909,884	288,851,354	1.4
Unfunded Actuarial Accrued Liability	187,247,188	172,743,562	8.4
Funded Ratio (Actuarial Value of Assets)	61.0%	62.6%	(2.5)
Market Value of Assets	292,823,296	308,607,733	(5.1)
Funded Ratio (Market Value of Assets)	61.0%	66.9%	(8.8)
CONTRIBUTION RATES			
Normal Cost Rate	26.22%	24.62%	6.5
Amortization of Unfunded Actuarial Accrued Liability (Level Percent of Payroll)	26.92%	23.92%	12.5
Actuarial Required Contribution Rate	53.14%	48.54%	9.5
Member Contribution Rate	(10.35%)	(9.85%)	5.1
Employer Actuarial Required Contribution Rate	42.79%	38.69%	10.6
Statutory State Employer Contribution Rate	(27.00%)	(25.00%)	8.0
Contribution Shortfall	15.79%	13.69%	15.3



In many respects, an actuarial valuation can be thought of as an inventory process. The inventory is taken as of the actuarial valuation date, which for this valuation is July 1, 2012. On that date, the assets available for the payment of benefits are appraised. The assets are compared with the liabilities of the System, which are generally in excess of assets. The actuarial process leads to a method of determining the contributions needed by members and 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, 2012 the market value of assets for the Retirement System was \$292,823,296. Table 1 is a comparison, at market values, of System assets as of July 1, 2011 and July 1, 2012, in total and by investment category. Table 2 summarizes the change in the market value of assets from July 1, 2011 to July 1, 2012.

Actuarial Value of Assets

Neither the market value of assets, representing a “cash-out” value of System assets, nor the book value of assets, representing the cost of investments, may be the best measure of the System’s ongoing ability to meet its obligations. To arrive at a suitable value for the actuarial valuation, a technique for determining the actuarial value of assets is used which dampens swings in the market value while still indirectly recognizing market values. The actuarial value of assets is 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, 2012		July 1, 2011	
	Amount	% of Total	Amount	% of Total
Pooled Cash	\$ 6,605,694	2.1 %	\$ 6,275,428	1.9 %
Receivables	4,584,059	1.5	4,896,844	1.5
Common Stocks	119,568,869	38.7	125,102,721	37.4
Securities on Loan	14,777,080	4.8	24,993,534	7.5
Bonds	149,243,735	48.3	160,474,933	48.0
Real Estate	14,021,828	4.6	12,368,202	3.7
Subtotal	\$308,801,265	100.0 %	\$334,111,662	100.0 %
Payables	<u>(15,977,969)</u>		<u>(25,503,929)</u>	
NET ASSETS	\$292,823,296		\$308,607,733	



TABLE 2
IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM
SUMMARY OF FUND ACTIVITY
 (Market Value)

1. NET ASSETS ON JULY 1, 2011		\$ 308,607,733
2. CONTRIBUTIONS		
a. Member Contributions		4,329,921
b. Employer Contributions		10,741,204
c. Lump Sum Contributions		0
d. Total Contributions		\$ 15,071,125
3. BENEFIT PAYMENTS		
a. Pension and annuity payments		23,337,833
b. Refunds		0
c. Total Benefit Payments		\$ 23,337,833
4. ADMINISTRATIVE EXPENSE		204,159
5. INVESTMENT INCOME		(7,313,570)
6. NET ASSETS ON JULY 1, 2012		\$ 292,823,296
(1) + (2d) - (3c) - (4) + (5)		



TABLE 3
IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM
CALCULATION OF EXCESS (SHORTFALL) INVESTMENT INCOME FOR
ACTUARIAL VALUE OF ASSETS

	<u>Plan Year Ending</u>			
	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>
1. Market value of assets, beginning of year	\$308,607,733	\$256,873,773	\$233,187,738	\$290,306,257
2. Contributions during year				
a. Member	4,329,921	3,844,044	3,778,295	3,882,107
b. Employer	10,741,204	9,554,014	8,498,523	7,898,356
c. Lump sum payments	0	0	0	0
d. Total	<u>15,071,125</u>	<u>13,398,058</u>	<u>12,276,818</u>	<u>11,780,463</u>
3. Benefits paid during year	23,337,833	22,253,857	21,412,629	20,581,718
4. Refunds paid during year	0	0	0	9,350
5. Expected net investment income at 8%				
a. Market value of assets, beginning of year	24,688,619	20,549,902	18,655,019	23,224,501
b. Contributions	591,248	525,612	481,625	462,153
c. Benefits	(915,554)	(873,030)	(840,028)	(807,431)
d. Refunds	0	0	0	(369)
e. Total	<u>24,364,313</u>	<u>20,202,485</u>	<u>18,296,616</u>	<u>22,878,854</u>
6. Expected Value of Assets (1) + (2d) - (3) - (4) + (5e)	324,705,338	268,220,459	242,348,543	304,374,506
7. Market value of assets, end of year	292,823,296	308,607,733	256,873,773	233,187,738
8. Excess (shortfall) of investment income for Year (7) - (6)	(31,882,042)	40,387,274	14,525,230	(71,186,768)



SECTION 2 – SYSTEM ASSETS

TABLE 4
IOWA PEACE OFFICERS’ RETIREMENT, ACCIDENT AND DISABILITY SYSTEM
DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

Item	Plan Year Ending June 30	
	<u>2012</u>	<u>2011</u>
1. Excess (Shortfall) of investment income for current and previous 2 years		
a. Current year	(\$31,882,042)	\$ 40,387,274
b. One year ago	40,387,274	14,525,230
c. Two years ago	14,525,230	(71,186,768)
d. Total	<u>23,030,462</u>	<u>(16,274,264)</u>
2. Deferral of excess (shortfall) of investment income		
a. Current year (75%)	(23,911,532)	30,290,456
b. One year ago (50%)	20,193,637	7,262,615
c. Two years ago (25%)	3,631,307	(17,796,692)
d. Total deferred	<u>(86,588)</u>	<u>19,756,379</u>
3. Market value of plan net assets, end of year	292,823,296	308,607,733
4. Actuarial value of plan assets, end of year (3) - (2d)	\$292,909,884	\$288,851,354
5. Actuarial value divided by market value	100.0%	93.6%



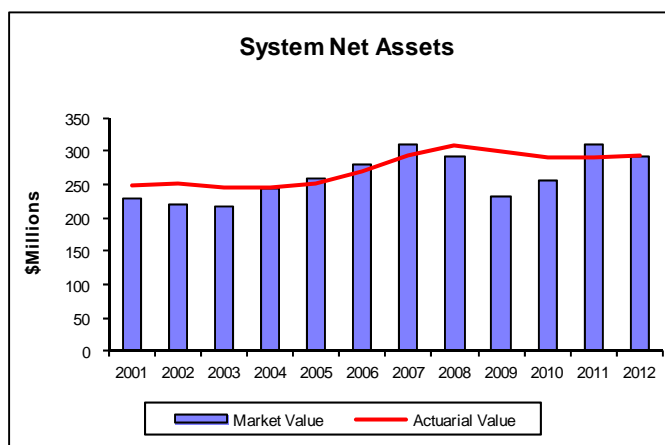
SECTION 2– SYSTEM ASSETS

**TABLE 5
IOWA PEACE OFFICERS’ RETIREMENT, ACCIDENT AND DISABILITY SYSTEM
HISTORICAL COMPARISON**

<u>Value As of</u>	<u>Market Value of Net Assets</u>	<u>Estimated Rate of Return (MVA)*</u>	<u>Actuarial Value of Assets**</u>	<u>Estimated Rate of Return (AVA)</u>
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%

* Net of Expenses.

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





SECTION 3– SYSTEM LIABILITIES

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

Table 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 for this 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, 2012

1. Active employees	
a. Retirement Benefit	\$297,323,705
b. Withdrawal Benefit	1,974,744
c. Pre-Retirement Death Benefit	7,120,637
d. Disability Benefit	25,598,762
e. Total	<u>\$332,017,848</u>
2. Inactive Vested Members	3,637,557
3. Disability Retirees	47,317,719
4. Retirees and Beneficiaries	<u>225,084,086</u>
5. Total Present Value of Future Benefits	<u><u>\$608,057,210</u></u>
(1e) + (2) + (3) + (4)	



TABLE 7
IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

ACTUARIAL ACCRUED LIABILITY
AS OF JULY 1, 2012

1. Present Value of Future Benefits		
a. Retirement Benefit	\$297,323,705	
b. Withdrawal Benefit	1,974,744	
c. Pre-Retirement Death Benefit	7,120,637	
d. Disability Benefit	<u>25,598,762</u>	
e. Total		\$332,017,848
2. Present Value of Future Normal Costs		
a. Retirement Benefit	\$ 98,871,918	
b. Withdrawal Benefit	2,293,154	
c. Pre-Retirement Death Benefit	6,909,156	
d. Disability Benefit	<u>19,825,910</u>	
e. Total		127,900,138
3. Present Value of Future Benefits for Inactive Members		<u>276,039,362</u>
4. Total Actuarial Accrued Liability (1e) - (2e) + (3)		\$480,157,072
5. Actuarial Value of Assets (4) - (5)		<u>292,909,884</u>
6. Unfunded Actuarial Accrued Liability		\$187,247,188
7. Funded Ratio *		61.0%

* The market value of assets was \$292,823,296. The funded ratio, using the market value of assets, was 61.0%.



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, 2012.

1. Expected actuarial accrued liability		
a. Actuarial accrued liability at July 1, 2011	\$	461,594,916
b. Normal cost for year ending June 30, 2012		10,424,696
c. Benefit payments for fiscal year ending June 30, 2012		(23,337,833)
d. Interest on (a), (b), and (c)		36,421,005
e. Change in actuarial assumptions		(3,970,177)
f. Change in plan provisions		0
g. Expected actuarial accrued liability at July 1, 2012	\$	<u>481,132,607</u>
(a) + (b) + (c) + (d) + (e) + (f)		
2. Actuarial accrued liability at July 1, 2012	\$	480,157,072
3. Actuarial accrued liability gain/(loss) (1g) - (2)	\$	975,535
4. Expected actuarial value of assets		
a. Actuarial value of assets at July 1, 2011	\$	288,851,354
b. Contributions for fiscal year ending June 30, 2012		15,071,125
c. Benefit payments and administrative expenses for fiscal year ending June 30, 2012		(23,541,992)
d. Interest on (a), (b), and (c)		22,775,792
e. Expected actuarial value of assets at July 1, 2012	\$	<u>303,156,279</u>
(a) + (b) + (c) + (d)		
5. Actuarial value of assets at July 1, 2012	\$	292,909,884
6. Actuarial value of assets gain/(loss) (5) - (4e)	\$	(10,246,395)
7. Net actuarial gain/(loss) (3) + (6)	\$	(9,270,860)



TABLE 9
IOWA PEACE OFFICERS’ RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

ACTUARIAL BALANCE SHEET
as of
July 1, 2012

ASSETS

Actuarial value of assets		\$292,909,884
Present value of future normal costs		127,900,138
Unfunded actuarial accrued liability		<u>187,247,188</u>
<u>Total Net Assets</u>		\$608,057,210

LIABILITIES

<u>Present Value of Future Benefits</u>		
Retired Members and Beneficiaries		\$272,401,805
Active Members		
Retirement	\$297,323,705	
Death	1,974,744	
Disability	7,120,637	
Termination	25,598,762	
Total		332,017,848
Inactive Vested Members		<u>3,637,557</u>
<u>Total Liabilities</u>		\$608,057,210



SECTION 4– EMPLOYER CONTRIBUTIONS

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 11
IOWA PEACE OFFICERS’ RETIREMENT, ACCIDENT AND DISABILITY SYSTEM
NORMAL COST RATE
AS OF JULY 1, 2012

1. Normal Cost		<u>% of Pay</u>
a. Retirement Benefit	\$ 8,646,703	20.26%
b. Withdrawal Benefit	202,627	0.47%
c. Pre-Retirement Death Benefit	622,797	1.46%
d. Disability Benefit	1,721,915	4.03%
e. Total	\$11,194,042	26.22%
2. Expected Payroll in FY13 for Current Actives	\$42,678,745	
3. Normal Cost Rate [(1e)/(2)]	26.22%	



TABLE 12
IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM
UNFUNDED ACTUARIAL ACCRUED LIABILITY CONTRIBUTION RATE
AS OF JULY 1, 2012

1. Actuarial Present Value of Future Benefits	\$608,057,210
2. Actuarial Present Value of Future Normal Costs	<u>127,900,138</u>
3. Actuarial Accrued Liability (1) -(2)	\$480,157,072
4. Actuarial Value of Assets	<u>292,909,884</u>
5. Unfunded Actuarial accrued Liability (UAAL) (3) - (4)	\$187,247,188
6. Amortization of UAAL over a closed 30 year period Starting July 1, 2008 (assumed mid-year)*	\$ 11,819,204
7. Total Estimated Payroll for Year Ending June 30, 2013	\$ 43,902,429
8. Amortization as a Percent of Payroll	26.92%

*The UAAL is amortized as a level percent of payroll, assuming payroll increases of 4% per year.



TABLE 13
IOWA PEACE OFFICERS’ RETIREMENT, ACCIDENT AND DISABILITY SYSTEM
ACTUARIAL CONTRIBUTION RATE
FOR FISCAL YEAR ENDING JUNE 30, 2013

1.	Total Normal Cost Rate	26.22%
2.	Amortization of UAAL	26.92%
3.	Total Actuarial Contribution Rate (1) + (2)	53.14%
4.	Member Contribution Rate	(10.35%)
5.	State Actuarial Contribution Rate (3) - (4)	42.79%

Amortization of UAAL is as a level percent of payroll assuming a 4% annual increase in payroll.



SECTION 5– PLAN ACCOUNTING INFORMATION

The 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, apply to the preparation of financial reports of pension plans for state and local governments.

GASB Statement No. 25 establishes a financial reporting framework for defined benefit plans. In addition to 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 reflects the use of the Projected Unit Credit method for years prior to July 1, 2008. Subsequent years reflect the use of the Entry Age Normal cost method. The system uses an asset smoothing method, which was first implemented with the July 1, 2001 valuation.
- The Schedule of Employer Contributions provides historical information about the annual required contribution (ARC) and the percentage of the ARC that was actually contributed. For the Peace Officers' Retirement, Accident and Disability System, the ARC is equal to State's Normal Contribution Rate multiplied by the expected covered payroll for the fiscal year.

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.



TABLE 14
IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

SCHEDULE OF FUNDING PROGRESS

In accordance with Statement No. 25 of the Governmental Accounting Standards Board

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL)* (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (P/R) (c)	UAAL as a Percentage of Covered P/R [(b-a)/(c)]
7/1/2007	\$293,374,805	\$392,022,773	\$ 98,647,968	74.84%	\$ 37,268,060	264.70%
7/1/2008	307,193,608	417,176,049	109,982,441	73.64%	40,829,801	269.37%
7/1/2009	300,262,337	432,894,495	132,632,158	69.36%	41,862,395	316.83%
7/1/2010	290,558,596	433,402,131	142,843,535	67.04%	41,954,599	340.47%
7/1/2011	288,851,354	461,594,916	172,743,562	62.58%	43,493,715	397.17%
7/1/2012	292,909,884	480,157,072	187,247,188	61.00%	43,902,429	426.51%

* Prior to 7/1/08 the Aggregate method, which does not directly develop an actuarial accrued liability, was used to determine the actuarial required contribution. The actuarial accrued liability using the Projected Unit Credit Cost method was reported for those years. Effective 7/1/08, the Entry Age Normal cost method was used and the actuarial accrued liability under that method is reported

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



SECTION 5— PLAN ACCOUNTING INFORMATION

TABLE 15
IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM
SCHEDULE OF EMPLOYER CONTRIBUTIONS

In accordance with Statement No. 25 of the Governmental Accounting Standards Board

Fiscal Year Ending	Annual Required Contribution (a)	Total Employer Contribution (b)	Percentage of ARC Contribution (b/a)
6/30/2010	\$14,727,191	\$8,498,523	57.71%
6/30/2011	15,116,242	9,554,014	63.20%
6/30/2012	16,826,611	10,741,204	63.83%

Notes to the Required Schedules:

1. The assets are shown at actuarial (smoothed) value.
2. Economic assumptions are as follows:
 - Investment return rate of 8.00%
 - Salary increase rate varies from 6.75% to 4.75%, based on years of service.
 - Post-retirement benefit increases are based on expected payroll growth and provisions of the law.
3. Amortization of the unfunded actuarial liability is over a 30-year closed period starting July 1, 2008

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



TABLE 16
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:	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
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	17	17	16
Cost Method	Aggregate	Aggregate	Aggregate	Aggregate	Aggregate
Annual Pension Cost:					
Annual Required Contribution (ARC)	\$9,446,823	\$11,577,021	\$11,914,592	\$12,383,974	\$13,599,115
Interest on NPO	(1,216,369)	(899,356)	(407,525)	80,714	570,297
Adjustment to ARC	1,234,931	913,080	413,744	(81,946)	(604,863)
Annual Pension Cost	9,465,385	11,590,745	11,920,811	12,382,742	13,564,549
Contributions for the Year:	5,502,718	5,442,868	5,817,819	6,262,951	6,696,538
Net Pension Obligation (NPO):					
NPO at beginning of year	(15,204,612)	(11,241,945)	(5,094,068)	1,008,924	7,128,715
Annual Pension Cost for year	9,465,385	11,590,745	11,920,811	12,382,742	13,564,549
Contribution for year	(5,502,718)	(5,442,868)	(5,817,819)	(6,262,951)	(6,696,538)
NPO at end of year	(11,241,945)	(5,094,068)	1,008,924	7,128,715	13,996,726
Fiscal Year:	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>
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%	3.75%
Amortization Period (years)	30	29	28	27	26
Cost Method	EAN	EAN	EAN	EAN	EAN
Annual Pension Cost:					
Annual Required Contribution (ARC)	\$13,118,615	\$14,727,191	\$15,116,242	\$16,826,611	\$18,785,849
Interest on NPO	1,119,738	1,563,340	2,096,254	2,585,260	3,123,201
Adjustment to ARC	(794,969)	(1,130,590)	(1,545,902)	(1,946,409)	(2,464,239)
Annual Pension Cost	13,443,384	15,159,941	15,666,594	17,465,462	19,444,811
Contributions for the Year:	7,898,356	8,498,523	9,554,014	10,741,204	*
Net Pension Obligation (NPO):					
NPO at beginning of year	13,996,726	19,541,754	26,203,172	32,315,752	39,040,010
Annual Pension Cost for year	13,443,384	15,159,941	15,666,594	17,465,462	19,444,811
Contribution for year	(7,898,356)	(8,498,523)	(9,554,014)	(10,741,204)	*
NPO at end of year	19,541,754	26,203,172	32,315,752	39,040,010	*

* Will not be determined until the end of Fiscal Year 2013

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

AGE AND SERVICE DISTRIBUTION AS OF JULY 1, 2012 FOR ACTIVE PARTICIPANTS
Males and Females

Age	Years of Service																		Total	
	0 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 & over			
	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	9	44,748	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	44,748
25-29	30	47,719	34	53,255	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64	50,660
30-34	12	49,610	57	56,027	16	65,150	0	0	0	0	0	0	0	0	0	0	0	0	85	56,838
35-39	2	51,667	24	57,273	56	70,805	37	75,172	0	0	0	0	0	0	0	0	0	0	119	69,112
40-44	3	50,766	9	58,207	20	70,861	88	79,787	11	78,406	0	0	0	0	0	0	0	0	131	76,161
45-49	0	0	1	51,667	4	71,263	41	78,871	50	79,563	14	85,051	0	0	0	0	0	0	110	79,448
50-54	0	0	0	0	0	0	10	78,270	15	81,168	41	87,306	11	84,173	0	0	0	0	77	84,489
55-59	0	0	0	0	0	0	0	0	4	83,932	11	82,231	6	95,781	0	0	0	0	21	86,426
60-64	0	0	0	0	0	0	0	0	0	0	0	0	1	82,424	0	0	1	82,424	2	82,424
65-69	0	0	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	0	0
Totals	56	47,951	125	55,634	96	69,893	176	78,517	80	79,923	66	85,982	18	87,945	0	0	1	82,424	618	71,039

Average Age: 40.5
Average Years of Service: 15.0



APPENDIX A – SYSTEM MEMBERSHIP INFORMATION

IOWA PEACE OFFICERS’ RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

ANALYSIS OF INACTIVE MEMBERS

As of July 1, 2012

Males and Females

Number of Participants

<u>Age</u>	<u>Service Retirement</u>	<u>Accidental Disability</u>	<u>Ordinary Disability</u>	<u>Vested Retirement</u>	<u>Child Beneficiary</u>	<u>Contingent Beneficiary</u>	<u>Inactive Vested</u>	<u>Total</u>
Under 40	0	3	0	0	8	0	14	25
40 to 44	0	2	0	0	0	0	14	16
45 to 49	0	6	0	0	0	1	6	13
50 to 54	0	4	1	0	0	3	7	15
55 to 59	38	7	1	4	0	6	0	56
60 to 64	68	10	5	4	0	8	0	95
65 to 69	61	14	3	7	0	15	0	100
70 to 74	56	16	1	9	0	17	0	99
75 to 79	46	11	2	2	0	22	0	83
80 to 84	20	4	1	3	0	18	0	46
85 to 89	21	1	0	0	0	12	0	34
90 to 94	1	0	0	0	0	3	0	4
95 to 99	1	0	0	0	0	3	0	4
100 & over	0	0	0	0	0	0	0	0
Totals	312	78	14	29	8	108	41	590



APPENDIX A – SYSTEM MEMBERSHIP INFORMATION

IOWA PEACE OFFICERS’ RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

ANALYSIS OF INACTIVE MEMBERS

As of July 1, 2012

Males and Females

Average Annual Benefits of Participants

<u>Age</u>	<u>Service Retirement</u>	<u>Accidental Disability</u>	<u>Ordinary Disability</u>	<u>Vested Retirement</u>	<u>Child Beneficiary</u>	<u>Contingent Beneficiary</u>	<u>Inactive Vested</u>
Under 40	0	37,129	0	0	10,542	0	10,281
40 to 44	0	39,290	0	0	0	0	13,374
45 to 49	0	42,261	0	0	0	20,333	17,012
50 to 54	0	46,588	36,055	0	0	19,517	29,542
55 to 59	67,913	45,186	34,273	32,228	0	32,793	0
60 to 64	65,172	47,201	46,165	23,456	0	27,660	0
65 to 69	56,225	47,037	44,864	14,842	0	20,502	0
70 to 74	49,085	41,742	38,892	20,870	0	21,750	0
75 to 79	42,530	40,659	32,348	18,916	0	21,169	0
80 to 84	39,535	38,977	31,507	18,105	0	20,661	0
85 to 89	37,393	35,104	0	0	0	21,037	0
90 to 94	30,051	0	0	0	0	20,835	0
95 to 99	33,042	0	0	0	0	23,384	0
100 & over	0	0	0	0	0	0	0
Totals	53,802	43,370	40,774	20,917	10,542	22,194	15,611



**Reconciliation of Member Status
From July 1, 2011 to July 1, 2012**

	Active Members	Members & Beneficiaries Receiving Benefits	Former Members with Deferred Benefits	Children Receiving Benefits	Total
Members as of July 1, 2011	644	540	35	7	1,226
Began Receiving Benefits	(10)	22	(2)	2	12
Terminated Without Further Benefit Eligibility	(6)	0	(2)	0	(8)
Terminated With Benefit Eligibility	(10)	0	10	0	0
Returned to Active Status	0	0	0	0	0
Deceased	(1)	(21)	0	0	(22)
Benefits Ended	0	0	0	(1)	(1)
Newly Hired	1	0	0	0	1
Adjustments	0	0	0	0	0
Members as of July 1, 2012	618	541	41	8	1,208



APPENDIX B

SUMMARY OF PLAN PROVISIONS



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.



APPENDIX B – SUMMARY OF PLAN PROVISIONS

- 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.



APPENDIX B – SUMMARY OF PLAN PROVISIONS

- (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.



APPENDIX B – SUMMARY OF PLAN PROVISIONS

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.



APPENDIX B – SUMMARY OF PLAN PROVISIONS

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:

<u>Years Since Retired*</u>	<u>Amount</u>
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.



APPENDIX B – SUMMARY OF PLAN PROVISIONS

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:

<u>Period</u>	<u>Member Contribution Rate</u>
January 1, 1995 - June 30, 1995	8.35%
July 1, 1995 forward	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	11.35%

**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



APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS

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.



APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS

3. Disability rates

<u>Age</u>	<u>Accidental Disability</u>	<u>Ordinary Disability</u>
22	0.14%	0.09%
27	0.15%	0.10%
32	0.20%	0.13%
37	0.24%	0.16%
42	0.29%	0.19%
47	0.36%	0.24%
52	0.46%	0.31%

4. Withdrawal rate

The following table is used:

<u>Service</u>	<u>Rate</u>
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

<u>30 or More Years of Service</u>	
<u>Age</u>	<u>Probability of Retirement</u>
55-61	60%
62	100%

<u>Less than 30 Years of Service</u>	
<u>Age</u>	<u>Probability of Retirement</u>
55-59	30%
60-61	50%
62	100%

7. Salary scale

<u>Year</u>	<u>Increase</u>
1	7.25%
5	7.25%
15	6.50%
20	5.25%
25+	4.25%

8. Post-retirement adjustments

Same as for retired members.



APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS

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. |



ADDENDUM

**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, 2012, for the fiscal year ending June 30, 2013. The results of the valuation are set forth in this addendum, which reflects the benefit provisions in effect on July 1, 2012.

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, 2012 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, 2012 valuation. The July 1, 2012 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 18, 2012

Date

Brent A. Banister

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

October 18, 2012

Date



ADDENDUM

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, 2012, 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 4%.

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

	Actuarial Valuation as of	
	July 1, 2012	July 1, 2011
Summary of Costs		
Normal cost	26.22%	24.62%
UAAL amortization	26.92%	22.56%
Total	53.14%	47.18%
Less Employee Contribution Rate	(10.35%)	(9.85%)
State Required Contribution	42.79%	37.33%
Funded Status		
Actuarial accrued liability	\$480,157,072	\$461,594,916
Actuarial value of assets	292,909,884	288,851,354
Unfunded actuarial accrued liability	\$187,247,188	\$172,743,562
Funded Ratio	61.00%	62.58%
Asset Values		
Market value of assets (MVA)	\$292,823,296	\$308,607,733
Actuarial value of assets (AVA)	292,909,884	288,851,354
MVA/AVA	99.97%	106.84%